Hydrological data UK

1987 YEARBOOK

INSTITUTE OF HYDROLOGY • BRITISH GEOLOGICAL SURVEY

HYDROLOGICAL DATA
UNITED KINGDOM

1987

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An account of
rainfall, river flows, groundwater
levels and river water quality
January to December 1987

Institute of Hydrology

British Geological Survey

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FOREWORD

In April 1982, care of the United Kingdom national archive of surface water data passed from the Department of the Environment's Water Data Unit (which was disbanded) to the Institute of Hydrology (IH). In a similar move, the Institute of Geological Sciences, subsequently renamed the British Geological Survey (BGS), took over the national groundwater archive. Both IH and BGS are component bodies of the Natural Environment Research Council (NERC). The BGS hydrogeologists are located with IH at Wallingford and close co-operation between the two groups has led, among other things, to the launching – in 1985 – of a new series of yearbooks and reports dealing with nationally archived surface and groundwater data and the use made of them. The work is overseen by a steering committee with representatives of Government departments and the water industry from England, Wales, Scotland and Northern Ireland.

The published series – *Hydrological data UK* – includes an annual yearbook and, every five years, a catalogue of river flow gauging stations and groundwater level recording sites together with statistical summaries. These six volumes of the 5-year cycle are available individually but are also designed to be inserted in a ring binder. Further details of these arrangements are given on page 187.

The series – but not the binder – also includes occasional reports dealing with significant hydrological events and analyses.

Professor W.B. Wilkinson
Director, Institute of Hydrology


Water Authority or River Purification Board boundary
Hydrometric area number and boundary
HIGHLAND R.P.B.
NORTH EAST R.P.B.
TAY R.P.B.
FORTH R.P.B.
CLYDE R.P.B.
TWEED R.P.B.
SOLWAY R.P.B.
NORTHUMBRIAN W.A.
NORTH WEST W.A.
YORKSHIRE W.A.
SEVERN-TRENT W.A.
ANGLIAN W.A.
WELSH W.A.
THAMES W.A.
SOUTHERN W.A.
WESSEX W.A.
SOUTH WEST W.A.
NORTHERN IRELAND
pt 201
pt 203
pt 235
pt 236
pt 226
pt 206
202
204
205
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97
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INTRODUCTION

This volume is the seventh Yearbook in the Hydrological data UK series and the second volume in the second five-year publication cycle (1986–90).

The 1987 Yearbook represents the twenty-eighth edition in the series of surface water publications which began with the 1935–36 Surface Water Yearbook. As a result of the incorporation of groundwater data in the Yearbook, this volume is also the twelfth edition in the series of groundwater data publications which began with the 1964–66 Groundwater Yearbook.

Apart from summary information, surface water and groundwater data on a national basis were published separately prior to the introduction of the Hydrological data UK series. In common with the earlier editions, the 1987 Yearbook brings together the principal data sets relating to river flow, groundwater levels and areal rainfall throughout the United Kingdom. Also included are water quality data for a selection of monitoring sites throughout the UK.

A description is given of the surface water and groundwater archives together with the data retrieval facilities which complement this volume.

October 1987 was notable for several remarkable meteorological and hydrological events. Details of these are given in the Hydrological Diary and a feature article is devoted to a major flood event on the River Tywi in Dyfed.

Publication of river flow data for Great Britain started with the series of Surface Water Yearbooks. The first edition, which was published in 1938 for the water year (October-September) 1935–36, also included selected data for the previous fifteen years; the edition for 1936–37 followed in 1939. Both these publications were prepared under the direction of the Inland Water Survey Committee. Assisted by the Scottish Office, the Committee continued to publish hydrological data after the Second World War; the Yearbook for the period 1937–45 was published as a single volume in 1952. Due to economic stringency, the Survey was suspended in 1952 for a period of two years but was then reformed as the Surface Water Survey Centre of Great Britain. A Yearbook covering the years 1945–53 was published in 1955.

In 1964 the Survey was transferred to the Water Resources Board where it remained until the Board was disbanded in 1974. Yearbooks were published in collaboration with the Scottish Office for the water years 1953–54 to 1965–66; thereafter information for the five calendar years 1966 to 1970 was published in one volume in 1974. The work of collecting and publishing national surface water information then passed to the newly created Water Data Unit of the Department of the Environment. To mark the inclusion of the first records from Northern Ireland, and in recognition of the move away from single year volumes, the publication series was renamed 'Surface Water : United Kingdom'. Two volumes of Surface Water : United Kingdom, covering the years 1971–73 and 1974–76 were published jointly by the Water Data Unit, the Scottish Development Department and the Department of the Environment for Northern Ireland.

Following the transfer of the Surface Water Archive to the Natural Environment Research Council in 1982, the final edition of Surface Water : United Kingdom, for the years 1977–80, was prepared by the Institute of Hydrology at the request of the Water Directorate of the Department of the Environment, and published in 1983.

The 1981 and 1982 Yearbooks were prepared concurrently and were, in 1985, the first Yearbooks published by the Natural Environment Research Council. Further Yearbooks – the editions for 1983, 1984, 1985 and 1986 – were published over the following three years.

A compilation of 'Groundwater levels in England during 1963', which was produced by the Geological Survey of Great Britain prior to its incorporation into the Institute of Geological Sciences, was the precursor to the publication of groundwater level data on a national basis. The more formal Groundwater Yearbook series was instigated by the Water Resources Board which published the inaugural edition, and a further volume for 1967, both covering England and Wales. In 1975 a third Yearbook, for 1968–70, was published by the Water Data Unit. The Groundwater: United Kingdom series was introduced in 1978 with the production of the 1971–73 volume, also published by the Water Data Unit.

Following the transfer of the Groundwater Archive to the Institute of Geological Sciences (now the British Geological Survey), the second edition of Groundwater: United Kingdom, covering the period 1974–80, was prepared by the Institute of Hydrology at the request of the Water Directorate of the Department of the Environment. Subsequently, groundwater level data have been included in the Hydrological data UK publications.

The Natural Environment Research Council acknowledges and extends its appreciation to all who have assisted in the collection of information for this publication.

SCOPE AND SOURCES OF INFORMATION

The format of the 1987 Yearbook follows that of the 1986 edition in the Hydrological data UK series. The rainfall, runoff and groundwater review material – compiled in separate sections prior to 1986 – has been brought together into a single hydrological review of the year. Data presentation in the water quality section is consistent with the established Yearbook pattern – data are given both for the featured year and, to provide a suitable perspective, for the preceding period of record.

Emphasis is placed upon ready access to basic data both within the yearbook and through the complementary data retrieval facilities.

A companion publication to the individual Yearbooks – the 'Hydrometric Register and Statistics' volume provides a comprehensive reference source for hydrometric information which does not change materially from year to year; the first edition – for 1981–5 – was published in 1987, see page 187.

The Yearbook contents have been abstracted primarily from the Surface Water and Groundwater Archives. Water quality data have been provided from the Harmonised Monitoring Archive (see page 175) maintained by Her Majesty's Inspectorate of Pollution (Department of the Environment).

Responsibility for the collection and initial processing of the data featured in this volume currently rests mainly with the ten Water Authorities in England and Wales, the seven River Purification Boards in Scotland and the Department of the Environment (NI) in Northern Ireland. These organisations also supplied valuable material relating to significant hydrological events.

The Government's current legislative programme provides for the creation of water utility PLCs to take over the Water Authority's responsibilities for water supply and sewerage and for the setting up of a new body, the National Rivers Authority, to operate their regulatory and river management functions. Responsibility for most hydrometric activities will pass to the NRA (see page 183).

The majority of the rainfall data, and some of the material incorporated in the hydrological review, has been provided by the Meteorological Office. For historical comparisons of the rainfall over England and Wales, a data set based upon the homogeneous series derived by the Climatic Research Unit of the University of East Anglia has been used.

Additional material has been provided by the Geological Survey of Northern Ireland, the Borders Regional Council and by research bodies and public undertakings.

Most of the rainfall data published in the Hydrological data UK series are in the form of monthly rainfall totals for catchment areas. For details of monthly and annual rainfalls associated with individual raingauges reference should be made to the 'RAINFALL' series published regularly by the Met. Office. Brief details of the contents and availability of this publication, together with a short description of other rainfall and climatological data sets published by the Met. Office, are given below.

Some slight variations from the contributors' figures may occur; these may be due to different methods of computation or the need for uniformity in presentation.

Rainfall and Climatological Data

The Meteorological Office maintains the national archives of rainfall and climatological data at its headquarters at Bracknell. Specific items, such as daily and hourly rainfalls from gauges and radar (from the PARAGON system) may be obtained by application to the Advisory Services Branch Met. 0. 3b. Summaries of the data are also published regularly and a list of current titles is given below:

1. *Monthly and Annual Totals of RAINFALL 19__ for the United Kingdom.*
   This contains the values for some 5000 raingauges and is available one year after the title year at a cost of £6.00.
2. *Snow Survey of Great Britain 19__/__*
   This contains the daily and monthly reports of snow conditions from selected stations covering the winter and costs £3.00.
3. *Monthly Weather Report*
   This is published monthly and contains climatological means for more than 550 UK observing stations, in addition an introduction and annual summary are produced yearly. The publication should be available 6 to 9 months after the month concerned, costs around £2 and is only available from Her Majesty's Stationery Office (HMSO) or their stockists.
4. *M.O.R.E.C.S. (Meteorological Office Rainfall and Evaporation Calculation Service).*
   This is a weekly issue of maps and tables of evaporation, soil moisture deficit, effective rainfall and the weather variables used to calculate them. The data are used to provide values for 40 km squares and various maps and tables are available according to customer requirements.

Further information about these and other publications may be obtained from:

Meteorological Office, Advisory Services
London Road
Bracknell
Berks RG12 2SZ Tel: (0344) 420242

Summary

The United Kingdom rainfall total for 1987 was close to the long term average but regional variations were significant. Compared to an average year there were no notable rainfall deficits at the regional scale but, generally, the distribution of rainfall throughout the year was not particularly beneficial from a water resources viewpoint. The seasonal variation in rainfall was subdued - especially in relation to the volatility which characterised the previous 15 years - with spring, autumn and winter precipitation totals all around the mean. Considerable within-season variability was a feature of the rainfall distribution; this had a substantial impact on the availability of runoff to sustain river flows and infiltration to replenish aquifers. With the exception of the north of Scotland, March, June and, especially, October tended to be very wet. Rainfall in most of the remaining months was below average. Precipitation was particularly deficient early and late in the year when - due to the low evaporation rates - it is hydrologically most effective. Consequently total runoff in some areas was below expected values and some new annual runoff minima were established, especially in Scotland. By contrast, very high, often unprecedented, runoff totals were recorded in many parts of East Anglia and southern England; in part this reflects the impact of a sequence of vigorous low pressure systems often accompanied by thundery activity. This very unsettled period culminated in October which will be remembered as one of the most remarkable months - in hydrometeorological terms - of modern times. The storm which tracked across southern England on the night of the 15/16th was of an extraordinary ferocity and the scale of the resulting damage and disruption has very few historical parallels. Fluvial flooding associated with the storm was however minor by comparison with that resulting from the passage of a subsequent low pressure system which produced a remarkable flood in South Wales, on the 19th, and widespread floodplain inundation throughout western Britain. Two days later serious flooding was also experienced in Northern Ireland. Although not comparable with the magnitude of these major hydrological events, a number of intense localised storms produced high runoff totals at irregular intervals throughout the year.

Few notable departures from the normal cyclic variation in groundwater levels were evident in 1987. Abundant infiltration to most major aquifers over the last two months of 1986 ensured that water tables generally stood at, or a little above, average levels early in 1987. The low January and February rainfall served to delay the seasonal peak in some areas but, subsequently, characteristic recessions were readily recognisable. Notwithstanding the considerable summer rainfall, the May to October levels remained remarkably close to their respective long term averages with only patchy evidence of short term recoveries in June. By the end of the year a decidedly sluggish further rise followed the brisk increase in recharge rates through October and, entering 1988, water tables were generally a little below average.

Rainfall

Precipitation over the United Kingdom in 1987 totalled 1053 mm, 97 per cent of the 1941-70 average, with the England and Wales total falling only 6 mm below the long term mean. Scotland was drier; the annual total being 6 per cent short of the 1941-70 average bringing to an end a notable sequence of wet years - each of the previous ten years registers in the upper quartile of a record extending back to 1869; the mean for the decade 1977-86 is almost 200 mm greater than the overall average.

The rainfall pattern throughout the United Kingdom, relative to the 1941-70 average, is illustrated in Figure 1. Comparatively dry areas may be identified in northern Scotland - especially the Cairngorms - and in the Pennines. An exaggeration in the normal rain shadow effect may be detected in some areas - for instance to the east of the Brecon Beacons and Exmoor. Unlike 1986, the normal west to east rainfall gradient over Great Britain was somewhat subdued in 1987 reflecting the relative wetness of a number of eastern districts. Parts of East Anglia, for instance, recorded over 130 per cent of the annual average. Although this represents only about an additional 100 mm of rainfall, it is particularly significant in a region where potential evaporation, on a yearly basis, closely equates to the average annual rainfall. Rainfall over the major aquifers, apart from the Chalk of Wessex, was generally a little above average and annual totals within 10 per cent of the mean typified the important reservoir gathering grounds in the Pennines and in Wales. Precipitation was more limited in the South-West and in parts of the Lake District where there was a continuation of the marked degree of spatial variability which has been evident over the last decade or so.

Actual rainfall totals for 1987 are illustrated in Figure 2. Although the normal regional differences may be readily discerned, the overall range in rainfall totals is somewhat restricted as compared to a typical year and forms a particularly marked contrast with 1986. In 1987 few districts received below 600 mm of rainfall - the area to the south-west of the Wash

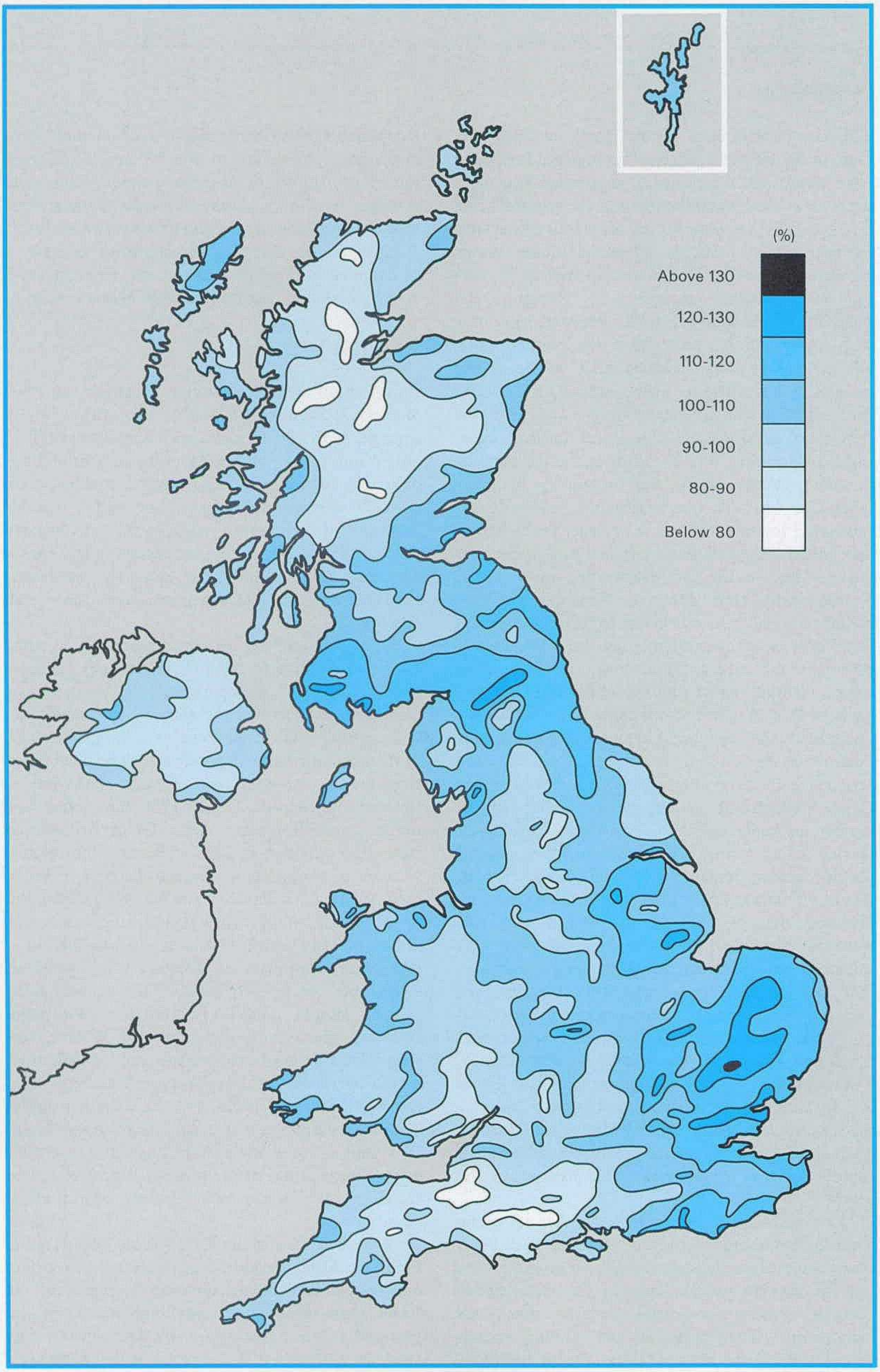


Figure 1. 1987 Annual rainfall as a percentage of the 1941–70 average.

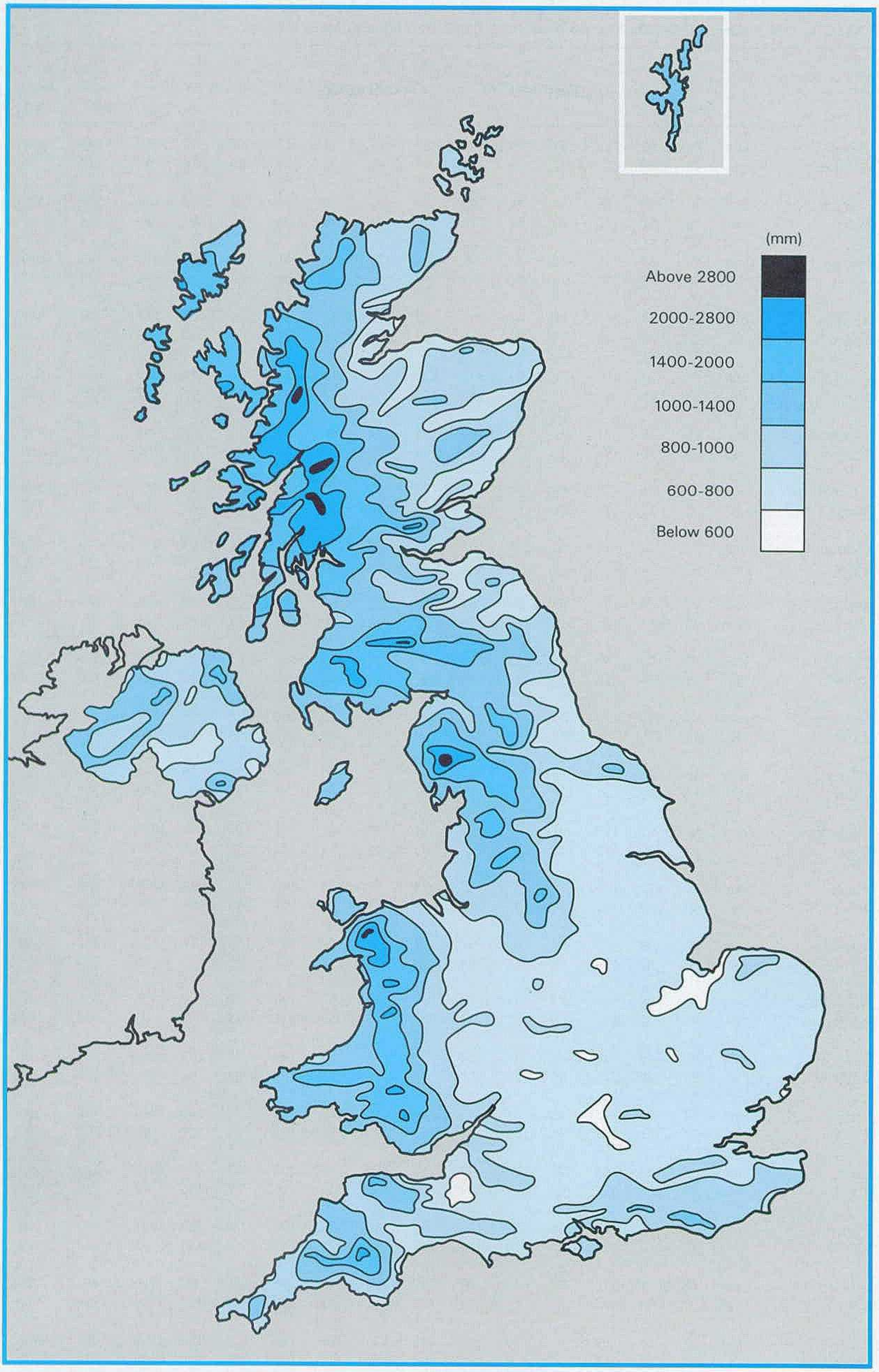


Figure 2. Annual rainfall in 1987.

TABLE 1 1987 RAINFALL IN MM AND AS A PERCENTAGE OF THE 1941-70 AVERAGE

1987						m		j	n		v		D	Year	Oct-Mar Rainfall 1986/87	Apr-Sep Rainfall 1987
United Kingdom	mm	45	69	111	64	55	102	85	87	94	163	90	88	1053	689	487
	%	43	88	158	92	73	141	97	84	92	154	80	78	97	118	96
England and Wales	mm	30	59	89	64	46	105	73	67	65	166	79	63	906	540	420
	%	35	91	151	110	69	172	100	74	78	200	81	70	99	113	97
Scotland	mm	72	88	153	68	74	98	109	120	150	161	113	141	1347	983	619
	%	53	85	166	76	81	107	97	93	109	108	80	90	94	126	95
Northern Ireland	mm	49	63	104	47	41	94	72	120	88	136	83	67	964	609	462
	%	47	84	149	69	56	119	77	117	82	127	81	59	88	106	88
North West Water	mm	44	76	140	59	57	138	126	107	119	182	89	115	1252	818	606
	%	39	94	194	77	69	166	122	86	97	154	74	96	103	131	102
Northumbrian Water	mm	60	53	101	72	46	101	95	91	68	122	85	64	958	482	473
	%	75	80	194	131	72	166	123	90	86	163	91	85	109	109	108
Severn Trent Water	mm	24	46	76	63	39	116	50	63	53	133	65	43	771	427	384
	%	35	87	146	121	61	207	77	78	79	205	82	61	100	110	100
Yorkshire Water	mm	35	48	92	62	39	104	71	72	64	121	64	55	827	479	412
	%	45	75	174	111	64	179	101	80	89	175	72	74	99	112	101
Anglian Water	mm	24	33	50	45	49	93	69	85	41	121	49	26	686	303	382
	%	46	79	125	113	104	190	121	133	79	235	79	49	113	101	124
Thames Water	mm	15	37	59	53	52	93	63	45	41	164	64	28	714	361	347
	%	24	79	128	115	93	179	105	64	66	256	88	42	101	101	101
Southern Water	mm	23	43	76	55	40	84	87	54	41	208	78	35	824	461	361
	%	30	75	146	115	73	168	147	74	58	267	83	43	104	105	101
Wessex Water	mm	16	66	78	68	32	82	45	26	50	160	75	50	748	505	303
	%	19	112	133	126	47	152	73	32	63	195	77	56	86	107	76
South West Water	mm	26	99	108	91	49	97	61	28	67	231	127	97	1081	750	393
	%	20	100	129	128	58	149	73	28	64	204	95	72	91	109	77
Welsh Water	mm	37	102	140	85	47	125	74	65	105	250	128	137	1295	906	501
	%	27	106	161	99	52	152	78	55	84	194	89	95	97	123	84
Highland R.P.B.	mm	82	109	181	64	91	91	124	108	202	161	150	171	1534	1211	680
	%	50	82	159	56	88	83	98	73	128	87	89	87	89	126	89
North East R.P.B.	mm	47	68	106	73	63	94	110	69	59	108	77	54	928	508	468
	%	52	92	171	120	82	134	120	65	68	111	75	53	91	96	95
Tay R.P.B.	mm	63	63	116	64	56	107	75	92	126	149	75	122	1108	786	520
	%	53	69	141	85	59	129	73	78	110	122	63	91	88	118	88
Forth R.P.B.	mm	74	70	115	65	53	105	66	113	104	135	70	120	1090	757	506
	%	75	91	167	96	63	140	67	97	96	127	65	127	98	133	92
Clyde R.P.B.	mm	84	104	186	71	86	97	117	153	194	202	129	193	1616	261	718
	%	52	92	177	69	89	94	90	108	111	110	77	104	97	138	96
Tweed R.P.B.	mm	67	44	103	76	57	103	96	116	70	126	79	86	1023	577	518
	%	72	64	178	125	75	151	108	102	75	143	75	143	96	114	103
Solway R.P.B.	mm	66	91	176	75	58	127	137	192	140	199	121	168	1550	997	729
	%	47	98	193	85	63	141	125	148	93	138	83	111	109	130	110
Western Isles Orkney and Shetland	mm	82	96	189	49	80	63	118	120	147	186	122	154	1406	1001	577
	%	60	93	205	59	118	83	140	128	117	129	89	101	108	131	109

being the most extensive - and annual totals of less than 550 mm were confined to a small area in the central Thames Valley; it is unusual for the minimum to occur so far west. Annual rainfalls for individual raingauges did not reach the notable totals registered in recent years - 5000 mm being recorded in 1986 - and raingauge catches exceeding 3000 mm were confined to the mountains of Wester Ross, certain peaks in the Lake District and to Snowdon where the Crib Goch site recorded 4322 mm.

Table 1 provides a breakdown of monthly and half-yearly rainfall totals in 1987 both on a countrywide basis and according to the major administrative divisions within the water industry (see frontispiece). On average, rainfall is fairly evenly distributed throughout the year but, in individual years, large month by month variability may be expected; such was the case in 1987. January, for instance, was the third driest this century for the UK as a whole and the combined England and Wales rainfall total for January and February was the lowest since 1963 when similar Arctic conditions were experienced at the beginning of the year. June registered its fifth highest England and Wales rainfall total this century but, in precipitation terms, was widely eclipsed in October when parts of southern and western Britain recorded three times the mean monthly rainfall. October 1987 ranks as the sixth wettest, for England and Wales as a whole, in a rainfall series extending back over 250 years. In Northern Ireland, October was the wettest for twenty years and in Scotland, although the monthly rainfall was only marginally above average, several 'very rare' daily totals were recorded (see Table 2). Autumn rainfall in 1987 was unevenly distributed in time and, from the end of October, dry conditions prevailed throughout England, Wales and Northern Ireland, although Scotland was a little wetter than average. Similarly, total autumn (September-November) precipitation was a little greater than the long term mean in Scotland. Nonetheless, only 1968 and 1975 recorded lower totals in the preceding twenty years and, remarkably, autumn rainfall since 1975 has been some 28 per cent greater than the 1869-1975 mean.

Evaporation and Soil Moisture Deficits

Although climatological conditions, amounts of sunshine in particular, were not conducive to high rates of evaporative loss during much of 1987, the distribution of rainfall throughout the year mitigated against the development of large soil moisture deficits (SMDs) and allowed transpiration to continue for longer than normal. Thus actual evapotranspiration was significantly above average throughout most regions.

Figure 3 illustrates the annual potential evaporation (PE) total together with the corresponding percentages of the 1956-75 average for a network of climatological stations throughout the UK (values are not given where the historical record is too short or includes significant gaps). Little year on year variation occurs in PE totals and the majority, in 1987, fell within 10 per cent of the average. Spatial variations are more interesting and, although few clear patterns may be discerned, the contrast between PE totals in the South West, which experi-

TABLE 2 'VERY RARE' DAILY RAINFALL TOTALS IN 1987

Date (Rain-day)	Station Number	Name	County	Grid Reference	Amount (mm)	Return Period (1 in X years)*
17.07.87	313494	Brighton, Lewes Rd	East Sussex	TQ 320061	E 95	190
22.08.87	99828	Elford, The Rectory	Staffordshire	SK 183104	85.0	200
23.08.87	94145	Fradley Junction	Staffordshire	SK 142140	82.2	170
23.08.87	148676	Heckington	Lincolnshire	TF 144443	80.1	160
23.08.87	156677	Holbeach	Lincolnshire	TF 355241	86.3	220
23.08.87	156709	Holbeach STW	Lincolnshire	TF 358258	115.0	>500
21.10.87	942279	Ballylane STW	Armargh	IH 965352	87.0	160
25.10.87	703556	Inverailort	Highland	NM 764816	117.0	170
25.10.87	719395	Rhum: Kinloch	Highland	NM 402996	150.5	520
31.12.87	650872	Abington	Strathclyde	NS 932230	125.0	1350

* Based on the methods and findings of the Flood Studies Report Vol II[1] (as implemented on the Meteorological Office computer[2]) whereby a return period can be assigned to the catch at a particular raingauge. Those exceeding a 160 year return period are classified as 'very rare' events (the return periods in Table 2 have been rounded to the nearest 10 years).

E - rainfall total estimated.

[1] Flood Studies Report 1975. Natural Environment Research Council (5 vols).

[2] Keers, J.F. and Wescott, P. 1977. A computer-based model for design rainfall in the United Kingdom: Meteorological Office Scientific Paper No. 36.

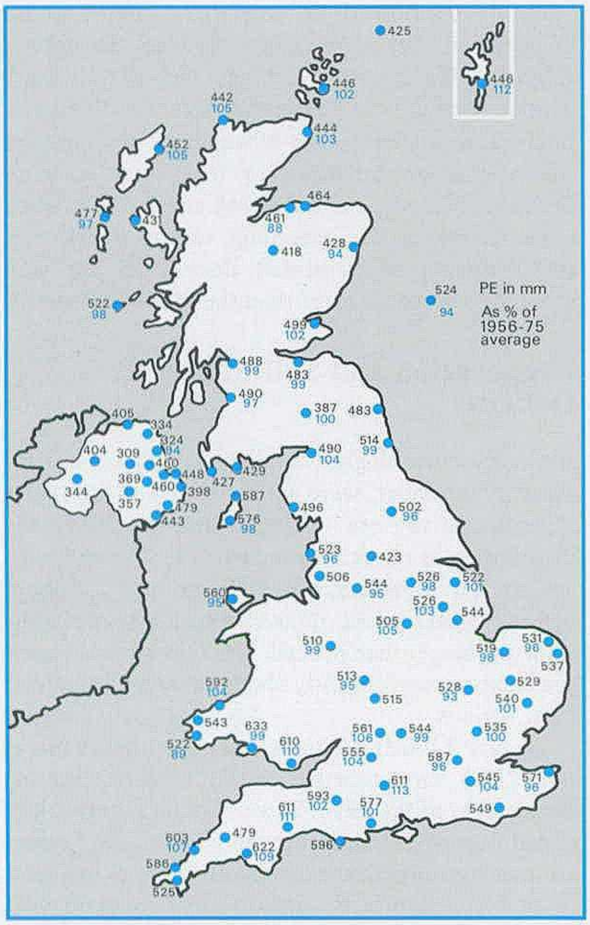


Figure 3. Potential evaporation in 1987—in mm and as a percentage of the long term average.

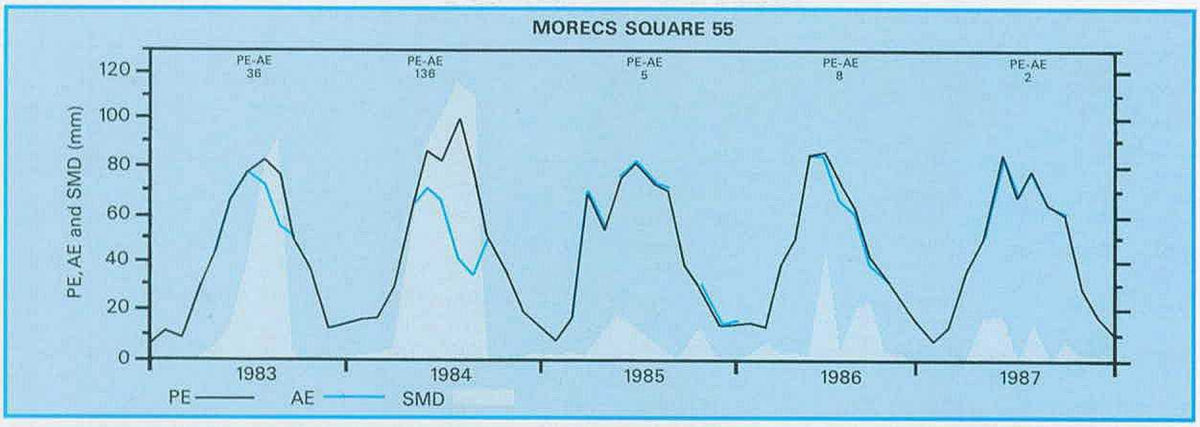
enced a relatively sunny summer, and East Anglia where wet and cloudy conditions prevailed, is notable - in a typical year the PE totals in both regions tend to be very similar.

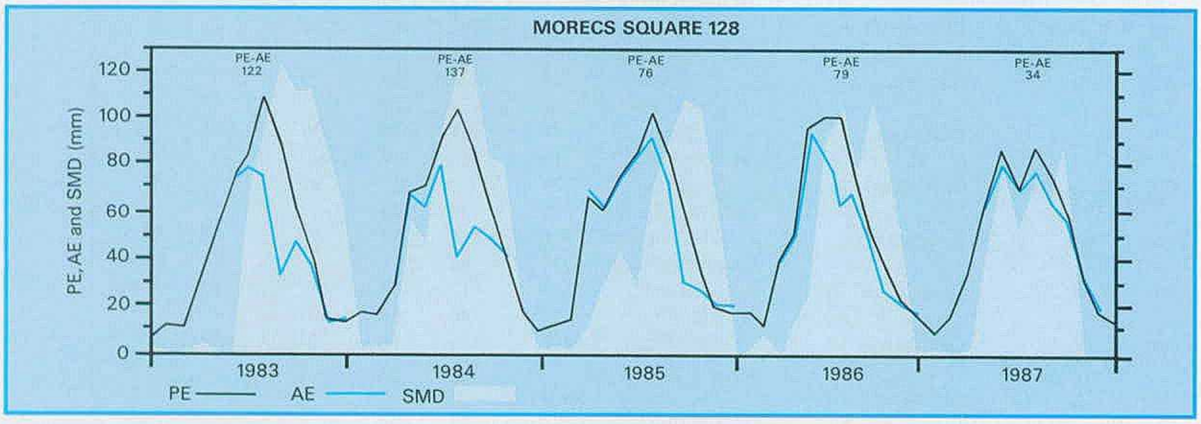
Over the last dozen years soil moisture deficits have displayed rather greater variability than is characteristic of the historical record. For example, relative to average conditions, maximum deficits tended to be very high in 1983 and 1984 but rather modest in the ensuing two years. In 1987, maximum SMDs over large parts of the United Kingdom were similar to 1985 and 1986 but the build-up and decline in deficits was rather more dramatic. Both regional and temporal variations in soil moisture were far from typical and the dates of peak deficits showed little spatial coherence. In some areas monthly, and weekly changes were of greater significance than the normal seasonal cycle and the below average deficits throughout much of the summer allowed actual evaporation (AE) to closely equate to PE for a large part of the year. The normal spatial pattern of maximum deficits obtaining throughout the English lowlands did not become established although maximum values, in excess of 120 mm, did obtain in coastal districts of southern England and in the Isle of Wight. The large deficits which normally characterise the late summer and early autumn in East Anglia did not fully develop in 1987 as a consequence of the plentiful, if spatially very variable, rainfall especially in June and October. Thus, parts of Norfolk and Suffolk, for instance, recorded maximum SMDs appreciably lower than those registered in north-east Scotland. Many climate stations in Scotland recorded their peak SMD for the year in late May whereas little spatial consistency was evident further south. Some areal coherence was achieved in September, however, when significant deficits, in England and Wales, existed around the end of the month. October witnessed an extremely sharp decline in deficits such that, except for a few isolated localities, soils had returned to field capacity by the first week in November. The build-up and decline in SMDs is illustrated in Figure 4 which also shows the variation in PE and AE for three MORECS grid squares over a five-year period.

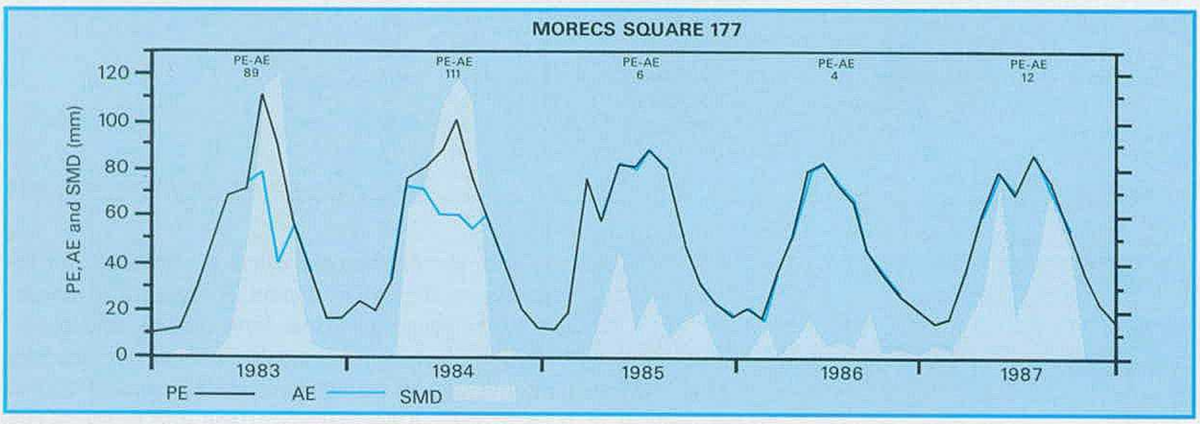
The difference between catchment rainfall and runoff is known as the 'loss'. Because of the natural and artificial storages available in most catchments, annual 'losses' rarely equate closely to yearly totals of actual evaporation. However, where baseflow is limited and the net effect of abstraction and discharges is negligible, the loss may be considered a reasonable guide to the annual evapotranspiration total provided that - as in 1987 - SMDs had been sensibly eliminated by the end of the previous year. Catchment losses in 1987 (see Table 3) were generally below average in most regions apart from East Anglia and runoff as a percentage of rainfall was somewhat higher than the period of record average. In East Anglia the diminished hydrological effectiveness of the rainfall may be more marked than the data suggest due to the counterbalancing influence of enhanced baseflows arising out of the substantial rainfall in the last three months of 1986. Those rivers almost totally dependent on spring sources, for instance the River Test in Hampshire, generally registered below average losses for 1987. Caution needs to be exercised when interpreting the computed losses in high rainfall areas. In the Cefn Brwyn catchment, for instance, the annual loss - which was exceptionally low in 1987 - is very sensitive to relatively small systematic errors in the assessment of rainfall and runoff totals.

Runoff

Runoff in 1987 for the United Kingdom totalled approximately 650 mm. This is marginally below the 1961-86 average, the first time since 1978 that annual runoff has been below the long term mean. Figure 5 confirms the general tendency towards greater runoff over the last decade; average runoff over the period 1978-87 has been about 15 per cent greater than the average for the preceding twenty years.







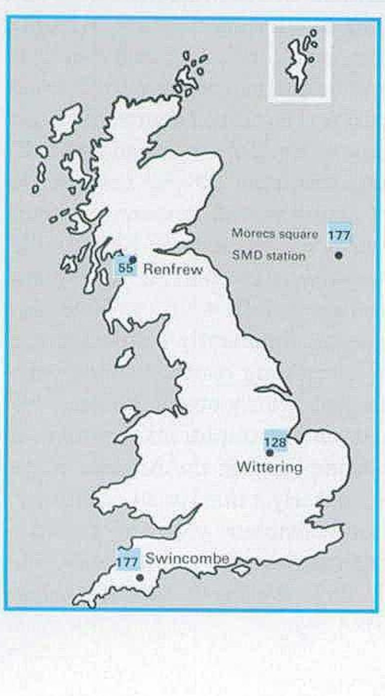


Figure 4. Potential and actual evaporation with soil moisture deficits for three MORECS squares.
(The location of the featured grid squares is shown on the map).

TABLE 3 1987 WATER BALANCES FOR SELECTED CATCHMENTS IN GREAT BRITAIN

Station Number	River and Station Name			Rainfall	Runoff	Loss	Runoff as % of Rainfall 1987	lta	Abstractions* and Discharges
12001	Dee	Woodend	1987 mm	976	723	253	74	74	N
			as a % of lta	87	86	89			
18001	Allan Water	Kinbuck	1987 mm	1216	871	345	71	72	N
			as a % of lta	92	90	96			
21012	Teviot	Hawick	1987 mm	1212	836	376	68	68	N
			as a % of lta	103	103	102			
24004	Bedburn Beck	Bedburn	1987 mm	946	626	320	66	58	N
			as a % of lta	108	123	87			
28008	Dove	Rocester Weir	1987 mm	1016	673	343	66	56	G E
			as a % of lta	97	113	76			
30001	Witham	Claypole Mill	1987 mm	682	241	441	35	29	P
			as a % of lta	108	128	100			
34003	Bure	Ingworth	1987 mm	788	278	510	35	31	G I
			as a % of lta	116	130	109			
37001	Roding	Redbridge	1987 mm	727	281	446	38	31	S E I
			as a % of lta	116	143	104			
39007	Blackwater	Swallowfield	1987 mm	720	309	411	42	36	E
			as a % of lta	100	119	90			
42004	Test	Broadlands	1987 mm	711	318	393	44	42	N
			as a % of lta	88	93	84			
50001	Taw	Umberleigh	1987 mm	1066	617	449	57	60	S P E
			as a % of lta	92	88	97			
55008	Wye	Cefn Brwyn	1987 mm	2357	2186	171	92	84	N
			as a % of lta	96	105	44			
57004	Cynon	Abercynon	1987 mm	1679	1211	468	72	68	S E
			as a % of lta	92	97	80			
62001	Teifi	Glan Teifi	1987 mm	1291	964	327	74	74	S P
			as a % of lta	95	96	93			
73005	Kent	Sedgwick	1987 mm	1825	1416	409	77	73	N
			as a % of lta	105	111	90			
84005	Clyde	Blairston	1987 mm	1124	784	340	69	65	
			as a % of lta	97	104	85			

lta = long term average

* For an explanation of the code letters see page 34.

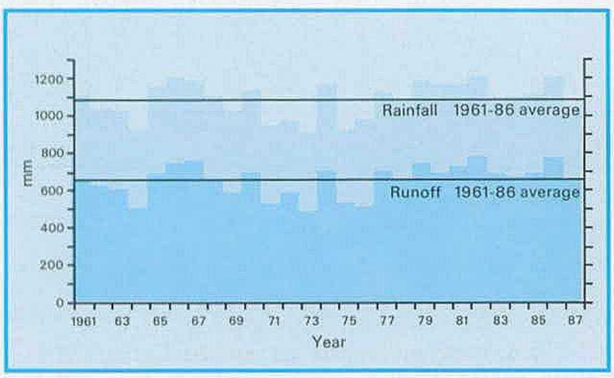


Figure 5. Annual rainfall and runoff totals for the United Kingdom, 1961–87.

Figure 6 provides a guide to runoff in the United Kingdom for 1987 expressed as a percentage of the 1961–1986 average. 1961 has been selected as the start year for the first standard runoff period in the United Kingdom to allow direct comparisons to be made with rainfall when the Meteorological Office introduces the next thirty-year standard rainfall period (1961–90). In recognition of the growth of the primary network of flow-measurement stations, isopleths for Northern Ireland are featured on the runoff map for the first time. A significant proportion of the gauging stations have records in excess of 15 years allowing a reasonable estimate of the long term average to be determined. The runoff map is least precise in northern Scotland and in the Welsh mountains where the monitoring network is sparse; insufficient flow data exist for the Scottish islands to allow the drawing of isopleths with any confidence. A feature of Figure 6 is the marked degree of spatial variability throughout the United Kingdom; 1987 runoff ranged from less than 80 per cent of the average in parts of Somerset and northern Scotland to more than 200 per cent in parts of East Anglia. In general, the majority of catchments in England registered above average runoff, whilst in Wales and Scotland runoff was predominantly below average. This represents an interesting contrast to the exaggerated runoff gradient which characterised 1986. The rather unusual runoff conditions experienced during 1987 were exemplified in the Anglian Water Authority area where nearly a third of all catchments – with ten or more complete years of record – established new maximum annual runoff totals. The frequency of high flow events in the South-East

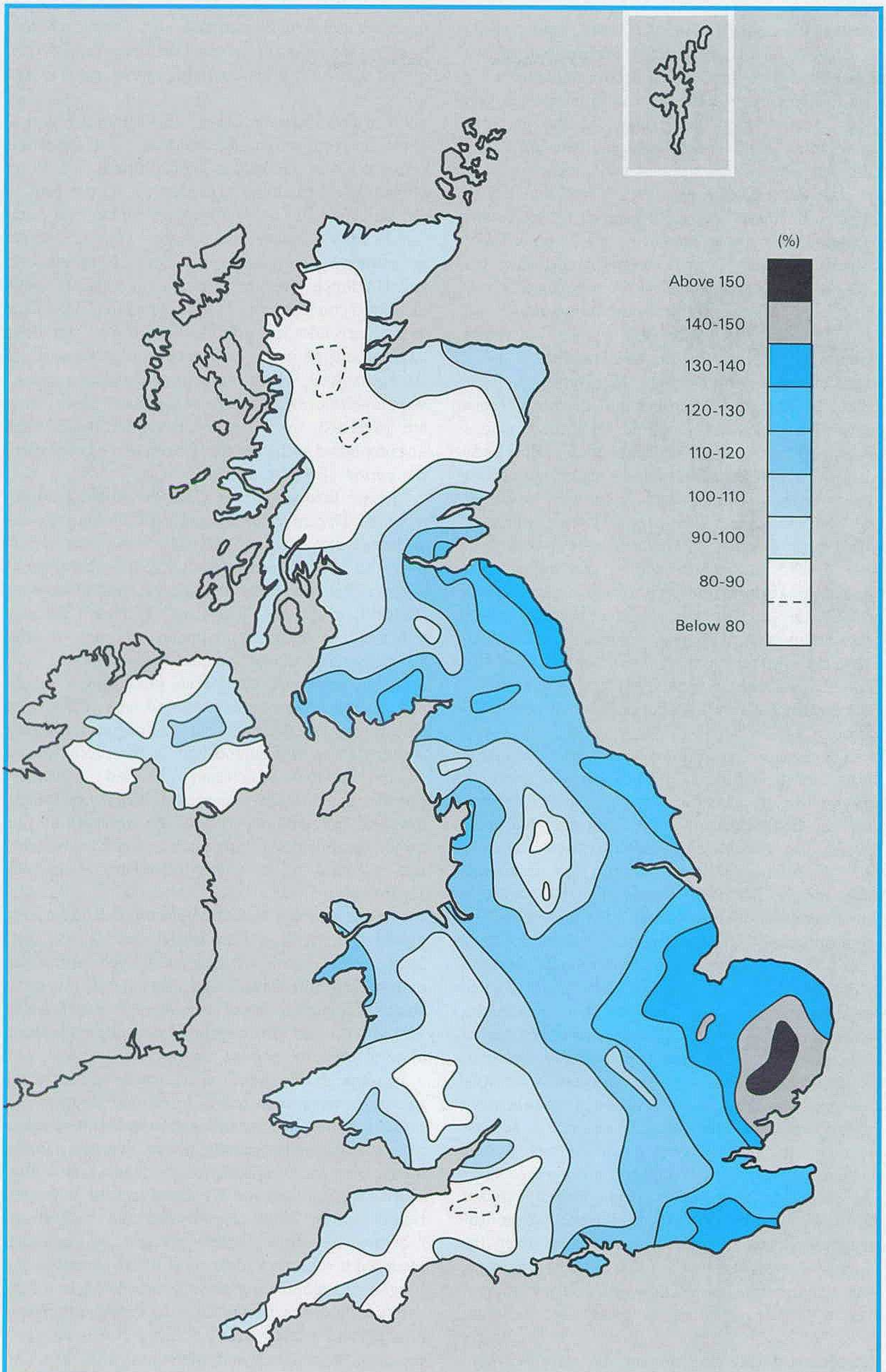


Figure 6. A guide to 1987 runoff expressed as a percentage of the 1961–86 average.

during 1987 was somewhat greater than that of recent years. A notable example occurred north-east of London where the Cobbins Brook, which has a 17-year flow record, registered peak discharges in July and October which each surpassed the previous maximum; the July peak was over two and a half times the previous maximum. A marked contrast to the abundant runoff in the English lowlands may be found in northern Scotland where some catchments registered their lowest annual runoff on record. For instance the River Naver in the Highlands, which has a 10-year record, registered a 1987 runoff total about 15 per cent less than its previous minimum.

Whilst an abnormally high number of spates was typical only of the English lowlands in 1987, some evidence points to a tendency for flood events to be somewhat larger and more numerous during the 1980s as compared with the previous decade. However, the differences with earlier periods are less significant and there is no clear evidence to suggest that extreme floods in the UK – on a par with the Tywi event (see page 23) – are occurring with greater frequency. This inference is consistent with similar patterns recognised for other river systems in western Europe[1]. However, the contrast between the last ten years and the preceding 10–15 years assumes a particular importance in the UK where the average length of river flow records is less than 20 years and the general perception of hydrological extremes is heavily influenced by the post-1960 period.

The distribution of runoff throughout the year is illustrated in Figure 7 (a-d). Daily and monthly hydrographs are shown for individual gauging stations in England, Scotland, Wales and Northern Ireland. The monthly mean flows are shown together with the corresponding maximum and minimum flows for the preceding record. The 1987 trace is shown as a solid black line and the solid blue line represents the 30-day running mean for the pre-1987 record. In a normal year, periods of reduced flow can be expected during the summer months when evapotranspiration rates are at their maximum. Whilst the overall range of flows experienced during 1987 was significantly greater than in a typical year, the expected seasonal variations in runoff were little in evidence in most regions. Although flows began a general decline in early April, a sequence of depressions crossing the UK during the summer months sustained predominantly higher than average summer discharges. Exceptions to this pattern included South Wales and South-West England where August, in particular, was dry and flows over the summer months remained somewhat below average. Substantial within-season flow variability was, however, a feature in all areas. Generally, minimum flows – for the time of year – were closely approached during late January and early February and again in late November and early December in the majority of catchments where there is limited baseflow support. By contrast, significant high flow events were registered in the late March/early April period and during October throughout most of the UK.

The flow duration curves illustrated in Figure 7 allow the proportion of time that river flows fell below a given threshold to be identified. Low flows (those flows which are exceeded for 95 per cent of the time) were in general higher than average – and significantly higher in those regions where groundwater comprises a significant component in runoff. Since the early 1970s, low flows have displayed considerable variability and the 95 per cent exceedance flow has often – as in 1987 – departed substantially from the long term average. Apart from the South-East, where frequent and intense localised storms were prevalent, high flows (those flows which are exceeded for 10 percent of the time) were unexceptional being generally close to, or lower than, the period of record average.

Rivers throughout the UK were in spate during much of December 1986 and high discharges were sustained into early January. However, total runoff over the 1986/7 winter period (December-February) was below average in south-east and south-west England, south-east Wales and Northern Ireland. From the second week in January through to early February, river flows declined throughout the UK, although snowmelt caused an interruption in the recession in most areas around the 20th. The recessions were particularly prolonged in Wales, western areas of England and in Northern Ireland where the River Ravernet recorded its lowest January flow in a 15-year record. The exceptionally low temperatures experienced during part of this period combined with the much reduced runoff gave rise to local water supply problems – see the Hydrological Diary.

Above average runoff totals typified the spring period (March-May) throughout the UK, particularly in the south of England. High discharges obtaining in late March and early April, served to counterbalance the lower than average runoff during May. By the end of the spring, reservoir levels stood close to capacity in most regions.

Except in the South-West where minor water shortages were reported as consumer demand increased through the summer, total June-August runoff was predominantly above average. Catchments in eastern England, the Midlands, Lancashire, south-east Scotland and Northern Ireland registered runoff totals which approached the highest on record. The River Trent (gauged at Colwick), recorded a summer runoff total which exceeded the previous maximum in a 29-year record and, in south-east England, the Rivers Gipping (gauged at Stowmarket) and Turkey Brook (gauged at Albany Park) recorded their highest summer runoff in 24-year and 12-year records respectively. By and large, summer flows had more affinity with conditions in 1985 and

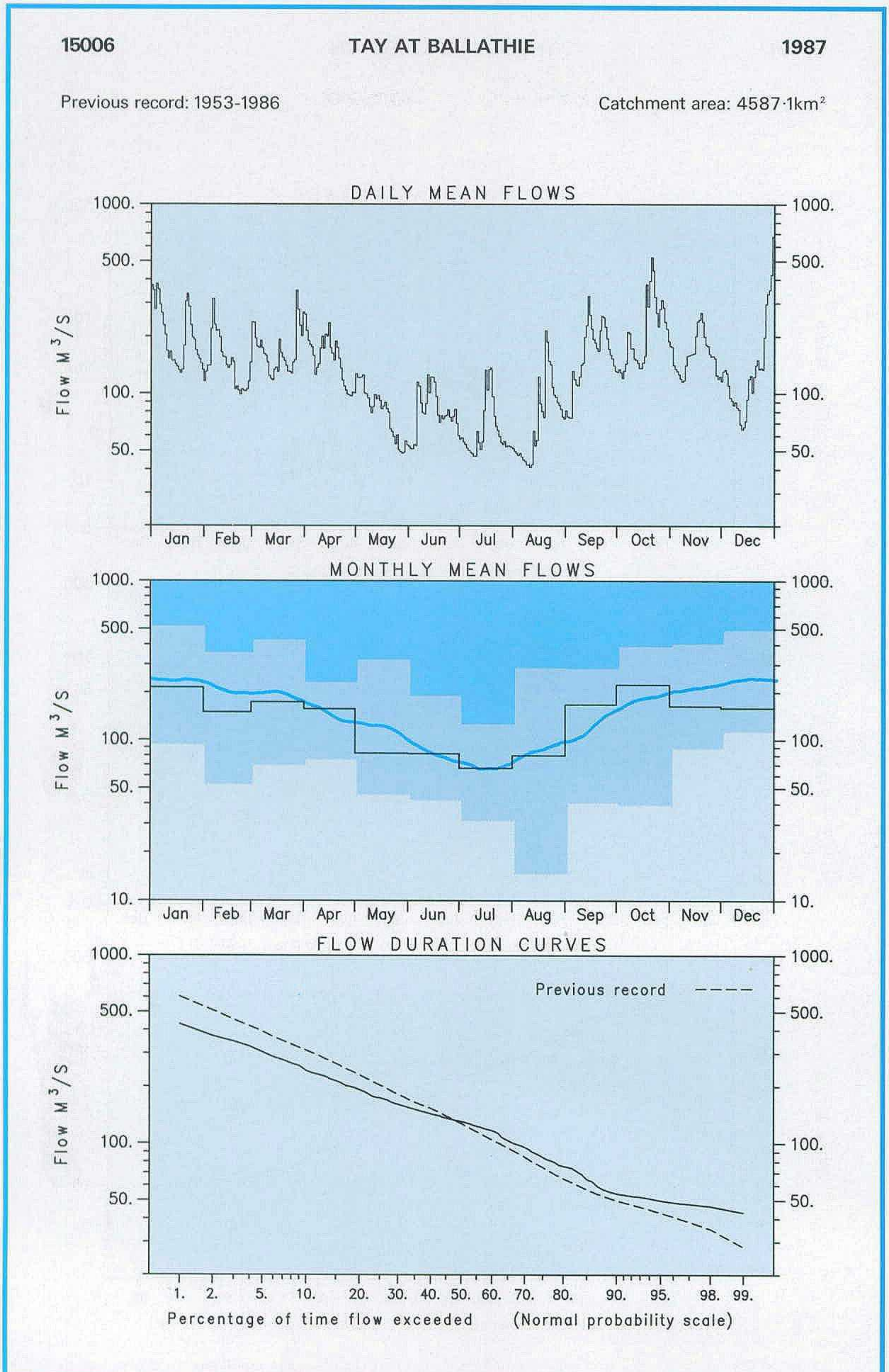


Figure 7(a). River flow patterns: Tay at Ballathie.

39001 **THAMES AT KINGSTON** **1987**

Previous record: 1883-1986 Catchment area: 9950·0km²

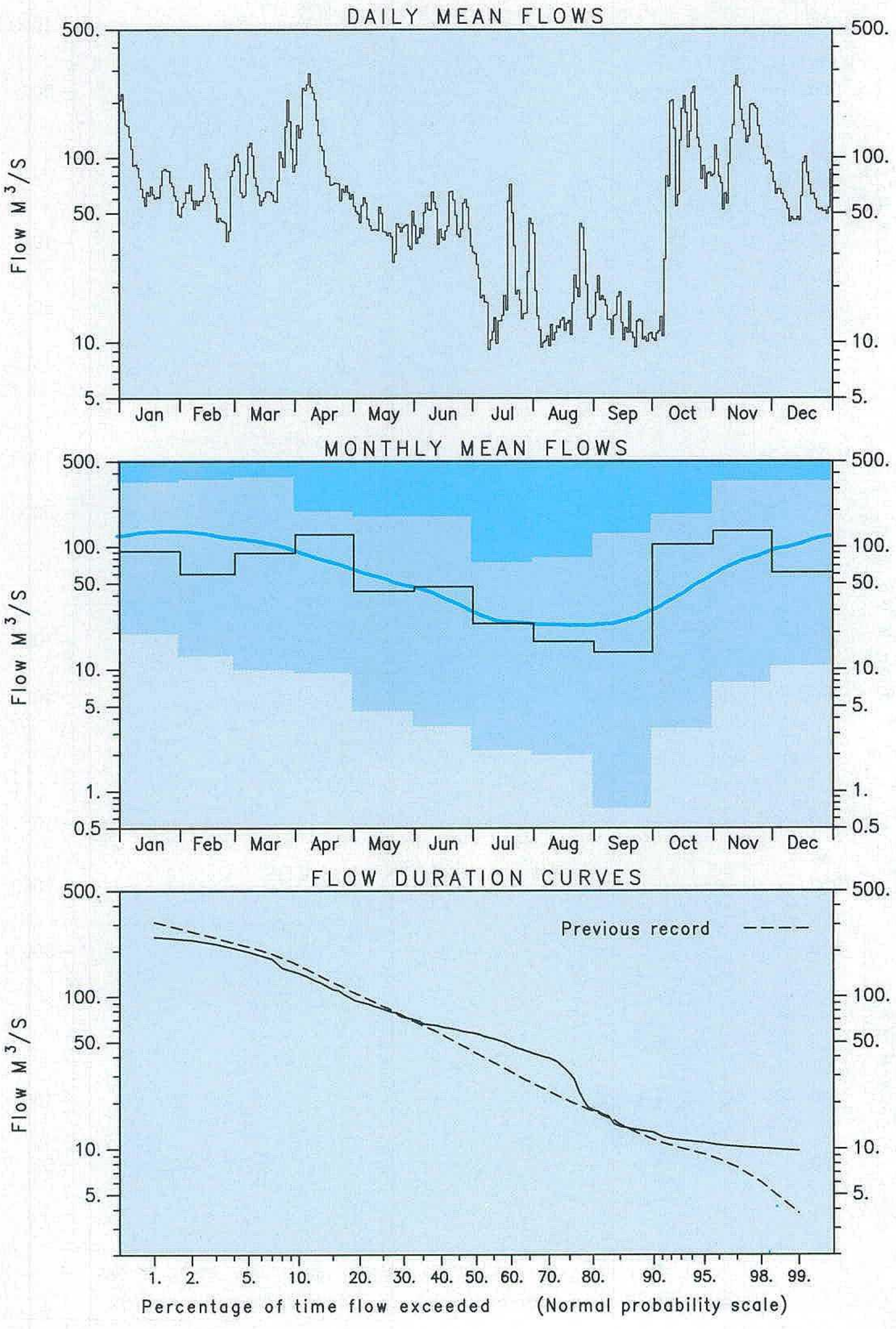


Figure 7(b). River flow patterns: Thames at Kingston.

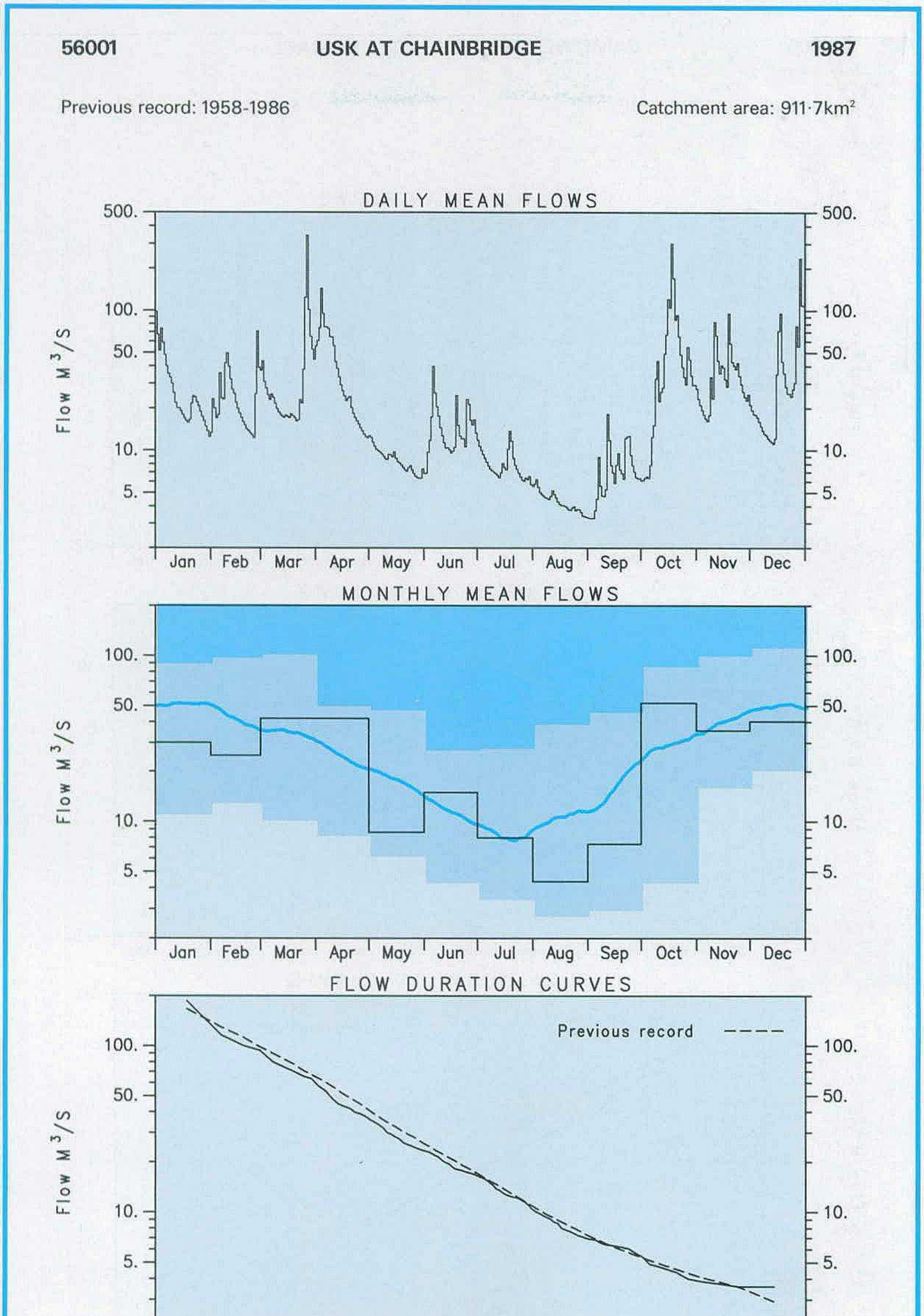


Figure 7(c). River flow patterns: Usk at Chain Bridge.

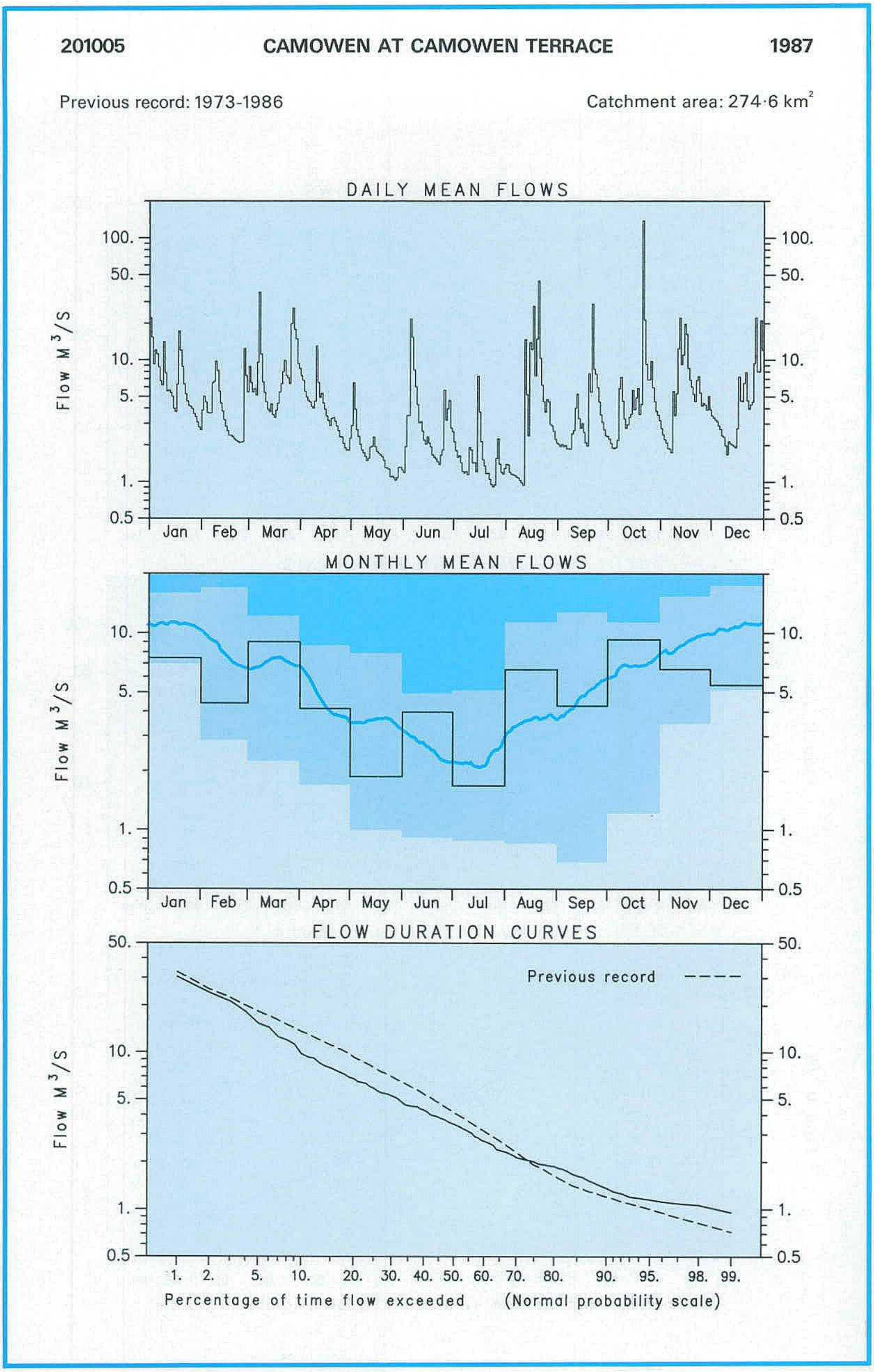


Figure 7(d). River flow patterns: Camowen at Camowen Terrace.

1986 than in the notably dry summers of 1983 and 1984 when, in many areas August flows were only about one quarter of the corresponding flows in 1987.

During the autumn (September-November) river flows varied dramatically but, overall, runoff was above the mean throughout the UK. The majority of rivers peaked in mid-October; many recorded their highest daily mean flows for the year and some peak flows were unprecedented. Discharge rates in excess of bankfall were especially common in Dyfed where the Rivers Cothi, Gwaun, Tywi and Teifi registered their highest flows on record. The previous maxima were often superseded by a wide margin and return periods ascribed to the flood events on the 18th/19th October ranged up to 200–300 years. Several towns and villages were affected by floodwaters – in Carmarthen flooding was particularly severe (see page 25), transport was disrupted over large areas and widespread floodplain inundation occurred. Several catchments – with river flow records in excess of 25 years – registered October runoff totals which had only been exceeded 2 or 3 times in the past. The River Teifi at Glan Teifi, registered the second highest October runoff since records began in 1959. Runoff in south-east England was also remarkable, many gauging stations recorded runoff totals which surpassed the previous October maximum by wide margins. For instance, the River Sapiston (gauged at Rectory Bridge since 1950), recorded nearly 3 times the previous highest October runoff and the October mean flow for the Pymmes Brook catchment (north-east of London) is unsurpassed, in any month, in its 16-year record.

Dry weather prevailing from late November to mid-December caused a decline in river flows. Apart from some high baseflow rivers in the South-East, flows almost everywhere approached the minimum recorded for early winter and in some cases fell below. A large measure of flow volatility was, in some areas, a feature of the December runoff especially in north-east Scotland: the River Spey (gauged at Kinrara) recorded its lowest daily mean flow for the year early in the month, only to register its 1987 maximum on the 31st. Despite significant flow variability, gauging stations in some catchments recorded December runoff totals close to the driest on record; the Taw at Umberleigh registered the second driest December in a 30-year record. The passage of a couple of very active frontal systems late in December resulted in high runoff rates, in most regions, at the turn of the year.

Groundwater

Since the drought of 1976, when unprecedented low groundwater levels were recorded throughout both major and minor aquifers, water tables have generally stood near to average. In 1986, levels by the end of the summer also remained close to the average. Judging from the well hydrographs, over most of England and Wales, infiltration appears to have started in November 1986 and continued to the end of April 1987. In Yorkshire and Northumbria, infiltration started in December and ended by the beginning of May, although in Humberside it appears to have continued to the end of the latter month. On the South Downs, where September rainfall was heavier, infiltration started in October. In southern Scotland, infiltration commenced in November, but seems to have ceased by the end of March.

Rainfall over England and Wales during the infiltration months (October-March) was generally fairly close to the 1941–70 mean, varying from marginally above in the Anglian and Thames Water Authority areas to 131 per cent of the average for the North West Water Authority – see Table 1. The most notable feature was the low rainfall in January, which was followed on the eastern side of the country (Northumbrian, Yorkshire, Anglian, Thames and Southern Water Authorities) by limited February rainfall. These months of low rainfall are reflected in the well hydrographs for Compton, Rockley, Ampney Crucis, Redbank, Bussels and Woodhouse Grange (Figure 13 – see page 160). At the Rockley site, the autumn and early winter rise in water level was of the order of 10 m; a fall of some 3.5 m was consequent on the low January and February infiltration, and was followed by a recovery of about 2 m through March and April.

Peak groundwater levels normally occur at the end of winter or early in the spring, except in deep boreholes where a substantial lag between rainfall and water table response may be expected. As a consequence of the winter rainfall distribution, peak groundwater levels in 1987 were commonly delayed, often until April. In some aquifers this late peak served to emphasise the steepness of the subsequent spring recession but, by and large, water tables followed the normal monthly average into the autumn. Although summer recharge can take place where the water table is close to the ground surface and where infiltration is rapid, this does not appear to have happened to any significant extent in 1987. The well hydrograph for the Ampney Crucis site, where this phenomenon is often portrayed, shows only a slowing of the recession, probably due to the above-average June rainfall.

Towards the end of 1987, the September rainfall was generally below average, but October was very wet. The succeeding months were, by contrast, dry. Consequently, the well hydrographs show a large rise in water levels due to the October rainfall, but with either a slowing of the rise, or even a fall in levels, by the end of December.

In the publication 'Hydrometric Register and Statistics 1981–5', a method was proposed which both permitted comparisons between groundwater levels in different observation wells and related those fluctuations to aquifer replenishment. The procedure relies on a comparison between the range in groundwater levels for a particular infiltration year and the mean annual range - this is defined as the difference between the mean maximum and mean minimum levels - normally derived from at least ten years of data. By plotting the annual fluctuations as a percentage of the mean annual range for each observation site on a map of the aquifer outcrop areas, it is possible to delimit zones of high or low recharge for a particular year. Using the same methods, the apparent replenishment for the winter of 1986/87 has been estimated and is shown in the Register of Selected Groundwater Observation Wells as the percentage mean annual recharge (see page 166). For the main outcrop of the Chalk and Upper Greensand aquifer, the percentage mean annual recharge is also shown areally on Figure 8;

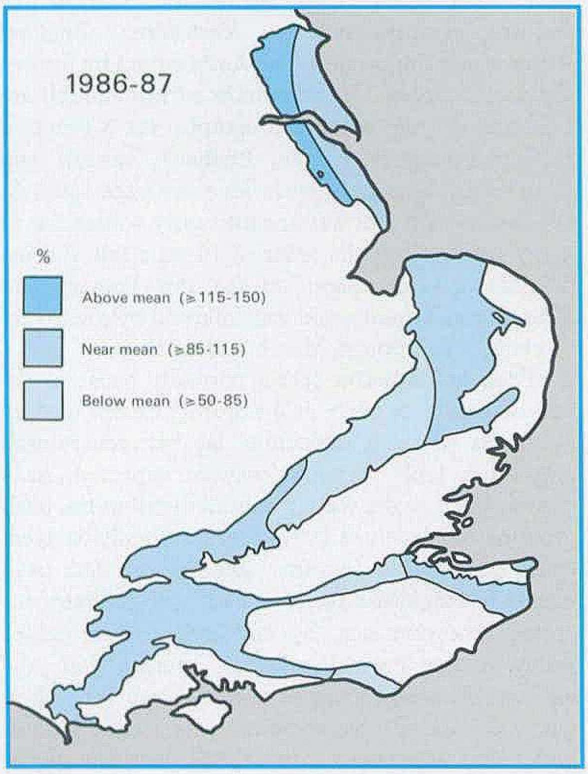


Figure 8. Generalised percentage of the mean annual replenishment to the Chalk and Upper Greensand aquifer 1986–7.

reference to pages 166 and 167 will confirm that, generally, those areas shown as 'below mean' tended to closely approach the threshold of 85 per cent replenishment. Using the observed groundwater level fluctuations and the unit mean annual replenishment figures from Monkhouse and Richards (1982), the actual volume of recharge for the four major aquifers has been estimated and is shown in Table 4.

TABLE 4 ANNUAL REPLENISHMENT TO THE MORE IMPORTANT AQUIFERS IN ENGLAND AND WALES FOR THE YEAR 1986-87.

(Units are in m^3 10^6. Figures in parentheses are percentages of the annual mean.)

Water Authority	Mean annual Replenishment	1986–87 Replenishment
Chalk and Upper Greensand aquifer		
Anglian	953	930 (98)
Southern	1231	1100 (89)
South West	202	160 (79)
Thames	975	915 (94)
Wessex	947	879 (93)
Yorkshire	322	346 (107)
TOTAL	4630	4330 (94)
Lincolnshire Limestone aquifer		
Anglian	86	84 (98)
Permo-Triassic sandstones aquifer		
Northumbrian	123	98 (80)
North West	331	336 (102)
Severn-Trent	528	554 (105)
South West	205	201 (85)
Welsh	27	23 (85)
Wessex	39	20 (51)
Yorkshire	301	247 (82)
TOTAL	1554	1479 (95)
Magnesian Limestone aquifer		
Northumbrian	80	72 (90)
Severn-Trent	40	47 (117)
Yorkshire	127	89 (70)
TOTAL	247	208 (84)

Reference

1. Arnell, N.W. 1989. Changing frequency of extreme hydrological events in northern and western Europe. In: FRIENDS IN HYDROLOGY. Proc. Bolkesjoe Conference. IAHS Publication, No. 187.

1987 Hydrological Diary

January

8th-20th: Much of Europe experienced exceptionally low temperatures when a ridge of high pressure extended southwards from an anticyclone centred over Scandinavia. Strong winds increased the chill factor and some regions experienced the lowest temperatures this century. Frozen catchments resulted in a sustained decrease in runoff at a time when water wastage was increasing rapidly due to fractured mains and other pipework. The London area was severely affected; water-tankers and stand-pipes were required to provide an effective supply to 250,000 consumers in the lower Thames Valley. Stocks in some service reservoirs, particularly in the South-West, Derbyshire and Wales, declined to almost zero (wastage of water was an important factor) and appeals were made to limit demand. Water-tankers were drafted into west Cornwall after a local service reservoir ran dry. A few supply reservoirs were frozen, and with drifting snow making access to several treatment works in the South difficult, the water supply situation in some areas was the worst since the drought of 1976.

The last 10 days of the month were dry in western regions of England and Wales. Runoff in these areas continued to decline and, by the end of the month, flows in a few rivers fell below their minimum recorded January discharge. For instance, the Thrushel (Cornwall), and the Gwaun (Dyfed), established new January daily mean minima - in 18-year and 19-year records respectively. Elsewhere milder weather brought a slow thaw. In parts of Northern Ireland and Scotland the ensuing increase in runoff was accelerated by rainfall and some localised flooding occurred.

February

Following heavy rainfall early in the month, a brisk decline in runoff rates soon became re-established.

As a result of limited recharge at the beginning of the year groundwater levels were significantly below the end-of-winter average except in the deeper Chalk wells where the lag between rainfall and water table response is lengthy.

March

26th-27th: An intense depression brought heavy rain and storm force winds to all areas. Many rivers recorded high flows and localised flooding was common. On the 26th the Glaslyn, in North Wales, registered a peak discharge which considerably exceeded the previous maximum. The following day many roads in highland Britain were impassable due to flooding and several rivers recorded their highest daily flow of the year. New maximum levels were established on, amongst others, the River Isla (Grampian Region) where the Grange gauging station has been operational since 1969. In Cumbria, the River Petteril also recorded a new maximum peak level whilst the daily mean flow registered on the River Cocker was the highest in its 10-year record.

April

2nd-6th: A sequence of fronts, associated with a deep depression close to the Bay of Biscay, tracked across the south-west of England. River levels in Devon and Cornwall rose in response to heavy downpours. The River Creedy, gauged at Cowley, recorded a daily mean flow of 60 m^3s^{-1} on the 3rd - the highest in a 24-year record. New maximum daily mean flows for April were also registered for the majority of rivers in east Devon. Exeter, which - on the 3rd - recorded its wettest day on record, experienced serious flooding. During the ensuing few days high river discharges became established throughout Great Britain.

May

A gradual decline in river flows, which began in most areas at the end of the first week in April, continued during May. In some areas flows approached the minimum on record for the late spring period.

June

5th-7th: A frontal system, associated with an Atlantic depression, crossed the UK. Southern areas of Britain, in particular, were affected by heavy rainfalls and some flooding resulted. On the 5th, the River Erme, which drains from Dartmoor, registered its highest June daily mean flow in a 14-year record. During the next two days the depression moved northwards across Northern Ireland and Scotland where the Findhorn recorded its highest daily mean flow, at Forres, for the year.

11th-15th: Thunderstorms, accompanied by heavy rainfall, were widespread over Wales, the Midlands and south-east England. On the 14th, intense thundery activity throughout the South-East, and over London especially, caused flooding which severely disrupted traffic. The following day, 30-50 mm of rain was recorded throughout much of Essex and Suffolk. In Sudbury (Suffolk) 71 mm fell in 24 hours resulting in moderate flooding. Subsequently, the Stour (at Langham) registered its highest summer daily mean flow in a 26-year record.

18th-20th: Low pressure was re-established on the 18th followed by a sequence of fronts and troughs which affected much of the UK. Several rivers in the Midlands recorded their highest June peak flow on record; the Sence - which has a 17-year record at the South Wigston gauging station - exceeded its all-time maximum flow on the 19th. The following day, the record summer (June-August) daily mean flow established on the Suffolk Stour a few days earlier, was eclipsed.

July

High pressure predominated over southern areas of Britain for the first two weeks. With the associated hot weather increasing demand, water tankers, static tanks and stand-pipes were drafted into East London and Essex to ease supply problems caused, principally, by operational difficulties at Chigwell Reservoir. In east Devon some water shortages were reported, but no alternative water supply was necessary.

10th: A series of fronts crossed all areas giving rise to heavy downpours. At Girvan in Strathclyde 70 mm of rain fell in 24 hours and the River Girvan recorded its highest daily mean flow for the year at Robstone.

17th-19th: A slow moving depression extended across the UK bringing widespread rainfall; on the 17th, 88 mm was received at Slapton in Devon and, at Brighton, a 'very rare' rain-day total estimated at 95 mm was registered. Rivers were soon in spate; on the 19th the River Lod in Sussex recorded the highest July daily mean flow in its 17-year record. Many roads were awash and holiday traffic was disrupted.

29th: A cold front associated with a depression situated over north-east England triggered a series of thunderstorms; several particularly intense cells were centred over North London. During one storm 53 mm of rain was recorded in 21 minutes at a raingauge in Thornwood; a return period exceeding 1000 years has been ascribed to this event. The extremely localised nature of the storm was highlighted by the weather radar installation at Chenies (Bucks); at the time of the heaviest rainfall only one 5 km grid square registered a high intensity on the display monitor. Local flooding followed as rivers overtopped their banks and drainage systems - some of which became choked with debris - were unable to cope with the volume of runoff. Properties had to be evacuated in Waltham Abbey, Thornwood Common and North Weald. A landslide which had been triggered by the heavy downpours partially blocked the M25. On the Cobbins and Cripsey Brooks, peak flows were recorded which exceeded their previous maxima. An 80 mm SMD prior to the event somewhat mitigated the effect of the storm, but the flood return period was still estimated at greater than 100 years.

August

12th-13th: Weakening troughs crossed all areas resulting in heavy downpours in northern England and southern Scotland. Rivers peaked in response. The Water of Luce (Dumfries and Galloway) recorded a flood discharge of 284 m^3s^{-1}; some 50 m^3s^{-1} greater than the previous maximum in a 20-year record.

16th: The most notable of several very wet days during an exceptionally unsettled period; in Dumfries and Galloway, falls of 87 mm at Creebridge and 86 mm at Bargrennan, were recorded. Localised flooding resulted in Scotland, Northern Ireland and some northern parts of England and Wales.
Remarkably, on the River Cree in Galloway the four highest August daily mean flows, in a 25-year record, all occurred during three runoff events over a 9-day period from the 12th.

21st-26th: Widespread and violent thunderstorms, resulting from substantial convergence and instability associated with twin fronts, gave rise to heavy rainfall in a broad band from North Wales to East Anglia. The rainfall total for the 21st-23rd in Preston (Lancashire) - estimated using radar data - has an associated return period of greater than 150 years. Severe local flooding was reported in Lancashire, Merseyside and Cheshire; and, on the M61 near Preston, floodwater reached a depth of one metre. In Appleby Bridge near Wigan residents had to be rescued when the village was inundated by floodwater.

Essex was severely affected by thunderstorms. River response was rapid; on the 22nd, the River Beam at Bretons Farm registered the highest flow in its 24-year record. The Rom and Roding overtopped their banks and the heavy rainfall triggered a landslide which blocked a railway line at Manningtree. Chelmsford town centre was flooded during an especially intense downpour - 62 mm of rain was recorded in 40 minutes. Unusually large hailstones (up to 30 mm in diameter) caused extensive damage to property, vehicles and crops. Many rivers in the London area exceeded bankfull and considerable transport disruption was reported.

On the 23rd in the Midlands, rainfall over the headwaters of the Rivers Blithe and Trent registered a peak intensity of 114 mm in 9.3 hours - with a maximum of 29 mm in an hour; the estimated return period of this event is greater than 1000 years. The resulting discharge rate on the Trent at Stoke was three times that of the previous maximum and the flood return period is estimated at several hundred years. Widespread washland inundation occurred throughout the region.

In Lincolnshire, a remarkable rainfall event occurred at Holbeach on the 23rd. A recording raingauge located close to the centre of an intense thunderstorm registered a total rainfall of 115 mm in two and three-quarter hours; an estimated return period in excess of 1000 years was ascribed to this event. At the height of the storm 15 mm fell in five minutes with a peak intensity in excess of 200 mm/hour. Severe local flooding resulted and the A151 road was impassable for two days; the Rivers Wittle, Granta, Larling Brook and Lea Brook (all in the Great Ouse catchment) registered their highest flows on record.

In Norfolk and Suffolk, rainfall up to 75 mm was recorded on the 25th; the 26th was also wet. With SMDs well below average, some rivers recorded discharges which had been exceeded on only two or three occasions in the past. Several villages were flooded as the Waveney, Bure, and Gipping overtopped their banks.

By contrast the south-west of England experienced a very dry month; North Wyke in Devon recorded its driest August since records began in 1959.

September

Rainfall over the major aquifer outcrops was generally well below average but, in most regions, groundwater levels were close to the mean for early autumn.

October

5th: Local flooding occurred again in Preston when 25–35 mm of rain fell in less than an hour. A return period of around 100 years was ascribed to the event.

9th–10th: The British Isles was dominated by a low pressure system to the west of Scotland. An associated trough brought prolonged heavy rainfall – more than 40 mm – which particularly affected the south-east of England and caused widespread flooding. In Essex some river levels reached 1 in 30-year highs. New absolute peak discharges were established on the Cripsey, Pymmes and Stansted Brooks. The nearby Cobbins Brook recorded a highest instantaneous flow which exceeded all previous peaks with the exception of the July maximum. On the 10th the River Lee, gauged at Feildes Weir, recorded its highest October daily mean flow in a 105-year record. Several villages were virtually cut off when the River Stour burst its banks following 50 mm of rain in less than 24 hours. Residents living near Brent Reservoir (north-west London) were advised to take flood precautions when the reservoir threatened to overspill and, near Chelmsford, bulldozers were needed to clear large quantities of mud washed onto the roads. In Kent, the Leigh flood barrier, constructed in 1981, reached its maximum storage capacity for the first time and protected Tonbridge from extensive flooding.

15th–16th: Late on the 15th and throughout the early hours of the 16th, a vigorous depression was responsible for an extremely severe storm. Strong winds – gusting to hurricane force – swept across the south-east of England causing devastation and destruction on both sides of the English Channel.

Some aspects of the synoptic development of the mid-latitude depression responsible for the storm have yet to be fully explained, although the deepening, and intensification of the depression has been associated with the activities of Hurricane Floyd off the east coast of North America. A further factor was the convergence of polar and tropical air which produced a large temperature gradient over the Atlantic[1,2]. Initially the depression's central pressure (970 millibars) was not unusual for the time of year. However, with a large anticyclone blocking its movement into Europe, the system moved north-eastwards across the western part of the Bay of Biscay, and deepened rapidly. The storm intensified as the central pressure dropped below 960 millibars – winds gusted to hurricane force (greater than 100 miles per hour) over wide areas of southern Britain; millions of trees were uprooted, structural damage was severe and electricity supplies were disrupted as power lines were brought down. By 1300 hours on the 16th, the centre of the storm had moved to the North Sea; its central pressure remained low but the winds were less intense than over southern England.

The ferocity of the storm has no modern parallel over southern Britain, it is considered to be the worst since the Great Storm of 1703. The damage and destruction attributed to the winds – which have been ascribed a return period of 200 years – was very considerable. Apart from the toppling of at least 15 million trees, 19 deaths were directly associated with the event. The insurance bill, estimated at almost £2 billion exceeds the combined costs to UK insurance companies of specific major weather incidents over the preceding decade.

Whilst the meteorological conditions were remarkable the storm was less notable in hydrological terms. Rainfall totals were unexceptional although, with catchments saturated from heavy rain during the previous few weeks, the potential for infiltration was minimal. Also, as many watercourses became choked with trees and other debris their normal carrying-capacity was substantially reduced. Several flood warnings were issued over parts of the South-East as river levels rose. The Rivers Wittle (Cambridgeshire), White Drain (Kent), and Combehaven (East Sussex), exceeded their maximum levels on record, on the 15th, as did the River Brain and the Holland Brook, in Essex, on the following day. Flooding was reported over wide areas but was serious in only a few districts.

Power failures were one of the most disrupting results of the storm's passage. Where telemetry links were severed, river level data were unable to be transmitted; in parts of Kent telecommunication lines were interrupted for up to a week following the storm although some satellite-based telemetry remained in operation. On some major rivers power failures left weirs and sluices inoperable and in parts of Sussex and Kent, water supplies were severely affected when the collapse of power lines disabled water treatment works. Broken water mains and pipes increased supply problems and the deployment of generators to isolated supply boreholes was difficult due to blocked roads. Appeals were issued to consumers to conserve supplies and, in Essex, tankers and stand-pipes were used to service a few small communities.

The most enduring hydrological impact of the storms, in many areas, may well be the effect on the catchment water balance due to the devastation of thousands of acres of mature woodland by the gale force winds; the saturated soil and the fact that the autumn leaf fall was not advanced increased the vulnerability of many trees to the exceptional wind gusts experienced during the night of the 15/16th.

17th-19th: Another intense depression began tracking across parts of Britain affecting, in particular, western and northern areas of Wales as it moved towards Cumbria. The associated rainfall was heavy and sustained bringing widespread flooding. Welsh Water issued flood alerts for several main rivers. The most severely affected area was the River Tywi floodplain in Carmarthen and upstream where four fatalities resulted from the collapse of a railway bridge (see page 23). Widespread floodplain inundation also occurred in the Teifi Valley causing the contamination of a treatment works; more than 20,000 consumers throughout West Wales were advised to boil their drinking water. In Haverfordwest, floodwater spilled into the main streets when the River Cleddau bursts its banks and, in Goodwich (near Fishguard), floodwater nearly two metres deep swept through parts of the town. The River Dulas, in the headwaters of the River Severn, reached the highest level in its 19-year record. Further north, the heaviest rainfall was confined to Snowdonia but was sufficient to sustain high runoff rates well downstream. The Rivers Gwyrfai, Seiont, Dwyfawr and Aled all established new maximum peak levels. The River Dee, gauged at Manley Hall, recorded its highest discharge (370 m^3s^{-1}) in 22 years. Near Bangor, a fatality occurred when a man out walking was swept away in the floodwaters. Farmland in the affected areas was inundated and the receding flood-waters left a considerable residue of boulders, silt and debris littering the valley floors. In Cumbria, the River Greta overtopped its banks flooding low-lying parts of Keswick and floodwater from the River Eden isolated a few villages.

19th-21st: A slow-moving cold front brought torrential rain and flooding to all areas of Northern Ireland. A number of localities registered daily rainfall totals in excess of 100 mm and the return period associated with a remarkable 20-hour total of 137 mm at the Glenanne Saws raingauge (Armargh) is estimated at 2000 years. The resulting floods were the worst for at least a decade. The River Mourne in Strabane overtopped its banks sending floodwater through the main streets; emergency services were fully stretched and many families were evacuated. Tentative estimates of the peak discharge suggest a flow which may have approached 1000 m^3s^{-1} at the Drumnabuoy gauging station just upstream of Strabane. Severe flooding also occurred in the town of Omagh. A number of major rivers recorded their highest peak flows; the River Drumragh at Campsie Bridge, for example, recorded a peak flow 120 m^3s^{-1} greater than the previous maximum.

In a separate event, a depression centred off the north coast of the Iberian Peninsula brought intense frontal rainfall to the south of England. Flooding was widespread – forty major roads, including the A40 and M25, were closed. The situation was exacerbated by debris in waterways following the severe gales during the night of the 15th-16th. In the London area, the Rivers Wandle, Crane, Brent and Beverely Brook exceeded bankfull. Flood warnings were issued for the River Colne (Hertfordshire); at the Berrygrove gauging station the highest daily mean flow in a 53-year record was established. The River Lee caused flooding in Luton town centre and, in Kent, flood warnings were issued for the Rivers Darent, Medway, Eden and Teise.

November

A dry month in most areas; groundwater levels rose sharply following the October rainfall.

December

Dry weather conditions continued from the end of November into December; river flows declined throughout most of the UK in response. At some gauging stations new daily mean minima – for the time of year – were recorded. In Northern Ireland the River Camowen, which has a 16-year record, registered a new December daily mean minimum. In many areas the runoff pattern changed dramatically in mid-month when widespread rainfall caused runoff to increase abruptly.

29th-30th: A frontal system associated with a mid-Atlantic depression affected all parts of the UK. 100 mm of rain fell in 24 hours at Nantmoor – the most notable rainfall in this area for 25 years and substantial flooding occurred in central and northern areas of Wales. In Powys, the River Dyfi recorded its highest daily mean flow for the year (on the 29th) and the consequential flooding isolated the market town of Machynlleth.

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THE OCTOBER 1987 FLOOD ON THE RIVER TYWI

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Introduction

October 1987 will be remembered for several remarkable hydrometeorological events – the 'hurricane' during the night of the 15/16th and the widespread flooding associated with the passage of a series of vigorous low pressure systems which affected various parts of the United Kingdom. Flooding was particularly severe in south-west Wales where media attention focused on the overtopping of flood defences in Carmarthen (Caerfyrddin) and the fatalities resulting from the collapse of a railway bridge over the River Tywi. This article draws on a number of contemporary reports – particularly those completed on behalf of the Welsh Water Authority – to examine the development of the flood event and to consider its impact on the community. Attention is directed to the problems of assessing the peak discharge rate and of estimating the rarity of events of such a notable magnitude.

The Tywi Catchment

The River Tywi is the sixth longest river in the British Isles. It rises in the Cambrian Mountains of central Wales and flows, eventually, into Carmarthen Bay (see Figure 9). From its headwaters, the Tywi flows south through the Tywi Forest and thence to Llandovery where it trends south-west picking up tributaries draining from the Caeo Forest to the north and from the Black Mountains which form the south-eastern watershed. Its course is well defined and flooding in the upper reaches is not generally a problem. Below Llandeilo, the river strikes westwards and meanders gently across a floodplain which achieves its maximum width – about 1.5 km – near Nantgaredig just upstream of Carmarthen. Most of the Tywi's tributaries are short and fast flowing but a major tributary – the Cothi – joins the main river a few kilometres upstream of the flow measurement station at Ty-Castell where the floodplain narrows to little more than river width as a result of a geological constriction. There has been development over the years on the floodplain in and around Carmarthen; the Pensarn district has been heavily exploited with a significant growth of service and light engineering industry. This development, together with the bridges over the Tywi constitutes an artificial constriction which impedes flow especially during periods of high discharge.

The catchment area of the Tywi above Carmarthen is 1300 km^2 with a maximum altitude of 792 metres on the summit of The Black Mountain. The relief is generally rugged with steep slopes descending to the Tywi and Cothi valleys. Average annual rainfall closely reflects the relief and exceeds 2000 mm in the northern headwaters with a maximum of approximately 2500 mm in the Black Mountains. Even at the catchment outfall – about 3 m aOD – the average annual rainfall exceeds 1200 mm. Precipitation is well distributed throughout the year with a discernible winter maximum, a consequence of the predominant maritime influence on the regional climate. The long term catchment average rainfall is 1560 mm, 70 per cent greater than the England and Wales mean. In relation to large river basins – those exceeding 1000 km^2 – the Tywi catchment is the wettest in England and Wales of those for which flow records are held on the Surface Water Archive.

Geologically, the Tywi catchment is dominated by impervious metamorphosed sediments of Ordovician and Silurian age. Some younger series outcrop in the south of the basin but natural storage is

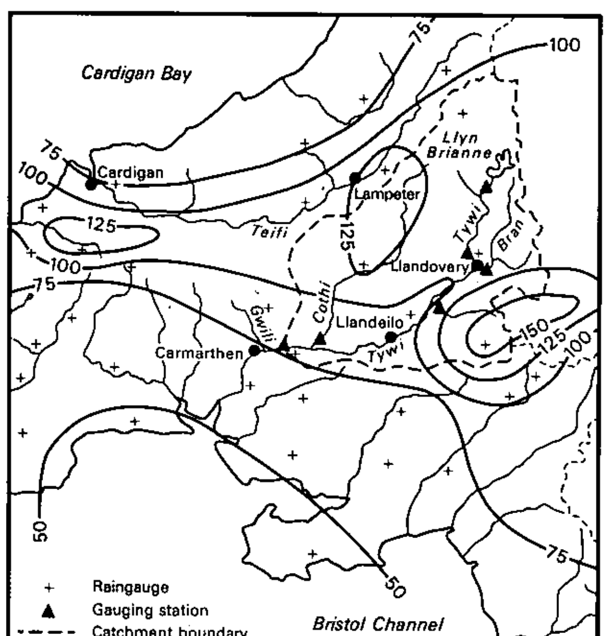

Figure 9. The catchment of the River Tywi – location details and 2-day rainfall totals for October 17–18th 1987.

generally limited to valley gravels and alluvium and peaty soils in the headwaters. The principal land use is hill farming with dairying practised in the valleys and on the gentler slopes. Forestry is important in the headwaters and, overall, coniferous forest comprises about 15 per cent of the catchment. Llandovery, Llandeilo and Carmarthen are the only substantial settlements and the population is generally sparsely distributed. The flow regime of the Tywi is natural apart from the effect of regulation releases from Llyn Brianne Reservoir in the headwaters (see page 26).

Overture to the Flood

Following below average summer rainfall, rivers throughout much of Wales were close to or below the mean, for the time of year, by the end of August 1987. The Tywi flows - at Nantgaredig - had declined to 3 m^3s^{-1} by the 30th of August, the lowest flow for three years, and soil moisture deficits, at least in the lower catchment, were substantially above the long term average. Runoff rates climbed steadily throughout September in response to a series of rain-bearing low pressure systems which crossed the British Isles. The sustained rainfall saw the virtual elimination of soil moisture deficits by the 22nd but some modest deficits became re-established during the dry spell which lasted from the 23rd of September to the 2nd of October. This interlude was terminated by belts of thundery rain moving up from the Western Approaches and, on the 5th, longer outbreaks of rain occurred as a sequence of cold fronts crossed the country. Weather patterns over the subsequent fortnight were influenced by a stationary high pressure zone over western Siberia; a series of depressions tracking along its western flank brought remarkably heavy and sustained precipitation to the British Isles. During the 14th a deepening low swung north-eastwards across central Britain and gave rainfall amounts exceeding 20 mm over wide areas. As a consequence of a fortnight of exceptionally unsettled conditions catchments in South Wales had become saturated with minimal potential for any further infiltration. The situation was then exacerbated by the rainfall associated with the intense low pressure system which brought devastation to much of southern England on the night of the 15/16th October. Although South Wales escaped relatively lightly, many rivers were in spate and the catchments were dangerously vulnerable to any further precipitation.

The northward drift of the 'hurricane' presaged the arrival of another intense system which skirted the western seaboard on the 17th and 18th. As the associated cold front became slow moving over western Britain, a rainfall warning was received on the 17th from Cardiff Weather Centre which indicated that 25 mm of rain could be expected over higher ground between midnight and 09.00 on the 18th. In the event, between 75 and 200 mm of rain fell over the Tywi catchment within two days (Figure 9) and, for short periods, intensities of 17 mm/hr were registered. The highest accumulated rainfall totals were reported to the north of the Preselis massif, in the Upper Cothi catchment extending into the Teifi basin, and on the Black Mountains. Most of the rain was recorded over a 27-hour period commencing on Saturday the 17th October and the prevailing soil conditions ensured that the precipitation was very hydrologically effective.

The Flood

The network of flow measurement stations in the central Welsh uplands is relatively sparse but, by the evening of the 18th, it was evident that a major flood event was developing. Runoff rates in many headwater tributaries increased immediately in response to rainfall especially where the higher intensities were experienced. For instance, the secondary flow measurement station at Llangadog on the Sawdde, which drains westwards from the Black Mountains, recorded a peak flow rate of 230 m^3s^{-1} at 15.30 (BST); this discharge is unprecedented in a 20-year record. At 18.00 the River Gwili, which joins the Tywi near Carmarthen, peaked at a flow of about 114 m^3s^{-1} - the highest flow since 1981 (although the November 1986 flood was of a similar magnitude). In the northern headwaters, the Dolau Hirion gauging station registered a peak at 21.00 and, one hour later, the Bran - which drains a heavily forested catchment away from the most intense rainfall episodes - recorded 62 m^3s^{-1}; a flow rate exceeded on only three occasions in a 20-year record. Elevated discharge rates were not confined to the Tywi. Unprecedented flows occurred in the upper reaches of the neighbouring River Teifi where an examination of wrack marks revealed a peak 0.26 m higher than the previous maximum (see cover) and, to the east, rivers flowing into the Bristol Channel were in spate. In this latter region flows were, however, substantially less than those associated with the flood of December 1979. Noteworthy, rather than remarkable, discharge rates also characterised rivers in North Wales.

By the early hours of the 19th, the Cothi and Tywi were both flowing bankfull and a number of bridges across smaller tributaries were washed away. Floodwaters blocked many minor roads and inundated low lying sections of the railway between Llandovery and Llandeilo. A major tragedy occurred when the 05.27 Swansea to Shrewsbury train was brought to a stop on the bridge over the Tywi at Glanrhyd; a partial collapse had resulted from the undermining of the bridges foundations by the river in spate prior to the train's arrival. Four lives were lost when the leading coach fell into the river and became submerged.

Damage to roads, bridges and other structures was widespread; many were rendered unsafe as foundations became undermined by the fast flowing floodwaters. Fallen trees, and other debris, were a danger in themselves and choked some waterways giving rise to further localised flooding. The Dyfed County Surveyor estimated the cost of repairs to be borne by the County Highways Department at £1.5 million most of which is attributable to bridge repair and reconstruction.

Plate 1. Flooding in the Pensarn district of Carmarthen - 19/10/87.
Photo: Elwyn Jones.

Below the confluence with the Cothi the peak discharge estimated for the Ty-Castell monitoring site was significantly greater than the design capacity of the Carmarthen Flood Alleviation Scheme which was completed in 1984. As a consequence, the Pensarn flood defence wall was overtopped for a period of fourteen hours. An early casualty of this inundation was the post office. Mail services were suspended after floodwaters swamped the site housing the main sorting office, transport workshops and vehicle depots. The sorting office had been built only 3 years previously with a ground floor level 0.6 m above the previous maximum recorded level at that location. On the north bank, damage to vital equipment in the Carmarthen telephone exchange caused widespread and serious disruption of communications and hampered the implementation of

Plate 2. Inundation of Carmarthen Station - 19/10/87.
Photo: The Western Mail.

flood emergency procedures throughout the stricken region. Routine data gathering in the Tywi catchment is similar to that throughout the rest of the Welsh Water Authority area. It is based upon strategically placed recording raingauges and gauging stations which are linked to processing centres by telemetry systems relying on rented telephone lines. With the Carmarthen exchange disabled, operational control during the flood event was severely limited by the absence of on-line data. The main route for the dissemination of flood warnings is via the police at Carmarthen - they are responsible for passing on information to the media. At one stage, on the 19th October, the only means of communication was via the Radio Amateurs Emergency Network.

Throughout the Tywi catchment the number of properties flooded was limited - about 250 overall. However, because of the nature of the development on the floodplain south of the river in Carmarthen, flood damage was very substantial in financial terms; the overall cost approached £7 million in the Pensarn Industrial Estate (see Plate 1). Road and rail communications throughout the Tywi, and adjacent valleys, were severely disrupted and access to and from Carmarthen was particularly difficult - inundation of the railway station echoed the flooding during the 1931 event (see Plate 2). Apart from the

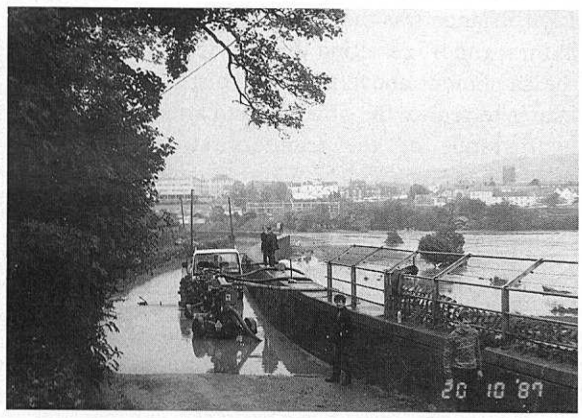

Plate 3. Pumping floodwaters back to the River Tywi over the flood retention wall.
Photo: Jeff Tucker.

Industrial Estate, the Johnstown district of Carmarthen was most severely effected as the Tawelan Brook backed up and overflowed its banks. Following the steep decline in river levels after the passage of the flood peak, considerable inconvenience was caused in some low-lying districts by the limited ability of floodwaters to drain back to the main channel; pumps were deployed close to the flood retention wall in order to accelerate this process (see Plate 3).

Less tangible, but nonetheless of substantial importance, was the shock to a community which assumed itself safe from the threat of flooding following the construction of the floodwall. Inevitably, the general perception of the security associated with a scheme providing protection against a flood with a return period assessed at 100 years pays limited regard to the strict statistical implications of such a design objective. A series of public meetings were arranged to provide information concerning the flood, explain the particular difficulties experienced with regard to flood warning and to discuss the broader issues raised by floodplain development generally.

The Effect of Llyn Brianne

One of the topics addressed at the public meetings, and in the media, was the contribution, if any, of the outflow from Llyn Brianne Reservoir on the degree of flooding experienced downstream, particularly in Carmarthen. Llyn Brianne Reservoir was constructed in 1972 as an integral part of the River Tywi water supply scheme. Its function is to act as a regulating reservoir, conserving water for release during dry periods and droughts in order to supplement the natural river flow and thereby permit abstraction at Nantgaredig to continue. The control rules for the reservoir are designed to optimise its role for water supply purposes, no allowance has been made for flood storage.

From October, the reservoir was at full capacity and overspilling continuously. The outflow from Llyn Brianne was therefore closely equivalent to the natural runoff resulting directly from the rainfall in the catchment above the reservoir; the effect of the lake is to reduce the flow rate and attenuate the flood hydrographs of the tributary streams. A study undertaken by Welsh Water concluded that the reservoir delayed the peak, at the outlet, by about three hours and reduced it by over 20 per cent. Nonetheless the overspill itself was a significant component in the flood flows in the upper Tywi. At Dolau Hirion, for instance, it accounted for 33 per cent of the discharge at the peak of the flood. The relatively small size of the reservoired catchment meant, however, that the overspill could have only a minor impact on the flooding experienced in Carmarthen. Calculations show that water level increases in the lower Tywi of six or seven centimetres only are attributable to reservoir outflows. This increase is placed in appropriate perspective by the 70 cm overtopping of the flood wall in Pensarn and by the fact that a slightly higher discharge rate could have been expected had the reservoir not been built.

Assessing the Peak Flow

For planning purposes and especially for the design of flood alleviation schemes a knowledge of the peak flow and its rarity is essential. Unfortunately, considerable practical difficulties attend the precise measurement of maximum discharge rates during flood events. Direct measurement is often precluded by the urgent need to assign field personnel to other tasks designed to ameliorate the impact of the flood. Access to the gauging section may also be difficult or hazardous during rare runoff events. Recourse is therefore normally made to the stage-discharge relation in order to derive flows based upon a record of water levels. The stage-discharge relation is developed over a period of years using a series of current meter gaugings to define a sensibly unique relationship. This 'rating' may be assumed to remain valid whilst the factors which influence the association between stage and flow (for instance the slope and roughness of the channel bed) remain unchanged. Scour and fill during the passage of a flood may alter the stage discharge relation and other factors, such as bridges and floodplain development, may exert an increasingly important influence in the extreme flow range. The change in rating consequent upon a rare event may be immediately evident after several further gauging results but the development of a revised stage-discharge relation can be a lengthy process. It will be appreciated that considerable uncertainty may often be associated with estimates of the highest floods. This uncertainty can have serious implications in connection with engineering design procedures.

The principal gauging station on the River Tywi is at Ty-Castell, 6 km upstream of Carmarthen – low flows are measured at the nearby Nantgaredig gauging station. The measuring section is sited about 200 m downstream of Pont Llandeilo-yr-ynys at a reach where most flows are contained within the channel. At stages above 5.2 m, however, water begins to spill onto the narrow floodplain – most of the inundation occurs over the right hand bank. The peak staff gauge reading during the October 19th flood was 6.76 m (13.99 m aOD). Considerable extrapolation of the stage discharge relation is thus necessary to assess the maximum rate. However, some confidence may be placed in the below bankfull component; the maximum gauging corresponds to a stage of 5.09 m and the rating may be considered well defined below this level. By extrapolation, the peak between-bank flows were assessed at approximately 1200 m^3s^{-1}. Floodplain discharge tends to be rather more difficult to assess – direct measurement of velocities being rare – but in the case of the Tywi a reasonable estimation could be attempted since a major proportion of the overspill was confined to a 100 m wide channel. The flow rate was sufficient to flatten hedges and an assumed average of velocity of 1.0 to 2.0 metres per second would place the floodplain discharge in the range 100–200 m^3s^{-1} and the total discharge of the order of 1300–1400 m^3s^{-1}. As with many assessments of extreme discharge rates, the uncertainty band is wide; ± 20 per cent is not exceptional where significant overbank flow is involved. It is necessary to stress also that the potential systematic error in peak flow assessment is considerable where few gaugings exist to define the stage-discharge relation in the high flow range.

On the Tywi, as elsewhere, a continuing programme of current metering represents the only way to maintain and improve the precision of flood discharge data. Nonetheless the October peak flow estimate may be expected to compare favourably with many instantaneous maxima registered for historically noteworthy floods - in a substantial proportion of cases the required flow rate would, of necessity, be based on the cross sectional area at the target site, the assumed water surface slope (commonly approximated using wrack mark evidence) and an informed guess at the frictional resistance of the channel. Preliminary results from a physical model of the Carmarthen reach (see below) suggest that the maximun flow rate during the 1987 Tywi flood has been realistically estimated, although a downward adjustment of approximately $100m^3s^{-1}$ may be warranted.

Flows in excess of 1000 m^3s^{-1} are very rarely exceeded in England and Wales and some measure of the extreme nature of the October flood may be gauged by the fact that a flow rate of 1350 m^3s^{-1} would represent the greatest flow registered on the Surface Water Archive for any river south of the Tyne.

Assessing the Rarity of the Flood

Whilst a number of standard procedures exist for the estimation of the rarity of extreme events - most based on the Floods Study (FS) proposals[1] - in practice the most appropriate methodology is often largely determined by the availability of data and the results are clearly sensitive to the quality of the hydrometric and other data which are employed. The difficulty of precisely establishing the flow has already been considered but uncertainties in the assessment of storm rainfall are equally important. Raingauge distribution throughout the Tywi catchment is relatively sparse - less than one per 100 km^2. With such a network density the potential for under or over-estimation is considerable. Figure 9 suggests that the scope for error may be greatest in the high rainfall zones along the north-west catchment divide and to the south-west of the Black Mountains. Thus the results given below should be treated with caution. This is especially true at a time when the hydrological impact of climatic change may shed further doubt on inferences drawn on the basis of historical associations between rainfall and runoff (but see page 12).

Table 5 lists the series of annual maximum flows for the River Tywi from 1958. By analysing this series it is possible to derive a relation between flood magnitude and return period - the average interval between years with a flood exceeding a given magnitude. The selection of an appropriate statistical distribution to fit to the annual maxima series has important implications. On the basis of an assumed GEV-PWM distribution which gives particular weight to extreme events[2], for instance, a very long return period might be proposed for the Tywi flood (see Figure 10); incorporating the October 19th flow in the analysis would reduce the rarity significantly. In the absence of a long series of good quality annual maxima for the target site, it is often better to base the choice of distribution upon an examination of the flood data from a number of stations in a region. The Flood Studies Report divided Great Britain into nine regions one of which corresponds to the Welsh Water area. For each region a growth curve associates a return period with the ratio of a flood discharge to the mean annual flood (MAF) at that location[1,3]. A flow rate of 1378 m^3s^{-1} comfortably exceeds three times the MAF and reference to the growth curve for Wales (FS Vol I, page 174) suggests a return period in excess of 500 years - see Figure 10.

Even by exploiting the additional information provided by regional flood data the estimated return period represents an initial appraisal only and further information merits consideration before a judgement is made regarding the most realistic return period to assign to the 1987 event. Evidence

TABLE 5 ANNUAL MAXIMUM SERIES FOR THE RIVER TYWI AT TY-CASTELL

Water Year (Oct-Sep)	Date	Max. Stage (Metres)	Peak Flow (cumecs)
1958	19/01/59	4.08	272.8
1959	03/02/60	4.94	456.4
1960	04/12/60	5.21	526.6
1961	12/09/62	4.41	336.3
1962	09/03/63	4.08	272.8
1963	19/11/63	4.08	272.8
1964	13/12/64	5.36	568.4
1965	18/12/65	5.36	568.4
1966	13/12/66	4.60	376.7
1967	17/10/67	5.12	502.5
1968	21/01/69	4.40	334.2
1969	11/11/69	4.31	316.2
1970	02/11/70	3.87	237.8
1971	19/10/71	4.18	291.2
1972	06/08/73	4.50	355.1
1973	30/01/74	4.75	410.7
1974	22/12/74	4.37	328.2
1975	01/12/75	4.04	265.7
1976	03/02/77	4.15	285.6
1977	31/10/77	4.71	401.4
1978	01/02/79	4.20	294.9
1979	28/12/79	5.89	779.8
1980	22/03/81	5.62	645.7
1981	09/10/81	4.65	387.8
1982	06/01/83	4.12	280.1
1983	16/10/83	4.30	314.2
1984	23/11/85	4.02	262.1
1985	22/12/85	4.57	370.1
1986	27/03/87	4.84	431.9
1987	19/10/87	6.76	1378.0

Note: Llyn Brianne began to fill in March 1972 and was full by December 1972.

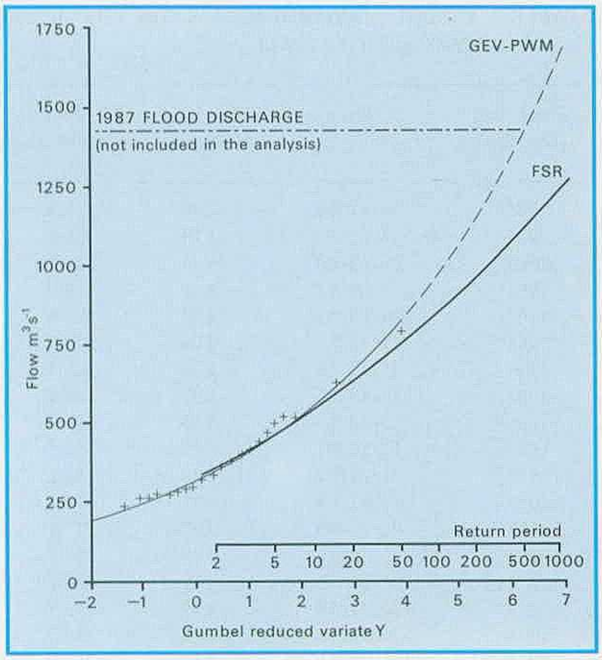

Figure 10. Flood frequency diagram for the River Tywi at Ty-Castell based on data for the period 1958–86.

assembled following a major flood on the Tywi in 1931 suggests that the maximum flow on that occasion approached that experienced during the 1987 flood; an estimated flow of 1270 m^3s^{-1} is quoted in the Interim Report on Floods published in 1933[4]. With a far greater measure of uncertainty, anecdotal evidence indicates that the 1894 flood – which affected wide areas of southern Britain – was also a flood of greater magnitude than is represented in the record of gauged flows (from 1958). The presence of three such notable events in a hundred year period raises questions about how representative the recent data can be considered to be and confirms that great care needs to be exercised regarding certain of the very long return periods ascribed to the 1987 flood. More detailed investigation of other historical floods – for example, those which occurred in 1852 and 1875[5] – allowing useful estimates of the peak flow rates to be determined – may further emphasise the need for caution. The significance of this early data may be appreciated by assuming that both the 1894 and 1931 events produced maximum discharge rates in excess of 1000 m^3s^{-1}; under such circumstances the return period of the 1987 flood would be closer to 100 years.

An alternative and more deterministic approach to the assessment of the return period is recommended for very rare events when regional curves become increasingly poorly defined. The Unit Hydrograph (UH) technique is widely used where the record of actual annual maxima is relatively short. A detailed explanation of the methodology is given in the Flood Studies Report. In essence, the technique involves the assessment of the rainfall input – for a particular catchment – corresponding to a given return period followed by the estimation of several parameters in a rainfall-runoff model to facilitate the conversion of storm rainfall into the consequent runoff. That proportion of the rainfall contributing immediately to runoff (the Percentage Runoff) is one of these parameters; it comprises two components: a constant depending on the soil type and a second factor relating to the magnitude and duration of the storm together with a measure of antecedent catchment wetness. The unit hydrograph, from which the duration of the design storm is derived, may be developed using actual event data or, with less precision, from catchment characteristics.

The Consultants for the design of the Carmarthen Flood Alleviation Scheme derived a unit hydrograph from the rainfall and runoff data associated with the floods of December 1979 and March 1981 and – on this basis – ascribed a flow of the order of 800 m^3s^{-1} to the 100-year flood at Ty-Castell; this analysis was central to the design of the flood retention wall in Carmarthen. Following the 1987 flood, an initial analysis suggested that under certain conditions some of the assumptions inherent in the UH approach require further examination. The peak flow, for instance, occurred some eight hours earlier – and was consequently substantially greater – than would be expected on the basis of unit hydrograph analysis discussed above; a time to peak of about 24 hours was used by the Consultants. This discrepancy may be partially explained by the decline in the rate of storage which results when all of the floodplain has been inundated, but the percentage runoff appears to have been appreciably greater during the October 1987 flood than would be expected on the basis of the FSR equations model (and in relation to earlier flood events on the Tywi when, typically, percentage runoffs were below 50). Analysis of a series of high flow events in the Cothi catchment indicated that the difference between the observed runoff rate and that estimated using standard values (following Flood Studies recommendations) may be greatest for the rarer floods. Such differences may, of course, reflect limitations in the accuracy of the basic rainfall and/or the runoff data. It is also possible that the occurrence of the highest rainfall intensities towards the end of a storm – a feature of the October 18/19th rainfall distribution – may exert an important influence. Accepting that one or more of these factors may justify a later review of the analytical procedure, a departure from the standard method was adopted and the percentage runoff value increased to equate more closely with the observed value (about 65 per cent). The Cothi catchment was also considered separately from the Tywi catchment in this revised treatment. The associated computation revealed that storms of about 41 hours duration were critical in relation to the production of very high discharge rates at Ty-Castell. This analysis ascribed a flow of around 1040 m^3s^{-1} to the 100 year flood and associated a return period of approximately 250 years with the October 1987 event. The assumptions involved, together with uncertainties in the rainfall and runoff data, imply that a wide error band should be associated with this, and the other, return period estimates.

It is important to recognise that water levels in the vicinity of Carmarthen may be influenced by factors other than the upstream discharge as measured at Ty-Castell. Tidal effects, local tributaries and the hydraulic characteristics of the river and its floodplain (which has undergone significant changes over the last century) can all contribute to the scale of any inundation. A provisional examination of water levels recorded at the Quay in Carmarthen suggests that, although the tidal influence was negligible, the 1987 October peak appreciably exceeds all previous maxima; the data series extends back to the beginning of the nineteenth century[6]. The construction of the 1984 flood retention wall will have increased water levels at the Quay somewhat but its submergence by almost two metres confirms the singular nature of the 1987 flood.

Conclusion

The perverse nature of the British climate may be held principally responsible for a major flood event occurring within three years of the completion of a retention wall designed to give a measure of protection which, to the layman, must have seemed very comforting prior to the October 1987 inundation. Important lessons of general significance have been learnt as a result of this exceptional flood. These range from a fuller appreciation of the vulnerability of emergency communication systems in flood conditions to a demonstration of the critical importance of hydrometric data in the development and application of engineering design procedures.

In the short term, river improvement works in Carmarthen will increase the river's carrying capacity but, more significantly, the investment in a physical model of the Carmarthen reach - commissioned by Welsh Water - together with further research into the flood generating and routing processes should provide a firm basis upon which to develop a comprehensive flood alleviation strategy for the lower Tywi.

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Computation and Accuracy of Gauged Flows

Gauged flows are generally calculated by the conversion of the record of stage, or water level, using a stage-discharge relation, often referred to as the rating or calibration. Stage is measured and recorded against time by instruments usually actuated by a float in a stilling well. The instrument records the level either continuously by pen and chart, or digitally on punched-tape or solid-state logger, generally at regular (normally 15 minute) intervals. This stage data is normally collected routinely, typically at weekly or monthly intervals, and taken to a regional centre for processing. At more than half of the gauging stations in the United Kingdom provision is made for the routine transmission of river levels directly to the processing centre, by telephone line or, less commonly, by radio; on occasions, satellites have been used to receive and re-transmit the radio signal. The rapid growth in the use of the public telephone network for the transmission of river level – and, occasionally, river flow – data is enabling hydrometric data acquisition to proceed on a near real-time basis in many areas. Typically, the data are stored on site, using a solid state-logger, and transmitted overnight for initial processing the following day. Often, both digital and analogue recording devices are deployed at gauging stations to provide a measure of security against loss of record caused by instrument malfunction.

The stage-discharge relation is obtained either by installing a gauging structure, usually a weir or flume with known hydraulic characteristics, or by measuring the stream velocity and cross-sectional area at points throughout the range of flow at a site characterised by its ability to maintain the relationship.

The accuracy of the processed gauged flows therefore depends upon several factors:

i. accuracy and reliability in measuring and recording water levels,
ii. accuracy and reliability of the derived stage-discharge relation, and
iii. concurrency of revised ratings and the stage record with respect to changes in the station control.

Flow data from ultrasonic gauging stations are computed on-site where the times are measured for acoustic pulses to traverse a river section along an oblique path in both directions. The mean river velocity is related to the difference in the two timings and the flow is then assessed using the river's cross-sectional area. Accurate computed flows can be expected for stable river sections and within a range in stage that permits good estimates of mean channel velocity to be derived from a velocity traverse set at a single depth, or at a series of fixed depths.

Flow data from electromagnetic gauging stations may also be computed on-site. The technique requires the measurement of the electromotive force (emf) induced in flowing water as it cuts a vertical magnetic field generated by means of a large coil buried beneath the river bed, or constructed above it. This emf is sensed by electrodes at each side of the river and is directly proportional to the average velocity in the cross-section.

British and International Standards are followed as far as possible in the design, installation and operation of gauging stations. Most of these Standards include a section devoted to accuracy, which results in recommendations for reducing uncertainties in discharge measurements and for estimating the extent of the uncertainties which do arise.

The Surface Water Archive exists to provide not only a central database and retrieval service but also an extra level of hydrological validation. To further this aim, project staff at the Institute of Hydrology liaise with their counterparts in the water industry on a regional basis and, by visiting gauging stations and data processing centres, endeavour to maintain the necessary knowledge of local conditions and problems.

Scope of the Flow Data Tabulations

River flow data are presented in two parts. In the first, daily mean gauged flows are tabulated for 49 gauging stations; daily naturalised flows (see page 87) are also tabulated for the River Thames at Kingston. Monthly flow data for a further 160 gauging stations are given in the second part. The featured gauging stations have been selected to give a broad geographical coverage and to typify a wide range of catchment types found throughout the United Kingdom. A map (Figure 11) is provided on page 36 to assist in locating the gauging stations featured in this section.

For each gauging station, basic reference information is given together with comparative average and extreme river flow and rainfall figures based upon the archived record.

Explanatory notes precede the two sets of tables and will assist in the interpretation of particular items. The notes relating to the daily flow tables are given below; those relating to the monthly data are given on page 88.

Part (i) - the daily mean flow tabulations

Station Number

The gauging station number is a unique six-digit reference number which serves as the primary identifier of the station record on the Surface Water Archive. The first digit is a regional identifier being 0 for mainland Britain, 1 for the islands around Britain and 2 for Ireland. This is followed by the hydrometric area number given in the second and third digits. Hydrometric areas are either integral river catchments having one or more outlets to the sea or tidal estuary or, for convenience, they may include several contiguous river catchments having topographical similarity with separate tidal outlets. In Britain they are numbered from 1 to 97 in clockwise order around the coastline commencing in north-east Scotland: Ireland has a unified numbering system from 1 to 40, commencing with the River Foyle catchment and circulating clockwise; not all Irish hydrometric areas, however, have an outlet directly on the coast.

The numbers and boundaries of the United Kingdom hydrometric areas are shown in the frontispiece.

The fourth, fifth and sixth digits comprise the number, usually allocated chronologically, of the gauging station within the hydrometric area.

Where the leading digit, or digits, are zero they may be omitted giving rise to apparent four or five-digit reference numbers.

Measuring Authority

An abbreviation referencing the organisation responsible for the operation of the gauging station. A list of measuring authority codes together with the corresponding names and addresses for all organisations currently contributing data to the Surface Water Archive appears on pages 183 to 185.

Grid Reference

The initial two-letter and two-figure codes each designate the relevant 100 kilometre National Grid square or Irish Grid square (distinguished by the italicised two-figure code); the standard six-figure map reference follows.
Note: The Irish Grid has only one prefix letter but it is common practice to precede it with the letter I to make the identification clear.

Catchment Area

The surface catchment area, in the horizontal plane, draining to the gauging station in square kilometres. There are a few gauging stations where, because of geological considerations, the groundwater catchment area differs appreciably from the surface water catchment area and, in consequence, the baseflow, whether augmented or diminished, may cause the runoff values to appear anomalous.

First Year

The year in which the station started producing daily mean flow data, usually the first year for which data are held on the Surface Water Archive. Earlier data, often of a sporadic nature or of poorer quality, may occasionally be available from the measuring authorities or other sources.

Level of Station

The level of the station is, generally, the level of the gauge zero in metres above Ordnance Datum, or above Malin Head Datum for stations in Northern Ireland. Although gauge zero is usually closely related to zero discharge, it is the practice in some areas for an arbitrary height, typically one metre, to be added to the level of the lowest crest of a measuring structure to avoid the possibility of false recording of negative values by some digital recorders.

Maximum Altitude

The level to the nearest metre of the highest point in the catchment area.

Table of daily mean gauged (or naturalised) discharges

The mean flow in cubic metres per second (abbreviated to m^3s^{-1} and sometimes also referred to as 'cumecs') in a water-day, normally 0900 to 0900. The naturalised discharge is the gauged discharge adjusted to take account of net abstractions and discharges upstream of the gauging station.

Peak Flow: The highest flow in cubic metres per second for each month. The day of peak generally refers to the water-day but the calendar day is also used, particularly in Scotland. Normally the peak flow corresponds to the highest fifteen-minute flow where water levels are recorded digitally, or the highest instantaneous flow associated with maximum stage where analogue recorders are used.

Runoff: The notional depth of water in millimetres over the catchment equivalent to the mean flow for the month as measured at the gauging station. It is computed using the relationship:

$$\text{Runoff in mm} = \frac{\text{Average Flow in Cumecs} \times 86.4 \times n}{\text{Catchment Area (km}^2)}$$

where n is the number of days in the month. The runoff total is rounded to the nearest millimetre.

Runoff is computed on the basis of naturalised flows (see 'Factors affecting the flow regime') for the minority of catchments where daily, or monthly, naturalised flows are available.

Rainfall: The rainfall over the catchment in millimetres for each month. Except for the Institute of Hydrology's research catchments each areal rainfall total is derived from a one kilometre square grid of rainfall values generated from all available daily and monthly rainfall data – these data are provided by the Meteorological Office. Validation procedures allow for the rejection of obviously erroneous raingauge observations prior to the gridding exercise. A computer program then calculates catchment rainfall by averaging the values at the grid points lying within the digitised boundary of the catchment.

Statistics of monthly data for previous record

Only complete monthly records are used in the derivation of the average, low and high values of river flow, runoff and rainfall. The rainfall and runoff statistics are normally directly comparable but full equivalence will not obtain where the pattern of missing data differs between the archived rainfall and runoff data sets.

Where applicable, a guide to the amount of missing data is given following the section heading.

Summary statistics

Current year flow statistics are tabulated alongside the corresponding values for the previous record. Where appropriate, the current year figures are expressed as a percentage* of the preceding average.

Mean Flow: The average of all available daily mean flows during the term indicated.

Lowest Daily Mean: The value and date of occurrence of the lowest mean flow in cubic metres per second in a water-day during the term indicated. In a record in which the value recurs, the date is that of the last occasion.

It should be emphasised that river flow measurement tends to become more imprecise at very low discharges. Very low velocities, heavy weed growth and the insensitivity of stage-discharge relations combine with the difficulty of accurately measuring limited water depths to reduce the accuracy of computed flows.

The reliability of both the lowest daily mean flow and the 95% exceedance flow (see opposite) as representative measures of low flow must be considered carefully and the values used with caution in view of the increasing proportional variability between the natural flow and the artificial influences, such as abstractions, discharges and storage changes as the river flow diminishes.

Peak: The peak flow in cubic metres per second during the term indicated. The date of occurrence, normally the water-day, is also indicated. Generally, the peak flows are derived from the record of monthly instantaneous maximum flows stored on the Surface Water Archive. As a result of particular flow measurement difficulties in the flood range, this peak flow series is often incomplete. Consequently, in some cases, the peak flow from the previous period of record has been abstracted from Volume IV of the Flood Studies Report[1]. Reference to this report should be made to check for historical flood events which may exceed the peak falling within the gauged flow record.

10% exceedance: The flow in cubic metres per second which was equalled or exceeded for 10 per cent of the specified term – a high flow parameter which, when compared with the mean may give a measure of the variability, or 'flashiness', of the flow regime. The 10% exceedance value is computed using daily flow data only for those years with ten days, or less, missing on the Surface Water Archive.

50% exceedance: The flow in cubic metres per second which was equalled or exceeded for 50 per cent of the specified term – the median value. The same conditions for completeness of the annual records apply as for the 10% exceedance flow.

95% exceedance: The flow in cubic metres per second which was equalled or exceeded for 95 per cent of the specified term – a significant low flow parameter relevant in the assessment of river water quality consent conditions. The same conditions for completeness of the annual records apply as for the 10% exceedance flow.

Factors affecting flow regime

An indication of the various types of abstractions from, and discharges to, the river operating within the catchment which alter the natural flow is given by a standard set of abbreviated descriptions. In Part (ii) – the monthly flow data – each description is shortened to a code letter. An explanation of the abbreviated descriptions and the code letters is given overleaf. With the exception of the induced loss in surface flow resulting from underlying groundwater abstraction, these codes and descriptions refer to quantifiable variations and do not include the progressive, and difficult to measure, modifications in the regime related to land-use changes.

* As a consequence of leap years the runoff and mean flow percentage may not be identical.

[1] Flood Studies Report 1975. Natural Environment Research Council (5 vols.).

CODE	EXPLANATION	ABBREVIATED DESCRIPTION
N	Natural, i.e. there are no abstractions and discharges or the variation due to them is so limited that the gauged flow is within 10% of the natural flow at, or in excess of, the 95 percentile flow.	Natural within 10% at the 95 percentile flow.
	Storage or impounding reservoir. Natural river flows will be affected by water stored in a reservoir situated in, and supplied from, the catchment above the gauging station.	Reservoirs in catchment.
R	Regulated river. Under certain flow conditions the river will be augmented from surface water and/or groundwater storage upstream of the gauging station.	Augmentation from surface water and/or groundwater.
	Public water supplies. Natural river flows are reduced by the quantity abstracted from a reservoir or by a river intake if the water is conveyed outside the gauging station's catchment area.	Abstraction for public water supply.
	Groundwater abstraction. Natural river flow may be reduced or augmented by groundwater abstraction or recharge. This category includes catchments where mine-water discharges influence the flow regime.	Flows influenced by groundwater abstraction and/or recharge.
	Effluent return. Outflows from sewage treatment works will augment the river flow if the effluents originate from outside the catchment.	Augmentation from effluent returns.
	Industrial and agricultural abstractions. Direct industrial and agricultural abstractions from surface water and from groundwater may reduce the natural river flow.	Flow reduced by industrial and/or agricultural abstraction.
H	Hydro-electric power. The river flow is regulated to suit the need for power generation.	Regulation for HEP.

Except for a small set of gauging stations for which the net variation, i.e. the sum of abstractions and discharges, is assessed in order to derive the 'naturalised' flow from the gauged flow, the record of individual abstractions, discharges and changes in storage as indicated in the code above is not held centrally.

Station and catchment description

A short commentary providing a guide to the characteristics of the station, its flow record and the catchment it commands; refer to page 188 for an explanatory listing of the abbreviations and acronyms used. The principal objectives of this summary information are to assist data users in the selection of gauging station records appropriate to their needs and to assist in the interpretation of flow variability at individual gauging stations particularly where the natural flow pattern is significantly disturbed by artificial influences.

The descriptive material will be updated and revised to reflect the availability of more information and in response both to changing hydrometric conditions at the measuring site and changing patterns of land use and water utilisation in the catchment.

A comprehensive set of gauging station and catchment descriptions is provided in the 'Hydrometric Register and Statistics 1981–5' (see page 187).

Comment

A summary of any important factors influencing the accuracy of the current year's flow data specifically; for instance, the reconstruction of a gauging station or the use of extrapolated stage-discharge relations during periods of very low or very high flows.

STATIONS FOR WHICH DAILY OR MONTHLY DATA ARE GIVEN IN THE RIVER FLOW SECTION

continued on p. 37

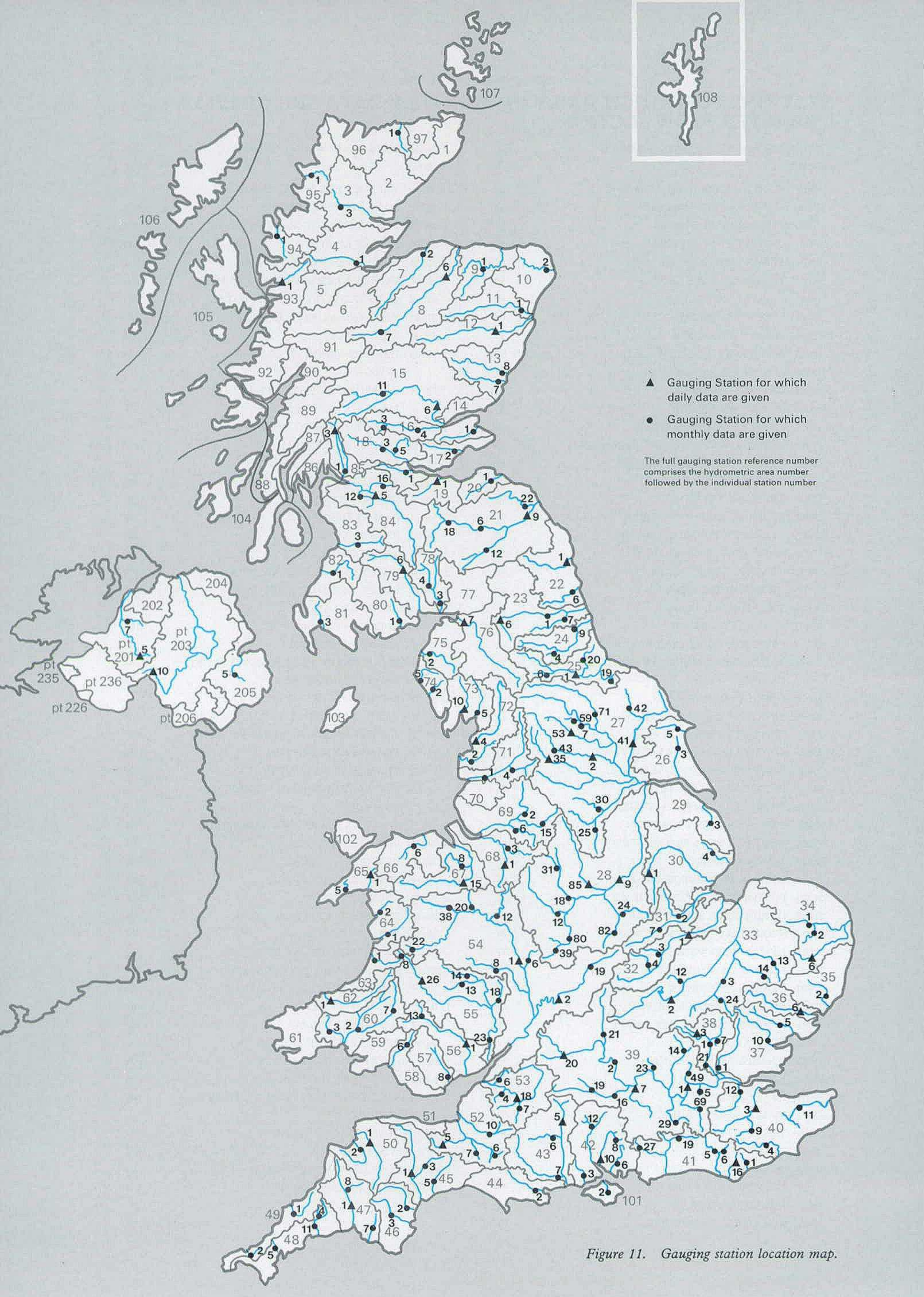


Figure 11. Gauging station location map.

A 'D' indicates that the featured station is in the daily flow section.

008006 Spey at Boat o Brig 1987

Measuring authority: NERPB
First year: 1952

Grid reference: 38 (NJ) 318 518
Level stn. (m OD): 43.10

Catchment area (sq km): 2861.2
Max alt. (m OD): 1309

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	77.410	32.280	193.400	122.800	71.260	38.060	36.030	39.340	38.420	30.860	43.290	51.770
2	63.610	36.930	172.200	91.430	85.960	37.770	34.930	35.840	35.130	29.560	40.240	44.910
3	51.870	41.660	90.220	95.670	100.500	35.390	33.810	37.130	33.010	28.630	37.940	39.500
4	88.120	38.500	68.170	90.640	89.220	33.620	33.060	43.560	31.290	27.940	36.290	40.190
5	86.980	45.520	57.980	79.880	86.500	32.310	32.200	42.090	35.940	27.380	34.720	38.930
6	65.420	87.990	54.890	67.370	70.530	53.160	31.960	42.140	45.410	33.130	33.420	39.600
7	54.860	81.700	49.690	61.060	59.300	180.300	32.940	61.320	38.110	41.240	32.480	35.910
8	43.790	67.690	44.740	66.320	54.480	165.600	32.230	54.150	36.890	77.960	31.780	32.250
9	38.620	59.340	41.250	84.290	53.410	126.100	30.700	40.370	34.380	61.610	31.160	34.870
10	41.200	91.150	41.240	87.640	53.180	86.920	36.370	35.700	37.730	72.780	30.920	32.820
11	36.890	75.650	39.560	114.100	63.420	69.780	81.090	33.280	43.570	57.040	33.420	33.060
12	30.750	59.710	35.930	91.730	100.400	70.150	60.500	32.310	51.270	44.580	35.170	32.320
13	31.230	49.490	36.760	155.900	100.600	63.460	44.300	33.120	55.910	43.360	41.190	27.230
14	33.210	43.790	38.890	132.100	87.340	67.850	38.100	32.660	75.980	37.840	107.800	24.110
15	37.370	39.790	41.900	142.800	87.490	67.090	35.210	32.770	76.040	39.370	70.850	24.810
16	37.370	36.760	47.440	105.300	66.810	58.540	37.680	48.380	55.150	58.760	72.630	38.090
17	35.670	36.320	92.310	89.840	57.620	52.150	84.570	48.430	46.200	56.370	75.160	81.800
18	38.470	36.450	72.780	101.100	58.370	46.810	155.900	38.960	42.680	84.780	66.860	96.830
19	44.720	65.910	52.340	115.700	55.890	43.140	100.600	34.370	41.250	80.510	73.750	89.550
20	77.060	70.060	45.040	97.550	51.860	40.280	79.640	34.560	38.510	77.580	79.480	84.840
21	122.400	56.930	40.680	85.430	51.290	38.300	61.930	48.720	40.290	113.600	62.010	75.740
22	121.500	75.650	39.330	78.520	55.660	39.860	50.430	42.520	49.420	100.600	64.300	62.820
23	94.530	58.310	40.280	73.530	50.900	66.220	43.840	48.430	46.880	72.790	156.700	52.370
24	77.080	47.170	39.320	67.240	46.760	103.600	42.940	40.200	43.840	59.060	127.000	47.380
25	62.410	42.680	52.020	63.360	43.980	64.010	44.330	37.150	42.820	51.690	96.460	44.980
26	59.980	40.120	53.680	62.270	42.280	52.850	40.730	73.330	49.480	52.320	66.610	45.630
27	51.250	52.810	166.500	62.990	40.020	47.120	44.630	59.060	42.710	65.990	57.300	56.070
28	46.500	118.200	179.900	66.650	37.730	43.670	41.520	64.700	38.370	81.820	57.150	75.550
29	42.130		95.460	63.650	36.480	39.800	41.020	77.210	34.950	60.220	64.410	63.500
30	38.670		90.820	62.850	41.460	37.310	39.770	51.030	32.590	50.870	66.040	88.310
31	35.650		164.800		39.290		41.340	42.670		46.090		115.800
Average	56.990	56.730	73.530	89.320	62.580	63.370	49.820	44.690	43.810	56.980	60.880	53.280
Lowest	30.750	32.280	35.930	61.060	36.480	32.310	30.700	32.310	31.290	27.380	30.920	24.110
Highest	122.400	118.200	193.400	155.900	100.600	180.300	155.900	77.210	76.040	113.600	156.700	115.800
Peak flow	146.500	143.700	337.100	190.000	123.500	249.100	185.600	103.100	102.300	136.100	211.300	152.000
Day of peak	21	28	27	13	12	7	28	28	14	21	23	31
Monthly total (million cu m)	152.60	137.30	197.00	231.50	167.60	164.30	133.40	119.70	113.50	152.60	157.80	142.70
Runoff (mm)	53	48	69	81	59	57	47	42	40	53	55	50
Rainfall (mm)	41	73	107	55	80	101	90	79	87	100	101	74

Statistics of monthly data for previous record (Oct 1952 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	85.350	70.150	73.950	69.090	59.360	42.330	39.450	49.310	50.240	68.670	77.170	88.660
	Low	41.070	26.470	35.750	33.580	26.910	17.890	17.910	11.310	14.090	13.340	30.140	38.790
	(year)	1979	1963	1964	1974	1960	1961	1984	1955	1972	1972	1958	1976
	High	145.900	159.100	145.300	135.200	103.400	103.000	79.860	119.600	105.500	153.900	147.000	198.600
	(year)	1983	1962	1978	1979	1968	1966	1980	1956	1965	1981	1984	1954
Runoff:	Avg.	80	60	69	63	56	38	37	46	46	64	70	83
	Low	38	22	33	30	25	16	17	11	13	12	27	36
	High	137	135	136	122	97	93	75	112	96	144	133	186
Rainfall:	Avg.	110	69	81	64	78	74	86	99	97	124	112	116
	Low	38	26	29	19	24	30	20	19	21	30	12	11
	High	185	123	179	128	146	181	158	188	178	335	213	211

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	59.300		64.490		92
Lowest yearly mean			44.200	1972	
Highest yearly mean			82.810	1954	
Lowest monthly mean	43.810	Sep	11.310,	Aug 1955	
Highest monthly mean	89.320	Apr	198.600	Dec 1954	
Lowest daily mean	24.110	14 Dec	9.311	16 Aug 1955	
Highest daily mean	193.400	1 Mar	1089.000	17 Aug 1970	
Peak	337.100	27 Mar	1675.000	17 Aug 1970	
10% exceedance	94.330		120.900		78
50% exceedance	50.350		49.870		101
95% exceedance	32.140		19.300		167
Annual total (million cu m)	1870.00		2035.00		92
Annual runoff (mm)	654		711		92
Annual rainfall (mm)	988		1110		89
[1941-70 rainfall average (mm)			1184]		

Factors affecting flow regime

- Regulation for HEP.

Station and catchment description
Lowest station currently operating on the Spey. Cableway rated 65m wide section with natural control, extreme floods bypass station on left bank. 380 sq km developed for hydro-power with diversions and storage. Mainly granites and Moinian metamorphics. Some Dalradian and a little Old Red Sandstone. Mountain (includes all northern slopes of Cairngorms), moorland, hill grazing and some arable; forestry also.

012001 Dee at Woodend 1987

Measuring authority: NERPB
First year: 1929

Grid reference: 37 (NO) 635 956
Level stn. (m OD): 70.50

Catchment area (sq km): 1370.0
Max alt. (m OD): 1310

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	33.420	15.760	82.130	55.000	49.100	19.120	17.220	15.800	15.450	13.780	22.860	22.750
2	29.490	23.380	75.150	40.500	48.440	18.680	16.560	14.280	13.760	13.020	21.270	20.830
3	22.480	26.100	38.920	49.830	48.440	16.990	15.360	14.200	12.800	12.470	19.740	18.720
4	54.420	21.260	30.080	54.660	46.230	16.270	15.050	15.470	12.650	12.200	18.780	18.910
5	43.400	39.130	26.850	46.810	43.070	15.340	14.320	15.520	28.100	12.150	17.760	18.270
6	28.180	75.710	27.220	37.000	36.350	41.670	13.750	14.920	27.710	23.140	16.910	18.450
7	26.470	44.750	23.860	33.010	32.030	49.700	13.700	14.610	18.520	41.470	16.380	15.280
8	20.390	34.610	21.080	43.640	30.600	44.470	12.750	15.620	15.460	46.000	15.890	12.880
9	20.730	32.350	20.500	53.700	29.380	40.660	12.350	13.590	14.120	27.730	15.910	17.100
10	22.760	31.450	19.270	53.320	29.410	31.670	13.860	12.850	17.120	25.730	22.320	14.890
11	20.410	27.270	17.730	55.810	32.940	32.970	24.760	12.170	16.540	21.110	26.630	15.500
12	19.050	24.670	17.260	49.340	47.540	45.460	18.970	12.240	23.280	19.020	23.100	14.800
13	18.950	22.120	18.350	99.400	47.330	39.050	16.940	14.940	26.390	23.680	24.010	11.900
14	19.810	18.210	18.740	89.440	46.290	42.730	15.510	13.150	49.490	19.280	39.150	10.730
15	20.390	17.560	19.590	110.500	42.240	36.330	17.360	12.640	30.710	22.090	32.780	14.370
16	19.370	17.040	18.880	67.480	31.780	37.620	23.790	34.690	21.400	26.240	42.640	20.240
17	16.500	16.710	51.350	60.340	29.530	31.430	41.110	20.670	18.240	30.460	40.020	38.730
18	16.670	16.540	34.850	75.200	30.450	25.630	130.000	16.220	16.450	158.200	39.570	50.680
19	17.640	20.220	22.930	99.530	27.620	23.040	67.440	13.760	15.030	65.010	43.290	43.830
20	41.490	29.080	19.740	69.080	26.070	21.290	49.030	33.050	14.730	78.100	34.610	51.720
21	111.300	24.850	18.580	60.850	28.560	19.930	36.530	37.000	21.180	131.000	26.340	42.300
22	94.420	24.430	18.220	55.380	32.100	21.940	29.070	25.000	37.140	100.200	24.980	32.910
23	81.610	21.720	18.060	51.150	27.060	27.820	24.520	27.220	36.470	57.330	42.600	25.550
24	56.160	18.430	17.030	47.080	24.450	35.390	22.340	19.600	26.010	44.690	50.210	23.510
25	42.540	16.910	20.830	45.000	23.210	25.800	21.690	17.200	21.110	37.390	36.710	25.810
26	37.750	16.090	21.080	43.840	22.370	22.540	19.930	21.770	23.160	37.980	27.780	25.720
27	31.610	20.470	56.920	47.840	20.090	22.340	19.850	21.200	19.480	42.690	25.110	37.370
28	27.700	51.130	55.000	50.760	18.550	22.920	18.450	18.990	17.360	46.760	23.290	43.190
29	24.590		32.510	44.510	17.770	19.690	17.090	24.540	15.830	32.360	26.550	37.420
30	21.930		35.090	42.900	22.290	18.100	16.510	18.220	14.680	27.740	29.910	53.460
31	16.730		97.160		20.960		16.930	15.640		25.090		144.100
Average	34.150	26.710	32.100	57.760	32.650	28.890	25.570	18.610	21.350	41.100	28.240	30.380
Lowest	16.500	15.760	17.030	33.010	17.770	15.340	12.350	12.170	12.650	12.150	15.890	10.730
Highest	111.300	75.710	97.160	110.500	49.100	49.700	130.000	37.000	49.490	158.200	50.210	144.100
Peak flow	144.900	89.160	144.900	139.100	73.100	61.670	171.000	89.920	104.400	270.100	75.330	214.900
Day of peak	21	6	31	13	2	7	18	20	14	18	23	31
Monthly total (million cu m)	91.46	64.62	85.96	149.70	87.46	74.87	68.49	49.83	55.33	110.10	73.19	81.38
Runoff (mm)	67	47	63	109	64	55	50	36	40	80	53	59
Rainfall (mm)	51	59	91	69	79	100	97	73	70	134	91	62

Statistics of monthly data for previous record (Oct 1929 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	47.820	40.070	42.500	45.000	36.440	22.530	18.230	22.520	26.010	39.360	47.370	49.700
	Low	15.450	13.420	15.160	11.370	12.130	7.342	7.258	5.141	6.491	6.798	12.230	22.020
	(year)	1940	1947	1973	1938	1946	1940	1984	1984	1972	1972	1983	1976
	High	127.800	90.110	88.680	113.300	85.950	56.080	36.710	63.860	71.820	138.200	127.500	108.400
	(year)	1937	1945	1977	1947	1986	1948	1958	1948	1930	1982	1984	1954
Runoff:	Avg.	93	71	83	85	71	43	36	44	49	77	90	97
	Low	30	24	30	22	24	14	14	10	12	13	23	43
	High	250	159	173	214	168	106	72	125	136	270	241	212
Rainfall:	Avg.	120	75	76	69	81	67	89	95	95	118	115	121
	Low	36	10	16	12	21	16	24	13	13	8	22	43
	High	374	148	175	196	179	160	206	185	227	310	320	282

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	31.470		36.450		86
Lowest yearly mean			24.190	1973	
Highest yearly mean			49.050	1982	
Lowest monthly mean	18.610	Aug	5.141	Aug 1984	
Highest monthly mean	57.760	Apr	138.200	Oct 1982	
Lowest daily mean	10.730	14 Dec	3.536	27 Aug 1976	
Highest daily mean	158.200	18 Oct	648.500	24 Jan 1937	
Peak	270.100	18 Oct	1133.000	24 Jan 1937	
10% exceedance	52.070		72.970		71
50% exceedance	24.580		25.580		96
95% exceedance	13.750		8.379		164
Annual total (million cu m)	992.40		1150.00		86
Annual runoff (mm)	724		840		86
Annual rainfall (mm)	976		1121		87
[1941-70 rainfall average (mm)			1194]		

Factors affecting flow regime

- Natural to within 10% at 95 percentile flow.

Station and catchment description

Cableway rated, fairly stable natural control. Present station, built in 1972, replaced earlier station (flow records from 1929, chart records from 1934) on same reach (Cairnton; c/m measurements at Woodend) - established by Capt. McClean. Earlier staff gauge record dates from 1911. No regulation, little natural storage, minor abstractions. Dalradian and Moinian metamorphic along most of the valley, flanked by igneous intrusive. Mountain, moorland, forestry, pastoral and some arable in the valley bottom.

015006 Tay at Ballathie 1987

Measuring authority: TRPB
First year: 1952

Grid reference: 37 (NO) 147 367
Level stn. (m OD): 26.30

Catchment area (sq km): 4587.1
Max alt. (m OD): 1214

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	372.621	115.545	237.710	261.232	126.464	52.686	57.701	51.206	81.325	129.428	177.759	115.872
2	350.692	130.233	236.624	213.518	120.875	51.288	58.442	49.695	75.508	133.797	175.995	130.608
3	277.831	139.692	195.362	189.355	120.709	51.064	55.517	48.594	74.645	128.599	141.031	133.306
4	379.808	140.401	176.664	180.183	121.571	53.742	54.004	47.150	74.423	120.572	134.771	127.470
5	354.442	219.341	173.783	175.632	124.597	53.235	51.698	48.369	131.101	131.880	130.893	109.981
6	294.793	315.588	189.775	157.723	100.339	114.430	50.195	46.285	118.545	143.510	126.290	94.764
7	265.227	230.593	173.083	125.021	99.192	108.707	48.974	44.838	110.809	211.430	119.355	91.592
8	229.575	213.498	161.258	136.785	94.547	88.848	48.325	44.066	109.583	208.140	115.074	86.650
9	203.681	215.668	158.143	142.607	85.278	79.206	46.781	42.256	122.317	172.193	116.976	89.937
10	167.510	198.483	145.361	172.582	78.928	77.844	46.769	42.285	141.962	172.598	140.525	84.331
11	152.267	164.702	123.809	199.846	85.071	88.185	63.080	40.979	144.886	152.161	157.073	82.353
12	165.594	155.565	119.320	172.390	98.481	125.185	55.167	42.285	198.504	149.840	158.505	68.846
13	147.919	154.483	117.225	204.741	93.529	100.652	50.869	63.326	228.482	144.824	159.938	64.770
14	148.775	141.003	133.735	199.742	97.175	122.047	55.743	53.079	327.404	135.780	161.385	66.638
15	142.872	135.947	137.092	235.247	91.553	121.694	81.324	56.698	259.596	135.791	162.834	71.932
16	138.251	140.801	129.655	173.779	82.910	114.378	132.363	122.335	219.128	144.960	201.231	93.185
17	132.454	152.832	192.081	162.397	85.705	96.547	104.206	88.231	193.080	157.360	240.075	119.208
18	127.517	146.295	163.341	149.107	89.612	76.652	133.289	80.285	184.879	376.370	245.902	124.029
19	133.306	105.043	154.124	188.146	82.823	70.434	136.277	74.746	173.104	287.089	267.008	101.250
20	178.351	108.367	148.151	174.052	79.344	76.281	96.263	214.139	167.308	393.824	238.926	122.179
21	305.952	103.710	139.753	152.184	64.972	73.501	75.792	186.632	215.172	523.511	199.554	140.735
22	336.596	98.804	130.475	135.620	63.055	76.126	67.245	147.936	256.310	446.994	180.237	149.766
23	286.453	104.995	129.643	116.978	59.233	76.783	63.945	141.821	252.121	323.000	177.579	134.421
24	229.138	103.241	127.296	108.748	54.341	81.815	59.505	107.934	225.088	266.453	161.390	135.824
25	196.835	102.710	145.631	103.703	60.277	75.070	55.281	98.068	195.094	225.672	156.304	133.751
26	191.985	105.079	149.916	98.897	50.563	71.434	53.896	95.729	171.724	279.730	157.098	198.281
27	169.088	115.486	350.180	97.693	49.360	75.818	55.957	89.831	159.481	311.817	152.812	296.313
28	158.620	145.482	276.858	96.590	48.407	82.318	52.610	86.641	152.163	284.099	124.843	336.267
29	151.295		228.070	101.279	48.924	69.512	53.052	82.548	140.310	237.998	119.443	352.681
30	143.989		200.989	100.262	56.094	60.024	52.942	75.339	131.132	219.247	122.786	424.210
31	132.752		268.188		53.574		52.182	73.768		188.675		675.060
Average	215.000	150.100	174.600	157.500	82.820	82.180	66.750	80.230	167.800	223.800	164.100	159.900
Lowest	127.517	98.804	117.225	96.590	48.407	51.064	46.769	40.979	74.423	120.572	115.074	64.770
Highest	379.808	315.588	350.180	261.232	126.464	125.185	136.277	214.139	327.404	523.511	267.008	675.060
Peak flow	455.873	370.199	438.531	304.531	142.298	136.077	172.623	418.839	453.627	618.734	297.098	718.336
Day of peak	4	6	27	1	1	14	16	20	14	21	18	31
Monthly total (million cu m)	576.00	363.20	467.70	408.30	221.80	213.00	178.80	214.90	435.00	599.40	425.40	428.20
Runoff (mm)	126	79	102	89	48	46	39	47	95	131	93	93
Rainfall (mm)	57	73	128	56	62	103	77	97	167	161	94	152

Statistics of monthly data for previous record (Oct 1952 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	236.600	200.000	201.200	144.100	123.200	81.450	66.930	86.840	120.600	185.300	216.400	249.600
	Low	92.910	52.560	69.380	75.210	45.500	42.080	31.390	14.690	40.650	39.680	89.160	112.800
	(year)	1963	1963	1953	1974	1980	1957	1984	1955	1955	1972	1972	1952
	High	515.800	353.700	424.800	231.200	321.100	190.400	126.000	286.100	283.900	390.500	407.700	491.400
	(year)	1974	1962	1967	1960	1986	1966	1985	1985	1985	1982	1984	1954
Runoff:	Avg.	138	106	117	81	72	46	39	51	68	108	122	146
	Low	54	28	41	43	27	24	18	9	23	23	50	66
	High	301	187	248	131	188	108	74	167	160	228	230	287
Rainfall:	Avg.	156	99	117	72	100	84	93	107	132	150	149	171
	Low	33	29	39	10	26	49	21	14	11	63	38	64
	High	393	182	224	150	214	181	169	250	266	269	311	304

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	143.700		159.200		90
Lowest yearly mean			107.300	1955	
Highest yearly mean			207.900	1954	
Lowest monthly mean	66.750	Jul	14.690	Aug 1955	
Highest monthly mean	223.800	Oct	515.800	Jan 1974	
Lowest daily mean	40.979	11 Aug	11.460	6 Aug 1955	
Highest daily mean	675.060	31 Dec	1223.000	27 Nov 1954	
Peak	718.336	31 Dec	1570.000	30 Jan 1974	
10% exceedance	242.600		311.300		78
50% exceedance	131.200		127.800		103
95% exceedance	49.930		43.030		116
Annual total (million cu m)	4532.00		5024.00		90
Annual runoff (mm)	988		1095		90
Annual rainfall (mm)	1227		1430		86
[1941-70 rainfall average (mm)			1443]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Regulation for HEP.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.

Station and catchment description

Velocity-area station with cableway. 90m wide. The most d/s station on the Tay, records highest mean flow in UK. Since end of 1957, 1980 sq km (43%) controlled for HEP; there was some control prior to this. 73 sq km controlled for water supply. Catchment is mostly steep, comprising mountains and moorland; exceptions are lower valleys. Mainly rough grazing and forestry. Geology: mainly metamorphics and granites, but lower 20% (Isla valley) is Old Red Sandstone.

019001 Almond at Craigiehall 1987

Measuring authority: FRPB
First year: 1957

Grid reference: 36 (NT) 165 752
Level stn. (m OD): 22.90

Catchment area (sq km): 369.0
Max alt. (m OD): 518

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	31.618	3.082	17.356	10.555	2.796	1.716	1.496	1.477	5.178	1.710	3.692	2.545
2	29.701	3.698	19.570	10.651	2.401	2.510	1.456	1.315	3.234	1.822	3.364	2.513
3	13.785	3.968	7.992	6.973	1.935	4.377	1.337	1.477	2.478	1.955	3.065	2.252
4	21.932	3.999	6.530	5.280	1.635	3.446	1.231	1.648	2.111	1.785	2.905	2.240
5	20.035	15.623	9.599	7.674	1.555	3.245	1.148	1.284	3.267	4.227	2.533	2.074
6	11.456	15.348	16.250	11.777	1.445	14.832	1.110	1.263	3.500	7.110	2.572	2.071
7	7.565	7.748	8.900	8.180	1.399	15.773	1.047	1.337	3.408	13.846	2.321	2.141
8	5.924	7.371	6.467	10.599	1.355	8.742	1.027	1.298	3.043	9.666	2.284	2.006
9	5.189	23.546	5.642	9.808	1.372	4.689	1.021	1.151	3.878	7.685	2.960	1.943
10	4.206	24.701	4.355	15.970	1.327	3.389	2.691	1.157	8.078	7.151	5.809	1.703
11	3.440	10.816	3.771	15.126	1.347	3.305	4.253	1.932	8.784	4.981	6.747	1.703
12	3.041	7.444	3.355	7.958	1.690	2.762	2.603	2.981	11.095	3.906	11.242	1.683
13	3.008	5.783	3.140	6.361	1.781	2.700	1.747	3.036	6.074	3.942	8.703	1.589
14	3.102	4.613	3.379	5.258	2.602	5.217	1.505	2.210	9.611	3.734	5.273	1.650
15	3.499	3.881	3.507	4.485	1.789	4.190	1.860	4.620	7.145	35.652	7.632	1.726
16	3.372	3.577	3.221	3.711	1.465	2.796	1.790	27.744	4.364	24.863	15.216	3.692
17	3.042	3.118	3.345	3.305	1.990	2.284	1.751	34.541	3.084	29.257	9.248	10.168
18	2.922	3.035	3.047	3.037	1.957	1.934	23.086	4.776	2.603	38.929	14.281	8.101
19	17.563	2.852	2.696	3.095	1.706	1.723	10.468	1.739	2.472	22.810	21.618	8.526
20	68.934	2.760	2.452	3.240	1.436	1.458	5.015	3.116	3.133	17.618	10.458	15.788
21	36.527	2.827	2.133	2.843	1.375	1.779	3.521	3.643	12.474	30.390	6.839	15.916
22	20.211	2.805	2.286	2.562	1.306	7.758	2.769	1.593	12.160	28.329	5.492	8.469
23	11.819	2.824	2.690	2.536	1.272	4.840	2.361	1.152	8.182	12.545	4.338	5.992
24	8.861	2.557	2.894	2.411	1.292	4.457	2.075	0.923	5.535	8.344	3.660	4.845
25	7.286	2.532	9.503	2.209	1.285	2.842	1.648	2.302	4.222	6.662	3.239	4.558
26	6.140	2.811	9.184	2.099	1.489	2.200	2.499	3.605	3.413	5.519	2.939	27.351
27	5.223	4.922	17.629	2.002	1.497	1.974	2.016	3.352	2.857	7.621	2.854	36.699
28	4.446	5.718	15.248	1.848	1.583	2.034	1.527	2.709	2.411	7.787	2.751	31.387
29	3.956		6.695	1.796	2.344	1.900	1.681	2.288	2.184	5.385	2.785	24.180
30	3.405		5.019	2.331	2.727	1.650	1.743	1.880	1.946	4.549	2.761	14.532
31	2.902		4.992		1.970		1.673	1.657		4.117		21.965
Average	12.070	6.570	6.866	5.856	1.714	4.084	2.940	4.039	5.064	11.740	5.986	8.774
Lowest	2.902	2.532	2.133	1.796	1.272	1.458	1.021	0.923	1.946	1.710	2.284	1.589
Highest	68.934	24.701	19.570	15.970	2.796	15.773	23.086	34.541	12.474	38.929	21.618	36.699
Peak flow	86.413	49.089	45.766	23.721	3.707	19.916	41.476	55.035	25.121	57.929	31.221	70.517
Day of peak	20	9	1	10	1	6	18	17	21	18	19	27
Monthly total (million cu m)	32.32	15.89	18.39	15.18	4.59	10.59	7.88	10.82	13.13	31.44	15.52	23.50
Runoff (mm)	88	43	50	41	12	29	21	29	36	85	42	64
Rainfall (mm)	66	55	82	57	43	95	76	106	77	125	51	95

Statistics of monthly data for previous record (Jan 1957 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	9.052	7.293	6.365	4.258	3.214	2.415	2.281	3.130	4.599	6.176	9.483	9.316
	Low	3.574	1.782	1.918	1.409	1.091	0.817	0.951	0.869	0.668	0.668	1.862	3.016
	(year)	1963	1963	1973	1974	1961	1961	1960	1983	1959	1972	1972	1975
	High	16.300	15.450	14.300	9.840	11.170	8.572	9.224	8.568	20.360	15.120	21.660	19.860
	(year)	1984	1984	1979	1986	1968	1966	1958	1985	1985	1981	1963	1986
Runoff:	Avg.	66	48	46	30	23	17	17	23	32	45	67	68
	Low	26	12	14	10	8	6	7	6	5	5	13	22
	High	118	105	104	69	81	60	67	62	143	110	152	144
Rainfall:	Avg.	79	54	66	51	62	60	72	83	90	87	94	87
	Low	28	17	22	8	16	24	23	19	14	23	19	21
	High	145	107	127	89	123	136	173	142	195	177	190	179

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	6.318		5.624		112
Lowest yearly mean			2.890	1973	
Highest yearly mean			8.199	1986	
Lowest monthly mean	1.714	May	0.668	Sep 1959	
Highest monthly mean	12.070	Jan	21.660	Nov 1963	
Lowest daily mean	0.923	24 Aug	0.241	9 Oct 1959	
Highest daily mean	68.934	20 Jan	142.300	21 Sep 1985	
Peak	86.413	20 Jan	199.600	3 Nov 1984	
10% exceedance	15.450		12.860		120
50% exceedance	3.287		2.809		117
95% exceedance	1.322		0.867		152
Annual total (million cu m)	199.20		177.50		112
Annual runoff (mm)	540		481		112
Annual rainfall (mm)	928		885		105
(1941-70 rainfall average (mm)			909)		

Factors affecting flow regime

- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from effluent returns.

Station and catchment description

The recorder is well sited on a straight even reach with steep banks which have contained all recorded floods. Stable rating over the period of record. Weed growth in summer - some adjustment to stage is required. Low flows substantially affected by sewage effluent especially from Mid Calder. Abstraction at Almondell to feed a canal. A number of storage reservoirs are situated in the catchment. Geology - predominantly Carboniferous rocks. Land use - mainly rural. Livingston new town and several small mining towns in the catchment.

021009 Tweed at Norham 1987

Measuring authority: TWRP
First year: 1962

Grid reference: 36 (NT) 898 477
Level stn. (m OD): 4.30

Catchment area (sq km): 4390.0
Max alt. (m OD): 839

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	283.134	54.594	48.372	154.426	38.433	30.017	38.383	31.949	56.304	36.012	66.844	83.145
2	341.448	51.668	205.905	165.686	39.584	25.943	33.773	27.977	56.044	32.812	59.396	77.154
3	201.151	55.152	98.054	128.144	38.641	32.077	31.167	25.504	46.208	31.915	53.861	71.376
4	382.256	50.837	77.240	114.339	34.997	35.537	28.872	25.358	41.885	30.699	51.048	65.108
5	285.642	65.643	77.083	131.013	32.108	29.962	27.500	24.911	40.543	30.629	47.272	59.835
6	186.414	106.576	152.683	176.914	30.643	157.699	25.689	23.275	51.338	42.369	44.553	56.617
7	142.031	71.892	130.412	138.647	28.767	164.669	24.772	21.876	48.377	42.019	43.031	55.830
8	118.120	64.951	96.637	251.953	27.751	143.552	24.112	21.809	40.359	69.788	43.084	50.750
9	103.244	74.073	83.354	176.042	26.762	95.190	23.646	21.688	38.025	56.151	47.560	48.321
10	90.317	160.487	72.843	175.875	26.187	72.462	34.512	20.711	40.896	70.248	44.387	48.086
11	78.338	96.409	67.317	358.471	26.319	63.396	153.843	19.621	38.603	56.435	84.687	47.279
12	69.653	75.901	61.642	228.503	28.601	84.788	72.959	25.247	57.119	48.279	147.778	45.391
13	67.358	68.280	58.925	178.920	29.448	69.097	50.413	62.316	58.042	45.143	144.420	42.091
14	64.877	62.188	58.461	139.436	32.157	69.794	43.111	37.133	43.792	53.241	82.362	40.477
15	62.125	56.108	61.528	113.562	34.472	76.470	40.878	27.757	47.479	59.480	78.607	39.460
16	59.677	52.495	62.609	96.193	29.444	72.032	46.790	80.243	44.197	185.484	103.621	47.010
17	57.154	47.854	91.215	83.158	27.729	71.346	47.695	229.124	39.850	120.555	95.177	65.611
18	54.624	45.878	79.971	74.034	31.249	53.213	200.070	130.173	36.624	472.890	89.797	84.642
19	52.349	44.581	58.488	74.629	28.062	46.717	214.655	75.006	34.712	417.175	115.045	71.753
20	230.193	53.497	52.019	77.669	25.606	42.765	100.959	67.446	53.518	311.867	87.578	80.114
21	372.323	51.323	47.799	64.476	25.906	40.355	73.556	234.556	55.709	406.679	72.019	107.528
22	278.597	47.320	45.774	57.862	26.001	52.694	61.336	105.000	161.519	284.988	67.025	92.073
23	172.174	45.077	43.719	53.493	23.679	59.524	53.860	81.406	115.365	176.194	78.492	71.354
24	135.368	42.218	42.040	48.381	22.879	57.823	51.218	69.568	85.170	133.262	172.667	64.502
25	114.973	40.204	49.996	45.210	22.351	51.170	47.196	55.177	67.272	107.688	236.494	67.061
26	98.346	38.044	67.086	42.435	21.450	44.084	42.758	192.198	56.749	90.024	185.914	107.360
27	82.908	49.450	379.715	40.500	22.841	40.122	51.918	187.935	49.967	103.280	119.036	321.714
28	73.960	49.538	287.162	37.520	23.719	44.871	42.718	97.761	44.805	138.497	97.911	304.498
29	66.078		148.443	37.237	23.015	54.070	39.883	70.515	41.313	91.626	87.005	282.866
30	61.790		110.749	36.475	28.722	48.562	43.967	56.615	38.664	76.631	93.735	170.643
31	57.264		96.784		32.521		39.061	48.079		71.143		281.575
Average	143.400	61.510	97.230	116.700	28.710	64.330	58.430	70.900	54.350	125.600	91.350	98.430
Lowest	52.349	38.044	42.040	36.475	21.450	25.943	23.646	19.621	34.712	30.629	43.031	39.460
Highest	382.256	160.487	379.715	358.471	39.584	164.669	214.655	234.556	161.519	472.890	236.494	321.714
Peak flow	572.348	214.583	497.975	417.753	40.381	200.405	345.257	370.964	236.293	781.341	298.139	595.355
Day of peak	4	10	27	11	1	6	18	21	22	18	25	27
Monthly total (million cu m)	384.00	148.80	260.40	302.50	76.90	166.80	156.50	189.90	140.90	336.40	236.80	263.60
Runoff (mm)	87	34	59	69	18	38	36	43	32	77	54	60
Rainfall (mm)	64	46	106	73	55	100	95	117	74	128	82	92

Statistics of monthly data for previous record (Oct 1962 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	121.200	100.200	103.600	68.930	58.560	37.410	30.810	44.100	55.350	78.900	113.700	116.800
	Low	50.320	37.180	26.290	25.180	17.950	15.550	11.640	9.883	10.990	10.180	24.710	40.700
	(year)	1973	1963	1973	1974	1980	1974	1984	1976	1972	1972	1973	1975
	High	249.700	173.300	236.400	142.200	153.300	66.210	85.330	146.300	179.900	176.300	271.700	197.900
	(year)	1982	1978	1963	1979	1967	1981	1985	1985	1985	1967	1963	1979
Runoff:	Avg.	74	56	63	41	36	22	19	27	33	48	67	71
	Low	31	20	16	15	11	9	7	6	6	6	15	25
	High	152	99	144	84	94	39	52	89	106	108	160	121
Rainfall:	Avg.	96	63	82	60	77	69	73	90	95	92	103	94
	Low	45	15	21	12	22	25	24	21	19	25	16	23
	High	165	125	138	98	181	129	160	188	164	163	224	175

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	84.450		77.380		109
Lowest yearly mean			33.910	1973	
Highest yearly mean			102.400	1963	
Lowest monthly mean	28.710	May	9.883	Aug 1976	
Highest monthly mean	143.400	Jan	271.700	Nov 1963	
Lowest daily mean	19.621	11 Aug	7.427	28 Aug 1976	
Highest daily mean	472.890	18 Oct	1138.000	4 Jan 1982	
Peak	781.341	18 Oct	1518.000	4 Jan 1982	
10% exceedance	174.900		164.900		106
50% exceedance	58.090		52.040		112
95% exceedance	25.170		14.110		178
Annual total (million cu m)	2663.00		2442.00		109
Annual runoff (mm)	607		556		109
Annual rainfall (mm)	1032		994		104
[1941-70 rainfall average (mm)			1009]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.

Station and catchment description

Lowest station on River Tweed. Velocity-area station at very wide natural section. Complex control. Moderate seasonal weed growth effects on rating. Reservoirs in headwaters have only a small impact on the flow regime - monthly naturalised flows available. Geology: mixed but principally impervious Palaeozoic formations. Moorland and hill pasture predominates; improved grasslands and arable farming below Melrose.

022001 Coquet at Morwick 1987

Measuring authority: NWA
First year: 1963

Grid reference: 46 (NU) 234 044
Level stn. (m OD): 5.20

Catchment area (sq km): 569.8
Max alt. (m OD): 776

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	66.077	5.160	14.500	41.613	3.768	2.426	3.750	2.534	4.940	2.610	6.284	10.008
2	56.401	6.531	41.026	27.493	3.748	2.303	3.226	2.375	4.930	2.554	5.635	8.803
3	22.580	8.784	13.436	18.046	3.719	3.957	2.938	2.318	3.967	2.502	5.230	8.114
4	36.980	7.734	10.131	14.880	3.436	4.009	2.684	2.488	3.864	2.438	4.956	7.330
5	25.524	13.284	12.138	62.902	3.188	4.034	2.498	2.379	3.821	2.607	4.675	6.614
6	15.472	15.373	33.822	34.852	3.016	18.668	2.293	2.246	4.225	6.373	4.501	6.159
7	11.978	9.156	16.952	39.692	2.819	18.232	2.187	2.195	4.076	4.431	4.403	5.928
8	9.478	8.431	11.544	57.597	2.756	14.235	2.078	2.204	3.655	5.214	4.931	5.239
9	8.171	20.016	9.358	27.962	2.711	9.507	2.033	2.293	2.326	5.289	5.347	4.751
10	7.263	38.066	8.161	38.373	2.641	7.269	3.010	2.118	2.949	4.735	21.864	4.880
11	6.173	14.218	7.666	81.529	2.666	5.415	8.670	2.002	1.909	5.641	25.163	4.856
12	4.670	10.070	7.576	37.623	2.799	5.520	5.053	3.844	5.240	4.466	21.218	5.124
13	4.166	8.641	7.151	27.158	2.875	5.219	3.415	9.435	4.146	4.166	10.425	4.595
14	4.878	8.260	6.794	17.669	3.093	8.509	2.956	4.241	3.066	4.512	11.036	4.502
15	5.934	7.111	7.045	13.340	3.866	6.754	2.850	3.133	1.775	5.758	13.261	4.525
16	5.970	6.416	7.349	10.819	3.565	6.231	3.494	6.863	1.844	32.837	9.321	11.102
17	5.406	6.031	13.427	9.297	3.176	8.883	3.160	44.943	2.734	12.603	7.987	12.569
18	4.909	5.644	8.309	8.305	3.786	5.162	28.968	11.729	2.750	32.754	8.692	22.454
19	4.768	5.937	6.278	7.640	3.082	4.248	21.269	7.210	3.049	42.350	7.368	11.801
20	32.921	7.613	5.404	6.768	2.671	3.789	8.819	5.400	4.535	24.128	6.234	10.677
21	67.399	6.965	5.022	5.978	2.501	4.118	6.350	4.814	3.842	65.364	8.218	15.764
22	45.352	6.345	4.847	5.457	2.731	5.054	5.259	4.737	5.826	21.730	32.191	10.517
23	26.942	5.889	4.655	5.155	2.718	5.767	4.586	5.218	6.389	13.052	55.491	8.315
24	20.396	5.205	4.531	4.857	2.530	5.023	4.187	5.098	5.402	9.822	54.607	7.411
25	15.708	4.806	13.496	4.569	2.365	4.912	3.934	4.324	4.028	8.341	37.707	6.776
26	12.829	7.648	13.438	4.332	2.250	4.274	3.526	68.918	3.504	7.260	18.840	6.501
27	10.276	10.473	42.275	4.095	2.199	3.868	3.973	24.905	3.153	24.472	13.813	49.266
28	8.669	7.991	52.525	3.870	2.214	5.842	3.448	10.986	2.940	19.360	11.568	31.559
29	7.611		19.749	3.735	2.367	5.271	3.203	8.610	2.802	9.836	12.209	21.024
30	6.841		13.380	3.667	2.979	4.738	2.894	6.956	2.685	8.078	9.961	15.830
31	5.356		11.458		2.891		2.718	5.556		7.676		15.777
Average	18.290	9.564	13.980	20.980	2.940	6.441	5.143	8.777	3.679	13.000	14.770	11.250
Lowest	4.166	4.806	4.531	3.667	2.199	2.303	2.033	2.002	1.775	2.438	4.403	4.502
Highest	67.399	38.066	52.525	81.529	3.866	18.668	28.968	68.918	6.389	65.364	55.491	49.266
Peak flow	113.331	65.570	70.180	110.925	4.303	39.313	44.365	109.371	8.428	101.564	71.388	85.638
Day of peak	1	10	28	11	15	6	18	26	12	18	23	27
Monthly total (million cu m)	49.00	23.14	37.45	54.37	7.87	16.70	13.77	23.51	9.54	34.82	38.29	30.13
Runoff (mm)	86	41	66	95	14	29	24	41	17	61	67	53
Rainfall (mm)	71	52	107	93	48	94	83	106	53	114	94	70

Statistics of monthly data for previous record (Nov 1963 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	15.040	13.200	12.960	8.673	5.963	3.747	3.215	4.379	4.812	7.455	12.310	13.290
	Low	5.421	2.673	1.730	2.928	2.038	1.141	1.168	1.232	1.418	1.083	1.926	4.563
	(year)	1973	1973	1973	1974	1984	1970	1984	1983	1972	1972	1973	1971
	High	32.310	26.350	31.390	16.540	15.410	6.355	7.969	12.950	14.240	26.860	31.370	33.340
	(year)	1982	1978	1979	1986	1983	1969	1968	1986	1965	1976	1965	1978
Runoff:	Avg.	71	57	61	39	28	17	15	21	22	35	56	62
	Low	25	11	8	13	10	5	5	6	6	5	9	21
	High	152	112	148	75	72	29	37	61	65	126	143	157
Rainfall: (1966-1986)	Avg.	91	59	80	55	68	57	64	75	79	73	87	86
	Low	38	15	18	8	18	8	19	18	15	19	19	31
	High	140	120	144	118	127	129	108	161	215	176	214	251

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	10.740		8.736		123
Lowest yearly mean			3.716	1973	
Highest yearly mean			11.380	1969	
Lowest monthly mean	2.940	May	1.083	Oct 1972	
Highest monthly mean	20.980	Apr	33.340	Dec 1978	
Lowest daily mean	1.775	15 Sep	0.721	20 Jun 1970	
Highest daily mean	81.529	11 Apr	203.200	3 Jan 1982	
Peak	113.331	1 Jan	289.700	4 Jan 1982	
10% exceedance	25.750		18.980		136
50% exceedance	5.849		5.004		117
95% exceedance	2.336		1.380		169
Annual total (million cu m)	338.70		275.70		123
Annual runoff (mm)	594		484		123
Annual rainfall (mm)	985		874		113
[1941-70 rainfall average (mm)			884]		

Factors affecting flow regime

- Natural to within 10% at 95 percentile flow.

Station and catchment description

Velocity-area station with 34m wide concrete Flat V weir made with pre-cast segments (installed 1969). Cableway. Fairly straight section with high banks. Replaced earlier station at Guyzance. Natural catchment.

023006 South Tyne at Featherstone 1987

Measuring authority: NWA
First year: 1966

Grid reference: 35 (NY) 672 611
Level stn. (m OD): 131.70

Catchment area (sq km): 321.9
Max alt. (m OD): 893

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	42.749	4.060	32.110	31.651	2.625	2.275	5.438	6.198	4.025	3.547	4.961	6.415
2	23.868	6.440	24.737	19.137	3.710	4.353	4.462	4.668	3.557	3.330	4.611	7.195
3	10.991	7.486	8.986	23.328	3.997	7.608	3.573	4.442	3.135	3.166	4.265	5.695
4	76.533	5.470	6.931	23.735	3.015	4.543	3.029	4.106	2.940	3.419	3.955	4.870
5	28.380	31.864	8.104	17.120	2.575	10.980	2.654	3.319	13.673	25.652	3.726	4.477
6	12.063	28.635	13.489	12.111	2.306	51.395	2.365	2.970	6.875	25.462	3.550	4.199
7	7.875	13.526	7.298	17.765	2.163	30.501	2.188	2.855	5.701	10.969	3.397	3.876
8	5.979	27.419	6.329	25.395	2.050	16.691	2.091	2.734	4.506	43.557	4.608	3.035
9	5.723	58.971	5.109	18.063	1.978	8.423	2.155	2.587	33.056	19.057	4.819	3.181
10	4.899	38.170	4.310	37.477	1.946	6.769	49.739	2.396	14.016	12.173	7.995	3.313
11	3.736	15.345	3.864	21.956	2.724	8.660	27.203	2.498	19.659	13.922	20.553	3.295
12	3.694	10.211	3.745	14.536	9.065	8.336	7.452	18.398	30.387	10.260	55.657	3.222
13	3.596	8.026	3.656	12.193	6.407	7.389	5.079	13.239	8.472	15.190	17.016	2.957
14	3.619	6.905	3.707	9.038	14.220	11.730	4.293	4.741	9.247	39.154	8.021	2.864
15	4.230	5.620	4.888	7.300	6.817	9.246	3.861	3.936	9.418	21.369	16.584	2.544
16	3.983	4.965	16.037	6.208	4.311	5.351	4.249	8.841	6.710	77.957	27.766	4.230
17	3.464	4.443	28.920	5.250	7.926	4.053	4.234	8.911	5.425	22.631	12.506	13.975
18	3.584	3.975	9.420	4.666	6.333	3.402	72.004	4.894	4.481	103.392	21.916	19.305
19	5.706	4.070	5.552	4.925	3.797	3.043	14.206	3.733	26.229	40.436	13.243	22.166
20	54.668	3.883	4.432	7.203	3.038	2.736	7.541	3.307	13.052	18.899	9.906	25.415
21	43.069	3.695	4.226	6.084	2.707	2.468	5.794	3.753	25.336	38.801	17.364	19.653
22	20.242	3.813	5.933	4.501	2.840	3.848	5.173	8.341	23.670	19.114	14.901	9.285
23	11.378	3.788	8.923	3.801	2.571	3.403	4.254	11.101	28.933	10.072	38.399	6.346
24	9.481	3.484	11.592	3.385	2.267	3.781	4.059	6.390	13.148	7.731	20.427	5.540
25	8.080	3.200	28.483	3.138	2.101	15.022	3.528	4.305	10.116	6.538	16.727	6.891
26	6.854	3.712	64.185	2.935	1.989	8.208	20.746	43.180	7.747	5.761	10.018	22.695
27	5.736	14.052	115.961	2.730	1.909	10.024	11.355	9.153	5.799	20.370	6.824	50.784
28	5.040	17.350	45.358	2.556	1.903	17.769	10.370	15.434	4.927	10.868	6.016	31.623
29	4.579		17.460	2.434	2.037	18.793	29.114	10.101	4.339	6.752	6.272	30.931
30	3.512		32.293	2.473	4.483	8.334	12.470	5.373	3.880	5.788	8.597	17.109
31	2.832		44.474		3.082		8.109	4.093		5.312		28.298
Average	13.880	12.230	18.730	11.770	3.835	9.971	11.060	7.419	11.750	20.990	13.150	12.110
Lowest	2.832	3.200	3.656	2.434	1.903	2.275	2.091	2.396	2.940	3.166	3.397	2.544
Highest	76.533	58.971	115.961	37.477	14.220	51.395	72.004	43.180	33.056	103.392	55.657	50.784
Peak flow	196.686	149.446	169.676	92.168	22.161	81.071	170.108	105.090	129.529	263.111	103.326	176.436
Day of peak	4	9	27	10	14	6	10	26	9	18	12	27
Monthly total (million cu m)	37.16	29.60	50.16	30.51	10.27	25.85	29.62	19.87	30.45	56.22	34.09	32.43
Runoff (mm)	115	92	156	95	32	80	92	62	95	175	106	101
Rainfall (mm)	82	99	200	85	73	144	156	109	149	206	119	128

Statistics of monthly data for previous record (Oct 1966 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	15.890	11.320	13.430	8.835	6.442	5.101	4.602	6.901	9.625	12.400	16.060	15.460
	Low	7.739	3.380	5.860	1.850	1.311	1.465	1.255	0.960	1.467	1.181	6.616	5.110
	(year)	1985	1986	1975	1974	1980	1978	1984	1976	1972	1972	1983	1971
	High	25.510	19.760	30.210	16.210	13.850	12.740	9.889	19.240	23.670	30.330	24.670	28.810
	(year)	1975	1974	1979	1979	1983	1980	1985	1985	1985	1967	1984	1974
Runoff:	Avg.	132	86	112	71	54	41	38	57	78	103	129	129
	Low	64	25	49	15	11	12	10	8	12	10	53	43
	High	212	148	251	131	115	103	82	160	191	252	199	240
Rainfall:	Avg.	136	79	118	74	88	90	95	113	129	137	148	136
	Low	74	28	44	11	40	44	43	25	40	27	63	42
	High	213	166	199	133	178	215	165	248	239	331	245	253

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	12.250		10.510		117
Lowest yearly mean			7.630	1971	
Highest yearly mean			12.920	1979	
Lowest monthly mean	3.835	May	0.960	Aug 1976	
Highest monthly mean	20.990	Oct	30.330	Oct 1967	
Lowest daily mean	1.903	28 May	0.713	26 Aug 1976	
Highest daily mean	115.961	27 Mar	177.200	21 Sep 1985	
Peak	263.111	18 Oct	309.900	3 Nov 1984	
10% exceedance	28.620		24.910		115
50% exceedance	6.415		5.355		120
95% exceedance	2.449		1.373		178
Annual total (million cu m)	386.30		331.70		116
Annual runoff (mm)	1200		1030		116
Annual rainfall (mm)	1550		1343		115
[1941-70 rainfall average (mm)			1464]		

Factors affecting flow regime

- Natural to within 10% at 95 percentile flow.

Station and catchment description
Compound Crump weir. Lower crest 15.2m, upper crest 29.5m. Theoretical rating. Natural flow regime.

025001 Tees at Broken Scar 1987

Measuring authority: NWA
First year: 1956

Grid reference: 45 (NZ) 259 137
Level stn. (m OD): 37.20

Catchment area (sq km): 818.4
Max alt. (m OD): 893

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	100.946	6.456	10.969	59.629	4.477	3.578	9.583	12.637	4.497	8.447	16.700	14.112
2	72.640	8.070	35.058	35.891	4.725	4.904	7.882	10.164	4.303	9.039	15.100	14.769
3	32.192	10.806	12.522	27.434	5.490	17.309	6.719	7.935	4.596	9.038	11.123	13.332
4	84.695	8.748	8.449	45.064	4.479	7.311	4.868	5.202	4.396	9.994	10.704	17.447
5	50.384	35.040	10.852	82.004	4.822	14.266	4.342	4.007	9.180	17.236	10.305	16.390
6	30.457	55.811	21.945	35.154	4.649	55.296	4.049	3.538	9.166	30.831	10.565	14.677
7	21.244	18.912	20.274	75.727	3.909	23.436	3.891	3.908	5.769	20.521	12.209	9.239
8	17.797	35.058	17.523	62.267	3.594	16.057	3.582	6.570	4.348	32.766	11.122	5.796
9	16.311	106.328	13.771	34.779	3.616	11.597	3.366	4.153	11.761	28.397	6.048	5.113
10	14.729	74.600	9.472	47.847	3.589	12.918	5.407	3.912	14.154	27.203	6.625	5.734
11	13.842	32.287	8.873	48.157	4.057	15.992	44.635	4.302	20.340	18.132	30.775	7.109
12	12.432	21.470	8.761	26.296	6.194	18.871	11.286	5.009	42.997	15.124	88.141	11.311
13	9.912	15.418	8.618	22.539	5.866	13.459	5.982	20.381	11.191	16.351	49.659	10.321
14	10.037	13.473	8.749	19.060	11.431	12.640	4.676	6.774	34.195	52.837	25.848	5.306
15	11.604	11.171	12.074	15.783	7.219	15.033	4.323	5.160	24.827	45.201	26.546	4.953
16	10.767	9.405	12.913	12.466	5.090	8.721	4.249	5.375	20.860	95.995	43.987	10.381
17	9.998	7.354	52.240	9.831	6.206	7.357	4.165	5.502	11.472	35.488	22.514	21.777
18	9.108	6.906	24.143	9.536	8.925	8.008	68.576	4.316	9.979	157.915	21.102	34.688
19	9.113	6.357	11.107	7.609	4.361	8.204	42.346	3.996	28.022	100.789	23.774	22.029
20	37.018	5.507	9.577	10.637	3.836	8.713	12.290	3.844	27.163	47.340	17.761	19.266
21	71.050	5.144	12.247	9.407	3.371	7.814	7.773	5.545	21.347	108.909	16.586	18.576
22	53.299	5.279	11.386	6.816	3.423	8.058	6.180	27.832	27.843	46.312	23.064	11.644
23	28.948	5.579	9.710	6.398	3.252	8.041	5.758	19.688	28.525	31.006	90.768	8.271
24	25.535	5.012	8.747	6.044	3.341	8.663	5.194	13.697	18.609	26.043	79.369	7.610
25	19.519	4.425	33.390	6.615	3.454	15.444	4.422	5.204	14.047	23.428	50.966	13.278
26	15.602	4.746	71.879	4.978	3.261	20.338	5.274	16.846	12.101	19.442	34.566	19.808
27	12.576	16.951	155.922	4.345	3.430	16.513	17.674	9.930	8.635	48.413	26.369	69.307
28	9.160	15.772	80.118	4.494	3.246	28.327	5.190	7.080	7.553	34.082	21.780	66.871
29	8.130		29.127	4.416	3.412	25.566	15.066	11.970	9.555	22.299	18.866	71.128
30	6.817		27.860	4.089	6.342	14.508	18.119	5.966	8.452	18.800	16.156	50.097
31	4.011		43.306		4.710		8.542	4.699		16.700		50.501
Average	26.770	19.720	25.860	24.840	4.767	14.560	11.460	8.230	15.330	37.870	27.970	20.990
Lowest	4.011	4.425	8.449	4.089	3.246	3.578	3.366	3.538	4.303	8.447	6.048	4.953
Highest	100.946	106.328	155.922	82.004	11.431	55.296	68.576	27.832	42.997	157.915	90.768	71.128
Peak flow	177.350	208.056	230.517	153.995	19.633	100.292	112.072	90.752	115.315	248.517	184.499	206.107
Day of peak	4	9	27	7	14	5	18	22	11	18	12	27
Monthly total (million cu m)	71.70	47.70	69.26	64.39	12.77	37.75	30.71	22.04	39.73	101.40	72.49	56.23
Runoff (mm)	88	58	85	79	16	46	38	27	49	124	89	69
Rainfall (mm)	69	73	127	72	51	129	110	73	115	157	118	103

Statistics of monthly data for previous record (Oct 1956 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	29.020	22.620	23.090	18.490	10.670	6.428	6.130	10.200	11.130	17.370	23.030	28.430
	Low	2.906	2.804	5.482	2.539	2.007	0.502	1.794	0.458	0.638	2.707	4.060	5.778
	(year)	1963	1963	1975	1957	1959	1957	1969	1959	1959	1969	1958	1971
	High	50.240	51.540	68.660	60.870	27.020	15.270	15.090	28.520	25.800	53.940	51.580	50.040
	(year)	1982	1966	1979	1977	1967	1972	1961	1985	1985	1967	1963	1979
Runoff:	Avg.	95	67	76	59	35	20	20	33	35	57	73	93
	Low	10	8	18	8	7	2	6	2	2	9	13	19
	High	164	152	225	193	88	48	49	93	82	177	163	164
Rainfall:	Avg.	121	82	95	76	81	74	80	103	98	103	114	124
	Low	51	16	29	10	18	22	28	23	19	27	25	43
	High	183	175	224	150	167	182	150	190	222	226	221	268

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	19.860		17.200		115
Lowest yearly mean			9.382	1973	
Highest yearly mean			23.220	1979	
Lowest monthly mean	4.767	May	0.458	Aug 1959	
Highest monthly mean	37.870	Oct	68.660	Mar 1979	
Lowest daily mean	3.246	28 May	0.023	16 Oct 1959	
Highest daily mean	157.915	18 Oct	391.500	3 Jan 1982	
Peak	248.517	18 Oct	709.829	26 Aug 1986	
10% exceedance	47.810		42.850		112
50% exceedance	11.560		8.103		143
95% exceedance	3.878		1.380		281
Annual total (million cu m)	626.30		542.80		115
Annual runoff (mm)	765		663		115
Annual rainfall (mm)	1197		1151		104
[1941-70 rainfall average (mm)			1248]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from surface water and/or groundwater.

Comment

Flows from 30/10/87 to 2/11/87 estimated due to construction of a fish pass.

Station and catchment description

Compound Crump weir with total crest length of 63.9m. Two low-flow crests total 9.1m. Theoretical rating. Substantial artificial influences. Contains Cow Green and 5 smaller reservoirs on Lune and Balder. Major intake just above gauge site. Occasional transfers from Tyne (Keilder) at Eggleston. A mainly impervious catchment developed on Millstone Grit and Carboniferous Limestone. Headwaters drain the Pennines. Moorland and rough pasture give way to more intensive agriculture in the lower reaches.

027002 Wharfe at Flint Mill Weir 1987

Measuring authority: YWA
First year: 1936

Grid reference: 44 (SE) 422 473
Level stn. (m OD): 13.70

Catchment area (sq km): 758.9
Max alt. (m OD): 704

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	73.180	5.001	14.600	50.320	4.631	2.889	9.595	7.791	4.614	5.163	9.756	8.794
2	62.330	6.330	30.240	34.130	5.128	3.583	6.892	6.499	4.148	5.071	8.450	8.100
3	31.720	8.324	16.410	21.850	5.247	10.330	5.621	5.607	3.325	4.956	7.560	7.669
4	67.480	8.357	11.330	18.450	5.086	10.330	4.799	6.097	3.168	5.050	7.025	7.255
5	61.730	11.340	11.800	30.550	4.438	7.494	3.871	5.286	3.693	5.012	6.551	6.771
6	40.530	29.140	21.170	22.720	4.109	45.950	3.591	4.349	17.920	6.929	6.187	6.486
7	24.470	17.330	17.530	51.370	4.196	36.310	3.601	3.953	12.590	9.427	6.057	6.176
8	18.260	23.980	14.440	49.560	3.974	16.760	3.310	3.559	8.266	13.620	5.910	5.843
9	14.850	55.450	11.890	32.250	3.850	10.410	3.279	3.598	6.185	35.300	5.695	5.728
10	12.770	60.870	10.430	29.770	3.739	12.570	3.816	3.354	19.550	33.950	5.790	5.602
11	10.660	31.350	10.010	43.200	3.721	22.350	15.850	3.262	11.090	16.850	15.280	5.573
12	8.541	20.860	9.631	24.400	3.933	14.850	9.821	3.517	71.950	10.780	44.240	5.354
13	8.766	15.160	9.253	17.650	4.270	10.600	5.759	16.240	25.900	11.550	52.320	5.174
14	8.341	12.300	8.985	14.620	5.212	9.488	4.262	9.785	13.840	29.800	21.500	5.037
15	8.040	10.420	9.059	12.440	7.026	8.002	3.792	5.826	9.918	24.510	32.460	4.990
16	7.251	9.115	12.010	10.970	5.716	6.812	3.399	4.519	8.375	71.950	60.160	8.931
17	6.808	8.109	25.060	9.799	5.255	6.166	3.474	4.018	10.590	34.420	38.600	18.390
18	6.631	7.482	24.720	8.897	6.046	5.515	24.910	6.116	9.907	38.160	24.340	36.070
19	6.400	7.109	14.810	8.279	5.642	5.158	35.170	5.592	16.430	59.430	36.210	19.450
20	7.529	6.789	10.720	11.290	4.151	4.259	16.490	4.210	49.230	33.410	25.550	26.090
21	15.650	6.507	8.754	9.878	3.272	4.009	8.989	3.770	16.980	55.620	17.010	26.400
22	16.480	6.368	7.959	7.762	3.698	4.136	6.823	53.890	16.990	37.360	14.580	24.970
23	12.310	6.225	8.738	6.840	3.800	3.734	5.793	28.980	12.560	22.280	22.580	13.910
24	10.800	6.084	12.310	6.220	3.434	3.628	5.370	14.880	13.860	15.740	39.500	10.930
25	9.983	5.729	30.740	5.779	3.344	4.540	4.961	9.315	18.320	12.580	25.500	11.650
26	8.802	6.346	30.440	5.435	3.100	11.260	4.756	7.635	11.730	10.520	18.630	25.840
27	7.758	9.722	110.900	5.157	3.050	7.898	9.725	7.741	8.676	27.940	14.210	44.520
28	7.099	17.490	89.370	5.457	3.054	9.946	6.875	6.179	7.059	34.380	11.460	54.500
29	6.505		37.110	5.166	2.874	29.450	5.618	5.553	6.108	17.100	10.160	97.910
30	6.059		23.030	5.267	2.877	20.460	10.720	5.107	5.430	12.950	9.480	49.780
31	5.275		18.330		3.023		7.504	4.418		11.210		36.260
Average	19.130	14.970	21.670	18.850	4.222	11.630	8.014	8.408	14.280	23.000	20.090	19.360
Lowest	5.275	5.001	7.959	5.157	2.874	2.889	3.279	3.262	3.168	4.956	5.695	4.990
Highest	73.180	60.870	110.900	51.370	7.026	45.950	35.170	53.890	71.950	71.950	60.160	97.910
Peak flow	137.600	98.930	161.200	81.430	7.872	72.560	65.090	91.250	112.000	98.580	101.700	135.900
Day of peak	4	9	27	7	15	6	18	22	12	16	12	29
Monthly total (million cu m)	51.24	36.23	58.04	48.86	11.31	30.14	21.46	22.52	37.01	61.60	52.08	51.85
Runoff (mm)	68	48	76	64	15	40	28	30	49	81	69	68
Rainfall (mm)	49	72	123	68	44	121	91	86	105	140	95	101

Statistics of monthly data for previous record (Oct 1955 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	27.650	22.670	21.280	16.080	11.540	7.473	7.458	11.680	13.590	18.050	23.950	27.790
	Low	4.471	2.974	6.741	4.389	2.312	1.546	1.675	0.992	1.420	3.026	6.878	10.230
	(year)	1963	1963	1961	1982	1980	1957	1976	1976	1959	1972	1958	1963
	High	42.880	54.590	53.940	35.240	26.750	18.520	16.440	41.340	33.520	54.000	51.090	62.090
	(year)	1984	1966	1981	1970	1967	1972	1963	1956	1968	1967	1963	1965
Runoff:	Avg.	98	73	75	55	41	26	26	41	46	64	82	98
	Low	16	9	24	15	8	5	6	4	5	11	23	36
	High	151	174	190	120	94	63	58	146	115	191	174	219
Rainfall:	Avg.	115	79	89	76	79	75	83	101	104	107	114	125
	Low	41	14	28	8	13	18	20	18	8	32	33	41
	High	217	194	222	147	181	183	185	226	241	225	211	233

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	15.290		17.420		88
Lowest yearly mean			11.420	1975	
Highest yearly mean			23.300	1966	
Lowest monthly mean	4.222	May	0.992	Aug 1976	
Highest monthly mean	23.000	Oct	62.090	Dec 1965	
Lowest daily mean	2.874	29 May	0.425	23 Jun 1957	
Highest daily mean	110.900	27 Mar	233.600	4 Dec 1960	
Peak	161.200	27 Mar	380.000	3 Jan 1982	
10% exceedance	35.650		41.670		86
50% exceedance	9.163		9.726		94
95% exceedance	3.511		2.200		160
Annual total (million cu m)	482.20		549.70		88
Annual runoff (mm)	635		724		88
Annual rainfall (mm)	1095		1147		95
[1941-70 rainfall average (mm)			1168]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.

Station and catchment description

The control is a broad-crested masonry weir 47m wide with a current meter cableway 1.5km upstream. Insensitive at low flows. Level data only from June 1936 to October 1955. Pre-October 1965 rating may be less reliable. Headwaters contain numerous reservoirs which exert a substantial influence on flows. Mixed geology comprising mainly Carboniferous Limestone, grits and Coal Measures with some Permian sand and Magnesian Limestone and marls in the lower catchment. Predominantly rural catchment with moorland headwaters.

027035 Aire at Kildwick Bridge 1987

Measuring authority: YWA
First year: 1968

Grid reference: 44 (SE) 013 457
Level stn. (m OD): 87.30

Catchment area (sq km): 282.3
Max alt. (m OD): 594

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	27.360	1.912	7.637	24.600	1.549	0.892	2.793	3.729	2.192	2.283	4.428	3.462
2	20.470	5.716	10.880	13.070	1.631	1.444	2.014	2.825	1.875	1.998	3.976	3.310
3	11.640	5.536	5.657	8.481	1.443	2.760	1.635	2.624	1.649	1.841	3.666	3.075
4	26.390	3.935	4.903	6.919	1.326	2.885	1.410	2.474	1.431	2.292	3.341	2.916
5	24.650	6.264	8.199	6.976	1.279	3.422	1.232	1.928	1.547	3.920	3.130	2.728
6	14.750	12.280	13.620	5.912	1.157	8.416	1.093	1.677	2.512	5.292	3.004	2.531
7	9.748	6.731	9.205	18.200	1.090	7.630	0.996	1.654	2.595	4.501	2.801	2.331
8	7.393	18.760	7.282	16.590	1.079	4.211	0.942	1.530	1.966	9.826	2.693	2.111
9	6.144	31.830	5.759	11.090	1.070	3.396	1.047	1.399	2.136	27.710	2.524	2.029
10	5.178	21.380	5.026	12.630	1.047	4.428	1.398	1.368	3.261	16.440	2.964	2.009
11	4.328	14.030	4.695	12.650	1.137	4.929	2.702	1.454	8.309	8.281	10.080	1.997
12	3.912	9.232	4.208	7.921	1.280	4.017	1.493	1.779	19.000	6.776	25.300	1.896
13	3.493	6.892	3.941	6.234	1.125	2.946	1.150	4.884	7.067	7.530	19.400	1.813
14	3.186	5.543	3.589	5.078	2.261	2.367	1.045	2.445	5.009	8.678	9.023	1.748
15	3.299	4.573	4.290	4.204	1.647	2.051	1.040	1.832	3.685	12.890	15.290	1.941
16	2.977	3.923	4.118	3.709	1.296	2.006	0.935	1.640	3.772	39.800	23.790	5.486
17	2.739	3.476	8.115	3.423	1.632	1.718	0.980	1.555	5.473	16.250	13.750	11.420
18	2.547	3.034	6.637	3.129	1.793	1.434	19.480	3.470	3.564	14.190	11.560	15.360
19	2.277	2.775	4.368	2.970	1.338	1.247	12.040	2.384	13.820	16.010	12.640	8.606
20	3.561	2.573	3.379	3.008	1.163	1.079	5.060	1.820	12.330	13.130	10.130	8.634
21	5.780	2.432	2.932	2.494	1.120	1.009	3.346	9.407	7.588	22.470	7.463	8.120
22	5.495	2.310	2.725	2.344	1.074	1.290	2.545	35.380	8.272	11.490	6.700	6.494
23	4.413	2.220	3.638	2.159	1.057	1.080	2.022	14.930	6.599	8.371	8.110	5.227
24	4.195	2.080	3.723	2.046	0.952	1.027	1.847	8.168	8.220	6.882	8.449	4.642
25	3.860	1.887	16.360	1.877	0.941	2.342	1.599	5.548	6.771	5.882	6.587	4.733
26	3.303	4.954	16.680	1.784	0.924	2.533	2.826	4.391	4.716	4.961	5.461	9.058
27	2.841	6.532	46.360	1.659	0.933	2.215	4.489	3.484	3.756	18.870	4.641	17.440
28	2.519	6.669	38.950	1.566	0.956	2.417	2.482	2.978	3.240	11.410	4.161	19.660
29	2.242		17.420	1.696	0.936	7.089	8.592	2.697	2.844	7.169	4.040	40.090
30	2.161		10.450	1.733	0.991	5.214	6.915	2.334	2.587	5.800	3.771	22.750
31	2.035		8.239		0.950		4.488	2.198		5.031		16.140
Average	7.254	7.124	9.451	6.538	1.232	2.983	3.279	4.387	5.260	10.580	8.096	7.734
Lowest	2.035	1.887	2.725	1.566	0.924	0.892	0.935	1.368	1.431	1.841	2.524	1.748
Highest	27.360	31.830	46.360	24.600	2.261	8.416	19.480	35.380	19.000	39.800	25.300	40.090
Peak flow	42.520	46.880	55.890	30.410	2.788	11.740	30.440	45.690	36.760	50.610	48.150	49.680
Day of peak	4	9	27	7	14	29	18	22	11	16	12	29
Monthly total (million cu m)	19.43	17.23	25.31	16.95	3.30	7.73	8.78	11.75	13.63	28.34	20.98	20.71
Runoff (mm)	69	61	90	60	12	27	31	42	48	100	74	73
Rainfall (mm)	45	80	126	57	43	115	103	90	102	138	88	98

Statistics of monthly data for previous record (Dec 1968 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	10.910	7.773	7.459	4.984	3.128	2.412	1.633	3.037	3.733	6.964	10.630	10.970
	Low	4.463	3.529	2.390	0.922	0.611	0.604	0.298	0.289	1.147	0.788	3.583	3.175
	(year)	1973	1986	1985	1974	1974	1970	1984	1976	1971	1972	1975	1971
	High	18.580	13.220	22.520	11.400	8.174	6.416	5.927	11.410	10.360	17.570	16.540	20.820
	(year)	1984	1984	1981	1986	1983	1982	1973	1985	1974	1981	1984	1979
Runoff:	Avg.	104	67	71	46	30	22	15	29	34	66	98	104
	Low	42	30	23	8	6	6	3	3	11	7	33	30
	High	176	117	214	105	78	59	56	108	95	167	152	198
Rainfall:	Avg.	124	70	102	71	77	76	72	93	111	113	133	125
	Low	67	13	44	3	10	23	17	17	22	37	55	42
	High	222	139	233	135	142	155	151	171	250	213	187	238

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	6.157		6.132		100
Lowest yearly mean			3.655	1971	
Highest yearly mean			8.060	1981	
Lowest monthly mean	1.232	May	0.289	Aug 1976	
Highest monthly mean	10.580	Oct	22.520	Mar 1981	
Lowest daily mean	0.892	1 Jun	0.180	23 Aug 1976	
Highest daily mean	46.360	27 Mar	79.900	27 Oct 1980	
Peak	55.890	27 Mar	98.130	5 Dec 1972	
10% exceedance	14.600		15.710		93
50% exceedance	3.636		3.093		118
95% exceedance	1.056		0.528		200
Annual total (million cu m)	194.20		193.50		100
Annual runoff (mm)	688		686		100
Annual rainfall (mm)	1085		1167		93
[1941-70 rainfall average (mm)			1134]		

Factors affecting flow regime

- Reservoir(s) in catchment.

Station and catchment description

Velocity-area station rated by current meter cableway 150m downstream. Low flow control is the sills of the bridge. Washland storage and headwater reservoirs influence the flow pattern. Geology is mainly Carboniferous Limestone with some Millstone Grit series. Rural catchment draining part of the eastern Pennines.

027041 Derwent at Buttercrambe 1987

Measuring authority: YWA
First year: 1973
Grid reference: 44 (SE) 731 587
Level stn. (m OD): 9.50
Catchment area (sq km): 1586.0
Max alt. (m OD): 454

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	53.400	14.450	26.530	35.100	14.330	9.027	11.020	8.742	10.850	7.947	19.400	24.430
2	59.330	15.240	50.800	51.990	14.750	9.264	9.545	8.242	10.550	7.721	17.920	21.160
3	47.440	14.850	47.640	41.160	14.440	10.830	9.197	8.011	9.652	7.585	16.760	19.540
4	36.980	14.710	31.450	31.660	13.600	10.360	8.886	7.783	9.251	7.647	15.940	18.270
5	32.200	15.130	26.670	29.680	13.070	10.420	8.441	7.637	8.894	7.827	15.270	17.200
6	29.190	16.300	41.560	28.750	12.700	18.660	8.165	7.574	9.268	8.928	14.580	16.290
7	28.610	14.640	44.240	41.200	12.430	16.220	7.831	7.579	9.255	9.516	14.230	15.580
8	26.890	14.900	34.150	56.030	12.160	14.190	7.609	7.574	8.684	8.918	14.010	14.630
9	23.990	21.300	28.010	43.450	11.900	15.220	7.440	7.398	8.260	10.150	13.870	14.240
10	21.680	30.100	24.640	37.020	11.740	13.510	7.496	7.160	8.231	25.870	13.690	13.990
11	19.610	21.440	22.970	48.350	12.080	12.850	7.995	7.018	8.365	47.850	15.650	13.970
12	18.060	18.750	22.220	55.940	12.320	13.310	7.762	7.061	14.670	42.600	20.430	13.720
13	17.250	18.300	21.250	40.290	12.090	14.490	7.309	7.216	14.020	25.080	20.030	13.330
14	16.400	17.160	20.150	32.540	12.820	12.590	7.115	7.669	10.100	18.870	16.690	13.190
15	16.570	16.250	20.130	28.920	13.400	13.660	7.677	6.981	8.585	18.110	16.750	12.930
16	16.260	15.710	22.460	26.540	12.850	12.530	7.887	6.812	8.310	32.760	19.810	15.740
17	15.670	15.970	40.570	25.030	12.030	11.290	7.956	6.853	9.174	31.690	18.140	26.150
18	15.210	16.140	35.740	23.530	12.430	10.460	15.260	7.725	9.808	23.210	15.660	35.610
19	14.750	16.110	24.440	22.420	11.510	9.944	31.900	7.839	9.148	24.440	14.740	25.790
20	14.400	15.440	21.590	21.130	10.820	9.593	17.480	7.282	22.230	30.560	14.100	21.340
21	17.960	16.570	20.200	19.780	10.400	9.326	12.980	6.917	15.630	55.120	13.450	23.580
22	36.030	23.980	19.030	19.060	10.260	9.685	12.560	15.140	11.930	53.720	14.620	21.860
23	40.840	27.140	19.110	18.410	10.190	10.750	11.990	18.070	10.640	38.460	30.140	18.500
24	36.210	21.270	18.940	17.630	9.944	10.780	11.140	14.920	9.808	27.990	51.300	17.440
25	27.510	18.470	32.090	16.980	9.632	11.070	10.550	12.260	9.454	22.490	42.790	16.820
26	23.000	20.110	30.770	16.410	9.400	15.890	9.809	17.250	9.054	20.230	33.190	16.260
27	20.880	39.530	34.770	15.810	9.248	14.230	10.800	45.580	8.753	23.260	26.860	18.860
28	19.200	34.540	52.280	15.300	9.288	13.310	10.820	35.430	8.293	39.710	22.850	23.890
29	18.210		44.540	14.940	9.405	11.920	10.550	19.540	8.210	28.420	20.430	22.800
30	17.150		28.910	14.640	9.636	11.740	10.890	13.430	8.097	22.420	20.940	19.700
31	15.460		24.940		9.319		9.312	11.560		20.490		22.760
Average	25.690	19.450	30.090	29.660	11.620	12.240	10.500	11.620	10.240	24.180	20.140	19.020
Lowest	14.400	14.450	18.940	14.640	9.248	9.027	7.115	6.812	8.097	7.585	13.450	12.930
Highest	59.330	39.530	52.280	56.030	14.750	18.660	31.900	45.580	22.230	55.120	51.300	35.610
Peak flow	61.080	41.470	59.090	60.010	15.260	23.320	35.620	47.900	26.740	58.880	53.560	37.340
Day of peak	2	27	2	12	2	6	19	27	20	21	24	18
Monthly total (million cu m)	68.80	47.04	80.59	76.87	31.12	31.72	28.11	31.13	26.54	64.76	52.21	50.94
Runoff (mm)	43	30	51	48	20	20	18	20	17	41	33	32
Rainfall (mm)	34	52	94	60	48	94	75	80	55	117	58	46

Statistics of monthly data for previous record (Oct 1973 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	30.580	28.020	26.850	20.670	16.060	10.840	7.609	8.142	8.114	13.530	15.750	25.920
	Low	16.780	15.260	8.799	6.927	7.852	5.342	3.884	3.215	4.730	5.554	7.404	13.460
	(year)	1983	1982	1976	1976	1982	1974	1976	1976	1975	1975	1978	1984
	High	48.190	49.290	56.110	37.540	29.840	21.260	11.810	15.440	14.710	36.810	25.220	42.740
	(year)	1977	1978	1979	1986	1979	1979	1981	1980	1976	1976	1980	1978
Runoff:	Avg.	52	43	45	34	27	18	13	14	13	23	26	44
	Low	28	23	15	11	13	9	7	5	8	9	12	23
	High	81	75	95	61	50	35	20	26	24	62	41	72
Rainfall:	Avg.	81	47	71	53	63	54	58	68	74	76	68	87
	Low	34	5	6	11	22	11	18	10	21	21	28	36
	High	132	101	143	113	142	149	123	126	192	158	111	180

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	18.700		17.640		106
Lowest yearly mean			11.720	1975	
Highest yearly mean			25.320	1979	
Lowest monthly mean	10.240	Sep	3.215	Aug 1976	
Highest monthly mean	30.090	Mar	56.110	Mar 1979	
Lowest daily mean	6.812	16 Aug	2.697	23 Aug 1976	
Highest daily mean	59.330	2 Jan	121.400	29 Dec 1978	
Peak	61.080	2 Jan	124.800	5 Jan 1982	
10% exceedance	34.960		35.640		98
50% exceedance	15.530		13.100		119
95% exceedance	7.600		4.981		153
Annual total (million cu m)	589.70		556.60		106
Annual runoff (mm)	372		351		106
Annual rainfall (mm)	813		800		102
[1941-70 rainfall average (mm)			784]		

Factors affecting flow regime

- Abstraction for public water supplies.

Station and catchment description

Compound Crump weir, 20m wide, with current meter rating for high flows. Supersedes 27015. Peak flows from the headwaters upstream of Forge Valley (8% catchment) are diverted down the Sea Cut (27033). Mixed geology of clays, shales and limestone. Rural catchment draining the North York Moors.

027053 Nidd at Birstwith 1987

Measuring authority: YWA
First year: 1975

Grid reference: 44 (SE) 230 603
Level stn. (m OD): 67.40

Catchment area (sq km): 217.6
Max alt. (m OD): 705

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	27.580	2.262	2.455	7.107	1.770	1.078	1.713	1.135	1.405	2.092	2.956	3.153
2	18.120	2.582	3.218	6.974	1.888	1.324	1.604	1.101	1.347	2.068	2.793	3.029
3	11.330	2.161	2.208	3.935	1.736	1.713	1.559	1.121	1.322	2.050	2.689	2.920
4	18.590	1.804	2.088	4.445	1.677	1.583	1.529	1.089	1.305	2.197	2.586	2.792
5	18.630	2.113	2.951	8.115	1.645	2.128	1.510	1.049	1.425	2.132	2.502	2.711
6	12.560	3.436	3.740	7.942	1.620	2.382	1.190	1.051	1.663	2.172	2.447	2.632
7	10.610	2.867	2.920	26.400	1.586	1.928	1.083	1.072	1.538	2.161	2.396	2.560
8	9.848	3.278	2.693	17.720	1.563	1.494	1.062	1.044	1.367	2.207	2.366	2.478
9	6.311	9.570	2.446	10.130	1.544	1.404	1.060	1.023	1.364	5.303	2.359	2.423
10	5.614	10.890	2.431	10.950	1.538	1.788	1.139	1.013	1.498	4.199	2.460	2.421
11	3.705	6.694	2.573	11.750	1.290	1.771	1.264	1.044	6.301	2.981	5.226	2.516
12	3.201	3.812	2.511	6.801	1.298	2.040	1.117	1.099	4.903	2.585	10.500	2.445
13	3.118	3.195	2.506	6.217	1.273	1.537	1.085	1.316	4.576	2.932	11.210	2.404
14	2.924	3.026	2.435	3.511	1.366	1.476	1.082	1.091	4.960	3.038	6.208	1.738
15	2.759	2.838	2.926	2.894	1.322	1.671	1.111	1.055	4.701	7.245	9.101	1.755
16	2.679	2.742	2.576	2.710	1.266	1.678	1.081	1.027	2.285	13.220	10.360	3.374
17	2.635	2.720	2.952	2.587	1.338	1.488	1.109	1.013	2.520	6.962	11.020	4.390
18	2.559	2.663	2.524	2.462	1.318	1.393	3.238	1.520	2.042	7.700	6.700	4.086
19	2.507	2.608	2.154	2.384	1.250	1.288	2.291	1.260	6.565	8.903	6.288	3.387
20	3.781	2.570	1.987	2.299	1.205	1.203	1.555	1.110	5.797	15.150	5.762	3.300
21	3.983	2.541	1.910	2.192	1.204	1.175	1.429	3.171	5.514	24.970	6.140	3.559
22	3.540	2.533	1.859	2.081	1.202	1.229	1.496	5.751	5.170	8.942	6.115	3.150
23	3.131	2.470	2.194	1.997	1.188	1.187	1.304	4.266	4.919	6.600	12.070	2.900
24	3.002	2.381	2.471	1.945	1.159	1.152	1.281	3.987	2.858	6.100	11.870	2.874
25	2.830	2.343	4.696	1.903	1.137	2.042	1.212	2.506	2.520	5.768	12.610	2.939
26	2.711	2.753	5.818	1.849	1.122	2.049	1.221	2.213	2.257	5.525	7.074	3.144
27	2.626	3.028	24.590	1.818	1.112	2.040	1.273	1.779	2.129	11.930	4.230	4.730
28	2.515	2.782	20.330	1.796	1.112	1.868	1.158	1.560	2.057	6.932	3.665	7.146
29	2.439		11.890	1.953	1.102	2.279	1.230	1.490	1.976	6.075	3.487	16.690
30	2.317		6.824	1.793	1.102	1.989	1.232	1.400	2.094	5.777	3.398	15.320
31	2.231		4.417		1.089		1.158	1.372		3.753		13.670
Average	6.464	3.381	4.493	5.555	1.356	1.646	1.367	1.669	3.013	6.118	5.953	4.279
Lowest	2.231	1.804	1.859	1.793	1.089	1.078	1.060	1.013	1.305	2.050	2.359	1.738
Highest	27.580	10.890	24.590	26.400	1.888	2.382	3.238	5.751	6.565	24.970	12.610	16.690
Peak flow	32.440	17.150	41.690	55.460	2.011	4.863	4.952	16.270	30.810	60.430	22.690	26.430
Day of peak	1	9	27	7	2	5	18	21	11	20	12	29
Monthly total (million cu m)	17.31	8.18	12.03	14.40	3.63	4.27	3.66	4.47	7.81	16.39	15.43	11.46
Runoff (mm)	80	38	55	66	17	20	17	21	36	75	71	53
Rainfall (mm)	57	74	126	73	43	125	79	93	114	144	107	108

Statistics of monthly data for previous record (Apr 1975 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	9.891	7.579	8.440	4.455	3.139	1.933	1.206	1.885	2.140	4.906	7.427	10.560
	Low	4.432	3.068	1.916	1.681	1.064	1.015	0.815	0.655	1.263	1.508	1.893	3.612
	(year)	1985	1986	1985	1984	1984	1975	1984	1984	1977	1978	1975	1975
	High	15.960	16.010	21.140	12.770	7.061	3.131	1.556	5.690	3.955	15.120	12.830	20.280
	(year)	1984	1984	1979	1986	1983	1982	1982	1985	1985	1976	1984	1979
Runoff:	Avg.	122	85	104	53	39	23	15	23	25	60	88	130
	Low	55	34	24	20	13	12	10	8	15	19	23	44
	High	196	184	260	152	87	37	19	70	47	186	153	250
Rainfall: (1976-1986)	Avg.	151	83	133	76	90	79	52	107	118	135	141	168
	Low	106	16	75	11	27	16	18	22	22	36	62	80
	High	250	182	243	165	149	185	114	192	253	223	208	258

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	3.776		5.294		71
Lowest yearly mean			4.024	1985	
Highest yearly mean			7.148	1979	
Lowest monthly mean	1.356	May	0.655	Aug 1984	
Highest monthly mean	6.464	Jan	21.140	Mar 1979	
Lowest daily mean	1.013	10 Aug	0.392	21 Aug 1984	
Highest daily mean	27.580	1 Jan	109.400	28 Dec 1978	
Peak	60.430	20 Oct	204.400	13 Jan 1984	
10% exceedance	7.977		12.810		62
50% exceedance	2.457		2.673		92
95% exceedance	1.092		1.007		108
Annual total (million cu m)	119.00		167.10		71
Annual runoff (mm)	547		768		71
Annual rainfall (mm)	1143		1333		86
[1941-70 rainfall average (mm)			1209]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from surface water and/or groundwater.

Station and catchment description

Velocity-area station approximately 17m wide, rated with current metering from bridge at the section. Heavily reservoired catchment with substantial effect on flows. Geology is mostly Millstone Grit. Rural catchment.

028009 Trent at Colwick 1987

Measuring authority: STWA
First year: 1958

Grid reference: 43 (SK) 620 399
Level stn. (m OD): 16.00

Catchment area (sq km): 7486.0
Max alt. (m OD): 636

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	453.705	67.367	92.820	157.570	61.196	40.431	58.023	45.340	50.646	37.146	110.327	68.809
2	452.700	74.063	147.044	249.392	58.751	60.623	54.184	46.871	48.003	36.302	97.654	63.446
3	357.480	83.162	115.373	181.130	60.987	61.016	52.273	48.957	46.232	36.589	83.168	60.056
4	232.266	82.745	89.115	143.673	55.410	66.993	48.428	41.330	46.936	47.011	75.592	59.666
5	226.666	85.156	81.930	237.055	52.803	64.943	46.684	40.443	43.483	60.850	69.445	57.925
6	211.496	88.665	116.693	263.696	52.021	98.835	42.620	38.815	44.115	63.023	68.264	57.324
7	172.318	79.443	161.892	284.873	52.147	81.272	42.857	37.587	68.087	61.426	62.670	55.589
8	148.309	75.793	153.489	371.607	51.491	73.357	42.070	37.222	56.697	79.698	60.650	54.995
9	131.451	112.106	147.291	348.672	49.184	125.610	41.800	41.075	47.721	127.418	76.770	52.828
10	114.145	135.749	117.800	253.001	46.337	125.185	43.195	47.527	44.129	214.344	77.615	52.931
11	101.728	125.278	112.189	218.613	47.168	91.936	42.149	42.318	42.994	226.516	107.582	53.224
12	94.422	164.101	111.839	171.213	56.120	88.529	41.184	42.152	44.643	139.408	168.203	58.740
13	91.321	149.986	102.871	136.321	61.642	72.279	40.347	59.436	41.185	105.865	129.199	58.210
14	85.369	113.068	94.612	119.416	63.850	68.245	40.439	63.661	39.325	92.345	93.935	56.285
15	79.019	93.047	90.513	107.414	64.993	121.021	42.926	47.352	39.852	236.677	110.696	57.598
16	80.492	83.699	99.395	97.497	57.484	117.470	46.444	41.096	41.823	288.925	126.590	97.388
17	84.271	76.837	100.692	90.921	55.061	98.794	46.840	42.698	62.480	197.159	103.523	133.035
18	79.531	71.870	151.567	84.638	60.444	81.346	51.486	41.661	67.135	142.210	88.823	174.660
19	78.862	68.187	126.195	80.230	57.436	214.084	59.340	41.777	54.670	134.069	128.407	137.626
20	73.519	64.918	97.135	78.580	49.458	278.160	44.586	36.701	66.581	129.720	229.267	99.032
21	97.172	60.979	86.401	77.372	46.389	234.396	43.972	35.760	55.866	230.960	169.652	86.952
22	149.664	58.796	79.553	71.369	45.992	132.576	49.953	38.090	53.457	231.976	126.859	77.642
23	168.789	58.089	82.254	68.916	47.046	101.894	42.060	113.922	58.243	154.155	146.677	71.570
24	175.471	57.996	96.247	65.380	48.327	84.659	44.401	211.744	59.238	114.833	216.452	68.025
25	162.647	56.816	176.948	63.803	44.480	80.539	41.869	222.756	51.794	96.365	190.049	65.021
26	133.301	65.963	201.586	60.846	43.685	126.043	43.421	172.654	44.449	89.184	144.527	60.643
27	113.279	91.078	234.313	60.445	42.158	98.260	52.689	106.098	42.576	109.955	118.776	105.842
28	97.024	83.540	266.872	58.741	42.155	81.262	58.962	74.355	42.003	195.760	101.227	127.534
29	86.301		207.922	62.724	42.176	71.836	51.424	49.617	40.114	150.623	92.050	102.890
30	78.257		143.940	67.685	40.757	64.091	54.452	46.605	37.057	114.015	90.769	110.563
31	68.541		119.770		41.162		48.078	45.696		101.367		118.616
Average	151.000	86.730	129.200	144.400	51.560	103.500	47.070	64.560	49.380	130.500	115.500	80.800
Lowest	68.541	56.816	79.553	58.741	40.757	40.431	40.347	35.760	37.057	36.302	60.650	52.828
Highest	453.705	164.101	266.872	371.607	64.993	278.160	59.340	222.756	68.087	288.925	229.267	174.660
Peak flow	469.984	170.044	276.651	373.904	72.473	297.142	77.972	230.480	91.849	305.202	240.598	195.505
Day of peak	1	12	28	8	15	19	19	25	7	16	24	18
Monthly total (million cu m)	404.30	209.80	346.10	374.40	138.10	268.30	126.10	172.90	128.00	349.60	299.40	216.40
Runoff (mm)	54	28	46	50	18	36	17	23	17	47	40	29
Rainfall (mm)	28	42	80	58	41	127	49	81	55	122	59	42

Statistics of monthly data for previous record (Oct 1958 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	140.400	133.700	110.700	92.040	73.630	54.880	44.570	47.360	50.190	65.460	90.470	126.100
	Low	52.910	49.980	47.180	35.240	32.250	24.690	19.450	18.450	23.080	25.270	34.170	46.260
	(year)	1963	1976	1976	1976	1976	1976	1976	1976	1959	1959	1975	1975
	High	210.900	384.000	227.600	179.500	175.100	87.220	104.100	76.470	121.100	187.000	231.700	351.600
	(year)	1959	1977	1981	1966	1969	1982	1968	1966	1965	1960	1960	1965
Runoff:	Avg.	50	44	40	32	26	19	16	17	17	23	31	45
	Low	19	17	17	12	12	9	7	7	8	9	12	17
	High	75	124	81	62	63	30	37	27	42	67	80	126
Rainfall:	Avg.	73	53	60	58	62	59	56	71	66	64	75	79
	Low	23	8	13	9	18	14	18	21	3	12	38	15
	High	138	175	116	116	144	148	114	120	149	141	145	173

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	96.190		85.580		112
Lowest yearly mean			47.020	1976	
Highest yearly mean			124.000	1966	
Lowest monthly mean	47.070	Jul	18.450	Aug 1976	
Highest monthly mean	151.000	Jan	384.000	Feb 1977	
Lowest daily mean	35.760	21 Aug	14.700	23 Aug 1976	
Highest daily mean	453.705	1 Jan	854.910	26 Feb 1977	
Peak	469.984	1 Jan	956.684	25 Feb 1977	
10% exceedance	176.000		170.200		103
50% exceedance	76.580		60.790		126
95% exceedance	41.060		28.740		143
Annual total (million cu m)	3033.00		2701.00		112
Annual runoff (mm)	405		361		112
Annual rainfall (mm)	784		776		101
[1941-70 rainfall average (mm)			771]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station in the navigable Trent. Main channel approx 62m; cableway span 99m. Holme sluices 750m u/s affect water levels up to medium flows. Bypassed at high flows on rb when gravel workings inundated. Very substantial flow modifications owing to imports, WRW's, cooling water and industrial usage. Very large catchment with the gamut of land usage. Predominantly impervious - glacial clays and Triassic Marls, but some sandstones and limestones. Extensive terrace gravels and alluvium maintain baseflow.

028085 Derwent at St. Marys Bridge 1987

Measuring authority: STWA
First year: 1936

Grid reference: 43 (SK) 355 368
Level stn. (m OD): 44.00

Catchment area (sq km): 1054.0
Max alt. (m OD): 636

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	114.751	14.131	16.398	41.993	10.593	6.678	13.696	7.770	5.679	6.478	19.699	18.484
2	87.382	16.540	20.582	38.192	10.599	8.832	12.674	7.488	5.654	6.285	18.707	14.545
3	64.929	16.088	15.712	28.849	10.157	9.773	12.128	7.148	6.178	5.900	12.962	13.377
4	62.074	16.030	14.946	27.589	9.593	22.201	10.646	6.918	5.893	7.798	12.975	13.082
5	61.599	16.774	15.425	36.574	9.451	16.304	10.292	6.994	6.422	7.491	11.552	11.321
6	55.849	18.065	23.260	29.455	9.259	20.344	10.411	6.823	8.666	10.362	11.750	10.790
7	49.005	15.658	21.309	72.556	9.501	16.325	9.343	6.478	8.334	10.193	10.255	11.314
8	44.098	15.581	20.373	61.179	9.336	15.574	9.084	6.884	6.351	25.107	10.946	11.144
9	38.264	26.932	18.476	45.573	7.901	21.547	9.097	7.197	6.445	38.310	11.632	11.023
10	31.145	24.593	17.877	40.502	7.397	18.960	9.074	6.999	6.102	50.701	11.340	10.606
11	28.665	22.529	19.997	42.657	8.345	15.825	7.810	6.403	6.266	34.447	16.576	10.449
12	28.025	20.258	18.072	30.978	9.725	18.488	7.564	6.436	5.914	29.039	16.019	9.707
13	26.390	18.228	17.187	28.983	9.533	14.382	8.409	8.685	4.862	26.609	13.039	9.948
14	21.430	16.956	16.461	25.105	9.585	16.901	8.313	6.315	6.211	25.103	11.109	9.748
15	19.435	15.863	17.467	22.628	9.252	31.371	9.037	5.141	6.407	39.716	18.302	10.964
16	19.314	14.692	17.848	20.195	8.753	21.256	8.445	5.475	6.735	57.400	16.296	20.357
17	23.340	13.990	21.930	18.815	8.953	16.835	8.411	6.067	15.564	32.862	14.884	24.549
18	23.106	13.483	29.197	17.368	8.985	16.402	8.346	6.315	7.967	26.807	14.606	31.930
19	19.624	12.822	23.573	17.330	8.226	50.097	10.414	5.873	9.168	25.047	20.823	21.119
20	17.430	12.205	20.692	17.191	7.585	27.342	11.448	5.619	10.924	25.774	20.386	16.826
21	26.321	10.775	18.782	15.902	7.513	20.652	9.205	4.846	9.658	41.833	16.339	16.139
22	33.170	10.488	17.555	15.162	7.500	16.934	8.847	5.594	11.469	28.720	16.250	14.792
23	28.749	11.170	18.357	13.954	8.394	15.847	7.642	7.619	14.006	28.652	24.678	13.949
24	30.310	10.887	25.662	13.304	7.614	15.229	7.183	7.578	13.093	24.989	56.578	13.132
25	25.112	10.614	48.726	11.823	7.479	21.119	6.826	6.115	11.676	23.248	34.634	12.842
26	23.048	14.803	42.453	11.232	7.277	47.854	6.408	7.574	9.204	23.197	29.944	12.313
27	20.867	14.341	55.023	11.668	7.153	26.909	9.888	7.953	10.023	29.180	26.018	16.450
28	18.956	11.757	65.398	12.024	6.991	22.403	8.471	6.110	9.861	28.813	22.607	15.679
29	17.218		47.216	12.265	6.928	18.316	9.280	5.844	8.478	24.694	21.418	16.204
30	15.806		36.589	10.765	6.914	15.882	8.876	5.410	6.676	22.796	21.366	19.798
31	14.254		30.287		6.852		7.842	5.788		20.484		18.181
Average	35.150	15.580	25.580	26.390	8.495	20.220	9.197	6.563	8.330	25.420	18.790	14.860
Lowest	14.254	10.488	14.946	10.765	6.852	6.678	6.408	4.846	4.862	5.900	10.255	9.707
Highest	114.751	26.932	65.398	72.556	10.599	50.097	13.696	8.685	15.564	57.400	56.578	31.930
Peak flow	130.754	34.166	75.230	97.976	11.395	66.454	15.697	10.528	22.790	69.576	83.656	47.127
Day of peak	1	9	28	7	2	19	2	13	17	16	24	18
Monthly total (million cu m)	94.15	37.69	68.50	68.41	22.75	52.41	24.63	17.58	21.59	68.09	48.70	39.81
Runoff (mm)	89	36	65	65	22	50	23	17	20	65	46	38
Rainfall (mm)	50	51	120	65	51	163	65	62	77	150	78	61

Statistics of monthly data for previous record (Jan 1936 to Dec 1986—incomplete or missing months total 0.9 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	30.050	28.840	22.630	17.910	13.020	10.210	8.820	9.283	10.530	13.580	21.950	26.640
	Low	9.751	8.086	9.110	7.677	6.284	4.806	4.211	3.648	3.957	4.156	4.302	8.480
	(year)	1963	1963	1976	1976	1976	1976	1976	1976	1959	1959	1975	1975
	High	67.000	76.780	69.530	39.590	26.410	18.010	28.660	33.840	32.940	35.130	54.320	88.690
	(year)	1939	1977	1947	1966	1967	1969	1958	1956	1946	1960	1940	1965
Runoff:	Avg.	76	67	58	44	33	25	22	24	26	35	54	68
	Low	25	19	23	19	16	12	11	9	10	11	11	22
	High	170	176	177	97	67	44	73	86	81	89	134	225
Rainfall:	Avg.	105	78	75	66	70	69	76	84	82	87	106	102
	Low	33	8	16	8	15	15	16	10	3	17	16	20
	High	215	236	185	132	163	188	158	185	199	178	232	246

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	17.890		17.730		101
Lowest yearly mean			9.625	1976	
Highest yearly mean			25.200	1966	
Lowest monthly mean	6.563	Aug	3.648	Aug 1976	
Highest monthly mean	35.150	Jan	88.690	Dec 1965	
Lowest daily mean	4.846	21 Aug	1.663	28 Aug 1984	
Highest daily mean	114.751	1 Jan	334.177	10 Dec 1965	
Peak	130.754	1 Jan			
10% exceedance	31.630		36.460		87
50% exceedance	14.650		12.040		122
95% exceedance	6.158		5.051		122
Annual total (million cu m)	564.20		559.50		101
Annual runoff (mm)	535		531		101
Annual rainfall (mm)	993		1000		99
[1941-70 rainfall average (mm)			1016]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Ten channel, interleaved cross path US gauge in the centre of Derby, 1.75km d/s of Longbridge Weir (28010). Record continuous with 28010. At high flows Derby may flood but bypassing small. Substantial flow modification owing to Derwent reservoirs, milling and PWS abstractions. Large, predominantly upland catchment draining Millstone Grit and Carb. Lst. Lower reaches drain Coal Measures on the lb and Triassic sandstones and marls on the rb. Peat moorland headwaters; forestry, pasture and some arable.

030001 Witham at Claypole Mill 1987

Measuring authority: AWA
First year: 1959

Grid reference: 43 (SK) 842 480
Level stn. (m OD): 16.90

Catchment area (sq km): 297.9
Max alt. (m OD): 158

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.466	2.114	3.226	4.342	2.068	1.174	1.126	0.872	1.032	0.798	3.144	2.489
2	4.320	2.144	4.574	7.029	1.984	1.458	1.090	0.857	0.963	0.804	2.882	2.536
3	2.723	2.143	3.158	4.713	2.016	1.363	1.059	0.940	0.987	0.828	2.570	2.403
4	2.374	2.218	2.677	3.860	1.746	1.226	0.966	0.722	0.954	0.975	2.441	2.378
5	2.302	2.289	2.857	5.155	1.829	1.248	0.968	0.684	1.056	0.861	2.373	2.275
6	2.179	2.270	6.050	4.131	1.776	1.486	0.797	0.714	1.437	0.915	2.332	2.167
7	1.918	2.059	6.726	8.854	1.797	1.273	0.729	0.792	1.671	1.022	2.300	2.021
8	1.780	2.003	4.849	9.329	1.697	1.001	0.726	0.718	1.102	1.217	2.234	1.947
9	1.866	2.938	4.083	6.050	1.686	1.273	0.723	0.704	1.229	1.113	2.158	1.915
10	1.763	2.985	3.354	5.182	1.669	1.077	0.742	0.868	0.956	5.123	2.094	1.878
11	1.550	4.294	2.967	4.618	1.788	1.928	0.735	0.747	0.978	5.032	2.427	1.870
12	1.512	10.231	2.803	3.989	1.893	1.416	0.719	0.694	1.087	2.685	2.909	1.779
13	1.496	6.371	2.646	3.819	1.489	1.297	0.670	1.385	0.884	2.070	2.676	1.695
14	1.503	4.532	2.585	3.606	2.255	1.411	0.653	0.803	0.867	1.848	2.353	1.697
15	1.595	3.617	2.444	3.476	1.627	1.328	0.901	0.728	0.830	4.541	2.484	1.714
16	1.755	3.117	2.436	3.410	1.556	1.184	0.868	0.685	0.875	8.202	2.412	3.010
17	1.700	2.823	3.111	3.283	1.686	1.337	1.098	0.727	1.627	4.097	2.190	3.694
18	1.575	2.706	3.967	3.215	1.550	1.291	0.939	1.077	1.200	2.881	2.184	3.852
19	1.640	2.477	3.216	3.069	1.457	3.234	0.874	0.560	1.426	2.430	2.862	3.110
20	1.790	2.312	2.848	2.956	1.326	2.231	1.142	0.668	1.510	4.103	3.244	2.650
21	2.827	2.277	2.563	2.861	1.330	1.732	0.988	0.651	1.350	11.053	2.804	2.476
22	6.400	2.238	2.461	2.682	1.494	1.456	0.827	1.281	1.103	5.627	2.708	2.245
23	6.517	2.140	2.462	2.622	1.372	1.326	0.804	1.212	1.116	3.885	2.566	2.135
24	6.991	2.077	2.566	2.585	1.330	1.159	0.822	2.685	1.003	3.222	2.894	2.099
25	5.025	2.009	3.060	2.510	1.285	1.379	0.776	2.303	0.863	2.890	3.294	1.956
26	3.927	2.668	3.237	2.379	1.197	1.400	0.863	3.053	0.846	2.711	3.041	1.945
27	3.255	3.316	4.867	2.277	0.995	1.334	1.367	2.500	0.803	2.911	2.725	4.530
28	2.879	2.801	4.058	2.125	1.224	1.164	0.847	1.475	0.788	3.031	2.423	3.804
29	2.740		3.557	2.141	1.197	1.069	1.706	1.233	0.806	2.787	2.381	3.002
30	2.323		2.977	2.065	1.237	1.131	1.416	0.997	0.810	2.675	2.399	3.207
31	2.231		2.733		1.223		0.989	1.006		3.144		3.255
Average	2.836	3.042	3.391	3.944	1.574	1.413	0.933	1.108	1.072	3.080	2.583	2.508
Lowest	1.496	2.003	2.436	2.065	0.995	1.001	0.653	0.560	0.788	0.798	2.094	1.695
Highest	6.991	10.231	6.726	9.329	2.255	3.234	1.706	3.053	1.671	11.053	3.294	4.530
Peak flow	7.325	11.029	7.604	11.589	3.404	4.056	2.812	4.903	2.788	13.447	3.513	5.575
Day of peak	24	12	7	8	14	19	29	26	6	21	19	27
Monthly total (million cu m)	7.60	7.36	9.08	10.22	4.21	3.66	2.50	2.97	2.78	8.25	6.70	6.72
Runoff (mm)	26	25	30	34	14	12	8	10	9	28	22	23
Rainfall (mm)	32	46	64	46	40	87	58	84	48	110	36	31

Statistics of monthly data for previous record (May 1959 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	2.828	3.280	2.936	2.368	1.817	1.140	0.787	0.789	0.720	0.906	1.400	2.138
	Low	0.673	0.491	0.453	0.364	0.311	0.184	0.062	0.136	0.232	0.218	0.278	0.311
	(year)	1965	1976	1976	1976	1976	1976	1976	1976	1959	1959	1959	1964
	High	5.527	10.690	6.995	5.748	4.695	3.141	2.119	2.376	2.886	3.906	6.526	7.879
	(year)	1961	1977	1979	1979	1983	1985	1968	1980	1968	1960	1960	1965
Runoff:	Avg.	25	27	26	21	16	10	7	7	6	8	12	19
	Low	6	4	4	3	3	2	1	1	2	2	2	3
	High	50	87	63	50	42	27	19	21	25	35	57	71
Rainfall:	Avg.	54	39	49	50	53	52	50	63	50	47	57	57
	Low	20	3	8	10	11	3	9	5	3	5	24	13
	High	117	140	92	103	130	148	132	127	127	137	115	142

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	2.284		1.752		130
Lowest yearly mean			0.594	1976	
Highest yearly mean			2.807	1979	
Lowest monthly mean	0.933	Jul	0.062	Jul 1976	
Highest monthly mean	3.944	Apr	10.690	Feb 1977	
Lowest daily mean	0.560	19 Aug	0.021	24 Jul 1976	
Highest daily mean	11.053	21 Oct	31.600	11 Feb 1977	
Peak	13.447	21 Oct	37.540	11 Feb 1977	
10% exceedance	3.992		3.816		105
50% exceedance	2.041		1.041		196
95% exceedance	0.737		0.339		218
Annual total (million cu m)	72.03		55.29		130
Annual runoff (mm)	242		186		130
Annual rainfall (mm)	682		621		110
[1941-70 rainfall average (mm)			631]		

Factors affecting flow regime

- Abstraction for public water supplies.

Station and catchment description
An old weir at three levels with a total width of 24.99m converted into a standard Lea designed broad-crested weir. It is rated theoretically and there is no bypassing or drowning. Low flows in summer are moderately influenced by transfer of water from Rutland Water and abstractions for public supply at Saltersford. The catchment is clay (50%) with limestone (40%) and gravel, and is largely rural.

032001 Nene at Orton 1987

Measuring authority: AWA
First year: 1939

Grid reference: 52 (TL) 166 972
Level stn. (m OD): 3.40

Catchment area (sq km): 1634.3
Max alt. (m OD): 224

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	44.754	6.809	22.199	12.567	6.163	5.410	5.545	4.360	4.023	4.313	15.447	11.470
2	42.892	8.667	29.744	28.616	7.680	5.702	5.605	4.254	3.879	4.508	18.800	10.617
3	37.990	8.948	28.999	25.425	6.984	6.403	5.453	4.625	3.759	4.520	15.295	10.468
4	24.019	9.265	13.462	14.715	5.133	6.634	5.245	4.504	3.712	4.826	12.526	9.184
5	25.766	9.580	12.642	40.569	6.017	6.314	4.958	4.228	3.683	5.263	9.718	8.983
6	22.024	10.065	20.300	44.574	5.704	6.384	5.842	4.331	4.135	4.835	9.434	9.028
7	14.862	9.426	30.728	48.900	5.524	7.057	5.814	4.320	5.322	5.157	9.904	10.617
8	14.877	8.480	31.662	54.200	6.218	6.090	5.164	4.112	5.465	8.382	9.666	10.742
9	12.276	9.103	32.267	54.300	5.181	6.795	4.681	4.208	4.784	8.402	10.883	8.521
10	10.899	10.462	24.423	52.800	5.126	8.374	4.311	3.946	4.069	26.902	13.837	8.288
11	9.729	11.148	15.742	43.000	5.281	9.870	3.524	4.282	3.974	43.841	16.891	7.676
12	11.000	13.266	16.428	25.343	5.336	11.056	4.032	4.090	3.916	28.857	42.801	6.683
13	10.700	20.554	15.261	25.595	5.723	9.962	4.148	4.319	3.194	13.769	38.619	5.817
14	10.000	14.022	13.367	14.623	6.051	8.352	4.259	4.596	3.578	13.286	32.381	7.536
15	9.500	12.309	10.568	17.926	6.845	9.277	4.671	4.350	4.672	10.685	20.000	8.084
16	9.300	11.340	11.424	13.263	5.894	11.857	5.640	3.899	4.744	47.297	21.603	10.810
17	9.000	9.101	11.107	12.631	5.541	8.937	5.949	3.676	4.846	44.851	18.987	17.248
18	9.000	10.089	12.380	13.769	5.354	8.551	4.865	4.133	5.211	36.017	20.879	20.925
19	8.700	9.403	13.262	13.370	5.628	11.465	5.181	4.055	6.295	17.260	29.500	19.368
20	8.200	8.923	10.419	13.301	6.672	29.895	6.318	3.740	6.491	22.727	46.500	11.856
21	9.584	6.820	11.249	11.750	6.772	21.794	7.038	3.378	6.784	56.511	42.761	11.698
22	12.818	8.026	8.774	10.474	6.084	11.927	6.150	3.714	5.894	52.577	40.485	10.547
23	21.444	7.498	10.328	10.076	5.541	10.402	5.467	6.359	5.354	43.166	29.431	8.518
24	16.687	7.271	11.122	9.574	5.578	5.840	5.045	6.134	4.910	21.200	22.961	8.717
25	16.960	7.202	10.892	9.537	5.488	9.169	5.718	5.815	4.674	19.109	18.355	9.076
26	14.132	7.548	11.532	9.369	4.089	12.959	5.805	6.927	4.591	13.739	18.278	7.876
27	13.180	10.770	17.087	8.724	3.651	11.868	4.906	6.812	4.442	15.585	13.245	7.751
28	9.807	22.069	31.243	6.344	4.702	12.021	6.977	5.701	4.271	14.513	13.470	10.274
29	9.682		21.687	8.007	5.289	8.741	6.641	5.536	3.764	16.259	12.137	9.511
30	9.810		11.307	7.337	4.913	6.889	6.725	4.595	4.273	13.133	11.868	9.422
31	7.864		12.842		5.231		6.432	4.313		12.622		15.943
Average	15.720	10.290	17.240	22.020	5.658	9.866	5.423	4.623	4.624	20.460	21.220	10.430
Lowest	7.864	6.809	8.774	6.344	3.651	5.410	3.524	3.378	3.194	4.313	9.434	5.817
Highest	44.754	22.069	32.267	54.300	7.680	29.895	7.038	6.927	6.784	56.511	46.500	20.925
Peak flow	56.856	25.024	43.093	56.200	10.192	38.730	7.457	9.498	7.137	65.803	56.371	22.756
Day of peak	1	13	28	8	15	20	28	29	20	21	12	18
Monthly total (million cu m)	42.12	24.90	46.18	57.08	15.15	25.57	14.52	12.38	11.98	54.79	55.01	27.93
Runoff (mm)	26	15	28	35	9	16	9	8	7	34	34	17
Rainfall (mm)	15	34	55	56	41	100	48	57	38	132	54	27

Statistics of monthly data for previous record (Jan 1939 to Dec 1986—incomplete or missing months total 1.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	17.180	18.180	16.270	10.470	7.525	5.118	3.727	3.730	3.237	4.431	9.331	13.040
	Low	2.020	1.608	1.440	1.299	0.915	0.536	0.842	0.482	0.738	1.013	1.141	1.641
	(year)	1939	1939	1939	1939	1939	1944	1943	1944	1943	1947	1947	1947
	High	48.170	49.750	79.640	35.040	27.690	13.010	20.060	20.470	20.090	22.120	40.560	42.550
	(year)	1959	1977	1947	1979	1983	1977	1968	1980	1968	1960	1960	1954
Runoff:	Avg.	28	27	27	17	12	8	6	6	5	7	15	21
	Low	3	2	2	2	2	1	1	1	1	2	2	3
	High	79	74	131	56	45	21	33	34	32	36	64	70
Rainfall:	Avg.	55	41	48	42	55	54	51	64	52	51	61	57
(1940-	Low	20	3	5	8	10	5	6	3	3	5	10	13
1986)	High	109	111	132	91	117	156	123	122	127	130	155	124

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	12.290		9.313		132
Lowest yearly mean			2.774	1944	
Highest yearly mean			16.170	1979	
Lowest monthly mean	4.623	Aug	0.482	Aug 1944	
Highest monthly mean	22.020	Apr	79.640	Mar 1947	
Lowest daily mean	3.194	13 Sep	0.085	29 Jul 1948	
Highest daily mean	56.511	21 Oct	319.813	18 Mar 1947	
Peak	65.803	21 Oct	382.300	18 Mar 1947	
10% exceedance	25.580		24.470		105
50% exceedance	9.059		4.659		194
95% exceedance	4.008		1.077		372
Annual total (million cu m)	387.60		293.90		132
Annual runoff (mm)	237		180		132
Annual rainfall (mm)	657		631		104
[1941-70 rainfall average (mm)			623]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from effluent returns.

Station and catchment description

Series of sluices, weirs and a lock. Ratings revised and historical data altered in 1975 and 1983. Ultrasonic gauge tested in 1976 but abandoned. Flows above 17 cumecs measured at Wansford (32010) 12km upstream and corrected for smaller area. Wansford is a rated section, and ratings and data were revised in 1981. Water abstracted at Wansford and sent to Rutland Water, with significant effect on low flows. Lowest gauging point on Nene. Mostly clay (72%) and rural, but includes some towns and small reservoirs.

033002 Bedford Ouse at Bedford 1987

Measuring authority: AWA
First year: 1933

Grid reference: 52 (TL) 055 495
Level stn. (m OD): 24.70

Catchment area (sq km): 1460.0
Max alt. (m OD): 247

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	54.300	7.600	16.700	12.500	7.100	5.000	7.400	6.900	2.800	2.800	30.900	11.700
2	55.600	8.200	26.700	16.900	7.200	4.600	5.600	5.600	3.800	2.800	40.200	11.600
3	49.400	8.200	21.400	20.100	6.800	5.000	5.800	6.300	3.800	2.800	27.400	11.100
4	32.000	8.800	13.000	18.600	6.400	5.100	5.400	5.700	4.800	2.800	19.900	10.800
5	33.900	10.500	12.700	33.100	6.000	4.900	5.100	5.600	4.500	3.500	15.600	10.600
6	34.900	10.900	16.200	49.400	6.000	5.700	4.800	5.600	4.100	3.800	14.300	10.100
7	29.200	10.100	29.900	42.400	5.800	8.800	3.700	4.600	4.200	5.600	12.400	9.500
8	19.300	9.100	30.100	60.800	5.300	9.600	4.300	3.700	4.000	13.500	12.100	9.100
9	15.400	9.600	26.500	72.000	5.700	10.800	4.200	4.400	3.600	12.400	15.300	8.600
10	13.700	11.400	21.200	64.800	5.400	17.000	4.000	4.800	3.300	36.400	22.400	8.300
11	11.900	10.600	15.800	38.000	5.400	13.800	4.000	4.800	3.100	51.800	27.600	8.200
12	7.500	9.800	13.500	26.700	5.600	11.400	3.900	4.200	3.100	59.500	50.100	8.100
13	8.200	11.400	12.100	21.400	5.800	9.300	4.200	4.800	3.200	28.300	62.100	8.000
14	8.700	10.800	10.700	19.700	6.300	6.500	4.900	4.900	3.100	17.100	47.000	7.900
15	9.200	11.500	10.300	17.400	7.700	9.200	5.000	4.900	3.000	22.400	27.400	8.300
16	7.700	11.700	12.700	14.900	6.300	13.100	5.000	4.000	3.000	53.100	23.200	10.500
17	8.100	10.200	12.100	13.900	5.700	13.800	4.800	3.700	3.100	67.500	20.800	18.000
18	7.700	8.600	13.500	12.900	6.000	17.900	5.000	3.600	3.000	75.400	17.000	20.500
19	7.300	8.300	12.900	12.000	6.300	33.900	5.800	3.500	3.700	43.500	31.300	18.500
20	7.200	7.200	9.100	11.900	5.200	41.300	7.400	3.600	4.200	44.700	57.800	14.800
21	7.300	7.200	7.200	9.600	4.600	34.200	9.000	3.200	4.500	64.800	68.900	12.000
22	9.100	6.900	7.700	9.200	4.900	17.900	6.900	3.300	4.100	73.700	50.600	11.000
23	12.800	6.700	8.000	8.700	5.800	14.000	6.000	4.500	3.600	84.500	27.400	9.300
24	14.400	6.600	9.500	8.400	6.700	11.900	5.800	4.300	3.200	39.100	21.200	9.500
25	16.500	6.500	11.100	8.000	5.900	12.400	5.200	4.500	3.400	23.200	16.800	9.200
26	17.300	6.400	13.200	7.800	4.900	23.900	5.100	6.900	3.100	18.800	11.700	8.700
27	14.700	9.500	15.400	7.700	4.600	25.600	5.100	6.900	3.000	17.600	10.100	8.700
28	12.800	14.000	35.300	7.200	4.900	14.100	4.900	6.300	2.900	18.900	8.600	8.700
29	11.100		21.700	7.200	4.600	10.500	5.800	5.200	2.800	19.900	7.600	8.700
30	10.800		14.100	7.100	4.800	8.600	6.700	5.200	2.800	16.400	7.500	9.800
31	8.600		14.400		4.600		9.300	3.900		16.400		21.000
Average	17.950	9.225	15.960	22.010	5.752	13.990	5.487	4.819	3.493	30.420	26.840	10.990
Lowest	7.200	6.400	7.200	7.100	4.600	4.600	3.700	3.200	2.800	2.800	7.500	7.900
Highest	55.600	14.000	35.300	72.000	7.700	41.300	9.300	6.900	4.800	84.500	68.900	21.000
Peak flow	58.200	16.200	39.100	78.900	8.800	43.500	16.100	8.900	5.700	88.400	73.700	25.800
Day of peak	3	28	28	10	15	20	21	1	5	23	22	31
Monthly total (million cu m)	48.09	22.32	42.74	57.05	15.41	36.27	14.70	12.91	9.05	81.48	69.57	29.45
Runoff (mm)	33	15	29	39	11	25	10	9	6	56	48	20
Rainfall (mm)	14	31	51	54	45	118	57	47	33	147	55	26

Statistics of monthly data for previous record (Jan 1933 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	19.500	20.170	17.220	11.080	7.271	4.483	3.115	2.775	2.773	5.076	11.110	15.450
	Low	2.606	2.233	2.409	1.994	1.412	0.484	0.098	0.038	0.270	0.452	1.149	1.532
	(year)	1934	1965	1944	1976	1934	1934	1934	1934	1934	1934	1934	1964
	High	55.190	53.300	62.020	31.460	28.290	14.280	19.080	14.400	18.000	26.410	43.790	40.400
	(year)	1939	1977	1947	1951	1983	1985	1968	1980	1968	1966	1960	1960
Runoff:	Avg.	36	34	32	20	13	8	6	5	5	9	20	28
	Low	5	4	4	4	3	1	0	0	0	1	2	3
	High	101	88	114	56	52	25	35	26	32	48	78	74
Rainfall:	Avg.	58	42	49	44	56	52	52	62	54	59	65	61
(1934-	Low	15	3	5	3	10	8	5	3	3	4	10	13
1986)	High	124	111	140	96	113	119	120	138	110	137	178	128

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	13.920		9.954		140
Lowest yearly mean			2.401	1934	
Highest yearly mean			18.890	1937	
Lowest monthly mean	3.493	Sep	0.038	Aug 1934	
Highest monthly mean	30.420	Oct	62.020	Mar 1947	
Lowest daily mean	2.800	1 Sep	0.008	31 Aug 1934	
Highest daily mean	84.500	23 Oct	278.100	15 Mar 1947	
Peak	88.400	23 Oct			
10% exceedance	31.520		26.270		120
50% exceedance	8.774		4.512		194
95% exceedance	3.221		0.896		359
Annual total (million cu m)	439.00		314.10		140
Annual runoff (mm)	301		215		140
Annual rainfall (mm)	678		654		104
[1941-70 rainfall average (mm)			648]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from effluent returns.

Station and catchment description
3 broad-crested weirs, 30m, 20m and 12m wide supplemented by 3 vertical sluice gates which are either fully open or shut. High flow rating confirmed by current meter measurements. Records before 1959 based on daily gauge board readings and gate openings. In 1972, station built at Roxton (d/s) - to achieve a better record. Significant surface water and groundwater abstractions in catchment for PWS. Geology - predominantly clay. Land use - agricultural with substantial urban development over last 15 years (inc. Milton Keynes).

034006 Waveney at Needham Mill 1987

Measuring authority: AWA
First year: 1963

Grid reference: 62 (TM) 229 811
Level stn. (m OD): 16.50

Catchment area (sq km): 370.0
Max alt. (m OD): 65

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	14.748	1.634	6.793	2.377	0.779	0.658	0.666	2.020	3.094	0.664	2.193	1.984
2	17.811	1.647	9.321	11.371	0.760	0.715	0.611	1.337	3.051	0.636	2.013	2.606
3	9.167	1.581	5.290	8.689	0.721	0.990	0.590	1.119	2.916	0.617	1.771	2.497
4	7.691	1.696	3.812	4.695	0.702	0.891	0.563	0.953	2.303	0.644	1.608	2.294
5	10.449	2.888	2.820	3.279	0.647	0.802	0.517	0.839	2.232	0.992	1.339	1.982
6	6.578	3.525	2.298	2.608	0.625	0.842	0.508	0.763	3.557	1.200	1.412	1.795
7	4.424	2.039	2.035	2.949	0.611	0.862	0.509	0.712	5.395	3.727	1.401	1.695
8	3.652	1.756	1.858	3.527	0.600	0.824	0.495	0.624	3.234	10.973	1.386	1.457
9	3.378	2.618	1.623	3.199	0.595	1.211	0.477	0.672	2.364	7.034	1.360	1.406
10	2.726	3.177	1.453	5.293	0.552	1.504	0.470	0.833	1.910	14.210	1.306	1.195
11	2.041	2.368	1.150	4.674	0.615	2.833	0.462	0.740	1.471	40.938	1.823	1.319
12	1.953	1.950	1.198	4.007	1.042	2.508	0.440	0.646	1.512	29.088	7.875	1.283
13	1.938	1.661	1.200	3.407	0.970	1.587	0.430	0.655	1.454	12.323	5.789	1.224
14	1.380	1.528	1.124	2.832	1.044	1.225	0.443	0.644	1.334	8.035	3.379	1.294
15	1.092	1.408	1.106	2.421	1.201	1.051	0.499	0.587	1.112	20.001	3.623	1.318
16	1.215	1.205	1.131	2.087	0.947	0.906	0.672	0.546	1.033	57.375	5.053	2.470
17	1.308	1.337	1.431	1.681	1.008	0.808	0.788	0.524	1.065	49.100	3.602	5.650
18	1.454	1.285	1.974	1.649	2.061	0.761	0.661	0.527	1.017	17.225	2.783	7.308
19	1.530	1.229	1.863	1.512	1.335	0.954	0.655	0.514	1.069	10.006	7.499	4.648
20	1.530	1.168	1.550	1.533	0.989	1.133	0.790	0.495	1.323	5.698	15.050	3.362
21	1.687	1.162	1.374	1.300	0.863	1.089	1.080	0.505	1.228	4.818	10.958	2.781
22	4.525	1.122	1.227	1.136	0.843	1.013	1.370	0.962	1.116	4.080	5.953	2.368
23	9.783	1.084	1.250	1.034	0.895	1.120	1.046	1.218	1.000	3.156	4.380	2.077
24	10.506	1.096	1.328	1.011	0.843	0.994	0.889	1.523	0.969	2.629	3.334	2.017
25	6.885	1.127	1.772	0.979	0.759	0.908	0.847	13.390	0.896	2.213	3.042	1.849
26	5.190	1.401	1.964	0.904	0.701	0.965	0.783	66.200	0.797	2.045	2.910	1.535
27	3.992	7.682	2.485	0.841	0.651	0.954	0.830	67.250	0.752	1.990	2.662	1.531
28	3.147	9.975	2.390	0.792	0.626	0.879	0.873	28.118	0.723	1.855	2.292	1.389
29	2.558		2.513	0.786	0.607	0.807	4.113	11.698	0.715	1.607	1.884	1.509
30	2.026		2.212	0.785	0.607	0.744	9.188	5.503	0.693	1.527	1.841	1.902
31	1.769		1.940		0.749		4.841	3.596		1.584		3.505
Average	4.778	2.227	2.306	2.779	0.837	1.085	1.197	6.958	1.711	10.260	3.717	2.298
Lowest	1.092	1.084	1.106	0.785	0.552	0.658	0.430	0.495	0.693	0.617	1.306	1.195
Highest	17.811	9.975	9.321	11.371	2.061	2.833	9.188	67.250	5.395	57.375	15.050	7.308
Peak flow	19.114	13.037	10.142	13.314	2.379	3.671	9.620	78.000	6.322	65.000	15.978	8.144
Day of peak	2	28	2	2	18	11	30	26	7	16	20	18
Monthly total (million cu m)	12.80	5.39	6.18	7.20	2.24	2.81	3.21	18.64	4.43	27.47	9.63	6.16
Runoff (mm)	35	15	17	19	6	8	9	50	12	74	26	17
Rainfall (mm)	32	29	40	43	59	75	93	110	43	118	46	27

Statistics of monthly data for previous record (Dec 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	3.856	3.466	2.547	2.028	1.178	0.791	0.510	0.498	0.866	0.841	1.838	2.958
	Low	0.609	0.722	0.591	0.487	0.369	0.285	0.285	0.282	0.261	0.352	0.397	0.492
	(year)	1973	1965	1973	1974	1974	1974	1974	1973	1964	1964	1964	1964
	High	7.132	10.670	7.666	5.646	3.255	4.302	0.912	1.250	9.754	2.912	8.852	8.380
	(year)	1969	1979	1981	1983	1969	1985	1985	1968	1968	1974	1974	1965
Runoff:	Avg.	28	23	18	14	9	6	4	4	6	6	13	21
	Low	4	5	4	3	3	2	2	2	2	3	3	4
	High	52	70	55	40	24	30	7	9	68	21	62	61
Rainfall:	Avg.	52	37	44	44	48	51	45	49	54	50	64	56
	Low	16	10	10	9	10	10	11	7	2	4	25	18
	High	90	72	96	86	97	132	92	101	161	116	150	100

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	3.366		1.773		190
Lowest yearly mean			0.537	1973	
Highest yearly mean			2.730	1969	
Lowest monthly mean	0.837	May	0.261	Sep 1964	
Highest monthly mean	10.260	Oct	10.670	Feb 1979	
Lowest daily mean	0.430	13 Jul	0.189	23 Aug 1973	
Highest daily mean	67.250	27 Aug	89.760	16 Sep 1968	
Peak	78.000	26 Aug	113.300	16 Sep 1968	
10% exceedance	6.794		4.139		164
50% exceedance	1.457		0.780		187
95% exceedance	0.565		0.325		174
Annual total (million cu m)	106.20		55.95		190
Annual runoff (mm)	287		151		190
Annual rainfall (mm)	715		594		120
[1941-70 rainfall average (mm)			603]		

Factors affecting flow regime

- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.

Station and catchment description

A compound Crump weir 8.5 m wide in the main channel with a single crested Crump in the mill bypass. Sluice action at a mill 2.4 km upstream is infrequent but is evident in flow records. Surface water abstractions, and the use of river gravels as an aquifer, influence flows but the overall impact is minimal. Predominantly a Boulder Clay catchment with largely rural land use.

036006 Stour at Langham 1987

Measuring authority: AWA
First year: 1962

Grid reference: 62 (TM) 020 344
Level stn. (m OD): 6.40

Catchment area (sq km): 578.0
Max alt. (m OD): 128

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	18.087	1.826	6.266	4.555	1.528	1.252	2.179	4.659	4.148	1.837	3.396	3.571
2	22.670	1.817	14.991	18.590	1.607	1.783	2.029	3.758	7.617	1.848	3.595	3.429
3	11.882	1.764	6.808	21.645	1.611	1.313	1.940	3.047	9.437	1.739	3.007	3.085
4	7.592	1.797	3.659	10.718	1.577	1.364	1.726	2.458	4.495	1.852	2.875	3.263
5	10.188	1.868	3.551	10.792	1.533	1.396	1.590	1.585	4.242	1.985	2.677	3.234
6	7.184	1.998	2.941	7.358	1.460	1.590	1.491	1.910	7.328	2.166	2.852	3.007
7	4.300	1.873	4.367	6.599	1.519	1.644	1.312	1.861	8.480	2.456	2.689	2.857
8	3.810	1.849	3.746	10.336	1.386	1.583	1.263	1.794	6.077	10.519	2.920	2.469
9	3.638	3.576	2.602	6.841	1.308	4.099	1.294	2.393	3.974	8.312	3.160	2.324
10	3.500	6.582	2.657	8.995	1.187	5.456	1.244	3.050	3.670	19.730	3.354	2.509
11	2.946	3.227	2.363	7.506	1.153	7.179	1.316	2.682	3.099	43.980	4.825	2.518
12	2.102	3.014	2.203	6.017	1.257	6.575	1.359	2.411	2.822	50.280	16.650	2.512
13	2.372	2.734	2.030	3.999	1.449	3.159	1.221	1.547	3.023	36.240	20.000	2.508
14	2.251	2.023	2.093	3.748	1.528	2.485	1.212	1.900	3.198	18.650	9.497	2.468
15	2.236	2.585	1.965	2.787	1.730	12.228	1.197	1.785	2.768	20.180	6.492	2.666
16	2.225	2.736	1.953	3.160	1.384	17.676	1.508	1.464	2.259	34.400	8.040	5.241
17	1.960	2.413	2.038	2.533	1.402	11.063	2.152	1.466	2.430	43.410	5.860	11.808
18	1.813	2.038	2.891	2.705	1.968	6.553	2.404	1.483	2.662	32.980	4.577	10.985
19	1.915	2.200	2.990	2.551	1.861	8.692	2.069	1.519	2.488	17.012	10.462	6.425
20	1.898	2.089	2.619	2.435	1.433	18.413	3.839	1.429	3.088	10.039	22.970	4.495
21	2.126	2.008	1.973	2.241	1.266	16.143	3.867	1.447	3.710	7.981	26.650	4.036
22	2.160	1.947	2.129	2.275	1.208	7.363	5.810	4.238	2.706	6.554	12.321	3.574
23	3.017	1.875	2.226	2.095	1.521	5.550	3.246	4.627	2.433	5.290	8.797	3.333
24	3.826	1.717	1.823	2.075	1.600	4.378	2.616	2.686	2.395	4.298	9.943	3.365
25	3.716	1.789	2.384	2.037	1.325	4.495	1.228	9.040	2.209	4.087	6.845	3.247
26	3.688	1.976	3.053	1.963	1.309	9.666	1.911	17.954	2.168	3.995	5.606	2.869
27	3.267	3.203	3.301	1.779	1.297	6.320	2.035	27.352	1.997	3.789	4.711	2.740
28	2.939	6.140	4.690	1.695	1.256	4.627	2.694	39.150	1.824	3.380	4.128	2.867
29	2.589		7.361	1.809	1.032	3.257	5.226	27.152	1.807	3.219	3.877	2.865
30	1.670		4.106	1.619	1.175	2.682	15.241	9.941	1.875	3.254	3.625	3.186
31	1.669		3.974		1.338		13.440	5.541		2.873		9.421
Average	4.685	2.524	3.605	5.449	1.426	5.999	2.957	6.236	3.681	13.170	7.547	3.964
Lowest	1.669	1.717	1.823	1.619	1.032	1.252	1.197	1.429	1.807	1.739	2.677	2.324
Highest	22.670	6.582	14.991	21.645	1.968	18.413	15.241	39.150	9.437	50.280	26.650	11.808
Peak flow	24.530	12.691	17.028	26.020	3.386	20.637	17.057	39.520	11.916	53.630	32.020	13.668
Day of peak	2	9	2	3	24	21	31	28	3	11	21	17
Monthly total (million cu m)	12.55	6.10	9.65	14.12	3.82	15.55	7.92	16.70	9.54	35.28	19.56	10.62
Runoff (mm)	22	11	17	24	7	27	14	29	17	61	34	18
Rainfall (mm)	14	27	45	46	54	132	93	92	47	128	55	27

Statistics of monthly data for previous record (Oct 1962 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	5.318	5.007	4.701	3.577	2.466	1.468	0.999	0.966	1.064	1.555	2.761	4.135
	Low	1.398	0.884	1.597	1.218	0.757	0.453	0.190	0.209	0.395	0.509	0.578	0.693
	(year)	1965	1965	1976	1974	1974	1965	1976	1976	1964	1970	1964	1964
	High	9.262	12.980	9.774	9.335	7.253	3.017	1.672	2.108	4.944	6.237	11.340	10.550
	(year)	1971	1979	1981	1983	1983	1985	1985	1968	1968	1982	1974	1965
Runoff:	Avg.	25	21	22	16	11	7	5	4	5	7	12	19
	Low	6	4	7	5	4	2	1	1	2	2	3	3
	High	43	54	45	42	34	14	8	10	22	29	51	49
Rainfall:	Avg.	48	34	46	45	49	50	44	51	51	49	61	53
	Low	15	13	12	11	12	10	8	11	1	3	20	13
	High	85	63	93	99	100	116	87	105	118	128	155	107

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	5.119		2.825		181
Lowest yearly mean			1.428	1973	
Highest yearly mean			4.077	1979	
Lowest monthly mean	1.426	May	0.190	Jul 1976	
Highest monthly mean	13.170	Oct	12.980	Feb 1979	
Lowest daily mean	1.032	29 May	0.094	9 Jul 1976	
Highest daily mean	50.280	12 Oct	42.940	31 Dec 1981	
Peak	53.630	11 Oct	91.000	17 Sep 1968	
10% exceedance	10.630		6.186		172
50% exceedance	2.825		1.611		175
95% exceedance	1.303		0.511		255
Annual total (million cu m)	161.40		89.15		181
Annual runoff (mm)	279		154		181
Annual rainfall (mm)	760		581		131
[1941-70 rainfall average (mm)			598]		

Factors affecting flow regime

- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Twin-trapezoidal flume with throat tapping. Spillway channel with weir constructed Dec.85 takes some flow above 1.45m. Bypassing also occurs over opposite bank above 1.85m. Additional bypassing possible from 0.5km u/s during extreme events. Naturalised flows up to Sept.76. Flow augmented by intermittent pumping from Ely/Ouse Transfer Scheme and occasional SAGS borehole pumping. Predominantly rural catchment underlain by Chalk - outcropping in N, London Clay in S, all covered by semi-pervious Boulder Clay.

038003 Mimram at Panshanger Park 1987

Measuring authority: TWA
First year: 1952

Grid reference: 52 (TL) 282 133
Level stn. (m OD): 47.10

Catchment area (sq km): 133.9
Max alt. (m OD): 193

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.625	0.457	0.600	0.640	0.503	0.456	0.427	0.449	0.405	0.333	0.638	0.681
2	0.524	0.466	0.464	0.501	0.489	0.467	0.425	0.471	0.394	0.321	0.605	0.676
3	0.507	0.472	0.440	0.476	0.483	0.473	0.420	0.399	0.392	0.377	0.590	0.685
4	0.600	0.453	0.441	0.637	0.467	0.467	0.404	0.399	0.366	0.356	0.591	0.690
5	0.531	0.452	0.514	0.506	0.461	0.535	0.406	0.381	0.394	0.329	0.586	0.688
6	0.514	0.448	0.574	0.519	0.453	0.544	0.406	0.377	0.406	0.349	0.584	0.684
7	0.506	0.445	0.490	0.668	0.448	0.509	0.404	0.372	0.370	0.537	0.586	0.685
8	0.506	0.451	0.498	0.574	0.447	0.604	0.405	0.371	0.361	0.370	0.668	0.680
9	0.511	0.463	0.465	0.548	0.443	0.618	0.398	0.392	0.364	0.767	0.639	0.680
10	0.503	0.452	0.457	0.567	0.441	0.529	0.396	0.375	0.355	0.972	0.627	0.677
11	0.492	0.462	0.453	0.517	0.465	0.612	0.397	0.379	0.355	0.547	0.903	0.678
12	0.488	0.462	0.450	0.505	0.556	0.501	0.384	0.370	0.374	0.470	0.756	0.677
13	0.489	0.486	0.450	0.510	0.502	0.484	0.381	0.374	0.402	0.451	0.684	0.676
14	0.493	0.512	0.474	0.500	0.588	0.677	0.382	0.371	0.359	0.649	0.658	0.674
15	0.498	0.446	0.439	0.500	0.528	0.505	0.390	0.360	0.350	0.904	0.677	0.725
16	0.499	0.448	0.444	0.501	0.476	0.579	0.484	0.349	0.355	0.745	0.658	0.793
17	0.490	0.448	0.505	0.499	0.559	0.578	0.401	0.371	0.356	0.577	0.638	0.718
18	0.489	0.461	0.483	0.503	0.530	0.639	0.419	0.347	0.357	0.520	0.636	0.699
19	0.488	0.459	0.454	0.513	0.462	0.736	0.498	0.335	0.414	0.512	1.090	0.683
20	0.489	0.457	0.448	0.514	0.451	0.511	0.452	0.331	0.369	0.999	0.764	0.679
21	0.496	0.465	0.445	0.514	0.451	0.481	0.552	0.357	0.349	0.822	0.719	0.672
22	0.501	0.466	0.471	0.511	0.509	0.502	0.462	0.365	0.340	0.664	0.700	0.665
23	0.500	0.451	0.492	0.522	0.519	0.489	0.421	0.329	0.382	0.615	0.746	0.670
24	0.496	0.450	0.496	0.510	0.460	0.469	0.416	0.332	0.347	0.603	0.704	0.669
25	0.491	0.452	0.484	0.502	0.457	0.580	0.403	0.576	0.338	0.592	0.766	0.661
26	0.480	0.539	0.521	0.485	0.455	0.492	0.447	0.425	0.336	0.613	0.698	0.670
27	0.477	0.489	0.569	0.478	0.450	0.470	0.425	0.366	0.335	0.608	0.692	0.668
28	0.481	0.466	0.563	0.481	0.456	0.451	0.392	0.363	0.334	0.595	0.688	0.662
29	0.516		0.476	0.485	0.446	0.436	0.609	0.356	0.335	0.593	0.687	0.675
30	0.465		0.454	0.494	0.495	0.430	0.421	0.351	0.336	0.591	0.677	0.772
31	0.467		0.447		0.493		0.398	0.349		0.739		0.722
Average	0.504	0.463	0.483	0.523	0.482	0.527	0.427	0.379	0.364	0.584	0.688	0.688
Lowest	0.465	0.445	0.439	0.476	0.441	0.430	0.381	0.329	0.334	0.321	0.584	0.661
Highest	0.625	0.539	0.600	0.668	0.588	0.736	0.609	0.576	0.414	0.999	1.090	0.793
Peak flow	0.994	0.702	1.040	1.110	0.938	1.110	0.896	0.810	0.613	2.020	1.770	1.050
Day of peak	1	13	1	7	14	19	29	25	1	20	19	30
Monthly total (million cu m)	1.35	1.12	1.29	1.35	1.29	1.37	1.14	1.01	0.94	1.57	1.78	1.84
Runoff (mm)	10	8	10	10	10	10	9	8	7	12	13	14
Rainfall (mm)	11	28	50	42	56	94	68	57	54	171	56	26

Statistics of monthly data for previous record (Dec 1952 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	0.579	0.639	0.665	0.655	0.619	0.561	0.487	0.451	0.422	0.410	0.448	0.505
	Low	0.244	0.289	0.258	0.260	0.216	0.186	0.163	0.144	0.195	0.175	0.176	0.189
	(year)	1974	1973	1973	1973	1976	1976	1976	1976	1973	1973	1973	1973
	High	1.102	1.167	1.119	1.050	1.084	0.971	0.803	0.764	0.632	0.638	0.739	1.005
	(year)	1961	1961	1961	1979	1979	1979	1979	1979	1968	1968	1960	1960
Runoff:	Avg.	12	12	13	13	12	11	10	9	8	8	9	10
	Low	5	5	5	5	4	4	3	3	4	4	3	4
	High	22	21	22	20	22	19	16	15	12	13	14	20
Rainfall:	Avg.	55	41	49	45	52	59	53	58	56	59	63	63
	Low	17	3	3	5	15	5	5	7	5	5	20	13
	High	102	96	116	105	115	122	123	127	121	142	151	119

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	0.510		0.536		95
Lowest yearly mean			0.231	1973	
Highest yearly mean			0.767	1961	
Lowest monthly mean	0.364	Sep	0.144	Aug 1976	
Highest monthly mean	0.688	Nov	1.167	Feb 1961	
Lowest daily mean	0.321	2 Oct	0.135	21 Aug 1976	
Highest daily mean	1.090	19 Nov	1.810	15 Sep 1968	
Peak	2.020	20 Oct	3.541	30 May 1979	
10% exceedance	0.680		0.795		86
50% exceedance	0.487		0.509		96
95% exceedance	0.349		0.240		145
Annual total (million cu m)	16.07		16.92		95
Annual runoff (mm)	120		126		95
Annual rainfall (mm)	713		653		109
[1941-70 rainfall average (mm)			641]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Flow reduced by industrial and/or agricultural abstractions.

Station and catchment description

Critical-depth flume; 5m overall width. Theoretical calibration confirmed by gaugings. All flows contained. Slight diminution of flows due to groundwater abstraction. Very high baseflow component. A predominantly permeable catchment (Upper Chalk - overlain by glacial deposits near headwaters); mainly rural but some urbanisation in lower valley.

039001 Thames at Kingston 1987

Measuring authority: TWA
First year: 1883

Grid reference: 51 (TQ) 177 698
Level stn. (m OD): 4.70

Catchment area (sq km): 9948.0
Max alt. (m OD): 330

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	206.000	47.900	102.000	92.100	54.500	43.000	30.800	39.000	14.000	10.498	80.903	83.403
2	223.000	54.300	105.000	151.000	51.000	34.300	30.200	19.000	18.500	10.197	117.003	73.704
3	181.000	57.100	95.000	129.000	49.600	37.000	26.400	13.900	22.900	11.204	97.998	63.496
4	153.000	65.100	64.900	144.000	44.400	41.500	22.300	11.700	16.900	11.505	78.704	67.396
5	150.000	64.700	61.200	240.000	55.100	38.800	17.400	9.410	17.801	13.796	72.697	67.303
6	131.000	71.100	62.400	234.000	60.700	50.600	17.900	10.000	17.000	10.800	52.199	63.500
7	112.000	59.000	81.500	251.000	56.900	56.800	16.500	10.200	15.800	28.102	64.005	59.202
8	90.600	52.700	115.000	288.000	46.400	52.300	16.400	10.800	13.300	79.202	56.296	57.095
9	91.900	58.700	121.000	243.000	42.900	51.900	9.180	9.572	13.299	69.699	92.905	52.604
10	88.400	55.300	103.000	227.000	40.500	65.200	10.300	12.500	11.000	202.003	127.998	45.000
11	78.400	58.500	78.200	208.000	40.700	57.700	11.400	10.300	13.900	205.996	150.996	47.604
12	68.000	58.500	70.400	161.000	40.900	52.800	13.600	11.300	14.100	144.005	247.003	45.903
13	61.300	62.300	63.000	133.000	40.300	33.900	9.870	12.300	17.593	54.398	279.005	45.995
14	54.900	93.200	55.200	116.000	54.000	40.900	13.100	12.000	18.700	62.801	242.003	47.697
15	65.300	88.500	58.300	110.000	49.800	37.000	13.100	13.200	12.800	123.993	182.998	45.602
16	62.400	78.300	61.100	90.300	39.800	35.900	14.000	13.600	10.300	185.000	157.998	61.898
17	70.100	65.800	65.300	79.900	39.500	40.000	17.900	11.609	12.000	217.003	144.005	93.704
18	63.300	60.500	65.600	79.300	37.800	42.600	15.000	12.697	11.300	175.996	120.996	100.996
19	60.200	56.400	65.100	71.200	39.100	65.300	58.200	13.100	16.600	113.993	130.996	82.697
20	61.400	45.000	63.000	71.700	37.300	65.600	71.800	11.000	11.300	138.993	194.005	71.296
21	60.700	47.300	58.400	73.200	27.200	58.900	50.200	16.300	10.600	225.001	195.996	62.801
22	71.200	45.700	57.600	73.000	30.100	48.900	33.300	23.100	9.410	243.994	190.996	63.796
23	85.300	45.100	75.200	72.400	43.900	38.400	18.200	19.700	13.009	182.003	185.000	59.306
24	87.100	44.500	108.000	58.500	42.000	37.200	19.100	17.600	13.300	127.998	149.005	53.206
25	85.200	35.200	100.000	67.800	39.700	41.200	16.900	43.993	13.000	113.993	132.998	52.002
26	84.900	40.100	89.200	65.300	41.800	56.800	13.400	41.800	10.400	76.505	112.003	52.697
27	73.300	79.500	148.000	70.400	42.900	59.300	14.300	31.500	10.700	90.498	102.998	51.204
28	70.200	85.600	207.000	64.900	43.400	53.800	14.400	20.600	10.100	67.801	92.003	51.401
29	62.500		158.000	59.700	33.200	41.100	24.200	13.507	11.100	81.794	95.996	49.398
30	58.800		112.000	63.300	32.000	33.100	46.800	11.701	11.296	83.195	94.595	53.299
31	49.200		84.000		51.300		43.800	13.700		79.306		85.799
Average	92.280	59.850	88.830	126.300	43.510	47.060	23.550	16.800	13.730	104.600	134.700	61.650
Lowest	49.200	35.200	55.200	58.500	27.200	33.100	9.180	9.410	9.410	10.197	52.199	45.000
Highest	223.000	93.200	207.000	288.000	60.700	65.600	71.800	43.993	22.900	243.994	279.005	100.996
Peak flow	261.000	114.000	250.000	312.000	72.400	86.900	85.300	64.600	49.600	258.000	322.000	113.000
Day of peak	2	15	28	8	14	10	19	25	11	22	13	22
Monthly total (million cu m)	247.20	144.80	237.90	327.30	116.50	122.00	63.07	44.99	35.60	280.00	349.30	165.10
Runoff (mm)	25	15	24	33	12	12	6	5	4	28	35	17
Rainfall (mm)	14	39	63	57	51	92	58	36	42	163	65	32

Statistics of monthly data for previous record (Jan 1883 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	127.500	123.800	105.100	75.120	54.150	37.520	23.650	22.230	23.690	38.390	72.680	102.400
	Low	18.570	12.310	9.434	8.981	4.383	3.301	2.080	1.894	0.691	3.157	7.484	10.210
	(year)	1976	1976	1976	1976	1976	1976	1921	1976	1976	1934	1921	1933
	High	325.300	342.000	359.500	188.800	171.700	171.600	72.280	79.330	123.900	179.800	334.000	333.900
	(year)	1915	1904	1947	1916	1932	1903	1968	1931	1927	1903	1894	1929
Runoff:	Avg.	34	30	28	20	15	10	6	6	6	10	19	28
	Low	5	3	3	2	1	1	1	1	0	1	2	3
	High	88	86	97	49	46	45	19	21	32	48	87	90
Rainfall:	Avg.	65	49	53	48	55	52	58	65	58	72	73	73
	Low	18	3	3	3	8	3	8	3	3	5	8	13
	High	137	127	142	104	137	137	130	147	157	188	188	185

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	67.660		66.920		101
Lowest yearly mean			20.410	1934	
Highest yearly mean			120.000	1951	
Lowest monthly mean	13.730	Sep	0.691	Sep 1976	
Highest monthly mean	134.700	Nov	359.500	Mar 1947	
Lowest daily mean	9.180	9 Jul	0.010	11 Oct 1976	
Highest daily mean	288.000	8 Apr	1059.000	18 Nov 1894	
Peak	322.000	13 Nov	430.000	27 Dec 1985	
10% exceedance	144.100		162.000		89
50% exceedance	57.110		42.290		135
95% exceedance	10.990		9.195		120
Annual total (million cu m)	2134.00		2112.00		101
Annual runoff (mm)	214		212		101
Annual rainfall (mm)	712		721		99
[1941-70 rainfall average (mm)			724]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Ultrasonic gauging station commissioned in 1974; multi-path operation from 1986. Full range. Peak flows from 1975 only. Pre-1974 flows derived from Teddington weir complex (70m wide); significant structural improvements have been made since 1883. US data led to revision of 1951-74 flows (in 1981). Substantial baseflow - sustained from the Chalk and the Oolites. Daily naturalised flows available for POR - allowance is made for major PWS abstractions only. Diverse topography, geology and land use which has undergone important historical changes.

039007 *Blackwater at Swallowfield* 1987

Measuring authority: TWA
First year: 1952

Grid reference: 41 (SU) 731 648
Level stn. (m OD): 42.30

Catchment area (sq km): 354.8
Max alt. (m OD): 225

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	11.500	2.660	5.710	5.690	2.540	2.270	1.760	1.700	2.570	1.560	4.220	3.180
2	6.410	2.890	4.480	4.960	2.460	2.420	1.700	1.750	4.000	1.590	3.650	3.060
3	4.910	2.760	3.490	4.100	2.310	2.300	1.650	1.760	2.220	1.600	3.380	2.940
4	5.060	2.830	3.340	16.100	2.250	2.740	1.610	1.670	1.810	2.300	3.150	2.960
5	4.660	2.840	3.240	10.300	2.270	3.420	1.600	1.600	2.500	1.710	3.220	2.910
6	3.930	2.880	4.980	6.790	2.260	3.790	1.590	1.530	2.430	1.980	3.090	2.860
7	3.530	2.840	6.960	15.400	2.170	2.590	1.540	1.490	1.930	5.670	3.000	2.830
8	3.370	2.790	8.210	8.590	2.140	3.260	1.480	1.480	1.840	4.280	3.670	2.780
9	3.330	3.050	6.210	6.890	2.110	3.700	1.470	1.460	1.690	7.090	6.170	2.730
10	3.160	2.870	4.760	6.030	2.060	3.230	1.470	1.460	1.620	20.200	4.330	2.700
11	2.890	2.700	4.060	5.590	2.150	2.900	1.450	1.520	1.630	15.500	11.300	2.710
12	2.700	2.590	3.570	4.650	2.320	2.500	1.440	1.580	1.800	6.600	16.800	2.740
13	2.870	3.060	3.360	4.140	2.260	2.290	1.460	1.520	2.970	4.850	9.490	2.730
14	2.770	5.330	3.210	3.760	3.570	2.170	1.460	1.480	1.990	5.630	6.490	2.660
15	2.830	3.630	3.080	3.540	2.870	2.180	1.520	1.400	1.750	10.700	6.130	3.050
16	2.890	3.270	3.000	3.410	2.350	2.540	1.870	1.380	1.750	15.500	5.120	4.160
17	2.760	3.110	3.060	3.250	2.470	2.380	2.640	1.390	1.730	10.400	4.310	3.600
18	2.760	2.930	3.230	3.080	3.060	2.660	2.110	1.440	1.680	6.840	3.890	3.530
19	2.720	2.830	2.920	2.930	2.550	3.800	3.340	1.390	1.980	6.060	7.100	3.230
20	2.780	2.720	2.800	2.840	2.260	2.920	4.070	1.380	1.870	11.700	6.020	3.080
21	3.320	2.670	2.780	2.790	2.180	2.350	3.000	1.350	1.730	19.400	4.850	3.010
22	4.140	2.660	3.340	2.730	2.430	2.330	2.730	1.900	1.660	9.610	4.610	2.890
23	4.190	2.610	4.650	2.630	2.830	2.310	2.350	2.820	2.780	6.130	4.450	2.850
24	3.920	2.570	4.580	2.580	2.350	2.130	2.140	1.720	2.100	4.880	4.000	2.880
25	3.670	2.540	5.210	2.530	2.220	2.270	1.980	2.240	1.740	4.060	3.870	2.760
26	3.490	3.490	5.030	2.450	2.150	2.260	1.870	2.500	1.550	3.800	3.740	2.730
27	3.300	4.630	12.900	2.430	2.080	2.100	1.810	1.970	1.510	4.240	3.540	2.750
28	3.090	3.910	6.880	2.350	2.110	1.990	1.760	1.660	1.540	3.950	3.310	2.710
29	2.880		4.920	2.570	2.160	1.930	2.140	1.590	1.510	3.520	3.170	2.960
30	2.750		4.480	2.410	2.080	1.830	2.090	1.530	1.500	3.420	3.100	3.690
31	2.660		4.040		3.770		1.800	1.500		4.570		4.240
Average	3.717	3.059	4.596	4.917	2.413	2.585	1.965	1.650	1.979	6.753	5.106	3.029
Lowest	2.660	2.540	2.780	2.350	2.060	1.830	1.440	1.350	1.500	1.560	3.000	2.660
Highest	11.500	5.330	12.900	16.100	3.770	3.800	4.070	2.820	4.000	20.200	16.800	4.240
Peak flow	14.600	6.710	17.100	22.300	4.920	4.680	4.380	4.090	6.080	23.400	21.400	4.780
Day of peak	1	14	27	4	31	6	20	23	1	10	12	16
Monthly total (million cu m)	9.96	7.40	12.31	12.74	6.46	6.70	5.26	4.42	5.13	18.09	13.23	8.11
Runoff (mm)	28	21	35	36	18	19	15	12	14	51	37	23
Rainfall (mm)	14	34	69	57	52	73	58	36	56	186	60	25

Statistics of monthly data for previous record (Oct 1952 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	4.723	4.092	3.844	3.090	2.587	2.022	1.466	1.518	1.811	2.482	3.376	4.071
	Low	1.758	1.687	1.323	1.521	1.081	0.766	0.711	0.723	0.638	0.907	1.262	1.298
	(year)	1954	1965	1953	1976	1956	1953	1953	1953	1959	1959	1964	1953
	High	8.000	7.292	6.898	5.600	5.946	6.472	2.316	2.622	6.609	7.613	8.019	7.022
	(year)	1975	1966	1979	1966	1978	1971	1968	1977	1968	1960	1960	1960
Runoff:	Avg.	36	28	29	23	20	15	11	11	13	19	25	31
	Low	13	12	10	11	8	6	5	5	5	7	9	10
	High	60	50	52	41	45	47	17	20	48	57	59	53
Rainfall:	Avg.	68	44	54	45	57	52	54	60	66	69	73	75
	Low	15	5	3	3	8	5	18	17	3	6	18	18
	High	124	108	125	106	128	144	104	117	167	208	179	167

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	3.482		2.918		119
Lowest yearly mean			1.466	1953	
Highest yearly mean			3.777	1982	
Lowest monthly mean	1.650	Aug	0.638	Sep 1959	
Highest monthly mean	6.753	Oct	8.019	Nov 1960	
Lowest daily mean	1.350	21 Aug	0.464	18 Aug 1953	
Highest daily mean	20.200	10 Oct	39.200	16 Sep 1968	
Peak	23.400	10 Oct	41.000	16 Sep 1968	
10% exceedance	5.777		5.529		104
50% exceedance	2.805		2.146		131
95% exceedance	1.487		0.874		170
Annual total (million cu m)	109.80		92.09		119
Annual runoff (mm)	309		260		119
Annual rainfall (mm)	720		717		100
[1941-70 rainfall average (mm)			710]		

Factors affecting flow regime

- Augmentation from effluent returns.

Station and catchment description

Two Crump weirs (main 4.6m, side 2.7m wide) superseded original flume, plus side-spilling weir, in 1970. Minor bypassing of the side weir in flood conditions; overflows more frequent pre-1970. Some net import of water - sewage effluent augments flows. Exact delineation of the hydrological catchment is difficult: Chalk in the headwaters, clay, sands and alluvium in the valley. Substantial and expanding urban development in the catchment but large rural tracts remain; significant areas of heath and woodland.

039020 Coln at Bibury 1987

Measuring authority: TWA
First year: 1963

Grid reference: 42 (SP) 122 062
Level stn. (m OD): 100.60

Catchment area (sq km): 106.7
Max alt. (m OD): 330

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.640	1.700	1.580	2.720	1.920	1.090	0.828	0.649	0.559	0.514	1.000	1.800
2	2.570	1.780	1.530	2.710	1.860	1.120	0.824	0.656	0.557	0.513	0.932	1.770
3	2.550	1.730	1.490	2.550	1.810	1.110	0.820	0.660	0.557	0.509	0.903	1.730
4	2.630	1.680	1.490	2.950	1.740	1.080	0.812	0.650	0.554	0.529	0.916	1.690
5	2.620	1.650	1.490	2.940	1.720	1.150	0.799	0.653	0.574	0.521	0.934	1.630
6	2.620	1.640	1.490	2.960	1.690	1.240	0.770	0.644	0.596	0.509	0.947	1.600
7	2.610	1.610	1.580	3.240	1.660	1.090	0.770	0.634	0.560	0.590	0.952	1.560
8	2.580	1.610	1.570	3.290	1.610	1.070	0.763	0.633	0.550	0.572	0.985	1.520
9	2.550	1.620	1.560	3.240	1.580	1.070	0.762	0.637	0.549	0.574	1.060	1.500
10	2.500	1.590	1.540	3.250	1.560	1.020	0.743	0.623	0.543	0.702	1.030	1.470
11	2.400	1.620	1.530	3.240	1.550	0.995	0.733	0.633	0.547	0.717	1.150	1.430
12	2.300	1.700	1.560	3.160	1.520	0.977	0.727	0.630	0.555	0.624	1.330	1.420
13	2.230	1.620	1.550	3.010	1.510	0.962	0.732	0.625	0.552	0.612	1.300	1.390
14	2.120	1.610	1.550	2.900	1.530	0.959	0.727	0.631	0.546	0.589	1.350	1.370
15	1.870	1.590	1.590	2.820	1.470	0.956	0.724	0.612	0.528	0.683	1.530	1.390
16	2.040	1.580	1.610	2.750	1.420	0.947	0.719	0.607	0.548	0.835	1.550	1.480
17	2.190	1.560	1.620	2.670	1.420	0.975	0.730	0.622	0.546	0.771	1.570	1.480
18	2.120	1.590	1.650	2.590	1.400	0.970	0.789	0.634	0.546	0.720	1.580	1.460
19	2.050	1.570	1.660	2.540	1.350	1.050	0.794	0.629	0.564	0.774	1.900	1.380
20	2.000	1.560	1.670	2.420	1.290	1.010	0.769	0.618	0.576	0.800	1.980	1.360
21	2.000	1.560	1.680	2.370	1.280	0.948	0.758	0.613	0.549	0.877	1.970	1.350
22	2.010	1.560	1.690	2.310	1.260	0.946	0.749	0.621	0.529	0.837	2.060	1.330
23	2.000	1.550	1.760	2.250	1.300	0.931	0.738	0.621	0.521	0.822	2.120	1.340
24	1.950	1.520	1.700	2.180	1.260	0.901	0.731	0.607	0.514	0.831	2.130	1.340
25	1.930	1.510	1.690	2.120	1.220	0.952	0.719	0.594	0.512	0.826	2.130	1.340
26	1.880	1.570	1.860	2.060	1.190	0.938	0.701	0.588	0.508	0.856	2.080	1.340
27	1.850	1.650	2.300	2.000	1.170	0.896	0.682	0.597	0.506	0.879	2.020	1.350
28	1.810	1.570	2.280	1.960	1.150	0.882	0.665	0.562	0.500	0.908	1.960	1.340
29	1.780		2.370	1.950	1.130	0.857	0.677	0.562	0.515	0.882	1.910	1.390
30	1.750		2.460	1.910	1.130	0.852	0.671	0.556	0.518	0.876	1.830	1.520
31	1.700		2.570		1.110		0.648	0.561		0.923		1.560
Average	2.189	1.611	1.731	2.635	1.445	0.998	0.744	0.618	0.543	0.715	1.504	1.472
Lowest	1.700	1.510	1.490	1.910	1.110	0.852	0.648	0.556	0.500	0.509	0.903	1.330
Highest	2.640	1.780	2.570	3.290	1.920	1.240	0.828	0.660	0.596	0.923	2.130	1.800
Peak flow	2.850	1.830	2.630	3.570	1.940	1.380	0.857	0.867	0.629	1.010	2.350	1.840
Day of peak	4	1	26	7	1	6	18	22	6	31	25	1
Monthly total (million cu m)	5.86	3.90	4.64	6.83	3.87	2.59	1.99	1.66	1.41	1.92	3.90	3.94
Runoff (mm)	55	37	43	64	36	24	19	16	13	18	37	37
Rainfall (mm)	13	49	78	64	44	103	63	30	41	145	76	47

Statistics of monthly data for previous record (Oct 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	2.064	2.345	2.157	1.756	1.349	1.148	0.868	0.691	0.600	0.658	1.022	1.625
	Low	0.374	0.380	0.383	0.371	0.334	0.290	0.243	0.207	0.202	0.259	0.344	0.375
	(year)	1976	1976	1976	1976	1976	1976	1976	1976	1976	1976	1973	1975
	High	3.196	3.616	3.385	3.415	2.599	2.290	1.397	1.085	0.908	1.299	2.714	3.016
	(year)	1982	1977	1977	1979	1983	1979	1985	1985	1968	1968	1967	1965
Runoff:	Avg.	52	54	54	43	34	28	22	17	15	17	25	41
	Low	9	9	10	9	8	7	6	5	5	7	8	9
	High	80	82	85	83	65	56	35	27	22	33	66	76
Rainfall:	Avg.	75	57	68	50	72	60	56	71	70	62	77	88
	Low	18	8	19	5	23	9	15	23	17	8	34	25
	High	126	159	143	109	161	158	120	149	149	171	163	159

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m³s⁻¹)	1.347		1.352		100
Lowest yearly mean			0.399	1976	
Highest yearly mean			1.771	1966	
Lowest monthly mean	0.543	Sep	0.202	Sep 1976	
Highest monthly mean	2.635	Apr	3.616	Feb 1977	
Lowest daily mean	0.500	28 Sep	0.190	23 Aug 1976	
Highest daily mean	3.290	8 Apr	4.870	22 Dec 1965	
Peak	3.570	7 Apr	5.000	22 Dec 1965	
10% exceedance	2.314		2.620		88
50% exceedance	1.341		1.113		120
95% exceedance	0.541		0.388		140
Annual total (million cu m)	42.48		42.67		100
Annual runoff (mm)	398		400		100
Annual rainfall (mm)	753		806		93
[1941-70 rainfall average (mm)			819]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.

Station and catchment description

Crump weir (9.1m broad). Modular throughout the range. Some overspill onto floodplain before design capacity reached. Very limited impact of artificial influences on river flows. Baseflow dominated flow regime. Pervious (Oolitic Limestone) catchment on the dip-slope of the Cotswolds; predominantly rural.

040003 Medway at Teston. 1987

Measuring authority: SWA
First year: 1956

Grid reference: 51 (TQ) 708 530
Level stn. (m OD): 7.00

Catchment area (sq km): 1256.1
Max alt. (m OD): 267

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	54.027	6.870	34.273	13.618	4.736	4.639	2.871	3.835	3.646	2.658	9.202	6.948
2	31.343	7.410	31.727	24.373	4.674	3.254	2.738	3.668	6.202	2.602	8.454	7.584
3	16.387	7.814	14.731	18.228	4.412	3.240	2.717	3.598	4.292	2.661	7.989	7.052
4	16.209	6.549	12.111	19.445	4.133	3.093	2.744	3.646	3.259	3.188	7.925	6.672
5	22.392	8.657	10.755	22.264	4.046	3.875	2.690	3.704	4.187	4.243	5.862	6.500
6	13.364	10.767	9.987	11.913	3.415	5.737	2.484	3.498	3.366	3.935	6.068	6.256
7	10.171	10.209	8.734	42.453	3.595	4.283	2.466	3.517	3.975	40.977	6.026	5.941
8	7.268	7.988	9.524	32.436	3.576	5.011	2.530	3.250	3.134	84.297	6.496	5.802
9	8.613	8.234	9.130	21.114	3.890	9.305	2.341	3.447	2.740	56.454	9.020	5.752
10	7.958	8.222	7.649	14.905	3.870	7.609	2.200	4.398	2.818	109.618	7.701	5.793
11	6.942	7.165	6.881	14.969	3.686	19.838	2.332	3.931	2.824	123.734	55.634	5.737
12	6.954	7.036	6.828	10.044	4.625	9.350	2.722	3.459	3.308	98.889	132.070	5.598
13	7.330	7.542	5.035	8.912	4.318	4.839	2.120	3.132	6.875	72.635	109.231	5.537
14	7.085	39.799	5.960	7.941	6.260	7.062	2.833	2.971	5.563	44.983	79.330	5.577
15	5.772	21.922	5.781	9.087	5.721	5.249	2.057	2.736	3.927	108.282	24.931	5.789
16	6.274	13.658	5.367	6.663	3.962	3.667	4.350	2.564	3.370	155.900	24.938	11.007
17	7.359	11.549	5.342	7.261	3.836	4.351	4.143	2.592	3.210	167.889	19.990	14.448
18	7.953	8.292	5.570	6.716	5.018	5.219	13.598	2.609	3.101	128.851	14.280	14.706
19	8.712	8.525	5.226	6.643	4.139	5.867	15.266	2.491	3.265	67.908	18.495	12.853
20	8.197	7.805	4.894	7.064	3.052	8.231	14.851	2.445	3.448	32.314	24.349	9.210
21	11.410	7.230	6.997	4.818	3.054	3.457	17.130	3.411	3.194	78.268	17.030	7.341
22	36.305	6.717	5.787	5.433	3.375	3.693	21.934	12.478	3.071	74.233	14.187	6.849
23	51.160	6.358	26.355	5.344	3.697	4.027	19.138	8.993	3.322	65.808	12.433	6.430
24	39.274	6.126	30.120	5.093	3.569	3.857	9.725	4.942	3.806	24.194	11.395	6.385
25	23.443	6.503	23.788	4.885	3.221	3.990	5.957	17.953	3.638	19.443	9.692	6.508
26	19.780	8.574	17.672	4.773	3.456	4.130	4.490	22.887	3.008	17.254	9.799	6.074
27	15.527	18.069	49.881	4.768	3.337	3.695	4.159	9.637	2.788	15.200	7.672	5.926
28	12.506	12.505	29.026	4.301	2.979	3.472	3.795	5.924	2.731	12.328	7.583	5.925
29	10.133		22.723	4.408	3.419	3.331	15.119	3.990	2.729	10.948	6.971	5.984
30	7.951		13.648	4.698	3.146	3.065	11.773	3.752	2.714	10.383	7.175	8.333
31	7.066		11.222		3.064		6.185	3.655		9.757		10.349
Average	15.960	10.290	14.280	11.820	3.912	5.348	6.757	5.262	3.584	53.220	22.730	7.447
Lowest	5.772	6.126	4.894	4.301	2.979	3.065	2.057	2.445	2.714	2.602	5.862	5.537
Highest	54.027	39.799	49.881	42.453	6.260	19.838	21.934	22.887	6.875	167.889	132.070	14.706
Peak flow												
Day of peak												
Monthly total (million cu m)	42.76	24.89	38.25	30.63	10.48	13.86	18.10	14.09	9.29	142.50	58.92	19.95
Runoff (mm)	34	20	30	24	8	11	14	11	7	113	47	16
Rainfall (mm)	33	37	61	42	46	81	101	67	39	198	70	24

Statistics of monthly data for previous record (Oct 1956 to Dec 1986—incomplete or missing months total 1.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	22.840	18.990	14.860	10.740	7.096	4.840	2.853	3.361	4.999	7.360	15.810	19.830
	Low	4.910	5.296	3.381	2.326	1.749	1.139	1.116	0.577	1.066	1.402	2.341	4.361
	(year)	1973	1981	1976	1976	1976	1976	1976	1976	1959	1972	1978	1971
	High	45.360	49.150	31.600	23.470	20.820	21.690	7.550	9.877	30.080	37.860	66.830	37.330
	(year)	1975	1957	1975	1983	1978	1964	1980	1985	1968	1960	1960	1965
Runoff:	Avg.	49	37	32	22	15	10	6	7	10	16	33	42
	Low	10	10	7	5	4	2	2	1	2	3	5	9
	High	97	95	67	48	44	45	16	21	62	81	138	80
Rainfall:	Avg.	73	49	57	49	55	54	52	59	71	73	83	84
	Low	13	3	3	7	21	8	20	10	5	5	14	23
	High	135	123	113	108	112	127	103	122	183	185	169	168

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	13.440		11.090		121
Lowest yearly mean			7.584	1962	
Highest yearly mean			19.330	1960	
Lowest monthly mean	3.584	Sep	0.577	Aug 1976	
Highest monthly mean	53.220	Oct	66.830	Nov 1960	
Lowest daily mean	2.057	15 Jul	0.220	4 Sep 1973	
Highest daily mean	167.889	17 Oct	269.300	4 Nov 1960	
Peak			294.500	4 Nov 1960	
10% exceedance	24.870		25.160		99
50% exceedance	6.506		5.152		126
95% exceedance	2.699		1.461		185
Annual total (million cu m)	423.80		350.00		121
Annual runoff (mm)	337		279		121
Annual rainfall (mm)	799		759		105
[1941-70 rainfall average (mm)			755]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.

Station and catchment description

Crump weir plus a sharp-crested weir (the top of a flood gate) - superseded an insensitive broad-crested weir. Flows in excess of about 27 cumecs are measured at a well calibrated velocity-area section 2km d/s (East Farleigh) but updating of the primary record is incomplete. The Teston calibration makes an allowance for lock spills. Some monthly naturalised flows available (1956-68; accounting for the operation of Weir Wood reservoir). A predominately impervious (Hastings Beds) catchment; very responsive to rainfall. Mixed land use with significant areas of woodland and orchard.

041016 Cuckmere at Cowbeech 1987

Measuring authority: SWA
First year: 1939

Grid reference: 51 (TQ) 611 150
Level stn. (m OD): 29.80

Catchment area (sq km): 18.7
Max alt. (m OD): 183

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.962	0.128	0.936	1.099	0.113	0.039	0.042	0.025	0.052	0.049	0.184	0.165
2	0.627	0.127	0.571	0.622	0.108	0.060	0.040	0.030	0.053	0.055	0.163	0.161
3	0.392	0.129	0.286	0.386	0.100	0.066	0.038	0.027	0.053	0.058	0.161	0.157
4	0.579	0.137	0.242	0.808	0.093	0.064	0.037	0.033	0.049	0.070	0.155	0.150
5	0.499	0.156	0.217	0.440	0.098	0.063	0.036	0.026	0.096	0.094	0.139	0.139
6	0.333	0.216	0.212	0.416	0.074	0.078	0.036	0.026	0.083	0.185	0.138	0.141
7	0.264	0.174	0.208	1.376	0.067	0.067	0.036	0.023	0.095	5.172	0.136	0.136
8	0.235	0.162	0.216	0.598	0.067	0.174	0.034	0.022	0.067	1.053	0.146	0.124
9	0.230	0.172	0.179	0.403	0.065	0.106	0.030	0.022	0.060	1.485	0.161	0.121
10	0.192	0.153	0.166	0.320	0.054	0.084	0.035	0.024	0.071	2.594	0.144	0.118
11	0.181	0.140	0.148	0.283	0.067	0.084	0.037	0.022	0.062	1.175	3.416	0.118
12	0.165	0.131	0.145	0.234	0.071	0.065	0.039	0.022	0.120	1.025	0.993	0.117
13	0.164	0.166	0.141	0.144	0.067	0.128	0.038	0.022	0.362	0.884	1.218	0.116
14	0.153	0.630	0.135	0.172	0.149	0.099	0.051	0.016	0.147	3.434	0.496	0.109
15	0.160	0.249	0.138	0.200	0.080	0.072	0.040	0.014	0.091	3.921	0.914	0.450
16	0.164	0.185	0.134	0.192	0.069	0.064	0.058	0.014	0.071	1.896	0.559	0.541
17	0.153	0.164	0.135	0.189	0.079	0.120	0.073	0.015	0.069	1.626	0.389	0.430
18	0.154	0.155	0.141	0.179	0.111	0.095	0.141	0.015	0.060	0.862	0.326	0.555
19	0.143	0.141	0.126	0.181	0.070	0.166	0.233	0.014	0.064	0.653	0.539	0.288
20	0.135	0.138	0.121	0.164	0.067	0.100	0.150	0.012	0.065	3.494	0.408	0.222
21	0.239	0.134	0.210	0.159	0.067	0.073	0.244	0.183	0.065	1.276	0.326	0.194
22	0.593	0.130	0.681	0.159	0.067	0.072	0.898	0.136	0.056	0.800	0.325	0.180
23	0.579	0.124	1.895	0.125	0.067	0.068	0.229	0.039	0.056	0.460	0.280	0.162
24	0.404	0.121	0.882	0.114	0.065	0.064	0.112	0.033	0.054	0.372	0.243	0.161
25	0.305	0.117	0.846	0.111	0.064	0.063	0.063	0.355	0.053	0.306	0.222	0.174
26	0.279	0.297	0.801	0.111	0.055	0.069	0.044	0.222	0.048	0.288	0.206	0.162
27	0.242	0.409	0.941	0.108	0.035	0.071	0.036	0.114	0.056	0.269	0.184	0.159
28	0.192	0.263	0.403	0.111	0.033	0.067	0.035	0.076	0.047	0.217	0.172	0.148
29	0.166		0.286	0.126	0.039	0.054	0.041	0.067	0.053	0.228	0.169	0.227
30	0.145		0.254	0.122	0.040	0.051	0.037	0.063	0.048	0.216	0.167	0.485
31	0.135		0.235		0.038		0.029	0.055		0.201		0.345
Average	0.328	0.187	0.388	0.322	0.072	0.082	0.097	0.057	0.078	1.110	0.436	0.218
Lowest	0.135	0.117	0.121	0.108	0.033	0.039	0.029	0.012	0.047	0.049	0.136	0.109
Highest	1.962	0.630	1.895	1.376	0.149	0.174	0.898	0.355	0.362	5.172	3.416	0.555
Peak flow	5.062	1.246	3.265	2.825	0.223	0.455	1.823	1.054	0.571	18.791	10.628	1.292
Day of peak	1	14	23	1	14	8	22	25	13	7	11	15
Monthly total (million cu m)	0.88	0.45	1.04	0.83	0.19	0.21	0.26	0.15	0.20	2.97	1.13	0.58
Runoff (mm)	47	24	56	45	10	11	14	8	11	159	60	31
Rainfall (mm)	29	45	82	56	46	91	118	84	49	244	79	45

Statistics of monthly data for previous record (Jan 1968 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	0.458	0.341	0.274	0.168	0.111	0.073	0.047	0.043	0.064	0.144	0.289	0.349
	Low	0.087	0.068	0.053	0.027	0.018	0.009	0.013	0.009	0.013	0.014	0.013	0.031
	(year)	1973	1981	1973	1976	1976	1976	1976	1976	1978	1978	1973	1971
	High	1.059	0.755	0.574	0.363	0.286	0.393	0.322	0.230	0.394	0.500	0.854	0.695
	(year)	1986	1974	1981	1983	1983	1971	1980	1985	1974	1982	1974	1984
Runoff:	Avg.	66	45	39	23	16	10	7	6	9	21	40	50
	Low	13	9	8	4	3	1	2	1	2	2	2	4
	High	152	98	82	50	41	54	46	33	55	72	118	100
Rainfall:	Avg.	94	59	70	49	59	63	52	65	83	85	104	95
	Low	25	23	22	3	21	12	16	7	9	5	19	21
	High	168	155	137	109	114	155	119	144	222	195	199	184

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	0.282		0.196		144
Lowest yearly mean			0.050	1973	
Highest yearly mean			0.278	1986	
Lowest monthly mean	0.057	Aug	0.009	Jun 1976	
Highest monthly mean	1.110	Oct	1.059	Jan 1986	
Lowest daily mean	0.012	20 Aug	0.003	21 Jun 1976	
Highest daily mean	5.172	7 Oct	6.658	14 Jan 1968	
Peak	18.791	7 Oct	18.769	20 Nov 1986	
10% exceedance	0.597		0.449		133
50% exceedance	0.139		0.083		168
95% exceedance	0.029		0.012		240
Annual total (million cu m)	8.91		6.20		144
Annual runoff (mm)	476		331		144
Annual rainfall (mm)	968		878		110
[1941-70 rainfall average (mm)			836]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.

Station and catchment description

Asymmetrical compound Crump weir (crests: 2.13m and 2.97m broad) with crest tapping - not currently used. Structure capacity exceeded in large floods. Early data (1939-67) is of poorer quality and relates to low flows only. Catchment is substantially natural but flows are diminished by water supply offtake upstream of the gauging station. A rural catchment developed on mixed geology (Hastings Beds predominate).

042010 Itchen at Highbridge+Allbrook 1987

Measuring authority: SWA
First year: 1958
Grid reference: 41 (SU) 467 213
Level stn. (m OD): 17.10
Catchment area (sq km): 360.0
Max alt. (m OD): 208

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.408	6.390	6.252	6.486	7.371	5.162	4.108	3.614	3.033	2.844	4.817	5.691
2	7.821	6.975	5.984	6.352	7.229	5.323	4.110	3.617	3.017	2.841	4.713	5.978
3	7.454	6.399	5.756	6.197	7.181	5.260	3.995	3.646	3.105	2.859	4.580	5.856
4	7.548	6.408	5.785	7.562	6.996	5.256	3.940	3.543	3.127	3.018	4.732	5.872
5	7.306	6.338	5.635	6.937	6.851	5.576	3.892	3.444	3.222	2.972	4.692	5.806
6	7.215	6.308	5.618	6.740	6.834	5.626	3.743	3.414	3.147	2.979	4.646	5.822
7	7.153	6.233	5.977	7.281	6.290	5.260	3.661	3.357	3.181	3.987	4.555	5.792
8	7.110	6.192	6.012	6.982	6.466	5.134	3.655	3.357	3.197	3.918	4.780	5.652
9	7.037	6.208	5.796	7.103	6.478	5.106	3.706	3.319	3.105	4.420	5.563	5.619
10	7.115	6.243	5.740	6.126	6.146	5.123	3.658	3.337	3.072	6.177	5.182	5.683
11	7.094	6.201	5.710	7.057	6.411	5.106	3.552	3.351	3.050	4.769	6.414	5.608
12	7.042	6.142	5.606	6.862	6.135	4.979	3.471	3.399	3.218	4.205	6.800	5.540
13	7.055	6.177	5.566	6.899	6.209	4.927	3.359	3.485	3.388	4.017	6.674	5.496
14	7.085	6.253	5.538	6.880	6.528	4.838	3.407	3.337	3.274	4.058	5.980	5.506
15	7.003	6.084	5.517	6.897	6.368	4.758	3.475	3.158	3.177	4.635	6.079	5.653
16	6.807	5.999	5.566	7.009	6.187	4.606	3.631	3.106	3.145	5.018	5.913	6.209
17	6.723	5.908	5.553	6.974	6.156	4.876	3.668	3.133	3.145	4.788	5.779	5.983
18	6.652	5.858	5.610	7.056	6.204	5.003	3.832	3.141	3.123	4.601	5.757	5.790
19	6.736	5.810	5.655	7.118	6.097	5.359	5.022	3.130	3.182	4.603	5.936	5.611
20	6.828	5.762	5.523	7.107	5.857	5.044	5.093	3.076	3.179	5.042	6.026	5.494
21	7.035	5.696	5.372	7.089	5.834	4.765	4.659	3.012	3.062	5.698	5.887	5.467
22	7.057	5.675	5.622	7.116	5.829	4.708	4.416	3.180	2.977	5.367	5.844	5.407
23	6.967	5.647	6.445	7.083	5.809	4.716	4.243	3.141	3.072	5.116	5.879	5.431
24	6.838	5.585	6.226	7.017	5.715	4.759	4.060	3.167	3.158	4.903	6.027	5.521
25	6.758	5.542	6.299	7.075	5.638	4.773	4.010	3.290	3.071	4.760	5.905	5.510
26	6.727	5.900	6.190	7.065	5.568	4.687	3.987	3.444	2.970	4.785	5.879	5.451
27	6.689	6.171	7.107	7.056	5.418	4.601	3.919	3.346	2.919	4.850	5.821	5.415
28	6.629	5.964	6.517	7.122	5.275	4.497	3.801	3.188	2.959	4.710	5.719	5.503
29	6.431		6.131	7.417	5.089	4.323	3.811	3.130	2.899	4.647	5.662	5.623
30	6.393		5.989	7.356	5.205	4.115	3.746	3.158	2.877	4.589	5.677	5.740
31	6.395		5.898		5.515		3.665	3.116		4.894		5.830
Average	7.004	6.074	5.877	6.967	6.158	4.942	3.913	3.295	3.102	4.389	5.597	5.663
Lowest	6.393	5.542	5.372	6.126	5.089	4.115	3.359	3.012	2.877	2.841	4.555	5.407
Highest	8.408	6.975	7.107	7.562	7.371	5.626	5.093	3.646	3.388	6.177	6.800	6.209
Peak flow												
Day of peak												
Monthly total (million cu m)	18.76	14.69	15.74	18.06	16.49	12.81	10.48	8.82	8.04	11.76	14.51	15.17
Runoff (mm)	52	41	44	50	46	36	29	25	22	33	40	42
Rainfall (mm)	12	45	86	71	40	77	64	26	43	206	80	44

Statistics of monthly data for previous record (Oct 1958 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	6.618	7.223	7.038	6.526	5.755	4.892	4.172	3.883	3.740	4.141	4.861	5.777
	Low	4.208	4.162	3.644	3.203	3.093	2.582	2.474	2.331	2.669	2.702	2.840	3.136
	(year)	1976	1964	1976	1976	1976	1976	1976	1976	1973	1959	1973	1973
	High	10.520	10.850	9.923	8.521	7.312	6.550	5.219	5.245	5.128	7.867	9.857	10.860
	(year)	1969	1969	1977	1969	1966	1979	1979	1979	1968	1960	1960	1960
Runoff:	Avg.	49	49	52	47	43	35	31	29	27	31	35	43
	Low	31	29	27	23	23	19	18	17	19	20	20	23
	High	78	73	74	61	54	47	39	39	37	59	71	81
Rainfall:	Avg.	95	53	82	45	73	60	55	62	81	73	85	93
(1971-	Low	39	12	24	2	19	10	22	18	19	30	31	25
1986)	High	159	137	172	97	131	113	87	120	195	177	197	153

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	5.243		5.376		98
Lowest yearly mean			3.708	1973	
Highest yearly mean			6.594	1960	
Lowest monthly mean	3.102	Sep	2.331	Aug 1976	
Highest monthly mean	7.004	Jan	10.860	Dec 1960	
Lowest daily mean	2.841	2 Oct	2.167	24 Aug 1976	
Highest daily mean	8.408	1 Jan	12.800	29 Jan 1969	
Peak					
10% exceedance	6.979		7.769		90
50% exceedance	5.570		4.957		112
95% exceedance	3.069		3.105		99
Annual total (million cu m)	165.30		169.60		97
Annual runoff (mm)	459		471		97
Annual rainfall (mm)	794		857		93
[1941-70 rainfall average (mm)			873]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Augmentation from surface water and/or groundwater.

Station and catchment description

Crump weir (crest 7.75m broad) installed in 1971 (superseded a velocity-area station which suffered severely from weedgrowth) plus a rectangular thin-plate weir at Allbrook. Peak flows not derived. Local bypassing occurs at Allbrook during exceptional discharges. The groundwater catchment substantially exceeds the topographical catchment area. Artificial influences have a minor impact on flows; small net export of water. Very permeable catchment (90% Chalk). Land use is mainly arable with scattered urban settlements.

043005 Avon at Amesbury 1987

Measuring authority: WWA
First year: 1965

Grid reference: 41 (SU) 151 413
Level stn. (m OD): 67.10

Catchment area (sq km): 323.7
Max alt. (m OD): 294

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9.220	4.809	4.793	5.107	5.534	3.508	2.370	1.797	1.402	1.334	2.848	2.950
2	9.222	5.089	4.772	5.203	5.462	3.429	2.282	1.818	1.427	1.376	2.518	2.952
3	7.760	5.090	4.505	5.055	5.367	3.552	2.096	1.793	1.463	1.374	2.268	2.990
4	7.514	4.934	4.453	6.700	5.291	3.673	2.243	1.742	1.461	1.374	2.140	3.014
5	7.795	4.838	4.369	7.703	5.212	3.652	2.113	1.705	1.505	1.373	2.066	3.031
6	7.261	4.804	4.278	6.438	5.063	3.859	2.169	1.657	1.528	1.378	2.022	3.023
7	7.054	4.758	4.536	7.130	4.863	3.767	2.138	1.648	1.506	1.588	2.009	3.006
8	7.035	4.695	4.909	7.277	4.794	3.492	2.086	1.635	1.487	1.877	2.084	2.976
9	7.090	4.701	4.878	7.198	4.727	3.373	2.046	1.634	1.503	1.921	2.559	2.974
10	7.008	4.683	4.604	7.118	4.849	3.280	1.998	1.627	1.455	2.365	2.708	2.979
11	6.785	4.670	4.471	7.051	4.645	3.089	2.019	1.657	1.431	2.461	2.916	3.009
12	6.630	4.676	4.344	6.769	4.754	2.961	2.008	1.604	1.456	2.054	4.753	3.000
13	6.529	4.641	4.248	6.751	4.651	2.929	1.986	1.590	1.477	1.864	4.360	3.013
14	6.450	4.954	4.226	6.714	4.691	2.893	2.011	1.561	1.442	1.629	3.413	3.012
15	6.252	4.732	4.198	6.659	4.715	2.855	2.050	1.536	1.403	2.007	3.319	3.074
16	6.253	4.626	4.160	6.646	4.567	2.854	2.055	1.506	1.422	2.525	3.345	3.260
17	6.091	4.536	4.162	6.653	4.526	2.931	2.034	1.496	1.391	2.806	3.150	3.348
18	6.009	4.476	4.241	6.591	4.510	3.002	2.164	1.487	1.397	2.309	3.035	3.350
19	5.928	4.401	4.415	6.573	4.363	3.064	2.368	1.507	1.457	2.067	3.143	3.220
20	5.841	4.378	4.571	6.493	4.219	3.058	2.584	1.475	1.492	2.153	3.873	3.129
21	5.804	4.341	4.491	6.361	4.132	2.870	2.331	1.455	1.500	2.236	3.428	3.113
22	5.842	4.269	4.495	6.220	4.121	2.752	2.211	1.451	1.465	2.203	3.284	3.102
23	5.801	4.218	4.952	6.169	4.109	2.760	2.148	1.560	1.490	2.133	3.215	3.076
24	5.687	4.154	5.251	6.080	4.021	2.680	2.119	1.561	1.460	1.928	3.149	3.079
25	5.618	4.109	4.845	5.971	3.919	2.699	2.039	1.494	1.449	1.924	3.071	3.068
26	5.499	4.280	4.731	5.864	3.780	2.839	2.002	1.437	1.416	1.901	2.998	3.044
27	5.401	4.705	5.979	5.666	3.670	2.727	1.962	1.444	1.401	1.941	2.971	3.064
28	5.225	4.851	5.438	5.632	3.506	2.586	1.949	1.500	1.399	1.999	2.957	3.060
29	5.069		5.131	5.678	3.480	2.518	1.975	1.475	1.388	2.011	2.951	3.017
30	4.928		4.893	5.518	3.509	2.386	1.976	1.451	1.367	1.895	2.949	3.132
31	4.828		4.843		3.686		1.839	1.427		2.048		3.498
Average	6.433	4.622	4.651	6.366	4.469	3.068	2.109	1.572	1.448	1.937	2.983	3.083
Lowest	4.828	4.109	4.160	5.055	3.480	2.386	1.839	1.427	1.367	1.334	2.009	2.950
Highest	9.222	5.090	5.979	7.703	5.534	3.859	2.584	1.818	1.528	2.806	4.753	3.498
Peak flow	10.349	5.164	6.575	9.009	5.614	4.074	2.827	1.846	2.105	3.691	5.011	3.708
Day of peak	1	2	27	5	1	6	4	2	6	17	12	31
Monthly total (million cu m)	17.23	11.18	12.46	16.50	11.97	7.95	5.65	4.21	3.75	5.19	7.73	8.26
Runoff (mm)	53	35	38	51	37	25	17	13	12	16	24	26
Rainfall (mm)	14	50	72	63	42	93	54	22	52	130	67	35

Statistics of monthly data for previous record (Feb 1965 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	5.348	5.971	5.558	4.515	3.513	2.728	2.025	1.718	1.608	1.894	2.596	4.031
	Low	1.199	1.187	1.158	1.039	0.834	0.626	0.475	0.372	0.644	1.149	1.090	1.385
	(year)	1976	1976	1976	1976	1976	1976	1976	1976	1976	1970	1973	1975
	High	8.555	9.686	8.352	7.587	5.146	4.260	3.021	2.362	2.528	3.521	6.440	7.260
	(year)	1982	1977	1972	1979	1979	1979	1971	1979	1974	1966	1974	1982
Runoff:	Avg.	44	45	46	36	29	22	17	14	13	16	21	33
	Low	10	9	10	8	7	5	4	3	5	10	9	11
	High	71	72	69	61	43	34	25	20	20	29	52	60
Rainfall:	Avg.	80	52	67	45	64	57	48	64	69	66	77	90
	Low	18	6	14	1	24	3	15	22	11	4	31	26
	High	134	134	150	100	121	143	113	152	179	161	185	160

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	3.554		3.446		103
Lowest yearly mean			1.431	1976	
Highest yearly mean			4.476	1977	
Lowest monthly mean	1.448	Sep	0.372	Aug 1976	
Highest monthly mean	6.433	Jan	9.686	Feb 1977	
Lowest daily mean	1.334	1 Oct	0.175	22 Aug 1976	
Highest daily mean	9.222	2 Jan	15.540	25 Feb 1977	
Peak	10.349	1 Jan	17.330	16 Mar 1982	
10% exceedance	6.104		6.598		93
50% exceedance	3.093		2.865		108
95% exceedance	1.434		1.160		124
Annual total (million cu m)	112.10		108.70		103
Annual runoff (mm)	346		336		103
Annual rainfall (mm)	694		779		89
(1941-70 rainfall average (mm)			768)		

Factors affecting flow regime

- Natural to within 10% at 95 percentile flow.

Station and catchment description

Compound structure; Crump crest (9.14m broad) flanked by broad-crested weirs. Small bypass channel approx. 2m upstream of weir - included in rating. Full range station. Bankfull - 1.37m. During the summer flows are naturally augmented from groundwater draining from the northern half of the River Bourne catchment. Topographical and groundwater catchments do not coincide. Predominantly permeable (Chalk) catchment with a small inlier of Upper Greensand and Gault. Land use - rural.

045001 Exe at Thorverton 1987

Measuring authority: SWWA
First year: 1956

Grid reference: 21 (SS) 936 016
Level stn. (m OD): 25.90

Catchment area (sq km): 600.9
Max alt. (m OD): 519

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	83.894	7.079	33.696	26.139	6.004	3.235	3.957	3.130	1.978	2.889	17.359	11.049
2	61.014	16.771	32.494	64.624	5.519	4.229	3.759	3.423	1.956	3.453	14.938	10.220
3	45.462	12.110	27.470	97.102	5.229	4.754	3.518	3.576	2.027	6.263	13.372	9.745
4	47.420	10.717	24.560	75.203	4.784	4.206	3.350	3.049	1.983	5.892	12.027	10.389
5	38.053	10.799	20.166	50.928	4.493	12.349	3.175	2.720	4.621	4.885	10.966	9.583
6	32.237	22.247	17.731	42.715	4.295	11.707	3.018	2.555	3.112	4.638	10.121	8.843
7	27.184	17.889	24.123	58.872	4.127	8.371	3.021	2.441	3.425	38.458	9.359	8.177
8	23.238	19.508	19.396	42.826	4.025	7.277	3.062	2.443	2.725	42.230	12.942	7.650
9	22.462	22.818	16.958	35.454	3.877	6.777	3.019	2.461	2.389	58.449	14.887	7.337
10	18.705	22.892	15.313	32.924	3.745	6.050	3.084	2.601	2.479	48.037	13.090	7.057
11	15.031	26.050	14.019	28.133	4.368	5.535	2.946	2.421	2.565	35.450	57.325	6.859
12	11.681	23.899	12.701	23.148	5.530	5.114	2.868	2.679	3.066	28.537	63.506	6.716
13	11.709	23.471	11.738	20.716	4.249	4.796	2.772	2.462	3.673	25.394	52.588	6.402
14	10.872	21.812	10.753	18.012	4.664	4.592	3.217	2.524	2.893	36.960	39.816	6.133
15	10.913	18.775	9.952	15.826	4.104	4.716	4.182	2.355	2.606	45.030	58.078	9.105
16	9.737	16.821	9.211	14.097	3.758	4.291	5.654	2.276	2.713	63.003	41.511	19.425
17	8.837	15.316	9.057	12.597	3.739	4.659	6.064	2.235	2.808	42.843	33.969	18.442
18	8.402	13.677	9.623	11.476	3.661	5.235	4.386	2.173	2.976	44.454	29.303	23.201
19	8.037	12.245	8.820	11.502	3.445	7.425	7.495	2.221	2.971	41.300	46.613	19.802
20	7.906	11.411	7.864	10.216	3.318	4.905	5.474	2.214	3.017	35.561	34.030	18.657
21	9.944	10.627	7.268	8.955	3.212	4.409	4.231	2.104	2.833	33.000	29.593	17.562
22	11.282	9.903	10.715	8.200	3.211	4.812	4.017	2.248	2.701	26.316	26.327	15.936
23	11.238	8.911	46.457	7.543	3.420	5.425	3.662	2.236	2.858	21.670	22.855	14.328
24	10.453	8.142	33.484	7.132	3.685	4.453	3.473	2.320	4.673	18.294	20.591	13.937
25	9.811	7.673	29.242	6.712	4.058	4.952	3.356	2.214	4.043	15.728	17.153	12.620
26	9.317	13.318	34.855	6.281	4.240	5.485	3.198	2.458	3.485	13.898	15.355	12.955
27	8.691	28.531	58.287	5.939	4.274	5.201	3.284	2.396	3.318	41.019	13.818	17.493
28	8.076	26.993	43.727	5.709	3.447	5.244	3.206	2.143	3.238	29.577	12.641	14.603
29	7.514		34.288	5.435	3.108	4.804	3.495	2.112	3.086	24.765	13.086	38.127
30	6.926		28.130	5.337	3.435	4.258	3.332	2.057	2.952	21.001	13.430	37.134
31	6.411		23.463		3.700		3.191	2.042		21.343		32.761
Average	19.430	16.440	22.110	25.320	4.088	5.642	3.757	2.461	2.972	28.400	25.690	14.590
Lowest	6.411	7.079	7.268	5.337	3.108	3.235	2.772	2.042	1.956	2.889	9.359	6.133
Highest	83.894	28.531	58.287	97.102	6.004	12.349	7.495	3.576	4.673	63.003	63.506	38.127
Peak flow	113.676	37.458	93.433	144.285	6.553	34.853	11.378	4.139	6.469	88.179	102.035	66.497
Day of peak	1	27	27	5	12	7	19	10	5	16	11	29
Monthly total (million cu m)	52.05	39.78	59.23	65.64	10.95	14.62	10.06	6.59	7.70	76.06	66.58	39.07
Runoff (mm)	87	66	99	109	18	24	17	11	13	127	111	65
Rainfall (mm)	36	106	114	108	60	90	73	33	71	253	128	92

Statistics of monthly data for previous record (May 1956 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	29.520	25.470	18.550	13.100	8.996	5.709	4.527	6.687	9.170	16.490	22.630	31.050
	Low	5.438	6.451	6.376	4.340	2.593	1.989	1.153	0.695	1.699	1.561	5.297	12.460
	(year)	1963	1965	1962	1974	1976	1975	1976	1976	1972	1978	1978	1963
	High	57.190	47.220	49.630	28.800	29.380	15.870	19.770	20.550	35.830	59.830	46.170	68.440
	(year)	1984	1957	1981	1966	1983	1958	1968	1985	1974	1960	1986	1965
Runoff:	Avg.	132	103	83	57	40	25	20	30	40	73	98	138
	Low	24	26	28	19	12	9	5	3	7	7	23	56
	High	255	190	221	124	131	68	88	92	155	267	199	305
Rainfall:	Avg.	146	99	103	73	80	73	79	99	111	122	132	157
	Low	30	7	18	7	25	9	19	31	13	13	48	51
	High	297	196	222	163	175	160	174	181	254	300	239	321

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	14.220		15.960		89
Lowest yearly mean			9.698	1964	
Highest yearly mean			22.600	1960	
Lowest monthly mean	2.461	Aug	0.695	Aug 1976	
Highest monthly mean	28.400	Oct	68.440	Dec 1965	
Lowest daily mean	1.956	2 Sep	0.440	28 Aug 1976	
Highest daily mean	97.102	3 Apr	282.200	4 Dec 1960	
Peak	144.285	5 Apr	492.600	4 Dec 1960	
10% exceedance	35.700		37.760		95
50% exceedance	8.157		9.660		84
95% exceedance	2.340		1.891		124
Annual total (million cu m)	448.40		503.70		89
Annual runoff (mm)	746		838		89
Annual rainfall (mm)	1164		1274		91
[1941-70 rainfall average (mm)			1303]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station with cableway. Flat V Crump weir constructed in 1973 due to unstable bed condition. Minor culvert flow through mill u/s of station included in rating. Significant abstractions for PWS. Control point for Wimbleball Reservoir operational releases. Headwaters drain Exmoor. Geology predominantly Devonian sandstones and Carboniferous Culm Measures, with subordinate Permian sandstones in the east. Moorland, forestry and a range of agriculture.

047001 Tamar at Gunnislake 1987

Measuring authority: SWWA
First year: 1956

Grid reference: 20 (SX) 426 725
Level stn. (m OD): 8.20

Catchment area (sq km): 916.9
Max alt. (m OD): 586

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	94.383	9.129	39.413	30.042	8.134	4.269	5.693	3.713	2.064	2.036	18.998	20.237
2	61.093	18.242	35.906	39.815	7.697	4.557	5.132	3.677	2.095	2.067	16.141	18.358
3	42.196	13.091	25.298	67.784	7.046	6.035	4.708	4.997	2.199	3.173	14.533	16.844
4	47.889	11.976	22.694	45.776	6.631	6.118	4.383	4.211	2.257	4.496	13.440	16.010
5	39.809	11.764	19.848	35.790	6.218	14.800	4.104	3.414	5.380	3.404	12.529	18.565
6	31.052	23.731	17.888	36.377	5.984	15.441	3.855	3.157	3.838	3.641	11.468	23.881
7	26.250	21.369	26.325	43.772	5.796	8.010	3.699	3.070	3.245	44.945	10.941	17.684
8	23.752	20.396	21.103	37.024	5.631	6.828	3.494	3.000	2.802	25.796	18.455	15.698
9	24.618	26.925	17.485	31.243	5.498	6.822	3.331	2.889	2.539	64.980	36.831	14.501
10	22.791	26.027	15.265	31.645	5.320	5.975	3.275	2.762	2.376	54.778	21.641	13.648
11	18.151	27.072	13.689	28.658	5.245	5.490	3.152	2.803	2.321	29.690	125.654	13.101
12	14.324	27.159	12.598	23.307	8.044	5.471	3.058	2.896	2.593	30.610	106.464	12.391
13	14.564	28.817	11.972	21.625	5.749	4.968	2.919	2.775	3.218	31.911	81.673	11.653
14	13.978	26.213	11.417	19.740	6.146	4.625	3.087	2.770	2.635	34.055	54.400	10.992
15	13.022	21.171	10.878	17.754	5.599	4.968	4.701	2.625	2.311	53.935	112.311	13.679
16	12.113	18.881	10.456	16.248	4.985	4.538	5.127	2.452	2.353	145.242	61.486	31.936
17	11.477	17.552	10.188	14.975	4.846	4.306	6.158	2.385	2.448	61.758	42.088	27.508
18	11.772	15.929	10.841	14.090	4.768	4.694	5.936	2.347	2.426	189.566	33.559	33.545
19	11.669	14.547	12.373	14.064	4.486	6.021	21.546	2.347	2.529	143.019	48.376	24.963
20	12.299	13.469	11.258	12.539	4.262	4.811	10.608	2.310	2.588	74.460	37.655	22.022
21	12.898	12.364	10.806	11.425	4.116	4.154	7.235	2.283	2.469	55.275	27.600	20.554
22	13.079	11.764	17.250	10.698	4.059	4.166	6.228	2.252	2.487	45.084	26.655	19.961
23	12.254	11.189	108.262	10.074	4.025	8.163	5.623	2.234	2.646	33.360	29.527	17.881
24	11.160	10.682	49.394	9.550	4.350	6.003	5.135	2.176	3.179	26.735	28.024	19.612
25	10.352	10.480	37.878	9.138	4.509	5.351	4.753	2.181	3.680	22.552	22.176	18.194
26	9.768	21.631	60.948	8.615	4.380	7.399	4.469	2.360	2.696	19.813	19.443	17.768
27	9.272	36.694	118.641	8.177	4.410	11.605	4.379	2.555	2.371	47.902	17.445	26.875
28	8.695	30.803	48.750	7.830	3.944	10.740	4.342	2.210	2.259	33.318	15.983	23.174
29	8.122		37.462	7.580	3.742	7.831	4.555	2.049	2.203	25.198	35.057	82.060
30	7.681		30.488	7.571	3.980	6.446	4.445	2.034	2.113	21.748	28.589	71.714
31	7.130		26.504		5.686		3.911	1.989		20.408		61.763
Average	21.210	19.250	29.140	22.430	5.332	6.687	5.259	2.739	2.677	43.710	37.640	24.410
Lowest	7.130	9.129	10.188	7.571	3.742	4.154	2.919	1.989	2.064	2.036	10.941	10.992
Highest	94.383	36.694	118.641	67.784	8.134	15.441	21.546	4.997	5.380	189.566	125.654	82.060
Peak flow	147.990	62.960	220.854	93.634	10.041	36.007	30.843	6.183	8.762	260.673	177.945	120.955
Day of peak	1	27	27	3	12	6	19	4	5	19	11	29
Monthly total (million cu m)	56.82	46.58	78.04	58.14	14.28	17.33	14.09	7.34	6.94	117.10	97.56	65.38
Runoff (mm)	62	51	85	63	16	19	15	8	8	128	106	71
Rainfall (mm)	27	93	116	69	54	99	70	30	69	247	137	102

Statistics of monthly data for previous record (Jul 1956 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	46.170	36.150	25.530	16.690	11.920	7.027	6.070	8.890	12.230	21.800	35.220	46.350
	Low	8.476	9.161	11.250	6.420	3.488	1.995	1.181	0.757	1.118	1.540	4.213	18.350
	(year)	1964	1965	1961	1974	1976	1976	1976	1976	1959	1978	1978	1963
	High	89.410	84.270	65.520	35.200	32.370	20.630	28.730	42.100	59.840	65.080	78.760	91.690
	(year)	1974	1974	1981	1985	1983	1972	1968	1958	1974	1981	1959	1959
Runoff:	Avg.	135	96	75	47	35	20	18	26	35	64	100	135
	Low	25	24	33	18	10	6	3	2	3	5	12	54
	High	261	222	191	100	95	58	84	123	169	190	223	268
Rainfall:	Avg.	146	95	98	68	76	71	81	96	105	119	139	149
	Low	23	3	14	7	25	11	13	18	10	12	58	41
	High	301	206	219	151	149	167	160	179	251	258	274	266

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	18.380		22.790		81
Lowest yearly mean			12.520	1964	
Highest yearly mean			34.890	1974	
Lowest monthly mean	2.677	Sep	0.757	Aug 1976	
Highest monthly mean	43.710	Oct	91.690	Dec 1959	
Lowest daily mean	1.989	31 Aug	0.580	23 Aug 1976	
Highest daily mean	189.566	18 Oct	482.300	27 Dec 1979	
Peak	260.673	19 Oct	714.600	28 Dec 1979	
10% exceedance	40.190		55.670		72
50% exceedance	11.200		12.470		90
95% exceedance	2.284		1.838		124
Annual total (million cu m)	579.60		719.20		81
Annual runoff (mm)	632		784		81
Annual rainfall (mm)	1113		1243		90
[1941-70 rainfall average (mm)			1240]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station, wide, shallow channel. Cableway span 46.9m. Low flows measured at another, narrower, site. High flow gaugings difficult owing to standing waves. Moderate influence on flow regime from reservoirs, PWS and diversions. Rural catchment of moderate relief, draining very disturbed lower Carboniferous slates, shales, grits and volcanics. Significant alluvial flats in middle reaches, Devonian slates low down. Fairly responsive. A range of agriculture, grazing and forestry as land use.

050001 Taw at Umberleigh 1987

Measuring authority: SWWA
First year: 1958

Grid reference: 21 (SS) 608 237
Level stn. (m OD): 14.10

Catchment area (sq km): 826.2
Max alt. (m OD): 604

Daily mean gauged discharges (cubic metres per second).

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	99.936	6.484	51.162	24.220	5.373	2.648	5.013	2.429	1.141	1.811	20.735	18.623
2	66.248	18.644	44.076	81.698	4.719	3.885	4.503	2.475	1.172	1.849	16.777	16.008
3	45.976	12.271	33.575	148.760	4.331	4.139	4.193	3.273	1.166	3.210	14.516	14.246
4	47.200	10.187	27.539	89.476	3.991	4.273	3.971	2.792	1.210	6.118	12.721	13.540
5	37.632	10.398	21.773	55.061	3.815	12.407	3.650	2.268	3.774	3.010	11.316	11.734
6	30.440	25.251	18.651	50.960	3.622	12.241	3.345	2.067	2.151	3.846	10.518	10.508
7	25.150	22.149	34.798	65.419	3.468	7.274	3.115	1.976	1.962	39.199	10.020	9.678
8	21.645	24.156	25.233	51.487	3.334	5.840	2.878	1.913	1.767	41.426	15.753	8.731
9	23.001	27.976	20.365	39.739	3.229	5.217	2.710	1.756	1.505	67.030	18.624	8.054
10	18.960	28.333	17.666	34.978	3.103	4.746	2.595	1.773	1.468	58.237	16.584	7.493
11	14.255	32.362	15.546	28.700	3.575	4.307	2.614	1.767	1.390	39.415	105.118	7.312
12	10.932	28.773	13.746	22.613	6.134	3.939	2.469	1.845	1.507	31.776	100.687	7.025
13	11.649	28.739	12.435	19.928	3.828	3.702	2.352	1.703	1.943	30.431	73.975	6.557
14	11.477	27.796	11.262	17.190	4.316	3.529	2.693	1.724	1.631	38.188	52.287	6.192
15	10.660	21.563	10.305	15.025	3.640	3.412	3.731	1.577	1.385	47.095	73.128	8.246
16	9.556	18.490	9.410	13.385	3.110	3.115	4.276	1.454	1.413	72.486	57.019	22.683
17	8.515	16.200	9.175	12.068	3.046	3.642	5.293	1.419	1.567	45.820	42.902	19.760
18	8.235	14.124	10.229	10.949	2.990	4.092	4.814	1.397	1.689	45.620	33.685	22.211
19	8.067	12.339	11.112	11.578	2.759	5.185	9.105	1.382	1.681	42.312	59.878	18.177
20	8.658	11.343	9.564	10.241	2.588	3.626	5.139	1.368	1.740	33.426	46.644	17.059
21	11.874	10.161	8.343	8.531	2.475	3.180	3.927	1.377	1.631	36.385	36.696	16.300
22	13.230	9.516	12.707	7.712	2.488	4.032	3.422	1.367	1.601	28.476	31.204	15.302
23	12.564	8.745	86.439	7.079	2.573	5.341	3.148	1.406	1.654	23.518	27.429	14.031
24	10.795	8.128	52.996	6.604	2.937	4.111	2.922	1.374	3.023	19.458	23.831	14.006
25	9.855	7.918	39.486	6.274	4.366	5.176	2.719	1.334	2.744	16.275	19.072	13.787
26	9.063	15.475	40.139	5.758	4.908	5.864	2.636	1.957	2.399	14.246	16.258	13.586
27	8.394	44.159	68.909	5.365	4.705	6.321	2.722	1.722	2.175	79.914	14.127	16.486
28	7.612	42.836	44.769	5.062	2.954	6.176	2.863	1.377	2.071	47.438	12.668	15.254
29	6.824		33.888	4.882	2.584	5.816	3.149	1.287	1.986	33.681	21.006	43.326
30	6.074		27.389	4.807	2.661	5.344	2.791	1.241	1.889	25.842	30.031	41.806
31	5.682		22.950		3.365		2.562	1.199		26.223		36.974
Average	20.010	19.450	27.280	28.850	3.580	5.086	3.591	1.742	1.814	32.380	34.170	15.960
Lowest	5.682	6.484	8.343	4.807	2.475	2.648	2.352	1.199	1.141	1.811	10.020	6.192
Highest	99.936	44.159	86.439	148.760	6.134	12.407	9.105	3.273	3.774	79.914	105.118	43.326
Peak flow	167.229	67.805	152.611	205.452	13.822	31.960	13.650	3.630	6.122	113.889	153.449	65.149
Day of peak	2	27	23	5	28	7	19	3	5	27	11	29
Monthly total (million cu m)	53.58	47.05	73.06	74.78	9.59	13.18	9.62	4.66	4.70	86.72	88.58	42.74
Runoff (mm)	65	57	88	91	12	16	12	6	6	105	107	52
Rainfall (mm)	29	99	104	97	61	92	61	31	65	222	130	75

Statistics of monthly data for previous record (Oct 1958 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	36.210	28.130	20.320	14.080	9.816	5.367	4.581	6.116	7.781	18.730	29.160	37.570
	Low	6.657	3.244	7.449	3.889	2.073	1.329	0.793	0.423	0.861	1.043	3.653	13.210
	(year)	1963	1959	1984	1974	1976	1984	1984	1976	1959	1978	1978	1963
	High	62.100	54.760	52.140	32.800	37.000	16.630	23.390	19.130	47.670	77.360	58.500	73.670
	(year)	1984	1970	1981	1966	1983	1972	1968	1985	1974	1960	1963	1965
Runoff:	Avg.	117	83	66	44	32	17	15	20	24	61	91	122
	Low	22	10	24	12	7	4	3	1	3	3	11	43
	High	201	160	169	103	120	52	76	62	150	251	184	239
Rainfall:	Avg.	133	84	91	70	73	67	71	89	93	113	130	142
	Low	28	3	18	8	28	10	23	24	14	14	56	41
	High	242	173	183	145	146	164	152	160	247	278	239	271

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	16.120		18.130		89
Lowest yearly mean			11.310	1964	
Highest yearly mean			27.590	1960	
Lowest monthly mean	1.742	Aug	0.423	Aug 1976	
Highest monthly mean	34.170	Nov	77.360	Oct 1960	
Lowest daily mean	1.141	1 Sep	0.200	28 Aug 1976	
Highest daily mean	148.760	3 Apr	363.800	4 Dec 1960	
Peak	205.452	5 Apr	644.900	4 Dec 1960	
10% exceedance	42.550		47.170		90
50% exceedance	8.410		9.381		90
95% exceedance	1.418		1.201		118
Annual total (million cu m)	508.40		572.10		89
Annual runoff (mm)	615		692		89
Annual rainfall (mm)	1066		1156		92
(1941-70 rainfall average (mm)			1193)		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station, main channel 34m wide, cableway span 54.9m. Rock step d/s forms the control. Bypassing begins at about 3.7m on the rb, but a good rating accommodates this. Significant modification to flows owing to PWS abstraction. Some naturalised flow data available. Large rural catchment - drains both Dartmoor (granite) to the south and Devonian shales and sandstones of Exmoor to the north. Central area is underlain mainly by Culm shales and sandstones (Carboniferous). Agriculture is conditioned by the grade 3 and 4 soils.

052005 Tone at Bishops Hull *1987*

Measuring authority: WWA
First year: 1961

Grid reference: 31 (ST) 206 250
Level stn. (m OD): 16.20

Catchment area (sq km): 202.0
Max alt. (m OD): 409

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	12.732	2.232	4.755	4.482	2.120	1.098	0.824	0.742	0.636	0.616	3.587	2.397
2	9.420	4.548	3.917	19.169	1.945	1.399	0.785	0.806	0.632	0.750	2.892	2.242
3	7.460	3.219	3.437	34.522	1.840	1.297	0.806	0.793	0.653	1.750	2.546	2.151
4	7.334	2.783	3.379	15.614	1.803	1.286	0.780	0.716	0.643	1.266	2.326	2.363
5	6.446	2.614	3.095	9.980	1.823	2.204	0.759	0.677	0.832	1.039	2.193	2.228
6	5.483	2.978	2.981	9.195	1.792	1.766	0.719	0.688	0.756	0.972	2.101	2.167
7	4.767	2.663	4.160	14.249	1.753	1.312	0.704	0.673	0.761	3.719	2.019	2.007
8	4.404	2.696	3.512	10.075	1.734	1.249	0.700	0.671	0.675	2.483	2.682	1.893
9	4.484	3.088	3.054	8.296	1.708	1.181	0.687	0.662	0.659	4.482	3.338	1.826
10	4.093	3.063	2.783	7.737	1.614	1.162	0.676	0.685	0.667	3.331	2.625	1.792
11	3.577	3.592	2.624	6.635	1.682	1.086	0.699	0.743	0.693	2.257	13.781	1.763
12	3.182	3.342	2.518	5.444	1.655	1.086	0.679	0.695	0.744	1.950	9.460	1.744
13	3.016	3.438	2.445	4.710	1.541	1.076	0.686	0.670	0.769	1.796	6.319	1.727
14	2.862	3.773	2.349	4.215	1.711	1.056	0.782	0.658	0.661	3.216	4.933	1.689
15	2.757	3.167	2.269	3.961	1.425	1.003	1.035	0.641	0.620	5.186	6.276	2.625
16	2.612	2.926	2.213	3.730	1.368	1.011	1.658	0.628	0.719	6.270	5.017	5.238
17	2.530	2.779	2.245	3.462	1.396	1.009	1.745	0.636	0.708	4.203	4.165	3.816
18	2.517	2.614	2.336	3.220	1.365	1.197	1.171	0.619	0.664	6.663	3.812	3.225
19	2.453	2.500	2.208	3.090	1.282	1.145	1.337	0.646	0.811	5.873	4.657	2.887
20	2.455	2.408	2.056	2.855	1.251	1.000	1.109	0.619	0.750	4.364	4.105	2.724
21	2.714	2.319	2.011	2.630	1.240	0.975	1.007	0.620	0.663	4.074	3.652	2.608
22	2.836	2.227	3.032	2.522	1.276	1.074	0.976	0.621	0.631	3.182	3.704	2.464
23	2.888	2.152	7.420	2.431	1.312	0.993	0.929	0.607	0.809	2.759	4.098	2.424
24	2.736	2.110	4.484	2.349	1.345	0.938	0.889	0.740	0.719	2.445	3.901	2.464
25	2.588	2.070	3.696	2.280	1.329	1.033	0.873	0.682	0.665	2.240	3.313	2.326
26	2.453	3.586	8.184	2.169	1.239	0.987	0.868	0.843	0.627	2.128	2.937	2.294
27	2.366	6.729	17.978	2.125	1.241	1.024	0.883	0.641	0.613	6.019	2.753	2.315
28	2.228	4.536	6.974	2.053	1.158	0.989	0.857	0.630	0.617	3.790	2.643	2.248
29	2.108		5.386	2.017	1.170	0.938	0.751	0.642	0.613	2.997	2.653	3.500
30	1.992		4.623	2.018	1.273	0.861	0.758	0.648	0.609	2.776	2.560	4.468
31	1.927		4.244		1.192		0.773	0.643		4.276		4.302
Average	3.917	3.077	4.076	6.574	1.503	1.148	0.900	0.677	0.687	3.189	4.035	2.578
Lowest	1.927	2.070	2.011	2.017	1.158	0.861	0.676	0.607	0.609	0.616	2.019	1.689
Highest	12.732	6.729	17.978	34.522	2.120	2.204	1.745	0.843	0.832	6.663	13.781	5.238
Peak flow	23.691	12.595	51.050	75.376	2.457	3.700	3.000	1.873	1.194	11.431	30.296	7.224
Day of peak	1	27	27	3	9	5	17	4	19	15	11	16
Monthly total (million cu m)	10.49	7.44	10.92	17.04	4.02	2.97	2.41	1.81	1.78	8.54	10.46	6.90
Runoff (mm)	52	37	54	84	20	15	12	9	9	42	52	34
Rainfall (mm)	26	71	83	95	32	64	58	25	49	218	81	58

Statistics of monthly data for previous record (Feb 1961 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	6.174	6.050	4.366	2.954	2.182	1.432	1.190	0.972	1.229	1.998	3.377	5.267
	Low	1.246	1.746	1.552	1.177	0.735	0.456	0.326	0.265	0.501	0.580	0.651	1.821
	(year)	1976	1965	1962	1976	1976	1976	1976	1976	1964	1978	1978	1975
	High	14.560	14.000	9.259	6.655	6.562	2.770	5.628	1.686	4.892	9.872	7.611	11.280
	(year)	1984	1978	1981	1966	1983	1972	1968	1965	1974	1976	1982	1965
Runoff:	Avg.	82	73	58	38	29	18	16	13	16	26	43	70
	Low	17	21	21	15	10	6	4	4	6	8	8	24
	High	193	168	123	85	87	36	75	22	63	131	98	150
Rainfall:	Avg.	115	80	85	61	70	59	57	71	82	87	100	116
	Low	25	6	5	6	25	8	16	19	8	8	41	40
	High	250	170	170	150	137	147	144	126	202	249	192	205

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	2.689		3.086		87
Lowest yearly mean			1.600	1964	
Highest yearly mean			4.084	1974	
Lowest monthly mean	0.677	Aug	0.265	Aug 1976	
Highest monthly mean	6.574	Apr	14.560	Jan 1984	
Lowest daily mean	0.607	23 Aug	0.179	22 Aug 1976	
Highest daily mean	34.522	3 Apr	84.200	23 Feb 1978	
Peak	75.376	3 Apr	112.730	11 Jul 1968	
10% exceedance	4.780		6.699		71
50% exceedance	2.142		1.808		118
95% exceedance	0.638		0.648		98
Annual total (million cu m)	84.80		97.38		87
Annual runoff (mm)	420		482		87
Annual rainfall (mm)	860		983		87
[1941-70 rainfall average (mm)			995]		

Factors affecting flow regime

- Reservoir(s) in catchment.

Station and catchment description

Crump weir (breadth 12.2m) with crest tapping (not operational). Full range station. Pre-March 1968: velocity-area station; flows inaccurate below 1.42 cumecs. Clatworthy and smaller Luxhay Reservoir in headwaters. Compensation flow maintains low flows. Reservoirs not large enough to influence fairly rapid response to rainfall. Minor surface water and groundwater abstractions. Catchment geology - predominantly sandstones and marls. Land use - rural.

053018 Avon at Bathford 1987

Measuring authority: WWA
First year: 1969

Grid reference: 31 (ST) 786 671
Level stn. (m OD): 18.00

Catchment area (sq km): 1552.0
Max alt. (m OD): 305

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	88.505	11.056	32.820	28.640	11.959	5.931	4.395	2.853	2.405	2.794	34.334	12.483
2	56.832	20.328	29.570	28.334	11.212	6.941	3.896	2.492	2.455	3.120	20.244	11.610
3	37.089	21.251	22.120	25.690	10.600	8.313	3.714	2.487	2.428	3.486	16.391	11.450
4	37.937	18.577	19.700	67.707	10.125	7.714	3.637	2.445	2.486	4.343	14.443	11.220
5	36.835	16.599	18.380	70.521	10.018	9.649	3.551	2.300	4.086	3.939	13.079	11.110
6	29.415	18.409	17.210	37.454	10.050	14.170	3.395	2.150	3.860	3.797	12.145	10.810
7	25.257	18.056	25.670	55.456	9.855	10.122	3.051	1.900	3.892	9.228	11.414	10.519
8	23.121	16.471	33.280	53.602	9.470	9.140	2.910	1.828	3.384	11.198	13.347	9.861
9	22.328	18.499	26.830	47.671	8.997	9.358	2.790	1.800	3.050	12.136	38.585	9.673
10	21.643	18.950	21.360	38.422	8.569	7.834	2.855	1.760	2.866	26.773	24.060	9.515
11	18.991	17.900	18.540	35.230	8.603	6.284	2.689	2.123	2.638	18.717	54.635	9.146
12	17.446	19.400	16.581	27.534	8.770	5.287	2.728	3.207	2.930	11.168	91.324	9.165
13	16.294	18.050	15.800	24.154	8.204	5.059	2.798	3.291	3.427	9.550	57.855	8.769
14	15.397	26.220	14.652	21.925	9.057	5.051	3.681	3.184	2.967	11.348	35.476	8.961
15	14.969	22.040	14.267	20.177	8.487	5.238	3.678	3.061	2.540	15.052	38.078	9.709
16	14.505	18.880	13.665	18.425	7.727	6.203	3.396	2.684	3.739	38.323	34.580	19.193
17	14.107	17.680	13.469	17.692	7.682	5.807	3.643	2.456	3.393	24.217	29.007	23.991
18	13.509	16.630	14.352	16.826	8.217	6.243	4.139	2.486	3.034	17.570	24.073	19.047
19	13.027	15.440	17.845	16.415	7.396	8.145	7.056	2.283	3.799	23.683	36.374	16.375
20	12.945	14.700	19.190	15.629	6.859	6.935	6.908	2.349	4.224	19.673	46.604	14.478
21	13.506	13.150	19.484	14.723	6.797	5.556	4.891	2.103	3.498	19.201	29.163	13.676
22	15.030	12.700	22.630	13.765	7.204	6.103	4.099	2.513	3.300	17.229	25.088	12.786
23	15.963	12.650	40.006	13.388	7.270	5.991	3.573	2.741	4.146	14.211	22.205	12.295
24	16.154	12.300	34.137	12.886	7.194	5.293	3.179	3.409	5.098	12.305	19.420	12.151
25	15.934	11.800	25.697	12.464	6.508	6.374	3.208	3.008	4.171	11.534	18.134	11.983
26	15.133	14.150	24.072	12.361	6.401	8.727	2.758	4.130	3.544	10.996	16.376	11.480
27	14.254	38.130	74.646	11.979	6.332	6.510	2.772	3.274	3.393	12.029	15.255	12.666
28	13.436	43.260	45.386	11.677	5.970	5.798	3.092	2.717	3.108	13.292	14.225	12.644
29	12.397		30.199	12.609	5.845	5.053	3.556	2.312	2.909	11.804	13.704	16.563
30	11.714		25.055	12.155	5.916	4.902	3.299	2.533	2.817	10.761	12.754	30.336
31	10.883		22.779		6.952		3.016	2.302		29.395		36.738
Average	22.080	18.690	24.820	26.520	8.201	6.991	3.624	2.586	3.320	13.960	27.750	13.880
Lowest	10.883	11.056	13.469	11.677	5.845	4.902	2.689	1.760	2.405	2.794	11.414	8.769
Highest	88.505	43.260	74.646	70.521	11.959	14.170	7.056	4.130	5.098	38.323	91.324	36.738
Peak flow	97.214	61.760	83.628	92.246	14.673	16.921	9.368	4.562	5.350	45.405	100.833	40.742
Day of peak	1	27	27	5	2	5	19	28	24	31	12	31
Monthly total (million cu m)	59.15	45.21	66.48	68.73	21.97	18.12	9.71	6.93	8.60	37.40	71.92	37.19
Runoff (mm)	38	29	43	44	14	12	6	4	6	24	46	24
Rainfall (mm)	18	62	75	65	40	99	50	24	55	149	74	47

Statistics of monthly data for previous record (Dec 1969 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	33.220	31.450	26.030	16.740	13.060	10.130	5.930	6.110	6.730	10.610	19.440	30.040
	Low	9.225	11.370	10.080	7.718	5.047	3.898	2.411	1.715	3.748	3.117	4.407	12.120
	(year)	1976	1976	1973	1976	1976	1976	1976	1976	1978	1978	1978	1975
	High	51.280	64.730	54.220	22.690	31.020	30.110	9.955	13.830	25.450	28.180	39.810	48.270
	(year)	1984	1977	1981	1979	1983	1971	1973	1985	1974	1976	1986	1976
Runoff:	Avg.	57	49	45	28	23	17	10	11	11	18	32	52
	Low	16	18	17	13	9	7	4	3	6	5	7	21
	High	88	101	94	38	54	50	17	24	43	49	66	83
Rainfall: (1970-1986)	Avg.	89	58	78	47	64	65	52	69	78	68	84	94
	Low	23	7	17	2	29	5	25	18	15	6	38	33
	High	148	143	163	110	142	151	115	140	178	135	178	144

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	14.310		17.400		82
Lowest yearly mean			10.360	1973	
Highest yearly mean			22.160	1977	
Lowest monthly mean	2.586	Aug	1.715	Aug 1976	
Highest monthly mean	27.750	Nov	64.730	Feb 1977	
Lowest daily mean	1.760	10 Aug	1.093	29 Aug 1976	
Highest daily mean	91.324	12 Nov	253.648	28 Dec 1979	
Peak	100.833	12 Nov	300.500	28 Dec 1979	
10% exceedance	29.560		36.660		81
50% exceedance	11.610		11.410		102
95% exceedance	2.472		3.438		72
Annual total (million cu m)	451.30		549.10		82
Annual runoff (mm)	291		354		82
Annual rainfall (mm)	758		846		90
(1941-70 rainfall average (mm)			840)		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Augmentation from surface water and/or groundwater.

Station and catchment description

Velocity-area station with cableway. (Replacement station for Bath St James). Situated immediately downstream of confluence with Bybrook. Section by railway bridge; area widely inundated in flood conditions, but all flows contained through bridge. Flows augmented by groundwater scheme in catchment. Mixed geology - predominantly clays and limestone with eastern tributaries rising from Chalk. Land use - mainly rural, some urbanisation.

054001 Severn at Bewdley 1987

Measuring authority: STWA
First year: 1921
Grid reference: 32 (SO) 782 762
Level stn. (m OD): 17.00
Catchment area (sq km): 4325.0
Max alt. (m OD): 827

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	319.850	21.199	47.423	111.957	19.345	13.237	23.785	15.131	12.918	17.019	54.293	44.876
2	342.459	27.112	52.304	128.819	17.924	13.720	21.560	16.569	12.692	15.886	50.551	39.508
3	294.807	49.161	61.300	99.529	18.345	14.919	19.812	17.165	12.726	15.063	44.408	36.036
4	198.361	49.472	43.299	114.064	17.891	16.896	16.524	20.814	12.603	18.547	40.894	32.607
5	192.358	41.870	38.482	230.936	16.939	19.897	14.772	16.110	11.460	21.227	37.808	29.055
6	183.978	43.356	37.636	259.770	16.130	21.257	14.052	14.237	11.687	24.034	35.199	27.010
7	151.662	66.931	38.962	229.867	15.654	37.840	13.180	13.881	17.973	25.455	31.892	26.473
8	117.765	49.647	52.353	211.874	15.100	47.802	12.442	12.200	34.358	33.430	31.120	24.609
9	93.710	84.911	54.989	167.696	13.449	40.590	11.925	12.473	22.319	73.897	55.278	22.947
10	78.709	143.358	48.717	124.282	12.896	36.748	11.147	14.321	17.827	147.757	86.771	21.425
11	67.154	130.506	45.710	117.371	13.583	30.358	10.076	14.445	14.290	144.767	72.439	20.301
12	54.675	91.001	49.914	110.756	14.148	26.764	9.784	14.328	14.406	82.790	128.340	19.028
13	40.218	71.457	47.410	111.654	14.784	23.828	11.171	16.148	31.514	63.498	147.294	19.239
14	37.269	56.436	44.311	79.466	16.839	23.152	11.334	18.142	27.700	78.822	111.273	19.749
15	36.086	49.075	51.561	53.934	16.722	25.630	11.961	19.686	20.381	162.878	85.213	19.961
16	36.117	43.558	63.702	46.653	16.033	25.226	13.980	15.670	19.860	214.948	97.775	24.444
17	31.172	38.412	59.872	42.214	16.112	27.676	15.662	14.493	19.330	228.135	116.384	55.703
18	29.236	33.258	63.071	36.845	17.285	29.605	19.539	13.135	35.687	199.717	103.418	93.935
19	28.336	30.018	65.797	34.276	15.345	67.250	42.474	12.831	30.560	190.531	111.664	115.559
20	28.350	27.668	51.639	32.378	14.919	82.829	90.367	12.578	23.759	234.488	180.608	69.046
21	48.524	25.745	42.746	39.413	14.235	50.810	61.127	11.658	26.307	269.474	153.137	58.263
22	74.413	24.619	39.402	33.332	13.917	35.959	35.439	11.058	23.587	226.739	112.537	51.592
23	69.726	23.887	40.108	28.529	13.053	31.111	26.934	18.265	34.249	177.725	105.034	46.977
24	59.513	23.061	49.977	26.385	13.913	28.965	22.868	37.624	29.297	137.802	119.416	40.337
25	48.860	22.832	78.075	23.480	14.800	28.301	19.980	37.256	33.281	107.505	135.636	36.543
26	44.444	22.742	112.012	22.171	14.589	27.221	17.655	27.497	30.801	85.126	96.272	36.256
27	38.915	31.743	171.102	21.974	14.000	27.469	17.793	19.599	24.091	97.464	72.685	51.063
28	34.660	50.906	233.810	20.295	13.920	24.766	16.655	16.629	21.107	127.757	56.266	122.434
29	31.700		257.103	19.839	14.396	24.250	17.192	14.647	19.106	118.729	49.983	103.531
30	29.198		192.595	20.269	12.462	24.049	16.444	13.928	18.252	77.006	48.908	132.177
31	23.496		129.613		12.997		17.549	13.423		60.312		137.125
Average	92.440	49.070	76.290	86.670	15.220	30.940	21.460	16.970	22.140	112.200	85.750	50.900
Lowest	23.496	21.199	37.636	19.839	12.462	13.237	9.784	11.058	11.460	15.063	31.120	19.028
Highest	342.459	143.358	257.103	259.770	19.345	82.829	90.367	37.624	35.687	269.474	180.608	137.125
Peak flow	351.948	156.605	262.365	266.912	20.865	92.549	101.944	40.540	45.335	276.346	195.172	150.088
Day of peak	2	10	29	6	1	20	20	25	18	21	20	30
Monthly total (million cu m)	247.60	118.70	204.30	224.60	40.76	80.19	57.47	45.44	57.38	300.50	222.30	136.30
Runoff (mm)	57	27	47	52	9	19	13	11	13	69	51	32
Rainfall (mm)	30	58	95	69	40	104	60	65	68	162	87	63

Statistics of monthly data for previous record (Apr 1921 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	114.400	102.100	73.600	52.550	39.400	29.820	22.950	28.360	36.680	53.690	90.990	101.900
	Low	22.090	21.200	23.200	15.890	10.220	9.811	9.592	7.460	7.676	10.500	21.740	17.840
	(year)	1963	1934	1943	1938	1938	1976	1976	1976	1949	1947	1942	1933
	High	250.600	232.300	261.900	112.400	131.600	117.400	91.220	92.360	126.700	140.700	238.300	297.400
	(year)	1939	1946	1947	1947	1969	1931	1968	1927	1946	1967	1940	1965
Runoff:	Avg.	71	58	46	31	24	18	14	18	22	33	55	63
	Low	14	12	14	10	6	6	6	5	5	7	13	11
	High	155	130	162	67	81	70	56	57	76	87	143	184
Rainfall:	Avg.	92	67	62	60	70	61	71	78	78	84	97	96
	Low	23	8	3	5	18	5	10	13	5	13	13	10
	High	226	170	175	128	186	136	193	160	209	174	244	294

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	55.040		62.010		89
Lowest yearly mean			36.460	1964	
Highest yearly mean			94.740	1960	
Lowest monthly mean	15.220	May	7.460	Aug 1976	
Highest monthly mean	112.200	Oct	297.400	Dec 1965	
Lowest daily mean	9.784	12 Jul	5.990	4 Sep 1976	
Highest daily mean	342.459	2 Jan	637.130	21 Mar 1947	
Peak	351.948	2 Jan			
10% exceedance	129.700		147.700		88
50% exceedance	32.310		37.850		85
95% exceedance	12.700		11.340		112
Annual total (million cu m)	1736.00		1957.00		89
Annual runoff (mm)	401		452		89
Annual rainfall (mm)	901		916		98
[1941-70 rainfall average (mm)			936]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station with rock control. Stage monitoring site relocated in 1950 and 1970; lowest flows not reliable in earlier record. US gauge undergoing calibration. Sig. exports for PWS and CEGB; minimum flow maintained by Clywedog releases. Naturalised flow series accommodates major usages. Diverse catchment; wet western 50% from impermeable Palaeozoic rocks and river gravels; drier northern 50% from Drift covered Carboniferous to Liassic sandstones and marls. Moorland, forestry, mixed farming.

054002 Avon at Evesham 1987

Measuring authority: STWA
First year: 1936

Grid reference: 42 (SP) 040 438
Level stn. (m OD): 19.50

Catchment area (sq km): 2210.0
Max alt. (m OD): 320

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	96.677	12.523	46.897	42.102	12.331	7.585	9.887	7.162	6.296	5.509	41.743	15.949
2	79.529	20.982	50.181	60.869	12.297	9.568	8.748	7.803	6.260	5.541	30.396	15.873
3	48.658	25.305	35.237	39.535	11.278	11.068	8.181	7.543	6.022	5.677	21.710	14.929
4	35.205	25.213	25.030	69.228	10.617	9.677	7.817	6.876	5.909	9.390	17.882	14.475
5	33.984	25.809	20.328	115.552	10.233	11.094	7.691	7.147	6.918	8.580	15.797	13.810
6	29.682	24.649	19.877	79.115	9.860	17.375	7.437	6.584	8.775	8.262	14.389	13.200
7	23.342	19.775	34.468	90.433	9.561	12.254	7.117	6.483	11.316	10.448	13.634	12.284
8	20.128	17.992	43.797	108.268	9.505	13.408	6.923	6.334	8.366	15.477	14.837	11.511
9	18.593	23.368	40.545	83.672	9.434	18.998	6.556	6.239	7.156	16.084	29.508	11.092
10	17.170	25.892	33.270	55.074	9.177	21.800	6.635	8.451	6.949	51.004	28.619	10.764
11	14.914	31.448	30.141	41.880	9.350	16.866	6.500	7.548	6.622	45.464	53.111	10.594
12	13.378	63.829	27.176	30.606	9.838	16.582	6.181	7.320	6.843	28.577	82.176	10.344
13	13.489	49.397	23.450	24.571	11.191	15.123	6.237	8.376	6.330	17.166	60.428	10.297
14	14.983	34.325	20.477	21.195	13.567	13.906	6.709	7.957	6.208	13.639	33.980	10.303
15	13.932	27.645	20.587	18.848	11.669	17.906	7.320	6.818	5.826	32.222	28.681	11.748
16	12.655	22.706	18.718	17.995	10.215	25.669	7.112	6.276	5.876	83.786	27.953	19.735
17	12.017	19.713	17.160	16.501	9.855	23.784	7.321	6.279	7.595	60.507	23.261	30.873
18	11.801	17.721	20.180	15.757	10.893	20.030	7.745	6.618	8.609	32.659	19.700	37.778
19	11.257	15.912	17.509	15.673	9.786	81.012	9.450	6.781	8.126	24.452	90.817	29.270
20	12.293	14.652	15.036	14.848	8.849	77.315	10.786	6.516	8.894	21.714	116.753	21.805
21	16.571	13.632	14.192	13.912	8.635	66.855	8.911	6.501	8.011	64.411	70.649	18.569
22	27.978	13.180	13.687	13.042	8.548	39.146	8.113	7.968	7.162	63.673	40.091	16.261
23	35.861	12.785	14.657	12.881	9.378	24.654	7.639	18.844	7.065	34.970	36.358	14.897
24	39.146	12.266	15.009	12.472	9.373	19.486	7.491	16.996	6.786	21.205	32.951	14.264
25	40.898	11.980	24.111	12.169	8.460	20.677	7.049	11.441	6.747	16.745	30.766	13.551
26	35.841	13.101	23.715	11.830	8.175	25.057	6.734	9.127	6.046	14.658	26.101	12.733
27	28.002	37.063	62.514	11.238	7.784	21.176	6.993	9.070	5.718	21.845	21.298	16.373
28	22.074	37.507	54.037	11.058	8.252	16.117	7.241	7.936	5.607	43.807	18.604	17.308
29	18.375		30.865	11.383	8.157	13.725	8.392	7.149	5.475	31.045	16.820	15.895
30	15.418		21.943	11.397	7.999	11.439	8.378	6.728	5.589	21.387	16.341	19.324
31	13.055		19.044		8.013		7.782	6.361		31.097		32.800
Average	26.670	23.940	27.540	36.100	9.751	23.310	7.648	8.040	6.970	27.770	35.850	16.730
Lowest	11.257	11.980	13.687	11.058	7.784	7.585	6.181	6.239	5.475	5.509	13.634	10.297
Highest	96.677	63.829	62.514	115.552	13.567	81.012	10.786	18.844	11.316	83.786	116.753	37.778
Peak flow	104.055	65.953	74.875	128.772	14.607	99.773	12.084	22.117	13.646	90.006	137.629	39.566
Day of peak	1	12	27	5	14	19	19	23	7	16	20	18
Monthly total (million cu m)	71.44	57.92	73.77	93.58	26.12	60.42	20.48	21.53	18.07	74.39	92.91	44.81
Runoff (mm)	32	26	33	42	12	27	9	10	8	34	42	20
Rainfall (mm)	18	47	53	57	43	121	38	54	44	127	60	29

Statistics of monthly data for previous record (Dec 1936 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	27.980	27.660	22.470	14.700	11.640	8.495	6.470	6.768	6.739	9.124	17.410	22.780
	Low	5.140	4.869	2.261	3.240	2.220	1.935	2.253	2.038	1.970	2.484	2.677	3.548
	(year)	1950	1944	1944	1938	1944	1944	1976	1943	1959	1959	1943	1943
	High	73.520	77.930	75.600	35.160	37.680	27.380	42.220	16.100	24.210	45.410	55.920	65.160
	(year)	1939	1977	1947	1966	1983	1977	1968	1969	1960	1960	1960	1965
Runoff:	Avg.	34	30	27	17	14	10	8	8	8	11	20	28
	Low	6	6	3	4	3	2	3	2	2	3	3	4
	High	89	85	92	41	46	32	51	20	28	55	66	79
Rainfall: (1937-1986)	Avg.	60	43	48	42	57	53	56	71	55	57	65	61
	Low	13	3	5	5	15	10	8	5	3	6	8	15
	High	127	122	140	94	130	115	122	130	127	150	163	121

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	20.780		15.130		137
Lowest yearly mean			6.895	1944	
Highest yearly mean			25.030	1960	
Lowest monthly mean	6.970	Sep	1.935	Jun 1944	
Highest monthly mean	36.100	Apr	77.930	Feb 1977	
Lowest daily mean	5.475	29 Sep	1.274	9 Oct 1959	
Highest daily mean	116.753	20 Nov	277.082	11 Jul 1968	
Peak	137.629	20 Nov	371.000	11 Jul 1968	
10% exceedance	41.780		33.850		123
50% exceedance	14.410		7.984		180
95% exceedance	6.284		2.551		246
Annual total (million cu m)	655.30		477.50		137
Annual runoff (mm)	297		216		137
Annual rainfall (mm)	691		668		103
[1941-70 rainfall average (mm)			672]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station. Recording site, control and gauging site are widely separated; recording at a site where all flows contained. Gauge site can measure out-of-bank flows. Extensive modification to flow regime from abstractions and returns. Large catchment of low relief, draining argillaceous rocks almost exclusively. Contains many large towns, but chief land use is agriculture.

055026 Wye at Ddol Farm 1987

Measuring authority: WELS
First year: 1937

Grid reference: 22 (SN) 976 676
Level stn. (m OD): 192.80

Catchment area (sq km): 174.0
Max alt. (m OD): 752

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	30.840	1.633	15.430	8.304	1.468	0.742	2.345	7.752	0.219	1.893	3.646	3.030
2	23.272	2.564	11.377	6.982	1.403	1.730	1.923	10.058	0.224	1.725	3.159	2.668
3	12.871	3.045	6.876	5.834	1.250	3.571	1.582	3.986	0.218	1.572	2.795	2.397
4	41.033	2.677	6.043	31.940	0.957	2.576	1.254	2.658	0.185	1.599	2.539	2.238
5	20.471	4.157	4.794	17.549	0.768	3.853	1.026	1.976	0.655	1.476	2.267	2.036
6	12.510	10.604	4.484	11.254	0.629	6.135	0.814	1.540	3.523	4.004	2.054	1.856
7	9.126	5.468	4.246	10.524	0.547	11.318	0.656	1.233	2.199	5.411	1.933	1.660
8	6.739	11.675	3.813	10.540	0.454	8.685	0.538	1.153	1.241	22.879	4.892	1.360
9	5.586	19.037	3.331	10.128	0.370	5.668	0.465	0.974	1.151	36.500	5.081	1.104
10	4.600	17.427	3.015	12.126	0.301	4.350	0.477	0.718	1.381	16.345	7.449	0.920
11	3.267	10.022	2.678	9.416	2.770	3.535	0.724	1.062	1.357	9.335	19.574	1.287
12	2.491	6.981	2.541	7.166	5.336	2.898	0.499	1.245	3.461	6.946	16.446	1.087
13	2.734	5.667	2.490	6.092	2.748	2.867	0.352	3.025	2.268	12.173	12.049	0.992
14	2.252	4.833	2.555	4.852	5.597	2.830	0.548	1.617	2.077	21.794	11.637	0.837
15	2.325	3.959	3.193	4.117	3.479	2.304	0.775	1.054	1.511	19.465	13.790	1.172
16	2.144	3.350	3.254	3.545	2.441	1.979	0.797	0.784	1.691	34.520	20.438	6.837
17	1.858	2.933	5.532	2.991	2.427	2.873	1.122	0.632	4.292	21.815	11.914	15.953
18	1.729	2.547	6.933	2.705	2.180	8.177	2.942	0.539	2.488	96.981	12.204	15.369
19	1.697	2.319	5.590	4.843	1.724	8.754	6.833	0.455	3.075	35.733	34.993	6.919
20	4.016	2.077	4.903	7.559	1.375	4.980	3.426	0.353	2.636	22.984	15.142	9.052
21	4.581	1.860	5.059	4.020	1.137	4.016	2.380	0.593	4.214	28.400	9.785	9.337
22	4.531	1.817	6.453	3.195	0.974	4.412	1.879	0.446	4.066	15.975	9.111	7.148
23	4.221	1.750	15.991	2.707	1.508	3.491	1.440	0.682	10.091	10.115	9.230	5.305
24	3.993	1.557	10.912	2.362	1.250	3.056	1.160	0.947	11.060	7.281	10.217	4.727
25	3.656	1.387	10.428	2.072	0.897	4.449	0.879	0.463	6.640	5.697	7.088	4.076
26	3.232	3.360	34.077	1.864	0.703	3.361	1.115	0.464	4.716	4.663	5.797	7.610
27	2.825	6.144	44.464	1.637	0.574	3.646	5.863	0.378	3.736	9.132	4.756	18.804
28	2.483	4.629	20.661	1.382	0.598	3.902	3.106	0.274	3.066	5.912	4.187	10.709
29	2.072		12.309	1.605	0.492	3.882	5.286	0.251	2.583	4.817	3.998	27.724
30	1.594		9.194	1.310	0.837	3.083	3.035	0.216	2.207	4.330	3.546	14.584
31	1.547		7.918		0.871		2.858	0.169		4.198		11.358
Average	7.300	5.196	9.050	6.687	1.550	4.237	1.874	1.539	2.941	15.340	9.057	6.457
Lowest	1.547	1.387	2.490	1.310	0.301	0.742	0.352	0.169	0.185	1.476	1.933	0.837
Highest	41.033	19.037	44.464	31.940	5.597	11.318	6.833	10.058	11.060	96.981	34.993	27.724
Peak flow	86.850	27.560	69.520	52.780	9.258	22.570	9.840	29.420	17.790	164.600	49.190	44.180
Day of peak	4	10	27	4	12	18	27	1	23	18	19	17
Monthly total (million cu m)	19.55	12.57	24.24	17.33	4.15	10.98	5.02	4.12	7.62	41.10	23.48	17.29
Runoff (mm)	112	72	139	100	24	63	29	24	44	236	135	99
Rainfall (mm)	81	111	165	121	73	134	90	55	132	299	165	158

Statistics of monthly data for previous record (Oct 1937 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	10.600	8.667	6.483	4.893	3.276	2.701	2.731	3.813	5.258	7.045	10.340	11.070
	Low	1.972	1.477	1.373	1.014	0.485	0.497	0.316	0.177	0.291	0.683	2.011	1.948
	(year)	1940	1947	1943	1974	1980	1975	1984	1976	1959	1972	1945	1963
	High	20.990	18.000	19.610	12.460	8.773	8.867	8.455	10.370	16.830	18.840	22.030	23.930
	(year)	1948	1946	1981	1972	1979	1985	1939	1957	1946	1981	1939	1965
Runoff:	Avg.	163	121	100	73	50	40	42	59	78	108	154	170
	Low	30	21	21	15	7	7	5	3	4	11	30	30
	High	323	250	302	186	135	132	130	160	251	290	328	368
Rainfall:	Avg.	182	131	118	97	100	92	104	125	141	150	186	194
	Low	41	10	25	11	25	21	14	13	13	28	28	28
	High	386	310	310	206	204	202	267	251	325	329	356	452

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	5.944		6.396		93
Lowest yearly mean			4.304	1976	
Highest yearly mean			8.529	1954	
Lowest monthly mean	1.539	Aug	0.177	Aug 1976	
Highest monthly mean	15.340	Oct	23.930	Dec 1965	
Lowest daily mean	0.169	31 Aug	0.083	15 Aug 1983	
Highest daily mean	96.981	18 Oct	147.200	3 Dec 1960	
Peak	164.600	18 Oct	252.200	5 Aug 1973	
10% exceedance	13.150		15.510		85
50% exceedance	3.220		3.528		91
95% exceedance	0.470		0.539		87
Annual total (million cu m)	187.40		201.80		93
Annual runoff (mm)	1077		1160		93
Annual rainfall (mm)	1584		1620		98
[1941-70 rainfall average (mm)			1618]		

Factors affecting flow regime

- Abstraction for public water supplies.

Station and catchment description

Initially gauged nearby at Rhayader (055005; 1937-69) then resited as a velocity-area station with a rock bar as control. Informal Flat V control installed 1972. Bankfull width approx. 30m. Cableway span 54m. All but exceptional floods contained. Lowest extent of gauging unaffected by Caban Coch reservoir. Wet, upland catchment draining impermeable, metamorphosed Silurian sediments. High relief, headwaters reach over 600m, and feature steep sided and high gradient streams. Moorland and forestry.

056001 Usk at Chain Bridge 1987

Measuring authority: WELS
First year: 1957

Grid reference: 32 (SO) 345 056
Level stn. (m OD): 22.60

Catchment area (sq km): 911.7
Max alt. (m OD): 886

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	98.058	13.319	37.113	55.770	12.680	6.817	11.836	5.563	3.299	6.103	27.433	21.011
2	67.121	23.232	43.389	60.813	12.309	6.879	10.690	5.751	3.267	6.151	23.259	19.279
3	51.546	19.985	30.838	75.103	11.416	9.693	9.974	6.196	3.262	6.345	21.002	18.134
4	74.191	16.967	27.834	143.749	10.717	11.772	9.352	5.460	3.280	6.492	19.304	17.937
5	58.615	17.942	24.808	94.714	10.130	17.289	8.765	5.023	3.719	6.350	17.930	17.125
6	48.095	35.550	22.971	76.146	9.931	39.828	8.209	4.867	4.510	7.843	16.788	16.000
7	39.941	23.542	25.126	75.840	9.702	25.635	7.728	4.730	8.937	12.425	16.096	14.842
8	35.251	23.054	23.861	74.197	9.439	20.476	7.374	4.613	5.585	15.075	17.793	13.774
9	33.048	41.914	21.688	65.012	9.050	17.564	7.158	4.565	4.752	32.278	33.331	13.076
10	29.979	49.574	19.783	64.331	8.746	14.472	7.005	4.483	4.712	43.253	23.501	12.735
11	25.754	39.716	18.730	55.866	8.581	12.635	6.823	4.732	5.271	22.376	82.655	12.149
12	21.942	32.158	17.955	43.074	9.336	11.305	6.675	5.168	18.129	26.033	66.185	11.770
13	20.035	27.249	17.486	38.431	9.235	10.330	6.388	4.864	11.768	28.006	43.633	11.450
14	19.969	25.441	17.164	33.365	8.984	10.444	6.923	4.596	7.799	49.043	35.559	11.140
15	19.073	22.028	17.771	29.338	9.734	10.055	8.057	4.317	6.933	66.967	40.516	12.139
16	17.986	19.926	17.392	26.578	8.757	9.571	7.539	4.134	5.846	120.179	38.959	35.042
17	16.974	18.310	17.089	24.449	8.274	9.870	7.275	4.057	7.864	104.870	32.205	71.127
18	16.233	17.104	18.102	22.642	8.135	10.531	10.182	4.049	9.511	299.394	28.487	95.488
19	15.710	15.927	17.637	23.582	7.859	24.659	13.673	3.997	7.269	170.402	95.301	43.059
20	16.598	15.142	17.081	24.102	7.542	15.046	11.650	3.931	6.862	85.797	57.950	35.481
21	21.627	14.187	16.095	20.161	7.284	12.594	8.756	3.787	6.262	92.437	42.657	28.341
22	24.453	13.796	16.467	18.366	7.108	12.118	7.833	3.749	12.159	65.132	40.270	25.416
23	23.961	13.290	22.962	17.124	7.512	12.059	7.352	3.899	12.465	48.084	38.149	25.416
24	22.078	12.843	21.727	16.173	7.780	10.591	6.882	3.980	12.607	39.243	42.158	24.272
25	20.718	12.278	37.859	15.352	7.266	23.149	6.483	3.728	9.216	33.402	33.825	27.216
26	18.893	25.259	123.836	14.475	6.839	21.280	6.158	3.802	7.808	29.488	29.558	30.367
27	17.428	70.875	342.897	13.789	6.529	16.408	6.040	3.788	7.023	54.729	26.204	77.598
28	16.168	39.064	101.264	13.042	6.364	15.165	6.351	3.623	6.433	44.410	24.039	55.412
29	14.793		65.255	12.497	6.322	16.534	6.203	3.405	6.285	34.110	22.766	236.494
30	13.706		52.508	12.252	6.344	13.224	6.529	3.376	6.322	29.185	25.009	109.111
31	12.462		44.647		7.356		5.726	3.329		29.282		107.777
Average	30.080	24.990	41.910	42.010	8.621	14.930	7.987	4.373	7.305	52.090	35.420	40.330
Lowest	12.462	12.278	16.095	12.252	6.322	6.817	5.726	3.329	3.262	6.103	16.096	11.140
Highest	98.058	70.875	342.897	143.749	12.680	39.828	13.673	6.196	18.129	299.394	95.301	236.494
Peak flow	124.200	128.200	526.800	204.400	13.430	71.080	16.870	6.715	24.620	399.600	165.800	352.400
Day of peak	1	27	27	4	1	5	19	3	12	18	11	29
Monthly total (million cu m)	80.56	60.45	112.30	108.90	23.09	38.71	21.39	11.71	18.93	139.50	91.80	108.00
Runoff (mm)	88	66	123	119	25	42	23	13	21	153	101	118
Rainfall (mm)	35	100	150	102	45	124	54	36	94	265	119	155

Statistics of monthly data for previous record (Mar 1957 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	51.460	41.110	33.960	23.540	17.890	11.170	7.944	10.790	16.510	28.530	40.640	51.270
	Low	10.850	12.690	10.010	8.122	6.124	4.274	3.390	2.699	2.941	4.303	16.030	20.380
	(year)	1964	1963	1962	1974	1984	1957	1976	1976	1959	1978	1975	1963
	High	88.650	95.710	100.700	49.330	46.590	26.740	27.490	38.540	45.680	86.350	99.840	112.700
	(year)	1974	1958	1981	1985	1983	1972	1968	1985	1974	1967	1960	1959
Runoff:	Avg.	151	110	100	67	53	32	23	32	47	84	116	151
	Low	32	34	29	23	18	12	10	8	8	13	46	60
	High	260	254	296	140	137	76	81	113	130	254	284	331
Rainfall:	Avg.	159	108	113	85	94	76	75	100	126	134	153	171
	Low	28	10	15	8	31	17	21	25	8	19	74	46
	High	331	223	303	175	221	144	137	210	259	325	323	351

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	25.850		27.850		93
Lowest yearly mean			14.880	1973	
Highest yearly mean			44.050	1960	
Lowest monthly mean	4.373	Aug	2.699	Aug 1976	
Highest monthly mean	52.090	Oct	112.700	Dec 1959	
Lowest daily mean	3.262	3 Sep	1.607	27 Aug 1976	
Highest daily mean	342.897	27 Mar	585.400	27 Dec 1979	
Peak	526.800	27 Mar	945.000	27 Dec 1979	
10% exceedance	57.420		63.930		90
50% exceedance	16.280		16.730		97
95% exceedance	4.016		4.343		92
Annual total (million cu m)	815.20		878.80		93
Annual runoff (mm)	894		964		93
Annual rainfall (mm)	1279		1394		92
[1941-70 rainfall average (mm)			1378]		

Factors affecting flow regime

- Reservoir(s) in catchment.

Station and catchment description

Velocity-area station; permanent cableway. Low flows measured at complementary station downstream (056010 - Trostrey weir). There is a partial impact on flows resulting from three large existing public water supply reservoirs in upper catchment. Intake to canal upstream of gauge. Some naturalised flows available. Geology - mainly Old Red Sandstone. Hill farming in upper areas, with dairy or livestock farming below; forest 3%. Peaty soils in uplands, seasonally wet.

062001 Teifi at Glan Teifi 1987

Measuring authority: WELS
First year: 1959

Grid reference: 22 (SN) 244 416
Level stn. (m OD): 5.20

Catchment area (sq km): 893.6
Max alt. (m OD): 595

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	107.612	9.082	32.301	53.097	8.850	4.433	10.079	16.592	4.290	11.274	30.392	24.609
2	76.902	13.536	43.814	52.876	8.348	4.515	8.619	21.816	4.216	10.399	25.377	22.231
3	62.257	11.954	36.504	48.380	8.047	5.093	7.922	20.293	4.323	9.768	22.442	20.438
4	75.464	10.855	30.357	63.990	7.786	6.766	7.273	15.746	4.607	9.195	20.283	20.295
5	71.237	10.860	26.852	67.724	7.316	9.594	6.780	11.003	6.011	9.296	18.673	18.585
6	61.181	14.832	23.277	57.490	6.918	16.149	6.315	9.079	10.211	12.087	17.273	17.828
7	47.602	14.736	24.149	49.360	6.648	12.880	5.985	8.022	13.615	21.164	16.182	16.175
8	41.060	15.463	24.363	53.787	6.397	17.684	5.500	7.485	8.543	19.507	32.778	14.811
9	38.330	65.479	20.010	50.273	6.071	16.872	5.269	6.999	6.797	48.318	42.735	13.775
10	35.569	63.542	17.296	48.714	5.841	11.593	5.162	6.665	6.884	57.225	35.302	13.031
11	27.176	48.269	15.916	46.505	6.168	9.213	5.152	6.976	9.657	48.821	67.414	12.391
12	20.629	39.360	14.818	39.985	7.852	7.975	4.995	7.669	18.935	43.769	58.695	12.075
13	18.364	32.234	14.076	36.345	7.760	7.411	4.752	8.059	13.406	50.451	52.629	11.593
14	17.320	27.133	13.722	31.952	7.687	6.953	4.695	10.646	10.184	60.831	45.868	10.814
15	15.802	22.967	13.309	26.237	8.196	6.395	5.190	7.295	8.772	76.054	54.656	11.526
16	15.002	20.039	12.672	23.231	6.966	6.205	5.346	6.210	8.583	150.704	45.397	21.840
17	14.109	17.685	13.189	20.470	6.510	8.601	5.298	5.824	14.768	129.308	41.068	38.953
18	13.962	15.800	17.392	19.465	6.284	12.573	5.682	5.562	14.561	373.572	41.692	48.268
19	14.034	14.635	18.315	20.536	6.150	29.747	12.330	5.223	11.757	361.441	128.225	39.494
20	16.333	13.615	17.847	22.784	5.735	19.598	10.889	5.076	12.162	211.750	116.243	34.016
21	17.036	12.593	17.222	19.234	5.454	12.282	7.181	4.971	16.731	137.488	82.083	34.594
22	16.299	11.952	21.029	15.561	5.146	10.796	5.960	7.003	20.048	92.455	64.459	30.627
23	14.919	11.503	31.451	14.034	4.989	10.585	5.386	5.549	32.287	70.083	59.731	26.432
24	13.842	10.713	32.796	13.060	5.056	8.953	4.968	5.245	28.831	54.327	50.670	30.613
25	13.099	10.642	41.248	12.315	5.150	13.517	4.636	5.056	23.865	45.106	43.841	29.107
26	12.241	19.174	95.254	11.510	4.726	17.965	4.390	6.196	19.351	40.188	38.652	36.351
27	11.433	34.890	190.584	10.784	4.463	12.328	11.406	6.826	16.350	49.207	32.476	80.021
28	10.492	25.913	123.901	10.052	4.236	11.490	20.071	5.775	14.656	47.269	28.471	71.940
29	9.581		72.086	9.402	4.052	11.504	21.816	5.103	13.331	39.425	33.798	112.747
30	8.807		57.988	8.507	4.283	12.222	18.426	4.793	12.264	33.234	29.460	121.829
31	8.062		48.422		4.567		20.402	4.504		31.038		132.482
Average	29.860	22.120	37.490	31.920	6.247	11.400	8.319	8.170	13.000	75.960	45.900	36.440
Lowest	8.062	9.082	12.672	8.507	4.052	4.433	4.390	4.504	4.216	9.195	16.182	10.814
Highest	107.612	65.479	190.584	67.724	8.850	29.747	21.816	21.816	32.287	373.572	128.225	132.482
Peak flow	138.500	81.590	202.100	82.240	8.990	37.900	24.260	26.560	39.610	448.800	146.700	167.000
Day of peak	1	9	27	4	1	19	29	2	23	18	19	30
Monthly total (million cu m)	79.98	53.52	100.40	82.74	16.73	29.54	22.28	21.88	33.70	203.50	119.00	97.59
Runoff (mm)	90	60	112	93	19	33	25	24	38	228	133	109
Rainfall (mm)	36	88	134	83	42	123	79	53	111	274	137	131

Statistics of monthly data for previous record (Jul 1959 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	47.320	37.970	30.010	22.240	18.730	11.520	8.035	12.380	16.890	34.490	46.470	54.720
	Low	7.086	11.140	8.281	7.481	4.227	2.975	1.818	1.128	1.072	3.887	16.060	17.820
	(year)	1963	1965	1962	1974	1984	1984	1984	1976	1959	1972	1983	1963
	High	106.000	81.100	96.730	41.800	36.780	41.700	24.930	39.210	48.680	102.000	85.130	93.960
	(year)	1974	1974	1981	1985	1979	1972	1968	1985	1974	1981	1986	1965
Runoff:	Avg.	142	104	90	64	56	33	24	37	49	103	135	164
	Low	21	30	25	22	13	9	5	3	3	12	47	53
	High	318	220	290	121	110	121	75	118	141	306	247	282
Rainfall:	Avg.	146	91	102	85	82	80	78	101	118	147	158	164
	Low	28	2	25	10	29	17	25	16	10	40	76	28
	High	326	213	312	163	168	148	140	180	242	293	279	315

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	27.290		28.370		96
Lowest yearly mean			18.860	1964	
Highest yearly mean			38.230	1974	
Lowest monthly mean	6.247	May	1.072	Sep 1959	
Highest monthly mean	75.960	Oct	106.000	Jan 1974	
Lowest daily mean	4.052	29 May	0.731	29 Aug 1976	
Highest daily mean	373.572	18 Oct	275.100	27 Dec 1979	
Peak	448.800	18 Oct	303.300	27 Dec 1979	
10% exceedance	58.130		63.710		91
50% exceedance	14.860		18.970		78
95% exceedance	4.971		3.102		160
Annual total (million cu m)	860.60		895.30		96
Annual runoff (mm)	963		1002		96
Annual rainfall (mm)	1291		1352		95
[1941-70 rainfall average (mm)			1364]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.

Station and catchment description

Velocity-area station. Straight reach (width: 35m), natural control. Flood flows spill over right bank. Public water supply impounding reservoirs in upland area where there is mostly hill farming. Tregaron bog (10 sq km) has partial effect on flows; sensibly natural regime. Geology - mainly Ordovician and Silurian deposits. Dairy farming predominates in southern area. Forest: 5%. Peaty soils on hills, seasonally wet. Apart from Tregaron bog, most of the lower areas have soils with permeable substrate.

065006 Seiont at Peblig Mill 1987

Measuring authority: WELS
First year: 1976

Grid reference: 23 (SH) 493 623
Level stn. (m OD): 18.60

Catchment area (sq km): 74.4
Max alt. (m OD): 1066

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	16.427	0.923	4.800	8.314	1.765	1.379	3.608	4.833	3.550	1.542	2.080	2.624
2	16.225	1.294	6.186	6.139	1.633	2.277	2.672	6.791	2.584	1.389	1.883	2.162
3	9.625	1.450	4.002	6.925	1.628	3.417	2.160	4.575	2.514	1.299	1.721	1.942
4	14.500	1.584	2.952	10.909	1.458	2.784	1.766	3.338	2.489	1.387	1.581	1.759
5	8.950	2.955	2.324	7.456	1.340	6.208	1.499	2.632	7.558	1.877	1.467	1.547
6	5.733	3.570	2.769	4.483	2.154	15.053	1.300	2.234	5.795	3.171	1.383	1.426
7	4.331	2.637	3.389	3.765	2.098	14.522	1.149	3.261	4.291	4.785	1.314	1.285
8	3.588	6.296	2.810	3.833	1.580	13.825	1.037	4.036	3.263	11.377	2.019	1.170
9	3.295	17.415	2.309	3.872	1.287	8.163	1.013	5.017	3.305	17.047	2.493	1.084
10	2.736	12.779	1.803	7.055	1.032	5.143	1.487	3.553	3.543	10.881	2.836	1.033
11	2.160	6.550	1.528	7.025	1.176	3.891	2.593	3.624	7.236	6.257	5.070	1.011
12	1.949	5.007	1.387	4.629	1.770	3.393	1.836	4.791	15.373	5.341	4.179	0.959
13	1.967	4.007	1.336	3.555	1.662	6.467	1.388	10.815	8.058	7.112	4.876	0.904
14	1.921	2.873	1.363	2.965	2.430	4.346	1.209	9.602	4.648	6.394	4.879	0.862
15	1.947	2.293	1.317	2.531	2.204	2.536	1.968	6.131	5.822	9.755	5.506	1.074
16	1.606	2.148	1.432	2.203	1.739	1.930	2.244	3.335	9.393	13.965	5.328	2.274
17	1.428	2.048	2.764	1.960	1.830	1.711	1.819	2.581	10.914	13.951	4.491	10.113
18	1.607	1.686	3.339	2.004	1.866	1.669	5.140	2.628	7.099	51.836	8.831	14.413
19	1.902	1.562	2.646	3.618	1.682	1.884	7.821	2.244	7.486	28.288	13.781	7.684
20	2.071	1.395	2.241	7.791	1.445	1.625	4.718	2.928	5.865	17.873	8.309	6.877
21	1.912	1.269	2.036	4.643	1.345	1.443	3.196	9.277	7.248	22.520	8.329	5.962
22	1.701	1.186	2.032	3.197	1.372	1.525	2.441	10.449	8.373	14.207	7.020	4.708
23	1.529	1.113	4.267	2.605	1.481	2.145	1.989	9.002	7.933	9.350	7.925	4.360
24	1.389	1.039	4.727	2.477	1.384	2.228	1.807	6.230	5.469	11.961	11.580	5.353
25	1.291	1.192	7.194	3.258	1.186	2.622	1.559	4.425	4.089	7.925	6.694	5.479
26	1.255	3.224	17.477	3.399	1.040	2.434	1.750	5.519	3.320	4.335	4.690	10.765
27	1.449	4.130	45.769	2.151	0.910	2.060	3.413	5.322	2.718	4.497	3.633	23.267
28	1.508	2.748	15.139	1.664	1.158	2.640	3.909	3.714	2.315	3.716	4.238	18.271
29	1.197		7.124	1.436	1.389	7.203	5.215	4.261	2.014	2.954	4.110	26.439
30	0.972		5.010	1.559	1.479	5.259	4.444	4.493	1.748	2.505	3.502	17.177
31	0.879		4.888		1.396		4.553	3.009		2.294		16.187
Average	3.840	3.442	5.431	4.247	1.546	4.386	2.668	4.989	5.534	9.735	4.858	6.457
Lowest	0.879	0.923	1.317	1.436	0.910	1.379	1.013	2.234	1.748	1.299	1.314	0.862
Highest	16.427	17.415	45.769	10.909	2.430	15.053	7.821	10.815	15.373	51.836	13.781	26.439
Peak flow	20.360	22.480	56.780	13.850	3.327	17.740	9.758	13.070	18.150	64.550	15.630	30.900
Day of peak	4	9	27	4	6	6	18	22	12	18	19	29
Monthly total (million cu m)	10.29	8.33	14.55	11.01	4.14	11.37	7.15	13.36	14.34	26.07	12.59	17.29
Runoff (mm)	138	112	196	148	56	153	96	180	193	350	169	232
Rainfall (mm)	67	157	235	107	83	225	147	181	179	334	174	310

Statistics of monthly data for previous record (Aug 1976 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	5.684	4.966	5.628	3.081	2.620	2.039	2.189	3.256	4.193	6.439	7.329	7.842
	Low	3.148	1.852	1.752	0.812	0.487	1.061	0.586	0.411	1.666	2.970	1.880	3.161
	(year)	1985	1986	1984	1984	1980	1984	1984	1976	1986	1978	1983	1976
	High	10.210	11.570	10.860	5.866	5.785	4.079	5.317	8.256	6.687	10.640	11.120	12.060
	(year)	1983	1977	1981	1985	1979	1981	1978	1985	1983	1981	1986	1986
Runoff:	Avg.	205	163	203	107	94	71	79	117	146	232	255	282
	Low	113	60	63	28	18	37	21	15	58	107	65	114
	High	368	376	391	204	208	142	191	297	233	383	387	434
Rainfall:	Avg.	235	161	236	113	132	148	127	199	228	291	300	306
	Low	144	25	82	20	47	58	63	29	24	112	93	136
	High	381	388	457	207	275	199	228	373	382	423	454	455

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	4.772		4.608		104
Lowest yearly mean			3.873	1984	
Highest yearly mean			5.126	1986	
Lowest monthly mean	1.546	May	0.411	Aug 1976	
Highest monthly mean	9.735	Oct	12.060	Dec 1986	
Lowest daily mean	0.862	14 Dec	0.158	24 Aug 1976	
Highest daily mean	51.836	18 Oct	43.530	31 Oct 1977	
Peak	64.550	18 Oct	57.890	21 Mar 1981	
10% exceedance	10.200		10.570		96
50% exceedance	3.004		3.026		99
95% exceedance	1.156		0.575		201
Annual total (million cu m)	150.50		145.40		104
Annual runoff (mm)	2023		1955		104
Annual rainfall (mm)	2199		2476		89
[1941-70 rainfall average (mm)			2298]		

Factors affecting flow regime

- Regulation for HEP.

Station and catchment description

A rated river section in a straight reach which has not yet been bypassed. Control provided by a roughly Crump shaped structure originally built as part of investigations prior to construction of the Dinorwic pumped storage scheme, which very marginally affects the record. A steep catchment with much bare rock surface. Contains two large ribbon lakes, Padarn and Peris, the latter acting as the lower reservoir of the Dinorwic scheme.

067015 Dee at Manley Hall 1987

Measuring authority: WELS
First year: 1937

Grid reference: 33 (SJ) 348 415
Level stn. (m OD): 25.40

Catchment area (sq km): 1019.3
Max alt. (m OD): 884

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	153.944	14.295	19.938	57.696	10.403	9.436	14.158	10.250	11.625	11.047	32.030	25.851
2	121.547	17.348	26.008	48.937	10.588	10.335	9.683	11.236	11.328	10.143	30.367	24.272
3	86.819	17.984	22.783	41.173	10.521	12.423	9.067	10.435	10.852	9.811	26.876	22.848
4	88.165	17.741	20.372	56.454	9.582	11.027	9.923	9.782	10.604	16.051	24.676	21.880
5	85.444	19.330	18.431	68.247	9.204	13.093	10.304	9.484	11.893	13.381	23.340	19.769
6	82.026	25.410	18.025	54.206	8.958	23.894	10.008	9.380	18.422	19.533	22.037	17.171
7	74.766	22.750	18.087	57.407	8.997	30.465	9.764	9.820	19.129	22.084	21.027	16.033
8	57.616	39.190	17.387	50.473	8.739	38.092	9.832	10.054	16.884	41.237	26.565	15.857
9	48.270	69.387	16.312	44.530	8.884	30.452	9.754	11.411	12.976	90.521	32.307	15.368
10	39.667	80.260	15.323	45.888	8.723	23.310	9.684	11.328	13.067	92.802	27.826	15.311
11	32.947	75.417	14.758	46.139	8.758	21.063	9.588	11.100	16.008	72.714	47.697	15.215
12	27.486	56.915	14.326	38.063	9.686	17.143	9.414	11.181	41.330	51.855	52.247	14.307
13	24.695	44.556	14.245	33.853	10.832	17.396	9.358	12.543	35.015	48.198	49.464	12.229
14	23.339	35.213	15.271	32.230	11.353	18.387	9.644	11.348	24.132	54.673	43.198	11.714
15	22.474	28.654	20.652	30.294	11.598	22.858	10.480	10.355	20.704	60.895	43.906	12.768
16	23.101	25.199	20.884	24.792	10.190	20.313	10.407	10.181	18.518	117.570	52.701	17.090
17	22.234	23.337	27.708	20.693	10.614	16.091	10.888	10.474	33.802	122.337	52.207	27.763
18	21.747	21.673	31.698	19.054	11.786	15.069	14.624	11.955	30.557	238.467	46.551	51.304
19	22.950	20.126	26.329	18.185	10.308	22.594	31.103	11.098	32.206	280.367	70.448	40.853
20	32.411	19.179	24.204	19.218	9.912	16.705	24.849	10.503	30.993	159.982	63.298	37.590
21	29.095	17.448	24.481	17.222	9.562	15.289	17.962	10.454	28.227	115.817	55.874	34.829
22	27.439	15.643	25.822	16.046	9.816	15.715	14.074	12.380	30.906	97.344	53.708	33.831
23	25.696	14.710	30.938	15.173	10.908	14.566	12.329	15.569	30.303	77.096	62.885	34.179
24	23.266	14.215	33.123	14.364	10.577	13.679	11.628	16.560	26.455	59.435	67.493	30.753
25	20.512	13.529	40.017	13.672	9.886	12.673	10.905	11.695	23.895	49.626	54.321	26.786
26	19.429	15.553	67.630	13.235	9.614	12.227	9.889	12.870	22.941	42.950	46.299	27.279
27	19.412	22.130	170.233	12.782	9.309	10.915	10.717	13.857	21.956	50.118	39.664	53.651
28	18.838	20.303	125.780	12.169	9.330	10.332	10.326	11.398	19.678	46.334	34.557	63.174
29	18.083		91.037	10.715	9.358	10.543	10.486	10.871	17.603	39.193	30.553	108.106
30	17.030		67.823	10.489	9.336	11.870	10.087	10.811	14.147	35.759	27.673	114.476
31	15.105		52.272		9.320		10.011	10.489		33.978		98.480
Average	42.760	28.840	36.510	31.450	9.892	17.270	11.970	11.320	21.870	70.370	42.060	34.220
Lowest	15.105	13.529	14.245	10.489	8.723	9.436	9.067	9.380	10.604	9.811	21.027	11.714
Highest	153.944	80.260	170.233	68.247	11.786	38.092	31.103	16.560	41.330	280.367	70.448	114.476
Peak flow	171.300	83.690	189.100	80.140	12.300	42.760	34.070	20.060	50.170	370.200	88.270	135.900
Day of peak	1	9	27	5	18	8	19	24	12	18	19	29
Monthly total (million cu m)	114.50	69.77	97.80	81.51	26.49	44.75	32.05	30.32	56.69	188.50	109.00	91.65
Runoff (mm)	112	68	96	80	26	44	31	30	56	185	107	90
Rainfall (mm)	49	93	148	75	53	118	78	80	120	261	120	135

Statistics of monthly data for previous record (Oct 1937 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	51.930	44.650	32.540	24.300	17.790	13.810	13.030	17.430	23.540	33.060	47.600	52.690
	Low	13.460	7.858	8.129	7.841	4.274	3.740	3.113	3.288	3.052	4.217	11.580	18.610
	(year)	1964	1963	1943	1938	1938	1961	1949	1955	1949	1947	1937	1963
	High	109.300	106.700	103.700	61.030	41.950	31.240	40.270	59.400	69.470	92.470	103.000	105.200
	(year)	1948	1946	1947	1970	1969	1972	1957	1957	1950	1967	1960	1965
Runoff:	Avg.	136	107	86	62	47	35	34	46	60	87	121	138
	Low	35	19	21	20	11	10	8	9	8	11	29	49
	High	287	253	273	155	110	79	106	156	177	243	262	277
Rainfall:	Avg.	152	107	101	84	94	82	94	110	122	137	162	157
	Low	41	14	33	10	30	13	20	9	13	25	15	36
	High	338	241	251	182	197	168	244	211	306	317	300	314

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	29.900		30.970		97
Lowest yearly mean			20.460	1964	
Highest yearly mean			44.600	1954	
Lowest monthly mean	9.892	May	3.052	Sep 1949	
Highest monthly mean	70.370	Oct	109.300	Jan 1948	
Lowest daily mean	8.723	10 May	1.926	30 Jul 1949	
Highest daily mean	280.367	19 Oct	521.000	14 Dec 1964	
Peak	370.200	18 Oct	665.400	14 Dec 1964	
10% exceedance	58.980		70.780		83
50% exceedance	19.530		19.480		100
95% exceedance	9.506		4.970		191
Annual total (million cu m)	942.90		977.30		96
Annual runoff (mm)	925		959		96
Annual rainfall (mm)	1330		1402		95
(1941-70 rainfall average (mm)			1395)		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.

Station and catchment description

Asymmetrical compound Crump weir, checked by current meter. Drowns at flows in excess of 200 cumecs. Low flows maintained by releases from major river regulating reservoirs (Celyn and Brenig). Data prior to February 1970 is of poorer quality - based on the d/s Erbistock (67002, area: 1040.0 sq km) flow record. Geology is 75% shales, slates, mudstones and palaeozoic grits; 25% extrusive igneous and Carboniferous rocks. 80% grazed open moorland, 12% forestry, remainder arable, urban negligible.

068001 Weaver at Ashbrook 1987

Measuring authority: NWWA
First year: 1937
Grid reference: 33 (SJ) 670 633
Level stn. (m OD): 16.30
Catchment area (sq km): 622.0
Max alt. (m OD): 222

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	36.680	3.124	4.773	14.070	2.462	2.315	2.497	2.826	3.578	2.003	6.650	4.962
2	26.940	4.455	5.646	14.310	2.716	3.021	2.347	2.718	3.444	1.943	5.514	4.685
3	15.060	6.278	3.971	9.141	2.662	3.690	2.218	2.442	3.272	1.919	5.159	4.450
4	16.380	5.949	3.999	7.291	2.488	3.244	2.106	2.291	3.091	4.551	4.789	4.277
5	14.640	5.135	4.265	16.110	2.417	2.979	2.061	2.153	3.209	3.887	4.431	4.265
6	12.960	4.895	6.458	12.390	2.375	3.422	1.998	2.191	4.939	3.493	4.131	3.921
7	8.975	4.256	8.072	19.370	2.346	3.174	1.880	2.253	5.497	3.146	3.905	3.610
8	7.122	5.503	12.770	21.810	2.322	5.693	1.914	2.457	3.978	5.850	5.619	3.433
9	6.163	11.020	11.130	14.300	2.288	7.728	1.822	2.855	3.325	14.060	9.862	3.273
10	5.676	10.430	8.949	11.860	2.247	3.983	2.388	2.670	3.043	30.500	14.770	3.244
11	4.316	6.627	8.537	13.470	2.350	5.148	2.227	2.494	2.856	15.230	16.630	3.225
12	4.328	5.334	7.913	8.606	3.588	6.515	2.066	2.582	3.025	7.935	15.190	3.253
13	5.086	4.810	6.756	6.530	3.447	3.824	1.977	5.740	2.697	5.975	11.770	3.253
14	4.247	4.203	6.333	5.733	3.306	3.074	1.983	4.738	2.488	9.534	14.480	3.249
15	3.738	3.781	7.914	4.847	3.057	6.644	2.692	3.113	2.396	30.090	14.470	3.840
16	3.444	3.569	7.806	4.313	2.863	4.272	2.766	2.584	2.810	44.680	12.160	8.218
17	3.313	3.391	7.650	4.150	3.613	5.150	4.035	2.501	6.769	30.610	8.373	9.760
18	3.248	3.157	11.070	3.918	3.714	6.854	6.323	2.591	4.059	15.350	7.284	13.580
19	3.280	2.993	7.204	3.715	2.907	21.280	10.600	2.411	3.804	12.040	26.170	8.100
20	4.398	2.912	5.875	4.028	2.619	14.220	6.461	2.196	3.745	10.020	21.530	6.551
21	7.185	2.826	5.291	3.450	2.478	6.307	3.899	2.267	3.262	13.580	11.660	5.646
22	7.919	2.806	4.659	3.247	2.438	6.035	3.270	2.221	3.009	10.410	17.460	5.197
23	7.872	2.891	6.868	3.063	2.637	4.935	2.791	35.660	2.740	7.605	20.600	4.792
24	7.072	2.904	10.730	2.943	2.509	4.422	2.549	46.190	2.785	6.426	26.290	4.569
25	6.545	2.817	27.390	2.822	2.384	3.995	2.361	23.180	2.597	5.443	14.530	4.284
26	5.750	3.106	15.760	2.730	2.334	3.877	3.794	11.170	2.370	4.959	9.947	3.946
27	4.803	3.578	18.530	2.684	2.304	3.606	7.481	7.148	2.188	27.900	7.775	8.646
28	4.535	3.399	14.070	2.589	2.464	3.054	3.943	5.944	2.122	33.050	6.618	7.792
29	4.003		9.167	2.566	2.360	2.836	4.537	5.010	2.108	14.700	5.878	6.275
30	3.505		6.847	2.554	2.396	2.704	3.395	4.238	2.035	9.664	5.365	7.021
31	3.063		6.080		2.316		2.994	3.763		7.747		9.012
Average	8.137	4.505	8.790	7.620	2.658	5.267	3.335	6.535	3.241	12.720	11.300	5.494
Lowest	3.063	2.806	3.971	2.554	2.247	2.315	1.822	2.153	2.035	1.919	3.905	3.225
Highest	36.680	11.020	27.390	21.810	3.714	21.280	10.600	46.190	6.769	44.680	26.290	13.580
Peak flow	38.630	12.570	31.750	26.530	4.790	23.610	11.610	51.360	8.294	47.340	32.180	16.220
Day of peak	1	10	25	8	12	19	19	23	17	16	19	18
Monthly total (million cu m)	21.79	10.90	23.54	19.75	7.12	13.65	8.93	17.50	8.40	34.07	29.29	14.72
Runoff (mm)	35	18	38	32	11	22	14	28	14	55	47	24
Rainfall (mm)	19	29	74	39	50	106	75	87	46	122	69	32

Statistics of monthly data for previous record (Oct 1937 to Dec 1986—incomplete or missing months total 1.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	10.370	9.232	6.566	4.873	3.842	2.767	2.763	2.991	3.307	4.388	7.743	9.474
	Low	1.965	2.376	2.183	1.490	0.903	1.125	0.736	0.641	0.919	1.184	1.303	2.429
	(year)	1964	1965	1938	1938	1946	1962	1976	1976	1964	1947	1942	1947
	High	21.950	19.860	18.580	11.760	22.720	6.995	12.750	8.404	16.980	15.970	22.540	22.250
	(year)	1939	1980	1947	1986	1969	1954	1968	1971	1957	1954	1954	1965
Runoff:	Avg.	45	36	28	20	17	12	12	13	14	19	32	41
	Low	8	9	9	6	4	5	3	3	4	5	5	10
	High	95	80	80	49	98	29	55	36	71	69	94	96
Rainfall:	Avg.	68	50	50	49	60	58	68	72	67	68	77	70
	Low	18	2	18	2	18	13	16	6	5	15	13	10
	High	145	145	127	98	194	142	168	175	169	137	170	140

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	6.649		5.677		117
Lowest yearly mean			2.752	1964	
Highest yearly mean			9.209	1954	
Lowest monthly mean	2.658	May	0.641	Aug 1976	
Highest monthly mean	12.720	Oct	22.720	May 1969	
Lowest daily mean	1.822	9 Jul	0.394	17 Aug 1976	
Highest daily mean	46.190	24 Aug	84.950	9 Feb 1946	
Peak	51.360	23 Aug	212.400	8 Feb 1946	
10% exceedance	14.290		12.420		115
50% exceedance	4.233		3.237		131
95% exceedance	2.193		1.126		195
Annual total (million cu m)	209.70		179.10		117
Annual runoff (mm)	337		288		117
Annual rainfall (mm)	748		757		99
[1941-70 rainfall average (mm)			765]		

Factors affecting flow regime

- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Augmentation from effluent returns.

Station and catchment description

Natural river section. Accuracy of early rating curves not known and gaugings lost. However, calibration came under suspicion in 1972 and previous records, particularly low flows, deemed to be of little value. Low flow rating then changed several times before station moved 400m downstream and shallow vee bed control constructed in August 1978. High flow rating (above 40 cumecs) has yet to be defined. Flat catchment includes western half of Crewe. Post glacial deposits over (mostly) Keuper Marl.

072004 Lune at Caton 1987

Measuring authority: NWWA | Grid reference: 34 (SD) 529 653 | Catchment area (sq km): 983.0
First year: 1959 | Level stn. (m OD): 10.70 | Max alt. (m OD): 736

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	127.900	7.432	35.310	135.000	8.190	5.856	27.570	21.200	9.932	11.210	17.940	13.750
2	73.780	16.500	56.390	60.590	8.172	8.637	19.470	15.110	9.182	10.170	16.050	12.860
3	41.040	21.910	23.250	37.040	9.534	22.450	14.800	18.620	8.328	9.374	14.490	11.930
4	215.600	14.020	18.130	27.620	7.431	13.100	12.360	19.870	7.932	9.248	13.160	11.010
5	92.680	59.690	21.740	24.410	6.676	19.420	10.530	12.290	17.990	50.760	12.190	10.220
6	52.470	75.210	33.620	20.960	6.184	184.000	8.953	10.110	22.090	80.960	11.400	9.522
7	33.820	37.290	24.800	28.220	5.770	88.600	8.376	9.541	17.910	33.530	10.670	8.980
8	25.610	96.530	19.730	38.410	5.472	37.790	7.558	9.060	13.590	72.460	10.290	7.993
9	21.450	200.000	16.320	29.080	5.181	26.280	7.227	9.679	69.590	104.200	9.941	7.365
10	18.440	128.700	13.890	63.200	4.994	26.170	43.790	8.999	55.320	56.480	13.590	7.921
11	13.920	59.610	12.750	47.860	5.328	21.620	134.800	15.410	78.700	29.250	55.260	7.684
12	12.070	36.090	11.760	26.140	6.829	24.630	29.240	38.420	148.000	36.720	125.600	7.663
13	28.250	26.830	11.550	21.970	6.797	21.390	18.530	91.220	43.670	70.270	61.320	7.303
14	36.160	21.560	11.170	18.840	14.780	16.430	14.280	25.510	30.100	204.000	29.890	7.067
15	12.800	17.780	12.330	15.860	10.530	15.400	12.660	17.890	29.510	86.190	96.150	6.598
16	10.700	15.450	12.560	14.050	7.351	12.890	13.390	15.840	39.270	177.400	125.400	11.290
17	9.855	13.320	31.580	12.700	8.938	11.770	11.870	13.820	32.700	77.280	58.350	44.800
18	9.132	11.980	25.130	11.500	12.240	10.470	199.200	22.340	21.430	207.800	166.800	75.310
19	9.063	11.090	15.980	28.570	7.560	8.609	87.370	13.840	117.600	165.200	93.340	50.110
20	18.120	10.470	12.120	43.830	6.188	7.600	38.680	11.870	68.340	78.920	54.500	80.100
21	31.290	9.694	11.750	18.910	5.455	6.933	24.580	40.200	53.780	146.800	35.560	109.400
22	26.830	9.488	13.820	14.650	5.041	7.263	18.920	113.200	65.520	129.400	36.150	48.790
23	19.190	9.334	19.640	12.570	4.759	8.343	15.100	77.730	47.560	55.980	40.880	29.370
24	16.740	8.703	16.750	11.070	4.406	8.497	13.540	36.940	41.920	37.830	42.330	23.630
25	14.940	8.021	55.500	9.916	4.161	14.420	11.980	23.240	37.430	29.600	26.940	31.700
26	13.550	10.860	132.800	9.080	3.887	22.150	41.630	24.670	24.780	24.140	22.080	133.400
27	11.770	38.940	392.500	8.405	3.615	12.390	40.910	21.510	19.280	66.180	18.550	184.700
28	10.390	34.100	144.000	7.715	3.672	127.300	20.570	15.230	16.270	46.020	16.420	220.400
29	9.354		57.730	7.444	3.877	148.600	29.190	14.350	14.080	28.130	15.700	359.900
30	7.970		38.360	7.784	6.400	51.710	24.740	12.100	12.450	22.860	15.290	94.100
31	6.225		61.060		7.443		26.720	10.510		20.160		84.190
Average	33.260	36.090	44.000	27.110	6.673	33.020	31.890	25.490	39.140	70.270	42.210	55.450
Lowest	6.225	7.432	11.170	7.444	3.615	5.856	7.227	8.999	7.932	9.248	9.941	6.598
Highest	215.600	200.000	392.500	135.000	14.780	184.000	199.200	113.200	148.000	207.800	166.800	359.900
Peak flow	443.200	333.100	530.100	189.800	17.790	280.200	347.800	209.800	332.600	382.400	396.000	673.900
Day of peak	4	9	27	1	14	6	11	13	11	18	18	29
Monthly total (million cu m)	89.09	87.32	117.90	70.28	17.87	85.60	85.41	68.28	101.50	188.20	109.40	148.50
Runoff (mm)	91	89	120	71	18	87	87	69	103	191	111	151
Rainfall (mm)	59	110	167	66	57	165	152	109	158	234	123	195

Statistics of monthly data for previous record (Jan 1959 to Dec 1986—incomplete or missing months total 4.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	53.250	35.140	34.750	28.640	19.740	15.490	18.070	25.570	33.810	43.690	52.780	56.590
	Low	6.621	3.840	11.830	4.202	2.565	3.387	1.883	2.165	2.791	4.312	24.640	18.730
	(year)	1963	1963	1975	1974	1974	1975	1984	1976	1959	1972	1985	1971
	High	86.420	76.630	113.800	67.970	40.700	49.180	41.480	71.330	67.010	134.400	97.220	108.900
	(year)	1983	1966	1981	1970	1986	1972	1960	1985	1985	1967	1963	1986
Runoff:	Avg.	145	87	95	76	54	41	49	70	89	119	139	154
	Low	18	9	32	11	7	9	5	6	7	12	65	51
	High	235	189	310	179	111	130	113	194	177	366	256	297
Rainfall:	Avg.	151	83	102	96	94	92	111	128	143	152	155	163
	Low	20	9	48	5	21	37	29	24	26	54	72	55
	High	263	217	246	193	178	169	192	270	262	402	277	333

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	37.080		34.810		107
Lowest yearly mean			24.700	1976	
Highest yearly mean			46.500	1967	
Lowest monthly mean	6.673	May	1.883	Jul 1984	
Highest monthly mean	70.270	Oct	134.400	Oct 1967	
Lowest daily mean	3.615	27 May	1.166	25 Aug 1984	
Highest daily mean	392.500	27 Mar	718.300	23 Mar 1968	
Peak	673.900	29 Dec	854.000	2 Jan 1982	
10% exceedance	91.530		84.110		109
50% exceedance	18.640		17.240		108
95% exceedance	6.371		3.085		207
Annual total (million cu m)	1169.00		1099.00		106
Annual runoff (mm)	1190		1118		106
Annual rainfall (mm)	1595		1470		109
[1941-70 rainfall average (mm)			1525]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from surface water and/or groundwater.

Station and catchment description

Bazin type compound broad-crested weir operated after 10/6/77 as full range station. Previously used for low/medium flows; high flows from Halton 3km d/s. High flows inundate wide floodplain. Transfers to river Wyre under Lancs. Conjunctive Use Scheme. Major abstractions for PWS. Headwaters rise from Shap Fell and the Pennines. Mixed geology: Carboniferous Limestone, Silurian shales, Millstone Grit and Coal Measures, substantial Drift cover. Agriculture in valleys; grassland rising to peat moss in highest areas.

073010 Leven at Newby Bridge 1987

Measuring authority: NWWA
First year: 1939

Grid reference: 34 (SD) 367 863
Level stn. (m OD): 37.30

Catchment area (sq km): 247.0
Max alt. (m OD): 873

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	50.490	3.383	10.490	45.390	3.468	2.176	18.310	5.359	4.009	9.252	10.410	6.242
2	50.480	3.610	16.860	40.860	4.198	2.709	16.100	4.875	3.505	7.725	9.150	5.549
3	43.290	3.763	17.140	34.780	4.159	3.353	13.450	4.694	2.745	6.420	7.985	4.730
4	49.430	3.541	15.830	27.690	3.579	3.347	11.180	4.350	2.703	5.590	7.045	4.313
5	50.090	7.034	14.940	22.080	3.354	3.874	9.303	3.807	5.740	7.110	6.218	3.892
6	43.050	13.050	14.680	18.470	2.942	15.790	7.578	3.213	8.359	10.970	5.527	3.465
7	35.420	14.470	14.650	16.390	2.692	24.970	6.226	2.883	8.690	12.340	4.873	3.027
8	29.260	16.470	13.580	15.020	2.425	22.550	4.821	2.615	8.140	16.200	4.595	2.769
9	22.170	21.150	12.380	13.790	2.294	18.760	4.116	2.490	11.510	19.930	4.069	2.525
10	17.850	29.360	10.990	13.610	1.997	15.580	6.029	2.231	18.040	20.740	4.758	2.427
11	14.640	28.530	9.961	15.860	2.306	13.050	14.770	2.737	19.630	18.750	7.029	2.383
12	12.010	24.910	8.918	14.700	3.098	11.650	15.690	5.580	33.210	17.890	11.070	2.306
13	10.360	21.360	8.096	13.740	3.236	10.320	14.020	12.890	33.350	17.670	16.000	2.183
14	8.929	18.040	7.475	12.460	4.465	9.206	12.460	13.240	29.270	22.210	16.240	2.019
15	7.116	15.160	6.998	11.420	4.282	8.318	12.230	11.940	24.470	25.110	18.630	2.126
16	5.934	12.870	6.824	10.200	3.793	7.209	12.780	10.550	21.630	27.480	23.590	2.657
17	5.169	10.660	9.073	8.904	4.203	6.421	12.040	9.058	18.760	31.850	25.450	4.360
18	4.604	8.870	11.670	7.694	4.221	5.573	14.420	7.584	15.990	42.660	28.400	9.353
19	4.247	7.358	11.140	7.700	3.799	5.035	19.740	6.404	15.890	57.350	36.840	11.710
20	4.664	6.451	10.020	10.270	3.514	3.955	19.220	5.738	18.600	55.660	33.870	17.200
21	5.488	5.457	9.003	10.470	3.409	3.563	16.850	6.361	19.260	49.940	29.330	22.180
22	6.127	4.764	8.404	9.750	2.806	3.600	14.130	8.243	22.380	49.570	25.920	23.440
23	6.267	4.215	8.270	8.953	2.323	3.457	11.760	11.540	25.120	43.770	20.140	21.290
24	6.141	3.806	8.049	7.936	1.998	3.448	10.180	10.710	25.020	36.470	17.030	19.250
25	5.799	3.383	10.080	6.925	1.697	4.069	8.194	9.484	23.790	30.140	14.210	19.360
26	5.508	4.149	16.140	5.907	1.688	4.536	7.535	8.603	21.300	23.200	12.000	28.200
27	5.054	6.292	61.720	5.185	1.391	5.113	8.762	6.954	18.270	20.040	10.280	44.170
28	4.709	8.113	82.660	4.586	1.255	8.920	8.181	6.196	15.510	18.130	8.878	53.480
29	4.286		69.020	3.922	1.339	18.790	7.578	5.659	13.050	15.830	7.770	72.830
30	3.896		54.570	3.628	1.991	19.960	6.400	5.126	10.950	13.670	6.876	66.730
31	3.597		47.590		2.080		5.736	4.421		11.980		57.410
Average	16.970	11.080	19.590	14.280	2.903	8.977	11.280	6.630	16.630	24.050	14.470	16.890
Lowest	3.597	3.383	6.824	3.628	1.255	2.176	4.116	2.231	2.703	5.590	4.069	2.019
Highest	50.490	29.360	82.660	45.390	4.465	24.970	19.740	13.240	33.350	57.350	36.840	72.830
Peak flow	53.380	30.350	86.440	46.420	5.803	25.530	20.810	14.070	36.390	59.190	39.450	76.020
Day of peak	5	10	28	1	2	7	20	13	12	19	19	29
Monthly total (million cu m)	45.45	26.80	52.46	37.00	7.78	23.27	30.22	17.76	43.10	64.42	37.51	45.24
Runoff (mm)	184	109	212	150	31	94	122	72	175	261	152	183
Rainfall (mm)	99	150	310	89	76	202	165	124	252	304	158	288

Statistics of monthly data for previous record (Jan 1939 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	19.680	16.320	13.110	11.100	7.807	6.497	7.296	10.590	14.430	17.280	20.610	21.390
	Low	1.935	0.974	3.699	1.796	0.641	0.545	0.775	0.652	0.560	1.438	6.873	8.208
	(year)	1963	1963	1962	1974	1980	1978	1941	1984	1959	1972	1983	1963
	High	38.020	31.030	29.970	21.640	18.680	18.730	16.990	31.070	33.930	50.170	36.450	40.110
	(year)	1975	1945	1981	1949	1986	1972	1953	1985	1946	1967	1986	1954
Runoff:	Avg.	213	161	142	117	85	68	79	115	151	187	216	232
	Low	21	10	40	19	7	6	8	7	6	16	72	89
	High	412	304	325	227	203	197	184	337	356	544	383	435
Rainfall:	Avg.	229	146	156	119	120	125	147	183	218	221	239	238
	Low	26	7	32	12	22	17	40	7	29	30	17	90
	High	439	295	341	243	241	269	287	428	427	557	428	450

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	13.670		13.830		99
Lowest yearly mean			9.234	1973	
Highest yearly mean			21.840	1954	
Lowest monthly mean	2.903	May	0.545	Jun 1978	
Highest monthly mean	24.050	Oct	50.170	Oct 1967	
Lowest daily mean	1.255	28 May	0.108	7 Oct 1972	
Highest daily mean	82.660	28 Mar	115.900	2 Dec 1954	
Peak	86.440	28 Mar	135.800	2 Dec 1954	
10% exceedance	29.300		30.660		96
50% exceedance	9.161		10.130		90
95% exceedance	2.385		1.195		200
Annual total (million cu m)	431.10		436.40		99
Annual runoff (mm)	1745		1767		99
Annual rainfall (mm)	2217		2141		104
[1941-70 rainfall average (mm)			2215]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.
- Augmentation from effluent returns.

Station and catchment description

Level record since 1939 from four different sites at Newby Bridge. All flow records from 1939 to 1974 combined into a single sequence. Since 5/5/71 compound Crump weir - increased sensitivity at low flows. Full range. Just d/s of Lake Windermere - highly regulated, compensation flow. Major abstractions for PWS, sewage effluent from Ambleside. Predominantly impervious, Borrowdale Volcanics in north and Silurian slates in south. Boulder Clay along river valleys. Mainly grassland, very wooded in lower reaches.

076007 Eden at Sheepmount 1987

Measuring authority: NWWA
First year: 1967

Grid reference: 35 (NY) 390 571
Level stn. (m OD): 7.00

Catchment area (sq km): 2286.5
Max alt. (m OD): 950

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	192.300	21.860	62.790	202.200	20.360	16.280	33.330	31.270	23.910	29.080	42.950	34.780
2	159.500	29.150	109.400	126.300	21.060	17.180	26.820	26.080	22.100	26.640	39.180	33.160
3	99.200	41.470	50.480	88.920	20.770	25.450	22.760	26.890	20.330	24.780	36.080	31.500
4	175.700	33.930	40.350	75.360	19.480	21.810	20.230	26.900	19.060	24.570	33.500	28.920
5	136.600	86.130	43.950	71.990	18.550	17.940	18.360	22.380	21.760	32.830	31.430	27.040
6	95.100	109.700	73.700	62.670	17.800	96.970	17.100	19.980	36.280	107.600	29.660	25.370
7	70.030	59.840	60.960	62.610	17.400	119.500	16.060	19.020	31.900	68.190	28.180	23.820
8	57.100	102.200	46.430	99.460	17.020	66.010	15.310	18.340	29.730	107.800	30.270	23.130
9	49.500	165.800	39.810	82.330	16.520	42.770	15.840	17.520	55.720	89.250	30.500	20.900
10	43.900	221.500	34.230	102.700	16.130	35.030	71.000	17.010	85.640	83.480	33.070	21.130
11	37.690	96.350	31.320	109.500	16.380	31.610	140.500	16.710	57.610	62.310	55.680	21.130
12	33.990	68.790	29.280	68.660	18.790	32.120	44.950	50.150	136.500	52.350	145.200	21.070
13	31.830	56.390	28.600	60.390	21.190	28.630	30.030	78.380	73.540	55.890	142.500	20.420
14	32.150	48.220	29.310	53.360	25.400	25.830	27.250	34.690	57.940	145.100	72.840	19.810
15	29.510	41.410	30.620	45.510	23.420	26.230	31.230	25.930	57.070	106.400	72.100	19.250
16	29.130	37.290	32.240	40.590	19.370	22.540	30.160	73.900	59.210	248.600	112.500	21.470
17	27.450	33.660	62.840	36.810	20.360	21.000	29.270	73.060	47.630	146.100	85.240	35.820
18	26.050	30.760	53.670	33.830	24.990	19.170	227.400	35.590	40.360	396.100	96.270	98.100
19	27.190	28.800	35.790	34.120	19.560	17.760	125.300	25.990	66.180	361.400	117.900	56.670
20	70.830	27.770	30.080	42.970	17.210	16.750	57.080	22.990	104.900	170.800	77.630	65.210
21	103.500	26.190	28.710	37.130	16.220	16.130	41.930	36.350	79.550	210.100	72.690	86.700
22	87.450	25.440	32.080	32.280	15.750	22.380	34.290	41.350	126.400	183.700	83.780	62.730
23	61.430	24.610	34.220	29.220	15.310	22.280	29.390	69.690	103.500	113.000	79.930	42.130
24	50.320	23.530	33.060	26.920	14.790	19.490	27.270	44.750	85.220	87.310	95.160	36.060
25	44.770	22.190	66.180	25.080	14.370	22.640	24.300	31.730	73.090	72.130	67.380	36.400
26	40.470	21.770	132.000	23.510	13.940	29.180	36.390	60.480	59.260	61.620	55.870	111.500
27	35.000	46.600	557.300	22.230	13.560	28.500	62.680	49.750	47.760	82.720	45.560	235.300
28	30.980	58.010	357.300	21.320	13.580	83.670	36.330	36.310	40.760	96.260	40.320	216.900
29	28.010		141.300	20.690	15.590	99.390	52.890	41.310	35.960	62.350	37.940	330.000
30	25.370		106.600	20.470	20.220	51.750	53.460	30.730	32.200	52.300	37.790	156.300
31	21.670		121.300		21.300		35.920	24.920		47.090		156.900
Average	63.020	56.760	81.800	58.640	18.270	36.530	46.280	36.460	57.700	109.900	64.300	68.370
Lowest	21.670	21.770	28.600	20.470	13.560	16.130	15.310	16.710	19.060	24.570	28.180	19.250
Highest	192.300	221.500	557.300	202.200	25.400	119.500	227.400	78.380	136.500	396.100	145.200	330.000
Peak flow	254.700	366.500	723.300	235.000	27.720	197.100	308.700	140.900	184.400	621.300	261.700	387.700
Day of peak	4	10	27	1	14	6	18	12	22	18	12	29
Monthly total (million cu m)	168.80	137.30	219.10	152.00	48.94	94.69	124.00	97.64	149.60	294.40	166.70	183.10
Runoff (mm)	74	60	96	66	21	41	54	43	65	129	73	80
Rainfall (mm)	50	81	156	58	51	123	132	93	132	195	94	129

Statistics of monthly data for previous record (Oct 1967 to Dec 1986—incomplete or missing months total 3.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	85.790	57.630	54.120	40.110	29.970	23.030	20.480	25.530	38.670	63.180	77.460	77.810
	Low	39.880	26.440	24.360	13.070	11.050	10.420	8.375	7.026	9.218	7.965	30.420	32.480
	(year)	1985	1986	1975	1974	1974	1973	1984	1976	1972	1972	1973	1971
	High	151.200	100.000	119.700	63.960	68.940	50.380	39.380	92.390	105.500	225.000	126.400	143.100
	(year)	1975	1974	1968	1970	1983	1972	1985	1985	1985	1967	1984	1986
Runoff:	Avg.	100	61	63	45	35	26	24	30	44	74	88	91
	Low	47	28	29	15	13	12	10	8	10	9	34	38
	High	177	106	140	73	81	57	46	108	120	264	143	168
Rainfall:	Avg.	132	65	95	65	75	74	81	91	116	127	132	127
	Low	63	13	43	8	25	37	38	19	25	31	54	43
	High	232	129	179	111	133	126	142	211	231	307	208	371

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	58.230		49.470		118
Lowest yearly mean			28.180	1973	
Highest yearly mean			60.790	1982	
Lowest monthly mean	18.270	May	7.026	Aug 1976	
Highest monthly mean	109.900	Oct	225.000	Oct 1967	
Lowest daily mean	13.560	27 May	5.468	7 Sep 1976	
Highest daily mean	557.300	27 Mar	772.900	23 Mar 1968	
Peak	723.300	27 Mar	1357.000	24 Mar 1968	
10% exceedance	113.500		105.600		107
50% exceedance	36.280		30.950		117
95% exceedance	16.700		9.638		173
Annual total (million cu m)	1836.00		1561.00		118
Annual runoff (mm)	803		683		118
Annual rainfall (mm)	1294		1180		110
[1941-70 rainfall average (mm)			1225]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.

Station and catchment description

Velocity-area station. Permanent cableway. Full range. Most floods contained in immediate channel. Pre-1970 (when floodbanks constructed) bypassed via Caldew floodplain. Highly influenced by Ullswater, Haweswater and Wet Sleddale especially at low flows. Rural except for Carlisle, Penrith and Appleby. Headwaters in Carboniferous Limestone of Pennines to E, impervious Lower Palaeozoics of Lake District massif to W; moorland. Extensive Boulder Clay covered Permo-Triassic sandstones in Vale of Eden. Arable and grazing.

079006 Nith at Drumlanrig 1987

Measuring authority: SRPB
First year: 1967

Grid reference: 25 (NX) 858 994
Level stn. (m OD): 52.20

Catchment area (sq km): 471.0
Max alt. (m OD): 725

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	48.048	5.048	41.770	23.747	4.886	6.417	6.097	6.555	14.535	5.325	7.569	7.246
2	34.745	5.577	34.674	19.446	7.173	4.243	3.314	5.301	6.055	4.764	6.950	6.567
3	21.855	6.045	13.927	14.417	5.554	5.017	2.626	4.343	6.347	4.355	6.312	6.037
4	68.952	5.488	12.582	11.203	4.023	3.893	2.408	3.746	5.404	4.084	5.766	5.608
5	48.336	17.675	15.358	10.941	3.593	18.001	2.173	3.233	64.719	22.854	5.341	5.309
6	26.237	19.534	27.031	11.499	3.469	72.734	2.004	2.898	17.768	20.972	5.093	5.010
7	16.434	16.837	14.740	12.498	3.396	36.121	1.810	2.737	13.077	71.017	4.813	4.543
8	12.912	23.126	13.250	19.841	3.343	21.531	1.717	2.741	10.771	44.053	6.950	4.045
9	11.137	23.908	10.598	15.717	3.296	14.419	2.270	2.683	18.642	27.013	6.468	4.252
10	9.404	26.021	9.327	39.958	3.273	11.382	117.023	2.642	13.565	16.907	12.356	4.148
11	7.239	15.884	8.574	28.861	3.660	9.481	50.359	2.702	19.700	11.943	21.786	4.042
12	6.815	11.489	8.098	16.089	5.161	7.752	17.416	34.560	29.324	11.476	42.215	3.843
13	7.079	8.997	8.196	17.059	4.284	6.762	10.610	17.059	13.040	17.108	22.489	3.353
14	7.025	7.772	11.924	12.077	5.867	6.945	8.700	9.150	16.533	11.154	14.462	3.275
15	6.281	6.646	16.745	9.718	4.191	6.378	12.148	10.906	17.321	21.917	42.158	2.970
16	5.492	6.018	23.678	8.504	3.392	5.329	8.683	68.622	9.944	34.602	46.717	3.778
17	4.841	5.195	45.760	7.339	5.937	4.126	6.545	69.139	7.619	33.087	26.101	8.037
18	4.666	5.090	18.373	8.871	7.077	3.652	10.474	25.528	6.894	127.795	42.762	8.240
19	9.680	5.172	11.540	19.119	4.043	3.427	10.512	15.174	16.305	73.366	35.216	28.808
20	43.786	5.258	9.089	15.166	3.340	3.218	6.042	86.480	15.406	49.869	23.087	30.636
21	24.047	4.760	8.061	10.336	3.194	3.154	4.819	45.701	78.581	38.311	16.773	34.802
22	19.189	4.627	7.553	8.019	3.126	4.112	4.071	19.346	31.207	65.105	17.836	15.095
23	13.177	4.548	7.222	6.632	3.074	5.388	3.561	12.830	22.334	29.356	12.827	11.147
24	10.304	4.091	6.925	5.834	2.877	5.355	3.260	9.553	20.807	18.564	10.123	27.713
25	9.188	3.937	15.428	5.194	2.738	3.692	3.045	7.373	16.960	14.039	8.714	20.109
26	8.283	7.224	65.046	4.689	2.659	3.393	6.415	6.523	11.609	15.553	7.517	57.890
27	7.452	12.338	114.124	4.248	2.518	3.627	6.470	5.577	9.218	17.874	6.904	58.886
28	6.552	12.504	61.846	3.870	2.477	8.839	4.333	6.200	7.773	15.904	6.588	84.165
29	5.830		25.406	3.683	3.490	5.896	6.290	8.659	6.553	11.012	16.527	40.568
30	5.094		19.767	3.772	5.667	5.116	4.637	5.127	5.810	9.149	9.771	71.908
31	4.360		20.957		4.771		6.409	4.162		8.800		80.105
Average	16.590	10.030	22.820	12.610	4.050	9.980	10.850	16.360	17.790	27.660	16.610	21.040
Lowest	4.360	3.937	6.925	3.683	2.477	3.154	1.717	2.642	5.404	4.084	4.813	2.970
Highest	68.952	26.021	114.124	39.958	7.173	72.734	117.023	86.480	78.581	127.795	46.717	84.165
Peak flow	121.453	40.018	164.708	67.731	14.878	125.452	193.314	150.633	136.638	272.469	77.145	154.950
Day of peak	5	10	27	11	18	7	11	21	22	18	19	31
Monthly total (million cu m)	44.45	24.26	61.13	32.69	10.85	25.87	29.05	43.83	46.12	74.07	43.04	56.34
Runoff (mm)	94	52	130	69	23	55	62	93	98	157	91	120
Rainfall (mm)	67	79	171	91	72	119	130	173	162	209	122	173

Statistics of monthly data for previous record (Jun 1967 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	28.440	19.310	17.980	9.060	8.460	5.261	4.996	7.453	13.980	23.210	27.540	25.770
	Low	9.037	4.287	4.428	2.457	1.389	1.488	0.869	0.841	1.261	2.745	5.268	12.770
	(year)	1985	1986	1969	1974	1980	1984	1984	1984	1972	1972	1983	1971
	High	61.220	38.900	33.190	24.190	27.570	14.660	13.620	38.280	39.000	39.200	49.350	55.190
	(year)	1974	1984	1978	1972	1986	1972	1985	1985	1985	1967	1982	1986
Runoff:	Avg.	162	100	102	50	48	29	28	42	77	132	152	147
	Low	51	22	25	14	8	8	5	5	7	16	29	73
	High	348	207	189	133	157	81	77	218	215	223	272	314
Rainfall:	Avg.	182	104	127	70	101	85	92	101	152	181	181	166
	Low	67	10	34	11	19	52	41	23	20	66	35	69
	High	398	170	217	175	230	163	165	302	247	301	285	345

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	15.590		15.950		98
Lowest yearly mean			10.720	1971	
Highest yearly mean			21.700	1982	
Lowest monthly mean	4.050	May	0.841	Aug 1984	
Highest monthly mean	27.660	Oct	61.220	Jan 1974	
Lowest daily mean	1.717	8 Jul	0.606	26 Aug 1984	
Highest daily mean	127.795	18 Oct	231.700	19 Dec 1982	
Peak	272.469	18 Oct	538.355	18 Oct 1982	
10% exceedance	36.970		41.340		89
50% exceedance	8.588		7.927		108
95% exceedance	2.937		1.321		222
Annual total (million cu m)	491.60		503.30		98
Annual runoff (mm)	1044		1069		98
Annual rainfall (mm)	1568		1542		102
[1941-70 rainfall average (mm)			1579]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Abstraction for public water supplies.

Station and catchment description

Velocity-area station on long straight reach at particularly well confined site. Cableway. Gravel and rock bed. Natural channel control.

084005 Clyde at Blairston 1987

Measuring authority: CRPB
First year: 1958

Grid reference: 26 (NS) 704 579
Level stn. (m OD): 17.60

Catchment area (sq km): 1704.2
Max alt. (m OD): 732

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	157.148	16.996	74.946	85.184	17.983	13.519	15.253	15.056	49.425	20.408	29.194	21.272
2	128.295	20.134	111.394	74.339	18.643	15.066	14.058	12.456	28.044	19.068	27.418	20.445
3	87.309	20.756	43.036	53.595	16.911	17.942	12.099	11.575	19.686	18.081	24.691	19.668
4	187.982	22.704	33.471	44.350	14.831	15.130	10.983	11.254	17.499	17.271	22.613	18.897
5	145.597	59.039	44.243	41.034	13.642	16.444	10.772	10.630	30.121	34.656	21.161	18.201
6	91.082	66.083	72.749	45.697	12.871	101.114	9.841	10.109	50.871	66.183	20.154	17.478
7	60.853	39.658	52.701	44.029	12.398	81.016	9.723	10.025	50.306	79.982	18.873	16.712
8	50.255	44.255	35.992	64.480	12.034	54.639	9.202	9.729	36.939	78.805	22.834	15.175
9	44.909	75.781	35.662	57.244	11.825	32.201	9.891	9.322	50.866	56.246	23.562	14.305
10	36.039	111.071	30.065	65.636	11.771	26.875	46.561	8.885	52.259	52.446	29.616	15.063
11	27.317	62.740	26.831	73.936	12.835	26.705	131.573	8.662	48.998	39.457	38.223	14.512
12	22.575	43.305	24.271	47.078	14.243	22.857	43.687	15.036	63.170	35.447	74.553	14.231
13	21.339	35.418	23.772	43.847	14.109	20.308	26.755	33.416	43.435	42.697	67.150	12.884
14	24.671	29.121	27.179	38.075	15.537	33.469	21.645	18.448	45.482	38.359	38.919	12.659
15	24.574	24.630	32.117	31.818	15.146	32.526	19.910	22.798	47.066	77.784	59.092	12.994
16	24.618	22.863	32.392	27.822	13.715	23.633	20.743	117.361	34.256	127.038	113.982	24.674
17	22.096	20.328	59.970	25.044	18.952	18.645	20.125	187.394	30.187	110.141	77.113	51.988
18	21.365	19.567	48.242	22.816	18.242	15.525	35.897	74.961	28.185	240.221	103.314	51.657
19	69.414	19.173	32.571	26.776	13.848	14.240	56.351	40.388	29.569	174.747	117.272	82.208
20	175.822	19.683	27.809	34.406	12.241	13.127	30.105	97.636	51.342	119.189	77.014	116.880
21	102.078	19.457	26.043	28.141	11.278	13.295	22.783	134.000	93.305	143.016	53.564	95.510
22	71.550	18.900	26.505	24.175	10.651	18.976	18.689	56.050	127.002	166.031	46.825	55.356
23	50.154	18.095	26.754	21.837	10.471	22.723	15.476	40.998	71.075	83.653	40.607	38.396
24	39.354	16.770	25.758	20.256	10.271	25.046	14.118	33.552	69.944	61.195	35.374	33.502
25	34.787	15.746	59.257	18.200	9.822	18.113	12.838	29.590	55.247	50.849	28.899	49.396
26	30.736	17.576	64.666	17.429	9.766	14.354	14.683	29.669	42.096	45.836	25.807	170.985
27	26.884	23.576	187.420	16.737	9.615	13.642	17.609	27.621	35.192	56.118	23.405	177.913
28	23.457	28.330	156.619	15.636	9.410	15.497	13.757	21.391	31.332	54.252	22.808	238.118
29	21.667		70.899	14.993	11.763	15.946	13.284	22.346	28.615	42.071	23.655	166.649
30	19.882		51.681	15.194	15.363	14.272	14.229	19.123	23.908	35.805	24.718	94.934
31	15.246		63.647		13.461		13.856	18.527		31.206		194.395
Average	59.970	33.280	52.540	37.990	13.340	25.560	23.440	37.360	46.180	71.560	44.410	60.870
Lowest	15.246	15.746	23.772	14.993	9.410	13.127	9.202	8.662	17.499	17.271	18.873	12.659
Highest	187.982	111.071	187.420	85.184	18.952	101.114	131.573	187.394	127.002	240.221	117.272	238.118
Peak flow	217.621	129.213	232.460	95.846	24.245	152.777	163.028	233.072	167.776	285.145	133.958	275.278
Day of peak	5	11	28	2	18	7	11	18	23	19	19	29
Monthly total (million cu m)	160.60	80.50	140.70	98.48	35.74	66.26	62.77	100.10	119.70	191.70	115.10	163.00
Runoff (mm)	94	47	83	58	21	39	37	59	70	112	68	96
Rainfall (mm)	63	55	114	58	53	103	92	127	113	146	74	126

Statistics of monthly data for previous record (Oct 1958 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	63.860	48.810	44.540	29.280	24.000	17.150	15.360	24.240	36.510	50.800	65.990	65.610
	Low	11.920	8.855	14.810	10.430	7.992	7.489	5.039	4.537	7.627	8.246	15.870	26.090
	(year)	1963	1963	1969	1974	1980	1984	1984	1984	1972	1972	1983	1963
	High	134.300	97.280	88.940	58.700	56.230	41.190	47.620	82.370	128.400	114.600	129.600	133.400
	(year)	1975	1984	1979	1972	1986	1972	1985	1985	1985	1967	1982	1986
Runoff:	Avg.	100	70	70	45	38	26	24	38	56	80	100	103
	Low	19	13	23	16	13	11	8	7	12	13	24	41
	High	211	143	140	89	88	63	75	129	195	180	197	210
Rainfall:	Avg.	113	70	89	64	74	73	80	96	117	122	129	118
	Low	25	16	28	9	18	43	32	24	16	33	24	38
	High	237	127	163	125	150	157	166	206	230	231	221	237

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	42.320		40.490		105
Lowest yearly mean			27.090	1973	
Highest yearly mean			53.020	1986	
Lowest monthly mean	13.340	May	4.537	Aug 1984	
Highest monthly mean	71.560	Oct	134.300	Jan 1975	
Lowest daily mean	8.662	11 Aug	3.366	23 Aug 1984	
Highest daily mean	240.221	18 Oct	581.659	21 Sep 1985	
Peak	285.145	19 Oct	666.389	22 Sep 1985	
10% exceedance	91.520		95.670		96
50% exceedance	27.290		23.270		117
95% exceedance	10.790		7.875		137
Annual total (million cu m)	1335.00		1278.00		104
Annual runoff (mm)	783		750		104
Annual rainfall (mm)	1124		1145		98
[1941-70 rainfall average (mm)			1152]		

Factors affecting flow regime

Station and catchment description

Recorder moved to present position in Nov. 1974 from opposite bank. Section is natural with steep grass and tree covered banks. Velocity profile slightly uneven due to upstream bend. Control - piers of redundant rail bridge, 300m d/s. Section rated by current meter to 3.4m, just below max. recorded stage. Some naturalised flows available. Very mixed geology with the older formations (Ordivician/Silurian) to the south. Hill pasture and moorland predominates but some mixed farming and urban development is found in the lower valley.

085003 Falloch at Glen Falloch 1987

Measuring authority: CRPB
First year: 1970

Grid reference: 27 (NN) 321 197
Level stn. (m OD): 9.50

Catchment area (sq km): 80.3
Max alt. (m OD): 1130

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.213	0.530	18.398	3.098	2.459	3.183	8.533	1.182	0.728	0.563	1.181	0.657
2	2.214	1.750	2.800	1.664	3.191	1.299	2.236	0.768	0.575	0.496	1.248	0.620
3	13.718	1.434	1.307	1.391	1.117	1.486	1.155	1.024	8.364	0.473	0.980	0.608
4	20.624	12.826	1.660	2.473	0.881	1.166	1.196	0.717	21.315	0.446	0.842	0.583
5	6.206	37.699	3.562	1.585	0.724	17.128	1.069	0.516	11.548	9.805	0.781	0.575
6	1.868	10.008	5.233	1.160	0.613	9.325	0.904	0.437	8.318	6.146	0.732	0.545
7	1.615	6.451	1.557	1.388	0.522	2.776	0.598	0.403	11.218	19.308	0.684	0.423
8	1.650	5.125	1.643	2.497	0.490	1.276	0.586	0.379	4.472	4.027	1.694	0.479
9	1.101	4.338	1.272	5.029	0.601	1.074	0.513	0.353	27.050	4.171	1.118	0.439
10	0.861	2.969	1.219	4.672	1.927	1.683	10.186	0.345	19.312	1.849	13.560	0.452
11	0.634	1.599	1.283	3.457	2.947	3.909	3.653	0.369	14.409	3.253	11.368	0.435
12	0.473	1.132	1.291	3.054	1.974	1.953	1.161	3.445	18.318	4.027	15.814	0.445
13	0.518	1.002	1.368	7.232	1.528	3.759	0.907	4.682	15.942	1.660	6.528	0.401
14	0.559	0.867	4.283	3.977	2.066	4.144	6.280	6.778	14.053	4.616	3.667	0.367
15	0.557	0.809	3.126	4.206	0.939	2.080	12.379	29.384	7.107	4.742	27.342	0.373
16	0.524	0.546	22.228	1.561	0.915	1.077	3.604	11.093	2.337	11.753	19.705	1.142
17	0.491	0.585	14.404	1.724	1.786	0.755	3.545	2.621	3.645	26.130	9.500	2.711
18	0.661	0.540	2.700	3.244	0.995	0.572	1.889	1.218	2.312	7.917	20.624	10.158
19	18.601	0.717	1.477	11.771	0.655	0.476	1.382	3.246	2.506	7.349	13.662	47.024
20	21.538	0.759	1.024	5.847	0.503	0.433	0.952	22.321	9.500	5.115	2.964	10.405
21	14.279	0.689	1.023	3.913	0.437	0.428	0.643	2.207	17.654	16.252	2.723	12.422
22	5.283	0.638	1.309	1.923	0.390	0.571	0.481	2.369	16.428	9.930	1.949	3.072
23	3.067	0.544	1.396	1.472	0.364	0.842	0.411	1.612	10.085	2.648	1.317	2.995
24	1.633	0.495	1.527	1.268	0.340	0.597	0.361	0.919	4.361	2.907	1.010	8.667
25	1.277	0.445	2.827	1.087	0.318	0.455	0.334	0.706	1.781	23.816	0.833	19.337
26	1.073	6.467	15.368	0.938	0.305	0.406	1.319	0.583	1.241	11.177	0.840	19.371
27	0.878	24.584	22.319	0.872	0.295	0.823	0.669	0.529	1.007	9.490	0.891	21.256
28	0.746	6.598	4.365	0.763	0.285	1.301	0.980	3.357	0.870	3.671	1.034	38.252
29	0.656		3.908	0.669	1.845	0.592	0.945	1.478	0.708	1.823	1.273	11.210
30	0.573		10.297	1.594	5.102	2.759	0.715	1.160	0.614	1.386	0.773	34.061
31	0.413		15.928		9.249		3.089	0.721		1.226		33.276
Average	4.178	4.719	5.552	2.851	1.476	2.278	2.344	3.449	8.593	6.715	5.555	9.121
Lowest	0.413	0.445	1.023	0.669	0.285	0.406	0.334	0.345	0.575	0.446	0.684	0.367
Highest	21.538	37.699	22.319	11.771	9.249	17.128	12.379	29.384	27.050	26.130	27.342	47.024
Peak flow	86.570	98.052	52.395	27.504	13.010	78.186	60.129	155.802	111.907	140.950	104.605	89.599
Day of peak	4	6	27	20	31	6	11	16	10	18	19	31
Monthly total (million cu m)	11.19	11.42	14.87	7.39	3.95	5.90	6.28	9.24	22.27	17.99	14.40	24.43
Runoff (mm)	139	142	185	92	49	74	78	115	277	224	179	304
Rainfall (mm)	111	175	243	90	106	117	122	181	368	294	223	377

Statistics of monthly data for previous record (Oct 1970 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	8.620	4.963	6.025	2.908	3.078	2.377	2.523	3.419	6.465	7.293	9.203	8.523
	Low	1.926	0.489	0.853	0.408	0.133	0.328	0.634	0.339	0.751	1.362	3.326	1.416
	(year)	1985	1986	1975	1974	1980	1977	1984	1983	1972	1974	1983	1981
	High	19.630	8.387	11.750	6.325	10.980	5.609	7.152	10.510	11.210	16.050	14.670	15.740
	(year)	1974	1982	1986	1977	1986	1973	1985	1985	1981	1983	1986	1986
Runoff:	Avg.	288	151	201	94	103	77	84	114	209	243	297	284
	Low	64	15	28	13	4	11	21	11	24	45	107	47
	High	655	253	392	204	366	181	239	351	362	535	474	525
Rainfall:	Avg.	358	188	247	122	149	142	162	183	299	316	381	358
	Low	93	11	100	15	19	67	66	42	40	100	117	111
	High	715	310	475	261	439	249	329	507	468	645	614	637

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	4.735		5.456		87
Lowest yearly mean			4.440	1972	
Highest yearly mean			7.003	1986	
Lowest monthly mean	1.476	May	0.133	May 1980	
Highest monthly mean	9.121	Dec	19.630	Jan 1974	
Lowest daily mean	0.285	28 May	0.032	12 Jul 1977	
Highest daily mean	47.024	19 Dec	113.422	2 Mar 1979	
Peak	155.802	16 Aug	226.684	22 Oct 1971	
10% exceedance	14.540		15.310		95
50% exceedance	1.574		2.060		76
95% exceedance	0.409		0.219		186
Annual total (million cu m)	149.30		172.20		87
Annual runoff (mm)	1860		2144		87
Annual rainfall (mm)	2407		2905		83
[1941-70 rainfall average (mm)			2761]		

Factors affecting flow regime

Station and catchment description

Velocity-area station with artificial low flow control (long broad-crested weir with rectangular low flow notch) - installed 1975. Damage to part of the high flow crest results in a small discharge bypassing the central notch. All but very high flows contained. No significant abstractions or discharges. Very responsive flow regime. A very wet mountainous catchment developed on ancient metamorphic formations - some Drift cover.

093001 Carron at New Kelso 1987

Measuring authority: HRPB | Grid reference: 18 (NG) 942 429 | Catchment area (sq km): 137.8
First year: 1979 | Level stn. (m OD): 5.60 | Max alt. (m OD): 1053

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.205	1.623	19.911	10.530	13.775	8.566	21.880	9.223	2.660	2.507	3.132	2.811
2	4.000	1.907	10.600	5.567	12.098	4.291	7.083	6.176	2.280	2.201	3.361	2.292
3	14.183	2.580	5.237	4.488	7.202	2.690	12.386	6.076	2.659	1.977	3.413	1.930
4	31.041	6.410	5.290	5.495	6.464	2.085	21.770	3.596	9.154	1.835	3.074	1.772
5	16.375	48.467	5.153	4.944	5.634	2.007	43.808	2.703	9.130	7.131	2.678	1.666
6	7.615	42.589	5.793	3.897	4.304	6.785	15.020	2.261	15.101	12.870	2.343	1.587
7	4.631	13.073	3.848	3.677	3.131	7.507	12.059	2.423	26.598	15.489	2.129	1.442
8	3.473	10.070	2.821	3.546	4.634	5.558	8.008	2.140	15.542	14.324	1.958	1.385
9	2.744	9.404	2.274	4.015	6.216	4.201	6.014	1.784	30.372	8.667	1.792	1.366
10	2.328	9.433	1.928	5.201	12.080	3.065	5.278	1.570	49.830	4.863	3.797	1.360
11	1.908	8.192	1.710	6.018	23.678	2.483	8.383	1.402	41.372	3.430	10.290	1.358
12	1.587	5.221	1.584	5.491	8.677	2.096	4.579	1.448	36.882	3.052	12.025	1.221
13	1.545	3.737	3.067	14.138	9.240	2.333	3.126	6.131	30.688	2.685	19.972	1.131
14	1.591	2.910	5.351	9.247	9.594	3.934	2.442	32.671	30.955	2.852	13.131	1.040
15	1.550	2.415	4.523	11.155	5.372	3.690	2.421	18.350	11.366	2.614	19.544	0.982
16	1.460	2.090	29.533	5.219	4.471	2.494	2.950	13.629	6.356	7.361	35.514	1.337
17	1.440	1.904	28.121	3.663	6.746	1.872	7.088	6.866	6.899	7.817	29.971	3.527
18	3.047	2.173	9.467	3.320	4.616	1.464	6.425	4.210	9.376	4.610	43.914	16.574
19	36.437	6.989	5.333	4.281	3.571	1.217	4.417	3.495	6.623	3.210	31.760	58.889
20	30.334	6.034	4.079	6.383	2.712	1.073	3.079	27.606	7.786	2.718	15.237	31.114
21	31.365	4.592	3.289	6.320	2.293	0.996	2.359	11.674	30.600	3.387	18.122	21.007
22	12.608	5.928	3.942	4.122	1.984	1.027	1.860	5.458	15.400	8.579	17.898	9.847
23	6.501	4.218	4.023	3.138	1.793	1.530	1.579	3.538	23.429	7.552	13.691	8.894
24	4.391	2.852	3.972	2.728	1.578	2.491	1.460	2.657	37.352	11.845	6.910	7.995
25	3.684	2.246	7.706	2.294	1.346	1.940	1.460	2.167	18.207	43.787	4.396	32.437
26	3.626	2.779	11.516	2.047	1.265	1.530	4.997	1.862	11.066	34.696	3.424	23.653
27	3.188	27.034	35.044	1.886	1.140	1.340	5.015	1.780	6.263	11.504	3.204	22.393
28	2.735	19.314	15.905	1.800	1.035	1.319	4.056	7.779	4.518	13.291	3.266	58.719
29	2.313		9.584	1.820	1.042	1.210	4.352	4.875	3.535	6.623	4.248	28.970
30	2.025		25.674	15.107	1.961	11.793	4.810	3.466	2.890	4.303	3.524	14.153
31	1.783		45.851		6.848		16.791	2.562		3.583		58.106
Average	7.958	9.149	10.390	5.385	5.694	3.153	7.966	6.503	16.830	8.431	11.260	13.580
Lowest	1.440	1.623	1.584	1.800	1.035	0.996	1.460	1.402	2.280	1.835	1.792	0.982
Highest	36.437	48.467	45.851	15.107	23.678	11.793	43.808	32.671	49.830	43.787	43.914	58.889
Peak flow	61.401	79.370	75.729	23.083	46.528	32.009	64.937	53.617	80.820	61.960	65.657	105.444
Day of peak	20	6	31	30	11	30	6	21	11	26	19	31
Monthly total (million cu m)	21.32	22.13	27.83	13.96	15.25	8.17	21.34	17.42	43.62	22.58	29.18	36.37
Runoff (mm)	155	161	202	101	111	59	155	126	317	164	212	264
Rainfall (mm)	94	170	280	75	124	100	161	148	389	206	244	331

Statistics of monthly data for previous record (Jan 1979 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	14.070	7.933	11.780	7.015	5.216	4.484	5.816	7.501	14.250	14.350	18.200	19.560
	Low	6.148	1.361	4.104	2.863	0.698	0.921	2.426	2.703	7.086	6.332	8.851	5.646
	(year)	1985	1986	1980	1980	1980	1982	1984	1984	1986	1979	1985	1981
	High	28.470	13.610	18.250	13.440	14.120	8.623	10.530	15.070	19.100	24.070	31.120	30.710
	(year)	1983	1981	1983	1984	1986	1980	1985	1985	1980	1983	1981	1983
Runoff:	Avg.	273	141	229	132	101	84	113	146	268	279	342	380
	Low	120	24	80	54	14	17	47	53	133	123	166	110
	High	553	239	355	253	274	162	205	293	359	468	585	597
Rainfall:	Avg.	306	131	255	130	121	131	152	180	319	333	379	393
	Low	125	6	95	70	36	28	96	85	150	182	133	124
	High	553	225	397	217	295	275	248	321	425	532	629	546

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	8.852		10.870		81
Lowest yearly mean			9.152	1984	
Highest yearly mean			12.770	1983	
Lowest monthly mean	3.153	Jun	0.698	May 1980	
Highest monthly mean	16.830	Sep	31.120	Nov 1981	
Lowest daily mean	0.982	15 Dec	0.425	27 Jun 1982	
Highest daily mean	58.889	19 Dec	201.081	31 Dec 1983	
Peak	105.444	31 Dec	295.541	31 Dec 1983	
10% exceedance	25.130		26.720		94
50% exceedance	4.449		5.423		82
95% exceedance	1.361		0.972		140
Annual total (million cu m)	279.20		343.00		81
Annual runoff (mm)	2026		2489		81
Annual rainfall (mm)	2322		2830		82
[1941-70 rainfall average (mm)			2498]		

Factors affecting flow regime

- Natural to within 10% at 95 percentile flow.

Station and catchment description

40m wide river section with floodbank on right bank. Any bypassing in extreme floods will be over 30m wide floodplain on left bank. Unstable gravel control requires regular calibration of low flow range. Adequately gauged to bankfull. Computed flows are 100% natural. 70% of catchment drains through Loch Dughaill with little additional surface storage. Typical mix of rough grazing and moorland. One of the wetter Highland catchments currently gauged.

201005 Camowen at Camowen Terrace 1987

Measuring authority: DOEN
First year: 1972

Grid reference: 23 (IH) 460 730
Level stn. (m OD): 66.00

Catchment area (sq km): 274.6
Max alt. (m OD): 539

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	22.053	3.845	8.793	7.397	2.881	1.184	2.124	1.395	2.031	2.236	2.740	3.476
2	15.320	5.040	6.472	6.816	6.486	1.948	1.794	1.377	1.955	2.064	2.446	3.359
3	9.248	4.498	5.436	5.518	3.912	3.481	1.594	1.195	2.031	1.905	2.218	3.213
4	12.001	3.683	5.788	4.958	2.666	3.498	1.642	1.155	1.957	1.878	2.082	3.119
5	11.165	3.630	5.146	4.643	2.343	21.745	1.430	1.141	1.989	1.913	1.881	2.885
6	8.716	3.654	9.550	4.499	2.026	15.302	1.217	1.127	1.873	2.200	1.862	2.696
7	6.702	6.473	35.885	4.146	1.819	8.255	1.181	1.098	1.860	5.843	1.733	2.392
8	6.220	6.663	11.122	4.012	1.719	6.008	1.212	1.079	1.853	7.191	5.527	2.325
9	14.098	9.753	6.559	4.577	1.608	4.301	1.147	1.030	2.480	4.581	3.495	1.984
10	7.810	8.155	5.398	13.024	1.487	3.056	1.912	0.982	2.634	3.287	5.309	1.676
11	5.541	5.522	4.507	6.524	1.559	3.106	1.825	0.941	4.031	2.747	12.393	2.140
12	5.636	4.383	3.922	4.915	1.922	2.601	1.423	14.711	5.250	2.945	22.063	2.051
13	5.381	3.781	3.749	5.310	1.952	2.186	1.438	5.204	3.299	3.388	9.193	2.010
14	5.002	3.212	4.330	4.413	2.317	2.035	1.204	2.379	2.747	3.598	11.022	1.958
15	3.983	2.838	3.546	3.913	1.933	2.330	7.316	13.896	3.008	5.658	19.731	1.913
16	3.753	2.611	3.359	3.446	1.767	2.080	3.732	12.174	2.535	3.926	16.266	2.731
17	6.315	2.399	3.849	3.170	1.714	1.938	2.133	27.648	2.096	4.905	8.545	7.263
18	17.191	2.399	4.393	2.885	1.662	1.660	1.514	7.423	1.970	5.860	6.873	4.619
19	11.974	2.325	5.449	3.298	1.606	1.600	1.352	14.895	7.685	3.570	6.020	4.573
20	8.795	2.252	6.364	3.353	1.497	1.541	1.167	44.500	5.449	4.337	5.250	6.445
21	6.344	2.181	7.966	3.128	1.306	1.463	1.176	10.328	28.819	138.424	4.562	7.892
22	5.244	2.130	9.879	2.862	1.294	1.390	1.048	6.195	8.403	21.373	6.819	4.640
23	4.574	2.088	7.427	2.620	1.266	1.651	0.951	4.526	7.670	9.226	7.323	3.950
24	4.199	2.105	7.097	2.341	1.098	1.825	0.913	3.736	5.944	6.901	5.363	4.298
25	4.125	2.121	6.408	2.315	1.112	5.638	0.946	4.731	4.536	6.897	4.200	4.532
26	3.957	12.360	19.814	2.063	1.082	3.197	1.557	4.533	3.550	9.738	4.410	9.371
27	3.610	7.423	26.579	1.891	1.029	3.973	2.251	2.963	3.075	5.945	4.268	22.306
28	3.412	5.431	17.850	1.818	1.082	4.641	1.395	2.890	2.679	4.550	3.887	8.049
29	3.080		14.874	1.814	1.314	2.750	1.194	2.599	2.388	3.795	5.053	8.009
30	2.797		9.340	2.270	1.313	2.576	1.153	2.224	2.363	3.522	3.906	21.171
31	2.652		8.508		1.252		1.288	2.075		3.193		12.113
Average	7.448	4.391	9.012	4.131	1.872	3.965	1.685	6.521	4.272	9.277	6.548	5.457
Lowest	2.652	2.088	3.359	1.814	1.029	1.184	0.913	0.941	1.853	1.878	1.733	1.676
Highest	22.053	12.360	35.885	13.024	6.486	21.745	7.316	44.500	28.819	138.424	22.063	22.306
Peak flow	42.035	23.372	55.074	20.628	9.801	39.131	13.048	68.758	61.597	183.468	35.273	45.951
Day of peak	1	26	7	10	2	5	15	20	21	21	12	27
Monthly total (million cu m)	19.95	10.62	24.14	10.71	5.01	10.28	4.51	17.47	11.07	24.85	16.97	14.62
Runoff (mm)	73	39	88	39	18	37	16	64	40	90	62	53
Rainfall (mm)	55	60	120	47	40	113	61	128	90	129	97	81

Statistics of monthly data for previous record (May 1972 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	11.710	8.208	7.379	4.368	3.756	2.557	2.138	3.386	4.791	6.531	8.837	10.990
	Low	7.011	2.862	2.209	1.701	0.993	0.911	0.879	0.846	0.680	1.215	3.422	5.062
	(year)	1985	1986	1973	1974	1980	1974	1984	1983	1972	1972	1983	1975
	High	16.170	17.200	12.340	8.687	7.946	4.955	5.114	11.310	12.730	11.260	15.270	17.330
	(year)	1984	1977	1978	1986	1986	1981	1985	1985	1985	1976	1979	1978
Runoff:	Avg.	114	73	72	41	37	24	21	33	45	64	83	107
	Low	68	25	22	16	10	9	9	8	6	12	32	49
	High	158	152	120	82	78	47	50	110	120	110	144	169
Rainfall:	Avg.	129	76	103	58	80	68	71	90	106	106	115	127
	Low	81	4	38	20	20	28	20	20	13	55	45	39
	High	194	161	145	118	145	118	131	188	177	171	182	183

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	5.397		6.217		87
Lowest yearly mean			4.102	1975	
Highest yearly mean			7.648	1978	
Lowest monthly mean	1.685	Jul	0.680	Sep 1972	
Highest monthly mean	9.277	Oct	17.330	Dec 1978	
Lowest daily mean	0.913	24 Jul	0.411	23 Aug 1984	
Highest daily mean	138.424	21 Oct	74.714	19 Dec 1973	
Peak	183.468	21 Oct	128.417	1 Dec 1978	
10% exceedance	9.763		13.700		71
50% exceedance	3.492		4.144		84
95% exceedance	1.156		1.006		115
Annual total (million cu m)	170.20		196.20		87
Annual runoff (mm)	620		715		87
Annual rainfall (mm)	1021		1129		90
(1941-70 rainfall average (mm)			920)		

Factors affecting flow regime

- Abstraction for public water supplies.
- Augmentation from effluent returns.

Station and catchment description

Velocity-area station with cableway and weir control - informal broad-crested structure (for angling enhancement), dimensions not known. The net effect of abstractions for public water supply and augmentations from effluent returns is minor. Catchment geology: mixed impermeable rocks (granite, schist and gneiss, and sandstone) overlain by substantial deposits of till, sand and gravel. Largely upland given over mainly to grassland or heath.

203010 Blackwater at Maydown Bridge 1987

Measuring authority: DOEN
First year: 1970

Grid reference: 23 (IH) 820 519
Level stn. (m OD): 380.00

Catchment area (sq km): 951.4
Max alt. (m OD): 362

Daily mean gauged discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	47.993	11.218	23.466	24.950	7.946	1.487	6.016	2.125	5.881	6.607	17.667	17.229
2	54.490	13.458	41.619	20.615	13.956	1.725	4.536	2.627	5.147	5.839	16.310	16.563
3	35.171	15.821	23.475	16.551	12.832	7.926	3.527	2.805	4.813	5.423	15.222	16.029
4	33.978	18.299	23.355	14.135	7.677	12.783	3.084	1.958	4.456	5.233	14.424	15.121
5	39.157	20.886	18.036	12.906	6.017	23.747	2.580	1.658	4.189	5.093	13.664	14.286
6	30.823	23.578	22.042	11.913	5.104	44.074	2.241	1.515	4.217	5.626	13.093	13.453
7	21.426	26.368	51.972	11.037	4.514	25.326	1.986	1.450	3.915	11.779	12.868	12.680
8	16.975	29.254	52.747	10.405	4.106	15.281	1.806	1.324	3.283	13.771	17.637	12.286
9	29.406	32.231	31.535	10.567	3.683	10.676	1.702	1.266	3.690	11.705	22.841	11.629
10	28.758	28.916	21.579	23.862	3.411	9.907	1.880	1.245	6.065	9.004	20.895	10.708
11	19.224	21.095	15.881	27.022	3.289	16.587	2.333	1.390	7.014	7.173	31.641	10.742
12	12.955	15.461	13.119	17.493	3.266	15.730	2.094	13.760	21.001	6.401	40.906	10.651
13	11.434	12.351	11.736	14.022	3.293	9.061	1.779	26.654	11.969	8.805	42.055	10.996
14	12.465	10.806	11.473	12.181	3.388	8.117	1.720	9.678	10.134	11.376	33.262	10.916
15	11.246	9.362	10.696	10.759	3.458	10.106	3.641	8.906	8.302	9.771	69.640	10.612
16	10.476	8.132	9.578	9.845	3.189	7.112	7.440	12.397	7.674	9.073	59.239	12.357
17	11.832	7.228	9.420	8.630	3.019	5.789	4.373	66.083	6.246	10.266	44.694	24.704
18	48.914	7.088	10.239	7.676	2.967	4.996	3.289	46.538	5.297	19.754	34.640	23.755
19	53.789	6.723	12.205	7.275	2.391	4.486	2.770	20.762	20.279	12.972	31.262	21.327
20	42.959	6.735	14.020	7.501	2.272	3.941	2.405	52.619	27.821	7.266	26.455	21.530
21	26.009	6.555	14.969	7.089	2.052	3.664	2.036	52.787	52.033	109.414	23.321	28.035
22	18.561	6.274	13.543	6.165	1.929	4.014	1.805	23.387	59.766	143.845	21.857	22.570
23	15.165	5.967	13.213	5.651	2.074	3.610	1.737	14.428	34.245	140.763	23.679	19.314
24	12.963	5.349	11.998	5.347	1.887	3.394	1.524	11.252	25.942	117.034	21.506	17.998
25	11.858	5.135	11.987	4.904	1.785	5.486	1.415	9.778	18.861	63.043	19.067	17.527
26	10.936	16.551	18.057	4.510	1.671	6.837	1.358	11.286	14.289	46.001	18.022	36.213
27	10.039	31.870	63.131	4.199	1.614	7.078	1.631	8.567	11.811	33.327	18.559	59.379
28	9.362	18.209	61.462	3.856	1.450	9.219	3.525	6.986	10.107	27.311	17.464	42.678
29	8.595		47.543	3.749	1.512	7.061	2.704	6.258	8.982	23.633	21.045	38.223
30	7.610		36.666	4.145	1.811	5.623	2.222	5.547	7.083	20.867	20.417	46.114
31	6.876		27.052		1.679		1.861	5.042		19.180		57.078
Average	22.950	15.030	24.120	10.970	3.847	9.828	2.678	13.940	13.820	29.910	26.110	22.020
Lowest	6.876	5.135	9.420	3.749	1.450	1.487	1.358	1.245	3.283	5.093	12.868	10.612
Highest	54.490	32.231	63.131	27.022	13.956	44.074	7.440	66.083	59.766	143.845	69.640	59.379
Peak flow	66.439	37.552	66.151	36.877	19.520	51.069	9.556	74.191	70.988	144.847	76.411	68.994
Day of peak	1	27	7	10	2	6	16	17	22	22	15	27
Monthly total (million cu m)	61.47	36.37	64.61	28.42	10.30	25.47	7.17	37.33	35.81	80.12	67.68	58.99
Runoff (mm)	65	38	68	30	11	27	8	39	38	84	71	62
Rainfall (mm)	46	53	94	43	28	106	41	122	85	111	71	66

Statistics of monthly data for previous record (Jul 1970 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean flows:	Avg.	33.250	25.070	21.090	11.990	8.730	5.555	3.557	8.125	10.200	16.530	27.230	30.890
	Low	18.050	7.185	8.770	3.439	1.307	0.973	0.860	0.597	1.920	2.163	8.857	10.570
	(year)	1971	1986	1973	1974	1984	1975	1984	1975	1972	1972	1983	1971
	High	56.780	52.240	43.250	26.850	19.810	17.540	12.700	32.480	30.110	31.470	51.680	50.390
	(year)	1984	1977	1981	1986	1983	1981	1985	1985	1985	1980	1970	1978
Runoff:	Avg.	94	64	59	33	25	15	10	23	28	47	74	87
	Low	51	18	25	9	4	3	2	2	5	6	24	30
	High	160	133	122	73	56	48	36	91	82	89	141	142
Rainfall:	Avg.	111	73	83	54	65	58	64	77	88	92	101	99
	Low	64	4	33	14	19	19	17	15	7	43	38	30
	High	185	158	142	122	124	111	115	160	153	168	146	164

Summary statistics

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	16.290		16.820		97
Lowest yearly mean			9.712	1975	
Highest yearly mean			20.190	1986	
Lowest monthly mean	2.678	Jul	0.597	Aug 1975	
Highest monthly mean	29.910	Oct	56.780	Jan 1984	
Lowest daily mean	1.245	10 Aug	0.043	6 Sep 1975	
Highest daily mean	143.845	22 Oct	100.913	5 Jan 1982	
Peak	144.847	22 Oct	112.092	15 Apr 1986	
10% exceedance	36.050		43.970		82
50% exceedance	11.050		9.722		114
95% exceedance	1.709		0.903		189
Annual total (million cu m)	513.70		530.80		97
Annual runoff (mm)	540		558		97
Annual rainfall (mm)	866		965		90
[1941-70 rainfall average (mm)			1005]		

Factors affecting flow regime

- Natural to within 10% at 95 percentile flow.

Station and catchment description

Velocity-area station with cableway and natural control. A substantial portion of the catchment area is in the Irish Republic where some groundwater may be abstracted but its hydrological significance is uncertain. Geology: Carboniferous Limestone and Millstone Grit with sandstones overlain by substantial amounts of till. A predominantly rural catchment with limited afforestation. Monaghan Town (pop. 5,000) - in the Irish Republic - is the only significant urban centre.

039001 Thames at Kingston 1987

Measuring authority: TWA
First year: 1883

Grid reference: 51 (TQ) 177 698
Level stn. (m OD): 4.70

Catchment area (sq km): 9948.0
Max alt. (m OD): 330

Daily mean naturalised discharges (cubic metres per second)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	221.000	70.500	127.000	119.000	78.700	64.000	49.500	42.100	32.300	30.800	95.400	94.100
2	239.000	75.900	128.000	178.000	77.800	55.300	50.000	41.600	34.100	28.700	133.000	92.800
3	197.000	79.200	121.000	156.000	76.400	58.000	42.100	42.100	40.500	31.200	115.000	87.100
4	169.000	86.100	89.600	171.000	69.700	62.500	44.700	40.500	35.500	34.400	95.700	90.500
5	172.000	86.300	86.500	264.000	70.900	64.100	38.900	37.400	36.200	38.500	89.600	90.100
6	153.000	92.700	86.100	250.000	72.300	75.900	41.000	34.700	39.500	35.500	69.100	85.200
7	134.000	81.100	106.000	266.000	68.500	82.600	40.500	34.700	38.600	52.800	80.900	79.700
8	113.000	74.300	139.000	304.000	64.800	77.600	40.000	31.600	36.000	105.000	73.200	77.300
9	113.000	81.300	147.000	261.000	65.500	80.300	35.300	31.000	36.100	95.000	110.000	75.400
10	110.000	81.600	128.000	246.000	63.100	88.900	32.600	35.300	32.200	227.000	142.000	68.200
11	101.000	85.300	105.000	226.000	62.800	80.900	31.600	34.700	33.400	228.000	164.000	71.600
12	90.100	82.700	98.800	179.000	65.600	76.000	36.300	36.300	33.900	169.000	260.000	70.500
13	83.400	87.000	90.400	155.000	65.000	55.500	33.700	37.400	37.400	79.000	293.000	71.100
14	73.300	119.000	83.600	138.000	78.700	61.900	33.700	36.300	42.200	87.600	256.000	71.200
15	84.800	113.000	82.500	130.000	76.100	57.500	36.300	34.200	36.300	144.000	197.000	68.900
16	82.400	103.000	77.400	118.000	68.200	57.500	42.100	33.100	32.300	205.000	171.000	84.000
17	91.100	89.000	81.600	116.000	68.400	60.000	47.400	33.100	32.600	240.000	157.000	112.000
18	85.900	81.500	82.400	110.000	66.700	62.600	45.800	33.700	32.100	203.000	134.000	119.000
19	81.200	78.500	81.400	102.000	68.000	85.300	64.200	33.100	34.900	139.000	144.000	101.000
20	81.900	68.700	79.300	102.000	65.700	86.100	77.300	31.600	36.000	163.000	208.000	90.100
21	81.700	72.600	74.700	102.000	54.000	78.900	73.700	31.600	36.200	251.000	211.000	78.000
22	95.400	71.000	73.900	96.700	56.900	73.100	63.700	41.500	32.800	270.000	206.000	80.400
23	110.000	70.400	93.100	95.600	71.800	59.400	44.700	38.100	34.200	204.000	197.000	79.600
24	113.000	69.800	127.000	81.700	70.900	58.800	50.000	36.000	35.400	145.000	161.000	73.600
25	112.000	61.500	120.000	91.000	60.700	57.000	45.800	48.700	35.300	132.000	145.000	73.900
26	109.000	68.500	109.000	87.900	59.200	72.100	43.700	44.400	32.700	94.500	124.000	73.700
27	97.500	108.000	173.000	85.700	57.600	74.600	44.700	43.100	32.100	108.000	113.000	72.000
28	92.300	113.000	237.000	83.300	57.100	69.100	42.600	37.400	30.600	85.400	100.000	71.800
29	83.500		188.000	79.200	54.200	59.500	46.800	35.100	30.100	92.700	104.000	69.900
30	80.400		130.000	80.100	55.200	51.500	50.000	33.800	31.600	93.300	102.000	74.500
31	71.300		107.000		71.800		46.800	31.600		91.000		107.000
Average	113.600	83.980	111.400	149.100	66.530	68.220	45.660	36.640	34.770	125.900	148.400	82.390
Lowest	71.300	61.500	73.900	79.200	54.000	51.500	31.600	31.000	30.100	28.700	69.100	68.200
Highest	239.000	119.000	237.000	304.000	78.700	88.900	77.300	48.700	42.200	270.000	293.000	119.000
Monthly total (million cu m)	304.30	203.20	298.40	386.60	178.20	176.80	122.30	98.13	90.12	337.30	384.60	220.70
Nat'ised runoff (mm)	31	20	30	39	18	18	12	10	9	34	39	22
Rainfall (mm)	14	39	63	57	51	92	58	36	42	163	65	32

Statistics of monthly data for previous record (Jan 1883 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean nat'ised flows:	Avg.	138.100	134.500	116.000	85.890	65.270	48.790	35.060	32.660	34.380	49.370	83.530	113.000
	Low	32.200	25.080	27.340	26.520	18.200	13.470	10.770	11.030	11.250	15.120	17.730	22.470
	(year)	1905	1905	1944	1976	1944	1944	1921	1976	1898	1934	1921	1921
	High	332.900	348.100	370.900	199.800	181.300	178.700	88.840	88.770	139.400	185.300	339.600	343.900
	(year)	1915	1904	1947	1951	1932	1903	1968	1931	1968	1903	1894	1929
nat'ised runoff:	avg.	37	33	31	22	18	13	9	9	9	13	22	30
	Low	9	6	7	7	5	4	3	3	3	4	5	6
	High	90	88	100	52	49	47	24	24	36	50	88	93
Rainfall:	Avg.	65	49	53	48	55	52	58	65	58	72	73	73
	Low	18	3	3	3	8	3	8	3	3	5	8	13
	High	137	127	142	104	137	137	130	147	157	188	188	185

Summary statistics
(naturalised flows)

	For 1987		For record preceding 1987		1987 As % of pre-1987
Mean flow (m^3s^{-1})	88.800		77.780		114
Lowest yearly mean			30.940	1934	
Highest yearly mean			131.800	1951	
Lowest monthly mean	34.770	Sep	10.770	Jul 1921	
Highest monthly mean	149.100	Apr	370.900	Mar 1947	
Lowest daily mean	28.700	2 Oct	7.370	9 Jul 1934	
Highest daily mean	304.000	8 Apr	1065.000	18 Nov 1894	
10% exceedance	164.400		172.100		96
50% exceedance	77.840		53.380		146
95% exceedance	32.670		18.290		179
Annual total (million cu m)	2800.00		2454.00		114
Annual runoff (mm)	282		247		114
Annual rainfall (mm)	712		721		99
[1941-70 rainfall average (mm)			724]		

Factors affecting flow regime

- Reservoir(s) in catchment.
- Flow influenced by groundwater abstraction and/or recharge.
- Abstraction for public water supplies.
- Flow reduced by industrial and/or agricultural abstractions.
- Augmentation from surface water and/or groundwater.
- Augmentation from effluent returns.

Station and catchment description
Ultrasonic gauging station commissioned in 1974; multi-path operation from 1986. Full range. Pre-1974 flows derived from Teddington weir complex (70m wide); significant structural improvements have been made since 1883. US data led to revision of 1951-74 flows (in 1981). Substantial baseflow - sustained from the Chalk and the Oolites. Daily naturalised flows available for POR - allowance is made for major PWS abstractions only. Diverse topography, geology and land use which has undergone important historical changes.

Part (ii) - The monthly flow data

The introductory information (measuring authority etc.) is as described in Part (i).

Hydrometric statistics for the year

The monthly average, peak flow, runoff and rainfall figures are equivalent to the summary information following the daily mean gauged discharges in Part (i). Because of the rounding of monthly runoff values, the runoff for the year may differ slightly from the sum of the individual monthly totals.

Monthly and yearly statistics for previous record

Monthly mean flows (Average, Low and High) and the monthly rainfall and runoff figures are equivalent to those presented in Part (i). An asterisk indicates an incomplete rainfall series; the first and last years of data are given in parentheses. Due to the rounding of monthly runoff values, the average runoff for the year derived from the previous record may differ slightly from the sum of the individual monthly totals. The peak flow is the highest discharge, in cubic metres per second, for each month. For many stations the archived series of monthly instantaneous maximum flows, from which the preceding record peak is abstracted, is incomplete, particularly for the earlier years, and certain of the peak flows are known to be of limited accuracy. Where the peak value - in an incomplete series - is exceeded by the highest daily mean flow on record, the latter is substituted; such substitutions are indicated by a 'd' flag. An examination of the quality of the peak flow figures is underway and significant revision may be expected as this review proceeds. The figures are published primarily to provide a guide to the range of river flows experienced throughout the year at the featured gauging stations.

Factors affecting flow regime

Code letters are used as described in Part (i).

Station type

The station type is coded by the list of abbreviations given below - two abbreviations may be applied to each station relating to the measurement of lower or higher flows.

B	Broad-crested weir
C	Crump (triangular profile) single crest weir
CB	Compound broad-crested weir. The compounding may include a mixture of types such as rectangular profiles, flumes and shallow-Vs and with or without divide walls
CC	Compound Crump weir
EM	Electromagnetic gauging station
EW	Essex weir (simple Crump weir modified with angled, sloping, triangular profile flanking crests) in trapezoidal channel
FL	Flume
FV	Flat-V triangular profile weir
MIS	Miscellaneous method
TP	Rectangular thin-plate weir
US	Ultrasonic gauging station
VA	Velocity-area gauging station
VN	Triangular (V notch) thin-plate weir

003003 Oykel at Easter Turnaig 1987

Measuring authority: HRPB
First year: 1977
Grid reference: 29 (NC) 403 001
Level stn. (m OD): 15.60
Catchment area (sq km): 330.7
Max alt. (m OD): 998

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	17.430	12.470	19.730	6.681	8.203	6.392	9.881	9.735	18.740	10.640	19.600	16.650	**13.013**
(m^3s^{-1}):	Peak	165.24	82.92	180.08	45.05	128.77	69.88	116.19	181.66	241.62	93.61	142.49	251.07	**251.07**
Runoff (mm)		141	91	160	52	66	50	80	79	147	86	154	135	**1242**
Rainfall (mm)		113	118	195	56	104	96	129	106	214	117	188	165	**1601**

Monthly and yearly statistics for previous record (Nov 1977 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	26.770	14.900	20.280	10.030	6.512	6.325	7.544	9.973	22.470	26.060	29.060	25.050	**17.098**
flows	Low	13.550	2.376	6.649	5.445	1.067	0.751	2.853	2.332	14.540	7.328	14.420	8.245	**14.287**
(m^3s^{-1})	High	43.980	25.370	40.740	17.710	14.380	14.140	15.690	22.590	31.870	41.100	49.380	38.210	**20.249**
Peak flow (m^3s^{-1})		510.66	466.46	470.84	208.27	129.64	169.90	191.07	196.76	423.38	847.50	407.70	394.15	**847.50**
Runoff (mm)		217	110	164	79	53	50	61	81	176	211	228	203	**1632**
Rainfall (mm)		244	91	186	92	82	99	105	132	230	252	276	232	**2021**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 76% of previous mean
rainfall 79%

004001 Conon at Moy Bridge 1987

Measuring authority: HRPB
First year: 1947
Grid reference: 28 (NH) 482 547
Level stn. (m OD): 10.00
Catchment area (sq km): 961.8
Max alt. (m OD): 1052

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	69.800	48.560	41.240	37.840	27.640	29.820	29.450	31.950	45.150	40.910	61.350	41.180	**42.074**
(m^3s^{-1}):	Peak	173.32	137.74	91.09	127.70	84.32	75.17	52.69	72.55	89.73	80.28	168.07	140.08	**173.32**
Runoff (mm)		194	122	115	102	77	80	82	89	122	114	165	115	**1377**
Rainfall (mm)		92	103	184	50	96	99	96	80	241	118	180	172	**1511**

Monthly and yearly statistics for previous record (Oct 1947 to Dec 1986—incomplete or missing months total 5.7 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	66.710	57.200	55.210	40.470	32.220	21.800	19.950	26.830	40.140	53.610	63.740	73.170	**45.882**
flows	Low	31.690	25.810	18.670	13.940	10.940	8.861	2.959	8.162	12.510	23.090	24.090	27.970	**29.991**
(m^3s^{-1})	High	138.300	121.000	127.900	75.730	53.050	47.560	36.690	45.140	94.870	94.030	121.700	165.100	**59.238**
Peak flow (m^3s^{-1})		409.56	467.20	362.90	203.90	232.20	165.20	247.41	254.90	223.72	324.80	411.85	1076.00	**1076.00**
Runoff (mm)		186	145	154	109	90	59	56	75	108	149	172	204	**1506**
Rainfall (mm)*		193	123	156	106	108	96	107	125	167	217	209	229	**1836**

*(1953-1986)

Factors affecting flow regime: H
Station type: VA

1987 runoff is 91% of previous mean
rainfall 82%

007002 Findhorn at Forres 1987

Measuring authority: HRPB
First year: 1958
Grid reference: 38 (NJ) 018 583
Level stn. (m OD): 9.60
Catchment area (sq km): 781.9
Max alt. (m OD): 941

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	17.510	20.090	24.530	27.750	17.740	21.180	14.900	11.810	12.380	17.840	20.320	16.340	**18.532**
(m^3s^{-1}):	Peak	84.22	90.23	155.96	105.94	64.84	167.94	125.52	56.48	53.83	69.32	78.22	104.37	**167.94**
Runoff (mm)		60	62	84	92	61	70	51	40	41	61	67	56	**746**
Rainfall (mm)		40	74	114	52	79	120	93	84	83	93	88	71	**991**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	24.440	19.510	22.590	21.150	15.840	10.050	9.518	13.830	15.480	20.880	23.780	25.550	**18.553**
flows	Low	9.429	5.259	8.615	5.560	3.836	3.321	2.744	2.478	2.863	3.547	9.300	8.332	**11.994**
(m^3s^{-1})	High	51.190	44.700	54.320	54.170	41.990	41.900	24.650	58.840	37.870	49.540	39.710	61.550	**25.482**
Peak flow (m^3s^{-1})		361.11	637.70	410.00	173.47	294.32	430.20	469.14	2410.00	861.11	512.03	465.20	616.90	**2410.00**
Runoff (mm)		84	61	77	70	54	33	33	47	51	72	79	88	**749**
Rainfall (mm)		105	61	83	64	74	77	85	104	102	111	119	109	**1094**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 100% of previous mean
rainfall 91%

008007 Spey at Invertruim 1987

Measuring authority: NERPB
First year: 1952
Grid reference: 27 (NN) 687 962
Level stn. (m OD): 242.50
Catchment area (sq km): 400.4
Max alt. (m OD): 951

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.575	3.814	5.092	3.643	2.990	2.511	2.845	2.417	4.754	5.458	4.564	4.545	**3.934**
(m^3s^{-1}):	Peak	18.47	10.82	20.73	9.32	7.19	6.62	11.77	8.50	23.09	16.15	16.81	52.26	**52.26**
Runoff (mm)		31	23	34	24	20	16	19	16	31	37	30	30	**310**
Rainfall (mm)		56	81	133	41	82	95	83	74	164	134	118	148	**1209**

Monthly and yearly statistics for previous record (Oct 1952 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	8.841	6.382	6.478	4.185	3.685	2.986	2.833	3.385	4.745	6.902	7.795	9.848	**5.675**
flows	Low	3.314	1.953	2.722	2.075	1.413	1.123	1.042	0.852	1.454	1.638	3.235	3.518	**4.211**
(m^3s^{-1})	High	23.280	21.020	20.600	7.126	6.210	6.269	5.021	7.545	14.650	14.830	15.960	24.970	**8.037**
Peak flow (m^3s^{-1})		153.70	198.20	274.50	60.85	43.92	45.93	72.83	75.00	108.00	106.90	170.60	259.50	**274.50**
Runoff (mm)		59	39	43	27	25	19	19	23	31	46	50	66	**447**
Rainfall (mm)		158	98	116	73	90	77	85	102	134	167	167	181	**1448**

Factors affecting flow regime: H
Station type: VA

1987 runoff is 69% of previous mean
rainfall 83%

009001 Deveron at Avochie 1987

Measuring authority: NERPB
First year: 1959
Grid reference: 38 (NJ) 532 464
Level stn. (m OD): 81.80
Catchment area (sq km): 441.6
Max alt. (m OD): 775

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.532	10.210	13.950	14.170	6.439	8.619	9.842	5.684	3.603	6.843	8.581	6.819	**8.608**
(m^3s^{-1}):	Peak	36.96	30.03	93.47	35.05	18.28	43.20	84.43	16.63	6.32	29.06	57.25	17.19	**93.47**
Runoff (mm)		52	56	85	83	39	51	60	34	21	42	50	41	**614**
Rainfall (mm)		51	89	108	76	73	96	124	75	40	93	100	40	**965**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	13.000	10.680	11.500	10.280	7.888	5.159	4.575	6.207	6.040	8.987	11.000	12.080	**8.946**
flows	Low	3.688	3.052	3.391	4.314	3.631	2.610	1.766	1.621	2.092	1.934	3.389	3.504	**5.233**
(m^3s^{-1})	High	24.440	19.720	22.230	21.500	21.930	11.130	9.761	19.110	16.040	28.210	29.790	23.590	**12.437**
Peak flow (m^3s^{-1})		120.50	84.90	118.00	76.13	183.70	153.10	146.40	236.50	155.70	221.90	177.70	157.10	**236.50**
Runoff (mm)		79	59	70	60	48	30	28	38	35	55	65	73	**639**
Rainfall (mm)		97	62	75	70	74	66	76	95	86	98	107	95	**1001**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 96% of previous mean
rainfall 96%

010002 Ugie at Inverugie 1987

Measuring authority: NERPB
First year: 1971
Grid reference: 48 (NK) 101 485
Level stn. (m OD): 8.50
Catchment area (sq km): 325.0
Max alt. (m OD): 234

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	6.846	7.081	9.460	7.540	3.123	3.097	3.801	2.598	2.278	7.900	5.080	4.063	**5.239**
(m^3s^{-1}):	Peak	22.71	31.73	34.57	40.84	6.82	5.46	20.16	10.50	7.48	30.41	11.31	7.94	**40.84**
Runoff (mm)		56	53	78	60	26	25	31	21	18	65	41	33	**508**
Rainfall (mm)		59	74	118	77	37	60	101	64	58	117	54	42	**861**

Monthly and yearly statistics for previous record (Feb 1971 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	8.575	6.404	5.256	3.970	3.139	2.191	1.813	2.061	2.400	4.209	6.716	8.047	**4.559**
flows	Low	2.285	1.999	1.593	1.246	1.542	0.913	0.904	0.764	0.791	0.869	1.942	1.473	**3.003**
(m^3s^{-1})	High	13.270	14.320	9.291	7.464	6.197	4.372	4.487	6.404	7.092	8.075	18.350	13.280	**6.445**
Peak flow (m^3s^{-1})		61.04	83.56	36.61	30.50	31.64	13.00	23.79	20.75	38.80	87.72	106.10	95.52	**106.10**
Runoff (mm)		71	48	43	32	26	17	15	17	19	35	54	66	**443**
Rainfall (mm)		84	43	64	50	52	54	57	62	84	80	95	86	**811**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 115% of previous mean
rainfall 106%

011001 Don at Parkhill 1987

Measuring authority: NERPB
First year: 1969
Grid reference: 38 (NJ) 887 141
Level stn. (m OD): 32.40
Catchment area (sq km): 1273.0
Max alt. (m OD): 872

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	25.490	23.230	28.660	39.000	15.240	14.740	19.690	11.320	8.019	16.590	17.010	15.900	**19.574**
(m^3s^{-1}):	Peak	66.79	49.56	76.58	87.42	23.25	32.25	90.21	18.20	10.36	64.60	53.38	27.83	**90.21**
Runoff (mm)		54	44	60	79	32	30	41	24	16	35	35	33	**484**
Rainfall (mm)		48	62	98	78	61	88	112	62	37	97	74	41	**858**

Monthly and yearly statistics for previous record (Dec 1969 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	32.290	29.260	28.250	25.410	17.600	12.820	11.130	12.680	12.110	20.120	23.780	29.410	**21.207**
flows	Low	9.453	6.846	6.587	9.317	9.567	6.773	4.335	3.346	4.194	3.631	6.542	7.951	**10.623**
(m^3s^{-1})	High	49.160	52.540	49.590	47.000	35.460	28.930	29.190	42.320	38.350	60.580	86.420	57.360	**30.365**
Peak flow (m^3s^{-1})		185.90	165.10	159.80	132.30	110.70	101.60	119.30	251.20	121.20	347.20	215.90	198.30	**347.20**
Runoff (mm)		68	56	59	52	37	26	23	27	25	42	48	62	**526**
Rainfall (mm)		101	55	72	63	65	59	68	75	79	82	91	86	**896**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 92% of previous mean
rainfall 96%

013007 North Esk at Logie Mill 1987

Measuring authority: TRPB
First year: 1976
Grid reference: 37 (NO) 699 640
Level stn. (m OD): 10.60
Catchment area (sq km): 730.0
Max alt. (m OD): 939

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	22.220	15.990	21.970	25.260	8.243	12.190	11.130	6.651	8.147	27.500	16.340	17.440	**16.090**
(m^3s^{-1}):	Peak	90.61	58.58	99.81	80.50	16.20	68.33	94.79	54.05	31.18	274.69	41.35	118.65	**274.69**
Runoff (mm)		82	53	81	90	30	43	41	24	29	101	58	64	**695**
Rainfall (mm)		70	56	101	70	55	108	91	73	67	157	70	77	**995**

Monthly and yearly statistics for previous record (Jan 1976 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	24.480	26.040	31.130	22.940	17.190	9.774	6.412	10.540	11.570	28.070	26.980	33.040	**20.673**
flows	Low	13.770	9.795	16.450	9.071	6.179	3.684	2.993	2.548	3.622	4.099	5.281	20.790	**15.314**
(m^3s^{-1})	High	48.590	45.670	42.750	34.750	36.420	24.300	18.060	35.810	30.540	80.410	91.170	59.880	**24.926**
Peak flow (m^3s^{-1})		240.80	88.31	169.10	111.40	180.80	271.90	133.00	199.20	196.00	97.64	462.10	398.10	**462.10**
Runoff (mm)		90	87	114	81	63	35	24	39	41	103	96	121	**894**
Rainfall (mm)		120	80	114	59	85	65	70	83	110	132	118	139	**1175**

Factors affecting flow regime: S P I
Station type: VA

1987 runoff is 78% of previous mean
rainfall 85%

013008 South Esk at Brechin 1987

Measuring authority: TRPB
First year: 1983

Grid reference: 37 (NO) 600 596
Level stn. (m OD): 18.00

Catchment area (sq km): 490.0
Max alt. (m OD): 958

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	12.950	10.910	13.580	13.640	6.100	7.494	6.065	4.576	7.930	19.240	10.740	10.990	**10.351**
(m^3s^{-1}):	Peak	50.84	36.93	56.16	29.93	13.18	20.87	32.96	33.66	23.26	118.67	22.25	87.20	**118.67**
Runoff (mm)		71	54	74	72	33	40	33	25	42	105	57	60	**666**
Rainfall (mm)		80	53	110	68	59	111	80	83	90	165	66	89	**1054**

Monthly and yearly statistics for previous record (Jan 1983 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	16.760	12.870	17.610	15.080	16.200	8.828	4.205	8.684	7.772	8.699	18.010	20.120	**12.908**
flows	Low	10.160	7.000	9.358	11.510	6.529	3.577	1.712	1.403	2.401	3.487	3.911	17.730	**11.397**
(m^3s^{-1})	High	22.320	21.550	25.730	20.690	26.390	11.860	8.909	25.140	21.290	12.840	48.150	23.240	**14.702**
Peak flow (m^3s^{-1})		76.24	72.40	98.91	56.51	103.75	86.79	32.82	127.90	89.54	41.64	172.00	181.10	**181.10**
Runoff (mm)		92	64	96	80	89	47	23	47	41	48	95	110	**832**
Rainfall (mm)		147	60	105	69	104	77	59	92	98	91	144	153	**1199**

Factors affecting flow regime: I
Station type: VA

1987 runoff is 80% of previous mean
rainfall 88%

014001 Eden at Kemback 1987

Measuring authority: TRPB
First year: 1967

Grid reference: 37 (NO) 415 158
Level stn. (m OD): 6.20

Catchment area (sq km): 307.4
Max alt. (m OD): 522

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.080	5.357	5.683	5.872	2.800	3.370	1.778	1.652	1.820	4.918	3.611	3.515	**4.038**
(m^3s^{-1}):	Peak	37.15	17.96	18.78	25.41	5.85	15.48	5.49	4.68	5.91	22.82	8.13	18.55	**37.15**
Runoff (mm)		70	42	50	50	24	28	15	14	15	43	30	31	**414**
Rainfall (mm)		77	50	82	75	53	104	63	75	57	109	40	60	**845**

Monthly and yearly statistics for previous record (Oct 1967 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	6.848	6.343	4.940	3.581	3.153	2.219	1.506	1.701	2.071	3.058	4.718	6.032	**3.836**
flows	Low	2.546	2.170	1.408	1.199	1.406	1.077	0.914	0.799	0.749	0.833	0.830	1.731	**1.446**
(m^3s^{-1})	High	10.890	19.460	8.096	7.243	8.335	6.651	3.390	6.038	11.260	6.880	14.440	12.390	**5.593**
Peak flow (m^3s^{-1})		59.05	71.31	54.89	28.27	47.48	41.93	26.20	17.19	53.64	35.97	39.37	47.82	**71.31**
Runoff (mm)		60	50	43	30	27	19	13	15	17	27	40	53	**394**
Rainfall (mm)		84	53	63	43	69	53	58	58	77	73	77	79	**787**

Factors affecting flow regime: S GEI
Station type: VA

1987 runoff is 105% of previous mean
rainfall 107%

015011 Lyon at Comrie Bridge 1987

Measuring authority: TRPB
First year: 1958

Grid reference: 27 (NN) 786 486
Level stn. (m OD): 92.10

Catchment area (sq km): 391.1
Max alt. (m OD): 1215

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	12.330	8.257	10.830	8.671	5.404	6.954	5.638	5.785	13.210	13.800	10.080	12.840	**9.483**
(m^3s^{-1}):	Peak	78.51	59.34	56.43	26.47	11.16	30.37	32.42	93.41	86.27	77.01	40.33	107.76	**107.76**
Runoff (mm)		84	51	74	57	37	46	39	40	88	94	67	88	**765**
Rainfall (mm)		65	106	158	57	69	101	84	105	257	198	140	251	**1591**

Monthly and yearly statistics for previous record (Jan 1958 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	17.080	13.110	13.710	10.020	9.963	8.619	6.039	7.470	10.310	14.790	15.060	16.100	**11.689**
flows	Low	3.596	3.198	4.219	4.002	3.537	3.514	3.062	2.221	2.843	3.662	5.320	6.182	**8.330**
(m^3s^{-1})	High	43.920	28.580	37.440	17.100	24.520	18.870	20.800	28.940	28.120	29.930	30.550	32.780	**19.870**
Peak flow (m^3s^{-1})		271.20	149.10	254.70	62.02	124.86	56.93	84.85	128.70	131.40	160.90	270.40	198.00	**271.20**
Runoff (mm)		117	82	94	66	68	44	41	51	68	101	100	110	**943**
Rainfall (mm)*		262	120	188	82	116	91	99	115	185	212	258	247	**1975**

*(1971-1986)

Factors affecting flow regime: H
Station type: VA

1987 runoff is 81% of previous mean
rainfall 81%

016003 Ruchill Water at Cultybraggan 1987

Measuring authority: TRPB
First year: 1970

Grid reference: 27 (NN) 764 204
Level stn. (m OD): 62.30

Catchment area (sq km): 99.5
Max alt. (m OD): 985

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.006	3.459	5.855	2.986	0.866	3.147	0.933	2.532	5.865	6.591	4.799	6.467	3.959
(m^3s^{-1}):	Peak	48.07	48.00	100.96	22.16	6.86	92.78	10.21	111.12	48.41	77.35	57.87	86.93	**111.12**
Runoff (mm)		108	84	158	78	23	82	25	68	153	177	125	174	**1255**
Rainfall (mm)		86	113	182	78	68	130	67	138	214	223	143	236	**1678**

Monthly and yearly statistics for previous record (Oct 1970 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	7.656	5.645	6.286	2.911	3.059	1.890	1.650	2.358	4.758	6.072	8.068	7.976	**4.860**
flows	Low	2.263	1.050	1.802	0.758	0.304	0.402	0.239	0.164	0.345	0.789	2.306	1.630	**3.281**
(m^3s^{-1})	High	15.240	9.995	11.100	5.156	10.120	4.562	4.812	9.246	10.260	12.130	16.550	12.350	**6.586**
Peak flow (m^3s^{-1})		250.40	130.20	165.30	61.27	165.00	221.30	160.00	143.00	227.30	136.60	183.30	174.50	**250.40**
Runoff (mm)		206	139	169	76	82	49	44	63	124	163	210	215	**1542**
Rainfall (mm)		234	144	173	85	128	96	112	128	202	206	252	241	**2001**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 81% of previous mean
rainfall 84%

016004 Earn at Forteviot Bridge 1987

Measuring authority: TRPB
First year: 1972
Grid reference: 37 (NO) 043 184
Level stn. (m OD): 7.80
Catchment area (sq km): 782.2
Max alt. (m OD): 985

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	36.710	22.350	32.540	21.630	9.654	14.250	6.390	10.310	26.090	36.390	29.590	28.040	**22.829**
(m^3s^{-1}):	Peak	131.88	82.68	176.14	52.59	16.73	96.79	18.78	132.65	83.95	111.64	101.25	137.50	**176.14**
Runoff (mm)		126	69	111	72	33	47	22	35	86	125	98	96	**921**
Rainfall (mm)		72	77	135	66	52	116	66	109	140	164	92	154	**1243**

Monthly and yearly statistics for previous record (Oct 1972 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	45.630	35.510	35.990	19.600	15.910	9.932	7.643	10.950	19.140	30.270	43.940	47.090	**26.775**
flows	Low	19.630	16.070	12.310	8.389	4.906	4.095	2.658	2.456	5.302	5.984	15.120	15.060	**15.508**
(m^3s^{-1})	High	85.510	58.640	58.620	33.790	47.200	20.070	18.350	46.660	55.680	59.340	89.750	79.160	**33.594**
Peak flow (m^3s^{-1})		277.50	214.60	194.10	106.00	155.20	114.90	142.30	169.70	271.80	241.20	328.60	238.69	**328.60**
Runoff (mm)		156	111	123	65	54	33	26	37	63	104	146	161	**1080**
Rainfall (mm)		164	95	136	54	91	70	80	97	158	146	179	173	**1443**

Factors affecting flow regime: P H
Station type: VA

1987 runoff is 85% of previous mean
rainfall 86%

017001 Carron at Headswood 1987

Measuring authority: FRPB
First year: 1969
Grid reference: 26 (NS) 832 820
Level stn. (m OD): 17.10
Catchment area (sq km): 122.3
Max alt. (m OD): 570

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	3.736	2.172	3.557	2.567	0.732	1.831	0.704	1.230	3.232	3.831	2.464	3.991	**2.504**
(m^3s^{-1}):	Peak	39.23	14.16	53.71	16.84	1.54	33.74	1.19	27.60	31.10	16.58	11.77	51.92	**53.71**
Runoff (mm)		82	43	78	54	16	39	15	27	68	84	52	87	**646**
Rainfall (mm)		96	95	159	81	62	120	58	125	170	165	105	190	**1426**

Monthly and yearly statistics for previous record (Aug 1969 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	5.592	3.630	3.503	1.881	1.619	1.205	1.081	1.462	3.052	3.841	5.874	5.584	**3.193**
flows	Low	1.943	1.018	1.232	0.807	0.590	0.580	0.549	0.557	0.467	0.424	1.412	1.084	**2.108**
(m^3s^{-1})	High	10.890	7.576	7.463	3.165	5.724	2.834	4.650	8.092	16.720	10.270	9.759	10.470	**4.575**
Peak flow (m^3s^{-1})		130.30	63.20	92.83	43.62	51.35	31.82	65.38	61.72	124.30	124.80	105.80	147.90	**147.90**
Runoff (mm)		122	72	77	40	35	26	24	32	65	84	124	122	**824**
Rainfall (mm)		169	97	129	70	93	85	86	104	156	159	195	172	**1515**

Factors affecting flow regime: S E
Station type: VA

1987 runoff is 78% of previous mean
rainfall 94%

017002 Leven at Leven 1987

Measuring authority: FRPB
First year: 1969
Grid reference: 37 (NO) 369 006
Level stn. (m OD): 4.10
Catchment area (sq km): 424.0
Max alt. (m OD): 522

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	17.480	10.920	9.617	9.315	3.392	6.672	2.817	3.102	4.543	9.443	8.129	6.660	**7.674**
(m^3s^{-1}):	Peak	53.54	27.29	27.03	28.67	6.44	21.35	5.22	9.90	10.54	32.00	13.56	28.78	**53.54**
Runoff (mm)		110	62	61	57	21	41	18	20	28	60	50	42	**569**
Rainfall (mm)		87	65	102	66	50	116	62	90	80	123	52	83	**976**

Monthly and yearly statistics for previous record (Aug 1969 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	10.890	9.737	7.038	4.733	3.703	2.967	1.775	2.991	3.718	5.699	8.582	11.080	**6.060**
flows	Low	4.786	2.882	1.543	1.413	2.012	1.166	0.902	0.820	0.970	0.795	0.972	3.462	**2.269**
(m^3s^{-1})	High	20.700	22.660	11.240	9.712	12.050	7.044	5.300	11.840	21.040	13.170	26.510	19.200	**9.294**
Peak flow (m^3s^{-1})		51.59	128.00	39.19	26.41	44.54	26.93	28.83	25.69	84.25	40.67	56.76	62.69	**128.00**
Runoff (mm)		69	56	44	29	23	18	11	19	23	36	52	70	**451**
Rainfall (mm)		93	57	74	48	65	63	63	69	92	84	102	98	**908**

Factors affecting flow regime: SR EI
Station type: VA

1987 runoff is 126% of previous mean
rainfall 107%

018003 Teith at Bridge of Teith 1987

Measuring authority: FRPB
First year: 1957
Grid reference: 27 (NN) 725 011
Level stn. (m OD): 14.70
Catchment area (sq km): 518.0
Max alt. (m OD): 1165

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	23.780	17.210	29.160	16.010	5.831	11.520	7.062	11.550	25.930	31.800	25.310	30.260	**19.619**
(m^3s^{-1}):	Peak	80.44	65.38	112.15	43.91	9.70	60.23	14.81	93.25	84.09	108.03	82.46	149.43	**149.43**
Runoff (mm)		123	80	151	80	30	58	37	60	130	164	127	156	**1196**
Rainfall (mm)		91	125	196	67	73	125	75	150	237	237	155	265	**1796**

Monthly and yearly statistics for previous record (Jan 1957 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	34.120	26.660	25.970	15.510	15.530	9.547	9.289	12.800	19.560	27.300	32.200	35.340	**21.980**
flows	Low	9.608	5.743	6.689	5.612	4.017	3.953	3.781	3.135	3.635	5.897	9.842	11.790	**15.094**
(m^3s^{-1})	High	72.430	54.340	60.190	30.040	55.000	21.520	26.390	54.210	45.020	66.410	70.650	72.370	**31.131**
Peak flow (m^3s^{-1})		303.90	207.40	217.38	89.21	158.00	161.70	118.30	174.40	184.10	242.60	245.10	241.10	**303.90**
Runoff (mm)		176	125	134	78	80	48	48	66	98	141	161	183	**1339**
Rainfall (mm)*		227	132	167	90	128	105	106	124	201	216	233	220	**1949**

*(1963-1986)

Factors affecting flow regime: S P
Station type: VA

1987 runoff is 89% of previous mean
rainfall 92%

018005 Allan Water at Bridge of Allan 1987

Measuring authority: FRPB | Grid reference: 26 (NS) 786 980 | Catchment area (sq km): 210.0
First year: 1971 | Level stn. (m OD): 11.20 | Max alt. (m OD): 633

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	10.020	6.530	8.829	5.460	2.140	4.517	1.738	2.871	5.565	6.651	5.899	7.776	**5.666**
(m^3s^{-1}):	Peak	66.47	42.61	79.21	23.41	6.22	58.10	5.27	57.55	34.93	32.39	25.76	63.11	**79.21**
Runoff (mm)		128	75	113	67	27	56	22	37	69	85	73	99	**850**
Rainfall (mm)		85	75	133	72	53	116	60	104	119	138	80	145	**1180**

Monthly and yearly statistics for previous record (Jul 1971 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	10.710	8.048	8.586	4.446	4.096	2.603	1.895	2.816	4.969	7.034	9.710	10.520	**6.283**
flows	Low	4.751	3.631	3.152	1.654	1.189	0.945	0.726	0.648	0.907	0.971	3.642	3.709	**4.269**
(m^3s^{-1})	High	18.550	16.610	18.170	7.717	15.430	5.423	6.309	12.390	14.600	12.420	17.760	17.140	**9.090**
Peak flow (m^3s^{-1})		98.20	67.84	83.43	52.05	72.11	55.39	66.37	67.48	105.60	111.00	97.89	112.60	**112.60**
Runoff (mm)		137	94	110	55	52	32	24	36	61	90	120	134	**944**
Rainfall (mm)		143	83	114	59	85	70	76	86	132	129	151	148	**1276**

Factors affecting flow regime: I
Station type: VA

1987 runoff is 90% of previous mean
rainfall 92%

020001 Tyne at East Linton 1987

Measuring authority: FRPB | Grid reference: 36 (NT) 591 768 | Catchment area (sq km): 307.0
First year: 1961 | Level stn. (m OD): 16.50 | Max alt. (m OD): 528

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.658	3.044	4.649	5.303	1.701	2.010	1.728	3.789	1.782	3.677	2.755	3.400	**3.291**
(m^3s^{-1}):	Peak	29.27	10.10	42.81	30.42	2.99	9.50	21.51	50.28	4.03	25.79	20.99	25.58	**50.28**
Runoff (mm)		49	24	41	45	15	17	15	33	15	32	23	30	**339**
Rainfall (mm)		48	42	84	68	50	83	74	124	42	84	48	49	**796**

Monthly and yearly statistics for previous record (Jan 1961 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.663	3.835	4.042	2.865	2.526	1.510	1.279	1.647	1.868	2.181	3.701	3.770	**2.820**
flows	Low	1.032	0.783	0.531	0.644	0.926	0.586	0.500	0.468	0.461	0.450	0.523	0.582	**0.709**
(m^3s^{-1})	High	11.540	8.624	8.789	7.824	11.600	6.142	4.393	9.855	8.490	7.000	11.210	8.405	**4.146**
Peak flow (m^3s^{-1})		93.02	39.39	66.17	50.88	119.70	59.12	70.18	112.70	90.84	82.71	127.50	52.02	**127.50**
Runoff (mm)		41	31	35	24	22	13	11	14	16	19	31	33	**290**
Rainfall (mm)		64	40	58	47	61	53	60	76	70	67	73	62	**731**

Factors affecting flow regime: EI
Station type: VA

1987 runoff is 117% of previous mean
rainfall 109%

021006 Tweed at Boleside 1987

Measuring authority: TWRP | Grid reference: 36 (NT) 498 334 | Catchment area (sq km): 1500.0
First year: 1961 | Level stn. (m OD): 94.50 | Max alt. (m OD): 839

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	59.740	25.260	41.850	40.420	12.710	27.000	22.860	27.720	28.510	55.230	37.990	43.450	**35.228**
(m^3s^{-1}):	Peak	293.73	65.18	246.84	96.77	17.96	100.48	98.00	195.95	176.92	403.91	97.30	201.99	**403.91**
Runoff (mm)		107	41	75	70	23	47	41	50	49	99	66	78	**743**
Rainfall (mm)		72	58	126	69	60	110	107	123	107	154	90	128	**1204**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	54.090	43.120	43.580	29.450	25.440	16.290	14.190	21.640	30.210	40.460	51.820	53.560	**35.300**
flows	Low	14.300	10.480	14.930	9.896	7.605	7.413	6.362	5.012	4.572	4.435	11.570	22.450	**18.577**
(m^3s^{-1})	High	110.700	81.860	101.000	57.330	64.330	32.820	40.970	81.400	95.510	96.720	119.800	100.400	**44.323**
Peak flow (m^3s^{-1})		678.60	483.90	470.10	248.90	182.80	126.00	342.60	444.30	496.30	1019.00	486.30	571.90	**1019.00**
Runoff (mm)		97	70	78	51	45	28	25	39	52	72	90	96	**743**
Rainfall (mm)		122	78	100	69	89	78	84	104	120	122	129	120	**1215**

Factors affecting flow regime: S P
Station type: VA

1987 runoff is 100% of previous mean
rainfall 99%

021012 Teviot at Hawick 1987

Measuring authority: TWRP | Grid reference: 36 (NT) 522 159 | Catchment area (sq km): 323.0
First year: 1963 | Level stn. (m OD): 90.10 | Max alt. (m OD): 608

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	10.970	6.895	10.890	9.818	1.986	5.547	6.053	6.951	5.737	14.980	10.730	11.950	**8.542**
(m^3s^{-1}):	Peak	85.90	51.41	150.20	71.87	5.11	37.86	48.17	103.07	35.69	166.59	71.97	164.42	**166.59**
Runoff (mm)		91	52	90	79	16	45	50	58	46	124	86	99	**836**
Rainfall (mm)		74	60	130	68	52	109	115	120	91	160	102	131	**1212**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	13.370	10.200	9.735	5.988	5.882	4.097	3.107	4.527	6.270	9.889	12.950	13.700	**8.306**
flows	Low	6.981	4.234	2.991	2.189	1.296	1.099	0.751	0.734	0.915	0.816	2.555	4.522	**4.183**
(m^3s^{-1})	High	28.560	18.510	20.250	13.030	17.340	10.500	11.020	19.120	18.960	25.690	29.930	25.460	**10.959**
Peak flow (m^3s^{-1})		185.90	228.60	142.00	86.03	117.79	89.40	148.30	178.60	185.60	273.40	188.60	210.70	**273.40**
Runoff (mm)		111	77	81	48	49	33	26	38	50	82	104	114	**811**
Rainfall (mm)		116	72	100	64	92	79	83	98	108	116	127	124	**1179**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 103% of previous mean
rainfall 103%

021018 Lyne Water at Lyne Station 1987

Measuring authority: TWRP
First year: 1968
Grid reference: 36 (NT) 209 401
Level stn. (m OD): 168.00
Catchment area (sq km): 175.0
Max alt. (m OD): 592

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	5.610	2.744	3.506	3.133	1.204	2.305	2.106	2.610	2.439	4.787	2.864	4.173	**3.123**
(m^3s^{-1}): Peak	21.40	8.34	11.65	6.73	1.93	9.05	13.63	11.73	8.36	24.95	6.76	19.40	**24.95**
Runoff (mm)	86	38	54	46	18	34	32	40	36	73	42	64	**564**
Rainfall (mm)	59	49	94	50	53	109	96	115	83	122	59	97	**986**

Monthly and yearly statistics for previous record (Oct 1968 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	4.798	4.062	3.595	2.618	1.830	1.404	1.151	1.333	1.989	2.787	4.416	4.446	**2.863**
Low	1.682	2.158	1.357	1.127	0.882	0.787	0.713	0.605	0.591	0.597	0.977	1.618	**1.428**
(m^3s^{-1}) High	8.774	8.698	7.325	5.028	4.104	2.653	3.884	5.364	10.440	5.684	8.611	8.374	**3.704**
Peak flow (m^3s^{-1})	47.50	41.55	27.65	21.46	17.36	16.46	31.72	20.77	58.74	40.49	53.60	37.98	**58.74**
Runoff (mm)	73	57	55	39	28	21	18	20	29	43	65	68	**516**
Rainfall (mm)	91	55	80	53	65	62	67	73	96	95	104	91	**932**

Factors affecting flow regime: S P
Station type: VA

1987 runoff is 109% of previous mean
rainfall 106%

021022 Whiteadder Water at Hutton Castle 1987

Measuring authority: TWRP
First year: 1969
Grid reference: 36 (NT) 881 550
Level stn. (m OD): 29.00
Catchment area (sq km): 503.0
Max alt. (m OD): 533

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	13.860	5.708	11.090	15.860	3.927	6.739	5.060	8.108	4.209	8.974	9.037	8.226	**8.400**
(m^3s^{-1}): Peak	69.01	15.97	75.30	103.06	10.44	75.82	55.78	181.10	8.52	70.71	47.96	63.43	**181.10**
Runoff (mm)	74	27	59	82	21	35	27	43	22	48	47	44	**528**
Rainfall (mm)	57	37	98	91	63	90	81	122	51	100	74	58	**922**

Monthly and yearly statistics for previous record (Sep 1969 to Dec 1986—incomplete or missing months total 0.1 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	11.280	10.560	9.845	7.300	5.582	3.477	2.201	2.820	3.148	4.738	7.833	8.777	**6.444**
Low	2.143	1.557	1.108	1.325	2.113	1.403	1.315	1.162	0.990	1.001	1.100	1.347	**4.540**
(m^3s^{-1}) High	25.990	27.300	19.220	15.700	24.050	8.835	6.626	8.184	16.360	16.670	27.680	20.660	**8.847**
Peak flow (m^3s^{-1})	265.90	160.90	133.90	88.04	226.20	64.98	84.85	86.71	105.80	190.00	279.80	108.10	**279.80**
Runoff (mm)	60	51	52	38	30	18	12	15	16	25	40	47	**404**
Rainfall (mm)	82	52	74	51	67	58	56	68	70	69	76	73	**796**

Factors affecting flow regime: S P
Station type: CC

1987 runoff is 130% of previous mean
rainfall 116%

022006 Blyth at Hartford Bridge 1987

Measuring authority: NWA
First year: 1966
Grid reference: 45 (NZ) 243 800
Level stn. (m OD): 24.60
Catchment area (sq km): 269.4
Max alt. (m OD): 259

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	5.470	3.936	4.291	6.043	0.391	0.547	1.250	1.349	0.768	3.453	5.290	3.289	**3.006**
(m^3s^{-1}): Peak	42.21	32.48	33.36	43.40	0.67	1.05	12.95	8.51	4.31	32.80	45.65	24.91	**45.65**
Runoff (mm)	54	35	43	58	4	5	12	13	7	34	51	33	**351**
Rainfall (mm)	69	51	77	74	39	84	88	83	60	83	81	50	**839**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1986—incomplete or missing months total 0.4 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	4.669	3.721	3.763	2.217	1.503	0.649	0.360	0.656	0.771	1.559	2.417	3.676	**2.159**
Low	0.587	0.398	0.245	0.359	0.212	0.177	0.096	0.067	0.107	0.111	0.162	0.274	**0.537**
(m^3s^{-1}) High	10.150	7.997	11.090	6.281	4.948	1.895	1.242	2.963	2.695	9.680	5.735	12.500	**3.410**
Peak flow (m^3s^{-1})	146.60	59.52	150.20	80.31	38.86	31.54	7.60	61.09	30.02	56.84	69.20	122.30	**150.20**
Runoff (mm)	46	34	37	21	15	6	4	7	7	15	23	37	**253**
Rainfall (mm)	67	44	63	44	58	52	53	70	65	59	65	65	**705**

Factors affecting flow regime: E
Station type: FV

1987 runoff is 139% of previous mean
rainfall 119%

023001 Tyne at Bywell 1987

Measuring authority: NWA
First year: 1956
Grid reference: 45 (NZ) 038 617
Level stn. (m OD): 14.00
Catchment area (sq km): 2175.6
Max alt. (m OD): 893

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	78.180	61.240	64.080	57.290	13.940	30.390	42.500	29.890	39.510	84.100	58.140	60.790	**51.671**
(m^3s^{-1}): Peak	528.53	567.38	524.08	302.68	38.52	128.97	525.67	188.30	162.87	803.19	424.93	826.59	**826.59**
Runoff (mm)	96	68	79	68	17	36	52	37	47	104	69	75	**749**
Rainfall (mm)	74	77	127	69	51	118	115	98	93	149	102	101	**1174**

Monthly and yearly statistics for previous record (Oct 1956 to Dec 1986—incomplete or missing months total 0.2 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	73.310	56.460	55.870	38.480	26.120	18.230	18.140	29.880	35.420	46.120	63.290	69.390	**44.191**
Low	19.220	14.360	20.150	8.461	7.246	4.910	5.199	3.403	4.155	4.727	18.090	23.080	**25.849**
(m^3s^{-1}) High	150.800	98.140	150.900	75.620	60.650	50.010	46.230	77.360	106.600	147.200	147.000	112.000	**63.834**
Peak flow (m^3s^{-1})	1525.00	922.10	1472.00	905.60	476.30	440.30	758.90	1561.48	1243.00	1586.00	1382.00	1317.00	**1586.00**
Runoff (mm)	90	63	69	46	32	22	22	37	42	57	75	85	**641**
Rainfall (mm)	103	68	84	63	70	69	80	97	92	93	106	105	**1030**

Factors affecting flow regime: S
Station type: VA

1987 runoff is 117% of previous mean
rainfall 114%

023007 Derwent at Rowlands Gill 1987

Measuring authority: NWA
First year: 1962
Grid reference: 45 (NZ) 168 581
Level stn. (m OD): 29.30
Catchment area (sq km): 242.1
Max alt. (m OD): 560

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.749	2.237	2.609	7.101	1.256	1.847	2.042	2.007	1.575			2.657	
(m^3s^{-1}):	Peak	20.83	10.49	13.48	31.66	2.19	5.89	20.83	17.28	3.48			7.68	
Runoff (mm)		53	22	29	76	14	20	23	22	17			29	
Rainfall (mm)		64	44	90	73	45	108	103	92	69	124	101	44	957

Monthly and yearly statistics for previous record (Nov 1962 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.642	3.728	4.662	3.334	2.403	1.633	1.320	1.614	1.689	1.994	3.042	3.176	**2.681**
flows	Low	1.148	0.911	0.749	1.149	0.973	0.844	0.796	0.656	0.626	0.791	0.903	0.882	**1.119**
(m^3s^{-1})	High	7.320	10.490	13.570	7.760	7.851	4.222	4.087	4.667	7.264	8.971	11.780	7.826	**5.573**
Peak flow (m^3s^{-1})		54.99	34.46	93.73	70.25	36.88	45.91	19.10	60.69	36.41	58.87	97.98	63.02	**97.98**
Runoff (mm)		40	38	52	36	27	17	15	18	18	22	33	35	**350**
Rainfall (mm)		82	59	76	61	65	61	58	84	73	66	88	78	**851**

Factors affecting flow regime: P
Station type: CC

1987 runoff is % of previous mean
rainfall 112%

024004 Bedburn Beck at Bedburn 1987

Measuring authority: NWA
First year: 1959
Grid reference: 45 (NZ) 118 322
Level stn. (m OD): 109.00
Catchment area (sq km): 74.9
Max alt. (m OD): 531

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.211	1.372	1.690	2.946	0.429	1.102	1.062	0.524	0.708	2.228	2.222	1.361	**1.488**
(m^3s^{-1}):	Peak	7.65	9.00	7.30	14.80	1.02	4.11	9.29	3.35	4.89	24.68	15.48	7.32	**24.68**
Runoff (mm)		79	44	60	102	15	38	38	19	25	80	77	49	**626**
Rainfall (mm)		61	48	100	64	44	101	99	56	72	140	101	60	**946**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.098	1.750	1.851	1.344	0.937	0.549	0.404	0.573	0.589	1.115	1.534	1.796	**1.210**
flows	Low	0.515	0.471	0.436	0.440	0.270	0.196	0.152	0.120	0.157	0.146	0.244	0.444	**0.667**
(m^3s^{-1})	High	4.341	4.011	5.128	2.986	2.231	1.524	1.056	1.465	1.790	4.346	3.722	4.488	**1.633**
Peak flow (m^3s^{-1})		34.67	39.16	38.51	35.09	24.06	21.66	21.92	46.19	32.30	38.06	34.26	42.93	**46.19**
Runoff (mm)		75	57	66	47	34	19	14	21	20	40	53	64	**510**
Rainfall (mm)		91	62	74	59	66	58	61	80	73	78	91	87	**880**

Factors affecting flow regime: N
Station type: CC

1987 runoff is 123% of previous mean
rainfall 108%

024009 Wear at Chester le Street 1987

Measuring authority: NWA
First year: 1977
Grid reference: 45 (NZ) 283 512
Level stn. (m OD): 5.50
Catchment area (sq km): 1008.3
Max alt. (m OD): 747

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	27.130	14.690	21.320	26.160	5.971	11.730	11.790	8.130	9.332	27.060	27.700	14.540	**17.129**
(m^3s^{-1}):	Peak	108.60	112.59	100.59	167.42	9.38	43.10	110.18	85.75	58.01	235.20	254.14	92.44	**254.14**
Runoff (mm)		72	35	57	67	16	30	31	22	24	72	71	39	**536**
Rainfall (mm)		55	46	101	66	47	107	96	67	70	127	97	53	**932**

Monthly and yearly statistics for previous record (Sep 1977 to Nov 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	24.480	20.840	26.680	17.840	11.950	7.706	4.919	7.647	6.341	9.724	17.710	25.380	**15.089**
flows	Low	15.780	10.210	14.090	5.489	4.386	3.945	2.948	3.335	3.777	4.834	5.022	13.230	**12.556**
(m^3s^{-1})	High	40.980	37.620	64.200	36.800	30.170	14.650	9.731	19.300	12.080	26.170	35.820	50.640	**19.785**
Peak flow (m^3s^{-1})		309.80	248.20	349.60	277.60	157.60	200.60	82.95	354.39	105.55	273.40	215.20	353.10	**354.39**
Runoff (mm)		65	51	71	46	32	20	13	20	16	26	46	67	**472**
Rainfall (mm)		91	53	92	57	68	66	47	88	69	75	94	107	**907**

Factors affecting flow regime: G
Station type: FV

1987 runoff is 113% of previous mean
rainfall 103%

025006 Greta at Rutherford Bridge 1987

Measuring authority: NWA
First year: 1960
Grid reference: 45 (NZ) 034 122
Level stn. (m OD): 223.00
Catchment area (sq km): 86.1
Max alt. (m OD): 596

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.546	1.982	3.480	2.716	0.344	1.762	1.547	0.567	1.287	4.834	3.094	2.516	**2.223**
(m^3s^{-1}):	Peak	28.11	25.16	37.54	32.65	1.73	16.68	32.58	5.49	21.24	42.81	38.70	24.10	**42.81**
Runoff (mm)		79	56	108	82	11	53	48	18	39	150	93	78	**815**
Rainfall (mm)		60	69	128	71	46	121	97	53	94	170	111	106	**1126**

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.766	2.609	3.275	2.168	1.385	0.864	0.619	1.407	1.529	2.448	3.421	3.647	**2.262**
flows	Low	0.291	0.280	0.842	0.375	0.148	0.130	0.092	0.098	0.146	0.195	0.951	0.944	**1.447**
(m^3s^{-1})	High	7.155	6.881	8.926	4.682	3.951	2.502	2.013	4.107	4.067	6.665	6.878	6.406	**2.926**
Peak flow (m^3s^{-1})		118.00	88.63	79.00	70.36	56.35	51.74	52.83	210.40	109.00	93.85	68.81	73.77	**210.40**
Runoff (mm)		117	74	102	65	43	26	19	44	46	76	103	113	**829**
Rainfall (mm)		121	80	99	76	80	71	69	100	95	102	116	121	**1130**

Factors affecting flow regime:
Station type: CC

1987 runoff is 98% of previous mean
rainfall 100%

025019 Leven at Easby 1987

Measuring authority: NWA
First year: 1971
Grid reference: 45 (NZ) 585 087
Level stn. (m OD): 101.30
Catchment area (sq km): 14.8
Max alt. (m OD): 335

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.289	0.261	0.305	0.296	0.115	0.165	0.181	0.427	0.169	0.373	0.262	0.201	**0.254**
(m^3s^{-1}):	Peak	0.95	1.48	1.03	1.09	0.21	0.68	2.25	15.53	2.51	3.50	1.85	0.51	**15.53**
Runoff (mm)		52	43	55	52	21	29	33	77	30	67	46	36	**541**
Rainfall (mm)		61	61	91	58	50	103	90	141	57	137	77	39	**965**

Monthly and yearly statistics for previous record (May 1971 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.323	0.301	0.302	0.260	0.191	0.133	0.106	0.120	0.125	0.167	0.200	0.278	**0.208**
flows	Low	0.115	0.100	0.076	0.085	0.072	0.075	0.044	0.039	0.059	0.063	0.092	0.132	**0.143**
(m^3s^{-1})	High	0.630	0.729	0.821	0.771	0.544	0.239	0.188	0.364	0.532	0.556	0.507	0.543	**0.305**
Peak flow (m^3s^{-1})		3.14	4.38	5.68	9.36	7.56	1.99	3.14	3.98	12.83	3.08	4.01	7.66	**12.83**
Runoff (mm)		58	50	55	46	35	23	19	22	22	30	35	50	**445**
Rainfall (mm)		83	48	73	60	63	59	60	76	75	74	76	81	**828**

Factors affecting flow regime: N
Station type: FV

1987 runoff is 122% of previous mean
rainfall 117%

025020 Skerne at Preston le Skerne 1987

Measuring authority: NWA
First year: 1972
Grid reference: 45 (NZ) 292 238
Level stn. (m OD): 67.50
Catchment area (sq km): 147.0
Max alt. (m OD): 222

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.702	0.917	1.624	1.598	0.280	0.676	1.125	0.451	0.487	1.660	1.873	1.166	**1.130**
(m^3s^{-1}):	Peak	13.85	4.03	8.43	11.42	0.47	4.15	15.92	2.97	5.90	15.89	17.04	5.83	**17.04**
Runoff (mm)		31	15	30	28	5	12	21	8	9	30	33	21	**243**
Rainfall (mm)		33	36	80	54	36	100	93	54	51	101	67	41	**746**

Monthly and yearly statistics for previous record (Dec 1972 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.602	1.263	1.408	1.017	0.748	0.461	0.343	0.415	0.349	0.776	0.810	1.435	**0.885**
flows	Low	0.486	0.481	0.293	0.247	0.199	0.112	0.121	0.086	0.082	0.099	0.204	0.553	**0.558**
(m^3s^{-1})	High	3.376	2.731	4.824	2.734	2.106	1.004	0.760	0.943	0.745	4.290	1.962	4.658	**1.510**
Peak flow (m^3s^{-1})		20.08	12.93	26.58	19.20	11.93	16.54	9.23	13.69	9.33	21.71	17.40	24.82	**26.58**
Runoff (mm)		29	21	26	18	14	8	6	8	6	14	14	26	**190**
Rainfall (mm)		61	36	57	45	55	53	44	65	62	54	57	61	**650**

Factors affecting flow regime: E
Station type: VA

1987 runoff is 128% of previous mean
rainfall 115%

026003 Foston Beck at Foston Mill 1987

Measuring authority: YWA
First year: 1959
Grid reference: 54 (TA) 093 548
Level stn. (m OD): 6.40
Catchment area (sq km): 57.2
Max alt. (m OD): 164

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.649	0.900	1.030	1.264	1.106	0.723	0.535	0.397	0.318	0.324	0.333	0.383	**0.664**
(m^3s^{-1}):	Peak	0.87	1.17	1.49	1.55	1.34	0.93	0.79	0.45	0.37	0.57	0.51	0.56	**1.55**
Runoff (mm)		30	38	48	57	52	33	25	19	14	15	15	18	**365**
Rainfall (mm)		42	51	76	62	42	81	49	62	49	102	55	38	**709**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1986—incomplete or missing months total 0.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.897	1.181	1.097	0.980	0.850	0.668	0.523	0.412	0.342	0.328	0.430	0.607	**0.690**
flows	Low	0.199	0.183	0.174	0.150	0.174	0.110	0.112	0.105	0.101	0.125	0.148	0.195	**0.155**
(m^3s^{-1})	High	2.224	2.332	2.242	2.070	1.708	1.231	0.882	0.675	0.567	0.612	1.845	2.379	**1.282**
Peak flow (m^3s^{-1})		2.89	3.31	2.69	2.70	1.95	2.01	1.47	0.99	0.80	1.22	2.49	2.86	**3.31**
Runoff (mm)		42	50	51	44	40	30	25	19	16	15	19	28	**381**
Rainfall (mm)		73	49	56	53	56	51	54	66	59	66	76	77	**736**

Factors affecting flow regime: N
Station type: TP

1987 runoff is 96% of previous mean
rainfall 96%

026005 Gypsey Race at Boynton 1987

Measuring authority: YWA
First year: 1981
Grid reference: 54 (TA) 137 677
Level stn. (m OD): 16.80
Catchment area (sq km): 240.0
Max alt. (m OD): 211

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.162	0.234	0.433	0.637	0.529	0.304	0.158	0.052	0.013	0.020	0.017	0.018	**0.215**
(m^3s^{-1}):	Peak	0.23	0.33	0.54	0.74	0.72	0.44	0.22	0.09	0.02	0.07	0.03	0.03	**0.74**
Runoff (mm)		2	2	5	7	6	3	2	1	0	0	0	0	**28**
Rainfall (mm)		39	51	77	60	43	80	54	69	47	105	52	40	**717**

Monthly and yearly statistics for previous record (Feb 1981 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.297	0.493	0.466	0.609	0.616	0.386	0.222	0.107	0.053	0.022	0.019	0.049	**0.277**
flows	Low	0.071	0.120	0.116	0.118	0.225	0.132	0.104	0.026	0.014	0.004	0.009	0.020	**0.143**
(m^3s^{-1})	High	0.475	0.887	0.872	1.585	1.217	0.623	0.351	0.184	0.098	0.055	0.033	0.082	**0.349**
Peak flow (m^3s^{-1})		0.72	1.00	1.86	1.87	1.58	0.86	0.60	0.28	0.29	0.14	0.08	0.27	**1.87**
Runoff (mm)		3	5	5	7	7	4	2	1	1	0	0	1	**36**
Rainfall (mm)		81	39	81	63	64	36	51	72	73	57	82	71	**770**

Factors affecting flow regime: G I
Station type: FV

1987 runoff is 77% of previous mean
rainfall 93%

027007 Ure at Westwick Lock 1987

Measuring authority: YWA
First year: 1958
Grid reference: 44 (SE) 356 671
Level stn. (m OD): 14.20
Catchment area (sq km): 914.6
Max alt. (m OD): 713

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	24.790	17.140	26.340	25.370	5.315	14.710	11.760	9.140	16.030	34.650	27.830	25.710	**19.899**
(m^3s^{-1}):	Peak	140.90	118.70	212.40	97.41	9.81	70.25	76.08	59.00	133.80	167.20	148.70	169.10	**212.40**
Runoff (mm)		73	45	77	72	16	42	34	27	45	101	79	75	**687**
Rainfall (mm)		47	63	120	69	42	119	84	75	95	158	101	103	**1076**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1986—incomplete or missing months total 0.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	33.680	28.100	27.090	20.450	13.460	8.754	7.611	11.980	13.790	21.430	29.390	33.040	**20.704**
flows	Low	4.009	3.886	10.250	5.674	3.831	3.024	2.202	1.287	1.450	5.856	7.078	11.330	**12.946**
(m^3s^{-1})	High	59.590	84.770	60.330	40.980	29.500	21.400	16.180	31.600	33.030	68.480	65.010	57.370	**27.066**
Peak flow (m^3s^{-1})		537.90	307.30	413.10	263.30	170.80	161.50	144.50	271.90	296.20	266.50	288.80	304.10	**537.90**
Runoff (mm)		99	75	79	58	39	25	22	35	39	63	83	97	**714**
Rainfall (mm)		121	78	95	79	77	71	74	92	97	104	123	126	**1137**

Factors affecting flow regime: S P
Station type: B VA

1987 runoff is 96% of previous mean
rainfall 95%

027025 Rother at Woodhouse Mill 1987

Measuring authority: YWA
First year: 1961
Grid reference: 43 (SK) 432 857
Level stn. (m OD): 28.70
Catchment area (sq km): 352.2
Max alt. (m OD): 367

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.294	3.796	6.404	7.933	2.138	6.023	2.504	2.037	2.228	7.601	4.748	3.948	**4.804**
(m^3s^{-1}):	Peak	48.49	11.11	21.27	54.94	3.94	28.78	10.64	5.64	10.10	41.74	34.45	14.10	**54.94**
Runoff (mm)		63	26	49	58	16	44	19	15	16	58	35	30	**431**
Rainfall (mm)		38	31	87	63	34	135	57	47	62	121	51	36	**762**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1986—incomplete or missing months total 2.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	6.812	6.910	6.414	5.142	3.955	2.896	1.925	2.034	2.169	2.660	4.709	6.340	**4.318**
flows	Low	1.287	1.424	1.830	1.400	1.569	1.166	0.934	0.760	0.712	0.693	1.023	2.393	**2.540**
(m^3s^{-1})	High	13.000	22.440	14.330	13.160	10.110	10.840	4.907	3.323	7.786	6.596	8.200	18.140	**6.364**
Peak flow (m^3s^{-1})		60.30	78.80	53.21	78.14	61.40	105.40	45.63	33.55	45.59	40.80	50.55	91.46	**105.40**
Runoff (mm)		52	48	49	38	30	21	15	15	16	20	35	48	**387**
Rainfall (mm)		71	59	67	63	67	62	53	65	64	60	77	76	**784**

Factors affecting flow regime: S PGEI
Station type: VA

1987 runoff is 111% of previous mean
rainfall 97%

027030 Dearne at Adwick 1987

Measuring authority: YWA
First year: 1963
Grid reference: 44 (SE) 477 020
Level stn. (m OD): 12.70
Catchment area (sq km): 310.8
Max alt. (m OD): 381

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.136	3.364	4.978	6.920	2.223	3.715	2.297	2.056	1.990	4.848	3.928	2.962	**3.701**
(m^3s^{-1}):	Peak	24.87	12.84	15.16	45.63	4.48	10.53	5.99	6.30	7.04	20.69	19.94	7.27	**45.63**
Runoff (mm)		44	26	43	58	19	31	20	18	17	42	33	26	**375**
Rainfall (mm)		31	33	81	64	34	123	60	56	53	111	53	32	**731**

Monthly and yearly statistics for previous record (Nov 1963 to Dec 1986—incomplete or missing months total 0.7 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.923	5.407	4.822	4.173	3.167	2.626	1.860	1.926	1.904	2.373	3.601	4.427	**3.423**
flows	Low	1.946	1.648	1.433	1.223	1.303	1.106	0.806	0.765	0.873	0.922	1.029	1.245	**2.104**
(m^3s^{-1})	High	9.214	14.340	10.750	8.866	7.380	7.299	3.699	3.054	5.658	5.171	7.632	10.980	**5.264**
Peak flow (m^3s^{-1})		51.76	56.32	41.86	58.42	43.97	55.58	31.94	27.40	28.97	26.56	51.52	56.65	**58.42**
Runoff (mm)		42	42	42	35	27	22	16	17	16	20	30	38	**348**
Rainfall (mm)		65	53	60	56	61	55	47	65	59	55	74	69	**719**

Factors affecting flow regime: GEI
Station type: C VA

1987 runoff is 108% of previous mean
rainfall 102%

027042 Dove at Kirkby Mills 1987

Measuring authority: YWA
First year: 1972
Grid reference: 44 (SE) 705 855
Level stn. (m OD): 35.60
Catchment area (sq km): 59.2
Max alt. (m OD): 429

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.592	1.319	2.148	1.715	0.641	1.027	0.771	1.068	0.876	1.917	1.459	1.220	**1.313**
(m^3s^{-1}):	Peak	7.49	5.04	10.54	8.56	1.31	4.56	5.98	21.42	5.55	13.63	11.86	2.73	**21.42**
Runoff (mm)		72	54	97	75	29	45	35	48	38	87	64	55	**700**
Rainfall (mm)		42	66	128	66	60	118	77	99	73	144	78	57	**1008**

Monthly and yearly statistics for previous record (Feb 1972 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.758	1.633	1.661	1.243	0.879	0.637	0.489	0.553	0.665	0.998	1.182	1.689	**1.114**
flows	Low	0.698	0.541	0.347	0.376	0.368	0.279	0.211	0.161	0.245	0.251	0.543	0.853	**0.640**
(m^3s^{-1})	High	2.861	3.180	4.701	2.915	1.702	1.099	0.922	1.397	2.743	2.683	2.032	3.237	**1.554**
Peak flow (m^3s^{-1})		37.45	36.68	40.93	27.63	30.01	7.43	19.33	32.36	56.38	24.71	23.85	53.38	**56.38**
Runoff (mm)		80	68	75	54	40	28	22	25	29	45	52	76	**594**
Rainfall (mm)		103	58	87	64	70	63	65	76	87	89	87	101	**950**

Factors affecting flow regime: N
Station type: FV

1987 runoff is 118% of previous mean
rainfall 106%

027043 Wharfe at Addingham 1987

Measuring authority: YWA
First year: 1974

Grid reference: 44 (SE) 092 494
Level stn. (m OD): 79.70

Catchment area (sq km): 427.0
Max alt. (m OD): 704

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	13.830	12.200	17.780	12.310	2.906	10.320	7.032	7.593	13.440	19.590	16.140	17.340	**12.540**
(m^3s^{-1}):	Peak	165.70	104.50	197.30	71.07	6.71	85.92	68.85	119.80	132.70	105.80	95.16	163.40	**197.30**
Runoff (mm)		87	69	112	75	18	63	44	48	82	123	98	109	**926**
Rainfall (mm)		60	93	150	69	53	138	108	96	136	160	116	139	**1318**

Monthly and yearly statistics for previous record (Jan 1974 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	26.070	16.110	21.220	10.240	7.988	5.192	4.182	8.773	12.980	18.150	23.460	25.510	**15.003**
flows	Low	11.760	5.157	6.391	2.453	1.623	1.740	1.245	1.143	3.799	6.422	8.263	5.972	**10.487**
(m^3s^{-1})	High	32.590	28.410	52.490	21.970	16.100	9.551	9.543	26.270	23.450	37.310	32.450	44.680	**19.543**
Peak flow (m^3s^{-1})		509.00	342.00	552.60	205.10	100.90	114.70	163.80	273.80	244.90	370.00	400.00	320.30	**552.60**
Runoff (mm)		164	92	133	62	50	32	26	55	79	114	142	160	**1109**
Rainfall (mm)		168	79	132	73	83	81	72	115	135	142	156	177	**1413**

Factors affecting flow regime: S P
Station type: C VA

1987 runoff is 83% of previous mean
rainfall 93%

027059 Laver at Ripon 1987

Measuring authority: YWA
First year: 1977

Grid reference: 44 (SE) 301 710
Level stn. (m OD): 29.60

Catchment area (sq km): 87.5
Max alt. (m OD): 406

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.135	0.776	1.273	1.775	0.343	0.545	0.275	0.455	0.618	1.587	1.487	1.013	**0.940**
(m^3s^{-1}):	Peak	10.37	5.48	10.10	21.88	0.47	2.15	0.92	5.71	5.63	17.08	8.94	7.54	**21.88**
Runoff (mm)		35	21	39	53	11	16	8	14	18	49	44	31	**339**
Rainfall (mm)		34	54	92	68	32	106	65	79	72	116	79	62	**859**

Monthly and yearly statistics for previous record (Nov 1977 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.144	1.584	1.953	1.314	0.853	0.568	0.249	0.429	0.297	0.645	1.318	2.097	**1.120**
flows	Low	1.376	0.659	0.721	0.453	0.272	0.247	0.098	0.096	0.224	0.167	0.419	0.848	**0.837**
(m^3s^{-1})	High	3.265	3.090	3.850	3.063	1.881	1.264	0.480	0.952	0.462	1.506	2.400	3.786	**1.211**
Peak flow (m^3s^{-1})		24.06	16.85	22.65	36.95	13.32	16.75	6.29	11.48	10.21	13.64	15.01	39.14	**39.14**
Runoff (mm)		66	44	60	39	26	17	8	13	9	20	39	64	**404**
Rainfall (mm)*		112	56	106	65	68	64	42	89	73	87	102	130	**994**

*(1978-1986)

Factors affecting flow regime: S P
Station type: C

1987 runoff is 84% of previous mean
rainfall 86%

027071 Swale at Crakehill 1987

Measuring authority: YWA
First year: 1980

Grid reference: 44 (SE) 425 734
Level stn. (m OD): 12.00

Catchment area (sq km): 1363.0
Max alt. (m OD): 713

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	25.510	18.950	29.690	28.980	7.197	13.780	12.880	9.683	11.860	39.340	30.770	24.460	**21.092**
(m^3s^{-1}):	Peak	99.20	90.64	141.10	112.30	10.41	54.12	101.80	31.14	62.16	145.70	109.50	101.40	**145.70**
Runoff (mm)		50	34	58	55	14	26	25	19	23	77	59	48	**488**
Rainfall (mm)		37	48	95	58	42	106	81	65	66	138	79	65	**880**

Monthly and yearly statistics for previous record (Jun 1980 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	37.720	22.860	31.140	25.060	16.540	11.480	6.592	11.150	10.310	18.870	27.710	32.450	**21.003**
flows	Low	25.210	16.050	15.520	7.819	5.557	6.121	2.712	3.684	6.442	9.089	7.541	17.470	**18.599**
(m^3s^{-1})	High	56.800	44.450	60.040	46.690	32.370	17.180	12.230	24.220	16.090	35.430	44.280	41.050	**23.498**
Peak flow (m^3s^{-1})		230.70	187.90	188.30	183.30	94.62	107.60	103.50	199.80	114.50	184.50	161.40	183.70	**230.70**
Runoff (mm)		74	41	61	48	32	22	13	22	20	37	53	64	**486**
Rainfall (mm)*		108	35	71	84	79	43	40	90	67	74	90	105	**886**

*(1983-1986)

Factors affecting flow regime: N
Station type: C

1987 runoff is 100% of previous mean
rainfall 99%

028012 Trent at Yoxall 1987

Measuring authority: STWA
First year: 1959

Grid reference: 43 (SK) 131 177
Level stn. (m OD): 56.40

Catchment area (sq km): 1229.0
Max alt. (m OD): 318

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	23.360	15.760	22.460	22.930	12.650	20.060	11.350	19.730	10.760	24.600	23.830	16.420	**18.659**
(m^3s^{-1}):	Peak	73.61	24.17	52.38	50.59	19.01	55.16	22.12	128.35	15.67	62.17	50.34	25.33	**128.35**
Runoff (mm)*		51	31	49	48	28	42	25	43	23	54	50	36	**479**
Rainfall (mm)		20	34	76	48	45	123	54	114	50	115	61	37	**777**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	18.470	17.760	14.090	12.350	10.560	8.805	8.661	9.590	10.270	10.860	13.500	17.780	**12.702**
flows	Low	6.268	5.886	6.640	4.950	5.258	4.827	3.611	2.482	4.874	5.621	5.898	6.424	**7.404**
(m^3s^{-1})	High	33.150	48.650	33.900	24.530	25.480	12.910	15.520	20.230	22.650	25.890	34.800	50.320	**18.198**
Peak flow (m^3s^{-1})		118.10	112.70	79.18	72.32	75.20	47.60	52.25	115.25	77.02	66.26	83.25	126.60	**126.60**
Runoff (mm)		40	35	31	26	23	19	19	21	22	24	28	39	**326**
Rainfall (mm)		71	51	57	55	66	61	57	71	70	63	76	77	**775**

Factors affecting flow regime: SRPGEI
Station type: VA
*data under review

1987 runoff is 147% of previous mean
rainfall 100%

028018 Dove at Marston on Dove 1987

Measuring authority: STWA
First year: 1961
Grid reference: 43 (SK) 235 288
Level stn. (m OD): 47.20
Catchment area (sq km): 883.2
Max alt. (m OD): 555

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	22.780	12.830	22.870	19.250	8.044	16.280	8.139	11.990	7.785	21.650	18.100	14.070	**15.316**
(m^3s^{-1}): Peak	123.63	33.79	74.00	64.03	11.04	73.02	27.39	113.60	22.80	69.92	62.44	55.43	**123.63**
Runoff (mm)	69	35	69	57	24	48	25	36	23	66	53	43	**548**
Rainfall (mm)	39	45	110	55	50	159	67	96	66	136	76	57	**956**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1986—incomplete or missing months total 0.1 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	22.480	20.060	16.990	14.450	12.200	8.963	7.405	7.649	8.435	10.680	16.740	21.900	**13.970**
(m^3s^{-1}) Low	7.822	4.615	8.943	6.195	4.831	3.452	2.430	1.913	2.821	3.495	5.684	7.907	**7.723**
High	32.880	55.910	36.570	24.550	22.480	14.700	15.530	14.630	29.350	22.830	31.070	56.460	**19.411**
Peak flow (m^3s^{-1})	191.36	194.62	129.73	121.00	121.42	69.70	77.10	101.86	113.87	132.10	130.80	202.80	**202.80**
Runoff (mm)	68	55	52	42	37	26	22	23	25	32	49	66	**499**
Rainfall (mm)	93	67	75	67	77	73	65	82	81	79	97	97	**953**

Factors affecting flow regime: SRPG
Station type: FV

1987 runoff is 110% of previous mean
rainfall 100%

028024 Wreake at Syston Mill 1987

Measuring authority: STWA
First year: 1967
Grid reference: 43 (SK) 615 124
Level stn. (m OD): 47.70
Catchment area (sq km): 413.8
Max alt. (m OD): 230

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	6.131	4.730	5.400	5.710	0.971	1.450	0.644	0.818	0.804	4.619	4.484	3.898	**3.305**
(m^3s^{-1}): Peak	25.23	22.68	14.82	28.93	1.90	9.57	1.09	3.42	2.40	25.00	12.39	16.67	**28.93**
Runoff (mm)	40	28	35	36	6	9	4	5	5	30	28	25	**251**
Rainfall (mm)	41	43	61	52	37	92	46	70	49	116	42	32	**681**

Monthly and yearly statistics for previous record (Aug 1967 to Dec 1986—incomplete or missing months total 1.6 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	5.663	6.254	4.985	3.472	2.393	1.192	0.939	0.878	0.791	1.289	2.451	4.387	**2.876**
(m^3s^{-1}) Low	0.959	0.619	0.494	0.358	0.286	0.222	0.137	0.122	0.254	0.264	0.418	0.745	**0.923**
High	10.150	21.740	12.630	8.772	8.117	2.776	4.547	3.230	5.367	6.897	7.087	11.850	**4.396**
Peak flow (m^3s^{-1})	43.11	73.37	99.82	97.07	51.83	39.17	26.88	30.44	21.61	31.68	50.25	52.95	**99.82**
Runoff (mm)	37	37	32	22	15	7	6	6	5	8	15	28	**219**
Rainfall (mm)*	53	45	54	45	57	59	42	61	54	49	52	59	**630**

*(1971-1986)

Factors affecting flow regime: GE
Station type: C VA

1987 runoff is 114% of previous mean
rainfall 108%

028031 Manifold at Ilam 1987

Measuring authority: STWA
First year: 1968
Grid reference: 43 (SK) 140 507
Level stn. (m OD): 131.00
Catchment area (sq km): 148.5
Max alt. (m OD): 513

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	5.341	3.062	6.159	4.692	1.806	5.150	2.157	2.719	2.024	6.483	4.652	3.358	**3.967**
(m^3s^{-1}): Peak	37.33	12.90	38.11	23.29	3.74	34.73	12.58	41.75	12.44	31.01	23.21	26.01	**41.75**
Runoff (mm)	96	50	111	82	33	90	39	49	35	117	81	61	**844**
Rainfall (mm)	46	51	128	62	62	181	81	91	73	158	88	65	**1086**

Monthly and yearly statistics for previous record (May 1968 to Dec 1986—incomplete or missing months total 0.1 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	6.378	5.266	4.748	3.745	2.569	1.825	1.447	1.839	1.791	2.884	5.131	5.515	**3.587**
(m^3s^{-1}) Low	3.657	2.489	2.528	1.277	0.812	0.745	0.493	0.386	0.535	0.716	1.555	2.135	**2.241**
High	8.522	12.710	9.455	6.200	5.713	3.443	3.481	4.560	4.147	6.697	8.198	9.995	**4.806**
Peak flow (m^3s^{-1})	80.13	74.53	66.72	47.36	52.40	39.58	37.29	137.00	45.69	75.78	91.61	66.25	**137.00**
Runoff (mm)	115	87	86	65	46	32	26	33	31	52	90	99	**762**
Rainfall (mm)*	127	84	93	75	78	75	69	80	86	91	124	115	**1097**

*(1969-1986)

Factors affecting flow regime: P E
Station type: C

1987 runoff is 111% of previous mean
rainfall 99%

028039 Rea at Calthorpe Park 1987

Measuring authority: STWA
First year: 1967
Grid reference: 42 (SP) 071 847
Level stn. (m OD): 104.20
Catchment area (sq km): 74.0
Max alt. (m OD): 286

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.776	0.662	0.973	1.388	0.485	1.102	0.423	0.886	0.465	1.306	1.027	0.701	**0.850**
(m^3s^{-1}): Peak	6.07	3.33	7.56	20.76	2.96	31.75	4.59	46.38	6.48	16.09	18.76	7.81	**46.38**
Runoff (mm)	28	22	35	49	18	39	15	32	16	47	36	25	**362**
Rainfall (mm)	17	46	63	75	41	124	41	92	50	137	67	43	**796**

Monthly and yearly statistics for previous record (May 1967 to Dec 1986—incomplete or missing months total 1.1 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	1.193	1.069	1.064	0.777	0.782	0.665	0.511	0.659	0.648	0.642	0.882	1.125	**0.834**
(m^3s^{-1}) Low	0.601	0.549	0.483	0.316	0.355	0.287	0.257	0.367	0.295	0.320	0.493	0.530	**0.602**
High	1.634	2.610	2.101	1.489	1.780	1.324	0.890	1.366	1.423	1.408	1.753	1.934	**1.058**
Peak flow (m^3s^{-1})	26.42	27.44	28.64	25.15	30.37	37.44	46.86	41.25	40.85	23.28	24.97	54.02	**54.02**
Runoff (mm)	43	35	39	27	28	23	19	24	23	23	31	41	**356**
Rainfall (mm)*	78	60	68	55	71	63	53	74	72	57	74	80	**805**

*(1968-1986)

Factors affecting flow regime: E
Station type: C

1987 runoff is 102% of previous mean
rainfall 99%

028080 Tame at Lea Marston Lakes — 1987

Measuring authority: STWA
First year: 1957
Grid reference: 42 (SP) 207 937
Level stn. (m OD): 66.20
Catchment area (sq km): 799.0
Max alt. (m OD): 267

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	15.630	13.650	16.220	21.560	10.500	18.990	10.490	15.020	10.820	19.560	17.340	12.780	**15.213**
(m^3s^{-1}):	Peak	63.62	33.38	56.01	110.84	24.38	159.70	27.46	153.20	38.30	71.11	74.08	42.78	**159.70**
Runoff (mm)		52	41	54	70	35	62	35	50	35	66	56	43	**600**
Rainfall (mm)		17	42	59	71	37	124	38	95	49	124	58	35	**749**

Monthly and yearly statistics for previous record (Oct 1957 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	17.600	17.010	15.530	13.620	12.700	11.290	10.190	11.010	11.230	11.910	14.380	16.750	**13.586**
flows	Low	8.994	8.855	8.797	7.259	7.321	6.655	6.369	6.978	6.655	7.852	7.876	9.057	**9.699**
(m^3s^{-1})	High	24.130	35.140	26.590	22.000	24.690	16.540	17.210	16.970	19.440	25.600	27.880	32.880	**17.355**
Peak flow (m^3s^{-1})		115.82	94.05	86.27	90.46	121.58	75.20	94.78	142.20	92.33	76.24	127.60	219.20	**219.20**
Runoff (mm)		59	52	52	44	43	37	34	37	36	40	47	56	**537**
Rainfall (mm)		66	50	55	52	61	58	54	71	64	57	67	73	**728**

Factors affecting flow regime: EI
Station type: C

1987 runoff is 112% of previous mean
rainfall 103%

028082 Soar at Littlethorpe — 1987

Measuring authority: STWA
First year: 1971
Grid reference: 42 (SP) 542 973
Level stn. (m OD): 61.40
Catchment area (sq km): 183.9
Max alt. (m OD): 151

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.385	1.952	2.467	2.974	0.743	1.928	0.620	0.810	0.649	2.350	2.355	1.351	**1.715**
(m^3s^{-1}):	Peak	10.89	8.32	10.97	16.32	1.46	14.93	1.32	3.74	1.68	11.57	9.96	3.81	**16.32**
Runoff (mm)		35	26	36	42	11	27	9	12	9	34	33	20	**293**
Rainfall (mm)		23	41	62	61	40	121	42	51	47	115	51	29	**683**

Monthly and yearly statistics for previous record (Aug 1971 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.703	2.763	2.396	1.500	1.138	0.954	0.527	0.702	0.557	0.862	1.290	2.418	**1.479**
flows	Low	0.713	0.568	0.424	0.346	0.350	0.245	0.164	0.224	0.307	0.338	0.398	0.643	**0.644**
(m^3s^{-1})	High	4.661	6.868	5.031	3.105	2.654	2.346	1.447	2.242	1.608	2.921	2.714	5.101	**2.133**
Peak flow (m^3s^{-1})		17.74	24.47	20.78	21.18	14.93	15.78	13.71	20.41	15.94	19.81	16.59	22.46	**24.47**
Runoff (mm)		39	37	35	21	17	13	8	10	8	13	18	35	**254**
Rainfall (mm)*		55	46	52	40	58	61	39	62	55	49	53	64	**634**

*(1972-1986)

Factors affecting flow regime: E
Station type: EM

1987 runoff is 116% of previous mean
rainfall 108%

029003 Lud at Louth — 1987

Measuring authority: AWA
First year: 1968
Grid reference: 53 (TF) 337 879
Level stn. (m OD): 15.40
Catchment area (sq km): 55.2
Max alt. (m OD): 159

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.963	0.828	0.811	0.900	0.598	0.487	0.372	0.335	0.309	0.571	0.605	0.554	**0.611**
(m^3s^{-1}):	Peak	1.59	1.46	1.12	1.49	1.85	1.88	1.32	1.51	0.87	1.92	0.98	1.03	**1.92**
Runoff (mm)		47	36	39	42	29	23	18	16	15	28	28	27	**348**
Rainfall (mm)		40	50	69	51	47	102	57	86	55	110	47	27	**741**

Monthly and yearly statistics for previous record (Aug 1968 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.629	0.816	0.770	0.704	0.588	0.449	0.346	0.288	0.244	0.240	0.311	0.415	**0.482**
flows	Low	0.139	0.157	0.162	0.150	0.156	0.131	0.112	0.102	0.112	0.130	0.132	0.125	**0.178**
(m^3s^{-1})	High	1.279	1.428	1.338	1.289	1.177	0.687	0.507	0.414	0.625	0.719	1.158	0.911	**0.703**
Peak flow (m^3s^{-1})		3.70	3.81	3.58	5.06	3.51	3.27	3.40	3.10	3.30	2.96	6.77	3.10	**6.77**
Runoff (mm)		31	36	37	33	29	21	17	14	11	12	15	20	**275**
Rainfall (mm)		67	47	63	53	57	56	50	62	54	54	70	68	**701**

Factors affecting flow regime:
Station type: C

1987 runoff is 127% of previous mean
rainfall 106%

030004 Partney Lymn at Partney Mill — 1987

Measuring authority: AWA
First year: 1962
Grid reference: 53 (TF) 402 676
Level stn. (m OD): 14.90
Catchment area (sq km): 61.6
Max alt. (m OD): 142

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.059	0.805	0.846	0.898	0.408	0.381	0.283	0.478	0.406	1.080	0.691	0.621	**0.663**
(m^3s^{-1}):	Peak	5.10	3.16	2.42	4.95	0.78	1.27	0.54	3.78	1.65	7.25	2.26	2.22	**7.25**
Runoff (mm)		46	32	37	38	18	16	12	21	17	47	29	27	**339**
Rainfall (mm)		40	48	74	44	47	78	58	112	49	111	52	32	**745**

Monthly and yearly statistics for previous record (Jun 1962 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.826	0.786	0.713	0.624	0.474	0.329	0.274	0.286	0.283	0.374	0.555	0.743	**0.521**
flows	Low	0.351	0.300	0.276	0.228	0.200	0.116	0.088	0.107	0.151	0.190	0.193	0.210	**0.292**
(m^3s^{-1})	High	1.475	1.838	1.538	1.518	0.886	0.691	0.862	0.593	0.917	1.144	1.112	1.804	**0.754**
Peak flow (m^3s^{-1})		10.01	12.59	7.71	13.34	11.30	8.13	13.38	7.06	6.64	8.07	10.17	8.48	**13.38**
Runoff (mm)		36	31	31	26	21	14	12	12	12	16	23	32	**267**
Rainfall (mm)		61	48	60	55	60	57	51	65	53	51	71	66	**698**

Factors affecting flow regime: G I
Station type: C

1987 runoff is 127% of previous mean
rainfall 107%

031002 Glen at Kates Brdg and King St Brdg 1987

Measuring authority: AWA
First year: 1960
Grid reference: 53 (TF) 106 149
Level stn. (m OD): 6.10
Catchment area (sq km): 341.9
Max alt. (m OD): 129

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.955	1.703	2.189	2.578	0.752	0.581	0.298	0.280	0.252	2.197	1.204	1.152	**1.262**
(m^3s^{-1}):	Peak													
Runoff (mm)		15	12	17	20	6	4	2	2	2	17	9	9	**116**
Rainfall (mm)		32	39	62	45	41	81	57	83	50	117	36	27	**670**

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.999	2.476	2.364	1.892	1.505	0.808	0.444	0.379	0.326	0.465	0.844	1.450	**1.240**
flows	Low	0.093	0.048	0.033	0.018	0.008	0.004	0.000	0.001	0.008	0.024	0.020	0.078	**0.154**
(m^3s^{-1})	High	6.351	10.110	6.317	4.903	5.060	2.182	1.465	1.615	1.873	2.267	5.552	7.868	**2.333**
Peak flow (m^3s^{-1})														
Runoff (mm)		16	18	19	14	12	6	3	3	2	4	6	11	**114**
Rainfall (mm)		52	41	49	53	53	53	46	63	51	48	57	58	**624**

Factors affecting flow regime: G
Station type: FV

1987 runoff is 102% of previous mean
rainfall 107%

031007 Welland at Barrowden 1987

Measuring authority: AWA
First year: 1968
Grid reference: 42 (SP) 948 999
Level stn. (m OD): 34.90
Catchment area (sq km): 411.6
Max alt. (m OD): 228

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.500	3.381	4.782	6.566	1.005	2.342	0.618	0.606	0.697	4.298	4.946	2.845	**3.132**
(m^3s^{-1}):	Peak	27.03	12.86	14.31	42.26	1.69	18.67	1.03	1.33	1.53	22.75	20.19	5.81	**42.26**
Runoff (mm)		36	20	31	41	7	15	4	4	4	28	31	19	**239**
Rainfall (mm)		23	41	60	59	44	102	44	61	47	121	53	32	**687**

Monthly and yearly statistics for previous record (Feb 1968 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.776	5.129	4.354	2.895	1.811	1.141	0.807	0.845	0.683	1.182	2.012	3.698	**2.433**
flows	Low	0.516	0.425	0.352	0.257	0.232	0.159	0.092	0.154	0.271	0.226	0.318	0.410	**1.034**
(m^3s^{-1})	High	8.885	17.030	9.701	7.700	7.310	3.093	4.477	4.500	4.322	5.150	6.436	7.509	**3.667**
Peak flow (m^3s^{-1})		39.99	74.42	107.80	79.43	46.95	27.44	38.23	39.91	12.55	22.87	50.37	40.13	**107.80**
Runoff (mm)		31	30	28	18	12	7	5	6	4	8	13	24	**186**
Rainfall (mm)		58	43	53	46	57	57	49	67	51	47	59	61	**648**

Factors affecting flow regime: S E
Station type: C

1987 runoff is 128% of previous mean
rainfall 106%

032003 Harpers Brook at Old Mill Bridge 1987

Measuring authority: AWA
First year: 1938
Grid reference: 42 (SP) 983 799
Level stn. (m OD): 30.30
Catchment area (sq km): 74.3
Max alt. (m OD): 146

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.715	0.499	0.868	1.167	0.188	0.277	0.128	0.129	0.124	1.176	0.748	0.420	**0.537**
(m^3s^{-1}):	Peak	9.77	2.38	3.26	18.20	0.35	2.46	0.35	0.44	0.55	16.58	6.34	1.50	**18.20**
Runoff (mm)		26	16	31	41	7	10	5	5	4	42	26	15	**228**
Rainfall (mm)		15	36	57	55	39	88	48	61	44	134	50	28	**655**

Monthly and yearly statistics for previous record (Dec 1938 to Dec 1986—incomplete or missing months total 0.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.795	0.816	0.714	0.478	0.315	0.200	0.146	0.156	0.144	0.199	0.428	0.590	**0.413**
flows	Low	0.097	0.080	0.076	0.066	0.056	0.049	0.052	0.048	0.049	0.057	0.069	0.077	**0.159**
(m^3s^{-1})	High	2.766	2.485	2.363	1.334	1.246	0.606	0.685	0.791	1.147	0.979	1.688	1.762	**0.676**
Peak flow (m^3s^{-1})		16.06	18.58	17.01	22.00	18.65	10.54	12.49	20.50	6.80	7.73	11.74	17.90	**22.00**
Runoff (mm)		29	27	26	17	11	7	5	6	5	7	15	21	**175**
Rainfall (mm)		58	42	48	43	53	52	51	64	50	52	61	58	**632**

Factors affecting flow regime:
Station type: CC

1987 runoff is 130% of previous mean
rainfall 104%

032004 Ise Brook at Harrowden Old Mill 1987

Measuring authority: AWA
First year: 1943
Grid reference: 42 (SP) 898 715
Level stn. (m OD): 45.30
Catchment area (sq km): 194.0
Max alt. (m OD): 197

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.222	1.497	2.275	3.090	0.715	1.055	0.492	0.458	0.388	2.299	2.586	1.441	**1.543**
(m^3s^{-1}):	Peak	8.63	3.39	5.74	14.87	1.69	7.11			1.40	11.27	9.69	3.52	
Runoff (mm)		31	19	31	41	10	14	7	6	5	32	35	20	**251**
Rainfall (mm)		15	36	58	60	41	100	49	57	42	131	53	28	**670**

Monthly and yearly statistics for previous record (Dec 1943 to Dec 1986—incomplete or missing months total 0.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.493	2.655	2.279	1.524	1.142	0.756	0.565	0.547	0.513	0.721	1.382	1.958	**1.372**
flows	Low	0.458	0.324	0.219	0.329	0.143	0.128	0.166	0.110	0.128	0.185	0.176	0.219	**0.422**
(m^3s^{-1})	High	6.441	6.949	7.984	3.834	3.606	2.421	3.018	2.655	2.315	4.384	5.331	5.827	**2.337**
Peak flow (m^3s^{-1})		17.10	17.51	28.39	20.77	17.73	24.04	19.54	25.10	7.79	13.08	16.00	16.99	**28.39**
Runoff (mm)		34	33	31	20	16	10	8	8	7	10	18	27	**223**
Rainfall (mm)		55	42	49	45	55	54	50	66	54	51	60	59	**640**

Factors affecting flow regime: S E
Station type: FV

1987 runoff is 112% of previous mean
rainfall 105%

033003 Cam at Bottisham 1987

Measuring authority: AWA
First year: 1936
Grid reference: 52 (TL) 508 657
Level stn. (m OD): 2.40
Catchment area (sq km): 803.0
Max alt. (m OD): 168

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.052	4.064	4.987	5.800	3.178	4.236	3.167	4.260	3.818	9.503			
(m^3s^{-1}):	Peak													
Runoff (mm)		17	12	17	19	11	14	11	14	12	32			
Rainfall (mm)		10	27	45	39	49	96	83	86	40	126	57	22	**680**

Monthly and yearly statistics for previous record (Oct 1936 to Dec 1986—incomplete or missing months total 1.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	5.905	6.198	5.893	4.594	3.385	2.442	1.919	1.770	1.697	2.107	3.432	4.201	**3.616**
flows	Low	1.058	1.202	1.142	1.159	0.944	0.750	0.621	0.603	0.784	0.803	0.880	0.995	**1.062**
(m^3s^{-1})	High	19.210	16.410	19.610	18.430	8.775	5.400	6.419	5.471	6.698	6.503	12.120	12.070	**8.279**
Peak flow (m^3s^{-1})														
Runoff (mm)		20	19	20	15	11	8	6	6	5	7	11	14	**142**
Rainfall (mm)		51	36	43	40	48	48	52	57	51	53	59	51	**589**

Factors affecting flow regime: GEI
Station type: MIS

1987 runoff is % of previous mean
rainfall 115%

033012 Kym at Meagre Farm 1987

Measuring authority: AWA
First year: 1960
Grid reference: 52 (TL) 155 631
Level stn. (m OD): 17.20
Catchment area (sq km): 137.5
Max alt. (m OD): 101

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.049	0.538	1.128	1.450	0.078	0.479	0.119	0.185	0.083	3.515	2.007	0.598	**0.936**
(m^3s^{-1}):	Peak	14.20	4.37	6.98	11.90	0.17	8.18	0.81	1.43	0.15	23.30	17.90	2.60	**23.30**
Runoff (mm)		20	9	22	27	2	9	2	4	2	68	38	12	**215**
Rainfall (mm)		12	32	47	49	42	101	66	69	29	149	49	24	**669**

Monthly and yearly statistics for previous record (May 1960 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.361	1.430	1.166	0.766	0.381	0.236	0.138	0.105	0.051	0.316	0.617	1.005	**0.627**
flows	Low	0.074	0.047	0.044	0.041	0.024	0.009	0.001	0.004	0.017	0.015	0.022	0.050	**0.103**
(m^3s^{-1})	High	3.296	5.577	3.474	2.107	1.469	1.489	2.438	1.096	0.158	2.200	3.718	3.328	**1.048**
Peak flow (m^3s^{-1})		25.26	22.70	30.24	30.75	20.61	24.10	16.68	23.42	1.34	25.91	34.71	33.98	**34.71**
Runoff (mm)		27	25	23	14	7	4	3	2	1	6	12	20	**144**
Rainfall (mm)		50	38	47	47	54	57	47	57	48	50	54	57	**606**

Factors affecting flow regime: EI
Station type: CB

1987 runoff is 150% of previous mean
rainfall 110%

033013 Sapiston at Rectory Bridge 1987

Measuring authority: AWA
First year: 1949
Grid reference: 52 (TL) 896 791
Level stn. (m OD): 15.60
Catchment area (sq km): 205.9
Max alt. (m OD): 97

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.304	0.758	0.901	1.176	0.518	0.655	0.519	1.441	0.792	2.922	1.582	1.073	**1.137**
(m^3s^{-1}):	Peak	5.40	2.84	2.96	4.31	1.38	1.99	1.97	10.60	1.95	12.60	4.56	2.31	**12.60**
Runoff (mm)		17	9	12	15	7	8	7	19	10	38	20	14	**175**
Rainfall (mm)		21	28	45	46	58	93	86	110	42	127	47	26	**729**

Monthly and yearly statistics for previous record (Jan 1949 to Dec 1986—incomplete or missing months total 2.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.180	1.235	1.030	0.793	0.611	0.461	0.314	0.270	0.284	0.339	0.609	0.862	**0.663**
flows	Low	0.226	0.221	0.150	0.079	0.193	0.133	0.015	0.045	0.051	0.066	0.087	0.139	**0.219**
(m^3s^{-1})	High	2.417	3.295	2.491	1.947	1.802	1.744	0.651	0.734	1.682	1.008	2.404	2.396	**1.071**
Peak flow (m^3s^{-1})		9.93	10.90	10.85	8.76	7.31	5.20	2.39	2.93	8.95	6.26	6.97	10.45	**10.90**
Runoff (mm)		15	15	13	10	8	6	4	4	4	4	8	11	**102**
Rainfall (mm)*		51	35	44	44	48	51	50	51	54	54	62	56	**600**

*(1960-1986)

Factors affecting flow regime: GEI
Station type: TP

1987 runoff is 172% of previous mean
rainfall 122%

033014 Lark at Temple 1987

Measuring authority: AWA
First year: 1960
Grid reference: 52 (TL) 758 730
Level stn. (m OD): 8.90
Catchment area (sq km): 272.0
Max alt. (m OD): 125

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.813	1.386	1.657	2.205	1.274	1.859	1.251	1.891	1.493	2.942	2.463	1.923	**1.846**
(m^3s^{-1}):	Peak	7.55	2.96	3.89	8.24	2.16	7.38	3.13	9.10	3.54	9.63	7.68	3.44	**9.63**
Runoff (mm)		18	12	16	21	13	18	12	19	14	29	23	19	**214**
Rainfall (mm)		17	28	51	51	57	113	77	104	40	124	51	25	**738**

Monthly and yearly statistics for previous record (Nov 1960 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.805	1.848	1.787	1.607	1.388	1.071	0.881	0.801	0.818	0.846	1.164	1.487	**1.289**
flows	Low	0.728	0.645	0.675	0.691	0.641	0.548	0.409	0.385	0.440	0.493	0.509	0.600	**0.620**
(m^3s^{-1})	High	3.062	3.562	3.614	2.999	3.476	1.878	1.422	1.267	2.893	1.847	2.677	2.662	**2.014**
Peak flow (m^3s^{-1})		11.08	12.05	12.12	10.31	11.83	5.46	3.31	5.24	22.06	8.25	10.12	11.22	**22.06**
Runoff (mm)		18	17	18	15	14	10	9	8	8	8	11	15	**150**
Rainfall (mm)		52	35	45	45	50	51	50	52	54	55	63	58	**610**

Factors affecting flow regime: GEI
Station type: CB

1987 runoff is 143% of previous mean
rainfall 121%

033024 Cam at Dernford 1987

Measuring authority: AWA
First year: 1949

Grid reference: 52 (TL) 466 506
Level stn. (m OD): 14.70

Catchment area (sq km): 198.0
Max alt. (m OD): 146

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.255	1.032	1.222	1.424	0.922	1.073	0.958	1.542	1.408	2.970	2.388	1.688	**1.490**
(m^3s^{-1}):	Peak	4.97	1.66	3.44	5.57	1.24	4.20	5.28	10.70	9.14	12.70	9.95	2.96	**12.70**
Runoff (mm)		17	13	17	19	12	14	13	21	18	40	31	23	**238**
Rainfall (mm)		10	28	46	41	51	101	88	102	51	130	66	22	**736**

Monthly and yearly statistics for previous record (Mar 1949 to Dec 1986—incomplete or missing months total 1.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.418	1.484	1.346	1.190	0.990	0.778	0.620	0.582	0.558	0.705	0.935	1.183	**0.980**
flows	Low	0.449	0.400	0.562	0.465	0.408	0.318	0.184	0.248	0.155	0.313	0.361	0.356	**0.416**
(m^3s^{-1})	High	2.845	2.703	2.608	2.431	2.144	1.338	1.608	1.457	1.965	2.088	2.790	3.492	**1.506**
Peak flow (m^3s^{-1})		10.38	14.09	10.22	9.94	13.63	6.94	3.60	4.79	10.99	9.10	12.50	12.06	**14.09**
Runoff (mm)		19	18	18	16	13	10	8	8	7	10	12	16	**156**
Rainfall (mm)*		49	38	42	41	48	48	52	59	53	52	59	55	**596**

*(1950-1986)

Factors affecting flow regime: GEI
Station type: TP

1987 runoff is 152% of previous mean
rainfall 123%

034001 Yare at Colney 1987

Measuring authority: AWA
First year: 1959

Grid reference: 63 (TG) 182 082
Level stn. (m OD): 8.20

Catchment area (sq km): 231.8
Max alt. (m OD): 69

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.807	1.515	1.882	2.196	0.838	1.326	0.831	2.482	1.411	3.798	2.433	1.891	**1.951**
(m^3s^{-1}):	Peak	5.50	3.18	3.87	5.13	1.21	3.98	3.74	16.92	3.47	13.00	4.39	3.36	**16.92**
Runoff (mm)		32	16	22	25	10	15	10	29	16	44	27	22	**266**
Rainfall (mm)		38	27	47	49	51	96	79	120	35	120	56	30	**748**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.631	2.593	2.021	1.761	1.136	0.741	0.582	0.559	0.675	0.882	1.468	2.203	**1.432**
flows	Low	0.779	0.947	0.842	0.623	0.462	0.285	0.189	0.200	0.272	0.381	0.440	0.714	**0.770**
(m^3s^{-1})	High	5.181	4.931	4.783	3.442	2.487	2.069	1.043	1.607	3.420	2.898	3.971	5.904	**2.230**
Peak flow (m^3s^{-1})		18.97	18.63	16.90	20.51	10.10	4.01	4.54	6.34	21.61	7.48	11.20	21.15	**21.61**
Runoff (mm)		30	27	23	20	13	8	7	6	8	10	16	25	**195**
Rainfall (mm)		59	41	46	49	48	52	54	57	55	58	69	65	**653**

Factors affecting flow regime: G I
Station type: MIS

1987 runoff is 136% of previous mean
rainfall 115%

034002 Tas at Shotesham 1987

Measuring authority: AWA
First year: 1957

Grid reference: 62 (TM) 226 994
Level stn. (m OD): 9.60

Catchment area (sq km): 146.5
Max alt. (m OD): 65

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.604	0.746	0.928	1.157	0.463	0.489	0.455	1.464	0.407	1.473	0.913	0.755	**0.905**
(m^3s^{-1}):	Peak	4.58	2.02	2.61	4.14	1.08	1.24	2.55	19.00	0.73	7.35	3.01	1.89	**19.00**
Runoff (mm)		29	12	17	20	8	9	8	27	7	27	16	14	**195**
Rainfall (mm)		37	25	40	46	55	77	91	130	33	112	50	30	**726**

Monthly and yearly statistics for previous record (Nov 1957 to Dec 1986—incomplete or missing months total 0.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.477	1.330	0.978	0.762	0.525	0.410	0.342	0.297	0.408	0.456	0.780	1.172	**0.742**
flows	Low	0.287	0.368	0.275	0.309	0.219	0.175	0.109	0.126	0.158	0.183	0.229	0.300	**0.280**
(m^3s^{-1})	High	3.107	3.709	2.435	1.666	1.539	1.515	0.962	0.764	3.425	1.422	2.946	3.239	**1.299**
Peak flow (m^3s^{-1})		14.16	13.58	11.53	5.69	6.65	6.80	6.51	3.57	62.30	7.84	11.31	13.31	**62.30**
Runoff (mm)		27	22	18	13	10	7	6	5	7	8	14	21	**160**
Rainfall (mm)		55	39	42	45	47	48	50	54	52	55	64	62	**613**

Factors affecting flow regime: G I
Station type: FV

1987 runoff is 122% of previous mean
rainfall 118%

035002 Deben at Naunton Hall 1987

Measuring authority: AWA
First year: 1964

Grid reference: 62 (TM) 322 534
Level stn. (m OD): 5.50

Catchment area (sq km): 163.1
Max alt. (m OD): 62

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.359	1.090	0.885	1.094	0.294	0.385	0.871	1.964	0.827	4.188	2.217	0.778	**1.413**
(m^3s^{-1}):	Peak	13.24	8.37	6.98	8.45	0.81	1.90	11.62		6.40	16.53	14.36	4.29	
Runoff (mm)		39	16	15	17	5	6	14	32	13	69	35	13	**274**
Rainfall (mm)		30	32	36	42	58	77	98	97	49	130	55	23	**727**

Monthly and yearly statistics for previous record (Aug 1964 to Dec 1986—incomplete or missing months total 0.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.776	1.448	1.066	0.805	0.418	0.246	0.165	0.168	0.315	0.386	0.879	1.356	**0.749**
flows	Low	0.259	0.247	0.228	0.176	0.107	0.052	0.044	0.054	0.076	0.139	0.173	0.192	**0.204**
(m^3s^{-1})	High	2.894	4.252	3.366	2.162	1.148	1.174	0.405	0.483	2.825	1.222	3.113	3.585	**1.060**
Peak flow (m^3s^{-1})		17.78	16.71	14.80	16.10	12.80	7.54	3.39	2.61	29.45	8.24	16.86	17.86	**29.45**
Runoff (mm)		29	22	18	13	7	4	3	3	5	6	14	22	**145**
Rainfall (mm)		55	38	44	43	46	46	48	46	56	51	63	57	**593**

Factors affecting flow regime: R G I
Station type: CC

1987 runoff is 189% of previous mean
rainfall 123%

037001 Roding at Redbridge 1987

Measuring authority: TWA
First year: 1950
Grid reference: 51 (TQ) 415 884
Level stn. (m OD): 5.70
Catchment area (sq km): 303.3
Max alt. (m OD): 117

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	2.489	1.282	2.154	3.362	0.684	1.719	1.771	3.925	0.764	7.882	4.673	1.303	**2.667**
(m^3s^{-1}): Peak	13.30	4.36	6.10	15.80	5.20	7.82	16.10	31.30	2.05	32.40	27.80	2.87	**32.40**
Runoff (mm)	22	10	19	29	6	15	16	35	7	70	40	12	**279**
Rainfall (mm)	12	27	47	46	57	99	87	97	33	144	59	19	**727**

Monthly and yearly statistics for previous record (Feb 1950 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	3.733	3.482	2.742	1.897	1.257	0.841	0.601	0.604	0.857	1.271	2.174	3.018	**1.866**
Low	0.675	0.608	0.537	0.482	0.323	0.226	0.280	0.224	0.197	0.283	0.412	0.412	**0.801**
(m^3s^{-1}) High	7.282	10.670	6.858	6.768	4.045	2.953	1.975	1.315	4.012	6.834	10.340	9.454	**2.809**
Peak flow (m^3s^{-1})	34.74	30.80	38.08	27.72	32.70	21.70	24.50	19.81	25.62	35.60	62.41	36.40	**62.41**
Runoff (mm)	33	28	24	16	11	7	5	5	7	11	19	27	**194**
Rainfall (mm)	52	41	46	43	50	51	51	56	58	55	63	58	**624**

Factors affecting flow regime: S EI
Station type: EW

1987 runoff is 144% of previous mean
rainfall 117%

037005 Colne at Lexden 1987

Measuring authority: AWA
First year: 1959
Grid reference: 52 (TL) 962 261
Level stn. (m OD): 8.20
Catchment area (sq km): 238.2
Max alt. (m OD): 114

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	1.587	0.825	1.255	1.848	0.503	1.528	0.907	1.558	0.975	4.838	2.490	1.186	**1.625**
(m^3s^{-1}): Peak	8.84	1.52	6.55	10.26	0.89	8.07	4.77	8.86	5.15	24.80	12.51	3.37	**24.80**
Runoff (mm)	18	8	14	20	6	17	10	18	11	54	27	13	**216**
Rainfall (mm)	14	23	42	43	44	120	89	86	41	127	52	23	**704**

Monthly and yearly statistics for previous record (Oct 1959 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	1.972	1.786	1.648	1.204	0.812	0.463	0.346	0.322	0.375	0.634	1.143	1.555	**1.018**
Low	0.460	0.346	0.380	0.358	0.229	0.146	0.100	0.088	0.179	0.188	0.288	0.352	**0.362**
(m^3s^{-1}) High	3.737	4.684	3.556	3.344	2.353	1.011	0.687	0.554	1.099	3.930	5.521	4.200	**1.732**
Peak flow (m^3s^{-1})	14.20	22.65	20.68	13.34	12.56	6.26	6.41	2.38	10.50	18.55	21.29	20.58	**22.65**
Runoff (mm)	22	18	19	13	9	5	4	4	4	7	12	17	**135**
Rainfall (mm)	48	33	44	42	46	45	45	49	52	52	60	55	**571**

Factors affecting flow regime: R EI
Station type: FL

1987 runoff is 160% of previous mean
rainfall 123%

037010 Blackwater at Appleford Bridge 1987

Measuring authority: AWA
First year: 1962
Grid reference: 52 (TL) 845 158
Level stn. (m OD): 14.60
Catchment area (sq km): 247.3
Max alt. (m OD): 127

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	1.575	0.946	1.403	1.868	0.551	1.143	0.768	1.741	1.078	4.955	2.597	1.213	**1.653**
(m^3s^{-1}): Peak	7.91	2.30	5.49	8.84	0.97	4.95	4.10	13.75	5.93	26.08	11.10	3.61	**26.08**
Runoff (mm)	17	9	15	20	6	12	8	19	11	54	27	13	**212**
Rainfall (mm)	13	23	43	41	39	113	83	93	42	130	52	21	**693**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	2.022	1.945	1.912	1.469	1.037	0.722	0.516	0.468	0.513	0.676	1.151	1.680	**1.172**
Low	0.532	0.460	0.479	0.479	0.341	0.356	0.182	0.161	0.215	0.288	0.325	0.379	**0.822**
(m^3s^{-1}) High	3.916	4.889	3.583	3.843	2.860	1.583	1.007	0.837	1.651	1.955	4.676	4.307	**1.642**
Peak flow (m^3s^{-1})	14.10	21.60	20.00	12.31	17.80	7.76	2.92	3.28	15.25	10.00	20.20	21.60	**21.60**
Runoff (mm)	22	19	21	15	11	8	6	5	5	7	12	18	**150**
Rainfall (mm)	47	34	47	44	49	51	44	50	51	48	60	53	**578**

Factors affecting flow regime: R GEI
Station type: FL

1987 runoff is 141% of previous mean
rainfall 120%

038001 Lee at Feildes Weir 1987

Measuring authority: TWA
First year: 1936 (naturalised data from 1883)
Grid reference: 52 (TL) 390 092
Level stn. (m OD): 27.70
Catchment area (sq km): 1036.0
Max alt. (m OD): 229

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	4.705	3.015	4.956	5.359	2.485	4.381	3.027	4.363	3.706	15.290	10.260	4.874	**5.535**
(m^3s^{-1}): Peak	24.60	6.32	13.20	28.00	7.40	12.70	12.80	27.50	25.90	73.60	52.30	16.90	**73.60**
Runoff (mm)	12	7	13	13	6	11	8	11	9	40	26	13	**169**
Rainfall (mm)	10	27	50	42	55	99	75	76	49	157	59	24	**723**

Monthly and yearly statistics for previous record (Oct 1936 to Dec 1986—incomplete or missing months total 1.9 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	6.695	6.680	6.197	4.541	3.660	2.572	1.769	1.641	1.735	2.392	4.150	5.201	**3.923**
Low	1.052	0.959	0.460	0.484	0.302	0.224	0.081	0.085	0.132	0.302	0.416	1.099	**0.866**
(m^3s^{-1}) High	17.200	17.800	29.430	12.000	12.260	7.618	4.994	3.841	7.063	10.420	13.880	13.210	**7.182**
Peak flow (m^3s^{-1})	56.10	74.30	47.20	52.20	96.90	65.30	9.71	13.90	49.56	67.60	48.50	77.00	**96.90**
Runoff (mm)	17	16	16	11	9	6	5	4	4	6	10	13	**119**
Rainfall (mm)	57	41	47	43	51	49	54	58	55	60	66	59	**640**

Factors affecting flow regime: PGEI
Station type: MIS

1987 runoff is 141% of previous mean
rainfall 113%

038007 Canons Brook at Elizabeth Way 1987

Measuring authority: TWA
First year: 1965

Grid reference: 52 (TL) 431 104
Level stn. (m OD): 37.50

Catchment area (sq km): 21.4
Max alt. (m OD): 110

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.152	0.129	0.221	0.271	0.121	0.206	0.226	0.321	0.091	0.719	0.312	0.124	**0.241**
(m^3s^{-1}): Peak	1.55	1.03	1.89	3.42	2.33	2.77	7.68	10.90	2.04	12.00	5.59	1.15	**12.00**
Runoff (mm)	19	15	28	33	15	25	28	40	11	90	38	16	**357**
Rainfall (mm)	11	25	48	43	57	101	80	92	27	167	57	20	**728**

Monthly and yearly statistics for previous record (Oct 1965 to Dec 1986—incomplete or missing months total 0.4 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	0.310	0.285	0.259	0.204	0.185	0.132	0.109	0.118	0.121	0.153	0.222	0.267	**0.197**
Low	0.059	0.062	0.054	0.074	0.073	0.067	0.056	0.034	0.056	0.043	0.058	0.092	**0.095**
(m^3s^{-1}) High	0.470	0.883	0.468	0.520	0.415	0.253	0.210	0.193	0.294	0.468	0.794	0.507	**0.253**
Peak flow (m^3s^{-1})	8.25	11.50	6.56	10.31	12.20	10.10	10.97	10.61	9.00	10.60	9.85	9.36	**12.20**
Runoff (mm)	39	32	32	25	23	16	14	15	15	19	27	33	**290**
Rainfall (mm)	53	37	48	43	55	52	48	54	56	53	61	58	**618**

Factors affecting flow regime:
Station type: FL

1987 runoff is 123% of previous mean
rainfall 118%

038021 Turkey Brook at Albany Park 1987

Measuring authority: TWA
First year: 1971

Grid reference: 51 (TQ) 359 985
Level stn. (m OD): 16.60

Catchment area (sq km): 42.2
Max alt. (m OD): 127

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.219	0.135	0.350	0.392	0.078	0.225	0.065	0.113	0.030	0.941	0.370	0.128	**0.254**
(m^3s^{-1}): Peak	2.79	1.36	2.49	4.85	0.74	2.09	1.32	2.70	0.26	10.70	6.45	1.00	**10.70**
Runoff (mm)	14	8	22	24	5	14	4	7	2	60	23	8	**190**
Rainfall (mm)	12	28	60	44	68	91	74	71	31	169	59	25	**732**

Monthly and yearly statistics for previous record (Sep 1971 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	0.422	0.352	0.351	0.217	0.191	0.094	0.041	0.054	0.062	0.140	0.256	0.349	**0.210**
Low	0.037	0.042	0.024	0.020	0.014	0.021	0.013	0.008	0.012	0.016	0.019	0.086	**0.057**
(m^3s^{-1}) High	0.760	0.988	0.811	0.626	0.626	0.240	0.087	0.171	0.228	0.524	1.158	0.704	**0.339**
Peak flow (m^3s^{-1})	10.50	11.00	5.14	7.72	20.69	15.30	2.38	2.76	7.55	8.14	12.75	10.50	**20.69**
Runoff (mm)	27	20	22	13	12	6	3	3	4	9	16	22	**157**
Rainfall (mm)	61	42	59	45	62	53	42	53	63	58	64	66	**668**

Factors affecting flow regime: G
Station type: FV

1987 runoff is 121% of previous mean
rainfall 110%

039002 Thames at Days Weir 1987

Measuring authority: TWA
First year: 1938

Grid reference: 41 (SU) 568 935
Level stn. (m OD): 46.00

Catchment area (sq km): 3444.7
Max alt. (m OD): 330

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	44.170	30.500	42.100	58.800	16.980	17.580	8.481	5.275	4.671	23.740	55.850	27.760	**27.992**
(m^3s^{-1}): Peak													
Runoff (mm)	34	21	33	44	13	13	7	4	4	18	42	22	**255**
Rainfall (mm)	13	42	62	57	45	99	49	29	36	141	67	35	**675**

Monthly and yearly statistics for previous record (Oct 1938 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	55.740	56.730	46.220	30.750	21.180	14.870	8.643	7.444	8.849	15.030	31.670	45.680	**28.432**
Low	6.250	5.654	5.620	4.253	2.855	1.502	0.399	0.296	1.741	2.778	4.040	5.312	**10.095**
(m^3s^{-1}) High	133.600	120.800	163.200	85.070	61.140	41.560	48.820	18.690	38.630	74.570	128.100	128.700	**51.292**
Peak flow (m^3s^{-1})													
Runoff (mm)	43	40	36	23	16	11	7	6	7	12	24	36	**260**
Rainfall (mm)	67	47	54	46	61	54	53	69	61	63	72	73	**720**

Factors affecting flow regime: P EI
Station type: MIS

1987 runoff is 98% of previous mean
rainfall 94%

039005 Beverley Brook at Wimbledon Common 1987

Measuring authority: TWA
First year: 1935

Grid reference: 51 (TQ) 216 717
Level stn. (m OD): 11.00

Catchment area (sq km): 43.6
Max alt. (m OD): 190

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.550	0.491	0.588	0.606	0.446	0.598	0.508	0.448	0.393	1.321	0.776	0.417	**0.595**
(m^3s^{-1}): Peak	2.57	4.96	3.03	6.36	3.08	6.31	5.02	7.69	2.59	15.90	7.45	1.01	**15.90**
Runoff (mm)	34	27	36	36	27	36	31	28	23	81	46	26	**431**
Rainfall (mm)	19	30	47	41	49	78	64	59	32	181	62	12	**674**

Monthly and yearly statistics for previous record (Mar 1935 to Dec 1986—incomplete or missing months total 23.5 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	0.712	0.597	0.565	0.543	0.483	0.475	0.426	0.445	0.502	0.496	0.590	0.648	**0.540**
Low	0.280	0.244	0.290	0.257	0.214	0.157	0.211	0.189	0.224	0.160	0.274	0.247	**0.291**
(m^3s^{-1}) High	1.112	1.196	1.023	1.538	1.092	0.956	0.920	0.970	1.340	0.926	1.415	1.057	**0.695**
Peak flow (m^3s^{-1})	10.90	9.04	7.51	22.40	14.80	12.90	16.51	17.30	16.50	13.40	10.90	14.00	**22.40**
Runoff (mm)	44	33	35	32	30	28	26	27	30	30	35	40	**391**
Rainfall (mm)	59	38	46	41	52	54	48	56	59	59	65	65	**642**

Factors affecting flow regime: GE
Station type: FL

1987 runoff is 110% of previous mean
rainfall 105%

039014 Ver at Hansteads 1987

Measuring authority: TWA
First year: 1956
Grid reference: 52 (TL) 151 016
Level stn. (m OD): 61.30
Catchment area (sq km): 132.0
Max alt. (m OD): 243

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.357	0.298	0.281	0.321	0.250	0.284	0.212	0.190	0.140	0.461	0.564	0.501	**0.322**
(m^3s^{-1}):	Peak	0.71	0.48	0.70	0.81	0.61	0.58	0.56	0.37	0.29	1.50	0.99	0.66	**1.50**
Runoff (mm)		7	5	6	6	5	6	4	4	3	9	11	10	**77**
Rainfall (mm)		15	31	58	51	64	104	72	53	48	198	57	31	**782**

Monthly and yearly statistics for previous record (Oct 1956 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.479	0.540	0.573	0.551	0.491	0.426	0.357	0.317	0.283	0.301	0.354	0.412	**0.423**
flows	Low	0.126	0.190	0.138	0.114	0.069	0.045	0.028	0.016	0.025	0.057	0.039	0.048	**0.095**
(m^3s^{-1})	High	0.981	1.336	1.312	1.254	1.028	0.857	0.651	0.564	0.660	0.668	0.791	0.977	**0.752**
Peak flow (m^3s^{-1})		1.77	1.91	1.88	1.90	2.07	1.65	1.44	1.13	2.34	1.35	2.31	2.64	**2.64**
Runoff (mm)		10	10	12	11	10	8	7	6	6	6	7	8	**101**
Rainfall (mm)		64	47	57	51	56	59	52	58	62	64	68	74	**712**

Factors affecting flow regime: G
Station type: CC

1987 runoff is 76% of previous mean
rainfall 110%

039016 Kennet at Theale 1987

Measuring authority: TWA
First year: 1961
Grid reference: 41 (SU) 649 708
Level stn. (m OD): 43.40
Catchment area (sq km): 1033.4
Max alt. (m OD): 297

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	14.730	12.260	12.910	15.240	10.630	9.698	6.817	5.515	5.058	8.725	10.240	8.884	**10.059**
(m^3s^{-1}):	Peak	24.70	16.40	24.30	36.90	12.40	13.20	10.70	6.70	6.19	29.60	39.40	13.80	**39.40**
Runoff (mm)		38	29	33	38	28	24	18	14	13	23	26	23	**306**
Rainfall (mm)		13	49	66	62	44	101	58	26	52	143	67	40	**721**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	13.150	14.490	14.750	12.690	10.490	8.702	6.530	5.834	5.447	6.088	8.004	10.420	**9.692**
flows	Low	4.144	4.401	4.190	3.429	2.739	2.041	1.620	1.377	2.787	3.897	3.943	5.159	**4.056**
(m^3s^{-1})	High	22.680	22.720	22.010	19.790	15.430	18.600	11.120	9.542	10.000	13.970	17.710	18.240	**12.882**
Peak flow (m^3s^{-1})		48.30	44.80	44.30	31.70	30.10	70.80	19.00	20.50	33.40	29.40	43.50	47.30	**70.80**
Runoff (mm)		34	34	38	32	27	22	17	15	14	16	20	27	**296**
Rainfall (mm)		75	48	70	50	66	61	47	68	69	65	77	83	**779**

Factors affecting flow regime: R G I
Station type: C

1987 runoff is 104% of previous mean
rainfall 93%

039019 Lambourn at Shaw 1987

Measuring authority: TWA
First year: 1962
Grid reference: 41 (SU) 470 682
Level stn. (m OD): 75.60
Catchment area (sq km): 234.1
Max alt. (m OD): 261

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.270	2.326	2.303	2.553	2.503	2.054	1.586	1.258	1.081	1.139	1.280	1.557	**1.826**
(m^3s^{-1}):	Peak	2.43	2.69	2.67	2.94	2.90	2.46	2.16	1.57	1.41	1.58	1.99	1.98	**2.94**
Runoff (mm)		26	24	26	28	29	23	18	14	12	13	14	18	**246**
Rainfall (mm)		13	50	65	61	44	96	59	31	47	137	65	38	**706**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.748	2.194	2.482	2.435	2.159	1.870	1.543	1.319	1.189	1.161	1.239	1.423	**1.727**
flows	Low	0.826	0.796	0.743	0.695	0.639	0.573	0.538	0.485	0.681	0.683	0.757	0.855	**0.739**
(m^3s^{-1})	High	3.410	3.618	3.583	3.550	2.979	2.764	2.359	2.048	1.699	1.921	2.392	2.551	**2.151**
Peak flow (m^3s^{-1})		3.93	4.20	4.39	4.08	3.76	4.34	3.06	3.54	3.75	3.17	5.02	3.72	**5.02**
Runoff (mm)		20	23	28	27	25	21	18	15	13	13	14	16	**233**
Rainfall (mm)		67	46	66	49	64	58	48	64	65	60	75	79	**741**

Factors affecting flow regime: R G
Station type: C

1987 runoff is 105% of previous mean
rainfall 95%

039021 Cherwell at Enslow Mill 1987

Measuring authority: TWA
First year: 1965
Grid reference: 42 (SP) 482 183
Level stn. (m OD): 65.00
Catchment area (sq km): 551.7
Max alt. (m OD): 239

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	6.670	4.633	5.884	7.253	2.599	3.263	1.577	1.209	1.099	4.014	7.402	3.752	**4.113**
(m^3s^{-1}):	Peak	16.20	8.68	11.70	16.00	3.66	6.39	2.40	1.80	1.56	9.32	16.40	6.53	**16.40**
Runoff (mm)		32	20	29	34	13	15	8	6	5	19	35	18	**234**
Rainfall (mm)		16	39	54	55	43	108	46	38	37	134	58	29	**657**

Monthly and yearly statistics for previous record (Feb 1965 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	7.359	7.182	6.453	4.371	3.499	2.452	1.518	1.480	1.416	2.115	3.193	5.966	**3.904**
flows	Low	0.919	0.905	0.754	0.566	0.445	0.309	0.156	0.132	0.479	0.630	0.730	0.915	**1.370**
(m^3s^{-1})	High	12.040	15.900	12.090	8.710	8.674	6.632	4.997	2.618	4.610	5.780	8.567	13.330	**5.373**
Peak flow (m^3s^{-1})		22.50	23.80	26.70	20.70	19.30	17.60	24.50	10.30	9.80	17.40	22.00	30.20	**30.20**
Runoff (mm)		36	32	31	21	17	12	7	7	7	10	15	29	**223**
Rainfall (mm)		61	45	57	43	63	58	53	67	58	54	59	71	**689**

Factors affecting flow regime: P E
Station type: C

1987 runoff is 105% of previous mean
rainfall 95%

039023 Wye at Hedsor 1987

Measuring authority: TWA
First year: 1964

Grid reference: 41 (SU) 896 867
Level stn. (m OD): 26.80

Catchment area (sq km): 137.3
Max alt. (m OD): 244

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.068	1.043	1.118	1.227	1.057	1.148	1.092	1.024	0.941	1.167	1.184	1.167	**1.103**
(m^3s^{-1}):	Peak	1.92	2.49	2.05	2.95	2.14	2.31	2.83	1.52	1.43	3.15	2.39	2.13	**3.15**
Runoff (mm)		21	18	22	23	21	22	21	20	18	23	22	23	**253**
Rainfall (mm)		15	37	65	62	64	99	70	44	45	176	68	37	**782**

Monthly and yearly statistics for previous record (Dec 1964 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.953	1.044	1.147	1.187	1.168	1.126	1.022	0.975	0.879	0.832	0.829	0.874	**1.003**
flows	Low	0.419	0.483	0.488	0.470	0.432	0.380	0.370	0.314	0.381	0.395	0.375	0.340	**0.442**
(m^3s^{-1})	High	1.506	1.675	1.800	1.891	1.842	1.582	1.434	1.317	1.182	1.180	1.329	1.373	**1.365**
Peak flow (m^3s^{-1})		3.49	2.76	3.21	3.26	3.98	3.51	2.94	4.17	4.43	3.14	2.79	2.85	**4.43**
Runoff (mm)		19	19	22	22	23	21	20	19	17	16	16	17	**230**
Rainfall (mm)		72	49	62	52	67	63	54	67	68	64	72	80	**770**

Factors affecting flow regime: G I
Station type: C

1987 runoff is 110% of previous mean
rainfall 102%

039029 Tillingbourne at Shalford 1987

Measuring authority: TWA
First year: 1968

Grid reference: 51 (TQ) 000 478
Level stn. (m OD): 31.70

Catchment area (sq km): 59.0
Max alt. (m OD): 294

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.555	0.525	0.563	0.616	0.507	0.506	0.450	0.424	0.432	0.937	0.641	0.550	**0.559**
(m^3s^{-1}):	Peak	0.91	0.73	0.89	1.09	0.70	0.84	0.82	0.75	0.63	5.09	1.64	0.61	**5.09**
Runoff (mm)		25	22	26	27	23	22	20	19	19	43	28	25	**299**
Rainfall (mm)		23	40	66	62	60	83	82	54	47	215	70	28	**830**

Monthly and yearly statistics for previous record (Jun 1968 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.671	0.635	0.639	0.608	0.575	0.521	0.470	0.469	0.489	0.509	0.570	0.622	**0.565**
flows	Low	0.457	0.423	0.398	0.398	0.378	0.353	0.340	0.326	0.357	0.362	0.354	0.392	**0.389**
(m^3s^{-1})	High	0.965	0.857	0.900	0.897	0.819	0.830	0.599	0.619	0.885	0.701	0.883	0.840	**0.686**
Peak flow (m^3s^{-1})		2.70	2.26	3.23	3.00	1.91	2.79	1.65	2.36	6.09	2.10	3.65	3.25	**6.09**
Runoff (mm)		30	26	29	27	26	23	21	21	21	23	25	28	**302**
Rainfall (mm)		86	48	71	53	65	58	49	63	78	73	86	85	**815**

Factors affecting flow regime: G I
Station type: C

1987 runoff is 99% of previous mean
rainfall 102%

039049 Silk Stream at Colindeep Lane 1987

Measuring authority: TWA
First year: 1973

Grid reference: 51 (TQ) 217 895
Level stn. (m OD): 39.90

Catchment area (sq km): 29.0
Max alt. (m OD): 146

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.209	0.196	0.322	0.309	0.149	0.299	0.179	0.145	0.095	0.904	0.412	0.138	**0.280**
(m^3s^{-1}):	Peak	2.76	6.17	2.40	3.78	3.67	3.28	7.57	6.39	1.95	22.80	13.00	1.95	**22.80**
Runoff (mm)		19	16	30	28	14	27	17	13	8	84	37	13	**305**
Rainfall (mm)		16	37	57	46	64	93	78	56	38	175	59	26	**745**

Monthly and yearly statistics for previous record (Dec 1973 to Dec 1986—incomplete or missing months total 4.4 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.373	0.273	0.354	0.274	0.276	0.218	0.127	0.131	0.140	0.283	0.375	0.351	**0.265**
flows	Low	0.204	0.102	0.151	0.030	0.035	0.061	0.047	0.053	0.057	0.062	0.108	0.143	**0.178**
(m^3s^{-1})	High	0.592	0.472	0.676	0.574	0.602	0.643	0.213	0.216	0.363	0.507	1.086	0.659	**0.314**
Peak flow (m^3s^{-1})		9.00	6.20	8.89	10.26	39.80	32.80	16.50	30.50	27.90	40.50	24.30	36.31	**40.50**
Runoff (mm)		34	23	33	24	25	20	12	12	13	26	34	32	**288**
Rainfall (mm)		61	36	63	48	72	59	43	51	71	68	65	65	**702**

Factors affecting flow regime:
Station type: FV

1987 runoff is 106% of previous mean
rainfall 106%

039069 Mole at Kinnersley Manor 1987

Measuring authority: TWA
First year: 1972

Grid reference: 51 (TQ) 262 462
Level stn. (m OD): 48.00

Catchment area (sq km): 142.0
Max alt. (m OD): 178

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.455	1.589	2.832	2.749	0.692	1.540	1.357	0.748	0.695	8.486	4.356	1.494	**2.416**
(m^3s^{-1}):	Peak	17.00	10.60	18.80	19.70	3.75	12.70	12.60	6.34	3.78	56.40	34.10	3.58	**56.40**
Runoff (mm)		46	27	53	50	13	28	26	14	13	160	80	28	**538**
Rainfall (mm)		26	36	64	55	46	94	80	49	50	206	76	28	**810**

Monthly and yearly statistics for previous record (Dec 1972 to Dec 1986—incomplete or missing months total 1.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.666	2.762	2.636	1.745	1.559	0.970	0.568	0.838	1.020	1.650	2.416	3.847	**1.972**
flows	Low	1.364	0.829	0.833	0.388	0.305	0.221	0.296	0.169	0.281	0.207	0.260	1.100	**0.950**
(m^3s^{-1})	High	6.268	5.883	4.668	3.666	3.552	1.874	1.709	2.864	5.419	6.062	5.668	5.474	**2.313**
Peak flow (m^3s^{-1})		41.30	46.50	22.30	47.00	32.90	23.30	14.90	29.80	40.70	45.90	56.10	68.50	**68.50**
Runoff (mm)		69	47	50	32	29	18	11	16	19	31	44	73	**438**
Rainfall (mm)		78	51	69	45	64	59	43	62	71	85	85	100	**812**

Factors affecting flow regime:
Station type: MIS

1987 runoff is 123% of previous mean
rainfall 100%

040004 Rother at Udiam 1987

Measuring authority: SWA
First year: 1962
Grid reference: 51 (TQ) 773 245
Level stn. (m OD): 1.90
Catchment area (sq km): 206.0
Max alt. (m OD): 197

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	3.436	1.903	3.609	2.922	0.639	0.764	1.612	0.826	0.713	10.750	4.458	2.181	**2.818**
(m^3s^{-1}):	Peak	17.20	8.33	20.02	13.61	1.50	4.01	22.20	7.51	2.23	42.76	31.63	7.24	**42.76**
Runoff (mm)		45	22	47	37	8	10	21	11	9	140	56	28	**434**
Rainfall (mm)		30	47	82	52	49	96	108	77	42	226	82	38	**929**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1986—incomplete or missing months total 1.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.862	3.368	3.164	2.287	1.423	1.008	0.597	0.692	0.866	1.505	3.202	3.706	**2.134**
flows	Low	0.945	0.792	0.657	0.343	0.338	0.268	0.231	0.182	0.245	0.179	0.184	0.427	**0.756**
(m^3s^{-1})	High	9.397	10.370	6.927	4.533	2.817	4.157	2.790	2.682	3.952	5.708	12.360	9.547	**3.322**
Peak flow (m^3s^{-1})		41.57	44.74	49.84	25.43	24.09	23.08	21.64	14.36	33.98	29.17	50.43	51.82	**51.82**
Runoff (mm)		50	40	41	29	19	13	8	9	11	20	40	48	**327**
Rainfall (mm)		85	60	72	56	60	62	50	64	79	85	103	94	**870**

Factors affecting flow regime: S GE
Station type: VA

1987 runoff is 133% of previous mean
rainfall 107%

040009 Teise at Stone Bridge 1987

Measuring authority: SWA
First year: 1961
Grid reference: 51 (TQ) 718 399
Level stn. (m OD): 24.50
Catchment area (sq km): 136.2
Max alt. (m OD): 201

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.289	0.652	1.243	1.576	0.840	0.901	1.128	1.133	0.885	4.786	1.878	0.645	**1.413**
(m^3s^{-1}):	Peak	7.33	5.11	8.54	7.48	1.57	2.42	5.53	8.71	2.11	19.77	19.23	2.93	**19.77**
Runoff (mm)		25	12	24	30	17	17	22	22	17	94	36	13	**329**
Rainfall (mm)		34	41	70	45	48	76	101	74	37	210	75	28	**839**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.483	2.054	1.877	1.420	1.095	0.785	0.534	0.535	0.679	0.955	1.767	2.059	**1.350**
flows	Low	0.553	0.522	0.413	0.323	0.238	0.130	0.231	0.100	0.170	0.128	0.276	0.471	**0.559**
(m^3s^{-1})	High	5.757	6.241	3.928	2.781	2.306	2.628	0.977	1.021	2.359	3.173	6.344	5.334	**2.101**
Peak flow (m^3s^{-1})		41.63	48.27	34.43	24.78	38.95	29.22	13.87	10.61	23.88	29.17	47.12	48.29	**48.29**
Runoff (mm)		49	37	37	27	22	15	10	11	13	19	34	40	**313**
Rainfall (mm)		78	52	68	52	59	57	47	60	74	77	91	87	**802**

Factors affecting flow regime: PGE
Station type: B VA

1987 runoff is 105% of previous mean
rainfall 105%

040011 Great Stour at Horton 1987

Measuring authority: SWA
First year: 1964
Grid reference: 61 (TR) 116 554
Level stn. (m OD): 12.50
Catchment area (sq km): 345.0
Max alt. (m OD): 205

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	3.914	3.263	4.185	3.526	2.151	2.432	2.987	3.092	2.218	8.686	5.878	3.816	**3.846**
(m^3s^{-1}):	Peak	11.57	6.21	10.49	7.77	3.00	4.33	11.42	11.99	4.68	24.11	20.15	5.64	**24.11**
Runoff (mm)		30	23	32	26	17	18	23	24	17	67	44	30	**352**
Rainfall (mm)		32	38	63	38	47	85	124	90	27	182	71	28	**825**

Monthly and yearly statistics for previous record (Oct 1964 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	5.269	4.766	4.427	3.568	2.864	2.079	1.781	1.741	1.900	2.534	3.656	4.667	**3.265**
flows	Low	2.293	2.366	1.812	1.654	1.324	1.079	0.965	0.877	1.119	1.085	1.328	1.687	**1.808**
(m^3s^{-1})	High	8.455	7.377	9.086	7.144	5.811	3.221	3.229	2.802	3.626	8.045	8.195	9.089	**4.717**
Peak flow (m^3s^{-1})		27.41	27.89	24.19	38.29	25.05	10.87	8.60	11.57	29.38	27.18	28.85	30.44	**38.29**
Runoff (mm)		41	34	34	27	22	16	14	14	14	20	27	36	**299**
Rainfall (mm)		72	49	59	49	53	51	56	57	73	74	85	78	**756**

Factors affecting flow regime: GE
Station type: B VA

1987 runoff is 118% of previous mean
rainfall 109%

040012 Darent at Hawley 1987

Measuring authority: TWA
First year: 1963
Grid reference: 51 (TQ) 551 718
Level stn. (m OD): 11.20
Catchment area (sq km): 191.4
Max alt. (m OD): 251

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.836	0.802	0.782	0.788	0.450	0.517	0.412	0.367	0.288	1.428	1.321	0.852	**0.737**
(m^3s^{-1}):	Peak	2.44	1.52	1.54	1.47	0.69	1.10	1.07	0.82	0.44	3.77	2.96	0.99	**3.77**
Runoff (mm)		12	10	11	11	6	7	6	5	4	20	18	12	**121**
Rainfall (mm)		35	36	58	41	49	101	102	70	39	185	71	18	**805**

Monthly and yearly statistics for previous record (Dec 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.989	0.990	0.930	0.827	0.649	0.483	0.324	0.302	0.326	0.376	0.557	0.816	**0.629**
flows	Low	0.194	0.219	0.124	0.174	0.076	0.041	0.000	0.000	0.000	0.000	0.000	0.011	**0.101**
(m^3s^{-1})	High	1.817	1.718	1.804	1.515	1.509	0.982	0.617	0.690	1.817	1.516	1.448	1.674	**1.067**
Peak flow (m^3s^{-1})		3.88	3.23	4.05	3.09	13.10	3.06	2.35	2.27	10.05	2.97	4.91	4.36	**13.10**
Runoff (mm)		14	13	13	11	9	7	5	4	4	5	8	11	**104**
Rainfall (mm)		68	46	59	53	60	56	53	59	71	62	76	76	**739**

Factors affecting flow regime:
Station type: C

1987 runoff is 117% of previous mean
rainfall 109%

041001 Nunningham Stream at Tilley Bridge 1987

Measuring authority: SWA
First year: 1950
Grid reference: 51 (TQ) 662 129
Level stn. (m OD): 3.80
Catchment area (sq km): 16.9
Max alt. (m OD): 137

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.269	0.163	0.325	0.188	0.044	0.033	0.063	0.045	0.043	0.503	0.432	0.171	**0.190**
(m^3s^{-1}):	Peak	7.04	1.15	2.31	1.89	0.11	0.11	0.84	0.62	0.35	1.89	8.75	0.85	**8.75**
Runoff (mm)		43	23	51	29	7	5	10	7	7	80	66	27	**355**
Rainfall (mm)		28	43	76	52	42	75	111	81	54	232	77	44	**915**

Monthly and yearly statistics for previous record (Apr 1950 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.424	0.336	0.243	0.147	0.081	0.054	0.033	0.040	0.054	0.122	0.299	0.377	**0.183**
flows	Low	0.076	0.094	0.054	0.034	0.023	0.012	0.010	0.008	0.009	0.013	0.019	0.033	**0.053**
(m^3s^{-1})	High	1.105	0.958	0.577	0.390	0.195	0.319	0.210	0.125	0.359	0.576	1.017	1.082	**0.306**
Peak flow (m^3s^{-1})		8.84	8.60	8.49	5.94	6.20	7.92	1.89	9.32	8.92	8.82	11.90	8.84	**11.90**
Runoff (mm)		67	48	39	22	13	8	5	6	8	19	46	60	**342**
Rainfall (mm)		83	58	60	49	54	56	55	72	76	87	100	97	**847**

Factors affecting flow regime: N
Station type: MIS

1987 runoff is 104% of previous mean
rainfall 108%

041005 Ouse at Gold Bridge 1987

Measuring authority: SWA
First year: 1960
Grid reference: 51 (TQ) 429 214
Level stn. (m OD): 11.40
Catchment area (sq km): 180.9
Max alt. (m OD): 203

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	3.120	1.873	3.402	3.392	1.197	2.345	1.778	1.019	0.870	12.660	5.998	2.190	**3.320**
(m^3s^{-1}):	Peak	14.87	6.62	13.46	12.00	2.50	16.61	9.40	3.83	2.08	73.71	42.90	7.34	**73.71**
Runoff (mm)		46	25	50	49	18	34	26	15	12	187	86	32	**581**
Rainfall (mm)		21	39	76	54	44	128	103	57	52	257	83	35	**949**

Monthly and yearly statistics for previous record (Mar 1960 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.274	3.501	3.075	2.358	1.749	1.062	0.642	0.746	1.054	1.643	3.312	3.663	**2.251**
flows	Low	1.142	1.240	0.793	0.611	0.450	0.283	0.282	0.157	0.230	0.275	0.384	0.846	**0.934**
(m^3s^{-1})	High	7.762	8.214	6.888	4.318	3.657	3.829	1.903	2.458	4.296	6.602	12.030	7.657	**3.261**
Peak flow (m^3s^{-1})		46.80	71.85	29.86	31.57	26.35	27.91	16.52	33.15	49.01	47.59	86.92	81.06	**86.92**
Runoff (mm)		63	47	46	34	26	15	10	11	15	24	47	54	**393**
Rainfall (mm)		87	55	69	58	63	61	50	67	82	86	103	94	**875**

Factors affecting flow regime: SRPGE
Station type: CBVA

1987 runoff is 148% of previous mean
rainfall 108%

041006 Uck at Isfield 1987

Measuring authority: SWA
First year: 1964
Grid reference: 51 (TQ) 459 190
Level stn. (m OD): 11.30
Catchment area (sq km): 87.8
Max alt. (m OD): 221

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.401	0.855	1.629	1.227	0.435	0.575	0.642	0.488	0.407	6.692	2.533	0.902	**1.482**
(m^3s^{-1}):	Peak	24.66	4.90	20.95	7.79	1.04	4.38	5.40	7.79	2.00	63.04	48.01	2.74	**63.04**
Runoff (mm)		43	24	50	36	13	17	20	15	12	204	75	28	**535**
Rainfall (mm)		24	42	70	45	44	95	105	76	46	244	77	35	**903**

Monthly and yearly statistics for previous record (Dec 1964 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.262	1.783	1.405	1.089	0.780	0.526	0.335	0.359	0.540	0.844	1.729	2.098	**1.143**
flows	Low	0.579	0.627	0.413	0.324	0.252	0.170	0.142	0.106	0.170	0.160	0.211	0.342	**0.480**
(m^3s^{-1})	High	5.307	4.195	3.317	2.183	1.854	1.657	1.489	1.506	2.868	2.527	6.536	4.033	**1.945**
Peak flow (m^3s^{-1})		52.09	75.63	39.12	23.74	28.97	29.59	46.63	33.74	36.40	37.31	64.43	55.58	**75.63**
Runoff (mm)		69	50	43	32	24	16	10	11	16	26	51	64	**411**
Rainfall (mm)		84	58	66	49	59	63	49	64	76	80	95	92	**835**

Factors affecting flow regime: E
Station type: C

1987 runoff is 130% of previous mean
rainfall 108%

041019 Arun at Alfoldean 1987

Measuring authority: SWA
First year: 1970
Grid reference: 51 (TQ) 117 331
Level stn. (m OD): 21.40
Catchment area (sq km): 139.0
Max alt. (m OD): 294

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.161	1.194	2.636	3.189	0.445	0.966	0.857	0.340	0.350	11.580	4.783	1.063	**2.464**
(m^3s^{-1}):	Peak	27.68	8.50	25.46	38.52	1.28	5.85	6.26	1.24	1.01	71.12	58.13	3.46	**71.12**
Runoff (mm)		42	21	51	59	9	18	17	7	7	223	89	20	**562**
Rainfall (mm)		20	36	67	61	45	98	92	45	50	224	77	29	**844**

Monthly and yearly statistics for previous record (May 1970 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.657	2.446	2.358	1.626	1.177	0.736	0.290	0.407	0.689	1.301	2.598	3.227	**1.707**
flows	Low	0.664	0.689	0.469	0.277	0.223	0.131	0.138	0.078	0.161	0.150	0.167	0.492	**0.589**
(m^3s^{-1})	High	6.927	6.708	4.413	3.829	3.313	3.055	1.116	1.618	5.443	6.614	10.030	6.152	**2.845**
Peak flow (m^3s^{-1})		68.63	67.53	54.45	76.97	47.48	46.54	7.27	23.86	56.14	68.58	69.14	77.65	**77.65**
Runoff (mm)		70	43	45	30	23	14	6	8	13	25	48	62	**388**
Rainfall (mm)		86	49	71	48	62	57	42	61	73	78	90	91	**808**

Factors affecting flow regime: E
Station type: CC

1987 runoff is 145% of previous mean
rainfall 104%

041027 Rother at Princes Marsh 1987

Measuring authority: SWA
First year: 1972

Grid reference: 41 (SU) 772 270
Level stn. (m OD): 56.40

Catchment area (sq km): 37.2
Max alt. (m OD): 252

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.613	0.439	0.666	0.694	0.298	0.253	0.204	0.165	0.164	1.088	0.747	0.410	**0.478**
(m^3s^{-1}): Peak	11.34	1.49	5.59	2.85	0.37	1.24	0.80	0.36	0.56	17.84	8.88	1.44	**17.84**
Runoff (mm)	44	29	48	48	21	18	15	12	11	78	52	30	**406**
Rainfall (mm)	19	46	98	73	46	85	79	33	42	261	83	49	**914**

Monthly and yearly statistics for previous record (Nov 1972 to Dec 1986—incomplete or missing months total 0.3 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	0.872	0.688	0.674	0.491	0.403	0.290	0.219	0.236	0.286	0.459	0.607	0.837	**0.505**
Low	0.273	0.320	0.237	0.194	0.158	0.121	0.120	0.106	0.168	0.165	0.167	0.348	**0.288**
(m^3s^{-1}) High	1.485	1.409	1.220	0.684	0.641	0.471	0.300	0.493	0.949	1.011	1.855	1.299	**0.696**
Peak flow (m^3s^{-1})	15.63	13.72	10.71	6.83	7.20	4.68	2.17	4.55	12.97	68.03	16.60	22.19	**68.03**
Runoff (mm)	63	45	49	34	29	20	16	17	20	33	42	60	**428**
Rainfall (mm)	98	55	82	43	69	54	52	64	84	85	90	113	**889**

Factors affecting flow regime: GE
Station type: C

1987 runoff is 95% of previous mean
rainfall 103%

042003 Lymington at Brockenhurst Park 1987

Measuring authority: SWA
First year: 1960

Grid reference: 41 (SU) 318 019
Level stn. (m OD): 6.10

Catchment area (sq km): 98.9
Max alt. (m OD): 114

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	1.106	1.350	2.309	1.906	0.278	0.348	0.460	0.073	0.125	1.653	1.628	1.027	**1.022**
(m^3s^{-1}): Peak	9.14	8.96	10.13	10.13	0.72	3.76	7.69	0.23	0.40	10.13	10.09	4.79	**10.13**
Runoff (mm)	30	33	63	50	8	9	12	2	3	45	43	28	**325**
Rainfall (mm)	17	69	104	74	26	67	70	19	39	186	79	54	**804**

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1986—incomplete or missing months total 0.2 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	1.839	1.644	1.437	1.009	0.838	0.462	0.235	0.279	0.454	1.005	1.398	1.628	**1.016**
Low	0.330	0.439	0.327	0.168	0.128	0.042	0.013	0.014	0.084	0.128	0.198	0.541	**0.407**
(m^3s^{-1}) High	3.723	3.459	3.089	2.169	1.569	1.247	1.603	0.847	2.308	4.841	5.283	3.294	**1.340**
Peak flow (m^3s^{-1})	9.91	13.62	8.64	8.32	13.98	7.95	11.38	8.16	8.47	11.28	13.54	14.91	**14.91**
Runoff (mm)	50	41	39	26	23	12	6	8	12	27	37	44	**324**
Rainfall (mm)	89	57	69	51	65	57	43	64	77	84	94	95	**845**

Factors affecting flow regime: N
Station type: VN

1987 runoff is 100% of previous mean
rainfall 95%

042006 Meon at Mislingford 1987

Measuring authority: SWA
First year: 1958

Grid reference: 41 (SU) 589 141
Level stn. (m OD): 29.30

Catchment area (sq km): 72.8
Max alt. (m OD): 233

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	1.759	1.286	1.243	2.021	1.310	0.824	0.496	0.349	0.256	0.831	1.686	1.431	**1.124**
(m^3s^{-1}): Peak	2.48	1.65	2.20	2.48	1.79	1.10	1.02	0.52	0.34	1.68	2.28	1.80	**2.48**
Runoff (mm)	65	43	46	72	48	29	18	13	9	31	60	53	**486**
Rainfall (mm)	13	51	106	79	40	76	72	29	41	261	88	54	**910**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	1.555	1.765	1.653	1.371	1.035	0.754	0.539	0.406	0.360	0.525	0.824	1.143	**0.992**
Low	0.463	0.480	0.427	0.335	0.164	0.120	0.079	0.068	0.102	0.110	0.124	0.186	**0.334**
(m^3s^{-1}) High	3.470	3.300	2.820	1.988	1.738	1.220	0.827	0.657	0.882	2.309	4.126	3.917	**1.815**
Peak flow (m^3s^{-1})	3.51	4.02	3.26	2.83	2.06	1.50	1.23	1.07	0.96	1.50	2.83	3.77	**4.02**
Runoff (mm)	57	60	61	49	38	27	20	15	13	19	29	42	**430**
Rainfall (mm)	100	59	76	57	69	58	53	73	83	89	103	106	**926**

Factors affecting flow regime: G
Station type: FL

1987 runoff is 113% of previous mean
rainfall 98%

042008 Cheriton Stream at Sewards Bridge 1987

Measuring authority: SWA
First year: 1970

Grid reference: 41 (SU) 574 323
Level stn. (m OD): 55.80

Catchment area (sq km): 75.1
Max alt. (m OD): 234

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.916	0.758	0.727	0.984	0.823	0.588	0.457	0.382	0.324	0.548	0.789	0.762	**0.671**
(m^3s^{-1}): Peak	1.09	0.88	0.98	1.09	1.02	0.81	0.57	0.50	0.40	0.85	1.13	1.07	**1.13**
Runoff (mm)	33	24	26	34	29	20	16	14	11	20	27	27	**282**
Rainfall (mm)	14	48	98	81	40	77	71	29	41	241	87	50	**877**

Monthly and yearly statistics for previous record (Jul 1970 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	0.830	0.940	0.904	0.829	0.680	0.571	0.473	0.410	0.382	0.424	0.520	0.707	**0.638**
Low	0.521	0.495	0.409	0.320	0.271	0.218	0.183	0.165	0.207	0.279	0.278	0.320	**0.408**
(m^3s^{-1}) High	1.293	1.443	1.410	1.065	0.857	0.959	0.797	0.708	0.560	0.672	0.980	1.278	**0.768**
Peak flow (m^3s^{-1})	1.69	1.83	1.68	1.39	1.26	2.02	1.25	1.28	0.77	0.91	1.23	1.85	**2.02**
Runoff (mm)	30	31	32	29	24	20	17	15	13	15	18	25	**268**
Rainfall (mm)	100	59	80	47	66	59	54	66	78	80	101	107	**897**

Factors affecting flow regime: N
Station type: C

1987 runoff is 105% of previous mean
rainfall 98%

042012 Anton at Fullerton 1987

Measuring authority: SWA | Grid reference: 41 (SU) 379 393 | Catchment area (sq km): 185.0
First year: 1975 | Level stn. (m OD): 40.50 | Max alt. (m OD): 253

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.493	2.195	2.260	2.618	2.143	1.856	1.526	1.278	1.259	1.459	1.828	1.747	**1.888**
(m^3s^{-1}):	Peak													
Runoff (mm)		36	29	33	37	31	26	22	19	18	21	26	25	**321**
Rainfall (mm)		13	47	71	64	37	86	57	17	49	147	69	37	**694**

Monthly and yearly statistics for previous record (Jan 1975 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.254	2.495	2.525	2.454	2.141	1.861	1.523	1.376	1.301	1.382	1.523	1.866	**1.888**
flows	Low	1.301	1.215	1.047	0.948	0.830	0.691	0.626	0.548	0.688	1.015	1.003	1.417	**1.010**
(m^3s^{-1})	High	3.132	3.691	3.373	3.123	2.842	2.817	2.196	1.784	1.536	1.888	2.116	2.855	**2.242**
Peak flow (m^3s^{-1})														
Runoff (mm)		33	33	37	34	31	26	22	20	18	20	21	27	**322**
Rainfall (mm)		80	47	81	41	66	49	40	64	65	71	72	107	**783**

Factors affecting flow regime: N
Station type: C

1987 runoff is 100% of previous mean
rainfall 89%

043006 Nadder at Wilton Park 1987

Measuring authority: WWA | Grid reference: 41 (SU) 098 308 | Catchment area (sq km): 220.6
First year: 1966 | Level stn. (m OD): 51.10 | Max alt. (m OD): 277

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.766	3.223	3.863	5.936	2.995	1.793	1.360	1.028	1.005	1.739	2.803	2.466	**2.748**
(m^3s^{-1}):	Peak	11.68	6.15	11.00	11.04	4.15	2.44	2.82	1.35	1.82	6.59	9.77	5.00	**11.68**
Runoff (mm)		58	35	47	70	36	21	17	12	12	21	33	30	**392**
Rainfall (mm)		16	65	96	70	33	76	45	24	51	162	74	56	**768**

Monthly and yearly statistics for previous record (Jan 1966 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.793	5.160	4.432	3.208	2.493	1.990	1.523	1.365	1.367	1.799	2.615	3.987	**2.884**
flows	Low	1.011	1.263	1.358	1.048	0.993	0.839	0.684	0.595	0.823	0.829	0.905	1.219	**1.535**
(m^3s^{-1})	High	6.773	8.196	6.732	5.272	4.044	3.283	2.234	2.040	3.093	3.537	6.413	7.030	**3.821**
Peak flow (m^3s^{-1})		22.71	17.57	18.80	14.27	28.13	8.83	13.39	6.61	16.68	10.99	22.90	47.88	**47.88**
Runoff (mm)		58	57	54	38	30	23	18	17	16	22	31	48	**412**
Rainfall (mm)		98	70	80	51	72	62	52	73	79	82	91	107	**917**

Factors affecting flow regime: N
Station type: C

1987 runoff is 95% of previous mean
rainfall 84%

043007 Stour at Throop Mill 1987

Measuring authority: WWA | Grid reference: 40 (SZ) 113 958 | Catchment area (sq km): 1073.0
First year: 1973 | Level stn. (m OD): 4.40 | Max alt. (m OD): 277

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	22.180	17.930	22.150	27.060	9.548	6.236	4.428	3.248	3.121	8.335	16.060	10.320	**12.551**
(m^3s^{-1}):	Peak	63.59	45.72	69.55	88.24	15.18	9.78	7.17	4.26	3.88	23.94	57.81	33.51	**88.24**
Runoff (mm)		55	40	55	65	24	15	11	8	8	21	39	26	**367**
Rainfall (mm)		14	75	84	72	28	74	44	25	47	163	74	56	**756**

Monthly and yearly statistics for previous record (Jan 1973 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	24.740	24.480	20.700	13.720	9.888	6.828	4.608	4.488	5.319	9.107	13.920	23.870	**13.427**
flows	Low	4.319	6.826	7.548	4.483	3.157	2.231	1.614	1.358	2.413	2.716	2.823	6.386	**6.138**
(m^3s^{-1})	High	38.730	42.200	32.620	22.660	18.900	16.940	7.932	8.998	20.340	29.770	36.730	40.270	**17.377**
Peak flow (m^3s^{-1})		116.60	131.50	110.24	61.56	150.00	180.00	47.60	32.41	90.33	101.90	133.40	280.00	**280.00**
Runoff (mm)		62	56	52	33	25	16	12	11	13	23	34	60	**395**
Rainfall (mm)		91	63	79	41	65	56	50	66	80	79	84	114	**868**

Factors affecting flow regime: I
Station type: CC

1987 runoff is 93% of previous mean
rainfall 87%

044002 Piddle at Baggs Mill 1987

Measuring authority: WWA | Grid reference: 30 (SY) 913 876 | Catchment area (sq km): 183.1
First year: 1963 | Level stn. (m OD): 2.10 | Max alt. (m OD): 275

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.446	3.284	3.335	4.726	2.638	1.868	1.278	0.985	0.914	1.351	1.846	1.904	**2.381**
(m^3s^{-1}):	Peak	8.02	6.78	6.39	8.63	3.88	3.23	1.73	1.14	1.14	1.66	4.83	2.98	**8.63**
Runoff (mm)		65	43	49	67	39	26	19	14	13	20	26	28	**409**
Rainfall (mm)		14	95	94	81	23	90	39	19	52	181	83	75	**846**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.689	4.359	3.925	2.947	2.192	1.685	1.249	1.102	1.116	1.448	2.154	2.998	**2.395**
flows	Low	1.045	1.020	1.093	0.945	0.757	0.571	0.483	0.433	0.604	0.805	0.721	0.853	**1.328**
(m^3s^{-1})	High	5.959	6.616	6.202	4.782	3.376	2.907	1.755	1.526	2.300	3.106	5.047	5.654	**3.233**
Peak flow (m^3s^{-1})		11.87	9.18	9.37	6.48	8.11	9.23	4.79	4.50	8.18	9.29	9.20	8.62	**11.87**
Runoff (mm)		54	58	57	42	32	24	18	16	16	21	30	44	**413**
Rainfall (mm)		110	77	85	50	72	59	49	66	86	90	109	117	**970**

Factors affecting flow regime: I
Station type: FL

1987 runoff is 99% of previous mean
rainfall 87%

045003 Culm at Wood Mill 1987

Measuring authority: SWWA | Grid reference: 31 (ST) 021 058 | Catchment area (sq km): 226.1
First year: 1962 | Level stn. (m OD): 44.00 | Max alt. (m OD): 293

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	4.531	5.150	4.637	7.445	1.948	2.044	1.440	1.090	1.179	5.324	5.111	3.076	**3.581**
Peak	30.56	23.56	22.15	61.98	2.78	11.49	6.12	2.52	2.55	23.59	27.01	13.10	**61.98**
Runoff (mm)	54	55	55	85	23	23	17	13	14	63	59	36	**497**
Rainfall (mm)	24	85	72	102	38	79	51	26	45	201	79	54	**856**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	6.760	6.294	5.066	3.344	2.891	2.041	1.768	1.658	1.928	2.880	4.464	6.201	**3.765**
Low	1.930	2.251	2.392	1.318	1.085	0.803	0.650	0.569	0.971	0.971	1.287	2.479	**2.277**
High	12.870	11.820	9.184	6.649	6.337	4.449	5.200	2.787	7.328	11.430	8.191	11.880	**4.840**
Peak flow (m^3s^{-1})	110.70	100.10	50.11	41.63	33.82	30.58	202.20	58.62	94.16	45.87	134.50	142.80	**202.20**
Runoff (mm)	80	68	60	38	34	23	21	20	22	34	51	73	**525**
Rainfall (mm)	113	80	87	57	72	63	58	68	79	84	99	115	**975**

Factors affecting flow regime: PGEI | 1987 runoff is 95% of previous mean
Station type: VA | rainfall 88%

045005 Otter at Dotton 1987

Measuring authority: SWWA | Grid reference: 30 (SY) 087 885 | Catchment area (sq km): 202.5
First year: 1963 | Level stn. (m OD): 14.50 | Max alt. (m OD): 299

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	2.974	3.974	3.274	5.944	1.519	1.721	1.168	1.004	1.101	3.932	3.489	2.290	**2.699**
Peak	24.01	35.86	21.17	66.70	2.97	6.89	2.71	1.96	2.08	22.64	19.45	9.76	**66.70**
Runoff (mm)	39	47	43	76	20	22	15	13	14	52	45	30	**418**
Rainfall (mm)	22	96	70	108	40	96	37	22	52	200	76	60	**879**

Monthly and yearly statistics for previous record (Mar 1963 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	5.798	5.160	4.282	2.759	2.466	1.793	1.536	1.440	1.643	2.547	3.717	5.175	**3.186**
Low	1.502	1.308	1.908	1.150	0.941	0.716	0.587	0.542	0.980	1.051	1.257	1.758	**2.071**
High	9.989	10.880	7.293	5.391	5.354	3.080	4.771	2.568	4.580	9.655	8.772	9.875	**3.946**
Peak flow (m^3s^{-1})	100.80	73.08	65.25	69.66	80.38	45.87	346.90	51.03	66.91	47.58	84.95	123.60	**346.90**
Runoff (mm)	77	62	57	35	33	23	20	19	21	34	48	68	**496**
Rainfall (mm)	120	84	89	58	74	62	57	67	75	87	99	117	**989**

Factors affecting flow regime: SRPGEI | 1987 runoff is 84% of previous mean
Station type: VA | rainfall 89%

046002 Teign at Preston 1987

Measuring authority: SWWA | Grid reference: 20 (SX) 856 746 | Catchment area (sq km): 380.0
First year: 1956 | Level stn. (m OD): 3.80 | Max alt. (m OD): 604

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	9.718	9.423	10.950	19.820	3.685	3.803	1.978	1.295	1.512	10.200	10.930	10.550	**7.822**
Peak	29.09	33.21	106.66	134.47	5.79	37.26	4.44	2.63	3.26	51.01	66.12	44.63	**134.47**
Runoff (mm)	69	60	77	135	26	26	14	9	10	72	75	74	**647**
Rainfall (mm)	28	103	104	130	45	82	59	15	65	235	109	110	**1085**

Monthly and yearly statistics for previous record (May 1956 to Dec 1986—incomplete or missing months total 0.1 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	19.620	18.090	12.990	8.406	5.750	3.651	2.410	2.566	3.564	7.584	11.280	17.210	**9.391**
Low	3.341	5.534	4.878	3.514	1.827	1.114	0.731	0.472	0.752	0.916	1.976	4.954	**5.212**
High	36.080	38.750	29.940	21.960	17.270	9.522	7.334	5.993	14.080	41.570	28.960	37.820	**15.681**
Peak flow (m^3s^{-1})	172.70	198.20	146.60	122.50	86.08	81.35	98.87	96.61	312.80	190.00	169.99	248.40	**312.80**
Runoff (mm)	138	116	92	57	41	25	17	18	24	53	77	121	**780**
Rainfall (mm)	161	113	111	74	84	67	67	88	101	119	135	162	**1282**

Factors affecting flow regime: SRPGEI | 1987 runoff is 83% of previous mean
Station type: VA | rainfall 85%

046003 Dart at Austins Bridge 1987

Measuring authority: SWWA | Grid reference: 20 (SX) 751 659 | Catchment area (sq km): 247.6
First year: 1958 | Level stn. (m OD): 22.40 | Max alt. (m OD): 604

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	9.120	10.410	13.870	17.640	3.154	6.643	2.928	1.742	2.311	17.420	13.520	14.820	**9.465**
Peak	37.03	68.72	236.12	157.99	5.40	153.41	12.88	5.50	12.24	111.93	109.98	109.34	**236.12**
Runoff (mm)	99	102	150	185	34	70	32	19	24	188	142	160	**1204**
Rainfall (mm)	36	160	179	167	52	149	73	24	102	329	172	210	**1653**

Monthly and yearly statistics for previous record (Oct 1958 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	20.110	16.880	13.900	9.926	7.503	5.001	3.748	4.838	5.902	10.680	15.210	19.760	**11.101**
Low	5.435	4.270	5.731	3.566	2.220	1.456	0.996	0.713	0.905	1.229	5.048	8.650	**7.304**
High	36.680	37.760	33.520	22.720	14.530	14.260	10.930	12.590	26.290	28.000	33.400	35.540	**15.592**
Peak flow (m^3s^{-1})	284.00	309.40	218.30	187.40	98.88	253.00	206.50	222.16	327.60	168.20	317.80	549.70	**549.70**
Runoff (mm)	218	166	150	104	81	52	41	52	62	115	159	214	**1415**
Rainfall (mm)	233	154	165	113	110	92	91	123	136	173	204	237	**1831**

Factors affecting flow regime: SRPGEI | 1987 runoff is 85% of previous mean
Station type: VA | rainfall 90%

047007 Yealm at Puslinch 1987

Measuring authority: SWWA
First year: 1963

Grid reference: 20 (SX) 574 511
Level stn. (m OD): 5.50

Catchment area (sq km): 54.9
Max alt. (m OD): 492

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	1.387	1.517	2.142	2.931	0.455	0.866	0.465	0.236	0.268	1.837	2.363	1.763	**1.353**
(m^3s^{-1}): Peak	9.69	10.20	24.54	24.11	1.10	21.74	3.05	0.51	0.97	9.01	18.39	18.53	**24.54**
Runoff (mm)	68	67	105	138	22	41	23	12	13	90	112	86	**775**
Rainfall (mm)	21	134	149	122	55	138	68	25	79	240	153	141	**1325**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986—incomplete or missing months total 0.2 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean Avg.	3.052	2.801	2.114	1.342	1.024	0.808	0.572	0.686	0.820	1.392	2.252	2.963	**1.647**
flows Low	0.563	1.015	0.659	0.572	0.327	0.171	0.095	0.057	0.183	0.121	0.373	1.171	**1.052**
(m^3s^{-1}) High	4.814	5.806	5.290	3.646	1.997	2.377	1.863	1.957	3.630	3.808	4.881	6.108	**2.210**
Peak flow (m^3s^{-1})	26.66	23.24	24.11	20.53	17.53	23.47	25.22	27.86	21.33	22.29	26.62	25.18	**27.86**
Runoff (mm)	149	125	103	63	50	38	28	33	39	68	106	145	**947**
Rainfall (mm)	171	125	130	77	98	90	81	104	114	129	161	176	**1456**

Factors affecting flow regime: PGEI
Station type: FLVA

1987 runoff is 82% of previous mean
rainfall 91%

047008 Thrushel at Tinhay 1987

Measuring authority: SWWA
First year: 1969

Grid reference: 20 (SX) 398 856
Level stn. (m OD): 55.50

Catchment area (sq km): 112.7
Max alt. (m OD): 375

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	2.214	2.232	3.418	2.218	0.410	0.683	0.537	0.187	0.161	5.161	4.225	2.776	**2.019**
(m^3s^{-1}): Peak	13.73	14.94	34.53	11.87	1.36	7.60	5.56	1.16	1.18	32.36	26.67	14.45	**34.53**
Runoff (mm)	53	48	81	51	10	16	13	4	4	123	97	66	**565**
Rainfall (mm)	28	89	114	61	55	94	69	28	65	240	124	88	**1055**

Monthly and yearly statistics for previous record (Nov 1969 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean Avg.	5.282	3.976	3.116	1.622	1.198	0.746	0.379	0.781	1.044	2.261	3.858	5.027	**2.436**
flows Low	1.317	0.951	1.428	0.481	0.237	0.110	0.028	0.019	0.116	0.069	0.442	2.405	**1.640**
(m^3s^{-1}) High	9.701	8.826	7.477	4.038	4.209	2.491	1.095	2.916	6.671	6.878	7.195	8.122	**3.750**
Peak flow (m^3s^{-1})	53.32	61.78	61.46	27.72	38.72	57.13	9.89	33.64	75.12	55.86	57.07	124.40	**124.40**
Runoff (mm)	126	86	74	37	28	17	9	19	24	54	89	119	**682**
Rainfall (mm)*	151	94	102	58	71	74	65	90	96	107	135	146	**1189**

*(1970-1986)

Factors affecting flow regime: GE
Station type: CC

1987 runoff is 83% of previous mean
rainfall 89%

048004 Warleggan at Trengoffe 1987

Measuring authority: SWWA
First year: 1969

Grid reference: 20 (SX) 159 674
Level stn. (m OD): 70.30

Catchment area (sq km): 25.3
Max alt. (m OD): 308

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.954	0.831	0.907	1.051	0.436	0.434	0.541	0.395	0.312	1.247	1.272	0.843	**0.769**
(m^3s^{-1}): Peak	2.39	2.17	3.57	3.30	0.77	2.00	2.31	1.00	0.91	5.17	3.84	2.19	**5.17**
Runoff (mm)	101	79	96	108	46	44	57	42	32	132	130	89	**958**
Rainfall (mm)	30	128	120	87	58	120	129	44	73	285	160	110	**1344**

Monthly and yearly statistics for previous record (Oct 1969 to Dec 1986—incomplete or missing months total 0.3 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean Avg.	1.489	1.404	1.024	0.711	0.531	0.426	0.328	0.384	0.465	0.653	1.015	1.399	**0.816**
flows Low	0.744	0.751	0.585	0.403	0.288	0.208	0.151	0.118	0.177	0.208	0.233	0.907	**0.624**
(m^3s^{-1}) High	2.584	2.906	1.588	1.234	0.978	0.904	0.688	0.950	1.677	1.557	1.775	1.949	**1.228**
Peak flow (m^3s^{-1})	14.31	14.85	5.27	4.59	3.19	5.96	4.35	8.60	14.85	7.86	15.38	11.25	**15.38**
Runoff (mm)	158	135	108	73	56	44	35	41	48	69	104	148	**1018**
Rainfall (mm)*	190	116	130	68	84	88	84	109	126	135	170	185	**1485**

*(1970-1986)

Factors affecting flow regime: G
Station type: CC

1987 runoff is 94% of previous mean
rainfall 91%

048005 Kenwyn at Truro 1987

Measuring authority: SWWA
First year: 1968

Grid reference: 10 (SW) 820 450
Level stn. (m OD): 7.20

Catchment area (sq km): 19.1
Max alt. (m OD): 152

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.397	0.387	0.353	0.521	0.152	0.111	0.073	0.052	0.052	0.379	0.704	0.515	**0.308**
(m^3s^{-1}): Peak	0.91	1.22	2.13	4.07	0.27	0.81	0.44	0.42	0.31	2.31	2.12	1.48	**4.07**
Runoff (mm)	56	49	50	71	21	15	10	7	7	53	96	72	**507**
Rainfall (mm)	21	90	85	80	36	72	51	32	54	220	127	100	**968**

Monthly and yearly statistics for previous record (Oct 1968 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean Avg.	0.825	0.778	0.547	0.316	0.200	0.143	0.090	0.091	0.116	0.243	0.473	0.756	**0.380**
flows Low	0.283	0.333	0.228	0.162	0.124	0.070	0.043	0.026	0.037	0.034	0.046	0.436	**0.264**
(m^3s^{-1}) High	1.322	1.536	0.917	0.613	0.418	0.358	0.162	0.179	0.564	0.633	1.093	1.091	**0.544**
Peak flow (m^3s^{-1})	5.88	7.19	5.74	2.93	1.41	3.71	2.79	2.29	4.10	5.94	9.74	13.35	**13.35**
Runoff (mm)	116	99	77	43	28	19	13	13	16	34	64	106	**627**
Rainfall (mm)	150	101	98	54	67	65	54	77	88	103	132	146	**1135**

Factors affecting flow regime: G
Station type: CC

1987 runoff is 81% of previous mean
rainfall 85%

048011 Fowey at Restormel 1987

Measuring authority: SWWA
First year: 1961

Grid reference: 20 (SX) 098 624
Level stn. (m OD): 9.20

Catchment area (sq km): 169.1
Max alt. (m OD): 420

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	5.141	4.748	5.620	6.176	1.619	1.756	2.603	1.530	1.324	7.554	7.114	4.401	**4.132**
Peak	14.64	10.93	24.34	20.20	2.88	9.80	13.20	3.11	3.40	31.09	24.34	12.78	**31.09**
Runoff (mm)	81	68	89	95	26	27	41	24	20	120	109	70	**770**
Rainfall (mm)	31	128	129	90	57	119	112	42	77	285	160	122	**1352**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	9.448	8.321	6.057	4.059	3.129	2.236	1.814	2.093	2.646	4.436	6.822	9.469	**5.032**
Low	3.071	3.304	2.727	1.808	1.048	0.693	0.563	0.343	0.673	0.617	0.921	5.796	**3.493**
High	17.330	21.780	12.130	7.641	6.447	5.479	4.859	6.044	10.490	11.720	15.450	20.890	**7.440**
Peak flow (m^3s^{-1})	104.80	111.90	45.62	24.52	22.62	39.44	31.10	48.51	70.02	35.07	223.70	126.60	**223.70**
Runoff (mm)	150	120	96	62	50	34	29	33	41	70	105	150	**939**
Rainfall (mm)	185	117	131	79	95	89	91	110	124	133	173	190	**1517**

Factors affecting flow regime: SRPGEI
Station type: CC

1987 runoff is 82% of previous mean
rainfall 89%

049001 Camel at Denby 1987

Measuring authority: SWWA
First year: 1964

Grid reference: 20 (SX) 017 682
Level stn. (m OD): 4.60

Catchment area (sq km): 208.8
Max alt. (m OD): 420

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	6.530	5.623	6.546	7.836	2.469	2.694	3.279	1.966	1.517	12.410	10.750	6.135	**5.646**
Peak	17.70	9.65	29.99	27.15	4.16	12.51	22.86	4.20	3.94	78.34	44.29	16.48	**78.34**
Runoff (mm)	84	65	84	97	32	33	42	25	19	159	133	79	**853**
Rainfall (mm)	25	111	119	87	55	108	98	46	68	280	150	101	**1248**

Monthly and yearly statistics for previous record (Sep 1964 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	11.390	9.589	6.931	4.411	3.375	2.449	2.213	2.548	2.977	5.114	7.811	11.320	**5.832**
Low	4.833	4.249	2.835	2.081	0.960	0.888	0.582	0.421	0.798	0.882	1.371	6.552	**4.081**
High	19.600	20.940	16.420	9.395	8.491	5.463	7.322	7.858	11.920	16.640	17.990	19.110	**8.165**
Peak flow (m^3s^{-1})	67.71	80.21	94.75	35.42	23.98	45.32	40.59	63.98	125.80	92.14	94.75	227.90	**227.90**
Runoff (mm)	146	112	89	55	43	30	28	33	37	66	97	145	**881**
Rainfall (mm)	173	105	118	72	87	87	91	103	118	130	156	171	**1411**

Factors affecting flow regime: PGE
Station type: VA

1987 runoff is 97% of previous mean
rainfall 88%

049002 Hayle at St Erth 1987

Measuring authority: SWWA
First year: 1957

Grid reference: 10 (SW) 549 342
Level stn. (m OD): 7.00

Catchment area (sq km): 48.9
Max alt. (m OD): 238

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	1.800	1.344	1.151	1.643	0.754	0.573	0.380	0.288	0.271	0.770	1.549	1.444	**0.997**
Peak	2.66	1.89	2.11	3.87	1.16	1.04	0.45	0.41	0.37	1.95	2.58	1.79	**3.87**
Runoff (mm)	99	67	63	87	41	30	21	16	14	42	82	79	**641**
Rainfall (mm)	37	77	85	79	40	104	41	31	56	219	131	93	**993**

Monthly and yearly statistics for previous record (Oct 1957 to Dec 1986—incomplete or missing months total 9.3 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	1.948	2.044	1.587	1.051	0.680	0.508	0.402	0.347	0.361	0.462	0.904	1.579	**0.985**
Low	0.746	0.863	0.810	0.573	0.445	0.335	0.237	0.167	0.193	0.179	0.181	0.503	**0.653**
High	2.849	3.426	2.582	1.641	1.464	0.859	1.063	0.743	1.067	1.140	2.297	2.584	**1.258**
Peak flow (m^3s^{-1})	6.20	6.73	5.83	3.07	2.36	1.72	1.99	2.27	1.88	2.02	3.81	6.31	**6.73**
Runoff (mm)	107	102	87	56	37	27	22	19	19	25	48	87	**635**
Rainfall (mm)	139	107	103	52	66	68	58	77	94	100	124	140	**1128**

Factors affecting flow regime: G
Station type: CC

1987 runoff is 101% of previous mean
rainfall 88%

050002 Torridge at Torrington 1987

Measuring authority: SWWA
First year: 1962

Grid reference: 21 (SS) 500 185
Level stn. (m OD): 13.90

Catchment area (sq km): 663.0
Max alt. (m OD): 621

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows (m^3s^{-1}): Avg.	16.210	16.060	27.750	18.950	2.421	4.310	2.448	1.141	1.492	37.210	37.160	19.210	**15.363**
Peak	184.73	86.48	264.39	151.25	5.20	31.75	16.04	4.25	6.03	194.41	263.75	150.39	**264.39**
Runoff (mm)	65	59	112	74	10	17	10	5	6	150	145	78	**730**
Rainfall (mm)	28	95	121	75	54	94	63	29	73	245	149	97	**1123**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows (m^3s^{-1}) Avg.	30.320	23.780	18.080	10.930	8.574	4.910	4.355	5.347	7.045	14.700	26.640	32.140	**15.541**
Low	5.018	4.695	5.792	3.082	1.594	1.092	0.443	0.252	0.954	0.668	3.798	10.270	**8.968**
High	57.510	47.590	51.280	28.120	31.290	14.960	21.540	19.690	45.910	49.230	55.730	64.530	**21.036**
Peak flow (m^3s^{-1})	391.10	294.40	535.60	164.40	205.70	181.30	310.60	228.50	415.00	225.00	370.40	730.00	**730.00**
Runoff (mm)	122	87	73	43	35	19	18	22	28	59	104	130	**740**
Rainfall (mm)	130	85	97	66	76	74	72	86	97	108	137	134	**1162**

Factors affecting flow regime: SRPGEI
Station type: VA

1987 runoff is 99% of previous mean
rainfall 97%

052006 Yeo at Pen Mill 1987

Measuring authority: WWA
First year: 1963
Grid reference: 31 (ST) 573 162
Level stn. (m OD): 23.90
Catchment area (sq km): 213.1
Max alt. (m OD): 265

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.432	2.772	3.470	4.059	0.858	0.896	0.530	0.404	0.464	2.006	3.462	2.163	**1.960**
(m^3s^{-1}):	Peak	18.52	13.81	39.98	38.77	2.07	4.83	0.86	1.04	1.87	12.31	21.78	10.17	**39.98**
Runoff (mm)		31	31	44	49	11	11	7	5	6	25	42	27	**289**
Rainfall (mm)		13	71	72	78	26	94	32	24	48	163	73	60	**754**

Monthly and yearly statistics for previous record (Nov 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	5.335	4.460	3.646	1.954	1.661	1.089	0.651	0.709	0.943	2.018	3.521	4.662	**2.547**
flows	Low	0.485	1.168	0.909	0.532	0.356	0.229	0.193	0.165	0.316	0.372	0.455	1.079	**1.093**
(m^3s^{-1})	High	8.612	10.060	7.060	4.223	4.510	2.498	1.909	1.607	5.174	9.808	12.780	9.099	**3.594**
Peak flow (m^3s^{-1})		99.93	119.30	57.33	21.80	130.00	39.38	35.74	27.53	27.64	54.94	77.52	138.90	**138.90**
Runoff (mm)		67	51	46	24	21	13	8	9	11	25	43	59	**377**
Rainfall (mm)		99	68	78	47	72	60	54	68	76	78	92	104	**896**

Factors affecting flow regime: S
Station type: C VA

1987 runoff is 77% of previous mean
rainfall 84%

052007 Parrett at Chiselborough 1987

Measuring authority: WWA
First year: 1966
Grid reference: 31 (ST) 461 144
Level stn. (m OD): 20.70
Catchment area (sq km): 74.8
Max alt. (m OD): 219

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.072	1.280	1.258	1.868	0.413	0.515	0.319	0.273	0.287	1.222	1.790	1.034	**0.944**
(m^3s^{-1}):	Peak	9.52	7.32	15.57	17.95	0.64	2.26	0.50	0.51	0.48	11.17	13.44	5.48	**17.95**
Runoff (mm)		38	41	45	65	15	18	11	10	10	44	62	37	**396**
Rainfall (mm)		13	66	61	77	25	112	29	24	47	171	70	62	**757**

Monthly and yearly statistics for previous record (Aug 1966 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.466	1.888	1.565	0.805	0.771	0.514	0.357	0.368	0.442	1.012	1.350	2.178	**1.141**
flows	Low	0.258	0.593	0.523	0.285	0.206	0.130	0.106	0.090	0.145	0.186	0.218	0.523	**0.564**
(m^3s^{-1})	High	4.914	3.865	3.055	1.581	2.048	1.053	0.921	0.988	2.225	4.819	3.789	3.917	**1.534**
Peak flow (m^3s^{-1})		36.38	27.14	27.46	12.34	57.21	12.81	16.14	23.88	15.29	27.22	29.12	44.94	**57.21**
Runoff (mm)		88	62	56	28	28	18	13	13	15	36	47	78	**482**
Rainfall (mm)		109	72	82	43	75	64	53	70	77	85	89	110	**929**

Factors affecting flow regime: N
Station type: C

1987 runoff is 82% of previous mean
rainfall 81%

052010 Brue at Lovington 1987

Measuring authority: WWA
First year: 1964
Grid reference: 31 (ST) 590 318
Level stn. (m OD): 19.80
Catchment area (sq km): 135.2
Max alt. (m OD): 244

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.259	2.197	2.870	2.836	0.451	0.541	0.342	0.275	0.276	1.557	2.623	1.221	**1.454**
(m^3s^{-1}):	Peak	19.65	8.51	22.44	23.97	0.89	10.04	0.82	0.75	0.54	15.46	18.42	4.83	**23.97**
Runoff (mm)		45	39	57	54	9	10	7	5	5	31	50	24	**337**
Rainfall (mm)		19	74	70	73	48	89	37	36	54	138	71	45	**754**

Monthly and yearly statistics for previous record (Oct 1964 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.623	3.246	2.586	1.525	1.288	0.841	0.847	0.835	0.809	1.338	2.304	3.623	**1.901**
flows	Low	0.743	0.910	0.844	0.526	0.313	0.217	0.150	0.130	0.247	0.190	0.407	1.034	**1.153**
(m^3s^{-1})	High	5.752	6.872	5.263	3.352	3.554	2.203	4.081	2.449	4.873	4.380	4.883	6.158	**2.427**
Peak flow (m^3s^{-1})		47.28	47.07	43.49	27.19	95.48	35.46	83.00	48.42	69.42	44.05	74.62	57.76	**95.48**
Runoff (mm)		72	59	51	29	26	16	17	17	16	27	44	72	**444**
Rainfall (mm)		90	65	75	51	71	67	69	75	78	71	89	98	**899**

Factors affecting flow regime: N
Station type: C VA

1987 runoff is 76% of previous mean
rainfall 84%

053004 Chew at Compton Dando 1987

Measuring authority: WWA
First year: 1958
Grid reference: 31 (ST) 648 647
Level stn. (m OD): 16.80
Catchment area (sq km): 129.5
Max alt. (m OD): 305

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.525	1.425	2.316	1.771	0.795	0.584	0.427	0.454	0.413	0.805	1.689	0.763	**1.081**
(m^3s^{-1}):	Peak	9.90	7.90	19.88	7.04	1.30	1.34	0.67	0.76	0.59	3.55	15.77	2.31	**19.88**
Runoff (mm)		32	27	48	35	16	12	9	9	8	17	34	16	**262**
Rainfall (mm)		25	78	81	63	37	85	47	29	60	169	93	58	**825**

Monthly and yearly statistics for previous record (Mar 1958 to Dec 1986—incomplete or missing months total 1.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.909	1.703	1.368	0.978	0.847	0.612	0.464	0.462	0.574	0.806	1.246	1.804	**1.062**
flows	Low	0.444	0.557	0.410	0.469	0.333	0.287	0.243	0.195	0.232	0.300	0.264	0.622	**0.540**
(m^3s^{-1})	High	3.935	4.166	4.210	2.185	2.493	1.211	0.811	1.245	2.135	3.251	3.898	5.017	**1.766**
Peak flow (m^3s^{-1})		39.43	48.99	50.00	14.19	67.50	13.00	6.23	6.09	59.26	49.56	38.83	63.78	**67.50**
Runoff (mm)		39	32	28	20	18	12	10	10	11	17	25	37	**259**
Rainfall (mm)		102	67	80	61	74	70	70	86	94	89	105	117	**1015**

Factors affecting flow regime: S PG I
Station type: FL

1987 runoff is 101% of previous mean
rainfall 81%

053006 Frome (Bristol) at Frenchay 1987

Measuring authority: WWA
First year: 1961

Grid reference: 31 (ST) 637 772
Level stn. (m OD): 20.00

Catchment area (sq km): 148.9
Max alt. (m OD): 193

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	3.500	2.164	3.600	2.738	0.491	0.688	0.380	0.230	0.284	2.632	3.831	1.505	**1.837**
(m^3s^{-1}): Peak	16.02	8.90	21.81	24.67	2.17	3.82	2.73	1.09	2.31	16.81	19.17	9.21	**24.67**
Runoff (mm)	63	35	65	48	9	12	7	4	5	47	67	27	**388**
Rainfall (mm)	13	63	86	61	39	99	49	25	51	168	81	49	**784**

Monthly and yearly statistics for previous record (Sep 1961 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	3.449	2.799	2.351	1.380	1.259	0.817	0.624	0.570	0.752	1.165	2.220	3.234	**1.715**
Low	0.670	0.613	0.636	0.476	0.290	0.220	0.122	0.139	0.208	0.162	0.211	0.820	**0.804**
(m^3s^{-1}) High	6.152	6.040	5.762	3.434	5.028	2.973	3.516	2.398	5.113	4.691	5.434	9.807	**2.255**
Peak flow (m^3s^{-1})	35.05	41.09	33.84	29.63	49.00	29.01	70.79	12.75	29.73	42.93	49.12	66.55	**70.79**
Runoff (mm)	62	46	42	24	23	14	11	10	13	21	39	58	**363**
Rainfall (mm)	76	51	65	48	67	63	53	71	75	66	78	89	**802**

Factors affecting flow regime: GEI
Station type: FL

1987 runoff is 107% of previous mean
rainfall 98%

053007 Frome (Somerset) at Tellisford 1987

Measuring authority: WWA
First year: 1961

Grid reference: 31 (ST) 805 564
Level stn. (m OD): 35.10

Catchment area (sq km): 261.6
Max alt. (m OD): 305

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	5.225	4.392	5.659	5.804	1.677	1.919	1.047	0.741	0.754	3.845	5.762	2.733	**3.296**
(m^3s^{-1}): Peak	35.89	12.88	25.39	22.40	2.52	7.69	2.46	1.42	1.26	19.05	34.47	12.09	**35.89**
Runoff (mm)	53	41	58	58	17	19	11	8	7	39	57	28	**396**
Rainfall (mm)	28	74	88	72	44	101	49	34	63	159	84	56	**852**

Monthly and yearly statistics for previous record (Sep 1961 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	6.946	6.242	5.516	3.659	2.839	1.896	1.424	1.515	1.744	2.670	4.663	6.667	**3.806**
Low	1.684	2.072	1.938	1.510	0.843	0.518	0.329	0.291	0.649	0.612	0.962	2.795	**2.334**
(m^3s^{-1}) High	12.340	12.460	12.690	8.314	6.317	4.812	4.931	4.605	7.459	8.841	10.730	14.860	**4.872**
Peak flow (m^3s^{-1})	77.99	64.75	68.83	57.51	98.80	37.52	108.11	82.49	71.03	40.24	84.58	83.64	**108.11**
Runoff (mm)	71	58	56	36	29	19	15	16	17	27	46	68	**459**
Rainfall (mm)	97	66	86	60	79	66	63	81	88	79	98	107	**970**

Factors affecting flow regime: PG I
Station type: FL

1987 runoff is 86% of previous mean
rainfall 88%

054006 Stour at Kidderminster 1987

Measuring authority: STWA
First year: 1953

Grid reference: 32 (SO) 829 768
Level stn. (m OD): 30.50

Catchment area (sq km): 324.0
Max alt. (m OD): 316

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	3.080	2.683	3.509	4.773	2.609	4.224	2.815	3.090	2.407	4.755	4.205	2.865	**3.418**
(m^3s^{-1}): Peak	13.57	6.48	9.46	19.74	4.44	20.16	7.05	17.73	6.69	16.89	18.93	7.64	**20.16**
Runoff (mm)	25	20	29	38	22	34	23	26	19	39	34	24	**333**
Rainfall (mm)	17	39	59	64	36	124	39	65	45	124	60	35	**707**

Monthly and yearly statistics for previous record (Oct 1953 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	3.673	3.439	3.327	2.792	2.626	2.346	2.151	2.346	2.366	2.454	3.020	3.431	**2.828**
Low	1.703	1.527	1.762	1.344	1.424	1.127	1.049	0.895	1.367	1.335	1.576	1.537	**1.865**
(m^3s^{-1}) High	7.409	6.537	6.244	4.844	6.468	3.438	4.404	4.057	4.057	5.713	6.386	7.062	**4.136**
Peak flow (m^3s^{-1})	67.96	20.96	81.55	16.90	20.94	18.52	19.20	34.50	19.40	22.96	16.44	45.46	**81.55**
Runoff (mm)	30	26	27	22	22	19	18	19	19	20	24	28	**275**
Rainfall (mm)	63	47	54	49	62	56	57	70	65	57	66	68	**714**

Factors affecting flow regime: GEI
Station type: VA

1987 runoff is 121% of previous mean
rainfall 99%

054008 Teme at Tenbury 1987

Measuring authority: STWA
First year: 1956

Grid reference: 32 (SO) 597 686
Level stn. (m OD): 48.00

Catchment area (sq km): 1134.4
Max alt. (m OD): 546

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	23.300	14.560	24.410	34.440	5.293	5.670	3.944	2.224	2.152	20.650	23.750	13.810	**14.517**
(m^3s^{-1}): Peak	87.75	24.61	117.63	171.11	8.38	29.75	13.57	3.85	4.24	71.07	66.47	30.57	**171.11**
Runoff (mm)	55	31	58	79	13	13	9	5	5	49	54	33	**403**
Rainfall (mm)	25	47	86	78	36	99	57	39	62	143	78	48	**798**

Monthly and yearly statistics for previous record (Oct 1956 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	28.390	25.020	21.570	14.650	11.110	6.345	4.140	4.215	6.286	11.240	17.000	25.400	**14.575**
Low	6.281	8.009	7.433	4.692	2.571	1.558	1.008	0.745	1.085	1.347	3.085	5.565	**7.278**
(m^3s^{-1}) High	51.630	56.000	51.940	28.630	35.380	14.160	21.920	16.670	29.650	43.130	50.140	57.290	**23.489**
Peak flow (m^3s^{-1})	256.60	191.80	165.40	121.50	200.30	79.52	114.10	158.00	196.20	232.80	168.30	266.50	**266.50**
Runoff (mm)	67	54	51	33	26	14	10	10	14	27	39	60	**405**
Rainfall (mm)	86	63	69	59	66	58	56	74	82	72	84	93	**862**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 99% of previous mean
rainfall 93%

054012 Tern at Walcot 1987

Measuring authority: STWA
First year: 1960

Grid reference: 33 (SJ) 592 123
Level stn. (m OD): 44.60

Catchment area (sq km): 852.0
Max alt. (m OD): 366

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	9.279	6.447	9.317	10.550	4.402	6.547	4.012	6.519	4.233	11.540	11.020	6.998	**7.572**
(m^3s^{-1}):	Peak	39.31	10.69	19.19	27.98	5.63	24.03	8.39	32.57	5.41	37.59	25.49	11.68	**39.31**
Runoff (mm)		29	18	29	32	14	20	13	20	13	36	34	22	**280**
Rainfall (mm)		15	33	70	49	43	109	59	92	43	112	62	31	**718**

Monthly and yearly statistics for previous record (Oct 1960 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	11.050	10.390	8.869	7.270	6.659	4.640	3.891	3.868	4.004	5.534	8.107	10.880	**7.084**
flows	Low	4.018	4.002	4.800	3.557	2.917	2.199	1.393	1.171	1.680	2.227	2.538	3.563	**3.757**
(m^3s^{-1})	High	20.320	22.280	17.810	12.320	22.390	9.069	14.060	6.655	9.490	16.920	21.830	24.950	**10.266**
Peak flow (m^3s^{-1})		45.31	45.98	40.53	40.73	40.35	27.00	48.71	38.53	32.17	37.38	44.54	55.82	**55.82**
Runoff (mm)		35	30	28	22	21	14	12	12	12	17	25	34	**262**
Rainfall (mm)		61	46	54	51	65	56	53	64	64	59	72	69	**714**

Factors affecting flow regime: G
Station type: FV

1987 runoff is 107% of previous mean
rainfall 101%

054019 Avon at Stareton 1987

Measuring authority: STWA
First year: 1962

Grid reference: 42 (SP) 333 715
Level stn. (m OD): 54.70

Catchment area (sq km): 347.0
Max alt. (m OD): 214

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.201	3.792	4.918	5.946	0.998	4.862	1.003	0.984	0.964	4.964	5.586	3.024	**3.437**
(m^3s^{-1}):	Peak	18.54	12.79	16.09	33.37	1.77	42.89	1.83	3.64	2.24	20.79	21.66	7.48	**42.89**
Runoff (mm)		32	26	38	44	8	36	8	8	7	38	42	23	**311**
Rainfall (mm)		18	44	60	58	49	135	42	57	50	120	59	31	**723**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.384	4.488	4.206	2.705	2.234	1.301	0.991	1.081	1.027	1.470	2.333	4.053	**2.516**
flows	Low	0.798	0.777	0.545	0.485	0.474	0.368	0.247	0.356	0.442	0.507	0.549	0.667	**1.094**
(m^3s^{-1})	High	8.143	12.890	8.577	5.558	6.149	3.202	5.379	3.332	2.858	5.274	5.454	10.400	**3.588**
Peak flow (m^3s^{-1})		38.23	59.60	55.89	42.67	39.05	27.34	71.36	26.08	16.59	32.89	34.11	56.28	**71.36**
Runoff (mm)		34	32	32	20	17	10	8	8	8	11	17	31	**229**
Rainfall (mm)		54	45	55	48	60	57	53	70	54	50	59	64	**669**

Factors affecting flow regime: S EI
Station type: C

1987 runoff is 136% of previous mean
rainfall 108%

054020 Perry at Yeaton 1987

Measuring authority: STWA
First year: 1963

Grid reference: 33 (SJ) 434 192
Level stn. (m OD): 61.30

Catchment area (sq km): 180.8
Max alt. (m OD): 356

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.079	1.760	2.576	2.895	0.866	0.985	0.646	0.665	0.676	2.259	2.450	1.773	**1.636**
(m^3s^{-1}):	Peak	9.73	4.75	8.57	10.83	1.08	2.41	1.27	2.22	1.16	7.52	5.87	3.75	**10.83**
Runoff (mm)		31	24	38	42	13	14	10	10	10	33	35	26	**285**
Rainfall (mm)		19	44	82	59	32	91	56	66	53	124	70	42	**738**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.883	2.728	2.362	1.705	1.465	0.973	0.739	0.726	0.734	1.110	1.801	2.679	**1.655**
flows	Low	0.901	0.859	1.257	0.742	0.583	0.379	0.271	0.208	0.350	0.412	0.427	0.848	**0.809**
(m^3s^{-1})	High	4.777	6.507	4.265	3.041	4.232	2.046	2.735	1.416	1.785	3.308	3.103	6.244	**2.335**
Peak flow (m^3s^{-1})		14.23	11.29	11.12	8.57	10.41	8.49	7.87	5.49	7.32	7.25	10.02	12.57	**14.23**
Runoff (mm)		43	37	35	24	22	14	11	11	11	16	26	40	**289**
Rainfall (mm)		68	53	62	48	66	57	56	64	67	64	81	80	**766**

Factors affecting flow regime: N G
Station type: C

1987 runoff is 99% of previous mean
rainfall 96%

054022 Severn at Plynlimon flume 1987

Measuring authority: IH
First year: 1953

Grid reference: 22 (SN) 853 872
Level stn. (m OD): 331.00

Catchment area (sq km): 8.7
Max alt. (m OD): 740

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.510	0.551	0.724	0.477	0.193	0.430	0.288	0.265	0.369	1.070	0.680	0.814	**0.531**
(m^3s^{-1}):	Peak	10.12	5.40	7.28	4.38	1.52	2.91	1.89	4.69	2.21	13.72	5.52	8.26	**13.72**
Runoff (mm)		157	153	223	142	60	128	89	82	110	330	203	251	**1926**
Rainfall (mm)		140	185	247	146	125	207	147	110	175	373	221	278	**2354**

Monthly and yearly statistics for previous record (Oct 1953 to Dec 1986—incomplete or missing months total 10.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.762	0.562	0.582	0.333	0.247	0.220	0.279	0.398	0.505	0.605	0.799	0.776	**0.506**
flows	Low	0.363	0.136	0.171	0.046	0.048	0.045	0.054	0.037	0.073	0.059	0.268	0.174	**0.334**
(m^3s^{-1})	High	1.571	1.104	1.567	0.878	0.818	0.638	0.754	0.935	1.092	1.463	1.434	1.328	**0.646**
Peak flow (m^3s^{-1})		14.49	14.00	14.53	11.64	9.86	10.66	8.84	24.99	12.91	17.22	17.76	17.11	**24.99**
Runoff (mm)		234	157	179	99	76	66	86	123	151	186	238	239	**1834**
Rainfall (mm)		289	175	205	130	135	135	150	183	225	240	288	283	**2438**

Factors affecting flow regime: N
Station type: FL

1987 runoff is 105% of previous mean
rainfall 97%

054038 Tanat at Llanyblodwel 1987

Measuring authority: STWA
First year: 1973
Grid reference: 33 (SJ) 252 225
Level stn. (m OD): 77.00
Catchment area (sq km): 229.0
Max alt. (m OD): 827

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	7.653	6.603	10.130	8.102	1.366	2.175	2.722	1.217	3.817	13.830	9.441	6.629	**6.140**
(m^3s^{-1}): Peak	39.45	25.89	72.94	30.27	2.29	14.67	30.11	2.41	25.81	82.17	32.65	24.95	**82.17**
Runoff (mm)	90	70	118	92	16	25	32	14	43	162	107	78	**845**
Rainfall (mm)	39	92	143	78	41	96	64	67	118	207	119	108	**1172**

Monthly and yearly statistics for previous record (Jun 1973 to Dec 1986—incomplete or missing months total 0.4 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	11.590	9.347	8.577	5.169	3.641	2.401	1.229	2.669	3.451	6.868	10.220	12.370	**6.452**
Low	5.203	3.707	2.693	1.392	0.867	0.728	0.348	0.190	1.199	1.701	2.895	6.595	**4.185**
(m^3s^{-1}) High	15.860	19.900	17.800	9.686	10.250	4.660	1.930	7.609	9.885	15.020	17.370	21.410	**7.510**
Peak flow (m^3s^{-1})	93.99	64.77	85.77	39.85	31.27	56.87	15.68	118.20	69.56	59.64	76.12	87.99	**118.20**
Runoff (mm)	136	100	100	59	43	27	14	31	39	80	116	145	**889**
Rainfall (mm)	133	86	108	63	79	69	57	92	112	115	141	153	**1208**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 95% of previous mean
rainfall 97%

055008 Wye at Cefn Brwyn 1987

Measuring authority: IH
First year: 1951
Grid reference: 22 (SN) 829 838
Level stn. (m OD): 341.00
Catchment area (sq km): 10.6
Max alt. (m OD): 752

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	0.648	0.680	0.960	0.621	0.325	0.610	0.597	0.472	0.535	1.318	0.986	1.008	**0.730**
(m^3s^{-1}): Peak	14.73	6.29	10.12	7.34	3.22	2.95	3.77	14.73	3.88	19.85	8.64	11.70	**19.85**
Runoff (mm)	165	156	244	153	82	150	151	120	132	335	242	256	**2185**
Rainfall (mm)	140	185	247	148	136	201	156	115	175	355	242	257	**2357**

Monthly and yearly statistics for previous record (Aug 1951 to Dec 1986—incomplete or missing months total 2.5 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	0.961	0.735	0.657	0.525	0.400	0.351	0.434	0.573	0.670	0.796	1.046	1.128	**0.690**
Low	0.492	0.146	0.206	0.064	0.054	0.074	0.053	0.036	0.050	0.092	0.376	0.198	**0.447**
(m^3s^{-1}) High	1.870	1.486	1.735	1.312	1.144	0.954	1.264	1.478	1.478	2.031	1.823	2.655	**0.994**
Peak flow (m^3s^{-1})	23.47	19.20	23.18	19.12	17.89	25.49	19.11	48.87	16.93	24.32	29.15	32.00	**48.87**
Runoff (mm)	244	170	167	129	102	86	110	146	165	202	257	286	**2063**
Rainfall (mm)	262	165	193	147	136	140	162	195	205	238	275	311	**2429**

Factors affecting flow regime: N
Station type: CC

1987 runoff is 106% of previous mean
rainfall 97%

055013 Arrow at Titley Mill 1987

Measuring authority: WELS
First year: 1966
Grid reference: 32 (SO) 328 585
Level stn. (m OD): 129.00
Catchment area (sq km): 126.4
Max alt. (m OD): 542

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	3.217	2.093	4.083	5.028	0.724	0.713	0.530	0.292	0.236	3.869	3.362	1.936	**2.174**
(m^3s^{-1}): Peak	15.73	6.00	34.05	37.95	1.08	3.44	1.91	0.52	0.54	15.86	14.14	5.58	**37.95**
Runoff (mm)	68	40	87	103	15	15	11	6	5	82	69	41	**542**
Rainfall (mm)	33	71	105	89	33	99	52	28	73	184	92	79	**938**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	4.859	4.118	3.553	2.187	1.870	1.169	0.739	0.662	0.898	1.962	3.193	4.392	**2.461**
Low	1.886	1.912	1.629	0.962	0.526	0.332	0.210	0.154	0.277	0.294	0.662	1.694	**1.309**
(m^3s^{-1}) High	9.003	7.677	8.933	4.176	5.001	2.559	3.842	1.546	2.459	6.916	6.625	7.566	**3.418**
Peak flow (m^3s^{-1})	101.12	39.94	57.85	19.41	32.49	13.09	30.68	24.79	18.85	36.45	28.98	63.34	**101.12**
Runoff (mm)	103	79	75	45	40	24	16	14	18	42	65	93	**614**
Rainfall (mm)	111	79	87	58	78	65	51	79	93	90	102	113	**1006**

Factors affecting flow regime: P
Station type: VA

1987 runoff is 88% of previous mean
rainfall 93%

055014 Lugg at Byton 1987

Measuring authority: WELS
First year: 1966
Grid reference: 32 (SO) 364 647
Level stn. (m OD): 124.10
Catchment area (sq km): 203.3
Max alt. (m OD): 660

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	6.118	3.565	6.134	8.648	1.847	1.447	1.255	0.823	0.706	4.588	4.830	3.404	**3.614**
(m^3s^{-1}): Peak	19.79	4.82	25.27	30.08	2.94	3.23	2.43	1.05	1.16	16.00	8.28	7.14	**30.08**
Runoff (mm)	81	42	81	110	24	18	17	11	9	60	62	45	**560**
Rainfall (mm)	32	65	103	92	35	99	56	31	71	182	91	72	**929**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	7.531	6.872	5.881	4.017	3.314	2.105	1.411	1.180	1.340	2.718	4.583	6.628	**3.954**
Low	2.991	2.630	2.947	2.016	1.186	0.772	0.557	0.414	0.678	0.657	1.219	2.978	**2.321**
(m^3s^{-1}) High	11.940	12.870	13.980	7.106	7.994	4.113	5.253	1.997	3.079	7.962	8.774	10.350	**4.954**
Peak flow (m^3s^{-1})	54.27	37.53	33.24	18.82	45.56	14.18	26.16	13.32	12.46	28.51	27.22	37.49	**54.27**
Runoff (mm)	99	82	77	51	44	27	19	16	17	36	58	87	**614**
Rainfall (mm)	118	81	90	63	82	64	54	78	92	89	103	115	**1029**

Factors affecting flow regime:
Station type: FVVA

1987 runoff is 91% of previous mean
rainfall 90%

055018 Frome at Yarkhill 1987

Measuring authority: WELS
First year: 1968
Grid reference: 32 (SO) 615 428
Level stn. (m OD): 55.40
Catchment area (sq km): 144.0
Max alt. (m OD): 244

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.891	1.558	2.246	3.299	0.736	0.678	0.337	0.191	0.145	0.545	1.714	1.006	**1.196**
(m^3s^{-1}):	Peak	11.52	7.09	9.85	24.57	1.03	3.88	0.61	0.45	0.32	4.73	12.76	4.55	**24.57**
Runoff (mm)		35	26	42	59	14	12	6	4	3	10	31	19	**261**
Rainfall (mm)		17	49	64	70	38	99	42	22	44	120	71	37	**673**

Monthly and yearly statistics for previous record (Oct 1968 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.692	2.561	2.244	1.233	1.157	0.664	0.361	0.350	0.331	0.491	1.010	2.051	**1.257**
flows	Low	0.214	0.389	0.560	0.359	0.274	0.146	0.091	0.063	0.174	0.155	0.171	0.210	**0.672**
(m^3s^{-1})	High	4.668	5.456	5.176	2.298	3.972	1.349	0.630	0.759	0.970	2.405	2.266	3.594	**1.628**
Peak flow (m^3s^{-1})		23.84	24.99	24.28	14.74	25.89	16.99	5.96	9.61	15.68	10.34	18.51	25.14	**25.89**
Runoff (mm)		50	43	42	22	22	12	7	7	6	9	18	38	**275**
Rainfall (mm)		75	51	64	45	64	57	44	70	63	53	65	74	**725**

Factors affecting flow regime: E
Station type: VA

1987 runoff is 95% of previous mean
rainfall 93%

055023 Wye at Redbrook 1987

Measuring authority: WELS
First year: 1936
Grid reference: 32 (SO) 528 110
Level stn. (m OD): 9.20
Catchment area (sq km): 4010.0
Max alt. (m OD): 752

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	113.100	75.560	123.800	143.600	28.960	45.840	21.620	18.820	19.810	124.900	115.100	83.900	**76.251**
(m^3s^{-1}):	Peak	466.20	169.30	541.80	493.30	41.80	139.40	50.43	55.73	55.15	447.20	360.60	332.60	**541.80**
Runoff (mm)		76	46	83	93	19	30	14	13	13	83	74	56	**599**
Rainfall (mm)		33	69	102	84	41	103	53	34	73	195	93	82	**962**

Monthly and yearly statistics for previous record (Oct 1936 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	130.400	120.400	90.770	63.530	45.200	34.410	24.020	28.130	39.900	58.950	102.300	124.800	**71.669**
flows	Low	25.050	30.760	22.110	17.930	12.340	10.970	7.426	5.180	7.271	9.582	31.730	46.890	**39.916**
(m^3s^{-1})	High	241.900	234.000	325.400	133.100	125.000	131.600	95.830	83.680	174.000	174.700	252.400	246.000	**113.382**
Peak flow (m^3s^{-1})		688.80	700.40	905.40	365.30	387.90	467.20	368.30	347.80	531.70	472.90	600.30	812.70	**905.40**
Runoff (mm)		87	73	61	41	30	22	16	19	26	39	66	83	**564**
Rainfall (mm)		111	77	76	63	75	62	66	84	88	93	113	115	**1023**

Factors affecting flow regime: S P E
Station type: VA

1987 runoff is 106% of previous mean
rainfall 94%

056013 Yscir at Pontaryscir 1987

Measuring authority: WELS
First year: 1972
Grid reference: 32 (SO) 003 304
Level stn. (m OD): 161.20
Catchment area (sq km): 62.8
Max alt. (m OD): 474

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.125	2.053	3.298	2.495	0.434	1.336	0.626	0.291	0.457	4.279	2.687	2.902	**1.915**
(m^3s^{-1}):	Peak	13.01	12.95	33.15	13.74	0.72	8.20	2.11	0.63	2.22	30.96	16.89	27.36	**33.15**
Runoff (mm)		91	79	141	103	19	55	27	12	19	183	111	124	**962**
Rainfall (mm)		39	107	160	108	48	133	57	36	104	267	119	155	**1333**

Monthly and yearly statistics for previous record (May 1972 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	3.442	2.612	2.505	1.404	1.078	0.710	0.439	0.733	1.157	2.050	3.173	3.692	**1.914**
flows	Low	1.146	0.998	0.852	0.431	0.269	0.214	0.150	0.104	0.283	0.214	1.475	2.196	**1.286**
(m^3s^{-1})	High	5.795	4.959	6.303	3.211	3.041	1.788	1.117	2.964	3.947	4.182	5.291	6.324	**2.465**
Peak flow (m^3s^{-1})		36.98	31.78	40.55	13.54	14.81	74.33	11.06	30.69	21.44	85.01	34.02	59.93	**85.01**
Runoff (mm)		147	101	107	58	46	29	19	31	48	87	131	157	**962**
Rainfall (mm)*		165	100	135	69	89	71	71	104	139	140	167	190	**1440**

*(1973-1986)

Factors affecting flow regime: N
Station type: C

1987 runoff is 100% of previous mean
rainfall 93%

057008 Rhymney at Llanedeyrn 1987

Measuring authority: WELS
First year: 1973
Grid reference: 31 (ST) 225 821
Level stn. (m OD): 11.80
Catchment area (sq km): 178.7
Max alt. (m OD): 617

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.837	6.093	8.207	7.925	1.828	2.287	1.303	0.840	1.356	9.091	7.714	8.499	**5.082**
(m^3s^{-1}):	Peak	41.04	20.31	110.50	35.93	3.99	25.43	12.44	1.84	7.62	56.66	68.06	102.70	**110.50**
Runoff (mm)		87	82	123	115	27	33	20	13	20	136	112	127	**896**
Rainfall (mm)		25	126	152	113	37	116	61	29	107	255	129	179	**1329**

Monthly and yearly statistics for previous record (Jan 1973 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	9.407	7.558	6.924	4.070	3.174	2.086	1.427	2.648	3.687	5.935	8.263	9.759	**5.405**
flows	Low	3.313	3.199	2.889	1.754	1.276	0.873	0.602	0.571	0.913	0.748	2.355	3.218	**2.903**
(m^3s^{-1})	High	17.200	15.620	20.960	9.695	8.340	4.604	2.371	10.450	11.500	13.700	16.560	15.730	**7.153**
Peak flow (m^3s^{-1})		108.25	72.22	105.80	41.55	31.31	54.30	27.39	87.41	101.60	118.50	113.46	147.30	**147.30**
Runoff (mm)		141	103	104	59	48	30	21	40	53	89	120	146	**954**
Rainfall (mm)		163	104	126	65	88	68	64	107	145	140	156	176	**1402**

Factors affecting flow regime: PGE
Station type: FVVA

1987 runoff is 94% of previous mean
rainfall 95%

058006 Mellte at Pontneddfechan 1987

Measuring authority: WELS
First year: 1971

Grid reference: 22 (SN) 915 082
Level stn. (m OD): 90.00

Catchment area (sq km): 65.8
Max alt. (m OD): 734

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.571	3.530	4.452	3.184	0.730	2.883	0.987	0.473	1.685	6.200	3.831	5.984	**3.043**
(m^3s^{-1}):	Peak	24.52	24.88	82.30	18.43	1.84	33.56	6.79	0.85	12.38	53.28	40.76	83.17	**83.17**
Runoff (mm)		105	130	181	125	30	114	40	19	66	252	151	244	**1457**
Rainfall (mm)		52	191	239	150	71	190	76	47	166	338	189	318	**2027**

Monthly and yearly statistics for previous record (Oct 1971 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.959	3.540	3.660	2.092	1.745	1.163	0.926	1.733	2.440	3.392	4.939	5.372	**2.996**
flows	Low	1.932	0.913	1.378	0.497	0.383	0.322	0.242	0.207	0.562	0.548	2.063	2.641	**1.985**
(m^3s^{-1})	High	8.274	7.231	10.670	5.095	4.283	3.559	2.608	6.802	6.876	6.305	9.471	8.739	**3.814**
Peak flow (m^3s^{-1})		82.30	66.12	72.93	39.02	21.45	32.54	39.14	58.52	81.01	96.78	106.85	127.60	**127.60**
Runoff (mm)		202	131	149	82	71	46	38	71	96	138	195	219	**1437**
Rainfall (mm)		250	146	188	102	126	105	95	155	180	205	248	264	**2064**

Factors affecting flow regime: S P
Station type: FVVA

1987 runoff is 101% of previous mean
rainfall 98%

060002 Cothi at Felin Mynachdy 1987

Measuring authority: WELS
First year: 1961

Grid reference: 22 (SN) 508 225
Level stn. (m OD): 16.10

Catchment area (sq km): 297.8
Max alt. (m OD): 484

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	9.767	12.030	16.720	12.360	2.296	7.225	3.767	2.161	6.374	27.580	19.430		
(m^3s^{-1}):	Peak	60.74	74.48	156.07	44.22	4.15	33.52	9.72	8.72	35.55	283.74	95.62		
Runoff (mm)		88	98	150	108	21	63	34	19	55	248	169		
Rainfall (mm)		42	136	179	104	50	151	76	46	138	331	155	212	**1620**

Monthly and yearly statistics for previous record (Oct 1961 to Dec 1986—incomplete or missing months total 1.9 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	17.970	13.760	12.440	8.686	6.971	4.312	3.383	6.479	8.138	15.110	18.590	20.790	**11.385**
flows	Low	2.990	3.708	2.821	1.444	0.835	0.824	0.418	0.362	1.500	1.610	8.903	6.723	**7.174**
(m^3s^{-1})	High	37.580	31.100	40.710	20.380	14.820	13.070	11.810	23.350	23.920	37.940	36.270	41.140	**14.950**
Peak flow (m^3s^{-1})		141.60	181.20	220.90	85.88	87.22	90.33	144.40	171.00	129.70	188.60	175.80	274.70	**274.70**
Runoff (mm)		162	113	112	76	63	38	30	58	71	136	162	187	**1206**
Rainfall (mm)		174	111	130	95	105	95	96	126	149	179	181	193	**1634**

Factors affecting flow regime: P E
Station type: VA

1987 runoff is % of previous mean
rainfall 99%

060003 Taf at Clog-y-fran 1987

Measuring authority: WELS
First year: 1965

Grid reference: 22 (SN) 238 160
Level stn. (m OD): 7.00

Catchment area (sq km): 217.3
Max alt. (m OD): 395

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	7.888	8.625	9.551	8.763	2.073	1.990	1.518	1.141	2.256	16.710	12.360	12.250	**7.094**
(m^3s^{-1}):	Peak	41.55	35.74	64.78	35.21	3.59	13.54	3.02	1.82	10.79	86.49	45.87	59.68	**86.49**
Runoff (mm)		97	96	118	105	26	24	19	14	27	206	147	151	**1029**
Rainfall (mm)		33	134	128	85	34	114	49	61	122	270	176	156	**1362**

Monthly and yearly statistics for previous record (Oct 1965 to Dec 1986—incomplete or missing months total 1.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	13.140	10.770	8.425	5.641	3.956	2.652	1.724	2.853	3.888	9.248	11.980	14.490	**7.387**
flows	Low	4.835	3.858	3.796	2.179	1.207	0.781	0.375	0.363	0.983	1.018	3.757	9.027	**4.672**
(m^3s^{-1})	High	25.900	27.200	26.610	11.800	8.412	8.820	5.330	10.760	15.340	22.310	22.730	25.520	**9.662**
Peak flow (m^3s^{-1})		73.43	73.97	85.73	60.03	35.85	45.11	19.86	100.95	58.02	84.98	80.82	77.74	**100.95**
Runoff (mm)		162	121	104	67	49	32	21	35	46	114	143	179	**1072**
Rainfall (mm)		160	105	117	81	87	80	70	104	127	160	160	183	**1434**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 96% of previous mean
rainfall 95%

060007 Tywi at Dolau Hirion 1987

Measuring authority: WELS
First year: 1971

Grid reference: 22 (SN) 762 362
Level stn. (m OD): 68.90

Catchment area (sq km): 231.8
Max alt. (m OD): 557

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.539	8.473	13.840	10.300	3.938	7.564	3.670	3.278	6.165	21.000	13.310	13.720	**9.483**
(m^3s^{-1}):	Peak	46.19	31.47	145.70	33.66	7.18	23.57	13.46	20.27	22.92	233.20	57.45	81.90	**233.20**
Runoff (mm)		99	88	160	115	46	85	42	38	69	243	149	159	**1291**
Rainfall (mm)		55	121	184	111	71	156	98	65	136	316	153	189	**1655**

Monthly and yearly statistics for previous record (Oct 1968 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	16.410	11.990	10.620	7.058	5.909	4.601	3.579	5.714	5.655	10.130	15.720	19.410	**9.732**
flows	Low	5.583	3.711	2.975	2.546	2.335	2.111	1.401	1.958	1.122	2.756	6.504	6.551	**6.306**
(m^3s^{-1})	High	27.600	28.920	37.370	16.110	11.840	10.230	5.826	18.280	16.350	30.450	30.420	59.050	**15.559**
Peak flow (m^3s^{-1})		241.40	358.50	300.30	125.90	63.46	299.00	35.42	264.80	132.00	204.00	258.00	533.80	**533.80**
Runoff (mm)		190	126	123	79	68	51	41	66	63	117	176	224	**1325**
Rainfall (mm)*		203	136	145	93	97	91	87	123	140	161	208	210	**1694**

*(1969-1986)

Factors affecting flow regime: SR EI
Station type: VA

1987 runoff is 97% of previous mean
rainfall 98%

063001 Ystwyth at Pont Llolwyn 1987

Measuring authority: WELS
First year: 1963

Grid reference: 22 (SN) 591 774
Level stn. (m OD): 12.00

Catchment area (sq km): 169.6
Max alt. (m OD): 611

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.950	3.990	7.339	6.405	2.334	3.880	3.590	3.182	3.159	12.210	9.221	5.803	**5.589**
(m^3s^{-1}):	Peak	49.89	17.69	42.09	41.29	11.29	18.46	30.42	36.72	14.96	127.70	57.36	31.55	**127.70**
Runoff (mm)		94	57	116	98	37	59	57	50	48	193	141	92	**1041**
Rainfall (mm)		59	83	152	104	74	129	124	71	111	256	163	137	**1463**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	9.424	7.012	6.020	4.285	3.390	2.566	2.452	3.360	4.404	7.001	9.485	11.220	**5.884**
flows	Low	2.268	2.283	2.816	0.960	0.577	0.625	0.422	0.180	0.882	0.558	3.959	2.219	**3.783**
(m^3s^{-1})	High	15.330	15.200	18.470	10.080	10.100	7.571	5.461	8.556	10.670	19.800	18.320	22.600	**7.774**
Peak flow (m^3s^{-1})		105.60	88.63	126.70	90.32	105.10	129.70	68.24	174.30	71.02	129.90	128.10	210.40	**210.40**
Runoff (mm)		149	101	95	65	54	39	39	53	67	111	145	177	**1095**
Rainfall (mm)		154	98	115	84	93	91	95	111	130	147	171	184	**1473**

Factors affecting flow regime:
Station type: VA

1987 runoff is 95% of previous mean
rainfall 99%

064001 Dyfi at Dyfi Bridge 1987

Measuring authority: WELS
First year: 1962

Grid reference: 23 (SH) 745 019
Level stn. (m OD): 5.90

Catchment area (sq km): 471.3
Max alt. (m OD): 905

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	27.130	27.890	33.300	22.420	4.890	16.600	11.540	8.671	18.660	45.520	28.920	35.360	**23.408**
(m^3s^{-1}):	Peak	276.50	172.50	244.50	77.24	12.43	77.34	73.76	48.08	86.43	290.60	157.90	301.60	**301.60**
Runoff (mm)		154	143	189	123	28	91	66	49	103	259	159	201	**1565**
Rainfall (mm)		86	178	193	99	79	147	118	89	155	311	177	236	**1868**

Monthly and yearly statistics for previous record (Oct 1962 to Dec 1986—incomplete or missing months total 9.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	34.390	22.030	26.010	17.380	12.450	10.910	8.265	13.540	17.920	29.980	36.060	43.900	**22.765**
flows	Low	6.245	5.174	5.789	2.626	1.295	1.618	0.822	1.819	5.966	10.770	14.530	7.501	**18.343**
(m^3s^{-1})	High	68.810	46.060	75.790	42.490	23.600	21.770	16.680	40.440	34.110	76.960	70.470	88.280	**26.520**
Peak flow (m^3s^{-1})		350.20	340.00	360.70	271.30	337.20	402.10	162.00	210.00	254.90	344.00	375.50	580.50	**580.50**
Runoff (mm)		195	114	148	96	71	60	47	77	99	170	198	249	**1524**
Rainfall (mm)		205	120	159	112	115	110	108	148	173	200	214	252	**1916**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 103% of previous mean
rainfall 97%

064002 Dysynni at Pont-y-garth 1987

Measuring authority: WELS
First year: 1966

Grid reference: 23 (SH) 632 066
Level stn. (m OD): 2.30

Catchment area (sq km): 75.1
Max alt. (m OD): 892

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.114	5.124	6.513	4.758	1.684	4.330	3.874	4.729	5.044	9.287	6.055	7.658	**5.347**
(m^3s^{-1}):	Peak	30.29	30.82	30.05	15.38	5.38	11.77	12.14	21.52	13.36	53.26	40.68	52.60	**53.26**
Runoff (mm)*		182	165	232	164	60	149	138	169	174	331	209	273	**2248**
Rainfall (mm)		91	189	236	113	99	167	144	146	151	327	197	297	**2157**

Monthly and yearly statistics for previous record (Jan 1966 to Dec 1986—incomplete or missing months total 1.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	5.860	4.695	4.515	3.443	2.578	2.312	2.518	3.142	4.011	5.566	6.901	7.114	**4.388**
flows	Low	3.371	1.548	0.986	0.457	0.298	0.427	0.278	0.289	1.926	0.556	3.011	2.770	**3.612**
(m^3s^{-1})	High	11.040	8.809	14.780	7.209	7.602	5.921	5.407	8.899	7.285	12.350	12.680	12.580	**5.416**
Peak flow (m^3s^{-1})		61.40	41.34	98.71	36.85	76.32	48.42	53.35	51.62	70.14	107.70	121.30	84.70	**121.30**
Runoff (mm)		209	152	161	119	92	80	90	112	138	198	238	254	**1844**
Rainfall (mm)		225	143	178	126	132	142	142	167	202	245	256	255	**2213**

Factors affecting flow regime: N
Station type: VA
*data under review

1987 runoff is 122% of previous mean
rainfall 97%

065005 Erch at Pencaenewydd 1987

Measuring authority: WELS
First year: 1973

Grid reference: 23 (SH) 400 404
Level stn. (m OD): 56.10

Catchment area (sq km): 18.1
Max alt. (m OD): 564

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.713	0.655	0.962	0.698	0.224	0.353	0.313	0.536	0.696	1.446	1.018	0.920	**0.711**
(m^3s^{-1}):	Peak	5.51	5.37	10.18	4.45	0.40	2.62	4.61	6.02	4.89	25.01	7.31	5.73	**25.01**
Runoff (mm)		106	88	142	100	33	51	46	79	100	214	146	136	**1240**
Rainfall (mm)		49	127	181	68	41	127	89	146	131	269	154	165	**1547**

Monthly and yearly statistics for previous record (Jan 1973 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.980	0.822	0.718	0.455	0.343	0.216	0.175	0.294	0.408	0.767	1.052	1.132	**0.613**
flows	Low	0.629	0.365	0.311	0.177	0.120	0.089	0.081	0.061	0.167	0.236	0.264	0.600	**0.430**
(m^3s^{-1})	High	1.396	1.869	1.804	0.892	0.728	0.539	0.427	1.113	0.919	1.736	1.816	1.764	**0.739**
Peak flow (m^3s^{-1})		10.41	15.45	19.78	11.00	4.68	6.99	5.52	9.22	7.42	11.84	16.91	15.49	**19.78**
Runoff (mm)		145	111	106	65	51	31	26	44	58	113	151	168	**1068**
Rainfall (mm)		146	91	121	70	82	69	77	114	135	154	166	168	**1393**

Factors affecting flow regime: N
Station type: C

1987 runoff is 116% of previous mean
rainfall 111%

066006 Elwy at Pont-y-gwyddel 1987

Measuring authority: WELS | Grid reference: 23 (SH) 952 718 | Catchment area (sq km): 194.0
First year: 1973 | Level stn. (m OD): 87.90 | Max alt. (m OD): 518

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	4.119	2.815	4.322	4.268	0.733	2.557	0.987	2.085	3.719	9.612	4.972	4.644	**3.736**
(m^3s^{-1}): Peak	23.21	15.55	38.40	16.08	1.57	11.83	3.55	9.44	17.56	119.10	16.51	35.35	**119.10**
Runoff (mm)	57	35	60	57	10	34	14	29	50	133	66	64	**608**
Rainfall (mm)	31	54	110	69	47	122	79	98	104	203	85	102	**1104**

Monthly and yearly statistics for previous record (Dec 1973 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	8.070	5.982	5.197	2.972	1.952	1.291	0.681	1.241	2.551	5.188	7.760	8.122	**4.244**
Low	3.115	2.650	1.539	0.823	0.479	0.359	0.278	0.242	0.629	1.360	2.263	4.879	**2.908**
(m^3s^{-1}) High	11.430	12.050	11.950	6.939	5.918	3.300	1.402	4.351	7.450	11.530	11.850	14.450	**5.094**
Peak flow (m^3s^{-1})	82.42	50.82	76.59	50.76	21.66	18.00	27.05	38.13	58.57	143.00	101.60	75.42	**143.00**
Runoff (mm)	111	75	72	40	27	17	9	17	34	72	104	112	**690**
Rainfall (mm)	133	82	101	59	78	72	64	91	127	126	154	144	**1231**

Factors affecting flow regime: SRP
Station type: VA

1987 runoff is 88% of previous mean
rainfall 90%

067008 Alyn at Pont-y-capel 1987

Measuring authority: WELS | Grid reference: 33 (SJ) 336 541 | Catchment area (sq km): 227.1
First year: 1965 | Level stn. (m OD): 37.30 | Max alt. (m OD): 562

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	2.869	1.627	3.130	2.950	0.975	2.132	1.121	1.123	0.985	5.078	2.900	1.475	**2.197**
(m^3s^{-1}): Peak	13.88	4.25	8.36	11.95	1.57	12.31	4.86	5.75	3.21	26.46	7.76	2.71	**26.46**
Runoff (mm)	34	17	37	34	12	24	13	13	11	60	33	17	**306**
Rainfall (mm)	22	41	92	53	49	126	84	86	63	165	71	43	**895**

Monthly and yearly statistics for previous record (Jun 1965 to Dec 1986)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	4.439	3.993	3.222	2.594	1.876	1.173	0.879	0.917	1.007	1.898	3.120	4.414	**2.455**
Low	1.753	1.959	1.448	1.023	0.712	0.438	0.331	0.287	0.474	0.452	0.614	1.246	**1.266**
(m^3s^{-1}) High	7.219	9.085	8.027	6.474	5.657	2.873	2.098	2.456	3.906	6.896	6.168	9.480	**3.027**
Peak flow (m^3s^{-1})	27.53	28.52	26.11	25.28	26.86	18.34	23.23	20.81	59.11	21.90	28.21	35.92	**59.11**
Runoff (mm)	52	43	38	30	22	13	10	11	11	22	36	52	**341**
Rainfall (mm)	88	65	74	61	73	64	58	73	82	81	109	99	**927**

Factors affecting flow regime: EI
Station type: CC

1987 runoff is 90% of previous mean
rainfall 97%

068003 Dane at Rudheath 1987

Measuring authority: NWWA | Grid reference: 33 (SJ) 668 718 | Catchment area (sq km): 407.1
First year: 1949 | Level stn. (m OD): 13.20 | Max alt. (m OD): 547

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	9.221	4.227	7.293	5.614	2.648	6.860	3.172	11.650	3.754	9.842	8.246	5.090	**6.468**
(m^3s^{-1}): Peak	71.08	14.71	55.86	19.07	8.43	25.77	23.89	270.20	18.48	66.26	47.31	33.06	**270.20**
Runoff (mm)	61	25	48	36	17	44	21	77	24	65	53	33	**503**
Rainfall (mm)	34	33	89	47	59	136	83	109	57	129	74	45	**895**

Monthly and yearly statistics for previous record (Nov 1949 to Dec 1986—incomplete or missing months total 5.5 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	7.364	5.805	4.688	4.190	3.030	2.475	2.593	3.386	3.590	4.313	6.574	7.785	**4.645**
Low	2.183	1.545	1.277	0.988	0.720	0.746	0.734	0.654	0.633	0.877	1.396	1.803	**2.333**
(m^3s^{-1}) High	15.330	12.760	17.210	10.290	7.335	6.864	8.012	14.360	11.920	14.350	16.290	22.920	**8.662**
Peak flow (m^3s^{-1})	134.50	80.81	134.00	68.32	63.60	41.96	82.83	67.96	84.20	66.26	103.90	193.60	**193.60**
Runoff (mm)	48	35	31	27	20	16	17	22	23	28	42	51	**360**
Rainfall (mm)	77	53	60	61	65	66	78	88	81	75	90	86	**880**

Factors affecting flow regime: S PGEI
Station type: VA

1987 runoff is 140% of previous mean
rainfall 102%

069002 Irwell at Adelphi Weir 1987

Measuring authority: NWWA | Grid reference: 33 (SJ) 824 987 | Catchment area (sq km): 559.4
First year: 1949 | Level stn. (m OD): 24.10 | Max alt. (m OD): 473

Hydrometric statistics for 1987

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows Avg.	18.950	14.250	19.220	15.420	8.506	16.400	12.460	15.060	15.980	27.620	21.290	16.680	**16.819**
(m^3s^{-1}): Peak	162.30	77.58	93.00	89.99	20.78	99.14	93.15	95.28	71.02	187.30	144.70	84.69	**187.30**
Runoff (mm)	91	62	92	71	41	76	60	72	74	132	99	80	**950**
Rainfall (mm)	46	74	116	66	66	153	113	115	113	169	104	96	**1231**

Monthly and yearly statistics for previous record (Oct 1949 to Dec 1986—incomplete or missing months total 2.0 years)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean flows Avg.	25.220	21.790	17.190	14.270	12.000	10.150	11.060	15.830	16.640	20.400	25.290	30.040	**18.317**
Low	3.705	4.787	7.803	5.408	4.348	2.750	4.031	3.676	2.991	4.990	7.534	7.469	**10.469**
(m^3s^{-1}) High	40.260	67.230	48.030	27.070	21.530	18.900	26.150	56.000	43.480	52.510	51.100	84.660	**30.469**
Peak flow (m^3s^{-1})	430.40	400.30	295.60	184.20	141.60	238.00	385.60	395.70	390.80	485.10	334.90	419.50	**485.10**
Runoff (mm)	121	95	82	66	57	47	53	76	77	98	117	144	**1033**
Rainfall (mm)	120	82	91	77	82	85	97	124	120	124	134	141	**1277**

Factors affecting flow regime: S PGEI
Station type: B

1987 runoff is 92% of previous mean
rainfall 96%

069006 Bollin at Dunham Massey 1987

Measuring authority: NWWA
First year: 1955
Grid reference: 33 (SJ) 727 875
Level stn. (m OD): 12.80
Catchment area (sq km): 256.0
Max alt. (m OD): 483

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	6.821	3.805	5.359	4.805	2.633	9.203	3.945	5.855	4.524	10.350	7.071	4.918	**5.774**
(m^3s^{-1}):	Peak	27.15	12.29	25.27	13.80	6.38	42.37	16.49	44.04	22.39	33.39	26.66	26.04	**44.04**
Runoff (mm)		71	36	56	49	28	93	41	61	46	108	72	51	**712**
Rainfall (mm)		27	37	79	47	56	154	85	99	73	136	69	47	**909**

Monthly and yearly statistics for previous record (Oct 1955 to Dec 1986—incomplete or missing months total 1.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	6.296	5.374	4.305	3.622	2.956	2.303	2.217	2.801	3.093	3.889	5.376	6.404	**4.048**
flows	Low	1.639	1.686	1.694	1.742	1.286	0.707	0.875	0.464	0.651	1.300	1.804	2.296	**2.728**
(m^3s^{-1})	High	10.280	12.880	11.470	8.732	5.781	5.953	5.626	11.410	8.963	11.340	9.425	14.510	**6.307**
Peak flow (m^3s^{-1})		43.95	39.29	36.91	60.43	63.02	34.19	41.50	41.47	35.05	41.18	44.35	46.33	**63.02**
Runoff (mm)		66	51	45	37	31	23	23	29	31	41	54	67	**499**
Rainfall (mm)		80	54	62	56	66	68	76	89	84	80	86	89	**890**

Factors affecting flow regime: S PGEI
Station type: VA

1987 runoff is 143% of previous mean
rainfall 102%

069015 Etherow at Compstall 1987

Measuring authority: NWWA
First year: 1977
Grid reference: 33 (SJ) 962 908
Level stn. (m OD): 73.50
Catchment area (sq km): 156.0
Max alt. (m OD): 628

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.999	2.585	2.724	3.761	1.486	4.758	2.265	3.191	2.641	3.668	3.328	2.413	**3.152**
(m^3s^{-1}):	Peak	25.47	13.77	11.45	15.09	4.15	28.64	15.47	11.91	15.17	27.26	26.48	18.49	**28.64**
Runoff (mm)		86	40	47	62	26	79	39	55	44	63	55	41	**637**
Rainfall (mm)		60	79	126	76	88	192	113	105	107	151	115	83	**1295**

Monthly and yearly statistics for previous record (Jan 1977 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	5.980	4.465	5.017	3.360	2.178	1.481	1.137	1.603	1.820	3.275	5.203	5.550	**3.420**
flows	Low	3.445	2.141	1.365	1.070	0.539	0.835	0.718	0.691	1.178	1.264	2.276	2.767	**2.440**
(m^3s^{-1})	High	8.964	8.539	10.080	6.325	4.870	2.997	1.993	3.572	2.692	9.424	7.471	9.286	**4.169**
Peak flow (m^3s^{-1})		42.63	44.46	46.03	32.66	18.79	24.95	15.22	24.43	37.45	42.12	40.15	62.95	**62.95**
Runoff (mm)		103	70	86	56	37	25	20	28	30	56	86	95	**692**
Rainfall (mm)		159	89	144	87	79	101	66	124	121	138	157	165	**1430**

Factors affecting flow regime: S PGEI
Station type: C

1987 runoff is 92% of previous mean
rainfall 91%

071001 Ribble at Samlesbury 1987

Measuring authority: NWWA
First year: 1960
Grid reference: 34 (SD) 589 304
Level stn. (m OD): 6.00
Catchment area (sq km): 1145.0
Max alt. (m OD): 680

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	35.140	31.640	40.420	24.700	8.906	26.580	27.190	31.670	32.440	54.840	41.000	39.880	**32.867**
(m^3s^{-1}):	Peak	396.10	213.40	367.40	146.90	29.59	236.70	229.80	409.80	242.10	231.00	269.70	322.00	**409.80**
Runoff (mm)		82	67	95	56	21	60	64	74	73	131	93	93	**909**
Rainfall (mm)		54	94	138	63	60	142	127	121	122	177	106	129	**1333**

Monthly and yearly statistics for previous record (May 1960 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	51.710	36.070	33.820	26.490	18.950	14.110	15.340	23.960	30.340	41.410	53.650	57.040	**33.582**
flows	Low	10.610	9.565	11.790	5.601	4.048	5.031	2.638	2.958	5.782	5.716	20.770	15.190	**22.045**
(m^3s^{-1})	High	82.510	80.890	104.700	54.820	46.460	33.520	40.220	68.920	65.820	118.400	88.610	120.200	**45.022**
Peak flow (m^3s^{-1})		754.60	513.10	643.30	466.60	319.10	494.80	399.80	520.80	619.30	810.00	613.20	891.30	**891.30**
Runoff (mm)		121	77	79	60	44	32	36	56	69	97	121	133	**925**
Rainfall (mm)*		135	81	105	82	85	89	87	117	135	138	146	151	**1351**

*(1961-1986)

Factors affecting flow regime: S E
Station type: MIS

1987 runoff is 98% of previous mean
rainfall 99%

071004 Calder at Whalley Weir 1987

Measuring authority: NWWA
First year: 1963
Grid reference: 34 (SD) 729 360
Level stn. (m OD): 39.90
Catchment area (sq km): 316.0
Max alt. (m OD): 558

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.742	7.526	10.170	7.353	3.435	7.609	6.825	8.452	7.562	14.180	10.340	7.665	**8.322**
(m^3s^{-1}):	Peak	107.80	53.51	81.68	48.18	13.55	59.30	67.59	138.30	51.17	149.60	90.96	44.71	**149.60**
Runoff (mm)		74	58	86	60	29	62	58	72	62	120	85	65	**831**
Rainfall (mm)		46	74	122	62	60	141	118	118	105	160	98	89	**1193**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986—incomplete or missing months total 2.6 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	13.340	9.401	8.959	6.641	5.372	4.233	3.599	5.862	7.522	10.980	13.310	14.040	**8.606**
flows	Low	5.766	3.320	3.989	2.272	2.053	1.888	1.773	1.564	2.065	2.397	5.625	4.886	**6.225**
(m^3s^{-1})	High	20.590	17.170	25.320	13.010	9.916	7.372	9.059	16.280	18.620	23.910	21.990	25.610	**11.485**
Peak flow (m^3s^{-1})		183.20	146.10	185.20	108.40	91.66	135.50	230.60	171.60	206.00	229.50	148.60	194.30	**230.60**
Runoff (mm)		113	73	76	54	46	35	31	50	62	93	109	119	**859**
Rainfall (mm)		126	74	101	72	81	84	77	109	122	129	135	133	**1243**

Factors affecting flow regime: EI
Station type: FV

1987 runoff is 97% of previous mean
rainfall 96%

072002 Wyre at St Michaels 1987

Measuring authority: NWWA | Grid reference: 34 (SD) 463 411 | Catchment area (sq km): 275.0
First year: 1963 | Level stn. (m OD): 4.40 | Max alt. (m OD): 560

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	7.457	6.778	7.790	5.886	2.340	5.804	7.271	9.467	6.616	15.880	9.014	10.190	**7.874**
(m^3s^{-1}):	Peak	51.42	43.94	51.69	41.17	12.32	64.94	148.10	118.40	58.89	108.00	82.70	118.70	**148.10**
Runoff (mm)		73	60	76	55	23	55	71	92	62	155	85	99	**905**
Rainfall (mm)		43	88	129	63	71	138	150	134	113	188	91	128	**1336**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986—incomplete or missing months total 0.2 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	9.981	6.834	6.957	4.784	3.412	2.842	2.743	4.516	6.636	9.195	10.610	11.340	**6.658**
flows	Low	3.983	1.746	2.270	0.774	0.732	0.444	0.431	0.248	0.902	0.617	4.859	2.581	**3.186**
(m^3s^{-1})	High	17.820	16.030	25.920	12.090	10.450	7.096	5.690	16.240	13.290	25.500	18.510	26.530	**10.329**
Peak flow (m^3s^{-1})		156.50	145.60	168.90	123.00	128.20	146.60	96.89	162.10	176.50	180.40	163.10	190.50	**190.50**
Runoff (mm)		97	61	68	45	33	27	27	44	63	90	100	110	**764**
Rainfall (mm)		122	69	98	71	80	90	86	112	134	138	141	132	**1273**

Factors affecting flow regime: S PG
Station type: FV

1987 runoff is 119% of previous mean
rainfall 105%

073005 Kent at Sedgwick 1987

Measuring authority: NWWA | Grid reference: 34 (SD) 509 874 | Catchment area (sq km): 209.0
First year: 1968 | Level stn. (m OD): 18.90 | Max alt. (m OD): 817

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.297	8.729	12.710	7.698	2.328	7.603	8.264	5.657	11.810	15.440	9.890	14.180	**9.384**
(m^3s^{-1}):	Peak	72.31	60.02	108.40	38.26	4.07	58.95	63.00	43.08	61.20	90.21	62.40	134.70	**134.70**
Runoff (mm)		106	101	163	95	30	94	106	72	146	198	123	182	**1417**
Rainfall (mm)		71	125	222	77	56	185	151	110	209	244	130	245	**1825**

Monthly and yearly statistics for previous record (Nov 1968 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	12.730	9.225	9.178	6.363	4.428	3.781	3.482	5.579	7.995	10.400	14.180	13.480	**8.398**
flows	Low	5.998	3.094	3.348	2.038	1.222	0.872	0.658	0.740	1.753	1.396	5.484	5.466	**5.995**
(m^3s^{-1})	High	20.820	16.800	22.750	12.620	11.580	13.010	10.550	18.790	15.630	17.940	21.410	23.200	**10.316**
Peak flow (m^3s^{-1})		197.70	114.00	166.10	111.10	53.44	72.86	94.65	88.68	120.70	123.50	175.00	231.40	**231.40**
Runoff (mm)		163	108	118	79	57	47	45	71	99	133	176	173	**1268**
Rainfall (mm)		195	101	149	89	92	101	106	130	176	180	217	195	**1731**

Factors affecting flow regime: N
Station type: CBVA

1987 runoff is 112% of previous mean
rainfall 105%

074002 Irt at Galesyke 1987

Measuring authority: NWWA | Grid reference: 35 (NY) 136 038 | Catchment area (sq km): 44.2
First year: 1967 | Level stn. (m OD): 54.20 | Max alt. (m OD): 978

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	3.754	2.525	4.180	3.589	1.290	2.751	3.348	2.761	3.954	4.695	2.577	4.154	**3.298**
(m^3s^{-1}):	Peak	16.96	9.86	20.02	12.39	2.34	8.16	8.29	7.75	10.28	10.96	8.63	16.36	**20.02**
Runoff (mm)		227	138	253	211	78	161	203	167	232	284	151	252	**2358**
Rainfall (mm)		111	171	334	124	117	234	254	165	262	323	162	315	**2572**

Monthly and yearly statistics for previous record (Dec 1967 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.434	2.898	2.942	2.664	1.533	1.811	2.174	2.570	3.664	4.581	4.993	4.337	**3.218**
flows	Low	1.321	0.736	0.737	0.430	0.257	0.638	0.467	0.286	0.400	0.554	1.885	1.802	**2.440**
(m^3s^{-1})	High	8.242	5.117	6.575	5.947	3.901	5.216	4.667	6.757	7.630	8.174	7.094	7.645	**3.950**
Peak flow (m^3s^{-1})		31.73	18.67	16.74	34.04	6.84	10.27	27.26	18.46	17.89	27.29	21.85	20.33	**34.04**
Runoff (mm)		269	160	178	156	93	106	132	156	215	278	293	263	**2298**
Rainfall (mm)		321	174	236	151	132	165	185	214	282	314	339	310	**2823**

Factors affecting flow regime: S P I
Station type: VA

1987 runoff is 103% of previous mean
rainfall 91%

074005 Ehen at Braystones 1987

Measuring authority: NWWA | Grid reference: 35 (NY) 009 061 | Catchment area (sq km): 125.5
First year: 1974 | Level stn. (m OD): 10.10 | Max alt. (m OD): 899

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	4.981	3.494	7.778	5.203	1.399	3.035	4.860	4.162	6.836	9.293	4.761	7.305	**5.259**
(m^3s^{-1}):	Peak	37.66	29.30	67.40	38.78	2.82	24.49	56.92	69.89	46.97	77.92	28.73	48.45	**77.92**
Runoff (mm)		106	67	166	107	30	63	104	89	141	198	98	156	**1326**
Rainfall (mm)		62	105	228	91	67	162	185	125	188	245	106	201	**1765**

Monthly and yearly statistics for previous record (Jan 1974 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	7.878	5.645	5.368	3.141	2.194	1.876	1.854	3.752	5.460	8.009	8.629	8.360	**5.181**
flows	Low	2.220	1.856	2.225	0.993	0.771	0.779	0.789	0.661	1.694	3.640	3.121	3.136	**3.963**
(m^3s^{-1})	High	16.030	15.890	10.220	7.046	6.877	4.371	5.444	12.260	12.840	14.080	12.470	13.380	**6.328**
Peak flow (m^3s^{-1})		97.85	79.36	69.47	81.07	46.97	38.25	53.72	73.04	76.40	115.90	64.49	91.47	**115.90**
Runoff (mm)		168	110	115	65	47	39	40	80	113	171	178	178	**1303**
Rainfall (mm)		208	106	169	83	86	95	119	144	201	228	219	214	**1872**

Factors affecting flow regime: S P
Station type: VA

1987 runoff is 102% of previous mean
rainfall 94%

075002 Derwent at Camerton 1987

Measuring authority: NWWA | Grid reference: 35 (NY) 038 305 | Catchment area (sq km): 663.0
First year: 1960 | Level stn. (m OD): 16.70 | Max alt. (m OD): 950

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	32.860	18.720	39.780	29.100	6.128	14.610	20.750	14.340	31.130	52.240	26.750	32.180	**26.549**
(m^3s^{-1}):	Peak	143.60	76.77	215.50	104.70	8.69	43.97	111.20	54.39	90.28	191.40	70.34	190.20	**215.50**
Runoff (mm)		133	68	161	114	25	57	84	58	122	211	105	130	**1267**
Rainfall (mm)		68	106	241	82	65	154	176	114	192	276	127	219	**1820**

Monthly and yearly statistics for previous record (Sep 1960 to Dec 1986—incomplete or missing months total 0.3 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	37.590	26.970	24.200	19.460	13.480	10.380	10.990	18.200	25.500	35.190	42.050	41.760	**25.482**
flows	Low	9.587	4.837	7.466	4.359	2.753	2.041	2.503	2.384	2.885	2.755	14.570	14.740	**14.823**
(m^3s^{-1})	High	84.550	56.570	51.550	38.940	36.280	34.800	21.110	55.940	62.980	107.800	76.340	75.840	**34.235**
Peak flow (m^3s^{-1})		219.20	165.70	175.40	145.50	102.90	135.80	114.50	216.20	189.20	264.70	211.30	199.00	**264.70**
Runoff (mm)		152	99	98	76	54	41	44	74	100	142	164	169	**1213**
Rainfall (mm)*		182	98	138	95	105	109	111	145	184	199	201	188	**1755**

*(1961-1986)

Factors affecting flow regime: S P | 1987 runoff is 104% of previous mean
Station type: VA | rainfall 104%

078003 Annan at Brydekirk 1987

Measuring authority: SRPB | Grid reference: 35 (NY) 191 704 | Catchment area (sq km): 925.0
First year: 1967 | Level stn. (m OD): 10.00 | Max alt. (m OD): 821

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	33.100	26.150	46.140	30.140	7.680	23.400	23.040	46.740	32.720	50.200	34.190	46.750	**33.354**
(m^3s^{-1}):	Peak	138.78	120.70	242.77	133.24	22.67	152.15	253.07	378.89	262.51	333.32	163.88	252.22	**378.89**
Runoff (mm)		96	68	134	84	22	66	67	135	92	145	96	135	**1140**
Rainfall (mm)		60	87	165	77	61	118	134	180	137	186	108	174	**1487**

Monthly and yearly statistics for previous record (Oct 1967 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	44.610	33.030	30.160	19.310	16.350	11.550	9.742	15.860	24.680	36.840	43.810	44.650	**27.537**
flows	Low	17.820	12.820	8.402	6.124	3.519	2.937	1.944	2.007	3.362	3.592	11.490	19.530	**16.402**
(m^3s^{-1})	High	83.440	55.440	53.770	40.600	53.160	32.150	34.940	76.390	76.320	86.820	77.930	87.020	**36.424**
Peak flow (m^3s^{-1})		405.37	291.30	235.95	182.50	172.51	171.26	217.59	254.51	446.63	499.10	325.04	355.41	**499.10**
Runoff (mm)		129	87	87	54	47	32	28	46	69	107	123	129	**940**
Rainfall (mm)		142	87	114	66	91	83	90	101	135	146	143	141	**1339**

Factors affecting flow regime: | 1987 runoff is 121% of previous mean
Station type: VA | rainfall 111%

078004 Kinnel Water at Redhall 1987

Measuring authority: SRPB | Grid reference: 35 (NY) 077 868 | Catchment area (sq km): 76.1
First year: 1963 | Level stn. (m OD): 53.70 | Max alt. (m OD): 697

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.242	2.112	4.151	2.118	0.510	1.638	2.018	4.030	3.277	4.119	3.087	4.713	**2.835**
(m^3s^{-1}):	Peak	21.33	17.96	55.23	16.11	1.90	24.57	41.50	65.25	72.02	72.72	30.39	44.98	**72.72**
Runoff (mm)		79	67	146	72	18	56	71	142	112	145	105	166	**1178**
Rainfall (mm)		64	90	169	80	57	127	141	189	150	193	115	185	**1560**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986—incomplete or missing months total 1.0 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	4.084	2.853	2.657	1.585	1.668	1.098	0.916	1.513	2.690	3.607	4.123	4.126	**2.577**
flows	Low	1.296	0.590	0.552	0.251	0.122	0.112	0.048	0.049	0.099	0.207	0.740	1.081	**1.507**
(m^3s^{-1})	High	8.456	5.362	5.124	4.161	5.496	3.282	3.435	7.513	6.689	7.288	7.535	8.490	**3.517**
Peak flow (m^3s^{-1})		79.34	77.68	59.19	42.46	51.79	36.09	60.14	58.54	91.37	110.90	86.69	103.65	**110.90**
Runoff (mm)		144	92	94	54	59	37	32	53	92	127	140	145	**1069**
Rainfall (mm)		148	92	120	75	103	90	90	110	150	155	156	155	**1444**

Factors affecting flow regime: | 1987 runoff is 110% of previous mean
Station type: VA | rainfall 108%

080001 Urr at Dalbeattie 1987

Measuring authority: SRPB | Grid reference: 25 (NX) 822 610 | Catchment area (sq km): 199.0
First year: 1963 | Level stn. (m OD): 4.00 | Max alt. (m OD): 432

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	6.461	5.329	10.320	4.941	0.713	2.327	3.290	12.010	7.055	11.810	7.751	9.903	**6.826**
(m^3s^{-1}):	Peak	32.68	22.66	66.91	44.02	1.88	30.62	40.39	104.59	64.32	135.21	38.12	78.79	**135.21**
Runoff (mm)		87	65	139	64	10	30	44	162	92	159	101	133	**1086**
Rainfall (mm)		64	92	170	68	45	115	118	211	140	192	114	166	**1495**

Monthly and yearly statistics for previous record (Nov 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	9.551	7.434	6.021	3.487	3.279	2.123	1.312	2.499	5.186	8.090	9.801	10.080	**5.732**
flows	Low	3.534	1.419	2.094	0.753	0.308	0.246	0.140	0.149	0.319	0.522	1.711	3.369	**3.109**
(m^3s^{-1})	High	19.080	13.750	11.780	7.485	10.880	6.833	5.081	13.310	17.160	19.400	19.420	18.590	**8.358**
Peak flow (m^3s^{-1})		133.72	91.45	95.03	61.69	65.95	59.18	68.42	73.50	114.06	162.16	129.74	164.30	**164.30**
Runoff (mm)		129	91	81	45	44	28	18	34	68	109	128	136	**909**
Rainfall (mm)		134	87	108	66	86	80	76	95	135	144	148	141	**1300**

Factors affecting flow regime: | 1987 runoff is 119% of previous mean
Station type: VA | rainfall 115%

081003 Luce at Airyhemming 1987

Measuring authority: SRPB
First year: 1967
Grid reference: 25 (NX) 180 599
Level stn. (m OD): 19.00
Catchment area (sq km): 171.0
Max alt. (m OD): 438

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.916	5.280	9.772	3.433	1.561	5.360	6.445	11.670	6.267	10.780	7.303	8.843	**6.886**
(m^3s^{-1}):	Peak	100.75	47.47	77.67	58.45	10.51	190.33	114.44	283.62	56.64	117.47	93.66	70.24	**283.62**
Runoff (mm)		93	75	153	52	24	81	101	183	95	169	111	139	**1275**
Rainfall (mm)		77	97	172	72	77	143	169	237	137	200	132	160	**1673**

Monthly and yearly statistics for previous record (Jan 1967 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	10.440	6.725	5.893	3.351	2.707	1.838	1.974	2.956	6.236	8.657	10.150	9.204	**5.842**
flows	Low	4.540	0.789	1.359	0.454	0.260	0.225	0.191	0.277	0.365	1.689	3.857	2.445	**3.691**
(m^3s^{-1})	High	15.600	12.110	11.300	8.289	7.597	4.587	6.438	14.290	17.660	16.750	15.940	17.090	**7.625**
Peak flow (m^3s^{-1})		177.10	146.10	197.30	197.60	63.64	64.10	131.50	171.80	192.40	231.79	168.40	204.04	**231.79**
Runoff (mm)		164	96	92	51	42	28	31	46	95	136	154	144	**1078**
Rainfall (mm)		170	93	113	73	81	81	90	104	151	159	169	150	**1434**

Factors affecting flow regime: S P
Station type: VA

1987 runoff is 118% of previous mean
rainfall 117%

082001 Girvan at Robstone 1987

Measuring authority: CRPB
First year: 1963
Grid reference: 25 (NX) 217 997
Level stn. (m OD): 9.10
Catchment area (sq km): 245.5
Max alt. (m OD): 659

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	6.558	3.483	9.872	4.621	1.690	2.997	7.103	7.915	7.818	11.660	7.166	8.640	**6.627**
(m^3s^{-1}):	Peak	48.49	17.57	89.50	23.57	6.17	25.16	110.88	88.73	42.85	91.34	34.23	68.71	**110.88**
Runoff (mm)		72	34	108	49	18	32	77	86	83	127	76	94	**856**
Rainfall (mm)		59	67	167	63	70	105	153	158	123	180	95	140	**1380**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	10.520	7.145	6.239	3.726	3.025	1.962	2.081	3.221	6.288	9.446	11.550	10.770	**6.330**
flows	Low	3.846	1.736	1.595	0.923	0.521	0.370	0.487	0.301	0.546	1.191	2.755	2.893	**4.222**
(m^3s^{-1})	High	19.370	13.240	11.520	11.330	8.583	5.682	6.751	12.930	21.830	17.380	20.230	24.350	**8.101**
Peak flow (m^3s^{-1})		100.96	84.94	63.02	65.23	61.87	52.91	97.92	92.54	157.60	147.17	90.82	182.98	**182.98**
Runoff (mm)		115	71	68	39	33	21	23	35	66	103	122	118	**814**
Rainfall (mm)		139	77	108	66	82	79	92	100	146	159	169	145	**1362**

Factors affecting flow regime: S
Station type: VA

1987 runoff is 105% of previous mean
rainfall 101%

083003 Ayr at Catrine 1987

Measuring authority: CRPB
First year: 1970
Grid reference: 26 (NS) 525 259
Level stn. (m OD): 89.90
Catchment area (sq km): 166.3
Max alt. (m OD): 548

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.726	3.568	6.725	3.088	1.410	3.937	3.429	5.766	5.831	6.619	5.008	7.684	**4.899**
(m^3s^{-1}):	Peak	46.23	24.89	68.20	11.65	8.65	69.39	73.24	67.24	28.80	60.93	39.59	90.78	**90.78**
Runoff (mm)		92	52	108	48	23	61	55	93	91	107	78	124	**932**
Rainfall (mm)		72	66	137	64	71	98	99	143	125	153	83	152	**1263**

Monthly and yearly statistics for previous record (Sep 1970 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	8.805	5.183	5.357	2.703	2.132	1.950	1.981	2.750	5.278	6.705	8.638	7.556	**4.921**
flows	Low	3.182	1.534	1.480	0.733	0.593	0.658	0.417	0.410	0.597	0.631	2.147	3.312	**3.613**
(m^3s^{-1})	High	14.120	11.280	10.780	7.056	5.714	4.179	7.720	9.970	14.680	10.900	13.630	14.490	**5.926**
Peak flow (m^3s^{-1})		178.53	96.54	92.30	67.02	75.55	60.69	70.77	72.00	157.42	162.59	105.57	119.15	**178.53**
Runoff (mm)		142	76	86	42	34	30	32	44	82	108	135	122	**934**
Rainfall (mm)		144	76	105	63	72	82	85	89	132	147	162	136	**1293**

Factors affecting flow regime: H
Station type: VA

1987 runoff is 100% of previous mean
rainfall 98%

084012 White Cart Water at Hawkhead 1987

Measuring authority: CRPB
First year: 1963
Grid reference: 26 (NS) 499 629
Level stn. (m OD): 4.10
Catchment area (sq km): 227.2
Max alt. (m OD): 375

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	10.850	7.254	9.741	5.344	1.398	2.858	1.469	3.616	8.617	11.210	7.816	10.080	**6.688**
(m^3s^{-1}):	Peak	89.02	36.04	93.21	31.98	7.24	28.44	12.19	57.84	61.00	91.80	40.27	78.29	**93.21**
Runoff (mm)		128	77	115	61	16	33	17	43	98	132	89	119	**929**
Rainfall (mm)		88	87	137	67	61	100	62	117	141	167	88	144	**1259**

Monthly and yearly statistics for previous record (Oct 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	10.810	7.344	6.975	3.911	3.604	2.575	2.395	3.806	7.301	10.950	12.010	10.910	**6.884**
flows	Low	5.142	2.480	1.676	1.112	0.973	0.998	0.824	0.885	1.141	1.212	3.259	3.211	**4.419**
(m^3s^{-1})	High	21.190	14.260	15.630	8.523	10.330	6.542	8.806	14.220	24.360	46.570	20.730	20.850	**10.946**
Peak flow (m^3s^{-1})		187.40	139.25	117.02	82.46	115.13	65.13	93.51	111.27	132.91	134.42	134.05	187.10	**187.40**
Runoff (mm)		127	79	82	45	42	29	28	45	83	129	137	129	**956**
Rainfall (mm)		123	74	101	61	82	73	77	95	138	141	152	132	**1249**

Factors affecting flow regime: S
Station type: VA

1987 runoff is 97% of previous mean
rainfall 101%

084016 Luggie Water at Condorrat 1987

Measuring authority: CRPB
First year: 1966

Grid reference: 26 (NS) 739 725
Level stn. (m OD): 68.00

Catchment area (sq km): 33.9
Max alt. (m OD): 283

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.747	1.037	1.204	0.691	0.256	0.637	0.228	0.862	0.704	1.117	0.867	1.238	**0.882**
(m^3s^{-1}):	Peak	14.97	6.96	13.27	7.42	1.13	6.19	0.77	14.56	4.78	7.22	5.02	17.04	**17.04**
Runoff (mm)		138	74	95	53	20	49	18	68	54	88	66	98	**821**
Rainfall (mm)		79	75	110	57	47	90	60	124	103	125	64	127	**1061**

Monthly and yearly statistics for previous record (Oct 1966 to Dec 1986—incomplete or missing months total 0.5 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	1.464	0.997	0.953	0.552	0.492	0.300	0.302	0.446	0.821	1.093	1.433	1.405	**0.855**
flows	Low	0.680	0.415	0.370	0.287	0.166	0.138	0.147	0.123	0.125	0.129	0.367	0.592	**0.539**
(m^3s^{-1})	High	3.104	1.944	1.636	1.030	1.199	0.692	1.751	1.606	3.386	2.121	2.362	2.669	**1.121**
Peak flow (m^3s^{-1})		30.25	19.34	28.11	8.86	14.54	6.05	27.14	20.88	44.46	32.53	30.68	36.04	**44.46**
Runoff (mm)		116	72	75	42	39	23	24	35	63	86	110	111	**795**
Rainfall (mm)		106	67	87	49	73	67	72	83	115	117	124	108	**1068**

Factors affecting flow regime:
Station type: VA

1987 runoff is 103% of previous mean
rainfall 99%

085001 Leven at Linnbrane 1987

Measuring authority: CRPB
First year: 1963

Grid reference: 26 (NS) 394 803
Level stn. (m OD): 4.30

Catchment area (sq km): 784.3
Max alt. (m OD): 1130

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	72.490	36.020	44.380	35.560	12.910	14.640	10.990	23.840	53.020	51.230	53.810	35.880	**37.064**
(m^3s^{-1}):	Peak	114.74	54.17	68.09	62.96	31.00	32.30	15.91	55.88	72.01	68.96	72.45	102.31	**114.74**
Runoff (mm)		248	111	152	118	44	48	38	81	175	175	178	123	**1490**
Rainfall (mm)		99	136	215	73	86	111	85	162	244	227	159	262	**1859**

Monthly and yearly statistics for previous record (Jul 1963 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	61.380	52.030	44.370	31.600	26.770	21.140	18.830	23.010	34.560	54.320	62.000	64.660	**41.185**
flows	Low	27.860	18.610	16.630	10.540	10.620	9.716	6.706	3.974	8.194	10.830	24.540	36.270	**30.712**
(m^3s^{-1})	High	119.100	102.100	98.410	51.390	73.060	51.860	44.640	85.140	90.470	90.150	112.700	122.400	**52.218**
Peak flow (m^3s^{-1})		150.48	140.83	122.21	83.14	91.20	78.32	85.61	113.02	118.82	138.54	140.91	143.49	**150.48**
Runoff (mm)		210	162	152	104	91	70	64	79	114	186	205	221	**1657**
Rainfall (mm)		233	135	173	100	127	116	121	141	215	228	242	226	**2057**

Factors affecting flow regime: S
Station type: VA

1987 runoff is 90% of previous mean
rainfall 90%

094001 Ewe at Poolewe 1987

Measuring authority: HRPB
First year: 1970

Grid reference: 18 (NG) 859 803
Level stn. (m OD): 4.60

Catchment area (sq km): 441.1
Max alt. (m OD): 1014

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	28.330	22.260	24.940	24.580	17.570	8.077	13.480	20.900	39.020	24.510	32.090	24.870	**23.386**
(m^3s^{-1}):	Peak	67.94	40.95	63.01	62.31	28.03	11.29	21.22	37.66	71.12	48.74	63.72	83.72	**83.72**
Runoff (mm)		172	122	151	144	107	47	82	127	229	149	189	151	**1671**
Rainfall (mm)		93	156	273	72	122	88	132	144	332	184	223	253	**2072**

Monthly and yearly statistics for previous record (Nov 1970 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	40.960	28.090	27.160	22.690	16.050	13.750	14.040	15.790	31.010	35.680	48.870	48.730	**28.566**
flows	Low	13.820	10.660	8.842	4.537	3.862	4.675	7.884	6.240	8.046	13.160	22.680	16.500	**19.389**
(m^3s^{-1})	High	81.130	46.880	54.440	38.270	36.280	27.180	26.180	33.070	57.270	66.220	78.300	81.840	**35.549**
Peak flow (m^3s^{-1})		177.08	104.96	117.00	73.59	65.63	64.43	45.08	85.46	109.22	119.00	136.10	179.82	**179.82**
Runoff (mm)		249	155	165	133	97	81	85	96	182	217	287	296	**2044**
Rainfall (mm)		267	152	200	131	118	124	138	149	248	293	344	314	**2478**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 82% of previous mean
rainfall 84%

095001 Inver at Little Assynt 1987

Measuring authority: HRPB
First year: 1977

Grid reference: 29 (NC) 147 250
Level stn. (m OD): 60.30

Catchment area (sq km): 137.5
Max alt. (m OD): 988

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	8.137	6.489	8.189	6.435	4.850	2.768	4.633	7.598	8.840	8.314	10.050	7.129	**6.953**
(m^3s^{-1}):	Peak	17.39	11.19	15.60	14.07	8.66	4.15	13.49	14.16	18.21	17.35	21.23	19.39	**21.23**
Runoff (mm)		159	114	160	121	94	52	90	148	167	162	190	139	**1595**
Rainfall (mm)		106	129	206	73	112	100	144	121	226	141	193	196	**1747**

Monthly and yearly statistics for previous record (Aug 1977 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	10.870	7.064	8.895	5.465	4.073	3.453	5.104	5.550	10.780	13.690	14.390	11.820	**8.440**
flows	Low	4.082	2.397	4.179	3.453	1.660	1.915	2.432	3.394	5.263	6.227	8.605	4.631	**7.152**
(m^3s^{-1})	High	19.950	11.330	19.400	7.552	7.131	5.636	10.340	8.579	16.390	21.180	23.960	17.580	**10.784**
Peak flow (m^3s^{-1})		55.24	31.02	62.82	14.93	20.92	19.72	15.19	17.80	56.50	57.51	50.06	46.65	**62.82**
Runoff (mm)		212	125	173	103	79	65	99	108	203	267	271	230	**1937**
Rainfall (mm)*		241	103	203	98	81	110	135	155	260	276	317	263	**2242**

*(1978-1986)

Factors affecting flow regime: N
Station type: VA

1987 runoff is 82% of previous mean
rainfall 78%

096001 Halladale at Halladale 1987

Measuring authority: HRPB
First year: 1976
Grid reference: 29 (NC) 891 561
Level stn. (m OD): 23.20
Catchment area (sq km): 204.6
Max alt. (m OD): 580

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	5.353	7.785	8.820	1.980	1.068	2.242	3.108	2.655	3.980	6.610	7.308	3.523	**4.536**
(m^3s^{-1}):	Peak	55.20	62.43	122.59	26.76	6.56	20.73	44.38	29.83	31.22	90.71	77.88	41.48	**122.59**
Runoff (mm)		70	92	115	25	14	28	41	35	50	87	93	46	**696**
Rainfall (mm)		63	99	144	43	51	74	102	58	98	107	105	66	**1010**

Monthly and yearly statistics for previous record (Jan 1976 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	9.318	5.989	5.714	2.987	2.288	1.832	1.480	2.443	4.975	7.117	9.289	8.568	**5.165**
flows	Low	5.333	1.555	2.907	0.624	0.279	0.271	0.215	0.186	2.181	1.441	2.510	3.004	**3.420**
(m^3s^{-1})	High	11.900	10.940	9.753	6.442	5.434	4.128	4.943	9.192	7.886	16.560	14.730	12.390	**6.418**
Peak flow (m^3s^{-1})		98.96	68.52	106.96	69.28	108.00	140.81	129.10	76.64	189.13	125.96	163.22	161.96	**189.13**
Runoff (mm)		122	72	75	38	30	23	19	32	63	93	118	112	**797**
Rainfall (mm)		146	62	106	67	62	66	63	78	126	132	152	134	**1194**

Factors affecting flow regime: N
Station type: VA

1987 runoff is 87% of previous mean
rainfall 85%

101002 Medina at Upper Shide 1987

Measuring authority: SWA
First year: 1965
Grid reference: 40 (SZ) 503 874
Level stn. (m OD): 10.40
Catchment area (sq km): 29.8
Max alt. (m OD): 167

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	0.309	0.268	0.473	0.450	0.201	0.179	0.125	0.115	0.140	0.555	0.499	0.239	**0.296**
(m^3s^{-1}):	Peak	3.49	0.83	4.08	3.85	0.36	0.40	0.49	0.20	0.38	3.74	4.89	1.02	**4.89**
Runoff (mm)		28	22	42	39	18	16	11	10	12	50	43	22	**313**
Rainfall (mm)		18	54	104	74	30	58	56	29	43	236	91	41	**834**

Monthly and yearly statistics for previous record (Oct 1965 to Dec 1986—incomplete or missing months total 6.8 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	0.436	0.401	0.325	0.257	0.209	0.143	0.127	0.120	0.161	0.220	0.341	0.402	**0.261**
flows	Low	0.150	0.160	0.121	0.104	0.094	0.069	0.073	0.044	0.080	0.110	0.088	0.116	**0.122**
(m^3s^{-1})	High	0.688	0.760	0.903	0.522	0.356	0.212	0.199	0.180	0.365	0.413	0.769	0.663	**0.335**
Peak flow (m^3s^{-1})		6.47	6.00	7.28	5.44	7.00	1.79	3.72	1.74	3.74	4.73	8.64	6.30	**8.64**
Runoff (mm)		39	33	29	22	19	12	11	11	14	20	30	36	**277**
Rainfall (mm)*		92	68	95	44	69	52	51	63	63	98	83	115	**893**

*(1966-1986)

Factors affecting flow regime: N I
Station type: FL

1987 runoff is 113% of previous mean
rainfall 93%

201007 Burn Dennet at Burndennet Bridge 1987

Measuring authority: DOEN
First year: 1975
Grid reference: *24* (IC) 372 047
Level stn. (m OD): 2.00
Catchment area (sq km): 145.3
Max alt. (m OD): 539

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	2.976	2.289	4.100	1.948	0.937	1.827	1.320	3.104	2.166	4.943	3.861	2.819	**2.691**
(m^3s^{-1}):	Peak	24.59	24.62	20.41	6.10	2.25	10.99	23.56	39.76	47.77	76.11	23.34	24.39	**76.11**
Runoff (mm)		55	38	76	35	17	33	24	57	39	91	69	52	**585**
Rainfall (mm)		54	66	107	52	52	113	88	139	89	155	100	80	**1095**

Monthly and yearly statistics for previous record (Jun 1975 to Dec 1986—incomplete or missing months total 0.1 years)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	6.292	4.465	4.318	2.782	2.487	1.728	1.812	2.215	3.267	4.291	4.979	5.701	**3.694**
flows	Low	3.410	2.244	2.441	1.687	0.925	0.843	0.832	0.579	0.664	2.596	2.130	3.208	**2.634**
(m^3s^{-1})	High	8.297	7.480	6.992	5.003	5.024	3.649	3.990	7.213	8.151	7.874	7.351	8.156	**5.012**
Peak flow (m^3s^{-1})		50.49	31.99	30.87	25.39	25.51	18.84	50.79	49.50	50.54	43.67	64.52	59.53	**64.52**
Runoff (mm)		116	75	80	50	46	31	33	41	58	79	89	105	**803**
Rainfall (mm)		134	63	106	58	76	69	84	82	111	122	116	119	**1140**

Factors affecting flow regime: E
Station type: C VA

1987 runoff is 73% of previous mean
rainfall 96%

205005 Ravernet at Ravernet 1987

Measuring authority: DOEN
First year: 1972
Grid reference: *33* (IJ) 267 613
Level stn. (m OD): 186.00
Catchment area (sq km): 69.5
Max alt. (m OD): 163

Hydrometric statistics for 1987

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Flows	Avg.	1.107	0.986	1.812	0.913	0.155	0.153	0.175	1.261	0.751	3.242	1.572	0.755	**1.073**
(m^3s^{-1}):	Peak	4.81	6.12	9.31	5.45	0.47	0.40	0.51	19.43	3.27	56.41	6.11	5.01	**56.41**
Runoff (mm)		43	34	70	34	6	6	7	49	28	125	59	29	**489**
Rainfall (mm)		31	60	90	46	28	87	72	133	69	136	66	51	**869**

Monthly and yearly statistics for previous record (Aug 1972 to Dec 1986)

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
Mean	Avg.	2.708	1.986	1.402	0.967	0.660	0.414	0.201	0.462	0.686	1.425	1.655	2.557	**1.258**
flows	Low	1.494	0.563	0.313	0.199	0.055	0.040	0.006	0.008	0.013	0.066	0.285	0.573	**0.724**
(m^3s^{-1})	High	4.254	5.670	2.543	3.425	2.282	1.593	1.185	3.385	3.355	4.361	4.093	9.416	**2.196**
Peak flow (m^3s^{-1})		24.68	40.11	29.09	42.56	26.00	21.16	4.03	36.14	19.72	30.13	34.76	52.07	**52.07**
Runoff (mm)		104	70	54	36	25	15	8	18	26	55	62	99	**572**
Rainfall (mm)		102	57	74	47	68	60	54	75	90	88	83	99	**897**

Factors affecting flow regime: I
Station type: FV

1987 runoff is 85% of previous mean
rainfall 97%

THE SURFACE WATER DATA RETRIEVAL SERVICE

The Surface Water Archive comprises some 24,000 station-years of daily river flows and incorporates data from over 1200 gauging stations throughout the United Kingdom. In addition to gauged flow data, naturalised data have been derived from the records of a small number of gauging stations. Catchment areal rainfall and the highest instantaneous flow, when available, are also archived on a monthly basis.

In order that the contents of the archive may be readily accessible, a suite of programs has been developed to provide a selection of retrieval options. Descriptions of these options are listed below, and examples of the computer output are given on pages 131 to 139. The data retrieval programs have been designed to allow flexibility in the presentation of the options, particularly those producing graphical output. Before finalising a data request it is recommended that the Concise Register of Gauging Stations on pages 140 to 145, and the Summary of Archived Data on pages 146 to 154, be consulted to check the availability of suitable data sets.

To enable the suitability of individual flow records for particular applications to be assessed more effectively all retrievals are accompanied by the relevant gauging station and catchment details (where available).

In response to user requirements the data retrieval facilities are being continually extended. A wide range of specialist analyses and presentations is now available. Individuals having data requirements not catered for in the standard retrieval suite are invited to discuss their particular needs - address opposite.

Retrievals are normally available on line-printer listings, magnetic tape or IBM compatible disk, or as hydrograph plots.

Cost of Service

To cover the computing and handling costs, a moderate charge will be made depending on the output options selected. Estimates of these charges may be obtained on request; the right to amend or waive charges is reserved.

Requests for Retrieval Options

Requests for retrieval options should include: the name and address to which output should be directed, the gauging stations for which data are required together with the period of record of interest and the title of the required options. Where possible, a daytime telephone number should be given.

Requests should be addressed to:

Surface Water Archive Office
Institute of Hydrology
Maclean Building
Crowmarsh Gifford
WALLINGFORD
OXFORDSHIRE OX10 8BB

Telephone: Wallingford (0491) 38800
Fax: (0491) 32256

Hydrological Data at the Institute of Hydrology

The Surface Water Archive is one of several major sources of hydrological data held at Wallingford. Others include an archive of flood peaks from over 600 catchments and a flood event archive comprising rainfall and river flows at short time intervals for over 3000 individual events. Data may be retrieved from these sources in a variety of formats. Enquiries concerning the availability and use of such data should be directed to the above address.

LIST OF SURFACE WATER RETRIEVAL OPTIONS

OPTION	TITLE	NOTES
1	Table of daily mean gauged discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.
	Table of daily mean naturalised discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.
	Yearbook data tabulation (daily)	River flow and catchment rainfall data for a specified year with basic gauging station and catchment details and flow statistics derived from the historical record. Naturalised flows (where available) - and the corresponding runoff - may also be tabulated.
	Table of monthly mean gauged discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.

	Table of monthly mean naturalised discharges	Includes monthly and annual summary statistics. Flows in cubic metres per second.
	Yearbook data tabulation (monthly)	Monthly river flow and catchment rainfall data for a specified year together with comparative statistics derived from the historical record. Naturalised flows (when available) – and the corresponding runoff – may also be tabulated.
	Table of monthly extreme flows	The lowest and highest daily mean flows, together with the highest instantaneous flow and date of occurrence (when available). Flows in cubic metres per second. Includes summary statistics.
	Table of catchment monthly rainfall	Rainfall totals in millimetres and as a percentage of the 1941–70 catchment average. Includes summary statistics.
	Table of catchment monthly areal rainfall and runoff	Runoff is normally derived from the monthly mean gauged flow. An additional listing is provided for catchments with naturalised flow records. A monthly summary is provided and all rainfall and runoff totals are in millimetres.
10	Hydrographs of daily mean flows	Choices of scale, units, truncation level and overlay grid pattern are available. The period of record maximum and minimum flows, or the mean flow, may be included. The plots may be based on single or n-day means, or on n-day running mean flows.
	Hydrographs of monthly mean flows	Choices of scale, unit and overlay grid pattern are available. The period of record maximum, minimum and mean flows may be included.
12	Flow duration statistics	Tabulation of the 1–99 percentile flows with optional plot of the flow duration curve. The percentiles may be derived from daily flows or n-day averages and the analysis may be restricted to nominated periods within the year e.g. April-September only. Choices of scale, grid marking and units are available and the percentiles may be expressed as a percentage of the average flow or of a nominated flow.
	Table of gauging station reference information	Tabulation of selected gauging station details and catchment characteristics for nominated gauging stations.
	Table of hydrometric statistics	Provides a comparison between summary statistics for a selected year, or a group of years, and the corresponding statistics for a nominated period of record.
15	Gauging station and catchment description	A brief summary of the gauging station, its history and major influences on the flow regime, together with catchment details.
16	River flow pattern plots	Three plots on one sheet: a) daily mean flow hydrograph for a selected year; b) monthly mean flow hydrograph for the selected year together with the maximum and minimum monthly flows plus the 30-day running mean for the preceding period of record; c) flow duration curves for the selected year and for the period of record.
	Gauging station summary sheet	Includes a daily flow hydrograph (with period of record extreme values) and flow duration curve together with summary statistics relating to river flow, catchment runoff and catchment rainfall. A description of the gauging station and catchment is also provided together with selected catchment characteristics and a concise summary of the archived data.

OPTION 1 TABLE OF DAILY MEAN GAUGED DISCHARGES

050001 TAW AT UMBERLEIGH — DAILY MEAN GAUGED DISCHARGES IN CUBIC METRES PER SECOND

1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	19.190	10.920	37.280	13.900	8.927	16.710	3.008	3.249	1.272	39.130	44.220	33.430
2	19.140	11.980	40.710	12.020	13.230	29.010	3.125	2.242	1.305	63.770	35.000	27.270
3	23.450	43.450	28.700	10.850	18.080	16.470	3.740	1.919	1.235	105.200	29.010	23.180
4	17.580	28.340	23.290	9.823	18.300	15.690	3.109	1.857	1.157	78.200	24.830	20.440
5	15.950	22.470	21.020	8.913	17.550	13.840	3.043	2.091	1.109	58.640	20.230	17.890
6	15.520	19.190	21.440	8.200	19.040	12.160	3.231	8.561	1.078	44.100	17.230	18.600
7	13.830	17.750	33.840	7.679	17.730	11.390	2.662	4.332	1.079	33.600	15.170	31.070
8	12.870	16.930	37.610	7.318	15.710	10.670	2.441	3.192	1.106	30.380	13.280	69.430
9	16.190	20.830	223.400	7.043	13.770	9.451	2.283	2.787	1.096	33.360	11.630	41.100
10	14.200	16.420	173.500	6.694	29.540	10.960	2.174	2.405	1.228	31.090	10.580	40.460
11	11.690	15.290	136.900	7.144	17.620	17.580	2.037	2.200	1.830	30.730	10.360	69.490
12	14.250	15.010	107.300	5.962	14.770	10.980	2.084	2.037	2.238	29.440	9.672	41.850
13	15.650	13.250	95.870	5.422	12.960	9.766	2.115	1.920	2.268	23.360	8.364	104.300
14	80.200	11.940	64.940	5.040	12.020	9.056	2.013	1.846	2.418	21.270	7.645	136.100
15	59.900	11.250	47.040	4.826	18.840	8.388	1.993	1.810	4.032	34.210	7.235	74.980
16	59.230	10.400	36.300	4.583	18.690	7.624	1.997	1.686	2.511	23.060	7.329	48.700
17	59.010	9.654	28.140	4.267	33.340	7.013	1.939	1.564	4.231	28.540	8.770	35.680
18	61.550	8.956	23.000	4.017	28.820	6.398	1.814	1.518	21.100	25.060	31.920	26.640
19	51.280	8.265	19.490	3.848	21.890	5.996	1.918	1.597	42.080	32.680	45.490	22.260
20	51.260	7.799	16.960	3.671	24.980	5.551	1.882	2.931	34.500	76.020	55.820	83.240
21	57.170	13.540	54.130	3.520	18.270	4.922	2.531	2.170	23.510	57.400	41.600	40.630
22	44.360	14.310	57.040	3.454	16.660	4.532	8.875	1.847	17.760	42.990	32.140	29.310
23	36.600	31.930	44.340	3.320	18.970	4.320	5.221	1.727	14.530	32.740	27.840	23.180
24	32.140	16.980	39.990	3.738	23.800	4.180	3.528	1.605	20.270	79.240	22.910	18.880
25	25.910	14.590	38.440	4.100	31.200	3.912	2.786	1.512	16.820	100.000	19.190	16.110
26	21.520	13.620	49.640	10.110	25.570	3.759	2.607	1.422	15.610	63.880	19.850	18.300
27	18.590	24.220	32.660	24.990	24.870	3.541	2.319	1.355	15.740	49.610	35.840	42.330
28	16.460	22.710	26.900	13.750	20.850	3.346	2.151	1.310	12.460	40.030	38.720	65.270
29	14.910		22.310	14.700	18.340	3.165	2.000	1.279	12.950	58.140	30.400	74.130
30	13.190		18.380	10.390	16.400	3.035	1.892	1.246	18.350	60.950	44.110	88.900
31	11.850		15.890		15.370		2.710	1.224		52.860		53.640
MISSING DAYS	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	29.827	16.857	52.144	7.776	19.552	9.114	2.749	2.208	9.896	47.732	24.213	46.346
MIN	11.690	7.799	15.890	3.320	8.922	3.035	1.814	1.224	1.078	21.270	7.235	16.110
MAX	80.200	43.450	223.400	24.990	33.340	29.010	8.875	8.561	42.080	105.200	55.820	136.100
MONTHLY TOTALS (CUMEC.DAYS)	924.64	471.99	1616.45	233.29	606.10	273.42	85.23	68.44	296.87	1479.68	726.39	1436.79

SUMMARY: MAX 223.400 ON 9 MAR
MIN 1.078 ON 6 SEP
MEAN 22.519

OPTION 2 TABLE OF DAILY MEAN NATURALISED DISCHARGES

039001 THAMES AT KINGSTON — DAILY MEAN NATURALISED DISCHARGES IN CUBIC METRES PER SECOND

1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	73.100	67.000	83.100	228.000	104.000	99.200	52.600	72.200	31.700	113.000	85.400	82.800
2	71.700	66.200	159.000	227.000	86.200	192.000	50.700	50.800	31.000	104.000	84.000	72.400
3	67.600	68.300	232.000	192.000	87.300	209.000	50.700	52.200	31.700	80.300	76.600	66.600
4	65.700	79.100	196.000	135.000	96.700	142.000	48.700	42.500	30.900	77.600	63.600	69.100
5	65.200	81.100	139.000	132.000	93.400	106.000	48.900	40.600	29.000	72.100	68.100	68.800
6	68.500	63.000	127.000	117.000	84.000	102.000	45.600	120.000	29.200	93.300	61.100	69.400
7	69.300	60.200	128.000	115.000	81.800	91.100	45.500	125.000	29.600	111.000	61.800	72.400
8	74.300	62.700	189.000	109.000	78.200	93.400	46.600	79.100	30.300	75.400	61.000	116.000
9	74.000	63.200	216.000	96.300	77.600	89.100	45.100	67.600	29.700	79.100	60.600	127.000
10	75.700	65.700	242.000	105.000	92.800	82.000	43.500	64.400	28.300	79.100	57.100	104.000
11	82.300	67.800	267.000	101.000	97.100	90.300	39.800	60.600	31.300	78.900	57.600	98.900
12	80.300	67.300	277.000	97.900	89.900	87.100	44.900	36.500	39.100	78.600	57.500	87.000
13	76.700	63.500	273.000	96.000	74.000	78.300	42.800	40.100	37.700	63.800	57.200	90.100
14	76.800	61.000	289.000	120.000	71.400	73.800	41.200	41.500	38.500	67.200	55.400	230.000
15	99.400	56.700	274.000	114.000	77.700	70.300	43.200	40.800	48.600	67.800	53.100	314.000
16	107.000	59.900	253.000	84.900	92.300	69.300	40.800	38.600	41.300	66.700	56.600	279.000
17	111.000	55.500	218.000	85.100	91.200	67.600	41.600	37.000	36.300	69.600	73.700	228.000
18	121.000	55.300	160.000	80.900	93.100	65.400	42.000	37.700	39.900	85.700	96.800	145.000
19	112.000	54.500	139.000	74.200	92.200	66.300	41.600	37.600	49.600	81.300	97.600	116.000
20	109.000	56.300	127.000	76.500	100.000	64.400	41.400	37.400	104.000	136.000	121.000	110.000
21	109.000	53.100	117.000	75.100	122.000	64.200	40.300	36.200	67.300	179.000	146.000	156.000
22	113.000	53.800	173.000	75.300	102.000	59.800	55.700	36.400	61.800	147.000	131.000	162.000
23	111.000	58.100	208.000	73.100	90.400	61.000	55.400	36.100	40.100	102.000	97.900	132.000
24	95.600	60.100	204.000	72.400	111.000	61.700	55.300	35.100	42.700	92.600	90.400	101.000
25	86.100	59.200	204.000	79.500	177.000	61.000	48.000	34.900	51.900	94.100	72.000	102.000
26	78.800	61.000	203.000	128.000	266.000	57.100	47.400	32.800	131.000	107.000	75.600	99.300
27	77.500	61.000	161.000	183.000	267.000	57.700	39.300	34.300	162.000	90.900	74.800	94.800
28	72.500	64.800	131.000	194.000	212.000	57.400	37.800	32.700	98.300	85.500	100.000	111.000
29	71.800		135.000	174.000	171.000	54.200	39.400	32.400	73.600	80.300	89.500	218.000
30	71.700		145.000	140.000	122.000	50.700	37.500	32.200	101.000	81.400	87.700	295.000
31	67.500		204.000		108.000		44.500	30.300		82.100		264.000
MISSING DAYS	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	85.003	62.336	189.455	119.373	113.203	84.113	45.090	48.245	53.247	91.045	79.030	138.116
MIN	65.200	53.100	83.100	72.400	71.400	50.700	37.500	30.300	28.300	63.800	53.100	66.600
MAX	121.000	81.100	289.000	228.000	267.000	209.000	55.700	125.000	162.000	179.000	146.000	314.000
MONTHLY TOTALS (CUMEC.DAYS)	2635.10	1745.40	5873.10	3581.20	3509.30	2523.40	1397.80	1495.60	1597.40	2822.40	2370.90	4281.60

SUMMARY: MAX 314.000 ON 15 DEC
MIN 28.300 ON 10 SEP
MEAN 92.694

OPTION 3 YEARBOOK DATA TABULATION (DAILY)

050001 Taw at Umberleigh 1986

Measuring authority: SWWA Grid reference: 21 (SS) 608 237 Catchment area (sq km): 826.2

First year: 1958 Level stn. (m OD): 14.1 Max alt. (m OD): 604

DAILY MEAN GAUGED DISCHARGES (cubic metres per second)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	45.922	16.995	3.441	31.022	11.699	6.458	4.707	3.768	15.832	3.336	42.287	24.618
2	45.671	15.510	3.541	26.433	10.648	5.673	3.970	3.945	13.766	3.249	31.469	22.266
3	33.091	14.188	3.499	21.680	9.470	5.371	3.617	3.033	13.607	3.018	28.826	18.010
4	37.836	12.495	9.708	18.030	12.338	5.018	4.544	9.236	10.314	2.861	23.480	16.196
5	33.756	11.366	21.279	15.390	10.182	4.621	8.672	5.398	9.181	2.784	22.010	21.573
6	28.560	10.417	10.379	13.834	8.294	4.282	5.403	5.377	8.412	2.708	19.850	18.573
7	62.257	9.347	8.387	14.586	8.795	4.127	4.203	7.406	7.693	2.657	19.707	24.982
8	47.415	8.383	7.546	19.408	8.632	3.935	4.538	5.801	7.056	2.578	23.696	68.161
9	33.912	7.508	10.315	14.122	8.156	12.460	3.770	4.976	6.326	2.552	29.678	47.764
10	70.537	7.249	9.515	11.702	8.123	36.598	3.414	12.831	5.789	2.663	37.135	37.830
11	59.483	6.796	7.739	10.316	7.324	37.555	3.788	45.093	5.434	2.570	31.705	69.360
12	51.120	6.554	7.043	10.111	7.486	20.524	3.544	14.651	5.058	2.405	25.056	49.886
13	44.068	6.389	6.513	11.176	7.135	16.077	3.184	11.316	17.067	2.403	40.841	68.780
14	40.020	5.735	6.018	21.978	44.508	13.286	2.978	9.582	21.159	2.423	127.383	50.837
15	36.337	5.361	5.758	31.328	37.785	11.171	2.812	7.743	11.432	2.325	57.152	89.636
16	32.206	5.179	6.368	25.399	25.283	9.558	2.468	6.513	9.663	2.147	47.402	75.175
17	31.718	4.861	5.915	22.478	27.619	8.339	2.272	5.821	7.866	2.037	48.472	66.340
18	36.256	4.414	6.608	19.092	21.358	7.399	2.158	21.257	6.809	2.156	109.704	60.550
19	38.588	4.223	7.124	23.908	17.116	6.633	2.062	13.415	6.159	3.303	176.727	63.493
20	32.951	4.099	7.807	43.695	16.262	5.986	2.131	9.174	5.758	19.324	104.940	60.592
21	52.741	3.944	6.475	50.704	15.449	7.548	2.236	8.659	5.431	29.031	80.859	48.165
22	74.491	3.726	7.247	44.683	12.802	8.406	2.109	20.983	5.104	55.352	66.497	36.562
23	89.088	3.903	14.096	47.316	11.208	6.503	1.941	20.255	4.871	45.550	66.009	29.293
24	60.162	3.641	37.112	41.624	10.076	7.160	1.861	20.968	4.563	34.370	63.318	25.077
25	44.132	4.131	23.093	34.778	9.168	5.670	1.992	70.828	4.244	45.962	71.424	67.277
26	34.841	4.976	22.505	27.679	8.483	4.666	2.253	57.460	4.032	34.072	75.556	43.610
27	30.785	4.649	29.560	22.322	7.809	4.137	2.141	44.335	3.899	56.152	56.160	37.013
28	30.342	4.296	45.032	18.819	7.208	3.957	2.764	38.560	3.790	77.885	43.063	34.930
29	26.791		42.048	15.700	6.561	6.983	3.030	29.169	3.607	60.458	33.020	32.123
30	21.077		49.238	13.274	6.330	6.086	3.301	22.587	3.408	47.819	26.239	70.373
31	18.521		39.862		8.266		4.837	18.122		37.569		79.128
Average	42.730	7.155	15.190	24.090	13.280	9.540	3.313	18.010	7.911	19.150	54.320	47.040
Lowest	18.521	3.641	3.441	10.111	6.330	3.935	1.861	3.033	3.408	2.037	19.707	16.196
Highest	89.088	16.995	49.238	50.704	44.508	37.555	8.672	70.828	21.159	77.885	176.727	89.636
Peak flow	108.526	18.283	60.897	65.314	99.689	79.066	10.853	124.530	41.049	97.651	251.996	123.938
Day of peak	10	1	24	21	15	10	5	11	14	28	19	15
Monthly total (million cu m)	114.50	17.31	40.67	62.43	35.56	24.73	8.87	48.23	20.51	51.30	140.80	126.00
Runoff (mm)	139	21	49	76	43	30	11	58	25	62	170	152
Rainfall (mm)	148	3	106	97	93	97	65	151	39	138	183	196

STATISTICS OF MONTHLY DATA FOR PREVIOUS RECORD (Oct 1958 to Dec 1985)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean flows:	Avg.	35.970	28.910	20.510	13.710	9.688	5.213	4.628	5.676	7.776	18.720	28.260	37.230
	Low	6.657	3.244	7.449	3.889	2.073	1.329	0.793	0.423	0.861	1.043	3.653	13.210
	(year)	1963	1959	1984	1974	1976	1984	1984	1976	1959	1978	1978	1963
	High	62.100	54.760	52.140	32.800	37.000	16.630	23.390	19.130	47.670	77.360	58.500	73.670
	(year)	1984	1970	1981	1966	1983	1972	1968	1985	1974	1960	1963	1965
Runoff:	Avg.	117	85	67	43	31	16	15	18	24	61	89	121
	Low	22	10	24	12	7	4	3	1	3	3	11	43
	High	201	160	169	103	120	52	76	62	150	251	184	239
Rainfall:	Avg.	132	86	90	69	72	66	71	87	95	112	128	140
	Low	28	5	18	8	28	10	23	24	14	14	56	41
	High	242	173	183	145	146	164	152	160	247	278	239	271

SUMMARY STATISTICS

	FOR 1986		FOR RECORD PRECEDING 1986		1986 AS % OF PRE-1986
Mean flow (m3/s)	21.910		17.990		122
Lowest yearly mean			11.310	1964	
Highest yearly mean			27.590	1960	
Lowest monthly mean	3.313	Jul	0.423	Aug 1976	
Highest monthly mean	54.320	Nov	77.360	Oct 1960	
Lowest daily mean	1.861	24 Jul	0.200	28 Aug 1976	
Highest daily mean	176.727	19 Nov	363.800	4 Dec 1960	
Peak	251.996	19 Nov	644.900	4 Dec 1960	
10 %ile	53.770		46.690		115
50 %ile	11.450		9.291		123
95 %ile	2.472		1.174		211
Annual total (million cu m)	691.00		567.70		122
Annual runoff (mm)	836		687		122
Annual rainfall (mm)	1316		1148		115
[1941-70 rainfall average (mm)			1183]		

FACTORS AFFECTING FLOW REGIME

* Reservoir(s) in catchment.
* Abstraction for public water supplies.
* Augmentation from effluent returns.

STATION AND CATCHMENT DESCRIPTION

Velocity-area station, main channel 34m wide, cableway span 54.9m. Rock step d/s forms the control. Bypassing begins at about 3.7m on the rb, but a good rating accomodates this. Significant modification to flows owing to PWS abstraction. Some naturalised flow data available.

Large rural catchment - drains both Dartmoor (granite) to the south and Devonian shales and sandstones of Exmoor to the north. Central area is underlain mainly by Culm shales and sandstones (Carboniferous). Agriculture is conditioned by the grade 3 and 4 soils.

OPTION 4 TABLE OF MONTHLY MEAN GAUGED DISCHARGES

050001 Taw at Umberleigh

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1980	25.180	43.820	27.450	14.490	2.415	9.840	8.788	5.630	11.430	40.530	28.950	33.350	21.170
1981	29.850	16.860	52.140	7.777	19.550	9.113	2.748	2.209	9.897	47.730	24.210	66.350	22.520
1982	40.860	18.540	42.170	6.040	2.462	2.722	8.563	2.585	4.278	24.260	52.830	55.450	21.810
1983	48.920	19.183	14.440	17.890	37.000	4.472	1.650	0.836	3.245	14.980	11.130	46.910	18.480
1984	62.100	36.470	7.449	5.457	2.255	1.329	0.793	0.802	3.589	20.640	49.390	37.380	18.920
1985	26.030	19.950	15.650	25.020	3.563	5.986	3.967	19.130	9.617	9.488	6.636	36.850	15.150
1986	42.730	7.155	15.190	24.080	13.280	9.540	3.313	18.010	7.911	19.150	54.320	47.040	21.910
1987	20.000	19.450	27.280	28.850	3.581	5.087	3.591	1.745	1.814	32.380	34.170	15.960	16.120
Mean	37.330	22.830	25.220	16.200	10.510	6.011	4.177	6.368	6.472	26.140	32.710	39.910	19.510
Min	20.000	7.155	7.449	5.457	2.255	1.329	0.793	0.802	1.814	9.488	6.636	15.960	15.150
	1987	1986	1984	1984	1984	1984	1984	1984	1987	1985	1985	1987	1985
Max	62.100	43.820	52.140	28.850	37.000	9.840	8.788	19.130	11.430	47.730	54.320	55.450	22.520
	1984	1980	1981	1987	1983	1980	1980	1985	1980	1981	1986	1982	1981

The summary relates exclusively to the years shown.

OPTION 5 TABLE OF MONTHLY MEAN NATURALISED DISCHARGES

039001 Thames at Kingston

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1980	136.600	151.400	131.700	102.800	51.790	50.440	46.070	40.750	41.460	75.730	75.890	86.950	82.430
1981	85.000	62.340	189.500	119.400	113.200	84.110	45.090	48.250	53.250	91.050	79.030	138.100	92.690
1982	194.900	118.400	181.000	89.740	59.540	52.550	38.720	31.320	51.900	89.750	129.600	177.200	99.660
1983	126.800	111.200	84.760	128.500	136.800	82.100	43.430	34.360	34.820	37.880	39.160	78.090	77.970
1984	144.500	129.400	105.400	68.040	60.670	43.910	25.710	25.370	30.710	38.640	105.100	127.200	75.240
1985	130.500	134.600	100.200	93.010	76.790	99.190	50.350	55.600	36.770	37.280	36.230	136.100	81.960
1986	201.100	117.000	96.150	125.500	82.450	52.340	37.470	44.100	37.750	41.750	122.000	136.600	91.020
1987	115.600	83.990	111.400	149.100	66.530	68.220	45.660	36.640	34.770	125.900	148.400	82.390	88.800
Mean	141.600	113.800	125.000	109.500	80.980	66.580	41.560	39.550	37.680	67.250	91.910	120.300	86.220
Min	85.000	62.340	84.760	68.040	51.790	43.910	25.710	25.370	30.710	37.280	36.230	78.090	75.240
	1981	1981	1983	1984	1980	1984	1984	1984	1984	1985	1985	1983	1984
Max	201.100	151.400	189.500	149.100	136.800	99.190	50.350	55.600	53.250	125.900	148.400	177.200	99.660
	1986	1980	1981	1987	1983	1985	1985	1985	1981	1987	1987	1982	1982

The summary relates exclusively to the years shown.

OPTION 6 YEARBOOK DATA TABULATION (MONTHLY)

0 5 0 0 0 1 T a w a t U m b e r l e i g h 1 9 8 2

Measuring authority: SWWA Grid reference: SS608237 Catchment area (sq km): 826.2

First year: 1958 Level stn. (m OD): 14.14 Max alt. (m OD): 604

HYDROMETRIC STATISTICS FOR 1982

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Flows	Avg.	40.860	18.540	42.170	6.041	2.462	2.723	8.563	2.585	4.278	24.260	52.830	55.450	21.730
(m3/s):	Peak	127.60	55.38	143.90	23.89	5.54	12.48	162.20	7.73	25.40	72.35	215.20	241.10	241.10
Runoff	(mm)	132	54	137	19	8	9	28	8	13	79	166	180	833
Rainfall	(mm)	106	78	143	24	37	116	67	87	81	129	192	179	1239

MONTHLY AND YEARLY STATISTICS FOR PREVIOUS RECORD (Oct 1958 to Dec 1981)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Mean	Avg.	34.490	29.840	20.620	13.730	9.404	5.488	4.782	5.648	8.228	18.950	27.980	36.080	17.891
flows	Low	6.657	3.244	7.918	3.889	2.073	1.434	0.796	0.423	0.861	1.043	3.653	13.210	11.312
(m3/s):	High	50.890	54.760	52.140	32.800	22.140	16.630	23.390	14.440	47.670	77.360	58.500	73.670	27.587
Peak flow	(m3/s)	580.60	278.40	339.90	149.40	91.74	160.10	206.00	183.50	312.30	422.10	249.70	644.90	644.90
Runoff	(mm)	112	88	67	43	30	17	16	18	26	61	88	117	683
Rainfall	(mm)	127	91	89	70	72	66	74	87	93	112	127	137	1145

Factors affecting flow regime: S P E
Station type: VA

1982 runoff is 122% of previous mean
rainfall 108%

OPTION 7 TABLE OF MONTHLY EXTREME FLOWS

050001 Taw at Umberleigh

Date		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1985	HI	111.900	76.210	53.420	94.250	7.824	29.880	8.017	78.200	39.110	64.900	12.760	289.800	289.800
	HD	98.600	58.430	41.360	81.730	6.012	21.590	7.305	41.520	23.960	29.900	9.903	136.400	136.400
	LD	5.685	5.208	5.128	5.981	2.074	1.677	2.231	5.141	4.264	3.218	2.854	10.090	1.677
1986	HI	108.500	18.280	60.900	65.310	99.690	79.070	10.850	124.500	41.050	97.650	252.000	123.900	252.000
	HD	89.090	16.990	49.240	50.700	44.510	37.550	8.672	70.830	21.160	77.880	176.700	89.640	176.700
	LD	18.520	3.641	3.441	10.110	6.330	3.935	1.861	3.033	3.408	2.037	19.710	16.200	1.861
1987	HI	167.200	67.800	152.600	205.500	13.820	31.960	13.650	3.630	6.122	113.900	153.400	65.150	205.500
	HD	99.940	44.160	86.440	148.800	6.134	12.410	9.105	3.273	3.774	79.910	105.100	43.330	148.800
	LD	5.682	5.434	5.343	4.807	2.475	2.648	2.352	1.199	1.141	1.811	10.020	6.192	1.141
Max	HI	167.200	76.210	152.600	205.500	99.690	79.070	13.650	124.500	41.050	113.900	252.000	289.800	289.800
		2 Jan	9 Feb	23 Mar	5 Apr	15 May	10 Jun	19 Jul	11 Aug	14 Sep	27 Oct	19 Nov	24 Dec	24 Dec
		1987	1985	1987	1987	1986	1986	1987	1986	1986	1987	1986	1985	1985
Max	HD	99.940	58.430	86.440	148.800	44.510	37.550	9.105	70.830	23.960	79.910	176.700	136.400	176.700
		1 Jan	9 Feb	23 Mar	3 Apr	14 May	11 Jun	19 Jul	25 Aug	5 Sep	27 Oct	19 Nov	24 Dec	19 Nov
		1987	1985	1987	1987	1986	1986	1987	1986	1985	1987	1986	1985	1986
Min	LD	5.682	3.641	3.441	4.807	2.074	1.677	1.861	1.199	1.141	1.811	2.854	6.192	1.141
		31 Jan	24 Feb	1 Mar	30 Apr	31 May	4 Jun	24 Jul	31 Aug	1 Sep	1 Oct	4 Nov	14 Dec	1 Sep
		1987	1986	1986	1987	1985	1985	1986	1987	1987	1987	1985	1987	1987

The summary relates exclusively to the years shown.

HI = Highest instantaneous discharge
HD = Highest daily mean gauged discharge
LD = Lowest daily mean gauged discharge

OPTION 8 TABLE OF CATCHMENT MONTHLY RAINFALL

050001 Taw at Umberleigh

Date		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1985	Rainfall (mm)	95	40	97	90	50	108	70	160	51	60	71	159	1051
	% 1941-70 Mean	75	43	123	125	62	177	85	157	49	53	53	117	89
1986	Rainfall (mm)	148	3	106	97	93	97	65	151	39	138	183	196	1316
	% 1941-70 Mean	117	3	134	135	115	159	79	148	38	122	137	144	111
1987	Rainfall (mm)	29	99	104	97	61	92	61	31	65	222	130	75	1066
	% 1941-70 Mean	23	108	132	135	75	151	74	30	63	196	97	55	90
Mean	(mm)	91	47	102	95	68	99	65	114	52	140	128	143	1144
	(%)	72	51	130	132	84	162	79	112	50	124	96	105	97
Min	(mm)	29	3	97	90	50	92	61	31	39	60	71	75	1051
	(%)	23	3	123	125	62	151	74	30	38	53	53	55	89
	Year	1987	1986	1985	1985	1985	1987	1987	1987	1986	1985	1985	1987	1985
Max	(mm)	148	99	106	97	93	108	70	160	65	222	183	196	1316
	(%)	117	108	134	135	115	177	85	157	63	196	137	144	111
	Year	1986	1987	1986	1987	1986	1985	1985	1985	1987	1987	1986	1986	1986
1941-70 Mean		127	92	79	72	81	61	82	102	104	113	134	136	1183

The summary relates exclusively to the years shown.

OPTION 9 TABLE OF CATCHMENT MONTHLY AREAL RAINFALL AND RUNOFF

050001 Taw at Umberleigh

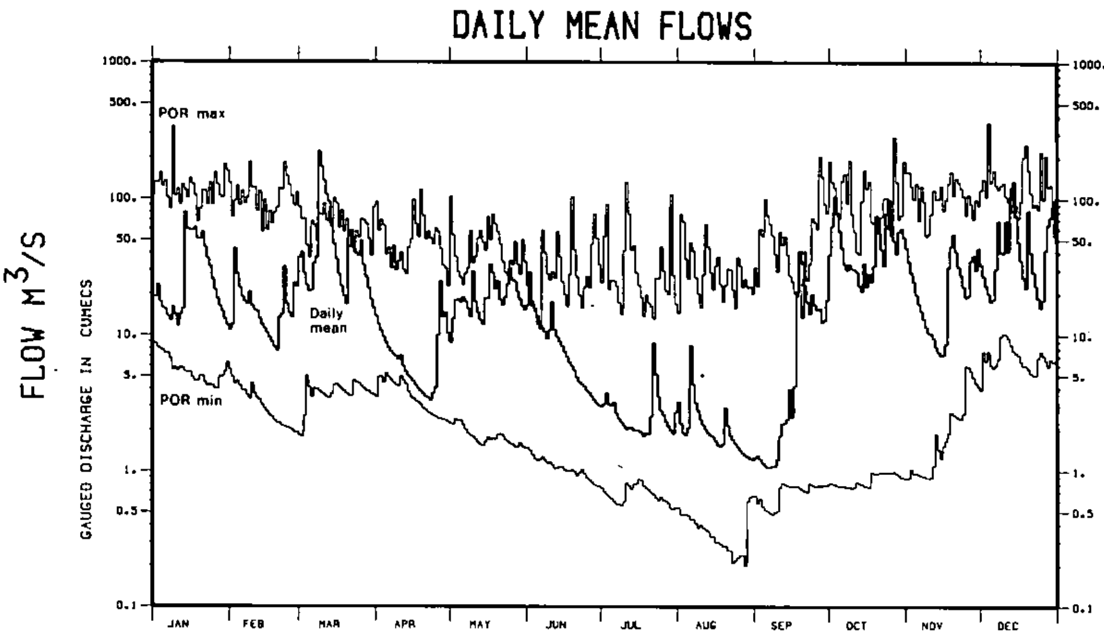
Date		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1985	Rainfall	95	40	97	90	50	108	70	160	51	60	71	159	1051
	Runoff	84	58	51	78	12	19	13	62	30	31	21	119	578
1986	Rainfall	148	3	106	97	93	97	65	151	39	138	183	196	1316
	Runoff	139	21	49	76	43	30	11	58	25	62	170	152	836
1987	Rainfall	29	99	104	97	61	92	61	31	65	222	130	75	1066
	Runoff	65	57	88	91	12	16	12	6	6	105	107	52	617
Rainfall Mean	(mm)	91	47	102	95	68	99	65	114	52	140	128	143	1144
Min	(mm)	29	3	97	90	50	92	61	31	39	60	71	75	1051
	Year	1987	1986	1985	1985	1985	1987	1987	1987	1986	1985	1985	1987	1985
Max	(mm)	148	99	106	97	93	108	70	160	65	222	183	196	1316
	Year	1986	1987	1986	1987	1986	1985	1985	1985	1987	1987	1986	1986	1986
Runoff Mean	(mm)	96	45	63	82	22	22	12	42	20	66	99	108	677
Min	(mm)	65	21	49	76	12	16	11	6	6	31	21	52	578
	Year	1987	1986	1986	1986	1987	1987	1986	1987	1987	1985	1985	1987	1985
Max	(mm)	139	58	88	91	43	30	13	62	30	105	170	152	836
	Year	1986	1985	1987	1987	1986	1986	1985	1985	1985	1987	1986	1986	1986
% Runoff Mean	(%)	>100	96	62	86	32	22	18	37	38	47	77	76	59
Min	(%)	88	58	46	78	20	17	17	19	9	45	30	69	55
	Year	1985	1987	1986	1986	1987	1987	1986	1987	1987	1986	1985	1987	1985
Max	(%)	>100	>100	85	94	46	31	20	39	64	52	93	78	64
	Year	1987	1986	1987	1987	1986	1986	1987	1985	1986	1985	1986	1986	1986

The summary relates exclusively to the years shown.

OPTION 10 HYDROGRAPH OF DAILY MEAN FLOWS

050001 TAW AT UMBERLEIGH 1981

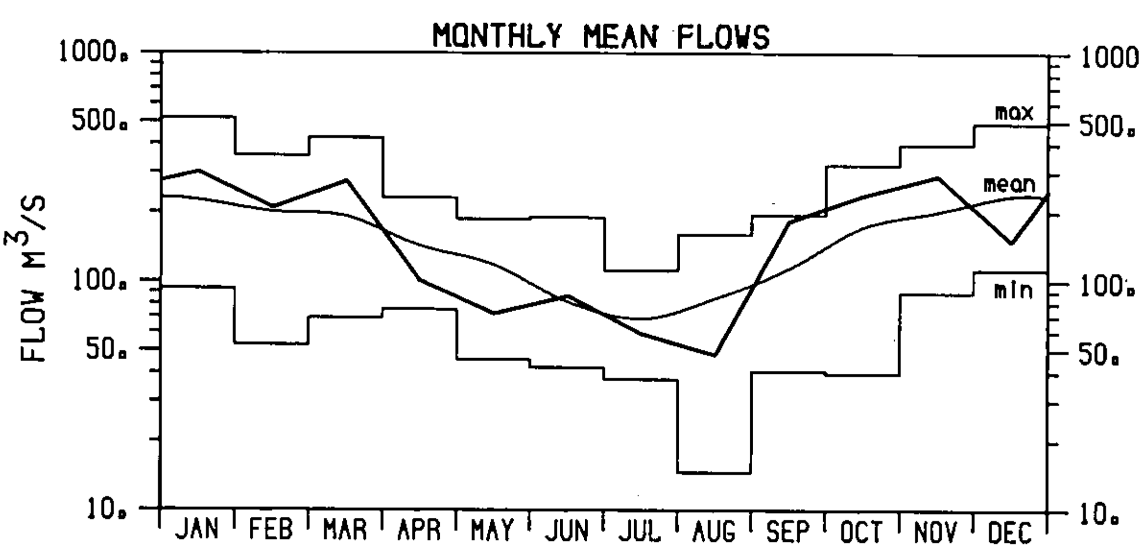
Previous record 1958-1980 Catchment area 826.2 km



OPTION 11 HYDROGRAPH OF MONTHLY MEAN FLOWS

15006 TAY AT BALLATHIE 1981

Previous record 1953-1980 Catchment area 4587.1km^2



OPTION 12 FLOW DURATION STATISTICS

FLOW DURATION TABLE

050001 TAW AT UMBERLEIGH GAUGED FLOWS USED

1 DAY MEAN FLOW EXCEEDED STATED AMOUNT IN CUMECS FOR GIVEN PERCENTAGE OF TIME

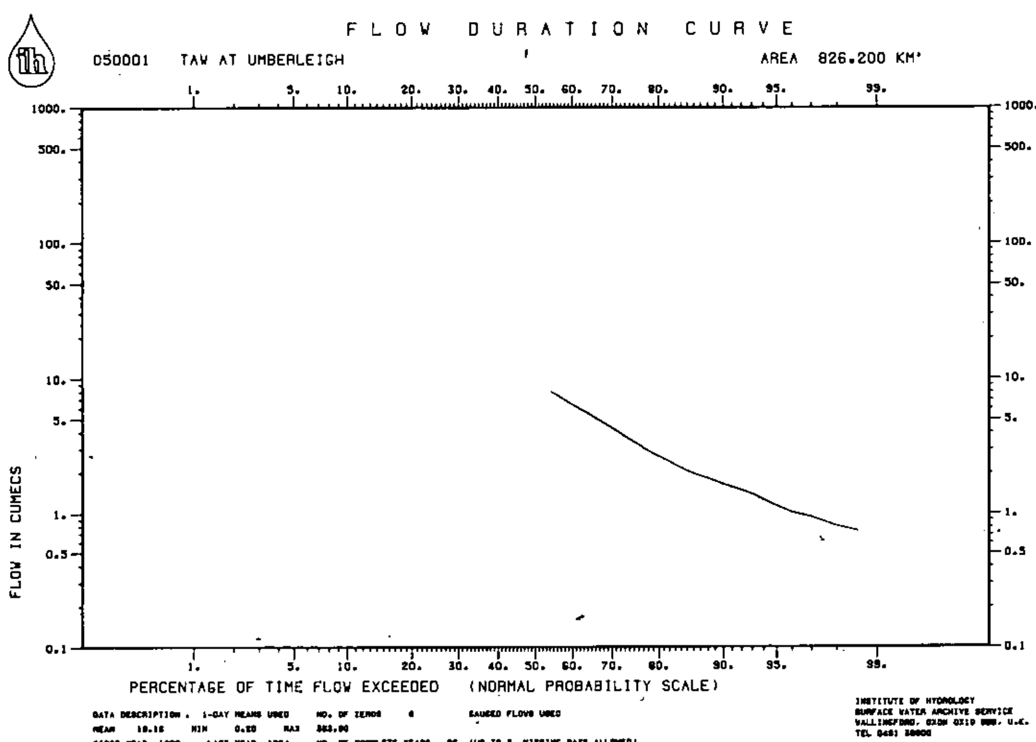
	0	.	2	3	4	5	6	.	8	9
-		112.407	88.953	78.112	70.827	64.442	59.554	56.125	53.098	50.148
10	47.474	44.176	41.967	39.864	37.968	36.202	34.286	32.813	31.533	30.169
20	28.878	27.620	26.450	25.366	24.302	23.328	22.350	21.282	20.533	19.756
30	19.052	18.294	17.592	16.975	16.450	15.836	15.263	14.737	14.189	13.691
40	13.254	12.847	12.340	11.914	11.529	11.129	10.807	10.436	10.088	9.725
50	9.366	9.020	8.678	8.390	8.073	7.801	7.535	7.219	6.945	6.673
60	6.428	6.187	5.971	5.755	5.522	5.313	5.090	4.900	4.691	4.492
70	4.292	4.101	3.916	3.738	3.564	3.398	3.239	3.055	2.915	2.783
80	2.659	2.534	2.418	2.287	2.178	2.071	1.976	1.890	1.822	1.734
90	1.647	1.567	1.493	1.391	1.268	1.141	1.019	0.941	0.808	0.685

MAX FLOW= 363.800 MIN FLOW= 0.200 MEAN FLOW= 18.160 CATCHMENT AREA 826.2 SQ.KM

NUMBER OF ZEROS= 0 NUMBER OF VALUES USED= 9497

FIRST YEAR USED= 1959 LAST YEAR USED= 1984
NUMBER OF YEARS USED= 26

ONLY YEARS CONTAINING NOT MORE THAN 5 MISSING DAYS USED



OPTION 13 TABLE OF GAUGING STATION REFERENCE INFORMATION

NUMBER	RIVER	STATION	GRID REF	OPERATOR	RECORD 1ST YEAR	RECORD LAST YEAR	STN TYPE	BASIN AREA SQ KM	LEVEL STN MOD	MAX ALT MOD	ABSTRAC-TIONS & RETURNS	FW
048001	FOWEY	TREKEIVESTEPS	SX227698	SWWA	1969		CC	36.8	187.86	420	SRPC	
048003	FAL	TREGONY	SW921447	SWWA	1977		FLVA	87.0	6.95	226	GEI	
048004	WARLEGGAN	TRENGOFFE	SX159674	SWWA	1969		CC	25.3	70.26	308	G	
048005	KENWYN	TRURO	SW820450	SWWA	1968		CC	19.1	7.16	152	G	
048006	COBER	HELSTON	SW654273	SWWA	1968		VA	40.1	4.69	251	PC I	
048007	KENNALL	PONSANOOTH	SW762377	SWWA	1968		C	26.6	13.56	251	SRPC I	
048009	ST NEOT	CRAIGSHILL WOOD	SX184662	SWWA	1971		CC	22.7	70.53	339	GE	
048010	SEATON	TREBROWNBRIDGE	SX299596	SWWA	1972		CC	38.1	26.60	369	G I	
048011	FOWEY	RESTORMEL TWO	SX098624	SWWA	1972		CC	169.1	9.24	420	SRPGEI	

OPTION 14 TABLE OF HYDROMETRIC STATISTICS

STATION NUMBER	TERM	ARF 1941 1970 MM	AREAL RAIN FALL MM	ANNUAL GAUGED RUNOFF MM	MEAN GAUGED FLOW CU M/S	NO. YRS REC	%POR MEAN FLOW	HIGHEST DAILY MEAN CU M/S	DATE	LOWEST DAILY MEAN CU M/S	DATE	10 %ILE CU M/S	50 %ILE CU M/S	95 %ILE CU M/S
021005	POR	1320	1250	676	7.99	15		185.50	30/01/74	1.19	07/10/72	16.20	5.39	1.97
	1977		1436	829	9.80		123	92.38	31/10	1.39	22/08	20.26	7.03	1.65
	1978		1317	757	8.95		112	75.74	15/11	1.75	19/06	20.23	6.03	2.25
	1979		1387	913	10.80		135	82.15	26/11	2.23	23/07	24.29	6.77	2.60
	1980		1288	793	9.38		117	49.29	24/11	2.01	01/06	19.96	7.00	2.19
021006	POR	1227	1180	694	32.99	15		393.40	30/01/74	3.46	07/10/72	68.79	22.22	6.23
	1977		1277	845	40.20		122	555.30	31/10	4.13	18/08	84.42	29.40	5.44
	1978		1244	731	34.77		105	320.30	15/11	5.62	20/06	78.17	22.26	7.01
	1979		1230	881	41.90		127	262.70	26/11	7.21	23/07	93.82	27.64	8.51
	1980		1187	746	35.48		108	171.60	20/11	6.37	19/05	78.83	24.91	7.46
021007	POR	1413	1321	878	13.89	15		209.80	30/01/74	0.57	07/09/76	31.59	8.50	1.71
	1977		1524	1108	17.54		126	288.30	31/10	0.87	18/08	41.40	10.84	1.11
	1978		1394	886	14.02		101	210.80	15/11	0.97	19/07	32.60	8.24	1.21
	1979		1420	1105	17.48		126	120.90	26/11	1.42	24/07	41.36	10.83	1.83
	1980		1366	944	14.93		107	98.07	20/11	1.18	19/05	35.27	9.16	1.55
021008	POR	1006	949	504	17.74	16		308.66	06/03/63	1.71	22/08/76	38.44	11.05	2.89
	1977		1019	604	21.25		120	187.20	31/10	1.99	17/08	44.36	14.81	2.58
	1978		1008	541	19.03		107	177.90	15/11	2.04	20/07	43.34	11.09	2.53
	1979		1005	693	24.40		138	273.10	25/03	2.22	05/08	55.84	15.31	3.67
	1980		982	586	20.62		116	122.00	20/11	3.35	03/06	43.35	14.30	4.14

NOTE: This example illustrates only a limited amount of the statistical information that may be output.

OPTION 15 GAUGING STATION AND CATCHMENT DESCRIPTION

48003 Fal at Tregony

Originally a velocity-area station in a formalised trapezoidal channel; augmented by a low flow, side contracted flume 2.8m wide in August 1967. Site not ideal for high flows. Data available from June 1978. Earlier data unreliable due to silting of inlet pipes. Moderate modification to flows owing to industrial abstractions and returns.

Moderate to low relief catchment draining Devonian slates, shales and grits. Upper reaches plateau-like alluvial flats. Traverses the kaolinised St Austell Granite. Low grade agriculture and grazing.

48004 Warleggan at Trengoffe

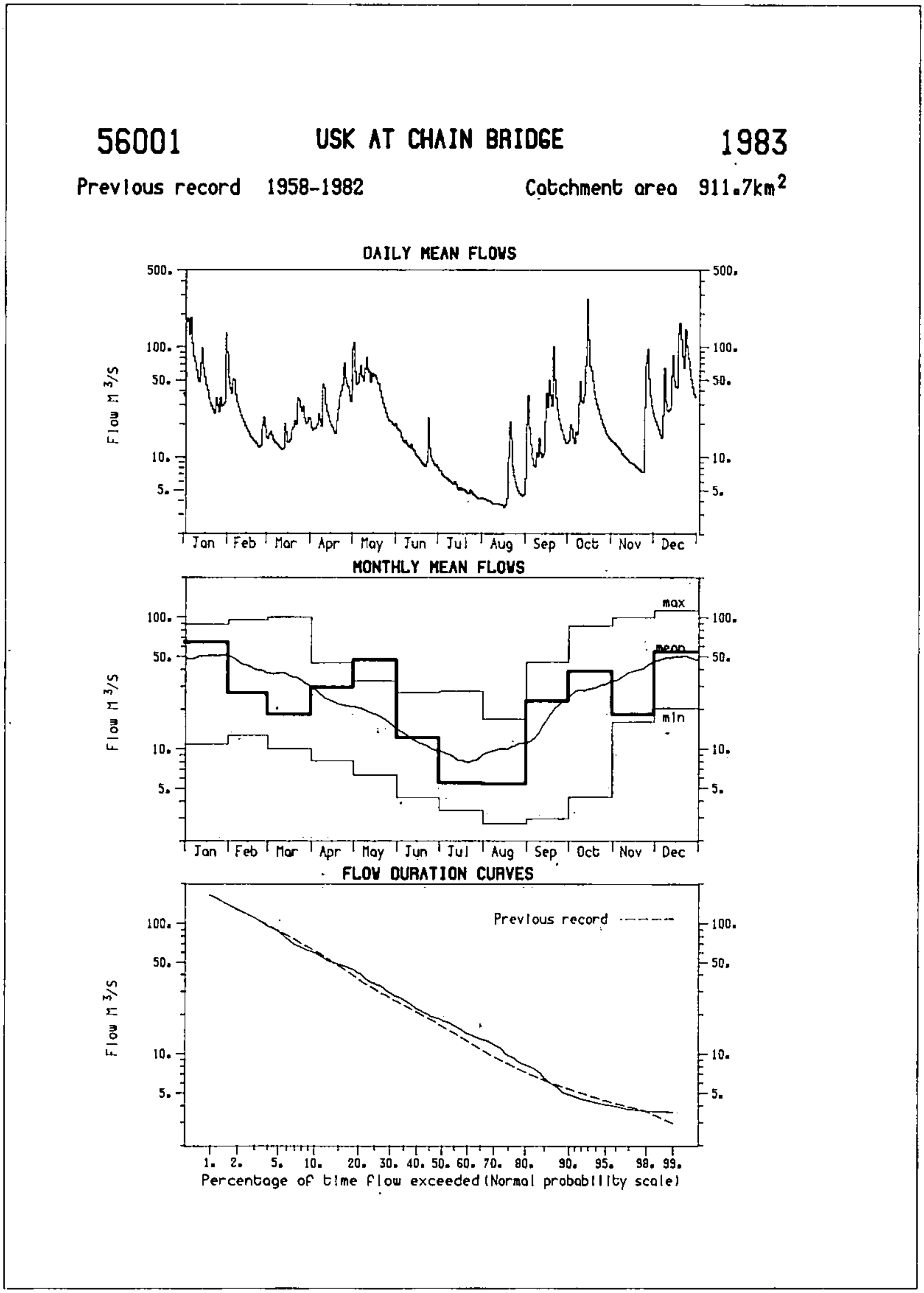
Three-bay compound Crump profile weir, crest lengths 1.52m and 8.53m (total). Wing walls at 1.67m. Flood banks contain flows up to wing wall height. Overtopped at the highest flows. The only gauged natural catchment on Bodmin Moor.

The upper 70% drains the kaolinised granite of Bodmin Moor. The relief is moderate to steep. The lower 30% traverses metamorphosed Devonian slates. Baseflow high for an upland catchment owing to storage in the granite.

48005 Kenwyn at Truro

Three-bay compound Crump profile weir, crest lengths 1.22m and 3.05 (total). Pier and wing wall height 1.98m. Contains all flows; potential for non-modularity at the highest flows. Variable shoaling affects low flow precision. Substantially natural catchment. High baseflow, low percentage runoff catchment for the relief. Catchment of moderate relief, with wooded, incised valleys. Geology is Devonian grits and shales.

OPTION 16 RIVER FLOW PATTERN PLOTS



OPTION 17 GAUGING STATION SUMMARY SHEET

Gauging Station Summary

TAW AT UMBERLEIGH

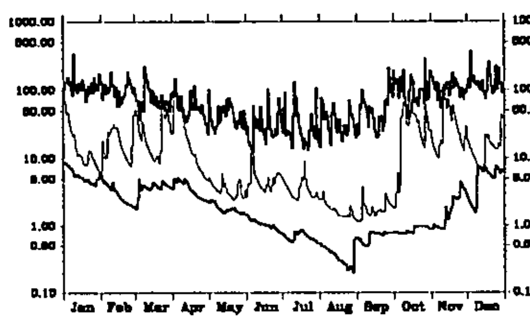
Station Number
050001

Gauged Flows
1958-1987

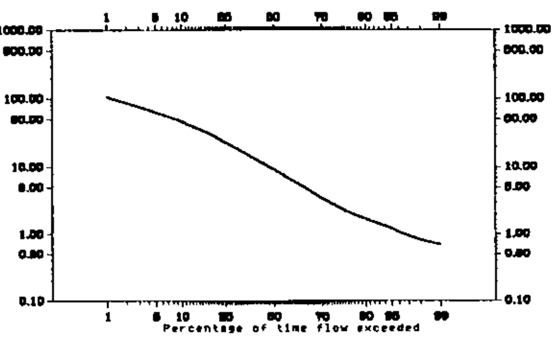
Measuring Authority: South West Water

Grid Reference: 21 (SS) 608 237

Daily Flow Hydrograph (m^3s^{-1})
Max. and min. daily mean flows from 1958 to 1987 with an example yearly hydrograph (1987)



Flow Duration Curve (m^3s^{-1})



Flow Statistics

Units: m^3s^{-1} unless otherwise stated

Mean flow	18.06	
Mean flow (ls^{-1}/km^2)	21.85	
Mean flow ($10^6m^3/yr$)	569.9	
Peak flow & date	644.9	4 Dec 1960
Highest daily mean & date	363.8	4 Dec 1960
Lowest daily mean & date	0.200	28 Aug 1976
10 day minimum & end date	0.237	28 Aug 1976
60 day minimum & end date	0.542	10 Sep 1976
10 percentile	46.820	
50 percentile	9.330	
95 percentile	1.219	
Mean annual flood	247.0	
Bankfull flow	170.00	

Catchment Characteristics

Catchment area (km^2)	826.2
Level stn. (mOD)	14.10
Max alt. (mOD)	604
IH Baseflow index	0.42
FSR slope (m/km)	4.80
1941-70 rainfall (mm)	1193
FSR stream freq. (junctions/km^2)	
FSR percentage urban	

Factors Affecting Flow Regime

- Reservoir(s) in catchment.
- Abstraction for public water supply.
- Augmentation from effluent returns.

Rainfall and Runoff

	Rainfall (mm) (1958-1987)					Runoff (mm) (1958-1987)				
	Mean	Max/Yr		Min/Yr		Mean	Max/Yr		Min/Yr	
Jan	129	242	1984	28	1963	116	201	1984	22	1963
Feb	84	173	1977	5	1986	82	160	1970	10	1959
Mar	91	183	1981	10	1961	67	169	1981	24	1984
Apr	71	145	1966	8	1984	46	103	1966	12	1974
May	73	146	1983	28	1961	31	120	1983	7	1976
Jun	68	164	1980	10	1975	17	52	1972	4	1984
Jul	71	152	1965	23	1976	15	76	1968	3	1984
Aug	87	160	1985	24	1983	19	62	1985	1	1976
Sep	92	247	1974	14	1959	24	150	1974	5	1959
Oct	116	278	1960	14	1978	62	251	1960	3	1978
Nov	130	239	1963	56	1961	92	184	1963	11	1978
Dec	139	271	1965	41	1963	119	239	1965	43	1963
Annual	1151	1525	1960	893	1975	689	1055	1960	432	1964

Station and Catchment Description

Velocity-area station, main channel 34m wide, cableway span 54.9m. Rock step d/s forms the control. Bypassing begins at about 3.7m on the rb, but a good rating accommodates this. Significant modification to flows owing to PWS abstraction. Some naturalised flow data available.

Large rural catchment - drains both Dartmoor (granite) to the south and Devonian shales and sandstones of Exmoor to the north. Central area is underlain mainly by Culm shales and sandstones (Carboniferous). Agriculture is conditioned by the grade 3 and 4 soils.

Summary of Archived Data

Gauged Flows and Rainfall

Key:	All rain-fall	Some or no rain-fall
All daily, all peaks	A	a
All daily, some peaks	B	b
All daily, no peaks	C	c
Some daily, all peaks	D	d
Some daily, some peaks	E	e
Some daily, no peaks	F	f
No gauged flow data	*	-

	01234	56789
1950s	-----	---aA
1960s	AAAAA	AAAAA
1970s	AAAAA	AAAAA
1980s	AAAAA	AAA

Naturalised Flows

Key:	
All daily, all monthly	A
All daily, some monthly	B
All daily, no monthly	C
Some daily, all monthly	D
Some daily, some monthly	E
Some daily, no monthly	F
No naturalized flow data	-

	01234	56789
1950s	-----	---DA
1960s	AAAAA	AAAAA
1970s	AAAAA	AAAAA
1980s	AAAAA	AAAD

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Oxon OX10 8BB, UK. Tel. 0491 38800.

29 Mar 1989

Concise Register of Gauging Stations

Station number	River name	Grid reference	Measuring authority	Area (sq km)
002001	Helmsdale	29 (NC) 997 181	HRPB	551.4
003001	* Shin	29 (NC) 581 062	NSHE	494.6
003002	Carron	28 (NH) 490 921	HRPB	241.1
003003	Oykel	29 (NC) 403 001	HRPB	330.7
003004	Cassley	29 (NC) 472 022	HRPB	187.5
003005	Shin	28 (NH) 574 974	HRPB	575.0
004001	Conon	28 (NH) 482 547	HRPB	961.8
004003	Alness	28 (NH) 654 695	HRPB	201.0
004004	Blackwater	28 (NH) 455 563	HRPB	336.7
004005	Meig	28 (NH) 286 528	HRPB	120.5
005001	* Beauly	28 (NH) 426 405	NSHE	849.5
005002	Farrar	28 (NH) 390 405	HRPB	311.3
006001	* Ness	28 (NH) 639 410	NSHE	1792.3
006003	* Moriston	28 (NH) 416 169	NSHE	391.0
006006	* Allt Bhlaraidh	28 (NH) 377 168	NSHE	27.5
006007	Ness	28 (NH) 645 427	HRPB	1839.1
006008	Enrick	28 (NH) 450 300	HRPB	105.9
007001	Findhorn	28 (NH) 826 337	HRPB	415.6
007002	Findhorn	38 (NJ) 018 583	HRPB	781.9
007003	Lossie	38 (NJ) 194 626	NERPB	216.0
007004	Nairn	28 (NH) 882 551	HRPB	313.0
007005	Divie	38 (NJ) 005 480	HRPB	165.0
007006	Lossie	38 (NJ) 135 489	NERPB	17.2
008001	* Spey	38 (NJ) 278 439	NERPB	2654.7
008002	Spey	28 (NH) 881 082	NERPB	1011.7
008003	* Spey	27 (NN) 759 996	NERPB	533.8
008004	Avon	38 (NJ) 186 352	NERPB	542.8
008005	Spey	28 (NH) 946 191	NERPB	1267.8
008006	Spey	38 (NJ) 318 518	NERPB	2861.2
008007	Spey	27 (NN) 687 962	NERPB	400.4
008008	Tromie	27 (NN) 789 995	NERPB	130.3
008009	Dulnain	28 (NH) 977 247	NERPB	272.2
008010	Spey	38 (NJ) 033 268	NERPB	1748.8
008011	Livet	38 (NJ) 201 291	NERPB	104.0
009001	Deveron	38 (NJ) 532 464	NERPB	441.6
009002	Deveron	38 (NJ) 705 498	NERPB	954.9
009003	Isla	38 (NJ) 494 506	NERPB	176.1
009004	Bogie	38 (NJ) 519 373	NERPB	179.0
010002	Ugie	48 (NK) 101 485	NERPB	325.0
010003	Ythan	38 (NJ) 947 303	NERPB	523.0
011001	Don	38 (NJ) 887 141	NERPB	1273.0
011002	Don	38 (NJ) 756 201	NERPB	787.0
011003	Don	38 (NJ) 566 170	NERPB	499.0
012001	Dee	37 (NO) 635 956	NERPB	1370.0
012002	Dee	37 (NO) 798 983	NERPB	1844.0
012003	Dee	37 (NO) 344 965	NERPB	690.0
012004	Girnock Burn	37 (NO) 324 956	NERPB	30.3
012005	Muick	37 (NO) 364 947	NERPB	110.0
012006	Gairn	37 (NO) 353 971	NERPB	150.0
012007	Dee	37 (NO) 098 895	NERPB	289.0
012008	Feugh	37 (NO) 687 928	NERPB	229.0
013001	Bervie	37 (NO) 826 733	NERPB	123.0
013002	Luther Water	37 (NO) 660 668	TRPB	138.0
013003	* South Esk	37 (NO) 583 593	TRPB	487.0
013004	Prosen Water	37 (NO) 396 586	TRPB	104.0
013005	Lunan Water	37 (NO) 655 494	TRPB	124.0
013007	North Esk	37 (NO) 699 640	TRPB	730.0
013008	South Esk	37 (NO) 600 596	TRPB	490.0
013009	West Water	37 (NO) 592 680	TRPB	127.2
014001	Eden	37 (NO) 415 158	TRPB	307.4
014002	Dighty Water	37 (NO) 477 324	TRPB	126.9
014005	Motray Water	37 (NO) 441 224	TRPB	52.0
015001	* Isla	37 (NO) 187 647	TRWS	70.7
015002	* Newton Burn	37 (NO) 230 605	TRWS	15.4
015003	Tay	37 (NO) 082 395	TRPB	3211.0
015004	* Inzion	37 (NO) 280 559	TRWS	24.7
015005	* Melgan	37 (NO) 275 558	TRWS	40.9
015006	Tay	37 (NO) 147 367	TRPB	4587.1
015007	Tay	27 (NN) 924 534	TRPB	1149.4
015008	Dean Water	37 (NO) 340 479	TRPB	177.1
015010	Isla	37 (NO) 295 466	TRPB	366.5
015011	Lyon	27 (NN) 786 486	TRPB	391.1
015012	Tummel	27 (NN) 940 577	TRPB	1649.0
015013	Almond	37 (NO) 067 258	TRPB	174.8
015015	Almond	27 (NN) 888 316	TRPB	84.0
015016	Tay	27 (NN) 782 467	TRPB	600.9
015017	* Braan	27 (NN) 979 406	TRPB	197.0
015018	* Lyon	27 (NN) 534 448	NSHE	161.4
015021	Lunan Burn	37 (NO) 182 400	TRPB	94.0
015023	Braan	37 (NO) 014 422	TRPB	210.0
015024	Dochart	27 (NN) 567 320	TRPB	239.0
015025	Ericht	37 (NO) 174 472	TRPB	432.0
016001	Earn	27 (NN) 933 167	TRPB	590.5
016002	* Earn	27 (NN) 754 216	TRPB	176.9
016003	Ruchill Water	27 (NN) 764 204	TRPB	99.5
016004	Earn	37 (NO) 043 184	TRPB	782.2
017001	Carron	26 (NS) 832 820	FRPB	122.3
017002	Leven	37 (NO) 369 006	FRPB	424.0
017003	Bonny Water	26 (NS) 824 804	FRPB	50.5
017004	Ore	36 (NT) 330 997	FRPB	162.0
017005	Avon	26 (NS) 952 797	FRPB	195.3
017012	Red Burn	26 (NS) 788 780	FRPB	22.0
017016	Lochty Burn	36 (NT) 221 987	FRPB	14.0
017017	Greens Burn	37 (NO) 150 053	FRPB	7.9
018001	Allan Water	27 (NN) 792 053	FRPB	161.0
018002	Devon	26 (NS) 858 960	FRPB	181.0
018003	Teith	27 (NN) 725 011	FRPB	518.0
018005	Allan Water	26 (NS) 786 980	FRPB	210.0
018007	Devon	37 (NO) 011 018	FRPB	69.5
018008	Leny	27 (NN) 585 096	FRPB	190.0
018010	Forth	26 (NS) 714 953	FRPB	397.0
018011	Forth	26 (NS) 775 955	FRPB	1036.0
018012	Ardoch Burn	27 (NN) 729 008	FRPB	48.0
018013	Black Devon	26 (NS) 914 924	FRPB	67.0
018014	Bannockburn	26 (NS) 812 908	FRPB	23.7
018016	Kelty Water	26 (NS) 468 968	FRPB	2.8
018017	Monachyle Burn	27 (NN) 475 230	IH	7.7
018018	Kirkton Burn	27 (NN) 532 219	IH	6.9
018019	Corner Burn	27 (NN) 386 043	FRPB	0.9
019001	Almond	36 (NT) 165 752	FRPB	369.0
019002	Almond	36 (NT) 004 652	FRPB	43.8
019003	* Breich Water	36 (NT) 014 639	FRPB	51.8
019004	North Esk	36 (NT) 252 616	FRPB	81.6
019005	Almond	36 (NT) 086 686	FRPB	229.0
019006	Water of Leith	36 (NT) 228 732	FRPB	107.0
019007	Esk	36 (NT) 339 723	FRPB	330.0
019008	South Esk	36 (NT) 325 623	FRPB	112.0
019010	Braid Burn	36 (NT) 273 707	FRPB	16.2
019011	North Esk	36 (NT) 333 678	FRPB	137.0
019012	Water of Leith	36 (NT) 212 688	FRPB	72.0
019014	Brox Burn	36 (NT) 114 732	FRPB	34.1
019017	Gogar Burn	36 (NT) 161 733	FRPB	38.8
020001	Tyne	36 (NT) 591 768	FRPB	307.0
020002	West Peffer Burn	36 (NT) 489 811	FRPB	26.2
020003	Tyne	36 (NT) 456 689	FRPB	161.0
020004	East Peffer Burn	36 (NT) 610 824	FRPB	31.1
020005	Birns Water	36 (NT) 457 688	FRPB	93.0
020006	Biel Water	36 (NT) 645 768	FRPB	51.8
020007	Gifford Water	36 (NT) 511 717	FRPB	64.0
020008	Brox Burn	36 (NT) 697 776	FRPB	19.7
021001	* Fruid Water	36 (NT) 088 205	LRWD	23.7
021002	* Whiteadder Water	36 (NT) 663 633	LRWD	45.6
021003	Tweed	36 (NT) 257 400	TWRP	694.0
021004	* Watch Water	36 (NT) 664 566	BRWD	10.7
021005	Tweed	36 (NT) 206 397	TWRP	373.0
021006	Tweed	36 (NT) 498 334	TWRP	1500.0
021007	Ettrick Water	36 (NT) 486 315	TWRP	499.0
021008	Teviot	36 (NT) 702 280	TWRP	1110.0
021009	Tweed	36 (NT) 898 477	TWRP	4390.0
021010	* Tweed	36 (NT) 588 320	TWRP	2080.0
021011	Yarrow Water	36 (NT) 439 277	TWRP	231.0
021012	Teviot	36 (NT) 522 159	TWRP	323.0
021013	Gala Water	36 (NT) 479 374	TWRP	207.0
021014	Tweed	36 (NT) 109 285	TWRP	139.0
021015	Leader Water	36 (NT) 565 388	TWRP	239.0
021016	Eye Water	36 (NT) 942 635	TWRP	119.0
021017	Ettrick Water	36 (NT) 234 132	TWRP	37.5
021018	Lyne Water	36 (NT) 209 401	TWRP	175.0
021019	Manor Water	36 (NT) 217 369	TWRP	61.6
021020	Yarrow Water	36 (NT) 309 247	TWRP	155.0
021021	Tweed	36 (NT) 752 354	TWRP	3330.0
021022	Whiteadder Water	36 (NT) 881 550	TWRP	503.0
021023	Leet Water	36 (NT) 839 396	TWRP	113.0
021024	Jed Water	36 (NT) 655 214	TWRP	139.0
021025	Ale Water	36 (NT) 634 244	TWRP	174.0
021026	Tima Water	36 (NT) 278 138	TWRP	31.0
021027	Blackadder Water	36 (NT) 826 530	TWRP	159.0
021030	Megget Water	36 (NT) 231 232	TWRP	56.2
021031	* Till	36 (NT) 927 396	NWA	648.0
021032	* Glen	36 (NT) 919 310	NWA	198.9
021034	Yarrow Water	36 (NT) 288 244	TWRP	116.0
022001	Coquet	46 (NU) 234 044	NWA	569.8
022002	* Coquet	36 (NT) 870 083	NWA	59.5
022003	* Usway Burn	36 (NT) 886 077	NWA	21.4
022004	* Aln	46 (NU) 211 129	NWA	205.0
022006	Blyth	45 (NZ) 243 800	NWA	269.4
022007	Wansbeck	45 (NZ) 175 858	NWA	287.3
022008	* Alwin	36 (NT) 925 063	NWA	27.7
022009	Coquet	46 (NU) 067 016	NWA	346.0
023001	Tyne	45 (NZ) 038 617	NWA	2175.6
023002	Derwent	45 (NZ) 041 508	NWA	118.0
023003	North Tyne	35 (NY) 906 732	NWA	1007.5
023004	South Tyne	35 (NY) 856 647	NWA	751.1
023005	North Tyne	35 (NY) 776 861	NWA	284.9
023006	South Tyne	35 (NY) 672 611	NWA	321.9
023007	Derwent	45 (NZ) 168 581	NWA	242.1
023008	Rede	35 (NY) 868 832	NWA	343.8
023009	* South Tyne	35 (NY) 716 465	NWA	118.5
023010	* Tarset Burn	35 (NY) 789 879	NWA	96.0
023011	Kielder Burn	35 (NY) 644 946	NWA	58.8
023012	* East Allen	35 (NY) 802 583	NWA	88.0
023013	* West Allen	35 (NY) 791 583	NWA	75.1
023014	* North Tyne	35 (NY) 631 931	NWA	27.0
023015	* North Tyne	35 (NY) 924 721	NGWC	1043.8
024001	Wear	45 (NZ) 264 376	NWA	657.8
024002	* Gaunless	45 (NZ) 215 306	NWA	93.0
024003	Wear	35 (NY) 984 391	NWA	171.9
024004	Bedburn Beck	45 (NZ) 118 322	NWA	74.9
024005	Browney	45 (NZ) 259 387	NWA	178.5
024006	* Rookhope Burn	35 (NY) 952 390	NWA	36.5
024007	* Browney	45 (NZ) 165 462	NWA	44.6
024008	Wear	45 (NZ) 174 309	NWA	455.0
024009	Wear	45 (NZ) 283 512	NWA	1008.3
025001	Tees	45 (NZ) 259 137	NWA	818.4
025002	* Tees	35 (NY) 932 260	NWA	217.3
025003	* Trout Beck	35 (NY) 759 336	NWA	11.4
025004	Skerne	45 (NZ) 284 129	NWA	250.1
025005	Leven	45 (NZ) 445 122	NWA	196.3
025006	Greta	45 (NZ) 034 122	NWA	86.1
025007	* Clow Beck	45 (NZ) 282 101	NWA	78.2
025008	* Tees	45 (NZ) 047 166	NWA	509.2
025009	Tees	45 (NZ) 364 105	NWA	1264.0
025010	* Baydale Beck	45 (NZ) 260 156	NWA	31.1
025011	* Langdon Beck	35 (NY) 852 309	NWA	13.0
025012	Harwood Beck	35 (NY) 849 309	NWA	25.1
025013	* Billingham Beck	45 (NZ) 408 237	NWA	61.4
025014	* Mordon Stell	45 (NZ) 323 274	NWA	2.5
025015	* Woodham Burn	45 (NZ) 285 263	NWA	29.1
025018	Tees	35 (NY) 950 250	NWA	242.1
025019	Leven	45 (NZ) 585 087	NWA	14.8
025020	Skerne	45 (NZ) 292 238	NWA	147.0
025021	Skerne	45 (NZ) 318 285	NWA	70.1
025022	* Balder	35 (NY) 931 182	NWA	20.4
025023	* Tees	35 (NY) 813 288	NWA	58.2
025024	* Chapel Beck	45 (NZ) 599 163	NWA	13.4

Station number	River name	Grid reference	Measuring authority	Area (sq km)
026001	* West Beck	54 (TA) 064 560	YWA	192.0
026002	Hull	54 (TA) 080 498	YWA	378.1
026003	Foston Beck	54 (TA) 093 548	YWA	57.2
026004	* Gypsey Race	54 (TA) 165 675	YWA	253.8
026005	Gypsey Race	54 (TA) 137 677	YWA	240.0
026006	Elmswell Beck	54 (TA) 009 575	YWA	136.0
026007	* Catchwater	54 (TA) 171 403	YWA	15.5
027001	* Nidd	44 (SE) 428 530	YWA	484.3
027002	Wharfe	44 (SE) 422 473	YWA	758.9
027003	Aire	44 (SE) 534 255	YWA	1932.1
027004	* Calder	44 (SE) 365 220	YWA	899.0
027006	Don	43 (SK) 390 910	YWA	373.0
027007	Ure	44 (SE) 356 671	YWA	914.6
027008	* Swale	44 (SE) 415 748	YWA	1345.6
027009	Ouse	44 (SE) 568 554	YWA	3315.0
027010	* Hodge Beck	44 (SE) 627 944	YWA	18.9
027012	* Hebden Water	34 (SD) 973 309	YWA	36.0
027013	* Ewden Beck	43 (SK) 289 957	YWA	26.4
027014	* Rye	44 (SE) 743 771	YWA	679.0
027015	* Derwent	44 (SE) 714 557	YWA	1634.3
027018	* Ryburn	44 (SE) 025 187	YWA	10.7
027019	* Booth Dean Clough	44 (SE) 033 166	YWA	15.9
027021	Don	44 (SE) 569 040	YWA	1256.2
027022	* Don	43 (SK) 427 928	YWA	826.0
027023	Dearne	44 (SE) 350 073	YWA	118.9
027024	* Swale	45 (NZ) 146 006	YWA	381.0
027025	Rother	43 (SK) 432 857	YWA	352.2
027026	Rother	43 (SK) 394 744	YWA	165.0
027027	* Wharfe	44 (SE) 112 481	YWA	443.0
027028	Aire	44 (SE) 281 340	YWA	691.5
027029	Calder	44 (SE) 124 219	YWA	341.9
027030	Dearne	44 (SE) 477 020	YWA	310.8
027031	Colne	44 (SE) 174 199	YWA	245.0
027032	Hebden Beck	44 (SE) 025 643	YWA	22.2
027033	Sea Cut	54 (TA) 028 908	YWA	33.2
027034	Ure	44 (SE) 190 860	YWA	510.2
027035	Aire	44 (SE) 013 457	YWA	282.3
027036	* Derwent	44 (SE) 789 715	YWA	1421.0
027038	Costa Beck	44 (SE) 774 836	YWA	7.8
027040	Doe Lea	43 (SK) 443 746	YWA	67.9
027041	Derwent	44 (SE) 731 587	YWA	1586.0
027042	Dove	44 (SE) 705 855	YWA	59.2
027043	Wharfe	44 (SE) 092 494	YWA	427.0
027044	Blackfoss Beck	44 (SE) 725 475	YWA	47.0
027047	Snaizeholme Beck	34 (SD) 833 883	YWA	10.2
027048	Derwent	44 (SE) 990 853	YWA	127.0
027049	Rye	44 (SE) 696 791	YWA	238.7
027050	Esk	45 (NZ) 865 081	YWA	308.0
027051	Crimple	44 (SE) 284 519	YWA	8.1
027052	Whitting	43 (SK) 376 747	YWA	50.2
027053	Nidd	44 (SE) 230 603	YWA	217.6
027054	Hodge Beck	44 (SE) 652 902	YWA	37.1
027055	Rye	44 (SE) 560 883	YWA	131.7
027056	Pickering Beck	44 (SE) 791 819	YWA	68.6
027057	Seven	44 (SE) 736 821	YWA	121.6
027058	Riccal	44 (SE) 661 810	YWA	57.6
027059	Laver	44 (SE) 301 710	YWA	87.5
027060	Kyle	44 (SE) 509 602	YWA	167.6
027061	Colne	44 (SE) 136 161	YWA	72.3
027062	Nidd	44 (SE) 482 581	YWA	516.0
027064	Went	44 (SE) 551 163	YWA	83.7
027065	Holme	44 (SE) 142 157	YWA	97.4
027066	Blackburn Brook	43 (SK) 393 914	YWA	42.8
027067	Sheaf	43 (SK) 357 863	YWA	49.1
027068	Ryburn	44 (SE) 035 188	YWA	33.0
027069	Wiske	44 (SE) 375 844	YWA	215.5
027070	Eller Beck	14 (SB) 984 502	YWA	35.3
027071	Swale	44 (SE) 425 734	YWA	1363.0
027072	Worth	44 (SE) 064 408	YWA	71.7
027073	Brompton Beck	44 (SE) 936 794	YWA	12.9
027074	Spen Beck	44 (SE) 225 210	YWA	46.3
027075	Bedale Beck	44 (SE) 306 902	YWA	160.3
027076	Bielby Beck	44 (SE) 760 444	YWA	103.1
027077	Bradford Beck	44 (SE) 151 375	YWA	58.0
027080	Aire	44 (SE) 381 285	YWA	
027082	Cundall Beck	44 (SE) 419 724	YWA	
028001	Derwent	43 (SK) 198 851	STWA	126.0
028002	* Blithe	43 (SK) 109 192	STWA	163.0
028003	* Tame	42 (SP) 169 915	STWA	408.0
028004	* Tame	42 (SP) 206 935	STWA	795.0
028005	* Tame	43 (SK) 173 105	STWA	1475.0
028006	* Trent	33 (SJ) 994 231	STWA	325.0
028007	* Trent	43 (SK) 448 299	STWA	4400.0
028008	Dove	43 (SK) 112 397	STWA	399.0
028009	Trent	43 (SK) 620 399	STWA	7486.0
028010	Derwent	43 (SK) 356 363	STWA	1054.0
028011	Derwent	43 (SK) 296 586	STWA	690.0
028012	Trent	43 (SK) 131 177	STWA	1229.0
028013	* Soar	43 (SK) 498 240	STWA	1289.8
028014	* Sow	33 (SJ) 975 215	STWA	591.0
028015	Idle	43 (SK) 690 895	STWA	529.0
028016	* Ryton	43 (SK) 641 897	STWA	231.0
028017	* Devon	43 (SK) 787 486	STWA	284.0
028018	Dove	43 (SK) 235 288	STWA	883.2
028019	Trent	43 (SK) 239 204	STWA	3072.0
028020	* Churnet	43 (SK) 103 389	STWA	236.0
028021	* Derwent	43 (SK) 443 327	STWA	1175.0
028022	Trent	43 (SK) 801 601	STWA	8231.0
028023	* Wye	43 (SK) 182 696	STWA	154.0
028024	Wreake	43 (SK) 615 124	STWA	413.8
028025	* Sence	42 (SP) 321 996	STWA	169.4
028026	Anker	43 (SK) 263 034	STWA	368.0
028027	* Erewash	43 (SK) 482 364	STWA	182.2
028029	* Kingston Brook	43 (SK) 503 277	STWA	57.0
028030	* Black Brook	43 (SK) 466 171	STWA	8.4
028031	Manifold	43 (SK) 140 507	STWA	148.5
028032	* Meden	43 (SK) 558 680	STWA	62.8
028033	* Dove	43 (SK) 063 668	STWA	8.0
028035	* Leen	43 (SK) 549 392	STWA	111.0
028036	* Poulter	43 (SK) 700 752	STWA	128.2
028038	* Manifold	43 (SK) 106 595	STWA	46.0
028039	Rea	42 (SP) 071 847	STWA	74.0
028040	Trent	33 (SJ) 892 467	STWA	53.2
028041	* Hamps	43 (SK) 082 502	STWA	35.1
028043	Derwent	43 (SK) 261 683	STWA	335.0
028044	* Poulter	43 (SK) 563 714	STWA	65.0
028045	* Meden	43 (SK) 681 732	STWA	106.2
028046	Dove	43 (SK) 146 509	STWA	83.0
028047	* Oldcoates Dyke	43 (SK) 615 876	STWA	85.2
028048	Amber	43 (SK) 376 520	STWA	139.0
028049	* Ryton	43 (SK) 575 794	STWA	77.0
028050	* Torne	44 (SE) 646 012	STWA	135.5
028052	Sow	33 (SJ) 883 270	STWA	163.0
028053	* Penk	33 (SJ) 923 144	STWA	272.0
028054	* Sence	42 (SP) 566 985	STWA	133.0
028055	* Ecclesbourne	43 (SK) 320 447	STWA	50.4
028056	Rothley Brook	43 (SK) 580 121	STWA	94.0
028058	* Henmore Brook	43 (SK) 176 463	STWA	42.0
028059	* Maun	43 (SK) 548 623	STWA	28.8
028060	* Dover Beck	43 (SK) 653 479	STWA	69.0
028061	Churnet	33 (SJ) 983 520	STWA	139.0
028062	* Trent	43 (SK) 815 715	STWA	8433.0
028065	* Trent	43 (SK) 827 780	STWA	8547.0
028066	Cole	42 (SP) 183 874	STWA	130.0
028067	Derwent	43 (SK) 438 316	STWA	1177.5
028070	* Burbage Brook	43 (SK) 259 804	STWA	9.1
028072	* Greet	43 (SK) 711 541	STWA	46.2
028073	* Ashop	43 (SK) 171 896	STWA	42.0
028075	* Derwent	43 (SK) 169 951	STWA	17.0
028079	Meece	33 (SJ) 874 291	STWA	86.3
028080	Tame	42 (SP) 207 937	STWA	799.0
028081	Tame	42 (SP) 012 958	STWA	169.0
028082	Soar	42 (SP) 542 973	STWA	183.9
028083	Trent	33 (SJ) 885 355	STWA	195.2
028084	Tame	42 (SP) 029 927	STWA	
028085	Derwent	43 (SK) 355 368	STWA	1054.0
028086	Sence	42 (SP) 588 977	STWA	113.0
028087	Tame	42 (SP) 061 919	STWA	
028091	Ryton	43 (SK) 631 871	STWA	231.0
028093	Soar	43 (SK) 565 182	STWA	1108.4
028094	Blythe	42 (SP) 213 888	STWA	183.8
028095	Tame	43 (SK) 182 052	STWA	1421.7
028102	Blythe	42 (SP) 212 911	STWA	194.3
029001	Waithe Beck	54 (TA) 253 016	AWA	108.3
029002	Great Eau	53 (TF) 416 793	AWA	77.4
029003	Lud	53 (TF) 337 879	AWA	55.2
029004	Ancholme	53 (TF) 032 911	AWA	54.7
029005	Rase	53 (TF) 032 912	AWA	66.6
029009	Ancholme	53 (TF) 033 877	AWA	27.2
030001	Witham	43 (SK) 842 480	AWA	297.9
030002	Barlings Eau	53 (TF) 066 766	AWA	210.1
030003	Bain	53 (TF) 241 611	AWA	197.1
030004	Partney Lymn	53 (TF) 402 676	AWA	61.6
030005	Witham	43 (SK) 927 335	AWA	126.1
030006	Slea	53 (TF) 088 485	AWA	48.4
030011	Bain	53 (TF) 246 795	AWA	62.5
030012	Stainfield Beck	53 (TF) 127 739	AWA	37.4
030013	Heighington Beck	53 (TF) 042 696	AWA	21.2
030014	Pointon Lode	53 (TF) 128 313	AWA	11.9
030015	Cringle Brook	43 (SK) 925 297	AWA	50.5
030017	Witham	43 (SK) 929 246	AWA	51.3
031001	Eye Brook	42 (SP) 853 941	CDWC	60.1
031002	Glen	53 (TF) 106 149	AWA	341.9
031005	Welland	42 (SP) 970 997	AWA	417.0
031006	Gwash	53 (TF) 038 097	AWA	150.0
031007	Welland	42 (SP) 948 999	AWA	411.6
031010	Chater	43 (SK) 961 030	AWA	68.9
031012	Tham	53 (TF) 016 179	AWA	24.9
031016	North Brook	43 (SK) 957 089	AWA	36.5
031021	Welland	42 (SP) 819 915	AWA	250.7
031023	West Glen	43 (SK) 965 258	AWA	4.4
031025	Gwash South Arm	43 (SK) 875 051	AWA	24.5
031026	Egleton Brook	43 (SK) 878 073	AWA	2.5
031028	Gwash	43 (SK) 951 082	AWA	76.5
032001	Nene	52 (TL) 166 972	AWA	1634.3
032002	Willow Brook	52 (TL) 067 933	AWA	89.6
032003	Harpers Brook	42 (SP) 983 799	AWA	74.3
032004	Ise Brook	42 (SP) 898 715	AWA	194.0
032006	Nene/Kislingbury	42 (SP) 721 592	AWA	223.0
032007	Nene Brampton	42 (SP) 747 617	AWA	232.8
032008	Nene/Kislingbury	42 (SP) 627 607	AWA	107.0
032029	* Flore	42 (SP) 660 610	AWA	7.0
032031	Wootton Brook	42 (SP) 726 577	AWA	73.9
033001	* Bedford Ouse	52 (TL) 369 727	AWA	3030.0
033002	Bedford Ouse	52 (TL) 055 495	AWA	1460.0
033003	Cam	52 (TL) 508 657	AWA	803.0
033004	Lark	52 (TL) 648 760	AWA	466.2
033005	Bedford Ouse	42 (SP) 736 353	AWA	388.5
033006	Wissey	52 (TL) 771 965	AWA	274.5
033007	Nar	53 (TF) 723 119	AWA	153.3
033008	* Little Ouse	52 (TL) 860 832	AWA	699.0
033009	Bedford Ouse	42 (SP) 951 565	AWA	1320.0
033011	Little Ouse	52 (TL) 892 801	AWA	128.7
033012	Kym	52 (TL) 155 631	AWA	137.5
033013	Sapiston	52 (TL) 896 791	AWA	205.9
033014	Lark	52 (TL) 758 730	AWA	272.0
033015	Ouzel	42 (SP) 882 408	AWA	277.1
033016	* Cam	52 (TL) 450 593	AWA	761.5
033018	Tove	42 (SP) 714 488	AWA	138.1
033019	Thet	52 (TL) 880 830	AWA	316.0
033020	Alconbury Brook	52 (TL) 208 717	AWA	201.5
033021	Rhee	52 (TL) 415 523	AWA	303.0
033022	Ivel	52 (TL) 153 509	AWA	541.3
033023	Lea Brook	52 (TL) 662 733	AWA	101.8
033024	Cam	52 (TL) 486 506	AWA	198.0
033025	* Babingly	53 (TF) 696 256	AWA	39.6
033026	Bedford Ouse	52 (TL) 216 669	AWA	2570.0
033027	Rhee	52 (TL) 333 485	AWA	119.1
033028	Flit	52 (TL) 143 393	AWA	119.6
033029	Stringside	53 (TF) 716 006	AWA	98.8
033030	* Clipstone Brook	42 (SP) 933 255	AWA	40.2
033031	Broughton Brook	42 (SP) 889 408	AWA	66.6
033032	Heacham	53 (TF) 685 375	AWA	59.0
033033	Hiz	52 (TL) 190 379	AWA	108.0
033034	Little Ouse	52 (TL) 851 844	AWA	699.3
033035	Ely Ouse	53 (TF) 588 010	AWA	3430.0
033037	Bedford Ouse	42 (SP) 877 443	AWA	800.0
033039	Bedford Ouse	52 (TL) 160 535	AWA	1660.0
033040	Rhee	52 (TL) 267 401	AWA	
033044	Thet	52 (TL) 957 856	AWA	277.8
033045	Wittle	62 (TM) 027 878	AWA	28.3

Station number	River name	Grid reference	Measuring authority	Area (sq km)
033046	Thet	52 (TL) 996 923	AWA	145.3
033048	Larling Brook	52 (TL) 928 907	AWA	21.4
033049	* Stanford Water	52 (TL) 834 953	AWA	43.5
033050	Snail	52 (TL) 631 703	AWA	60.6
033051	Cam	52 (TL) 505 426	AWA	141.0
033052	Swaffham Lode	52 (TL) 553 628	AWA	36.4
033053	Granta	52 (TL) 471 515	AWA	114.0
033054	Babingley	53 (TF) 680 252	AWA	47.7
033055	Granta	52 (TL) 510 504	AWA	98.7
033056	Quy Water	52 (TL) 531 627	AWA	76.4
033057	Ouzel	42 (SP) 917 241	AWA	119.0
033058	Ouzel	42 (SP) 883 322	AWA	215.0
033059	* Cut-off Channel	52 (TL) 729 757	AWA	
033060	Kings Dike	52 (TL) 208 973	AWA	
033062	Guilden Brook	52 (TL) 403 457	AWA	
033063	Little Ouse	52 (TL) 955 807	AWA	101.0
033064	Whaddon Brook	52 (TL) 359 466	AWA	16.0
033065	Hiz	52 (TL) 185 290	AWA	6.8
033066	Granta	52 (TL) 570 464	AWA	59.8
033067	New River	52 (TL) 608 696	AWA	19.6
033068	Cheney Water	52 (TL) 296 411	AWA	5.0
034001	Yare	63 (TG) 182 082	AWA	231.8
034002	Tas	62 (TM) 226 994	AWA	146.5
034003	Bure	63 (TG) 192 296	AWA	164.7
034004	Wensum	63 (TG) 177 128	AWA	536.1
034005	Tud	63 (TG) 170 113	AWA	73.2
034006	Waveney	62 (TM) 229 811	AWA	370.0
034007	Dove	62 (TM) 174 772	AWA	133.9
034008	Ant	63 (TG) 331 270	AWA	49.3
034010	Waveney	62 (TM) 168 782	AWA	149.4
034011	Wensum	53 (TF) 919 294	AWA	127.1
034012	Burn	53 (TF) 842 428	AWA	80.0
034013	* Waveney	62 (TM) 364 917	AWA	670.0
034014	Wensum	63 (TG) 020 184	AWA	363.0
034018	Stiffkey	53 (TF) 944 414	AWA	77.1
034019	Bure	63 (TG) 267 194	AWA	313.0
035001	Gipping	62 (TM) 154 441	AWA	310.8
035002	Deben	62 (TM) 322 534	AWA	163.1
035003	Alde	62 (TM) 360 601	AWA	63.9
035004	Ore	62 (TM) 359 583	AWA	54.9
035008	Gipping	62 (TM) 058 578	AWA	128.9
035010	Gipping	62 (TM) 127 465	AWA	298.0
035013	Blyth	62 (TM) 406 769	AWA	92.9
036001	Stour	62 (TM) 042 340	EWC	844.3
036002	Glem	52 (TL) 846 472	AWA	87.3
036003	Box	52 (TL) 985 378	AWA	53.9
036004	Chad Brook	52 (TL) 868 459	AWA	47.4
036005	Brett	62 (TM) 025 429	AWA	156.0
036006	Stour	62 (TM) 020 344	AWA	578.0
036007	Belchamp Brook	52 (TL) 848 421	AWA	58.6
036008	Stour	52 (TL) 827 463	AWA	224.5
036009	Brett	52 (TL) 914 525	AWA	25.7
036010	Bumpstead Brook	52 (TL) 689 418	AWA	28.3
036011	Stour Brook	52 (TL) 696 441	AWA	34.5
036012	Stour	52 (TL) 708 450	AWA	76.2
036013	Brett	62 (TM) 032 354	AWA	195.0
036015	Stour	52 (TL) 897 358	AWA	480.7
036016	* Ramsey	62 (TM) 206 288	AWA	13.9
036017	* Ely Ouse Outfall	52 (TL) 681 559	AWA	
037001	Roding	51 (TQ) 415 884	TWA	303.3
037002	Chelmer	52 (TL) 794 090	AWA	533.9
037003	Ter	52 (TL) 786 107	AWA	77.8
037005	Colne	52 (TL) 962 261	AWA	238.2
037006	Can	52 (TL) 690 072	AWA	228.4
037007	Wid	52 (TL) 686 060	AWA	136.3
037008	Chelmer	52 (TL) 713 071	AWA	190.3
037009	Brain	52 (TL) 818 147	AWA	60.7
037010	Blackwater	52 (TL) 845 158	AWA	247.3
037011	Chelmer	52 (TL) 629 233	AWA	72.6
037012	Colne	52 (TL) 771 364	AWA	65.1
037013	Sandon Brook	52 (TL) 755 055	AWA	60.6
037014	Roding	52 (TL) 561 040	TWA	95.1
037015	Cripsey Brook	52 (TL) 548 035	TWA	62.2
037016	Pant	52 (TL) 668 313	AWA	62.5
037017	Blackwater	52 (TL) 793 243	AWA	139.2
037018	Ingrebourne	51 (TQ) 553 862	TWA	47.9
037019	Beam	51 (TQ) 515 853	TWA	49.7
037020	Chelmer	52 (TL) 670 193	AWA	132.1
037021	Roman	52 (TL) 985 205	AWA	52.6
037022	Holland Brook	62 (TM) 179 212	AWA	54.9
037023	* Roding	51 (TQ) 442 955	TWA	269.0
037024	Colne	52 (TL) 855 298	AWA	154.2
037025	* Bourne Brook	52 (TL) 822 276	AWA	32.1
037026	* Tenpenny Brook	62 (TM) 079 207	AWA	29.0
037027	* Sixpenny Brook	62 (TM) 054 214	AWA	5.1
037028	* Bentley Brook	62 (TM) 109 193	AWA	12.1
037029	* St Osyth Brook	62 (TM) 134 159	AWA	8.0
037030	* Holland Brook	62 (TM) 171 217	AWA	48.6
037031	Crouch	51 (TQ) 748 934	AWA	71.8
037033	Eastwood Brook	51 (TQ) 859 888	AWA	10.4
037034	Mardyke	51 (TQ) 596 806	AWA	90.7
037036	Ely Ouse Outfall	52 (TL) 646 351	AWA	
037037	Toppesfield Brook	52 (TL) 675 377	AWA	1.3
037038	* Wid	52 (TL) 672 000	AWA	98.6
037039	Blackwater	52 (TL) 835 090	AWA	337.0
038001	Lee	52 (TL) 390 092	TWA	1036.0
038002	Ash	52 (TL) 393 148	TWA	78.7
038003	Mimram	52 (TL) 282 133	TWA	133.9
038004	Rib	52 (TL) 360 174	TWA	136.5
038005	* Ash	52 (TL) 380 138	TWA	85.2
038006	* Rib	52 (TL) 335 158	TWA	148.1
038007	Canons Brook	52 (TL) 431 104	TWA	21.4
038011	* Mimram	52 (TL) 225 169	TWA	98.7
038012	Stevenage Brook	52 (TL) 274 211	TWA	36.0
038013	Upper Lee	52 (TL) 118 185	TWA	70.7
038014	Salmon Brook	51 (TQ) 343 937	TWA	20.5
038015	* Intercepting Drain	51 (TQ) 355 932	TWA	7.4
038016	Stanstead Springs	52 (TL) 500 246	TWA	20.5
038017	Mimram	52 (TL) 184 212	TWA	39.1
038018	Upper Lee	52 (TL) 299 099	TWA	150.0
038020	Cobbins Brook	51 (TQ) 387 999	TWA	38.4
038021	Turkey Brook	51 (TQ) 359 985	TWA	42.2
038022	Pymmes Brook	51 (TQ) 340 925	TWA	42.6
038023	Lee flood relief	51 (TQ) 356 880	TWA	1243.0
038024	Small River Lee	51 (TQ) 370 988	TWA	41.5
038026	Pincey Brook	52 (TL) 495 126	TWA	54.6
038027	Stort	52 (TL) 393 093	TWA	280.2
038028	Stansted Brook	52 (TL) 506 241	TWA	25.9
038029	Quin	52 (TL) 392 248	TWA	50.4
038030	Beane	52 (TL) 325 131	TWA	175.1
039001	Thames	51 (TQ) 177 698	TWA	9948.0
039002	Thames	41 (SU) 568 935	TWA	3444.7
039003	Wandle	51 (TQ) 265 705	TWA	176.1
039004	Wandle	51 (TQ) 296 655	TWA	122.0
039005	Beverley Brook	51 (TQ) 216 717	TWA	43.6
039006	Windrush	42 (SP) 402 019	TWA	362.6
039007	Blackwater	41 (SU) 731 648	TWA	354.8
039008	Thames	42 (SP) 445 087	TWA	1616.2
039010	Colne	51 (TQ) 052 864	TWA	743.0
039011	Wey	41 (SU) 874 433	TWA	396.3
039012	Hogsmill	51 (TQ) 182 688	TWA	69.1
039013	Colne	51 (TQ) 123 982	TWA	352.2
039014	Ver	52 (TL) 151 016	TWA	132.0
039016	Kennet	41 (SU) 649 708	TWA	1033.4
039017	Ray	42 (SP) 680 211	TWA	18.6
039019	Lambourn	41 (SU) 470 682	TWA	234.1
039020	Coln	42 (SP) 122 062	TWA	106.7
039021	Cherwell	42 (SP) 482 183	TWA	551.7
039022	Loddon	41 (SU) 720 652	TWA	164.5
039023	Wye	41 (SU) 896 867	TWA	137.3
039025	Enbourne	41 (SU) 568 648	TWA	147.6
039026	Cherwell	42 (SP) 458 411	TWA	199.4
039027	Pang	41 (SU) 634 766	TWA	170.9
039028	Dun	41 (SU) 321 685	TWA	101.3
039029	Tillingbourne	51 (TQ) 000 478	TWA	59.0
039030	Gade	51 (TQ) 082 952	TWA	184.0
039031	* Lambourn	41 (SU) 411 731	TWA	176.0
039032	* Lambourn	41 (SU) 390 745	TWA	154.0
039033	Winterbourne St	41 (SU) 453 694	TWA	49.2
039034	Evenlode	42 (SP) 448 099	TWA	430.0
039035	Churn	41 (SU) 076 963	TWA	124.3
039036	Law Brook	51 (TQ) 045 468	TWA	16.0
039037	Kennet	41 (SU) 187 686	TWA	142.0
039038	Thame	42 (SP) 670 055	TWA	443.0
039040	Thames	41 (SU) 094 942	TWA	185.0
039042	Leach	41 (SU) 227 994	TWA	76.9
039043	Kennet	41 (SU) 295 710	TWA	295.0
039044	Hart	41 (SU) 755 593	TWA	84.0
039046	Thames	41 (SU) 516 946	TWA	3414.0
039049	Silk Stream	51 (TQ) 217 895	TWA	29.0
039051	Sor Brook	42 (SP) 475 346	TWA	106.4
039052	The Cut	41 (SU) 853 713	TWA	50.2
039053	Mole	51 (TQ) 271 434	TWA	89.9
039054	Mole	51 (TQ) 260 399	TWA	31.8
039055	Yeading Bk West	51 (TQ) 083 846	TWA	17.6
039056	Ravensbourne	51 (TQ) 372 732	TWA	67.6
039057	Crane	51 (TQ) 103 778	TWA	61.7
039058	Pool	51 (TQ) 371 725	TWA	38.3
039061	Letcombe Brook	41 (SU) 375 853	TWA	2.7
039065	Ewelme Brook	41 (SU) 642 916	TWA	13.4
039068	Mole	51 (TQ) 179 502	TWA	316.0
039069	Mole	51 (TQ) 262 462	TWA	142.0
039071	Thames	41 (SU) 007 973	TWA	63.7
039072	Thames	41 (SU) 982 773	TWA	7046.0
039073	Churn	42 (SP) 020 028	TWA	84.0
039074	Ampney Brook	41 (SU) 105 950	TWA	74.4
039075	Marston Meysey Bk	41 (SU) 128 964	TWA	25.0
039076	Windrush	42 (SP) 299 107	TWA	296.0
039077	Og	41 (SU) 194 697	TWA	59.2
039078	Wey(north)	41 (SU) 838 465	TWA	191.1
039079	Wey	51 (TQ) 068 641	TWA	1008.0
039081	Ock	41 (SU) 481 966	TWA	234.0
039085	* Wandle	51 (TQ) 266 703	TWA	176.1
039086	Gatwick Stream	51 (TQ) 285 417	TWA	33.6
039087	Ray	41 (SU) 121 935	TWA	84.1
039088	Chess	51 (TQ) 066 947	TWA	105.0
039089	Gade	52 (TL) 053 077	TWA	48.2
039090	* Cole	41 (SU) 208 970	TWA	140.0
039091	* Misbourne	41 (SU) 975 963	TWA	66.3
039092	Dollis Brook	51 (TQ) 240 895	TWA	25.1
039093	Brent	51 (TQ) 202 850	TWA	117.6
039094	Crane	51 (TQ) 154 734	TWA	81.0
039095	Quaggy	51 (TQ) 394 748	TWA	
039096	Wealdstone Brook	51 (TQ) 192 862	TWA	21.7
039097	Thames	41 (SU) 230 981	TWA	997.0
039098	Pinn	51 (TQ) 062 826	TWA	33.3
039099	Ampney Brook	42 (SP) 076 013	TWA	45.3
039100	Swill Brook	31 (ST) 997 927	TWA	53.3
039101	Aldbourne	41 (SU) 288 717	TWA	53.1
039102	Misbourne	51 (TQ) 046 866	TWA	136.0
040001	* Medway	51 (TQ) 407 353	SWA	26.9
040002	* Darwell	51 (TQ) 722 213	SWA	9.6
040003	Medway	51 (TQ) 708 530	SWA	1256.1
040004	Rother	51 (TQ) 773 245	SWA	206.0
040005	Beult	51 (TQ) 758 478	SWA	277.1
040006	Bourne	51 (TQ) 632 497	SWA	50.3
040007	Medway	51 (TQ) 517 405	SWA	255.1
040008	Great Stour	61 (TR) 049 470	SWA	230.0
040009	Teise	51 (TQ) 718 399	SWA	136.2
040010	Eden	51 (TQ) 520 437	SWA	224.3
040011	Great Stour	61 (TR) 116 554	SWA	345.0
040012	Darent	51 (TQ) 551 718	TWA	191.4
040013	Darent	51 (TQ) 525 584	TWA	100.5
040014	* Wingham	61 (TR) 276 576	SWA	37.7
040015	White Drain	61 (TR) 055 606	SWA	31.8
040016	Cray	51 (TQ) 511 746	TWA	119.7
040017	Dudwell	51 (TQ) 679 240	SWA	27.5
040018	Darent	51 (TQ) 530 643	TWA	118.4
040020	Eridge Stream	51 (TQ) 522 367	SWA	53.7
040021	* Hexden Channel	51 (TQ) 813 290	SWA	32.4
040022	* Great Stour	51 (TQ) 973 423	SWA	72.5
040023	East Stour	61 (TR) 015 407	SWA	58.8
040024	* Bartley Mill St	51 (TQ) 633 357	SWA	25.1
041001	Nunningham Stream	51 (TQ) 662 129	SWA	16.9
041002	Ash Bourne	51 (TQ) 684 141	SWA	18.4
041003	Cuckmere	51 (TQ) 533 051	SWA	134.7
041004	Ouse	51 (TQ) 433 148	SWA	395.7
041005	Ouse	51 (TQ) 429 214	SWA	180.9
041006	Uck	51 (TQ) 459 190	SWA	87.8
041009	* Rother	51 (TQ) 034 178	SWA	345.8

Station number	River name	Grid reference	Measuring authority	Area (sq km)
041010	Adur W Branch	51 (TQ) 178 197	SWA	109.1
041011	Rother	41 (SU) 852 229	SWA	154.0
041012	Adur E Branch	51 (TQ) 219 190	SWA	93.3
041013	Hugglets Stream	51 (TQ) 671 138	SWA	14.2
041014	Arun	51 (TQ) 047 229	SWA	379.0
041015	Ems	41 (SU) 755 074	SWA	58.3
041016	Cuckmere	51 (TQ) 611 150	SWA	18.7
041017	Combehaven	51 (TQ) 765 102	SWA	30.5
041018	Kird	51 (TQ) 044 256	SWA	66.8
041019	Arun	51 (TQ) 117 331	SWA	139.0
041020	Bevern Stream	51 (TQ) 423 161	SWA	34.6
041021	Clayhill Stream	51 (TQ) 448 153	SWA	7.1
041022	Lod	41 (SU) 931 223	SWA	52.0
041023	Lavant	41 (SU) 871 064	SWA	87.2
041024	Shell Brook	51 (TQ) 335 286	SWA	22.6
041025	Loxwood Stream	51 (TQ) 060 309	SWA	91.6
041026	Cockhaise Brook	51 (TQ) 376 262	SWA	36.1
041027	Rother	41 (SU) 772 270	SWA	37.2
041028	Chess Stream	51 (TQ) 217 173	SWA	24.0
041029	Bull	51 (TQ) 575 131	SWA	40.8
041030	Ouse	51 (TQ) 333 283	SWA	37.2
042001	Wallington	41 (SU) 587 075	SWA	111.0
042003	Lymington	41 (SU) 318 019	SWA	98.9
042004	Test	41 (SU) 354 188	SWA	1040.0
042005	Wallop Brook	41 (SU) 311 330	SWA	53.6
042006	Meon	41 (SU) 589 141	SWA	72.8
042007	Alre	41 (SU) 574 326	SWA	57.0
042008	Cheriton Stream	41 (SU) 574 323	SWA	75.1
042009	Candover Stream	41 (SU) 568 323	SWA	71.2
042010	Itchen	41 (SU) 467 213	SWA	360.0
042011	Hamble	41 (SU) 523 149	SWA	56.6
042012	Anton	41 (SU) 379 393	SWA	185.0
042014	Blackwater	41 (SU) 328 174	SWA	104.7
042016	* Itchen	41 (SU) 512 325	SWA	236.8
042021	* Branch of Test	41 (SU) 355 159	SWA	1050.0
043001	* Avon	41 (SU) 142 054	WWA	1649.8
043003	* Avon	41 (SU) 158 154	WWA	1477.8
043004	Bourne	41 (SU) 157 304	WWA	163.6
043005	Avon	41 (SU) 151 413	WWA	323.7
043006	Nadder	41 (SU) 098 308	WWA	220.6
043007	Stour	40 (SZ) 113 958	WWA	1073.0
043008	Wylye	41 (SU) 086 343	WWA	445.4
043009	Stour	31 (ST) 820 147	WWA	523.1
043010	* Allen	41 (SU) 006 085	WWA	94.0
043011	* Ebble	41 (SU) 162 263	WWA	109.0
043012	Wylye	31 (ST) 909 428	WWA	112.4
043013	* Mude	40 (SZ) 184 936	WWA	12.4
043014	East Avon	41 (SU) 133 559	WWA	86.2
043015	* Wylye	31 (ST) 868 413	WWA	69.0
043017	West Avon	41 (SU) 133 559	WWA	76.0
043018	Allen	41 (SU) 008 007	WWA	176.5
043019	Shreen Water	31 (ST) 807 278	WWA	29.1
043021	Avon	40 (SZ) 155 943	WWA	1706.0
044001	* Frome	30 (SY) 866 867	WWA	414.4
044002	Piddle	30 (SY) 913 876	WWA	183.1
044003	* Asker	30 (SY) 470 928	WWA	49.1
044004	* Frome	30 (SY) 708 903	WWA	206.0
044006	Sydling Water	30 (SY) 632 997	WWA	12.4
044008	* Sth Winterbourne	30 (SY) 629 897	WWA	19.9
044009	Wey	30 (SY) 666 839	WWA	7.0
045001	Exe	21 (SS) 938 016	SWWA	600.9
045002	Exe	21 (SS) 943 178	SWWA	421.7
045003	Culm	31 (ST) 021 058	SWWA	226.1
045004	Axe	30 (SY) 262 953	SWWA	288.5
045005	Otter	30 (SY) 087 885	SWWA	202.5
045006	* Quarme	21 (SS) 919 356	SWWA	20.4
045008	Otter	30 (SY) 115 986	SWWA	104.2
045009	Exe	21 (SS) 935 260	SWWA	147.6
045010	* Haddeo	21 (SS) 952 294	SWWA	50.0
045011	* Barle	21 (SS) 927 258	SWWA	128.0
045012	Creedy	20 (SX) 901 967	SWWA	261.6
046002	Teign	20 (SX) 856 746	SWWA	380.0
046003	Dart	20 (SX) 751 659	SWWA	247.6
046005	East Dart	20 (SX) 657 775	SWWA	21.5
046006	Erme	20 (SX) 642 532	SWWA	43.5
046007	* West Dart	20 (SX) 643 742	SWWA	47.9
046008	* Avon	20 (SX) 719 476	SWWA	102.3
047001	Tamar	20 (SX) 426 725	SWWA	916.9
047003	* Tavy	20 (SX) 474 650	SWWA	205.9
047004	Lynher	20 (SX) 368 624	SWWA	135.5
047005	* Ottery	20 (SX) 336 866	SWWA	120.7
047006	* Lyd	20 (SX) 388 842	SWWA	218.1
047007	Yealm	20 (SX) 574 511	SWWA	54.9
047008	Thrushel	20 (SX) 398 856	SWWA	112.7
047009	Tiddy	20 (SX) 343 595	SWWA	37.2
047010	Tamar	20 (SX) 290 991	SWWA	76.7
047011	* Plym	20 (SX) 522 613	SWWA	79.2
047013	Withey Brook	20 (SX) 244 763	SWWA	16.2
047014	Walkham	20 (SX) 513 699	SWWA	43.2
047015	* Tavy	20 (SX) 476 681	SWWA	197.3
047016	Lumburn	20 (SX) 459 731	SWWA	20.5
047017	Wolf	20 (SX) 419 898	SWWA	31.1
048001	Fowey	20 (SX) 227 698	SWWA	36.8
048002	* Fowey	20 (SX) 108 613	SWWA	171.2
048003	Fal	10 (SW) 921 447	SWWA	87.0
048004	Warleggan	20 (SX) 159 674	SWWA	25.3
048005	Kenwyn	10 (SW) 820 450	SWWA	19.1
048006	Cober	10 (SW) 654 273	SWWA	40.1
048007	Kennall	10 (SW) 762 377	SWWA	26.6
048009	* St Neot	20 (SX) 184 662	SWWA	22.7
048010	Seaton	20 (SX) 299 596	SWWA	38.1
048011	Fowey	20 (SX) 098 624	SWWA	169.1
049001	Camel	20 (SX) 017 682	SWWA	208.8
049002	Hayle	10 (SW) 649 342	SWWA	48.9
049003	De Lank	20 (SX) 132 765	SWWA	21.7
049004	Gannel	10 (SW) 829 593	SWWA	41.0
050001	Taw	21 (SS) 608 237	SWWA	826.2
050002	Torridge	21 (SS) 500 185	SWWA	663.0
050004	* Hole Water	21 (SS) 705 373	SWWA	5.4
050005	West Okement	20 (SX) 557 903	SWWA	13.3

Station number	River name	Grid reference	Measuring authority	Area (sq km)
050006	* Mole	21 (SS) 660 211	SWWA	327.5
050007	Taw	21 (SS) 673 068	SWWA	71.4
051001	Doniford Stream	31 (ST) 088 428	WWA	75.8
051002	* Horner Water	21 (SS) 898 458	WWA	20.8
051003	Washford	31 (ST) 040 395	WWA	36.3
052001	* Axe	31 (ST) 527 458	WWA	18.2
052002	* Yeo	31 (ST) 556 116	WWA	30.3
052003	Halse Water	31 (ST) 206 253	WWA	87.8
052004	Isle	31 (ST) 361 188	WWA	90.1
052005	Tone	31 (ST) 206 250	WWA	202.0
052006	Yeo	31 (ST) 573 162	WWA	213.1
052007	Parrett	31 (ST) 461 144	WWA	74.8
052008	* Tone	31 (ST) 044 313	WWA	18.1
052009	Sheppey	31 (ST) 498 439	WWA	59.6
052010	Brue	31 (ST) 590 318	WWA	135.2
052011	Cary	31 (ST) 498 291	WWA	82.4
052014	Tone	31 (ST) 078 202	WWA	57.2
052015	* Land Yeo	31 (ST) 483 716	WWA	23.3
052016	Currypool Stream	31 (ST) 221 382	WWA	15.7
052017	* Congresbury Yeo	31 (ST) 452 631	WWA	66.6
052020	* Gallica Stream	31 (ST) 571 100	WWA	16.4
053001	* Avon	31 (ST) 903 641	WWA	665.6
053002	Semington Brook	31 (ST) 907 605	WWA	157.7
053003	* Avon	31 (ST) 753 645	WWA	1595.0
053004	Chew	31 (ST) 648 647	WWA	129.5
053005	Midford Brook	31 (ST) 763 611	WWA	147.4
053006	Frome(Bristol)	31 (ST) 637 772	WWA	148.9
053007	Frome(Somerset)	31 (ST) 805 564	WWA	261.6
053008	Avon	31 (ST) 966 832	WWA	303.0
053009	Wellow Brook	31 (ST) 741 581	WWA	72.6
053013	Marden	31 (ST) 955 729	WWA	99.2
053017	Boyd	31 (ST) 681 698	WWA	48.0
053018	Avon	31 (ST) 786 671	WWA	1552.0
053019	Woodbridge Brook	31 (ST) 949 866	WWA	46.6
053020	Gauze Brook	31 (ST) 937 840	WWA	28.2
053022	* Avon	31 (ST) 738 651	WWA	1605.0
053023	Sherston Avon	31 (ST) 891 870	WWA	89.7
053024	Tetbury Avon	31 (ST) 914 893	WWA	73.6
053025	Mells	31 (ST) 757 491	WWA	119.0
053026	Frome(Bristol)	31 (ST) 667 822	WWA	78.5
053028	By Brook	31 (ST) 815 688	WWA	102.0
053029	Biss		WWA	
054001	Severn	32 (SO) 782 762	STWA	4325.0
054002	Avon	42 (SP) 040 438	STWA	2210.0
054004	Sowe	42 (SP) 332 731	STWA	262.0
054005	Severn	33 (SJ) 412 144	STWA	2025.0
054006	Stour	32 (SO) 829 768	STWA	324.0
054007	Arrow	42 (SP) 086 536	STWA	319.0
054008	Teme	32 (SO) 597 686	STWA	1134.4
054010	* Stour	42 (SP) 208 507	STWA	319.0
054011	* Salwarpe	32 (SO) 868 618	STWA	184.0
054012	Tern	33 (SJ) 592 123	STWA	852.0
054013	* Clywedog	22 (SN) 944 855	STWA	57.0
054014	Severn	32 (SO) 164 958	STWA	580.0
054015	* Bow Brook	32 (SO) 927 463	STWA	156.0
054016	Roden	33 (SJ) 589 141	STWA	259.0
054017	* Leadon	32 (SO) 777 234	STWA	293.0
054018	Rea Brook	33 (SJ) 466 092	STWA	178.0
054019	Avon	42 (SP) 333 715	STWA	347.0
054020	Perry	33 (SJ) 434 192	STWA	180.8
054022	Severn	22 (SN) 853 872	IH	8.7
054023	* Badsey Brook	42 (SP) 063 449	STWA	95.8
054024	Worfe	32 (SO) 747 953	STWA	258.0
054025	Dulas	22 (SN) 950 824	STWA	52.7
054026	* Chelt	32 (SO) 892 264	STWA	34.5
054027	* Frome	32 (SO) 831 047	STWA	198.0
054028	Vyrnwy	33 (SJ) 252 195	STWA	778.0
054029	Teme	32 (SO) 735 557	STWA	1480.0
054032	Severn	32 (SO) 863 390	STWA	6850.0
054034	Dowles Brook	32 (SO) 768 764	STWA	40.8
054036	* Isbourne	42 (SP) 023 408	STWA	90.7
054038	Tanat	33 (SJ) 252 225	STWA	229.0
054040	Meese	33 (SJ) 680 205	STWA	167.8
054041	Tern	33 (SJ) 649 230	STWA	192.0
054042	* Clywedog	22 (SN) 914 867	STWA	49.0
054043	* Severn	32 (SO) 863 399	STWA	6850.0
054044	Tern	33 (SJ) 629 316	STWA	92.6
054045	* Perry	33 (SJ) 347 303	STWA	49.1
054046	* Worfe	33 (SJ) 781 046	STWA	54.9
054047	* Perry	33 (SJ) 403 223	STWA	155.0
054048	* Dene	42 (SP) 273 556	STWA	102.0
054049	Leam	42 (SP) 307 654	STWA	362.0
054052	Bailey Brook	33 (SJ) 629 316	STWA	34.4
054054	* Onny	32 (SO) 455 789	STWA	235.0
054055	* Rea	32 (SO) 664 724	STWA	129.0
054056	* Clun	32 (SO) 393 786	STWA	195.0
054057	Severn	32 (SO) 844 279	STWA	9895.0
054058	* Stoke Park Brook	33 (SJ) 644 260	STWA	14.3
054059	* Allford Brook	33 (SJ) 654 223	STWA	10.2
054060	* Potford Brook	33 (SJ) 634 220	STWA	25.0
054061	* Hodnet Brook	33 (SJ) 628 288	STWA	5.1
054062	* Stoke Brook	33 (SJ) 637 280	STWA	13.7
054063	* Stour	32 (SO) 865 858	STWA	89.9
054065	* Roden	33 (SJ) 565 241	STWA	210.0
054066	* Platt Brook	33 (SJ) 628 229	STWA	15.7
054067	* Smestow Brook	32 (SO) 861 906	STWA	81.3
054068	* Tetchill Brook	33 (SJ) 379 288	STWA	21.2
054069	* Springs Brook	33 (SJ) 387 297	STWA	10.4
054070	* War Brook	33 (SJ) 432 198	STWA	22.5
054080	* Severn	22 (SN) 996 851	STWA	187.0
054081	Clywedog	22 (SN) 913 868	STWA	49.0
054083	* Crow Brook	33 (SJ) 678 141	STWA	16.7
054084	* Cannop Brook	32 (SO) 616 075	STWA	31.5
054085	* Cannop Brook	32 (SO) 609 115	STWA	10.4
054086	Cownwy Diversion	23 (SH) 999 179	STWA	13.2
054087	* Allford Brook	33 (SJ) 667 228	STWA	4.7
054088	Little Avon	31 (ST) 683 988	WWA	134.0
054090	* Tanllwyth	22 (SN) 844 876	IH	0.9
054091	* Severn	22 (SN) 843 878	IH	3.6
054092	* Hore	22 (SN) 846 873	IH	3.2
054094	Strine	33 (SJ) 640 175	STWA	134.0
054095	Severn	33 (SJ) 644 044	STWA	3717.0
055002	Wye	32 (SO) 485 388	WELS	1895.9
055003	* Lugg	32 (SO) 548 405	WELS	885.8

Station number		River name	Grid reference	Measuring authority	Area (sq km)
055004	*	Irfon	22 (SN) 892 460	WELS	72.8
055005	*	Wye	22 (SN) 969 676	WELS	166.8
055006	*	Elan	22 (SN) 926 645	STWA	184.0
055007		Wye	32 (SO) 076 445	WELS	1282.1
055008		Wye	22 (SN) 829 838	IH	10.6
055009	*	Monnow	32 (SO) 419 251	WELS	357.4
055010	*	Wye	22 (SN) 843 825	WELS	27.2
055011	*	Ithon	32 (SO) 105 683	WELS	111.4
055012		Irfon	22 (SN) 995 507	WELS	244.2
055013		Arrow	32 (SO) 328 585	WELS	126.4
055014		Lugg	32 (SO) 364 647	WELS	203.3
055015	*	Honddu	32 (SO) 277 294	WELS	25.1
055016		Ithon	32 (SO) 024 578	WELS	358.0
055017	*	Chwefru	22 (SN) 998 531	WELS	29.0
055018		Frome	32 (SO) 615 428	WELS	144.0
055021		Lugg	32 (SO) 502 589	WELS	371.0
055022	*	Trothy	32 (SO) 503 112	WELS	142.0
055023		Wye	32 (SO) 528 110	WELS	4010.0
055025		Llynfi	32 (SO) 166 373	WELS	132.0
055026		Wye	22 (SN) 976 676	WELS	174.0
055027	*	Rudhall Brook	32 (SO) 641 257	WELS	13.2
055028		Frome	32 (SO) 667 489	WELS	77.7
055029		Monnow	32 (SO) 415 249	WELS	354.0
055030	*	Claerwen	22 (SN) 910 620	WELS	95.3
055031		Yazor Brook	32 (SO) 492 415	WELS	42.3
055032		Elan	22 (SN) 934 653	WELS	184.0
055033	*	Wye	22 (SN) 824 853	IH	3.9
055034	*	Cyff	22 (SN) 824 842	IH	3.1
055035	*	Iago	22 (SN) 826 854	IH	1.1
056001		Usk	32 (SO) 345 056	WELS	911.7
056002		Ebbw	31 (ST) 259 889	WELS	216.5
056003	*	Honddu	32 (SO) 051 297	WELS	62.1
056004	*	Usk	32 (SO) 127 203	WELS	543.9
056005		Lwyd	31 (ST) 330 924	WELS	98.1
056006	*	Usk	22 (SN) 947 295	WELS	183.8
056007		Senni	22 (SN) 928 255	WELS	19.9
056008	*	Monks Ditch	31 (ST) 372 885	WELS	15.4
056010	*	Usk	32 (SO) 358 042	WELS	927.2
056011	*	Sirhowy	31 (ST) 206 912	WELS	76.1
056012	*	Grwyne	32 (SO) 241 176	WELS	82.2
056013		Yscir	32 (SO) 003 304	WELS	62.8
056014	*	Usk	22 (SN) 840 290	WELS	17.0
056015	*	Olway Brook	32 (SO) 384 010	WELS	105.1
056016		Caerfanell Outfall	32 (SO) 104 206	WELS	32.4
057001	*	Taf Fechan	32 (SO) 060 117	WELS	33.7
057002	*	Taf Fawr	32 (SO) 012 111	WELS	43.0
057003	*	Taff	31 (ST) 132 818	WELS	486.9
057004		Cynon	31 (ST) 079 956	WELS	106.0
057005		Taff	31 (ST) 079 897	WELS	454.8
057006		Rhondda	31 (ST) 054 909	WELS	100.5
057007		Taff	31 (ST) 089 951	WELS	194.5
057008		Rhymney	31 (ST) 225 821	WELS	178.7
057009		Ely	31 (ST) 121 770	WELS	145.0
057010		Ely	31 (ST) 034 827	WELS	39.4
057011	*	Blaen Taf Fawr	22 (SN) 987 193	WELS	5.1
057012	*	Garwnant	32 (SO) 004 129	WELS	43.1
057015		Taff	32 (SO) 043 068	WELS	104.1
057016		Taf Fechan	32 (SO) 060 115	WELS	33.8
058001		Ogmore	21 (SS) 904 794	WELS	158.0
058002		Neath	22 (SN) 815 017	WELS	190.9
058003	*	Ewenny	21 (SS) 914 780	WELS	62.9
058005		Ogmore	21 (SS) 904 844	WELS	74.3
058006		Mellte	22 (SN) 915 082	WELS	65.8
058007		Llynfi	21 (SS) 891 855	WELS	50.2
058008		Dulais	22 (SN) 778 008	WELS	43.0
058009		Ewenny	21 (SS) 920 782	WELS	62.5
058010	*	Hepste	22 (SN) 969 134	WELS	11.0
058011		Thaw	31 (ST) 017 716	WELS	49.2
058012		Afan	21 (SS) 771 910	WELS	87.8
059001		Tawe	21 (SS) 685 998	WELS	227.7
059002		Loughor	22 (SN) 623 127	WELS	46.4
060002		Cothi	22 (SN) 508 225	WELS	297.8
060003		Taf	22 (SN) 238 160	WELS	217.3
060004	*	Dewi Fawr	22 (SN) 290 175	WELS	40.1
060005		Bran	22 (SN) 771 343	WELS	66.8
060006		Gwili	22 (SN) 431 220	WELS	129.5
060007		Tywi	22 (SN) 762 362	WELS	231.8
060008		Tywi	22 (SN) 786 472	WELS	89.8
060009	*	Sawdde	22 (SN) 712 266	WELS	81.1
060010		Tywi	22 (SN) 485 206	WELS	1090.4
060012	*	Twrch	22 (SN) 650 440	WELS	20.7
060013	*	Cothi	22 (SN) 537 301	WELS	261.6
061001	*	Western Cleddau	12 (SM) 954 177	WELS	197.6
061002		Eastern Cleddau	22 (SN) 072 153	WELS	183.1
061003		Gwaun	22 (SN) 005 349	WELS	31.3
061004		Western Cleddau	12 (SM) 942 184	WELS	197.6
062001		Teifi	22 (SN) 244 416	WELS	893.6
062002	*	Teifi	22 (SN) 433 406	WELS	510.0
063001		Ystwyth	22 (SN) 591 774	WELS	169.6
063002	*	Rheidol	22 (SN) 601 804	WELS	182.1
063003	*	Wyre	22 (SN) 542 698	WELS	40.6
063004		Ystwyth	22 (SN) 791 737	WELS	32.1
064001		Dyfi	23 (SH) 745 019	WELS	471.3
064002		Dysynni	23 (SH) 632 066	WELS	75.1
064006		Leri	22 (SN) 635 882	WELS	47.2
065001		Glaslyn	23 (SH) 592 478	WELS	68.6
065002	*	Dwyryd	23 (SH) 670 415	WELS	78.2
065004		Gwyrfai	23 (SH) 484 599	WELS	47.9
065005		Erch	23 (SH) 400 404	WELS	18.1
065006		Seiont	23 (SH) 493 623	WELS	74.4
065007		Dwyfawr	23 (SH) 499 429	WELS	52.4
066001	*	Clwyd	33 (SJ) 069 709	WELS	404.0
066002	*	Elwy	33 (SJ) 021 704	WELS	220.0
066003		Aled	23 (SH) 957 703	WELS	70.0
066004	*	Wheeler	33 (SJ) 105 714	WELS	62.9
066005	*	Clwyd	33 (SJ) 122 592	WELS	95.3
066006		Elwy	23 (SH) 952 718	WELS	194.0
066008		Aled	23 (SH) 915 598	WELS	11.6
066011		Conwy	23 (SH) 802 581	WELS	344.5
067001		Dee	23 (SH) 942 357	WELS	261.6
067002	*	Dee	33 (SJ) 357 413	WELS	1040.0
067003		Brenig	23 (SH) 974 539	WELS	20.2
067005	*	Ceiriog	33 (SJ) 295 373	WELS	113.7
067006		Alwen	33 (SJ) 042 436	WELS	184.7
067008		Alyn	33 (SJ) 336 541	WELS	227.1
067009		Alyn	33 (SJ) 206 667	WELS	77.8
067010	*	Gelyn	23 (SH) 843 420	WELS	13.1
067011	*	Nant Aberderfel	23 (SH) 851 392	WELS	3.7
067012	*	Tryweryn	23 (SH) 838 398	WELS	27.2
067013	*	Hirnant	23 (SH) 946 349	WELS	33.9
067015		Dee	33 (SJ) 348 415	WELS	1019.3
067016	*	Worthenbury Brook	33 (SJ) 418 464	WELS	142.1
067017		Tryweryn	23 (SH) 880 399	WELS	59.9
067018		Dee	23 (SH) 874 308	WELS	53.9
067025	*	Clywedog	33 (SJ) 396 483	WELS	98.6
067026	*	Dee	33 (SJ) 415 612	WELS	1816.8
067028	*	Ceidiog	33 (SJ) 034 371	WELS	36.5
067029		Trystion	33 (SJ) 066 405	WELS	12.3
068001		Weaver	33 (SJ) 670 633	NWWA	622.0
068002	*	Gowy	33 (SJ) 443 714	NWWA	156.2
068003		Dane	33 (SJ) 668 718	NWWA	407.1
068004		Wistaston Brook	33 (SJ) 674 552	NWWA	92.7
068005		Weaver	33 (SJ) 653 431	NWWA	207.0
068006	*	Dane	33 (SJ) 845 644	NWWA	150.0
068007		Wincham Brook	33 (SJ) 697 757	NWWA	148.0
068010	*	Fender	33 (SJ) 281 880	NWWA	18.4
068015		Gowy	33 (SJ) 497 624	NWWA	49.0
068018	*	Dane	33 (SJ) 861 632	NWWA	145.0
068020		Gowy	33 (SJ) 448 711	NWWA	156.0
069001		Mersey	33 (SJ) 728 936	NWWA	679.0
069002		Irwell	33 (SJ) 824 987	NWWA	559.4
069003		Irk	33 (SJ) 841 992	NWWA	72.5
069004	*	Etherow	43 (SK) 023 971	NWWA	78.2
069005	*	Glaze Brook	33 (SJ) 685 939	NWWA	152.0
069006		Bollin	33 (SJ) 727 875	NWWA	256.0
069007		Mersey	33 (SJ) 772 936	NWWA	660.0
069008		Dean	33 (SJ) 846 830	NWWA	51.8
069011		Micker Brook	33 (SJ) 855 889	NWWA	67.3
069012		Bollin	33 (SJ) 850 815	NWWA	72.5
069013	*	Sinderland Brook	33 (SJ) 726 905	NWWA	44.8
069015		Etherow	33 (SJ) 962 908	NWWA	156.0
069017		Goyt	33 (SJ) 964 898	NWWA	183.0
069018	*	Newton Brook	33 (SJ) 585 933	NWWA	32.8
069019	*	Worsley Brook	33 (SJ) 753 980	NWWA	24.9
069020		Medlock	33 (SJ) 849 975	NWWA	57.5
069023		Roch	34 (SD) 807 077	NWWA	186.0
069024		Croal	34 (SD) 743 068	NWWA	145.0
069027		Tame	33 (SJ) 906 918	NWWA	150.0
069030		Sankey Brook	33 (SJ) 588 922	NWWA	154.0
069031		Ditton Brook	33 (SJ) 457 865	NWWA	47.9
069032	*	Alt	33 (SJ) 392 983	NWWA	90.1
069034	*	Musbury Brook	34 (SD) 775 213	NWWA	3.1
069035		Irwell	34 (SD) 797 109	NWWA	155.0
069037		Mersey	33 (SJ) 617 877	NWWA	2030.0
069040		Irwell	34 (SD) 793 188	NWWA	105.0
070002		Douglas	34 (SD) 476 126	NWWA	198.0
070003	*	Douglas	34 (SD) 587 061	NWWA	55.3
070004		Yarrow	34 (SD) 498 180	NWWA	74.4
070005		Lostock	34 (SD) 497 197	NWWA	56.0
071001		Ribble	34 (SD) 589 304	NWWA	1145.0
071003	*	Crossdale	34 (SD) 706 546	NWWA	10.4
071004		Calder	34 (SD) 729 360	NWWA	316.0
071005	*	Bottoms Beck	34 (SD) 745 565	NWWA	10.6
071006		Ribble	34 (SD) 722 392	NWWA	456.0
071007	*	Ribble	34 (SD) 709 379	NWWA	720.0
071008		Hodder	34 (SD) 704 399	NWWA	261.0
071009		Ribble	34 (SD) 702 376	NWWA	1053.0
071010		Pendle Water	34 (SD) 837 351	NWWA	108.0
071011		Ribble	34 (SD) 839 556	NWWA	204.0
071013	*	Darwen	34 (SD) 677 262	NWWA	39.5
071014	*	Darwen	34 (SD) 565 278	NWWA	128.0
072001	*	Lune	34 (SD) 503 647	NWWA	994.6
072002		Wyre	34 (SD) 463 411	NWWA	275.0
072004		Lune	34 (SD) 529 653	NWWA	983.0
072005		Lune	34 (SD) 622 907	NWWA	219.0
072006		Lune	34 (SD) 615 778	NWWA	507.1
072007		Brock	34 (SD) 512 405	NWWA	32.0
072008		Wyre	34 (SD) 488 447	NWWA	114.0
072009		Wenning	34 (SD) 615 701	NWWA	142.0
072011		Rawthey	34 (SD) 639 911	NWWA	200.0
072015		Lune	35 (NY) 612 029	NWWA	141.5
072016		Wyre	34 (SD) 501 500	NWWA	88.8
073001	*	Leven	34 (SD) 371 863	NWWA	241.0
073002		Crake	34 (SD) 294 882	NWWA	73.0
073003		Kent	34 (SD) 507 956	NWWA	73.6
073005		Kent	34 (SD) 509 874	NWWA	209.0
073008		Bela	34 (SD) 496 806	NWWA	131.0
073009		Sprint	34 (SD) 514 961	NWWA	34.6
073010		Leven	34 (SD) 367 863	NWWA	247.0
073011		Mint	34 (SD) 524 944	NWWA	65.8
073013		Rothay	35 (NY) 371 042	NWWA	64.0
073014		Brathay	35 (NY) 360 034	NWWA	57.4
074001		Duddon	34 (SD) 196 896	NWWA	85.7
074002		Irt	35 (NY) 136 038	NWWA	44.2
074003		Ehen	35 (NY) 084 154	NWWA	44.2
074005		Ehen	35 (NY) 009 061	NWWA	125.5
074006		Calder	35 (NY) 035 045	NWWA	44.8
074007		Esk	34 (SD) 131 978	NWWA	70.2
074008		Duddon	34 (SD) 209 947	NWWA	47.9
075001		St Johns Beck	35 (NY) 313 195	NWWA	42.1
075002		Derwent	35 (NY) 038 305	NWWA	663.0
075003		Derwent	35 (NY) 199 321	NWWA	363.0
075004		Cocker	35 (NY) 131 281	NWWA	116.6
075005		Derwent	35 (NY) 251 239	NWWA	235.0
075006	*	Newlands Beck	35 (NY) 240 239	NWWA	33.9
075007	*	Glenderamackin	35 (NY) 323 248	NWWA	64.5
075009		Greta	35 (NY) 286 242	NWWA	145.6
075016		Cocker	35 (NY) 149 214	NWWA	64.0

Station number	River name	Grid reference	Measuring authority	Area (sq km)
075017	Ellen	35 (NY) 096 384	NWWA	96.0
076001	Haweswater Beck	35 (NY) 508 159	NWWA	33.0
076002	Eden	35 (NY) 470 567	NWWA	1366.7
076003	Eamont	35 (NY) 578 306	NWWA	396.2
076004	Lowther	35 (NY) 527 287	NWWA	158.5
076005	Eden	35 (NY) 605 283	NWWA	616.4
076007	Eden	35 (NY) 390 571	NWWA	2286.5
076008	Irthing	35 (NY) 486 581	NWWA	334.6
076009	Caldew	35 (NY) 378 469	NWWA	147.2
076010	Petteril	35 (NY) 412 545	NWWA	160.0
076011 *	Coal Burn	35 (NY) 693 777	IH	1.5
076014	Eden	35 (NY) 773 097	NWWA	69.4
076015	Eamont	35 (NY) 472 249	NWWA	145.0
077001	Esk	35 (NY) 390 718	NWWA	841.7
077002	Esk	35 (NY) 397 751	SRPB	495.0
077003	Liddel Water	35 (NY) 415 759	SRPB	319.0
077004	Kirtle Water	35 (NY) 285 693	SRPB	72.0
077005	Lyne	35 (NY) 412 662	NWWA	191.0
078001 *	Annan	35 (NY) 125 755	SRPB	730.3
078002 *	Ae	35 (NY) 068 852	SRPB	143.2
078003	Annan	35 (NY) 191 704	SRPB	925.0
078004	Kinnel Water	35 (NY) 077 868	SRPB	76.1
078005	Kinnel Water	35 (NY) 091 845	SRPB	229.0
078006	Annan	36 (NT) 099 010	SRPB	217.0
079001 *	Afton Water	26 (NS) 631 050	SRPB	8.5
079002	Nith	25 (NX) 923 851	SRPB	799.0
079003	Nith	26 (NS) 684 129	SRPB	155.0
079004	Scar Water	25 (NX) 845 940	SRPB	142.0
079005	Cluden Water	25 (NX) 928 795	SRPB	238.0
079006	Nith	25 (NX) 858 994	SRPB	471.0
080001	Urr	25 (NX) 822 610	SRPB	199.0
080002	Dee	25 (NX) 733 641	SRPB	809.0
080003	White Laggan Burn	25 (NX) 468 781	SRPB	5.7
080004 *	Blackwater	25 (NX) 478 797	SRPB	15.6
080005 *	Dargall Lane	25 (NX) 451 787	SRPB	2.1
080006 *	Green Burn	25 (NX) 481 791	SRPB	2.6
081001 *	Penwhirn Burn	25 (NX) 128 694	DGRW	18.2
081002	Cree	25 (NX) 412 653	SRPB	368.0
081003	Luce	25 (NX) 180 599	SRPB	171.0
081004	Bladnoch	25 (NX) 382 545	SRPB	334.0
081005	Piltanton Burn	25 (NX) 107 564	SRPB	34.2
081006	Water of Minnoch	25 (NX) 363 746		
082001	Girvan	25 (NX) 217 997	CRPB	245.5
082002	Doon	26 (NS) 338 160	CRPB	323.8
082003	Stinchar	25 (NX) 108 832	CRPB	341.0
083001 *	Caaf Water	26 (NS) 245 514	SRCW	6.0
083002 *	Garnock	26 (NS) 293 488	CRPB	88.8
083003	Ayr	26 (NS) 525 259	CRPB	166.3
083004	Lugar	26 (NS) 508 217	CRPB	181.0
083005	Irvine	26 (NS) 345 369	CRPB	380.7
083006	Ayr	26 (NS) 361 216	CRPB	574.0
083007	Lugton Water	26 (NS) 315 420	CRPB	54.6
083009	Garnock	26 (NS) 307 424	CRPB	183.8
083010	Irvine	26 (NS) 532 372	CRPB	72.8
084001	Kelvin	26 (NS) 558 705	CRPB	335.1
084002 *	Calder	26 (NS) 309 638	SRCW	12.4
084003	Clyde	26 (NS) 835 452	CRPB	1092.9
084004	Clyde	26 (NS) 927 424	CRPB	741.8
084005	Clyde	26 (NS) 704 579	CRPB	1704.2
084006 *	Kelvin	26 (NS) 672 749	CRPB	63.7
084007	South Calder Wtr	26 (NS) 751 585	CRPB	93.0
084008	Rotten Calder Wtr	26 (NS) 679 604	CRPB	51.3
084009	Nethan	26 (NS) 809 429	CRPB	66.0
084011	Gryfe	26 (NS) 415 664	CRPB	71.0
084012	White Cart Water	26 (NS) 499 629	CRPB	227.2
084013	Clyde	26 (NS) 672 616	CRPB	1903.1
084014	Avon Water	26 (NS) 755 518	CRPB	265.5
084015	Kelvin	26 (NS) 638 739	CRPB	235.4
084016	Luggie Water	26 (NS) 739 725	CRPB	33.9
084017	Black Cart Water	26 (NS) 411 620	CRPB	103.1
084018	Clyde	26 (NS) 891 404	CRPB	932.6
084019	North Calder Wtr	26 (NS) 681 625	CRPB	129.8
084020	Glazert Water	26 (NS) 656 763	CRPB	51.9
084021 *	White Cart Water	26 (NS) 587 597	CRPB	91.6
084022	Duneaton	26 (NS) 929 259	CRPB	110.3

Station number	River name	Grid reference	Measuring authority	Area (sq km)
084023	Bothlin Burn	26 (NS) 680 717	CRPB	35.7
084024	North Calder Wtr	26 (NS) 828 678	CRPB	19.9
084025	Luggie Water	26 (NS) 666 734	CRPB	87.7
084026	Allander Water	26 (NS) 558 738	CRPB	32.8
084027 *	North Calder Wtr	26 (NS) 765 624	CRPB	60.6
084028	Monkland Canal	26 (NS) 765 626	CRPB	60.6
084029	Cander Water	26 (NS) 765 471	CRPB	24.5
084030	White Cart Water	26 (NS) 587 598	CRPB	111.8
085001	Leven	26 (NS) 394 803	CRPB	784.3
085002	Endrick Water	26 (NS) 485 866	CRPB	219.9
085003	Falloch	27 (NN) 321 197	CRPB	80.3
085004	Luss Water	26 (NS) 356 929	CRPB	35.3
086001	Little Eachaig	26 (NS) 143 821	CRPB	30.8
086002	Eachaig	26 (NS) 140 843	CRPB	139.9
090003	Nevis	27 (NN) 116 742	HRPB	76.8
091002	Lochy	27 (NN) 145 805	HRPB	1252.0
093001	Carron	18 (NG) 942 429	HRPB	137.8
094001	Ewe	18 (NG) 859 803	HRPB	441.1
095001	Inver	29 (NC) 147 250	HRPB	137.5
095002	Broom	28 (NH) 184 842	HRPB	141.4
096001	Halladale	29 (NC) 891 561	HRPB	204.6
096002	Naver	29 (NC) 713 568	HRPB	477.0
096003	Strathy	29 (NC) 836 652	HRPB	111.8
097001 *	Calder Burn	39 (ND) 085 596	HRCW	24.5
097002	Thurso	39 (ND) 131 595	HRPB	412.8
101001 *	Eastern Yar	40 (SZ) 577 857	SWA	57.5
101002	Medina	40 (SZ) 503 874	SWA	29.8
101003	Lukely Brook	40 (SZ) 491 886	SWA	16.2
101004	Eastern Yar	40 (SZ) 583 853	SWA	59.6
101005	Eastern Yar	40 (SZ) 531 835	SWA	22.5
101006	Wroxall Stream	40 (SZ) 536 839	SWA	15.8
101007	Scotchells Brook	40 (SZ) 583 852	SWA	9.2
201002	Fairy Water	23 (IH) 406 758	DOEN	161.2
201005	Camowen	23 (IH) 460 730	DOEN	274.6
201006	Drumragh	23 (IH) 458 722	DOEN	324.6
201007	Burn Dennet	24 (IC) 372 047	DOEN	145.3
201008	Derg	23 (IH) 265 842	DOEN	337.3
201009	Owenkillew	23 (IH) 418 866	DOEN	442.4
201010	Mourne	23 (IH) 347 960	DOEN	1844.5
202001	Roe	24 (IC) 674 247	DOEN	365.6
202002 *	Faughan	24 (IC) 464 151	DOEN	272.3
203010	Blackwater	23 (IH) 820 519	DOEN	951.4
203011 *	Main	34 (ID) 052 086	DOEN	228.8
203012	Ballinderry	23 (IH) 926 799	DOEN	419.5
203013	Main	33 (IJ) 092 973	DOEN	646.8
203017	Upper Bann	33 (IJ) 043 509	DOEN	335.6
203018	Six Mile Water	33 (IJ) 146 867	DOEN	277.3
203019	Claudy	24 (IC) 962 037	DOEN	130.1
203020	Moyola	23 (IH) 955 905	DOEN	306.5
203021	Kells Water	33 (IJ) 106 971	DOEN	127.0
203024	Cusher	33 (IJ) 048 471	DOEN	176.7
203025	Callan	23 (IH) 893 524	DOEN	164.1
203026	Glenavy	33 (IJ) 149 725	DOEN	44.6
203027	Braid	34 (ID) 097 014	DOEN	177.2
203028	Agivey	24 (IC) 883 193	DOEN	98.9
203029	Six Mile Water	33 (IJ) 282 902	DOEN	58.4
203033	Upper Bann	33 (IJ) 233 341	DOEN	100.9
203040	Lower Bann	24 (IC) 931 154	DOEN	5209.8
203042	Crumlin			
204001	Bush	24 (IC) 942 362	DOEN	306.1
205003 *	Lagan	33 (IJ) 299 679	DOEN	444.7
205004	Lagan	33 (IJ) 329 693	DOEN	490.4
205005	Ravernet	33 (IJ) 267 613	DOEN	69.5
205006 *	Lagan	33 (IJ) 259 628	DOEN	315.9
205008	Lagan	33 (IJ) 236 525	DOEN	85.2
205010	Lagan	33 (IJ) 123 540	DOEN	189.8
206001 *	Clanrye	33 (IJ) 086 309	DOEN	132.7
206002	Jerretspass	33 (IJ) 064 332	DOEN	32.4

* = closed, or no data for post 1985 have been received.

Refer to page 183 for key to measuring authorities.

Summary of Archived Data - 1

Gauged daily flows, monthly peaks and monthly rainfall

KEY:

	Complete rainfall	Incomplete or missing rainfall
Complete daily and complete peaks	A	a
Complete daily and partial peaks	B	b
Complete daily and no peaks	C	c
Partial daily and complete peaks	D	d
Partial daily and partial peaks	E	e
Partial daily and no peaks	F	f
No flow data	†	–

Summary is presented in decade blocks

Stn. number	Gauged daily flows, monthly peaks and rainfall			
002001	70s	-----aaaaa	80s	eAAAAAAA
003001	50s	---eAAAe--	60s	----------
	70s	----------	80s	------††
003002	70s	----aaaaaa	80s	aAAAAAAA
003003	70s	-------eAA	80s	AAAAAAAA
003004	70s	---------E	80s	AAAAAAaa
003005	80s	-eaaaAaa		
004001	40s	-------fcf	50s	cccbAEAAEA
	60s	BABABAAAAA	70s	E†††††AAAA
	80s	AAAAAAAA		
004003	70s	----aaaaaa	80s	aAAAAAAA
004004	80s	-eaaaAaa		
004005	80s	------aa		
005001	50s	---eAAAAAA	60s	AAE-††††††
	70s	††††		
005002	80s	------ea		
006001	30s	-----eAAAB	40s	BBBABBBBAA
	50s	E††EAAAAAA	60s	AAAE††††††
	70s	††††		
006003	20s	---------f	30s	cccccccccc
	40s	cccccf----	50s	----------
	60s	----------	70s	----------
	80s	------††		
006006	50s	---eAAAAAB	60s	BAe-------
	70s	----------	80s	------††
006007	70s	---AAAAAAA	80s	AAAAAAaa
006008	70s	---------E	80s	AAAAAAAA
007001	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
007002	50s	--------eA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
007003	60s	---eAAAAAA	70s	AAABAAAAAa
	80s	AAAAAADD		
007004	70s	---------a	80s	aAAAAAAA
007005	70s	-------fff	80s	f--aaAAA
007006	80s	-------f		
008001	30s	--------fc	40s	ffcccccccc
	50s	bBBAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAA†††--	80s	-------†
008002	50s	-eAAABAAAA	60s	AAAAAAAAAA
	70s	AAABAAAAAA	80s	AAAAAAAA
008003	50s	-eAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAA††††††		
008004	50s	--EAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAEAAA
008005	50s	-eBAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
008006	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
008007	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
008008	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAa	80s	AAAAAAaa
008009	50s	--EAbbABBA	60s	AAAAAAAAAA
	70s	AAAAAAAAAa	80s	AAAACAAA
008010	50s	---eAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAACAAA
008011	70s	--------ff	80s	ffcccaAC
009001	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
009002	60s	eAAAAAAAAA	70s	AAAABAAAAA
	80s	AAAAAAA†		
009003	60s	-††††††††E	70s	AAAAAAAAAA
	80s	AAAA†AAA		
009004	80s	eaaacaAA		
010002	60s	-†††††††††	70s	†EAABAAAAA
	80s	AAAAAAAA		
010003	80s	---eaAAA		
011001	60s	-††††††††E	70s	AADAAAAAAA
	80s	AAAAAAAA		
011002	60s	-††††††††F	70s	CBAAAAAAAA
	80s	AAAACAAA		
011003	60s	-†††††††††	70s	†††EAAAAAA
	80s	AAAACAAA		
012001	20s	---------e	30s	BBBBBBAAAA
	40s	BABBAABCCC	50s	CCCCCCCCCC
	60s	CCCCCBAAAA	70s	BCBAAAAAAA
	80s	AAAAAAAA		
012002	70s	--eAAAAAAA	80s	AAAAAAAA
012003	70s	-----eaaaa	80s	aAAAAAAA
012004	60s	---------f	70s	aaaaaabaaa
	80s	bCCCCAAA		
012005	70s	------eaaa	80s	aAAAAAAA
012006	70s	--------ea	80s	aAAAAAAA
012007	80s	--eaaAAA		
012008	80s	-----dac		
013001	70s	---------e	80s	aAAAAAAA
013002	80s	--cccAAA		
013003	70s	---------c	80s	ccc---††
013004	80s	-----Acc		
013005	80s	-ecccAAA		
013007	70s	------CCCC	80s	CCCDAAAA
013008	80s	---AAAAA		
013009	80s	-----†AA		
014001	60s	-††††††EAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
014002	60s	-††††††††E	70s	AAAAAAAAAA
	80s	ACCFCAAA		
014005	80s	----caaa		
015001	50s	---ee-----	60s	eAAAAAAAE†
	70s	††††††††††	80s	††††††††
015002	50s	---------e	60s	AAAAAAAEE†
	70s	††††††††††	80s	††††††††
015003	40s	-------fcC	50s	CBAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	ABCFCAaa		
015004	20s	-------CCC	30s	CCCCCCBAe-
	40s	------††††	50s	EE†††††††E
	60s	AAAAAAAEE†	70s	††††††††††
	80s	††††††††		
015005	20s	-------CCC	30s	CCCCCCBAe-
	40s	-------†††	50s	EE†EEE†††E
	60s	AEAAAAAAE†	70s	††††††††††
	80s	††††††††		
015006	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	BAAAAAAA
015007	50s	-------eAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AACCCAaa
015008	50s	--------EA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	BAFCCAaa
015010	70s	--cAAAAAAA	80s	AFCFCAAA
015011	50s	--------cc	60s	cccccccccc
	70s	cCBAAAAAAA	80s	ACCCCAAA
015012	70s	---BAAAaaa	80s	AACCCACC
015013	50s	-----ccccc	60s	cCCCCCCCCC
	70s	CCCBAAAAAA	80s	AABCCAAA
015015	80s	------cc		
015016	70s	----bAAAAA	80s	AACCCAaa
015017	70s	-----eAAAA	80s	A††---††
015018	50s	---eaaaae		
015021	80s	------†c		
015023	80s	---ccAAA		
015024	80s	--cccDAA		
015025	80s	----†Aaa		
016001	40s	--------Cc	50s	cBAAbbAAAA
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	BDFCCAAA		
016002	50s	-----eAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAA††		
016003	60s	-†††††††††	70s	EDAABAAAAA
	80s	AAAAAAAA		
016004	70s	--eAAAAAAA	80s	ADDAAAAA
017001	60s	---------E	70s	AAAAAAAAAB
	80s	AAAAAAaA		
017002	60s	---------E	70s	AAAAAAAAAA
	80s	AAAAAAAA		
017003	70s	†EAAAAAAAA	80s	AAAAAAAA
017004	70s	--EAAAAAAA	80s	AAAAAAAA
017005	70s	-EAAAAAAAB	80s	AAAAAAEA
017012	80s	----††EA		
017016	80s	------aa		
017017	80s	------ac		
018001	50s	-------EAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
018002	50s	---------b	60s	ABAAAAAAAA
	70s	BbbAAAAAAA	80s	AAAAAAaa
018003	50s	-------ccc	60s	cccbAAAAAA
	70s	AAEAAAAAAA	80s	AAAAAAAA
018005	70s	†EAAAAAAAA	80s	AAAAAAAA
018007	80s	----††aa		
018008	70s	---eAAAAAA	80s	AAAAAAAA
018010	80s	----††ea		
018011	80s	-fcAAAAA		
018012	80s	----††ae		
018013	80s	----††ac		
018014	80s	----††ea		
018016	80s	------AA		
018017	80s	---bbbCC		
018018	80s	---bbbC†		
018019	80s	------†A		
019001	50s	-------AAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
019002	60s	-†AAAAAAAA	70s	AAACAAAAAA
	80s	AAAAAAAA		
019003	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	D††---††		
019004	60s	AAAAAAAAAA	70s	AAACAAAAAA
	80s	AAAAAAAA		
019005	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
019006	60s	-††AAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
019007	60s	-†BAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
019008	60s	-†††BAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
019010	60s	---------A	70s	AAAAAAAAAA
	80s	AAAAAEBE		
019011	60s	---ccccccc	70s	ccccccaaaa
	80s	AAAAAAAA		
019012	80s	----††ea		
019014	80s	----††cf		
019017	80s	----††AA		
020001	60s	-AAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
020002	60s	-†††††EAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
020003	60s	-††††AAAAA	70s	AAAAAAAAAA
	80s	AAAAAAEA		
020004	60s	-††††††AAA	70s	AAAAAAAAAA
	80s	AAAAAEaa		
020005	60s	-††††CCCCC	70s	CCCCCCAAaa
	80s	AAAAAAEA		
020006	70s	---cccAAAD	80s	AAAAAAAA
020007	60s	--------††	70s	†††CCCAAAA
	80s	AAAAAAAA		
020008	80s	----††AB		
021001	50s	---------e	60s	AAAAEEAAE†
	70s	††††††††††	80s	------††
021002	50s	------††-e	60s	aBCBAAAAE†
	70s	††††††††--	80s	------††
021003	50s	---------e	60s	AAAAAAABAA
	70s	AAAAAAAAAA	80s	ABBCCAAA
021004	60s	-----eAAe-	70s	-------†††
021005	60s	-EAAAAAAAB	70s	AAAAAAAAAA
	80s	AABCCAAA		
021006	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
021007	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAA		
021008	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAA		
021009	60s	-†EAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
021010	60s	fF†EAAAAAA	70s	AAAAAABAAA
	80s	A†††††††		
021011	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAA		
021012	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
021013	60s	-†††EAAAAA	70s	AAAAAAAAAA
	80s	AACCCAAA		
021014	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AABCCAAA		
021015	60s	-†††††EAAA	70s	AAAAAAAAAA
	80s	AACCCAAA		
021016	60s	-††††††EAA	70s	AAAAAAAAAA
	80s	AACCCAAA		
021017	60s	-††††EAAAA	70s	AAAAAAAAAA
	80s	AABCCAAA		
021018	60s	-†††††††EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
021019	60s	-†††††††EA	70s	AAAAAAAAAA
	80s	AA†††AAA		
021020	60s	-††††††EBA	70s	AAAAAAAAAA
	80s	AABCCAAA		
021021	60s	---------E	70s	AAAAAAAAAA
	80s	AABCCAAA		
021022	60s	-††††††††E	70s	AAADAAAAAA
	80s	AAAAAAAA		
021023	60s	-†††††††††	70s	EAAAAAAAAA
	80s	AABCCAAA		
021024	60s	-†††††††††	70s	†EAAAAAAAA
	80s	AACCCAAA		
021025	60s	-†††††††††	70s	††EAAAAAAA
	80s	AACCCAAA		
021026	60s	-†††††††††	70s	†††EAAAAAA
	80s	AACCCAAA		
021027	60s	-†††††††††	70s	†††EAAAAAA
	80s	AACCCAAA		
021030	60s	-†††††††EA	70s	BAAAAAAAAA
	80s	AABCCAAA		
021031	50s	------eAAB	60s	AEAAAAAAAA
	70s	AAAAAAAAAE	80s	e-----††
021032	60s	------eAAA	70s	AAAAAAAEAA
	80s	AAAE--††		
021034	60s	-†††††††FF	70s	CCCCCAAAAA
	80s	AAACCAda		
022001	60s	---fffbAAA	70s	AAAAAAAAAA
	80s	AAAAAABAe		
022002	50s	-------eAA	60s	EAEAAAAAAA
	70s	AAAAAAAAAA	80s	e-----††
022003	50s	-------eAA	60s	BAEAAAAAAA
	70s	AAAAAAAAAA	80s	e-----††
022004	60s	------eAAA	70s	AAAAAAAAAE
	80s	E†††--††		
022006	60s	------eDAA	70s	DAAAAAAAAA
	80s	BAAAAAAe		
022007	60s	-------†EA	70s	AAAAAAAAAA
	80s	AAAAAAAe		
022008	60s	---------E	70s	AAAAAAABAA
	80s	AAAE††††		
022009	70s	--EDAAAAAA	80s	AAAAAAAe

Stn. number	Gauged daily flows, monthly peaks and rainfall			
023001	50s	------eAAA	60s	AAAAEAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAABe
023002	50s	----fCCCCB	60s	AAAAAAAAAA
	70s	AAABAAAAAA	80s	AAAAAAAAe
023003	50s	---------e	60s	AAAAAAAADA
	70s	AAAABAAAAA	80s	EAEAAAaae
023004	60s	--eAAAAAAA	70s	AAEAAAABAA
	80s	AAAAAAAAe		
023005	60s	---eAAADAD	70s	AAAAAAAAAA
	80s	AAAAAAAE		
023006	60s	------eAAA	70s	AAAAAAAEEA
	80s	AAAAAAAAe		
023007	60s	--eAAAAAAA	70s	AAAAAAAEAA
	80s	BAAAAAAEe		
023008	60s	--------EA	70s	AAAAAAABAA
	80s	AEAAAAAEe		
023009	60s	---------e	70s	AAADDAAAE†
	80s	EAAE††††		
023010	60s	---------†	70s	EAAAAAAAAA
	80s	e--††-††		
023011	60s	---------†	70s	EDAAAAABAA
	80s	EAAAAAAEe		
023012	70s	†EBAAAAAAA	80s	a--††-††
023013	70s	†EAAAAAAAA	80s	A†††††††
023014	60s	fcccccccc	70s	cBAEE†††††
	80s	------††		
023015	40s	-†FEEEEEEE	50s	EAEAEEBBBe
024001	50s	-------fCC	60s	CCCCCCBAAA
	70s	AAAAAAEAAA	80s	EAAAAAAAe
024002	50s	--------eA	60s	AAAAAAAAAA
	70s	AAAABAAAAA	80s	AAAE††††
024003	50s	--------eA	60s	AAAAAAAEAA
	70s	AAAAAAAAAA	80s	AAAAADAAe
024004	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAAAAEA	80s	AAAAAAAAe
024005	50s	----aeEAAA	60s	AAAAAAAEAA
	70s	AAAAAAAEEA	80s	AAAAABAAe
024006	50s	-------fcc	60s	bAAAAAAAAA
	70s	AAAAAAAAAA	80s	e-----††
024007	60s	-------†EA	70s	AAAAAAAAAA
	80s	AAAE††††		
024008	70s	--eaaaeaae	80s	AAEAAAAAe
024009	70s	-------eAA	80s	AAAAAADAe
025001	50s	------eAAA	60s	AAAAAAADAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
025002	50s	------ff-e	60s	eAAAAAAAAB
	70s	BAAAe--†††	80s	------††
025003	50s	-------eAA	60s	AAAEAAAAAA
	70s	AAAAAaaABA	80s	e-----††
025004	50s	------eAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAD	80s	AAEADDDAe
025005	50s	---------e	60s	AAAAAAAAAA
	70s	AAAABAAEAA	80s	AAAAAAAAe
025006	60s	eAAAAAAAAA	70s	AAABAABAAA
	80s	AAAAAAAAe		
025007	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	E†----††		
025008	60s	-----†EAAA	70s	AAAABAAAEA
	80s	AEAE††		
025009	60s	---------e	70s	ABAEEAAAAA
	80s	AAAAAAaae		
025010	60s	-------EAA	70s	AEAAE†††††
025011	60s	---------E	70s	AAAAAAAAAA
	80s	AAAE††††		
025012	60s	---------E	70s	BAAAAAAAAA
	80s	AAAAAAAAe		
025013	60s	---------E	70s	EEAEE†††††
025014	60s	---------E	70s	AEE††††
025015	60s	---------e	70s	eee
025018	70s	†EEAAAAAAA	80s	AEEAAAAAe
025019	70s	†EAAAAAAAA	80s	AAAAAAAAe
025020	70s	--EAAAEAEA	80s	AAAAAAAAe
025021	70s	†††EBAAAAA	80s	AAAAADAAe
025022	70s	----eabeea	80s	a---††
025023	70s	-EAEEAAEAA	80s	AAEE††††
025024	70s	-------ee		
026001	50s	---eAAABBB	60s	BBBBBABABB
	70s	AEABE†††††	80s	---†††††
026002	60s	-eAAAEEBBE	70s	EAAAAAAEBE
	80s	B†CCCFcc		
026003	50s	---------e	60s	AAAAAAAAAB
	70s	AAAAEEEAAA	80s	AAAAAAAA
026004	70s	†EE†BEFEBA	80s	AAAAAB††
026005	80s	-DaaAAAA		
026006	80s	----aaae		
026007	60s	-----ffccc	70s	fcccffcccc
	80s	------††		
027001	30s	-----eAAE†	40s	†EBAABCCF†
	50s	†††EAAAAAE	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AE††††††
027002	30s	-------†††	40s	††††††††††
	50s	†††††EAAAA	60s	AAAAABABAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
027003	50s	--------eE	60s	EEAAAAAAAA
	70s	AAAAABBAEE	80s	AAAAAAaa
027004	60s	eAAAAAAAE†	70s	††EAAAE†††
027006	60s	-----eAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
027007	50s	--------eA	60s	AAAAAAAAAA
	70s	EBDAAAAAEE	80s	AAAAAAAA
027008	50s	-----eAAAE	60s	AAAAAAAAAA
	70s	AAAAAEEEAE	80s	AEDEE†††
027009	60s	-††††††††E	70s	AAABDEAAAD
	80s	ADAAAAAA		
027010	30s	------fcfc	40s	ffffffffff
	50s	cfffbAAAAA	60s	BAAEAAAAAA
	70s	ABAAAAEEAE	80s	------††
027012	50s	----eAAAAA	60s	AAAAAAAAAA
	70s	AAAE††††††		
027013	50s	----eBBBBB	60s	BBBBBBAAAA
	70s	AAABBBCBEE	80s	B†††††
027014	50s	--------eA	60s	AAAAAAAABA
	70s	EE††††††††	80s	---†††††
027015	60s	-eAAAAAAAA	70s	AAAAAE††††
	80s	---†††††		
027018	50s	------eAAB	60s	BBABBBAAAB
	70s	BBbbe--†††	80s	---†††
027019	50s	------eAAA	60s	AAEBAAAAEE
	70s	EAAAe--†††	80s	---†††
027021	50s	---------e	60s	aEEAAAAAAA
	70s	AAAAAAE†††	80s	††AaaaaA
027022	60s	eAAAAAABAA	70s	EE††††††††
	80s	---†††-†		
027023	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAED		
027024	60s	-eAAAAAAAA	70s	AAAAAAEAAA
	80s	E†-†††††		
027025	60s	-eAAAAAAAA	70s	AAAE††AAAA
	80s	AAAAAAAA		
027026	60s	---eAAAAAA	70s	AAAAAAAAAE
	80s	††††AAAA		
027027	60s	-eAAAAAAEA	70s	AAAAAE††††
	80s	------††		
027028	60s	-AAAAAAAAA	70s	AAAAAAAAEA
	80s	AAAAADaa		
027029	60s	-eAAAAAAAE	70s	†EAAAAAAAA
	80s	AAEAAAaa		
027030	60s	---eAAAAAA	70s	AAAAEEAAEA
	80s	AADAAAAA		
027031	60s	----AAAAAA	70s	AAAAAAEAEA
	80s	AAAAAAAA		
027032	60s	-----†EEAA	70s	AAAAAEEAAA
	80s	AEAAAAAA		
027033	60s	---------f	70s	CCCCCBEAAA
	80s	AAAAAAaa		
027034	60s	-------eBA	70s	BAAAAAAAAA
	80s	AAAAAAAA		
027035	60s	--------EA	70s	AAAABAEAAA
	80s	EAAAAAAA		
027036	60s	--------†E	70s	EE††††††††
027038	70s	EAAAAAAAAA	80s	EAADADAA
027040	70s	EBAAAAAAAA	80s	AAAAAAAA
027041	70s	--†EAAAAAA	80s	AAAAAAAA
027042	70s	††EAAAAAAA	80s	AAAAAAAA
027043	70s	----AAAAAA	80s	EAAAAAAA
027044	70s	--††EAAAAA	80s	AAAADAAA
027047	70s	-†BAAAAAAE	80s	AEADAEDD
027048	70s	-†EAAAEEAA	80s	AAAAAAaa
027049	70s	----eAAAAA	80s	AAAAAAAA
027050	70s	fccffff---	80s	†††addAA
027051	70s	--eAAEAAAE	80s	AADAAAAA
027052	70s	------eaaa	80s	AAAAAAAA
027053	70s	-----eEAAA	80s	AAAAAAAA
027054	70s	----FFFAAE	80s	AAAAAAAA
027055	70s	----fCCEAE	80s	AADAAAAA
027056	70s	----fFCEAE	80s	AAAAAAAA
027057	70s	----fFCEAE	80s	AAAAAAAA
027058	70s	----fCCEAE	80s	AAAAAAAA
027059	70s	-------eAE	80s	EAAAAAAA
027060	70s	---------e	80s	AAAAAAAA
027061	70s	--------eA	80s	AAAAAAAA
027062	70s	---------e	80s	AEAAAAAA
027064	70s	---------e	80s	aaaaADAA
027065	70s	---------e	80s	adaaAAAA
027066	80s	----AAAA		
027067	80s	----AAAA		
027068	80s	----aaaa		
027069	80s	----AAAA		
027070	80s	------aa		
027071	80s	eaaAAAAA		
027072	80s	----AAAA		
027073	80s	----AAaa		
027074	80s	----AAAA		
027075	80s	------aA		
027076	80s	------aa		
027077	80s	------aa		
027080	80s	------aA		
027082	80s	-------†		
028001	30s	---cccbAAA	40s	BCCCCCCCCB
	50s	AAABBAAAAA	60s	AAAAAAAAAA
	70s	AAAAAABAAA	80s	AAAAAAAAe
028002	30s	-------eAA	40s	AAAAAAAAAA
	50s	AABAAAAAAA	60s	AAAAAD††EE
	70s	EAAAAEAAAA	80s	AAAAE†††
028003	50s	-----eAAAA	60s	AAAAAAAAAA
	70s	AAEAAAAAAA	80s	AAE†††
028004	50s	------fbAE	60s	EAAEAAAAAA
	70s	AAAAAAAAAA	80s	AAE†††
028005	50s	-----fccbA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAE†
028006	50s	-------eaA	60s	AAAAE†††††
	70s	††††††††††	80s	††††††
028007	50s	-------eAA	60s	AAAAAAE†††
	70s	††††††††††	80s	††††††
028008	50s	---eAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
028009	50s	--------eA	60s	AAAAAAAAAB
	70s	AAAAAAAAAA	80s	AAAAAAAAe
028010	30s	-----fFFCC	40s	CCCFCCCCCC
	50s	CCCCFCCCCC	60s	CCCCCCCCCC
	70s	CCCCBAAAAA	80s	AAAAAAA†
028011	50s	--------eE	60s	EEBAAAAAAA
	70s	EEAAAAAAAA	80s	AAAAAAAAe
028012	50s	---------e	60s	AAAAADAAAE
	70s	AAAAAAAAAA	80s	AAAAAAAAe
028013	70s	----††††††	80s	---†††
028014	60s	bBABBC†EAA	70s	AAAAAAAE††
	80s	††††††††		
028015	60s	-----eeE†A	70s	EEE††††††E
	80s	--eAEEAAe		
028016	60s	-----eAAAA	70s	AAAAAAAAE†
	80s	††††††††		
028017	60s	------eaaa	70s	aaAEAAEAE†
	80s	††††††		
028018	60s	-eAAAAAAAA	70s	AAAEAAAAAA
	80s	AAAAAAAAe		
028019	60s	------eAAD	70s	AAAEAAAAAA
	80s	AAAAAAAAe		
028020	50s	----fCFCFC	60s	BAAAAAAEee
	70s	aaAAAAAAAA	80s	AAE†††
028021	60s	----†EAAEA	70s	EEEEAAAA††
	80s	---†††††		
028022	60s	--------ea	70s	eaAAAAAAAA
	80s	AAAAE††Ae		
028023	60s	-----eaaaa	70s	aaAAAAAE††
	80s	††-†††††		
028024	60s	-------eea	70s	eaAAAAAAAA
	80s	AEEAEEEAe		
028025	60s	------eaae	70s	aaAAAAAAAA
	80s	AAAAE†††		
028026	60s	------eeaa	70s	aaAAEAAAAA
	80s	AAAAE††Ae		
028027	60s	-----EAEAA	70s	AAAAAAE†††
	80s	†EAae-††		
028029	60s	------eeee	70s	eeEAAAAEAA
	80s	AAAAE†††		
028030	60s	-------eEE	70s	AEEAAAAAAA
	80s	AAAAE†††		
028031	60s	--------eE	70s	AaAAAAAAAA
	80s	AAAAAAAAa		
028032	60s	-----EAAAA	70s	AAAAAAEAAA
	80s	AEAAE†		
028033	60s	-----eaeae	70s	aaAAAAAAAA
	80s	AAE†††††		
028035	70s	----††††††	80s	†EAae
028036	60s	---------e	70s	aaAEAE††††
	80s	---†††		
028038	60s	---------e	70s	aaAEAAEAAA
	80s	AAE†††††		
028039	60s	-------eAE	70s	AaEAEAAAAA
	80s	AAAAAAAAe		
028040	60s	--------eE	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
028041	60s	--------ea	70s	aeAAAAAAAA
	80s	AAE†††††		
028043	60s	----††††EA	70s	AAAAAAAAAA
	80s	AAAAEAAAe		
028044	60s	---------e	70s	eaAAAAAAAA
	80s	AAAAE†		
028045	60s	-----eaaaa	70s	aaAAADAAAA
	80s	AAAAE†		
028046	60s	---------e	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
028047	70s	eaabAAAAAA	80s	AAEEE†
028048	70s	-eaAAAAAAA	80s	AAABAAAAe
028049	70s	eaaaaaaAAA	80s	AAAAE†††
028050	70s	-eaaAAAEAA	80s	AAAAE†††
028052	70s	-eDEAAAAAA	80s	AAAAE††Ae
028053	70s	---†††EAAA	80s	AAAE††
028054	70s	-eAAAAAAAA	80s	AAAAE†††
028055	70s	-eAAAEAAAA	80s	AAE†††††
028056	70s	---eAAAAEA	80s	AAAAE††Ae
028058	70s	--††EAAAAA	80s	AAAAE†††
028059	60s	------eaaa	70s	aaAAAAAAAA
	80s	AAAEE†		
028060	70s	--eaAAAAAA	80s	AAAEE†††
028061	70s	--††-AAAAA	80s	AAAAE††Ae
028062	70s	-----†††††	80s	††††††
028065	70s	-----†††††	80s	---†††
028066	70s	---eAAAAAA	80s	AAABAEAAe
028067	70s	---eAAAAAA	80s	AAAAAAAAe
028070	60s	-----fffff	70s	eeeeeeaaaa
	80s	AAE†††††		
028072	70s	-----EAAAA	80s	AAAEE†††
028073	70s	------eeea	80s	aaaee
028075	70s	---------e	80s	aae---††
028079	80s	-eaaaaAAe		
028080	50s	-------eAE	60s	EAAEAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
028081	80s	--eaebEAe		
028082	70s	-eaAAAAAAA	80s	AAAAEAAAe
028083	80s	--eaaeEE		
028084	80s	-------†		
028085	30s	-----fFFCC	40s	CCCFCCCCCC
	50s	CCCCFCCCCC	60s	CCCCCCCCCC
	70s	CCCCBAAAAA	80s	AAAADDAAe
028086	70s	-eAAAAAAAA	80s	AAAAEEAAe
028087	80s	-------†		
028091	80s	----eeAAe		
028093	80s	------EAe		
028094	80s	------††		
028095	80s	------††		
028102	80s	-------Ee		
029001	60s	eBBAAAAAAB	70s	AAAAAAAAAE
	80s	AAAAAAAA		
029002	60s	--eAAAAABA	70s	AAAAADAAAA
	80s	AAAAAAEA		
029003	60s	--------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
029004	60s	--------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
029005	70s	-EAAAAAAAA	80s	AAAAAAEA
029009	70s	----eAAAAA	80s	AAAAAAAE
030001	50s	---------E	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
030002	60s	eAAAAAAAAA	70s	AAAAAAAAE†
	80s	EEEEAEAA		
030003	60s	--eAAAAABE	70s	AAAAAAAAAA
	80s	AAAAABEA		
030004	60s	--eEABAAAB	70s	AAAAAAAAAE
	80s	AAAAAAAA		
030005	60s	--------fc	70s	cccccccccc
	80s	ccccf--a		
030006	70s	----EBBBAA	80s	AEEAAAEA
030011	70s	-EAAAAAAAA	80s	AAAAAAED
030012	70s	EAAAAAAAAA	80s	DEBABBEE
030013	70s	------eAAA	80s	AAAAAAAA
030014	70s	--eEAABAAA	80s	BAAAAAAA
030015	70s	------eAAA	80s	AAAAAAaa
030017	70s	--------eA	80s	AAAAAAaa
031001	30s	-------fCF	40s	CCCCCf----
	50s	---fBBBBBB	60s	BBBBBBAAEA
	70s	AABAAAAEAB	80s	BAAAAAaa
031002	30s	---------†	40s	----------
	50s	----------	60s	fCCCCCCCCc
	70s	CCCCCCCCCC	80s	CCCCCCCA
031005	80s	---†††††		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
031006	60s	--------EAA	70s	BAAAAAAAAA
	80s	AAAAAAAA		
031007	60s	---------EE	70s	BBCCCBCBAA
	80s	AAAAAAAA		
031010	60s	--------DA	70s	ABAABAAAAA
	80s	AAAAAABA		
031012	60s	---------E	70s	EEEEEEEEEE
	80s	EEEeeeF†		
031016	60s	---------E	70s	ABAAAAAAAA
	80s	AAAAAAAA		
031021	70s	eEAEEBBEAA	80s	AEEEEEEE
031023	70s	--EBABBBAB	80s	AAAAAAAA
031025	70s	--------eA	80s	EAAAAAAB
031026	70s	-†††††††EA	80s	AAAAAAAA
031028	80s	--fbaeAA		
032001	30s	---------f	40s	eBAAAAAAAA
	50s	ABAAAAAAAB	60s	BAAABAABCC
	70s	BAAABBCCAA	80s	BAAAAAAA
032002	30s	--------eA	40s	AABABABABA
	50s	BABABBAAAB	60s	AABBAAAAAA
	70s	BAAAAAAAAA	80s	AAAAAAAA
032003	30s	--------eA	40s	ABBAABAAAB
	50s	AAAAABABAB	60s	BBAABEAAAA
	70s	AAAAAAAADA	80s	AAAAAAAA
032004	40s	---eAABAAA	50s	AAAAAAAAAB
	60s	BBBAEEAAAB	70s	AAAAAAEAAA
	80s	AAAAAAAB		
032006	30s	---------e	40s	BAAABAABAA
	50s	ABAAAABBBB	60s	BBBBAAAAAb
	70s	cccccccCCC	80s	CccccCA
032007	30s	---------e	40s	AAAAABAABA
	50s	ABAABABAAA	60s	BBAAAABAAb
	70s	cccccccCCC	80s	BccccCA
032008	40s	------eAAAB	50s	ABAAABABAA
	60s	BBBBBAEABA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
032029	70s	---eaeeeae		
032031	80s	--eeeeEE		
033001	30s	------fcCC	40s	ECCCCCCCCC
	50s	FFCCCCCCCC	60s	CCF†††††††
	70s	††††††††††	80s	------††
033002	30s	---cCCcCBB	40s	BBBBBCCCCC
	50s	CCCCCCCCCB	60s	BAAAAAAAAB
	70s	BAAAAAAAAB	80s	BAABAABA
033003	30s	-------fCCC	40s	CCFCFCCCCC
	50s	BAEABBABCC	60s	BAAAAAAAAA
	70s	BCCCCCCCCC	80s	CCCCCFFF
033004	30s	------fCCC	40s	CCCCCCFFCC
	50s	CCCCCBABCC	60s	CCCCCCFCFC
	70s	CCCCFCCCCC	80s	CFCCCFF†
033005	50s	-cbCCCCCCC	60s	BAAAABBCCB
	70s	BCBBBBBBCB	80s	BBBBBBEE
033006	50s	-------eBCC	60s	BAAAAAABBB
	70s	ABAABBABAB	80s	ABBBBBBB
033007	50s	---eBCCCCC	60s	CCCCCBBBAB
	70s	BAAAAABAAA	80s	AABBAAAA
033008	50s	---------fc	60s	cbeaebbbf-
	70s	----------	80s	-------††
033009	50s	------eABCC	60s	BAEAAAAABA
	70s	BABBAAAAAA	80s	BAAABAE†
033011	40s	---------ff	50s	ffffcfccff
	60s	eaAAAAAAEA	70s	BAAAAAAAAA
	80s	BAAAAAAB		
033012	60s	eAAAAAAAEA	70s	BAAAAAAAAA
	80s	AAAAAAAA		
033013	40s	---------f	50s	ffffccccff
	60s	eAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAABABA		
033014	60s	eAAAAAAAAA	70s	ABAAAAAAAA
	80s	AAAAAAAA		
033015	60s	--AAAAAAAA	70s	AAAAAAAABB
	80s	DAAAAAEE		
033016	50s	---------f	60s	bAAEEEFEAB
	70s	BCCCCCCCCC	80s	CCCF††
033018	60s	--EAAAAEEA	70s	AAAAAAAAAA
	80s	BAAABBAA		
033019	50s	------††††	60s	††eAAAAAEA
	70s	ABAAAAAAAB	80s	AAAAAABA
033020	50s	-------†††	60s	††-eAEBBEE
	70s	EBBBBAAAAA	80s	AABAABAA
033021	60s	--eAAAAABB	70s	BBBAAAAAAA
	80s	BAABABba		
033022	50s	---------f	60s	ebeeeBAAAB
	70s	AAAAAAAAAA	80s	AAAAAABB
033023	60s	--eAAAAAEA	70s	AABAAAAAAA
	80s	AAAAAABB		
033024	40s	----------e	50s	EEBCCCFCCC
	60s	CCCeAAAAAA	70s	ABAAAAAAAA
	80s	AAAAAAAA		
033025	60s	---fEAAAAA	70s	AAEABCF†††
033026	70s	fcCCCCCCCC	80s	CCCCCCF†
033027	60s	------eAABE	70s	BBAAAAAAAA
	80s	ABBAAAAA		
033028	60s	-------EAEE	70s	ABAAAAAAAA
	80s	ABAAAABA		
033029	60s	------eAAEA	70s	ABCAAAABAA
	80s	AAAABABA		
033030	50s	--------fcc	60s	cccf--eaaa
	70s	eababaeaaa	80s	e-----††
033031	70s	-AAABAABAA	80s	AAAAAAE†
033032	60s	-----EAAAA	70s	AAAAABAAAA
	80s	AAAAAAAA		
033033	70s	---EAAAAAA	80s	AAAAAAAB
033034	60s	--------†EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
033035	50s	---------fC	60s	CCCCCCCCCC
	70s	CCCCCCC†††	80s	†††††††C
033037	60s	----------E	70s	ABAAAAAAAA
	80s	AAAAABBB		
033039	70s	--EAAADBAA	80s	AABBABAB
033040	60s	-----fffff	70s	CBAAAAAAAA
	80s	AAAABBab		
033044	60s	--------fcc	70s	ccCABBAAAA
	80s	ABAAAABB		
033045	60s	--------fcc	70s	ccCAAAAAAA
	80s	BABAAABB		
033046	60s	--------fcc	70s	cCCAABAAAA
	80s	BAAAABBA		
033048	60s	---------f	70s	cccAAAAAAA
	80s	BBBAAaAA		
033049	70s	---aaaaaa	80s	e-----††
033050	60s	ffffffccc	70s	f---FCCCCC
	80s	BCCBaeaa		
033051	60s	----fCCCCC	70s	CAAABAAAAA
	80s	AAAAAAE†		
033052	60s	-†-ccc-ccc	70s	caeeAAAABA
	80s	AAABAAe		
033053	40s	---------f	50s	ffcccccccc
	60s	cccfcffbcc	70s	cccccccccc
	80s	ccbaabaa		
033054	70s	------fCAA	80s	AABAABaa
033055	60s	---fcccf--	70s	-------fBAA
	80s	AAAAAAaa		
033056	60s	------ccffc	70s	cfcfffCCCB
	80s	BAAAAAa		
033057	70s	-------FBAA	80s	AAAAAAe
033058	70s	-------††EA	80s	AAAAaaee
033059	60s	----------c	70s	ccfcaccccc
	80s	ccccaa		
033060	60s	---------f	70s	cccccccccc
	80s	cccccf		
033062	60s	----fcf---	70s	---------fc
	80s	ccccbBe		
033063	80s	eAAabAAB		
033064	80s	eaaabee		
033065	80s	fCCcaAE†		
033066	80s	-eAaaBBA		
033067	80s	--eaaAE†		
033068	80s	--fcbBe		
034001	50s	----------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
034002	50s	--------eAA	60s	AAAAAAAAAA
	70s	EAAAAAAAAA	80s	AEBAAAAA
034003	50s	----------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAB	80s	AABAAAAA
034004	60s	eAAAAAAAAA	70s	AAAAAAAAAB
	80s	ABAAAAAB		
034005	60s	-eAAAAAAAA	70s	AAAAAAAAAB
	80s	ABAAAAAE		
034006	60s	---eAAAbAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
034007	60s	-------eAAB	70s	AAAAAAAAAA
	80s	AAAAAAAA		
034008	60s	-------EABA	70s	AAAEEAAAAF
	80s	FCFDBBBE		
034010	60s	---------EA	70s	AAAAAAAAAA
	80s	EABAAEAA		
034011	60s	--------AAA	70s	ABAABAABBE
	80s	ABAAAAAA		
034012	60s	-------eAAA	70s	AADABAAAAA
	80s	AAAAAAAA		
034013	70s	--EEEAEADB	80s	ADEDDE††
034014	60s	---------f	70s	cfccfccffc
	80s	ccffcbCA		
034018	70s	--FFCCADDE	80s	AAAAAEAE
034019	70s	----EAAAAA	80s	AAAAAAAA
035001	60s	-†††FEE†††	70s	†††††FFCFE
	80s	befababb		
035002	60s	----eAAAAA	70s	AAAABAEAAB
	80s	AAAAAAAB		
035003	60s	-eAAAAAAAA	70s	ABAAAAAAAA
	80s	ABBAAAaa		
035004	60s	-----EAAAA	70s	AAAAAAAAAB
	80s	ABBAAAAA		
035008	60s	----ffEAAA	70s	AAAAAAAAAA
	80s	ABBAAAAA		
035010	60s	----------e	70s	AAAAAAAAAE
	80s	ABBAAAaa		
035013	60s	----------†	70s	EAAAAAAAAB
	80s	ABAAAAAA		
036001	20s	---------CC	30s	†FCCCCCCCC
	40s	CCCCCCCCCC	50s	CCCCCCBAAA
	60s	BBBAABAAAA	70s	BBBBABCCCC
	80s	CCCCCCF†		
036002	60s	eAABAAAABA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036003	60s	fBAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036004	60s	-----fBAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036005	60s	--eBAAAAAA	70s	AAAAAAAAAA
	80s	AAABAAAA		
036006	60s	--eBABAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036007	60s	fCCFBDABAA	70s	AAAAAAAAAA
	80s	AAAAAB†A		
036008	60s	EAAAABAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036009	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036010	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036011	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036012	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
036013	60s	††††††††††	70s	†EEEEEEEFF
	80s	FFFFFFff		
036015	70s	--EAAAAAAA	80s	AAABAAAE
036016	70s	eeeeeeea		
036017	70s	-ebaaaaaa	80s	bae
037001	50s	eAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
037002	30s	--FCCCCBBB	40s	BBABABABAA
	50s	BBBBBBBEBB	60s	BEBBABBBAA
	70s	BAAAAAAAAA	80s	AAAAAAAA
037003	30s	--FCCCCCCC	40s	CCCCCCCCCC
	50s	CCCCCCCCCC	60s	CCCBAAAAAA
	70s	AAAAAAAAAA	80s	AAAAABAE
037005	50s	----------e	60s	AAAABAAAAB
	70s	AAAAAAAAAA	80s	AAAAAAAA
037006	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
037007	60s	----eBAAAA	70s	AAAAAAAAAA
	80s	AAAABAAA		
037008	60s	------eAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
037009	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
037010	60s	--eBAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
037011	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
037012	60s	---eBAAAAA	70s	AAAAAABAAA
	80s	AAAABAAA		
037013	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAABAAA		
037014	60s	---fCBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
037015	70s	--------e†E	80s	EEAAAAAAe
037016	60s	-----EAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
037017	60s	----------E	70s	AAAAAAAAAA
	80s	AAAAAAAA		
037018	70s	EAAAAAAAAA	80s	AAAAABAAe
037019	60s	-----EAAAE	70s	AAADAABEEA
	80s	AAAAAAAAe		
037020	60s	----------†	70s	EAAAAAAAAA
	80s	AAAABAAA		
037021	60s	----------†	70s	EAAAAAAAAA
	80s	AAAAAAAE		
037022	60s	----------†	70s	EAAAAAAAAB
	80s	AAAABBBA		
037023	70s	-EAAAAAAAA	80s	AAE†††††
037024	70s	-EAAAAAAAA	80s	AAABBBAE
037025	60s	-----CBAAE	70s	EEEE†††---
	80s	---†--††		
037026	60s	-ebaaebaaa	70s	aaaaeee
037027	60s	feeeaebaaa	70s	ae
037028	60s	feeaaebaaa	70s	aaaaeee
037029	60s	eeaaabcaaa	70s	baaaeae
037030	60s	--EEEBBAAB	70s	e---------
	80s	-------††		
037031	70s	-------eBAA	80s	AAABAAAE
037033	70s	------eAAAA	80s	AAAAAEea
037034	70s	----feaaaa	80s	aaedaeaa
037036	70s	-bbaaaaaaa	80s	aaaaaaa
037037	80s	-eebbeEE		
037038	50s	-eaeee--ea	60s	beeebabbab
	70s	abbae		
037039	70s	---feeebeE	80s	EEEEEEee
038001	30s	-------fCCC	40s	CCCCCCCCCC
	50s	CCCCCCCCCC	60s	CCCCCAAAAB
	70s	BAAABCF†EA	80s	AAAAAAAAe
038002	80s	eaaaaaabe		
038003	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
038004	70s	----------e	80s	AAAAAAAAe
038005	30s	-------††††	40s	††††††††††
	50s	†††††-----	60s	EAAAABABAA
	70s	AAAAAAAAAE	80s	EE††††
038006	50s	-------fCCC	60s	CBAAAAAABA
	70s	AAAABAAAAA	80s	EEE
038007	60s	------EAAAA	70s	AAAAAAEAAA
	80s	AAAAAAAAe		
038011	50s	--------fCC	60s	CCCCCBBBBB
	70s	BABBBBBAAA	80s	AAAAE†
038012	50s	---------††	60s	††††††††††
	70s	††††EAAAAA	80s	AAAAAAaae
038013	30s	-----†††††	40s	††††††††††
	50s	††††------	60s	eaabbbaaaa
	70s	aaaaaabaaa	80s	AAAAABaae
038014	50s	-------eCCC	60s	CCCCCCCCCC
	70s	CCCCCCBAAA	80s	EAAAAAAAe
038015	60s	----------E	70s	AAAABAAAAA
	80s	A†e		
038016	60s	----------f	70s	CCBBBCCCBA
	80s	AABCCCcf		
038017	70s	eBAAAAAAAA	80s	AAAAAAdae
038018	70s	-eAAAABAAA	80s	AAAAAAAAe
038020	70s	-EAAAAAAAA	80s	AAEEAADAe
038021	70s	-eAAAAAAAA	80s	AAAAAAAAe
038022	70s	--fCCCAAAA	80s	AAAAAAAAe
038023	80s	aedaaaaae		
038024	70s	---EAAAAAA	80s	AAAAAAAAe
038026	70s	----EAAAAA	80s	AAAAAAAAe
038027	80s	------edae		
038028	70s	-------eEAA	80s	AAAAAAAAe
038029	70s	---------eA	80s	AAAAABDAe
038030	70s	----------e	80s	AAAAAAAAe
039001	80s	---cCCCCCC	90s	CCCCCCCCCC
	00s	CCCCCCCCCC	10s	CCCCCCCCCC
	20s	CCCCCCCCCC	30s	CCCCCCCCCC
	40s	CCCCCCCCCC	50s	CCCCCCCCCC
	60s	CCCCCCCCCC	70s	CCCCCBAAAA
	80s	BBAAAAAAe		
039002	30s	---------fC	40s	CCCCCCCCCC
	50s	CCCCCCCCCC	60s	CCCCCCCCCC
	70s	CCCCCCCCCC	80s	CCCCCCCCf
039003	60s	--eAAEEEEE	70s	eEEAEEEEDA
	80s	AABAAAaae		
039004	30s	-------eEEA	40s	AAE††EEEE†
	50s	††††EAAAAA	60s	AAAAEAEEEE
	70s	†EEAEEAF†E	80s	EEEEAAAAe
039005	30s	-----eAAE†	40s	††††††††††
	50s	††††EEAAAA	60s	EEAEEEEEEE
	70s	EEEAEEEEEA	80s	AEEBBDAAe
039006	50s	eAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
039007	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
039008	50s	-fCCCCCCCC	60s	CCCCCCCCCC
	70s	CCCCCCCCCC	80s	CCCCCCCCf
039010	50s	--eAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAaAe
039011	50s	----eAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe

Stn. number	Gauged daily flows, monthly peaks and rainfall			
039012	50s	-------EAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAEEEAAEe
039013	30s	----eAAAAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAEA	80s	AAAAAAeAe
039014	50s	-------eAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAADAe
039016	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039017	60s	--eABAABBC	70s	CCCCCCCCCC
	80s	CCFCCFtE		
039019	60s	--EAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039020	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039021	60s	-----EAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039022	60s	------eAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039023	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039025	60s	--------eAA	70s	AAAAAAAAAA
	80s	AAAAAAABe		
039026	60s	-------eAAA	70s	AAAAAAAAAA
	80s	AAAAAAAE		
039027	60s	---------eA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039028	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039029	60s	--------tEA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039030	70s	EAAAAAAAAA	80s	AAAAADaBe
039031	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAEtttt		
039032	60s	-------eAAA	70s	AAAAAAAAAA
	80s	AAAEtttt		
039033	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039034	70s	eAAAAAAAAA	80s	AAAAAAAAe
039035	60s	---------tE	70s	AAAAAAAAAA
	80s	AAAAAAaae		
039036	60s	---------eA	70s	AAAAAAAAAA
	80s	AAAAAEDAe		
039037	70s	-tEAAAAAAA	80s	AAAAAAAAe
039038	60s	---------eA	70s	AAAAAAAAAA
	80s	AAEEBEEDe		
039040	70s	-tEAAAAAAA	80s	AAAAAAAEe
039042	70s	--EAAAAAAA	80s	AAAAAAAAe
039043	60s	--eEAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039044	70s	--eAAAAAAA	80s	AAAAaaAAe
039046	70s	---eAEEEEA	80s	EtttEDdde
039049	70s	---EEEtttE	80s	DAABEAAAe
039051	60s	--------EAA	70s	AAAAAAAAAA
	80s	AAEAAAAAe		
039052	50s	--------eAA	60s	EdAAAAAAAA
	70s	aaaaaaaaaa	80s	AAAAAAAAe
039053	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039054	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
039055	70s	----------e	80s	EEEAAEEAe
039056	70s	--------eae	80s	aeaaaeeae
039057	70s	---------ea	80s	daaaeeeae
039058	70s	---------ea	80s	daeaaeeae
039061	70s	-eaaaaaaaa	80s	aecaadDEe
039065	70s	eaaaeae---	80s	abeebbAAe
039068	70s	-eAAAAEtEA	80s	AAAAAAABe
039069	70s	--eAEtEAAA	80s	AAAAAAAAe
039071	70s	----------e	80s	eeeeeeeee
039072	70s	----------e	80s	bddaeddee
039073	70s	----------e	80s	aaaaaaAAe
039074	80s	aaaaaaAAe		
039075	80s	eaaaaaADe		
039076	70s	-------eaaa	80s	aaaeaaAAe
039077	80s	eaaaaaAAe		
039078	70s	---------ea	80s	aaaaaaAAe
039079	70s	----------f	80s	ffededdae
039081	60s	--eAAAAAAA	70s	AAAAAAAAEe
	80s	AAAaaaAAe		
039085	30s	-------eaea	40s	aae--------
	50s	----eaAAAA	60s	e
039086	70s	------eAAAA	80s	AAAaAAaae
039087	70s	----eAAAAA	80s	eAAAAAeAe
039088	70s	----eAaAAA	80s	AAAAABAAe
039089	70s	------eaaae	80s	aaeaaadae
039090	60s	------e-t		
039091	70s	---------ee	80s	aaaaeett
039092	80s	ee-----EAe		
039093	80s	ee-----eae		
039094	70s	--------fea	80s	baaaeeeae
039095	80s	ee--f-eae		
039096	80s	ee-----eae		
039097	80s	fccccCCf		
039098	80s	----eddae		
039099	80s	---eaaaae		
039100	80s	----eedde		
039101	80s	--eaaaAAe		
039102	80s	----edade		
040001	50s	---EAAAAAA	60s	AAAAABAEtt
	70s	tttttttttt	80s	ttt---tt
040002	50s	-------eAAA	60s	AAAAAAAAEA
	70s	BBAAAe-ttt	80s	ttt---tt
040003	50s	-------eAAA	60s	AAAAABEEFF
	70s	FFCFCCCCCC	80s	BBBAAACC
040004	60s	--eAAAAEEB	70s	AAAAAEAAAE
	80s	AAAAADAA		
040005	50s	---------eA	60s	AAAAAAAABB
	70s	AAAEAEAAAE	80s	AAAAADDA
040006	50s	----------e	60s	AAAAAAABBB
	70s	AABEAEAEEE	80s	EEEttttE
040007	60s	eAAAAAEEEA	70s	AAAAAAAAAE
	80s	EEEEEBAA		
040008	60s	--eEAAAABA	70s	AAAABEAAEE
	80s	ADDDDDDD		
040009	60s	-eABBBAABA	70s	AAAAAABAAA
	80s	AAAAAAAA		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
040010	60s	-eAAAAAAEA	70s	AAEAEAEAAA
	80s	DDDDDDDD		
040011	60s	----eAABAA	70s	AAAAABABAA
	80s	BADDAAAA		
040012	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
040013	60s	---------tE	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
040014	70s	-etEEEEAEE	80s	DEDEtttt
040015	60s	----------E	70s	EEAAAAAAAE
	80s	EDEEEttE		
040016	60s	---------tE	70s	AAAAAAAAAA
	80s	AAAAAAaae		
040017	70s	-BEAEEBBDE	80s	EEDEEtDD
040018	60s	--------tEE	70s	AAAAAAAAAA
	80s	AAAaaaAAe		
040020	70s	---eEAEEDE	80s	EEAEtttD
040021	70s	------EEEAE	80s	DDEDEttt
040022	80s	tttttt		
040023	70s	-------deeA	80s	ADDAEEDD
040024	70s	----eEEEAA	80s	EFtttttt
041001	50s	eaAaeAAAAA	60s	AAAAeAAAAA
	70s	AAAAAAAADA	80s	AAAAAAAA
041002	50s	-eAAAAAAAA	60s	AAAAAAAAAD
	70s	AAABAAAAAA	80s	ADDDDDDA
041003	50s	----------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	DDDDDDDD
041004	50s	-------eAAA	60s	AAAAAAAAAA
	70s	ABBBAAAAAE	80s	tFCCFFCC
041005	60s	eAAAAAAAAA	70s	AAAAAADAAA
	80s	AADDAAAA		
041006	60s	----eBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
041009	50s	----------F	60s	CCCCCCCCCC
	70s	CCCCCCFttt		
041010	60s	-eEAEADDAA	70s	ABEDDDDDDA
	80s	DDDADADD		
041011	60s	-------EAAA	70s	AAAAAAAAAA
	80s	DDADAAAA		
041012	60s	-------tEAD	70s	AAAAAAADAA
	80s	DDAADDAA		
041013	50s	eAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	DDAEDDDA
041014	70s	eADAAAADAD	80s	AAADDAAD
041015	60s	--------EAD	70s	DAADDDADDD
	80s	DDAAAAAA		
041016	30s	----------F	40s	fFFFFFFFFF
	50s	FFFFFFFFFF	60s	FFFFFFFEAA
	70s	AAAAAAAAAD	80s	AAAAAAAA
041017	60s	----------e	70s	AAEAAADDDA
	80s	AAAAAAAA		
041018	60s	----------e	70s	AABAAABADA
	80s	DADADDAA		
041019	70s	eAAAAAAAAA	80s	AAADAAAA
041020	60s	----------e	70s	AABAAAAAAA
	80s	AAADAAAA		
041021	60s	----------e	70s	EBABAABBED -
	80s	AABBBABA		
041022	70s	eAAAAADDDD	80s	AAAAAAAA
041023	70s	fBBCBBBBBB	80s	BBEBEBbe
041024	70s	-EAAAAABBA	80s	DAAAAADA
041025	70s	-EAAAADDDA	80s	DAAAADAA
041026	70s	-EAAAADAAA	80s	AAADAAAD
041027	70s	--eAAAAADD	80s	DAAAAAAA
041028	60s	----eEEAAA	70s	AAAAAAAAAD
	80s	DADDDADA		
041029	80s	---edaAA		
041030	80s	------tt		
042001	50s	-fCCCCCCCC	60s	CCCCCCCCCC
	70s	CCCCCBDAAA	80s	AEDAAAAA
042002	50s	---------t	60s	tttttttttt
	70s	tt----ttt-	80s	ttt
042003	60s	fCCCCCCCCC	70s	CCCCCCBAAA
	80s	DAAAAAAA		
042004	50s	--------fCC	60s	FCCCCCCCCC
	70s	CCCCCCCCCF	80s	FCCCCCCC
042005	50s	------fCCCC	60s	CCCCCCCCCC
	70s	CCCCCFCFFF	80s	FCCCCCED
042006	50s	---------fC	60s	CCCCCCCCCC
	70s	CCCCCBAAAA	80s	AAAAAAAA
042007	70s	fCCCCFCCcc	80s	cfccccCC
042008	70s	FCCCCBAAAA	80s	AAAAAAAA
042009	70s	fCCCCBAAAA	80s	AAAAAAAA
042010	50s	--------fc	60s	cccccccccc
	70s	ccCCCCcccC	80s	CCCCcCCC
042011	70s	--fCCBAAAA	80s	AAAAAAaa
042012	70s	---ttBBBBC	80s	CCCCCCCC
042014	60s	--------tt	70s	ttttttEDAA
	80s	AAAaaaAA		
042016	70s	------fcfff	80s	cfcf
042021	70s	----------f	80s	fee
043001	60s	eAAAAEtttt	70s	tttttttttt
043003	60s	-----fCFCC	70s	CCCCCCCCCC
	80s	CCCcCCtt		
043004	60s	------EAEAA	70s	AAAAAEAAAA
	80s	BEEEEBEDe		
043005	60s	------EAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
043006	60s	-------AAAA	70s	AAAAAAAAAA
	80s	AAAAAABBe		
043007	70s	--tAAAAAAA	80s	AAAAAAABe
043008	60s	--------AAA	70s	AABAAAAAAA
	80s	AABAAABBe		
043009	60s	---------eA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
043010	60s	----------t	70s	EAAAAAABAA
	80s	AAtttt		
043011	70s	Eeccfftttt	80s	-------tt
043012	60s	-------tttt	70s	tEAAAAABAA
	80s	AAAEABAAe		
043013	60s	----------t	70s	tEBAEBBAAA
	80s	AEBEtttt		
043014	60s	-------tttt	70s	tEAAAAAAAA
	80s	AAAAAAAEe		
043015	60s	-------tttt	70s	tFFFFFFttt

Stn. number	Gauged daily flows, monthly peaks and rainfall			
043017	60s	-------tttt	70s	tEAAAAAAAA
	80s	AAABABBBe		
043018	70s	----eAAAAA	80s	AAAAAAbbe
043019	70s	---EAAAAAA	80s	AABAABaae
043021	70s	------BBBAB	80s	BBBCCCCCf
044001	60s	-------cccC	70s	CCCCCCCccc
	80s	ccccCCtt		
044002	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAEe		
044003	60s	-------EAAA	70s	AAAAABBAAA
	80s	e------tt		
044004	70s	-fCCCCCccc	80s	ccbcBBtt
044006	60s	-------tttE	70s	AAAAABBAAA
	80s	AAAAABBBf		
044008	70s	---tEBAAAA	80s	ADtttttt
044009	70s	------eAAAA	80s	ABAABBABe
045001	50s	-------eAAA	60s	AAAAAAAAAA
	70s	AAAAABAAAA	80s	AAAAAAAA
045002	60s	-eAAAAAAAB	70s	AAAAAAAAAA
	80s	AAAAAAAA		
045003	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
045004	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
045005	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
045006	60s	----eaAEtt	70s	tttttttttt
045008	70s	--ttEAAAAA	80s	ABAAAAAA
045009	80s	-AAaaaAC		
045010	70s	---ccccccc	80s	-------tt
045011	60s	---------cf	70s	-----fcccc
	80s	cf----tt		
045012	60s	----fcfccc	70s	cccccccccc
	80s	ccccccAA		
046002	50s	-------eAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
046003	50s	---------eA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
046005	60s	----EAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
046006	70s	----AAAAAA	80s	AAAAAAAA
046007	70s	--eAAAAAAA	80s	AF----tt
046008	70s	-eaaaaaaaa	80s	aF----tt
047001	50s	-------eAAA	60s	AAAAAABBBB
	70s	AAAAAAAAAA	80s	AAAAAAAA
047003	50s	--------eBE	60s	tttttttttt
	70s	ttttEEEAAE	80s	Ettttt
047004	60s	---eAAEAEA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
047005	60s	---eAAAAAA	70s	AEEtttttEA
	80s	AF----tt		
047006	60s	---eAAEAEE	70s	EEtttEAAAE
	80s	AF----tt		
047007	60s	---eAAABAA	70s	AAEEAAAAAA
	80s	AAAAAAAA		
047008	60s	----------e	70s	AAAAAAAAAA
	80s	AAAAAAAA		
047009	60s	----------E	70s	AAAAAAAAAB
	80s	AAAAAAAA		
047010	70s	-tEAAAAAAA	80s	AAAAEtAA
047011	70s	-EAAAAAAAA	80s	AF----tt
047013	70s	--tDAAAAAA	80s	AAAAAAAA
047014	80s	-aaaaeAA		
047015	80s	-eaaaatt		
047016	70s	-------fccf	80s	fffccCC
047017	70s	--------fcc	80s	ccccccAt
048001	50s	--------eAA	60s	AAAAEAAEEE
	70s	AAAAAAAAAA	80s	AAAAAAAA
048002	60s	-FcbAAABBA	70s	AAABABFccc
	80s	fcfcf-tt		
048003	70s	---------fc	80s	cAABAAAA
048004	60s	----------e	70s	AAAAAAAAAE
	80s	AAAAAAAA		
048005	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
048006	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAABAA		
048007	60s	---------EA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
048009	70s	tEAAAAAAAA	80s	Atttttttt
048010	50s	--------ff-	60s	----------f
	70s	cCBAAAAAAA	80s	AAAAAAAA
048011	60s	-FcbAAABBA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
049001	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
049002	50s	--------EEt	60s	ttttttttEA
	70s	AAABAAAAAA	80s	AAAAAAAA
049003	60s	--------eEB	70s	CBEEEAAADA
	80s	AAAAAAAA		
049004	60s	----------E	70s	AAAAAAAAAA
	80s	AAAAABDA		
050001	50s	---------eA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
050002	60s	--eAAAAAAA	70s	BAAAAAAAAA
	80s	AAAAAAAA		
050004	60s	------eEttt	70s	tttttttttt
	80s	---ttt		
050005	70s	------fcccc	80s	ccccccaC
050006	60s	------daaaa	70s	aaaaaaaaaa
	80s	aaaaaett		
050007	70s	---fcccccc	80s	cccfccCF
051001	60s	--------AAA	70s	AAAAAAAAAA
	80s	AAAEeaAAe		
051002	70s	---eaaaaee	80s	------eAAe
051003	60s	-------febb	70s	bbbbaabfee
	80s	e--eeaAAe		
052001	50s	-------eaaa	60s	adaaabAAEt
	70s	tttt---ttt		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
052002	50s	------eAAB	60s	BBBBBBAAe–
	70s	-------†††		
052003	60s	-eBAAAAAAA	70s	AAAAAAAAAA
	80s	AEAAAAAAe		
052004	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
052005	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
052006	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
052007	60s	------eAAA	70s	AAAAABAAAA
	80s	AAAAAAAAe		
052008	60s	eBBBBBAAE†	70s	††††–†††††
052009	60s	----AAAAAA	70s	AAAAAAAAAA
	80s	ABBAAEEAe		
052010	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
052011	60s	-----eAAAA	70s	AABAAAAAAA
	80s	AAAADADAe		
052014	60s	------†EAA	70s	BAAAEEEEE†
	80s	†EEaaaEAe		
052015	70s	-EAAAAAAAE	80s	-----aaae
052016	70s	†EAAAAAAAA	80s	AAAAaaAAe
052017	70s	---EEE††††	80s	-----aaae
052020	60s	------fccf	70s	fffFEAAAA†
	80s	------††		
053001	50s	---eAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	E†
053002	50s	---eAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAaaaAAe
053003	30s	---------f	40s	fccbbbbc–b
	50s	bbabAAAAAA	60s	AAAAAAAAAE
	70s	†††††††††	80s	††----††
053004	50s	--------EA	60s	AAAAAAAAEE
	70s	AAAAAAAAAA	80s	AAAAAAAAe
053005	60s	-EAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
053006	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
053007	60s	-eAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
053008	60s	----AAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
053009	60s	------AAAA	70s	AAAAAAAAAA
	80s	AAAAAAADe		
053013	70s	AAAAAAAAAA	80s	AAAAAAAAe
053017	70s	---EAAAAAA	80s	AAAAAAAAe
053018	60s	---------e	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
053019	60s	---------e	70s	aaaaaaaaaa
	80s	AAAAaaaae		
053020	60s	--------ea	70s	aaaaaabaaa
	80s	AAAaaaaae		
053022	70s	------eAAA	80s	AAAAE†††
053023	70s	-------eADE	80s	AAAAAAAAe
053024	70s	--------AA	80s	AAAAAAAAe
053025	80s	AAAAAAAAe		
053026	70s	--------AA	80s	AAAAAAAAe
053028	80s	--aaaaAAe		
053029	80s	----aaaae		
054001	20s	-FCCCCCCCC	30s	CCCCCCCCCC
	40s	CCCCCCCCCC	50s	CCCCCCCCCC
	60s	CCCCCCCCCC	70s	CCAAAABAAA
	80s	AAAAAAAAe		
054002	30s	------fbAA	40s	AAAAAAAABC
	50s	CCCCBAAAAA	60s	AAAAAAAAAA
	70s	BCBABABAAA	80s	AAAAAAAAe
054004	50s	--fCBAAAAA	60s	AAAAAAAAAA
	70s	BEEEBAAAAE	80s	AAAABAAAe
054005	50s	---fCBAAAA	60s	AAAAAAAAAA
	70s	ABBAAABAAA	80s	AAAAAAAAe
054006	50s	---fBAAAAA	60s	AAAAAAAAAA
	70s	BCBAAABBAB	80s	AAAAAAAAe
054007	50s	-------eAA	60s	AAAAAAAAAA
	70s	BCEEBBBAAA	80s	AAAAE††Ae
054008	50s	------eAAA	60s	AAAAAAAABB
	70s	CCAAAAAAAA	80s	AAAAAAAAe
054010	50s	---------e	60s	AAAAAAAAAA
	70s	BCbAAAAADD	80s	AADE††††
054011	60s	-eAAAAAAAB	70s	CCBABBABAB
	80s	AAAAE†††		
054012	60s	eAAAAAAAAB	70s	ABAAABBAAA
	80s	AAAAAAAAe		
054013	50s	---------a	60s	AAAAAAAABA
	70s	AABABBBAAE	80s	††††--††
054014	60s	--fBAAAAAB	70s	BAAAAAAAAA
	80s	AAAAAAAAe		
054015	60s	---------E	70s	EEEEEEAAAA
	80s	AaAA††††		
054016	60s	-eAAAAAAAA	70s	BAAAAAAAAA
	80s	AAAAAAAAe		
054017	60s	--eAAAAAAA	70s	BBAAAAAAAA
	80s	AAAA††		
054018	60s	--eAAAAAAA	70s	AAAAAAAAEA
	80s	AAAAE††Ae		
054019	60s	--eAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
054020	60s	---eAAAAAB	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
054022	50s	---eAEAAE†	60s	††††††††EB
	70s	AEAAADAEAA	80s	AAAAAAAA
054023	60s	--------eA	70s	BBAE††BAAA
	80s	AAAA††††		
054024	60s	†††††††††E	70s	AAAAAAAAAA
	80s	AAAAAAaae		
054025	60s	---------E	70s	ABAAAAAAAA
	80s	AADAAAAAe		
054026	60s	---------F	70s	†EAAEAAAAA
	80s	AAEA††††		
054027	60s	---------e	70s	aAAAAAAAAA
	80s	AAAAE†††		
054028	60s	---------†	70s	FBBAAAAAAA
	80s	AAAAAAaae		
054029	70s	FBBAAAAAAA	80s	AAAAAAAAe
054032	70s	FBBAAAAAAA	80s	AAAAAAAAe
054034	70s	-EAAAAAAAA	80s	AAAA†††Ee
054036	70s	-†EAAAAAAA	80s	AAAAE†††
054038	70s	--†EABAAAA	80s	AAAAEAAAe
054040	70s	---FABAAAA	80s	AAAAAAaae
054041	70s	--FCCCAAAA	80s	AAAAAAAAe
054042	70s	†EAEAAEE††		
054043	50s	-----fcccc	60s	ccccfccccc
	70s	F†-----†††	80s	------††
054044	70s	-†EAAAAAAA	80s	AAAAAAAAe
054045	70s	---†AAAAAE		
054046	70s	-----faaaa	80s	aAAAE†
054047	70s	-----fbae–	80s	–†††††
054048	70s	-------eAAA	80s	AAAAE†††
054049	70s	---------e	80s	aaaaaaAAe
054052	70s	fbDAAAAAAA	80s	AAAA†††E
054054	70s	--EAAAE---	80s	---†††††
054055	70s	--ebeae---	80s	------††
054056	70s	--EEEEE		
054057	70s	-fcccbbaaa	80s	aaaaaaAAe
054058	70s	--eaabbee		
054059	70s	--eaabaEE†	80s	------††
054060	70s	--ebaaaaae	80s	–fcff–†Ee
054061	70s	--ebaebe		
054062	70s	--EAEEBEAE	80s	AAAA††††
054063	70s	--eabababae	80s	aaae
054065	70s	---EAABEAE	80s	------††
054066	70s	---EBBBAAA	80s	AAAA††††
054067	70s	----bbbae		
054068	70s	-----eee		
054069	70s	----eaaae		
054070	70s	----eabaaa	80s	aaaa
054080	70s	-------fed	80s	aaae--††
054081	70s	-------EBA	80s	AAAAAAaae
054083	70s	--------ea	80s	aaaa--††
054084	70s	--------ea	80s	aaaa--††
054085	70s	---------e	80s	aaaa--††
054086	70s	---------e	80s	beaae--ae
054087	70s	---BAEE---	80s	aaee--†
054088	70s	--------ea	80s	aaaaaaAAe
054090	70s	---edaddaa	80s	aaaae–††
054091	70s	------ADAA	80s	AAAae–††
054092	70s	---eDAAAAA	80s	AAAae–††
054094	80s	--eeeeeee		
054095	80s	----eeeee		
055002	30s	-----eEEAA	40s	AAAAAAAAAA
	50s	AAAAAABAAA	60s	AAAEAAAAAA
	70s	CCCBAAAAAA	80s	AAACCCAA
055003	30s	---------e	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAABAAAAA	80s	AE†
055004	30s	-------eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAEAAAAAA
	70s	AAAAAAAAAA	80s	EEF†††††
055005	30s	-------eBA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAEAAAAAA
	70s	-------†††	80s	------††
055006	00s	--------CC	10s	CCCCCCCCCC
	20s	CCCCCCCCCC	30s	CCCCCBAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAABCC
	80s	cCCFC†		
055007	30s	-------eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAEAAAAAA
	70s	CCCCCCCCCC	80s	CAACCCae
055008	50s	-eAAAAEEaA	60s	AAAEAAAEEA
	70s	AAAAADAAAA	80s	AAAAAAAA
055009	40s	--------eA	50s	AAAAAAAAAA
	60s	AAAEAAAAAA	70s	AAE†††††††
	80s	------††		
055010	50s	-----eAAAA	60s	AAAEAAAAAA
	70s	AAAAAAAEAA	80s	EFF†††††.
055011	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAABAAA	80s	DBF†††††
055012	60s	------eAAA	70s	AAAAAAAEEA
	80s	AAAAAAAA		
055013	60s	------eAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
055014	60s	------eAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
055015	60s	------eAAA	70s	AAAAAAAAEE
	80s	EAD†††††		
055016	60s	--------eA	70s	EAEAAAAAAA
	80s	AAAAAAAA		
055017	60s	--------eA	70s	BAAEEAAAAA
	80s	AE----††		
055018	60s	--------eA	70s	AAAAAAAAAE
	80s	AAAAAAAA		
055021	60s	-------†††E	70s	AAAAAAAAAA
	80s	AAE†FADA		
055022	60s	-------†–e	70s	AAAABAAAAE
	80s	†FF†††††		
055023	30s	------fBAA	40s	AABAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	CCCCCCCCCC	80s	CAAAAAAA
055025	60s	------††††	70s	EAAAAAAAAA
	80s	AAAAAAAA		
055026	30s	-------eBA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAEAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
055027	70s	-eAAAAAAE†	80s	†††---††
055028	70s	-eAAAAAAAE	80s	ADAAAACA
055029	40s	--------eA	50s	AAAAAAAAAA
	60s	AAAEAAAAAA	70s	AAAAAAAAAA
	80s	EAAAADAA		
055030	20s	------fccc	30s	cccccccccfc
	40s	cccccccccc	50s	c---------
	60s	----------	70s	---††††
055031	70s	-††EAAAAAA	80s	AAAAAAAA
055032	00s	--------CC	10s	CCCCCCCCCC
	20s	CCCCCCCCCC	30s	CCCCCBAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAABCC
	80s	cAAAAAad		
055033	60s	---------c	70s	---edaadaa
	80s	abaae–††		
055034	70s	---eeeaeaa	80s	eaaae–††
055035	70s	---eadaaaa	80s	aaaae–††
056001	50s	-------EAA	60s	AAAAAAAAAA
	70s	AAAAAABAAA	80s	AAAAAAAA
056002	50s	-------eAA	60s	AAAAAAAAAE
	70s	AAAAAE††AA	80s	AAAAAAAA
056003	60s	---eAAAAAA	70s	AAAAABAAAA
	80s	AA†---††		
056004	60s	-----eAAAA	70s	AAAAAAAAAA
	80s	E††---††		
056005	60s	-----†EAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
056006	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AA††††††		
056007	60s	------†EAE	70s	EAAAAAAAAA
	80s	AAAAAAAA		
056008	70s	ebaAAEE†††	80s	††----††
056010	60s	---------e	70s	aeeeeeeeea
	80s	ee----††		
056011	70s	ebaAAAAAAA	80s	AA†---††
056012	70s	-AAAAAAABB	80s	AA†---††
056013	70s	--eAAAAAAA	80s	AAAAAAAA
056014	70s	---------e	80s	eedf
056015	70s	--†††EAAAE	80s	AA††--††
056016	70s	---------a	80s	aaabaaaa
057001	30s	------eeEB	40s	e---------
	50s	--eaAABAAA	60s	ABBBBBAAEA
	70s	AAAA††††††	80s	††††
057002	30s	-eaaaaaaAA	40s	AAAAAEAAAA
	50s	AADDAABAAA	60s	AAAAAAAAAA
	70s	ABAA††††††	80s	†††
057003	60s	-----eAAAA	70s	AAA†††††††
	80s	††††††††		
057004	50s	-------eAA	60s	AEEAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
057005	70s	eAAAAAAAAA	80s	AAAAAAAA
057006	70s	eAAAAAAAAA	80s	E††FAAAA
057007	70s	--†EAAAAAA	80s	AAAAAAaa
057008	70s	--†AAAAAAA	80s	AAAAAAAA
057009	70s	-----AAAAA	80s	AAAAAAAA
057010	70s	----eAAAAA	80s	EAAAAAAA
057011	70s	------eaae	80s	e
057012	70s	------eaae	80s	e
057015	70s	--------eA	80s	ABACCCaa
057016	70s	---------e	80s	AAAAAAaa
058001	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAEA		
058002	70s	-----AAEEB	80s	EAADAAAA
058003	60s	--eAAE††††	70s	††††††††††
	80s	------††		
058005	70s	eAAAAAAAAA	80s	AAADFADB
058006	70s	-EAAAAAAAA	80s	EAAAAAAA
058007	70s	eBAAAAAAAA	80s	EAAAAAAA
058008	70s	-EAAAAAAAA	80s	EDADADAC
058009	70s	-EAAAAAAAA	80s	AAADAADA
058010	70s	-----eaaaa	80s	eE††--††
058011	70s	-------eAAA	80s	AAAAAAAA
058012	80s	------††		
059001	50s	-------eEA	60s	AAABAAAAAA
	70s	AEAEEAAAAA	80s	DAAAAAAA
059002	60s	-------FFB	70s	AABBBBAAAA
	80s	AAAAAAAA		
060002	60s	-eAAAAAAE†	70s	BAAAAAAAEE
	80s	EAADAAAD		
060003	60s	-----EAAAA	70s	AEEAAAAAAA
	80s	AAAAAADA		
060004	60s	-------††E	70s	EEAAAAAAAA
	80s	AA†---††		
060005	60s	--------fe	70s	BADAAAAAAA
	80s	AAAAAAAA		
060006	60s	--------FB	70s	BBBABAAAAA
	80s	AAAAAAAA		
060007	60s	--------fA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
060008	80s	---faaad		
060009	70s	FCCCCFF†††	80s	††††††††
060010	50s	--------eB	60s	AAAAAAAAAA
	70s	AAAAAaaae–	80s	eaaaaaae
060012	70s	fAABBBAEEA	80s	EE†---††
060013	70s	-EBCCCF†††	80s	††----††
061001	60s	-----eAEAE	70s	EAAE††††††
	80s	††††††††		
061002	60s	eABAAAABBA	70s	AAEADAAAAA
	80s	AAAAAFAE		
061003	60s	---------e	70s	AEAAAAAAAA
	80s	AAAAAAAE		
061004	60s	-----eAEAE	70s	EAaaaaaaee
	80s	eaaacfAE		
062001	50s	---------E	60s	AAAAAAAAAA
	70s	EAAAAAAAAA	80s	AAAAAAAA
062002	70s	-eeaAAAEAE	80s	EE†---††
063001	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	EAAAAAAA		
063002	60s	-----eAEAA	70s	AAAAAAAAEE
	80s	AAAAD†		
063003	70s	eeaeAAEAAE	80s	††----††
063004	80s	------††		
064001	60s	--EAAAAEAA	70s	AE††E†††††
	80s	†DAAAAAA		
064002	60s	-----†AEEA	70s	EEDDDDDAAA
	80s	AAAAAAAA		
064006	60s	fccccccccc	70s	cBABAAAAAA
	80s	AAAAAAAA		
065001	60s	-eAABAABAE	70s	EEEEAAAAAD
	80s	AAAAAAAA		
065002	60s	-------eee	70s	eEEEE†EE††
065004	70s	eEEEAAAAAA	80s	AAAAAAAA
065005	70s	--†AAAAAAA	80s	AAAAAAAA
065006	70s	-------eAAA	80s	AAAAAAAA
065007	70s	----†EAAAA	80s	AAAAAAAA
066001	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAAACCF	80s	C†††††††

Stn. number	Gauged daily flows, monthly peaks and rainfall			
066002	60s	-eABAAAAAC	70s	BAAAE†††††
	80s	------††		
066003	60s	---eAE†EA†	70s	††††EEEEEE
	80s	AAD†††aa		
066004	70s	eAAAAAA†††	80s	†††---††
066005	70s	-EAEAAA†††	80s	††----††
066006	70s	---EAAAAAA	80s	AAAAAAAA
066008	70s	-------aaa	80s	bbaadAA
066011	60s	----eEEEEA	70s	AAEAAAAAAA
	80s	AAAAAAAA		
067001	50s	-------eAA	60s	AAAAAAAAAA
	70s	ABAAAAAAAA	80s	AAACCCaa
067002	30s	-------eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	A†††††-†††		
067003	20s	--eAAAAAAA	30s	AAAAAAAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAABBAAAAA	70s	AABAABCAAA
	80s	AAA†FAAA		
067005	50s	---†††EAAA	60s	AAAAAAAAAA
	70s	AAAAAAA†††	80s	†††---††
067006	60s	eAAAAAAAAA	70s	BAAAAAAAAA
	80s	AAAAAAAA		
067008	60s	-----EBAAA	70s	AAAAAAAAAA
	80s	AAAAAAAA		
067009	60s	-----EE†EB	70s	BBBBEBEBAB
	80s	B†DDDDde		
067010	60s	------EAAA	70s	AAAAAA††††
	80s	††----††		
067011	60s	-------ccc	70s	ccffccccff
	80s	ff		
067012	60s	-------EE†	70s	††††††-†††
067013	60s	-------EDE	70s	AAAAAaa†††
	80s	------††		
067015	30s	-------eAA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
067016	60s	-------EAE	70s	††††E†††††
	80s	††		
067017	60s	---------†B	70s	AAAAAAAAAA
	80s	AAAAAAaa		
067018	60s	---------†E	70s	AAAAAAAAAA
	80s	AAAAAAAA		
067025	70s	------aaaa	80s	aAAAE†††
067026	70s	----cccccc	80s	c†††††
067028	70s	--------ea	80s	ee
067029	70s	-------eaa	80s	eeddfdd
068001	30s	-------eAB	40s	AABCBBABBB
	50s	BAAAAAAAAA	60s	AAAAAAAEAE
	70s	AAAAAEAAA†	80s	EAAAAAAA
068002	40s	---------e	50s	AAAAAAAAAA
	60s	AAAAAAAEAA	70s	AAAAAAE†††
	80s	††----††		
068003	40s	---------e	50s	AAAAAAAAAA
	60s	AAAAAAAEAA	70s	AAAAAE††††
	80s	†DAAAAAA		
068004	50s	-------eAA	60s	AAAAADADAA
	70s	AAAAAEAA††	80s	†AAAAAA†
068005	50s	---eAAAAAA	60s	AAAABAAEAA
	70s	AAAAAEEEAA	80s	AAAAAAAE
068006	50s	---eAAAAAA	60s	AAAAAAAEEA
	70s	AAAAAEE†††	80s	†EEAA†††
068007	60s	--eBAAAAAA	70s	AAAAAEAAEA
	80s	AAEEAAA†		
068010	70s	---†††††††	80s	††----††
068015	80s	-aaaaaAA		
068018	70s	-------†		
068020	80s	-AAAAAAA		
069001	30s	----ebabBB	40s	BBBBBBBBBB
	50s	AAAAAAAABA	60s	BAAAAAABEA
	70s	AAABABAAA†	80s	†AAAecae
069002	40s	---------e	50s	AAAAAAAAAA
	60s	AAAAAAAEAA	70s	AAEEA†AAAA
	80s	AAAAAAAE		
069003	30s	-------eE†	40s	†††††††††E
	50s	AAAAAAAAAA	60s	AAAAAAAEAA
	70s	AAAEE†AEAE	80s	AAAAAAA†
069004	40s	-----fBBBB	50s	BBBBBBBBAA
	60s	AAAAAAAAE†	70s	BBCCCCCCCC
	80s	CC††		
069005	50s	----eAEAAA	60s	AAAAAAAEAA
	70s	AAAEAAEEEA	80s	EAAE††
069006	50s	-----eAAAA	60s	AAAAAAAAAA
	70s	DAAEAEAAAA	80s	AAAAAAAA
069007	70s	-†††††††††	80s	†AAAAAAA
069008	80s	††††eaE†		
069011	80s	††††--††		
069012	80s	-----eAA		
069013	80s	--e-ee††		
069015	70s	-------AEE	80s	AAAAAAAA
069017	70s	-------AA†	80s	†AAAAAAA
069018	60s	---------†	70s	†††††††-††
	80s	††----††		
069019	60s	---------e	70s	eaaaaaccbb
	80s	bae---††		
069020	70s	------AAAA	80s	AAAAAAAA
069023	70s	--------EA	80s	†AAAAAaa
069024	80s	†AAAAAaa		
069027	70s	--------D†	80s	†AAAAAAA
069030	70s	------e†DA	80s	AAAAAAe
069031	80s	-aaeeeA†		
069032	70s	---------A	80s	AAAAAA
069034	80s	----a-††		
069035	70s	-------AEA	80s	†AAADAe
069037	80s	-----†CCf		
069040	80s	---aaaa		
070002	80s	BAABAAAA		
070003	70s	-------a--	80s	---aa
070004	70s	------AAAA	80s	AAAAAAA†
070005	70s	---------e-	80s	-aaaa--a
071001	60s	fCCCbAAAAA	70s	BCBBBAAAAA
	80s	AAAAAAAE		
071003	50s	-------eAA	60s	AAAAAAAAAA
	70s	AAAaE†-†††	80s	------††
071004	60s	---eBAAAAA	70s	AE††AEAAAB
	80s	AAAAAAAA		
071005	60s	eAAAAAAAAA	70s	AABbE†-†††
	80s	------††		
071006	60s	---------FC	70s	CFCCAAFAAA
	80s	DAAAAAAA		
071007	80s	††††		
071008	70s	-------AE†	80s	†AAAAAAA
071009	80s	aaaaaaA†		
071010	70s	-fccccfAA†	80s	†AAAAAA†
071011	60s	------FFFC	70s	CCFF†††EAE
	80s	EAAAA†AA		
071013	80s	aaeee		
071014	70s	-------aaa	80s	-aaaaa
072001	50s	---------c	60s	cCCCCCCBCC
	70s	CAAAAAB†††	80s	-------††
072002	60s	---eAAAAAA	70s	AAABCCAAAE
	80s	AAAAAAAA		
072004	50s	---------C	60s	cCCCCCCCBB
	70s	CCCCCCC†††	80s	-aaAAAAA
072005	60s	---------F	70s	CCCCCCFAA†
	80s	†AAAAADA		
072006	60s	---------††	70s	††††††††††
	80s	††††--††		
072007	80s	-----eA†		
072008	60s	-------ffE	70s	EABCCCAAAA
	80s	AAAAAAEE		
072009	70s	††††††††††	80s	†AAAAAAA
072011	60s	--------fc	70s	f------EEA
	80s	†DAEEAEA		
072015	80s	-----eDE		
072016	80s	-aaaaaa†		
073001	70s	fccccccf†--	80s	------††
073002	60s	---EAAAADA	70s	BBBCAAAAAA
	80s	AAAAAAAA		
073003	80s	-aaaaaEA		
073005	60s	--------EB	70s	BBABAACAAA
	80s	AAAAAAAA		
073008	60s	---------E	70s	AAE†AAA†††
	80s	†AAAAAAA		
073009	70s	††††††††††	80s	†AAAAAAA
073010	30s	---------C	40s	CCCCCCCCCC
	50s	CCCCBCCCCC	60s	CCCCcCCCCC
	70s	CBBBCCCAAA	80s	AAAAAAAA
073011	70s	FCCCCC†A††	80s	†AAAAEEA
073013	80s	††††††-a		
073014	80s	††††--††		
074001	60s	--------EC	70s	CCBCCCBAAA
	80s	AAAAAAAA		
074002	60s	-------eBB	70s	AAAAABBADA
	80s	AAAAAAAA		
074003	70s	---eEADAAA	80s	AAAAAAAA
074005	70s	---†BAAAAA	80s	AAAAAAAA
074006	60s	----fCCFCC	70s	CCF†BBBAAA
	80s	AABAAAAA		
074007	70s	-----†AAAA	80s	AAAAAAAA
074008	70s	-------ea-	80s	-babaaea
075001	30s	-††††EAE††	40s	†††††EAAAA
	50s	AAAAAAAAAA	60s	AAABAAAAEE
	70s	E††AAAEAAA	80s	AAAAAAAA
075002	60s	fcBCBBBBBA	70s	AAAAAAAAAA
	80s	AAAAAAEA		
075003	60s	--------eA	70s	BAABAABAAA
	80s	AAAAAAAA		
075004	60s	-------fBA	70s	BBABAACAAA
	80s	AAAAAAAA		
075005	70s	--AAABCAAA	80s	AAABAAAA
075006	60s	--------eA	70s	AAAAAAAAAA
	80s	a-----††		
075007	60s	---------e	70s	AAAAAAAAA†
	80s	------††		
075009	70s	-eAAABBAAA	80s	ABAAAAAA
075016	70s	-------DDD	80s	AAABAAea
075017	80s	--eAAAAA		
076001	50s	--†EABAE††	60s	EAABAAAAAA
	70s	E†††††E†EA	80s	AEAAAAea
076002	60s	----††EBBA	70s	AABABBCAAE
	80s	ABAAAAAA		
076003	60s	-eAAAAAAEA	70s	AAAAAAAAAA
	80s	ABBAAAaa		
076004	60s	--eAAAADAA	70s	AEAEAAA†AA
	80s	†AAAAAAA		
076005	60s	----eAABBB	70s	AAAABBBAAA
	80s	AAAAAAAA		
076007	60s	-------eAA	70s	AAAAAAAA††
	80s	†AAAAAAA		
076008	60s	-------eAA	70s	EAAAAEE†A†
	80s	†AAAAAAA		
076009	60s	--------eE	70s	BAAAAAE†††
	80s	†BBAAAAA		
076010	60s	---------†	70s	EAAAAAE†††
	80s	†AAAAAAA		
076011	60s	-------ccc	70s	ccffcccccc
	80s	cccc--††		
076014	70s	-EAAAAAA††	80s	†AAABAAA
076015	70s	EAABAABAAA	80s	AAAAADAA
077001	60s	---eDAEEAE	70s	EEEBAAAAA†
	80s	†AAAAAAA		
077002	60s	-†FCCBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
077003	70s	---DAAAAAA	80s	AAAAAAAAe
077004	70s	---------d	80s	eAAAAAAAe
077005	70s	-------a--	80s	---eaaAA
078001	50s	--------eA	60s	AE†††-----
	70s	††††††----	80s	------††
078002	60s	---eAE††††	70s	†††††††---
	80s	------††		
078003	60s	-††††††DAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
078004	60s	-††EBEEAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
078005	70s	---------A	80s	AAAAAAAAe
078006	80s	---eaaAAe		
079001	60s	-††††EBBEF	70s	FFCCCFCCcc
	80s	cf		
079002	50s	-------eAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
079003	50s	---------e	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
079004	60s	-††FCBAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
079005	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
079006	60s	-††††††EAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
080001	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
080002	70s	-------dAA	80s	AAAAAAaae
080003	80s	daaaaaABe		
080004	80s	--eaab††		
080005	80s	---eaa††		
080006	80s	---eaa		
081001	60s	-----eBBe-	70s	-------†††
081002	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
081003	60s	-††††††AAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
081004	70s	-------dAA	80s	AAAAAAAAe
081005	80s	-----eaae		
081006	80s	------eae		
082001	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
082002	70s	---†EAAAAA	80s	AAAAAAaae
082003	70s	---AAAEEAA	80s	AAAAAAAAe
083001	60s	----††††--	70s	-fFFFFFfff
	80s	ff		
083002	60s	---eAAAAaa	70s	AAAAAAAe--
	80s	-------†		
083003	60s	-†††††††††	70s	EAAAAAAAAA
	80s	AAAAAAAAe		
083004	70s	-†EAAAAAAA	80s	AAAAAAAAe
083005	70s	--EAAAAAAA	80s	AAAAAAAAe
083006	70s	------edab	80s	aaaaaaAAe
083007	70s	-------eaa	80s	aaaaaaAAe
083009	70s	--------aa	80s	aaaaaaAAe
083010	70s	-------eae	80s	aaaaaaAAe
084001	40s	--------eE	50s	EEEBBBBEEB
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
084002	50s	--eA†EAEEE	60s	AAEEAEEEFC
	70s	AAEEEEE†††	80s	††††††††
084003	50s	------eBDA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
084004	50s	-------eAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
084005	50s	--------eA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAAe
084006	60s	-††EAAAAAA	70s	AAAAAAAEAA
	80s	AAAE††††		
084007	60s	-----eEAAA	70s	AAAAAAABBA
	80s	AAAAAAbae		
084008	60s	------eAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
084009	60s	------eAAA	70s	AAAAAAAAAA
	80s	AAAE†E†Ee		
084011	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
084012	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
084013	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
084014	60s	----eAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
084015	60s	e††††EAAAA	70s	AAAAAAAEAA
	80s	AAAAAAAAe		
084016	60s	-†††††EEDA	70s	AAAAABBAAA
	80s	AAAAAAAAe		
084017	60s	-------EAA	70s	AAAAAAAAAA
	80s	AAAAAAaae		
084018	60s	---------A	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
084019	60s	---AAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAaae		
084020	60s	--------eE	70s	ADAAADAEAE
	80s	AAAAAAAAe		
084021	60s	---------E	70s	AAEFF†††††
084022	60s	------eEEE	70s	EEEAAEAAEA
	80s	AAAAAABAe		
084023	70s	---EAAAAEA	80s	AAAAAAAAe
084024	70s	--eAAAAAAE	80s	AAEAAAaae
084025	70s	---††AAAAE	80s	AAAAAAAAe
084026	70s	----eaabae	80s	aaaaaaAAe
084027	60s	---------ee	70s	eaaEAEEDE†
	80s	-----eeee		
084028	70s	-----eeeae	80s	abaaaaeee
084029	70s	-----eaaaa	80s	aaaaaaAAe
084030	80s	-eaaaaaae		
085001	60s	---eAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAe		
085002	60s	-††EAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAEAAe		
085003	60s	-†††††††††	70s	EAAAAEAAEE
	80s	AAAAAAAAe		
085004	70s	------aaaa	80s	aaae-eAAe
086001	60s	--------eA	70s	AAAAAABBBB
	80s	AAAAABaee		
086002	60s	-†††††††EE	70s	AAAAABBAAA
	80s	AAAAAAAAe		
090003	80s	--eaaaAA		
091002	80s	eAAAAAaa		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
093001	70s	---------A	80s	AAAAAAAA
094001	60s	-†††††††††	70s	EAAAAAAAaa
	80s	AAAAAAAA		
095001	70s	--------eAA	80s	AAAAAAAA
095002	80s	------eaa		
096001	70s	-------AAAA	80s	AAAAAAAA
096002	70s	--------eAA	80s	AAAAAAAA
096003	80s	------eaa		
097001	50s	--------†--	60s	----††††--
	70s	-††††††---	80s	††-†††
097002	60s	-†††††††††	70s	††AAAAAAAA
	80s	AAAAAAAA		
101001	60s	-fcfFFcfFF	70s	FcCCfcC†††
	80s	††††††††		
101002	60s	------eeeef	70s	eeebbeeEEE
	80s	EBEABAAAc		
101003	80s	f--eddDB		
101004	80s	--eaaaAA		
101005	80s	--eaaaAA		
101006	80s	-------††		
101007	80s	--eeadAA		
201002	70s	-eaaaaeeaa	80s	aaaAAAaae
201005	70s	-†EAAAAAAA	80s	AAAAAAAAe
201006	70s	--eaaaaAAA	80s	AAAAAAaae
201007	70s	†††††EAEAA	80s	AAAAAAAAe
201008	70s	-------aaaa	80s	aaaAAAaae
201009	80s	eaaaaaaae		
201010	80s	--eaaaaae		
202001	80s	--------†		
202002	70s	-------eee		
203010	60s	-†††††††††	70s	EAAAAAAAAA
	80s	AAAAAAAAe		
203011	70s	eaaaaaaaaa	80s	e--†††
203012	70s	eaaaaaaaaa	80s	aaaAAAaae
203013	70s	eaaaaaaaaa	80s	aaaaaaaae
203017	70s	eAAAAAAAAA	80s	AAAAaAAAe
203018	70s	eaaaaaaAAA	80s	AAAAAAaae
203019	70s	--eaaaaaae	80s	aaaaaaaae
203020	70s	-eaaaaaaaa	80s	aaaAAAaae
203021	70s	-eaaaaaaaa	80s	aaaAAAaae
203024	70s	-eaaaaaaaa	80s	eaaaaaaae
203025	70s	-eaaaaaaaa	80s	aaaAAAaae
203026	70s	-eaeeaaaaa	80s	aaaaaaaae
203027	70s	-†EAAAAAAA	80s	AAAAAAaae
203028	70s	-†EAAAAAAA	80s	AAAAAAAAe
203029	70s	---eaaaaaa	80s	aaaaaaaae
203033	70s	-----eaaaa	80s	aAaAAEaae
203040	80s	eaeaaeaae		
203042	80s	-eaaeaeae		
204001	70s	--eaaaaeaa	80s	aaaAAAaae
205003	70s	-cbaaaaaaa	80s	aaaaa
205004	70s	--eaaaaaaa	80s	aaaAAAaae
205005	70s	--EAAAAAAA	80s	AAAAAAAAe
205006	70s	--eaaaaaaa	80s	e
205008	70s	----eaaaaa	80s	aaaAAAaae
205010	70s	----eaeaaa	80s	aaaaaaeae
206001	70s	-------aaaa	80s	a
206002	70s	-------aaaa	80s	a-------e

Naturalised daily and monthly flows

KEY:

Complete daily and complete monthly	A
Partial daily and complete monthly	B
Partial daily and partial monthly	C
Partial daily and no monthly	D
No daily and complete monthly	E
No daily and partial monthly	F
No naturalised flow data	–

Summary is presented in decade blocks

Stn. number	Naturalised daily and monthly flows	
006007	70s ---EEEEEEF	
007003	60s -----FEEEE	70s EEEEEEEEEE
	80s F	
008001	30s --------FE	40s FFEEEEEEEE
	50s EEEEEEEEEE	60s FEEEEF
008005	70s -F-E	
012002	70s --FF------	80s F
012004	70s -------EEE	80s E
013007	70s ------EEEE	80s EEEEEE
014001	70s -----F--E	
014002	70s -----E--E	
015003	70s ---EEEEEEE	80s EEEEEE
015006	60s -------FEE	70s F--EEEEEEE
	80s EEEEEE	
015007	70s ---EEEEEEE	80s EEEEEE
015008	70s ---EEEEEEE	80s EEEEEE
015010	70s ---EEEEEEE	80s EEEEEE
015011	70s ---EEEEEEE	80s EEEEEE
015012	70s ---EEEEEEE	80s EEEEEE
015013	70s ---EEEEEEE	80s EEEEEE
015016	70s ----EEEEEE	80s EEEEEE
015017	70s ---------F	
015024	80s --EEEE	
016001	60s ---FEEEEEE	70s EEEEEEEEEE
	80s EEEEEE	
016004	70s -----EEEEE	80s E
017001	60s ---------F	70s EF----E
017002	60s ---------F	70s EF----E
017003	70s ------E	
017004	70s ------E	
017005	70s ------E	
018001	70s ------E	
018002	60s -----FEEEE	70s F-----E
018003	60s ----FEEEEE	70s EF----E
018005	70s ------E	
018008	70s ------E	
019001	50s -------EEE	60s EEEEEEEEEE
	70s EEEEEEE	
019002	60s --EEEEEEEE	70s EEE-EEE
019003	60s -FEEEEEEEE	70s EEEEEEE
019004	60s EEEEEEEEEE	70s EEE-EEE
019005	60s --FEEEEEEE	70s EFEEEEE
019006	60s ---EEEEEEE	70s EEEEEEE
019007	60s --FEEEEEEE	70s EEEEEEE
019008	60s ----FEEEEE	70s EEEEEEE
019010	60s ---------E	70s EEEEEEE
019011	70s ------E	
020001	60s -EEEEEEEEE	70s EEEEEEE
020002	60s --------EE	70s EEEEEEE
020003	60s -----EEEEE	70s EEEEEEE
020004	60s -------EEE	70s EEEEEEE
020005	70s ------E	
020006	70s ------E	
020007	70s ------E	
021001	50s ---------F	60s EEEEFFEEEF
021002	50s ---------F	60s EEEEEEEEF
036005	60s --CAAAAAAA	70s AAAAAAC
036006	60s --CAAAAAAA	70s AAAAAAC
036007	60s -----CAAAA	70s AAAAAAC
036008	60s CAAAAAAAAA	70s AAAAAAC
036009	60s --------CC	70s AAAAAAC
036010	60s --------CA	70s AAAAAAC
036011	60s --------CA	70s AAAAAAC
036012	60s --------CA	70s AAAAAAC
036015	70s --CAAAC	
037001	50s CAAAAAAAAA	60s AAAAAAAAC-
	70s -CAAC	
037002	30s --CAAAAAAA	40s ACCAAAAAAA
	50s AAAAAAAAAA	60s AAAAAAAAAA
	70s AAAAAAC	
037003	30s --CAAAAAAA	40s AAAAAAAAAA
	50s AAAAAAAAAA	60s AC--CAAAAA
	70s AAAAAAC	
037005	50s ---------C	60s AAAAAAAAAA
	70s AAAAAAC	
037006	60s --CAAAAAAA	70s AAAAAAC
037007	60s ----CAAAAA	70s AAAAAAC
037008	60s -----CAAAA	70s AAAAAAC
037009	60s --CAAAAAAA	70s AAAAAAC
037010	60s --CAAAAAAA	70s AAACCAC
037011	60s ---CAAAAAA	70s AAAAACC
037012	60s ---CAAAAAA	70s AAAAAAC
037013	60s ---CAAAAAA	70s AAAAAAC
037014	60s ---CAAAAAA	70s AAAAAC
037016	60s -----CAAAA	70s AAAACAC
037017	60s ---------C	70s AAAACAC
037018	70s CAAAC	
037019	60s -----CAAAC	70s AAAAC
037020	70s CAAAAAC	
037021	70s CAAAAAC	
037022	70s CAAAAAC	

Stn. number	Naturalised daily and monthly flows	
021003	50s ---------F	60s EEEEEEEEEE
	70s EEEEEEEEEE	80s EF----EE
021004	60s -----FEEF	
021005	60s -FEEEEEEEE	70s EEEFEEEEEE
	80s EF----EE	
021008	60s -FEEEEEEEE	70s EEEEEEEEEE
	80s F-----EE	
021007	80s ------EE	
021009	60s --FEEEEEEE	70s EEEFEEEEEE
	80s F-----EE	
021010	60s ---FEEEEEE	70s EF-FF-EE--
	80s E	
021011	80s ------EE	
021014	60s -FEEEEEEEE	70s EEEEEEEEEE
	80s F-----EE	
021018	60s --------FE	70s EEEFEEEFFE
	80s F-----EE	
021019	60s --------FE	70s EEEEEEEEEE
	80s F-----EE	
021020	80s ------EE	
021021	60s ---------F	70s EEEEEEEFEE
	80s F-----EE	
021022	60s ---------F	70s EEEEEEEEEE
	80s F-----EE	
021025	70s --FEEEEEFE	80s F-----EE
021030	80s ------EE	
021034	80s ------EE	
023001	50s ------FEEE	60s EEEEFEACAA
	70s CC	
023002	60s -----CAAAA	70s AC
023003	50s ---------F	60s EEEEEBAAAA
	70s AAAC	
023007	60s -----CAAAA	70s BCAC
023008	70s --CC	
023015	40s --FFFFFFFF	50s FEFEFFEEEF
024001	60s --------CA	70s AC
024003	50s --------FE	60s EEEEEBACAA
	70s AC-CC	
025001	50s ------FEEE	60s EEEEEBAAAA
	70s AC--CAAAC	
025002	70s FFFF	
025004	50s -------FEE	60s EEEEEBAACC
	70s C	
025008	60s ------CAAB	70s BBEF
026002	60s -----FFEEF	70s FFFF
027001	30s -------FF-	40s -FEEEF----
	50s ---FEEEEEF	60s EEEEEEEF-F
	70s E	
027002	50s -----FEEEE	60s EEEEEEEEEE
	70s E	
027003	60s --FEEEEEEE	70s EF
027004	60s FEEEEEEEF	
027006	60s -----FEEEE	70s EF
027007	50s --------FE	60s EEEEEEEEEE
	70s EF	
027009	60s ---------F	70s EF
027012	50s ----FEEEEE	60s EEEEEEEEEE
	70s EF	
027013	50s ----FEEEEE	60s EEEEEEEEFE
	70s EF	
027015	60s -----CAAC	
027018	50s ------FEEE	60s EEEEEEEEEE
	70s EEEF	
047005	60s -------C	
047015	50s -------AAA	60s AAAAAAAAAA
	70s AAAAAAAAAA	80s AAAAAA
048001	60s ----FBACCC	
048002	60s ----FF---C	
048008	60s --------CC	
048007	60s --------CC	
049003	60s -------CCC	
050001	50s --------DA	60s AAAAAAAAAA
	70s AAAAAAAAAA	80s AAAAAAAAD
050002	60s --FEEBBEBA	70s C
050006	60s -----DAAAA	70s AAAAAAAAAA
	80s AAAAAAAAD	
051002	70s ---FEEEF	
052002	50s ------FEEE	60s EEEEEBEEF
052005	60s -FEEEBEEEE	70s EEEEEEEF
052006	60s ---FEEEEEE	70s EEEEEEEF
052008	60s FEEEEBEEF	
052014	60s -------FEE	70s FEEEFFFF
053004	50s --------FE	60s EEEEEEEEFF
	70s FEEEEEEAAA	80s A
054001	20s -CAAAAAAAA	30s AAAAAAAAAA
	40s AAAAAAAAAA	50s AAAAAAAAAA
	60s AAAAAAAAAA	70s AAAAAAAAAA
	80s AAAAA	
054005	50s ------FEEE	60s EEEEEEBAAC
	70s ------AA	
054010	60s -------CC	
054013	60s ------CACA	70s C-----AA

Stn. number	Naturalised daily and monthly flows	
027019	50s ------FEEE	60s EEFEEEEEFF
	70s -FEF	
027021	60s FFFEEEFEEE	70s EF
027022	60s ----FEEEEE	70s FF
027023	60s ----FEEEEE	70s EF
027024	60s -FEEEF	
027025	60s -FEEEEEEEE	70s EF
027026	60s ---FEEEEEF	
027027	60s -FEEFFEEFE	70s EEEF
027028	60s -EEEEEEEEE	70s EF
027029	60s -FEEEEFEEF	
027030	60s ----FEEEEE	70s EF
027031	60s ----EEEEFE	70s EF
027032	60s ------FFEF	
028001	30s -------FEE	40s F--------F
	50s EEEEEEEEEE	60s EEEEEBAAAA
	70s AAAAACAA	
028002	40s -----FEEEE	50s EEEEEEEEEE
	60s EEEEEBAACC	70s CC--CC
030003	60s -----FF	
031001	40s FEFFEF----	50s ---FEEEEEF
	60s EEFEEBAACA	70s ABFEEFFFFE
	80s CF	
031006	70s FEEEEF	
031007	60s --------FF	70s FF--FF
031010	70s -FEEEF	
031012	70s ---FFF	
031016	70s -FEEEF	
031021	70s -FFFFF	
032001	40s FEEEEEEEEE	50s EEEEEEEEEE
	60s EEEEEEEEEE	70s FEEEF
032002	30s --------FF	40s EEEEEEEEEE
	50s EEEEEF----	60s -FEEEEEEEE
	70s EEEEEF	
032003	70s FEEEEF	
032004	40s ---FEEEEEE	50s EEEEEEEEEE
	60s EEEEFFEEEF	70s FEEEEF
032006	30s ---------F	40s EEEEEEEEEE
	50s EEEEEEEEEE	60s EEEEEEEEEF
032007	30s ---------F	40s EEEEEEEEEE
	50s EEEEEEEEEE	60s EEEEEEEEEF
032008	40s -----FFEEE	50s EEEEEEEEEE
	60s EEEEEEFEEE	70s EEEEEF
033001	50s -FEEEEEF	
033002	60s --FEEBAAAA	70s AAAAAAA
033003	50s FF-FEEEF	
033004	40s -----FFFEE	50s EEEEFEEF
033005	50s --FEEEEEEE	60s EEEEEEBBAA
	70s AC	
033006	50s ------FEEE	60s EEEEF
033007	50s ---FEEEEEE	60s EEEFEECCCF
	70s EF	
033011	60s -FEEF	
033026	70s -CAAAAC	
033035	50s --------CA	60s AAAABAAAAA
	70s AAAAAC	
036001	30s --CAAAAAAA	40s AAAAAAAAAA
	50s AAAAAAAAAA	60s AAAAAAAAAA
	70s AAAAAAC	
036002	60s CAAAAAAAAA	70s AAAAAC
036003	60s -CAAAAAAAA	70s AAAAAAC
036004	60s -----CAAAA	70s AAAAAAC
066011	60s --------CA	70s AC
067001	50s -------FEE	60s EEEEEEEEEE
	70s FEEE	
067002	50s ---FEEEEEE	60s EEEEEEFFEF
067003	60s --------FE	70s EEEE
067008	60s FEEEEEEEEF	
067015	70s FFEE------	80s ---------F
067017	60s ---------E	70s EE
068001	60s -FEEEEEFEF	70s ----E
068003	40s ---------F	50s EEEEEEEEEE
	60s EEEEF-----	70s ---FE
068004	60s -FEEEEEEEF	70s ---FE
068005	60s -FEEEEEFEF	70s ---FE
068006	60s -FEEFFEFFF	70s ----E
069004	40s -----FEEEE	50s EEEEEEEEEE
	60s EEEEEEEEF	
071001	60s -----CC	
072001	60s --FEEEEEEE	70s FFEF
075001	60s ----FEF	
075002	60s -FEEEEF	
076001	50s ---FEEEF--	60s FEEEEEEEEE
	70s F	
076003	60s -FEEEEF	
076004	60s --FEEF	
077002	60s -------FEE	70s EF
078004	70s -F	

Stn. number	Gauged daily flows, monthly peaks and rainfall			
037023	70s	-CAAC		
037024	70s	-CAAAAC		
038001	80s	---DAAAAAA	90s	AAAAAAAAAA
	00s	AAAAAAAAAA	10s	AAAAAAAAAA
	20s	AAAAAAAAAA	30s	AAAAAAAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAC-CA
	80s	AAAAAAAA		
039001	80s	---AAAAAAA	90s	AAAAAAAAAA
	00s	AAAAAAAAAA	10s	AAAAAAAAAA
	20s	AAAAAAAAAA	30s	AAAAAAAAAA
	40s	AAAAAAAAAA	50s	AAAAAAAAAA
	60s	AAAAAAAAAA	70s	AAAAAAAAAA
	80s	AAAAAAAAAEF		
039002	30s	--------CA	40s	AAAAAAAAAA
	50s	AAAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAA
039008	50s	-CAAAAAAAA	60s	AAAAAAAAAA
	70s	AAAAAAAAAA	80s	AAAAAAAD
040001	50s	---FEEEEF-	60s	-FEEFEEF
040002	50s	------FFEF	60s	FFFFFFEEF
040003	50s	------FEEE	60s	EEEEEEFF
040004	60s	--FEEEEF		
040005	60s	-----FEE		
040006	60s	-----FEF		
040007	60s	FEEEEEFF		
040008	60s	-----FEE		
040009	60s	-----FEE		
040010	60s	-----FEE		
040011	60s	-----FEEF		
043005	60s	-----FEEEF	70s	EF
045003	60s	--FEEEEEF		
045004	60s	--------CA	70s	C
045005	60s	---FEEEFCA	70s	C
046002	60s	FEEEEEEEF		
046003	60s	--------CA	70s	C
046006	70s	----AAAAAA	80s	AAAAAAA
047004	60s	----FBCEFF		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
054014	60s	-------CAA	70s	C-----AA
054017	60s	-------CC		
055002	30s	-------FEE	40s	EEEEEEEEEE
	50s	EEEEEEEEEE	60s	EEEFFEEEEE
	70s	AAAAAAAAAA	80s	AAD
055006	30s	-----FEEEE	40s	EEEEEEEEEE
	50s	EEEEEEEEEE	60s	EEEEEEEEEE
	70s	EEEEEEEF		
055007	30s	--------FE	40s	EEEEEEEEEE
	50s	EEEEEEEEEE	60s	EEEFFEEEFE
	70s	AAAAAAAAAA	80s	ADA
055023	60s	---------F	70s	AAAAAAAAAA
	80s	AAA		
056001	50s	-------FEE	60s	EEEEEEEEEE
	70s	FEEEEEFF		
056002	50s	-------FEE	60s	EEEEEEEEEF
	70s	EEEEEF		
056003	60s	----FEF		
056004	60s	-----FEEEE	70s	EEEEEEF
056006	60s	---FEEEEEE	70s	FFEEEEF
056011	70s	FEEEEEFF		
056012	70s	-EEEEEF		
057001	50s	--FEEEEEEE	60s	EEEEEEEBC
057002	30s	-------FEE	40s	EEEEEFEEEE
	50s	EEEEEFFEF-	60s	-FEEEEBAAA
	70s	C		
057003	60s	-----CAAAC		
057004	50s	-------FEE	60s	EFFEEBAAAC
058001	60s	---FEF---C	70s	C
058003	60s	--FEEF		
059001	50s	--------FE	60s	EEEEEBACC
061002	60s	FEEEEBCC		
062001	50s	---------F	60s	EEEEEEEF
064001	60s	-----FF		
066002	60s	-FEEEEEEE-	70s	FFE
066003	60s	---FEF-FE		

Stn. number	Gauged daily flows, monthly peaks and rainfall			
079002	50s	---------F	60s	EEEFFEEEEE
	70s	EF		
079003	50s	---------F	60s	EEEEEEEEEE
	70s	EEF		
079006	60s	-------FEE	70s	EF
081003	60s	--------FE	70s	FF
082001	60s	---FEEEEEE	70s	EF
084001	70s	FEEEF		
084002	60s	--------FE	70s	EEFFF
084003	60s	-----FEEEE	70s	EEEEF
084004	50s	-------FEE	60s	EEEEEEEEEE
	70s	FFEEF		
084005	50s	--------FE	60s	EEEEEEEEEE
	70s	EEEEEF		
084006	70s	FEEEF		
084007	60s	-------FEE	70s	FEEEF
084008	60s	-------FEE	70s	FEEEF
084009	60s	-------FFF	70s	EEEEF
084011	60s	----FEEEEE	70s	EEEEF
084012	60s	---FEEEEEE	70s	EEEEF
084013	60s	-------FEE	70s	EEEEF
084014	60s	----FEEEEE	70s	EEEEF
084015	70s	FEEEF		
084016	70s	FEEEF		
084017	60s	-------FEE	70s	EEEEF
084018	60s	---------F	70s	EEEEF
084019	60s	--------FE	70s	EEFFF
084020	70s	FEEEF		
084021	70s	FEF		
084022	70s	---FF		
084023	70s	---FF		
084024	70s	---FF		
084027	70s	---FF		
085001	60s	---FEEEEEE	70s	EEEEF
085002	60s	-------FEE	70s	EEEEF
085003	70s	FEEEF		
086001	70s	FEEEF		
086002	70s	FEEEF		
097002	70s	--EEEEEF		

Produced 13th March 1989. New summaries available on request.

Background

Groundwater may be obtained from almost any stratum in the sedimentary succession in the British Isles, as well as from igneous and metamorphic rocks. In many rocks, such as clays and shales, volcanics and metamorphics, the permeable zone may well be limited to the depth to which weathering may reach, this is unlikely to be more than some 50 metres beneath the ground surface. In those strata which are not generally recognised to be aquifers, well-yields tend to be small (of the order of only a few cubic metres per day), uncertain as a continuous source (tending to fail in prolonged droughts), with an indifferent groundwater quality, and with the sources vulnerable to pollution.

The more generally recognised aquifers are listed in Table 6, with the Chalk and Upper Greensand, the Lincolnshire Limestone and the Permo-Triassic sandstones as the most important from the viewpoint of public supply. From such aquifers as these, yields of 3000 to 4500 cubic metres a day are not unusual. For the next category, including the Lower Greensand and the Magnesian Limestone, yields to individual wells of 1500 to 3000 cubic metres a day can generally be expected. In the other aquifers, while occasional sources sufficient for large supplies may be developed, they tend to be important only locally.

The groundwater resources of an aquifer are naturally replenished from rainfall. During the summer months, when the potential evapotranspiration is high and soil moisture deficits are appreciable, little infiltration takes place. There is a notable exception to this rule in the Eden valley of Cumbria where, enclosed between the massifs of Cross Fell and the Lake District, sufficiently heavy and continuous summer rainfall occurs to maintain infiltration through part at least of most summers. The normal recharge of an aquifer takes place during the winter months when the potential evapotranspiration is low and soil moisture deficits are negligible.

There are few artificial reservoirs in the United Kingdom which are sufficiently large to support demands through the driest summers, assuming that they were full at the start of the summer, without some contributions from runoff or river intakes. Prolonged dry spells lead to reduced river flows, particularly where the natural groundwater contribution (baseflow) is limited. Consequently, while surface water droughts may be in part due to the failure of runoff from winter rainfall to fill the reservoirs, they are more frequently caused by a decrease in the summer flows of streams and rivers. Surface water droughts do, however, lead to increased consumption of groundwater (where available). By way of contrast, a groundwater drought is caused by a lack of winter rainfall. Potentially, the most serious droughts occur when, as in 1975/6, a dry summer succeeds a notably dry winter.

The Observation Borehole Network

Groundwater level observation wells (in this context, a well includes both shafts – constructed by hand digging – and boreholes – constructed by machinery) are generally used for one of two purposes, either to monitor levels regionally and thus to estimate groundwater resource fluctuations, or to monitor the effects locally of groundwater abstractions. The number of observation wells required in different areas varies widely. Over the last two decades, a target density was sought of one well to 25 to 35 km^2. During the last few years, it has become apparent in some districts that satisfactory information can be obtained with fewer wells, while in others the densities had to be substantially increased.

The observation well network was reviewed in 1981 by the British Geological Survey (then the Institute of Geological Sciences) with the aim of selecting 200 to 300 sites from the existing Water Data Unit archive, to be used for periodical assessments of the national groundwater situation. The selection was based upon the hydrogeological units identified in an investigation of the groundwater resources of the United Kingdom[1]; one site was chosen for each aquifer present within each unit. For Scotland and for Northern Ireland this was not possible due to the very limited number of observation wells available. In England and Wales, the total number finally selected was 175[2].

Details of the wells in this national network are given in the Register of Selected Groundwater Observation Wells (see page 166).

Measurement and Recording of Groundwater Levels

The majority of observation wells are measured manually either weekly or monthly. The usual instrument is an electric probe suspended upon a graduated cable or tape, contact being made by the water to complete a circuit which gives either an audible or visual signal at the surface. Measurements are normally made to the nearest 10 millimetres.

Some observation wells are equipped with continuous water level recorders, almost invariably activated by a float on the water surface. These recorders may be driven by clockwork or by electric battery power, and are capable of running unattended for periods of one to six months. Levels are usually recorded on paper charts or on punched paper tapes, but a number of solid state loggers have been deployed in recent years. At a small but ever increasing number of observation boreholes provision is made for the routine transmission – usually by telephone line – of groundwater levels to local, or regional, centres. Water levels are generally recorded to the nearest 10 millimetres, although instruments may be accurate to 1 millimetre.

TABLE 6 GENERALISED LIST OF AQUIFERS IN THE UNITED KINGDOM

Era	System	Subsystem	Aquifer	Importance
	Quaternary	Holocene	Superficial deposits	*
		Pleistocene	Upper and Middle Pleistocene	*
			Crag	**
	Tertiary	Pliocene	Coralline Crag	**
		Oligocene		
		Eocene	Bagshot Beds	
			Lower London Tertiaries	
			Blackheath & Oldhaven Beds	
			Woolwich & Reading Beds	*
			Thanet Beds	**
	Cretaceous	Upper Cretaceous	Chalk and Upper Greensand	****
		Lower Cretaceous	Lower Greensand	***
			Hastings Beds	**
	Jurassic	Upper Jurassic	Portland & Purbeck Beds	*
			(with Spilsby Sandstone)	(**)
			Corallian	**
		Middle Jurassic	Great & Inferior Oolitic limestones	**
			(with Lincolnshire Limestone)	(****)
		Lower Jurassic	Bridport & Yeovil Sands	**
			Marlstone Rock	*
	Triassic	Keuper	Permo-Triassic sandstones	****
		Bunter		
	Permian	(sandstones)		
			Magnesian Limestone	***
	Carboniferous	Upper Carboniferous	Coal Measures	**
			Millstone Grit	**
		Lower Carboniferous	Carboniferous Limestone	**
	Devonian		Old Red Sandstone	*

Key to aquifer importance:
- * aquifer of minor importance only
- ** aquifer producing small, but useful, local supplies
- *** aquifer of local importance, often providing public supplies
- **** aquifer of major importance

UPPER PALAEOZOIC MESOZOIC CAINOZOIC

Pressure transducers have also been considered for water level measurement. However, available transducers will measure accurately over only a narrow range of fluctuation (up to 2 to 3 metres), or much less accurately over a wide range. They are not yet in general use.

Observation Well Hydrographs 1984-7

The main aquifers in the United Kingdom are the Chalk (with the Upper Greensand), the Permo-Triassic sandstones, the Magnesian Limestone and the limestones of the Middle Jurassic (principally the Lincolnshire Limestone). Outcrop areas of the major aquifers are shown in Figure 12; throughout Wales, Scotland and Northern Ireland, aquifers are less extensively developed and tend to be only of relatively local importance.

Well hydrographs for 18 observation sites are shown in Figure 13. Except for the Killyglen borehole in Northern Ireland which has only recently been incorporated in the index of indicator sites, the 1984 to 1987 groundwater levels are illustrated; a break in the well hydrograph trace indicates a recording interval of greater than eight weeks. For comparison, the average and the extreme monthly levels for the pre-1987 period of record are shown where sufficient historical data are available. Four-year plots have been used because the volume of groundwater stored in aquifers can reflect not only the infiltration taking place during the winter months of 1986-1987, but also that occurring in previous years. When comparing the hydrographs for a number of sites, account should be taken of the differing scales used to illustrate the water table fluctuations. The behaviour of several wells is influenced by local, or regional, pumping for water supply or for other purposes. For instance, the Westonbirt borehole provides water for Westonbirt School, and groundwater levels at Rushyford now stand some 10 metres higher than a decade ago (due partly to a rundown of the coal industry and the consequent cessation of continuous pumping for mine dewatering).

Register of Selected Groundwater Observation Wells

The listed sites were selected so as to give a reasonably representative cover for aquifers throughout England and Wales. The wells are grouped according to the aquifer to which the water level variations in the wells are attributed. A generalised list of aquifers is given opposite. While the aquifers are tabulated in stratigraphical order, most of the local names for individual strata are omitted and the intervening aquicludes are not shown.

Network Changes

Since the original selection of boreholes for incorporation in the national network a number of changes have been made to the list of selected wells. At some locations, observations could no longer be continued, and new sites have been added from time to time. In the Coal Measures and the Millstone Grit, certain sites have not been monitored for some years due to the presence of methane in the wells; these sites have been discarded until either they have been made safe or have been replaced.

The following sites have been added to the Register:

Superficial Deposits

SO44/4	Stretton Sugwas

Chalk and Upper Greensand

TF92/5	Tower Hills Pumping Station
TG31/20	Woodbastwick
TG32/16	Brumstead Hall
TQ86/44	Little Pett Farm
TR05/11	Portway House, Faversham
TR14/9	Little Bucket Farm
TR14/50	Glebe Cottage
TR35/49	Cross Manor Cottages

Lower Greensand

SU82/57	Madam's Farm

Hastings Beds

TQ42/80A	Kingstanding
TQ62/99	Whiteoaks

Permo-Triassic sandstones

SE54/32A	Bilborough
SE83/9	Holme on Spalding Moor

The Register - data items

The five columns of the register are:

Well Number

The well numbering system is based on the National Grid. Each 100 kilometres square is designated by prefix characters, e.g. SE, and is divided into 100 squares of 10 kilometre sides designated by numbers 00 (in the south-west corner) to 99 (in the north-east corner). Thus, the site SE93/4, is located in the 10 kilometre square SE93, while the number after the solidus denotes that the site is the fourth accessed in this square in the National Well Record collection.

A suffix such as A, B, etc., defines the particular well when there are several at the same site. For Northern Ireland, which is on the Irish Grid, the first of the prefix characters is always 'I'.

Two asterisks following the well number indicates a well or borehole for which hydrographs are shown on pages 160 to 165. The location of the index wells, and the outcrop areas of the principal aquifers, are shown on Figure 12.

Grid Reference

The six or eight figure references given in the register relate to the 100 kilometre National (or Irish) Grid square designated by the preceding two-figure code (shown in italics when referring to the Irish Grid); the corresponding two-letter code appears as the prefix characters in the Well Number.

Site

The name by which the well or borehole is normally referenced. The location of all the sites listed in the register are shown on Figure 12.

Water Authority

An abbreviation referencing the water authority, or other body, responsible for groundwater level measurement. A full list of codes, together with the corresponding names and addresses appears on pages 183 and 185.

Records Commence

The first year for which records are held for the groundwater archive.

Indicated % Annual Recharge

The difference between the level measured at the end of the summer recession and that measured at the beginning of the summer recession in the following year; expressed as a percentage of the mean fluctuation. Details of the method of calculation are given in the *Hydrometric Register and Statistics 1981-85*.

References

1. Monkhouse, R.A., and Richards, H.J. 1983. Groundwater resources of the United Kingdom. Commission of the European Communities, pub. Th. Schaeffer Druckerei GmbH, Hannover, 252 pages.

2. Monkhouse, R.A., and Murti, P.K. 1981. The rationalisation of groundwater observation well networks in England and Wales. Institute of Geological Sciences, Report No WD/81/1, 18 pages.

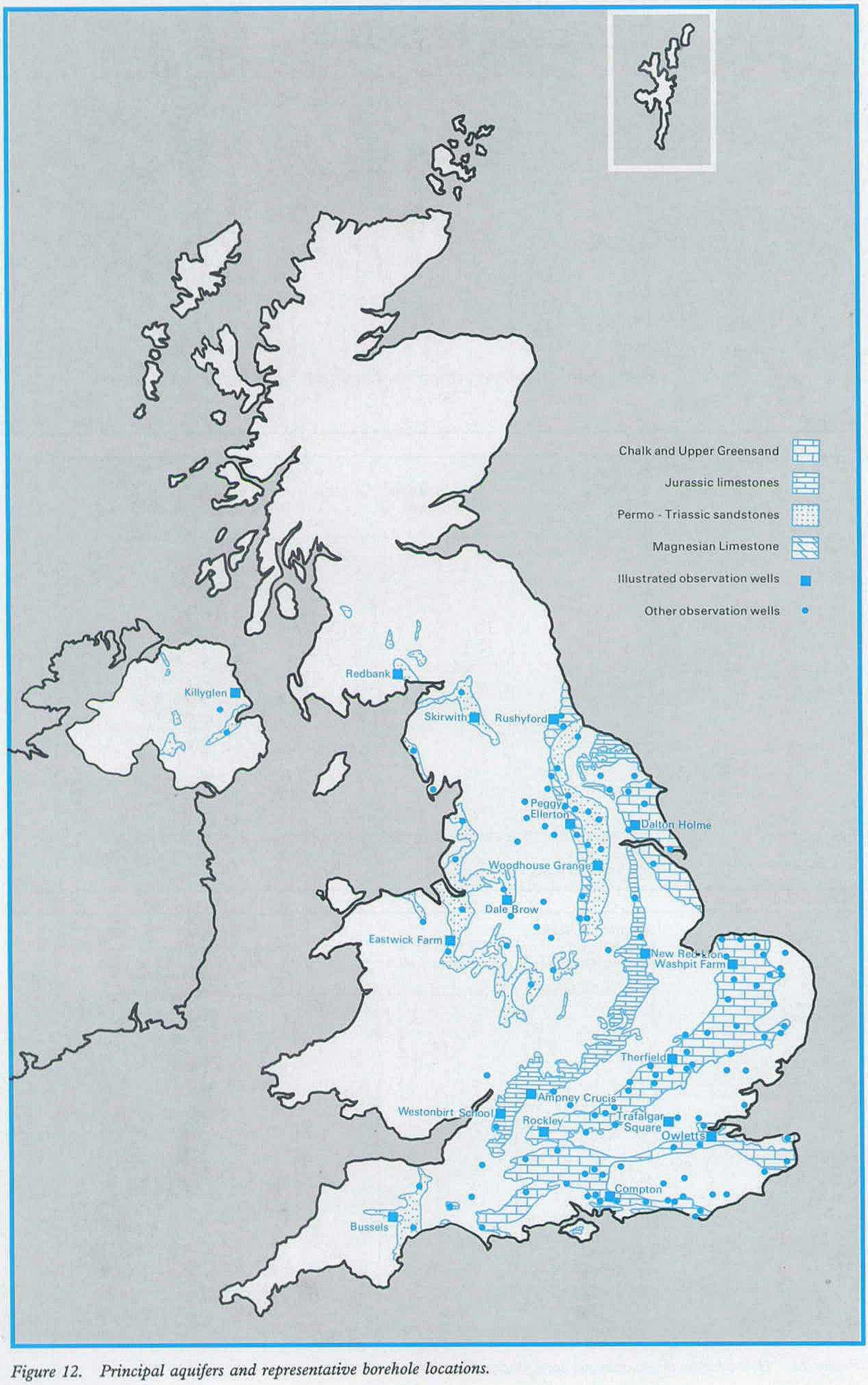
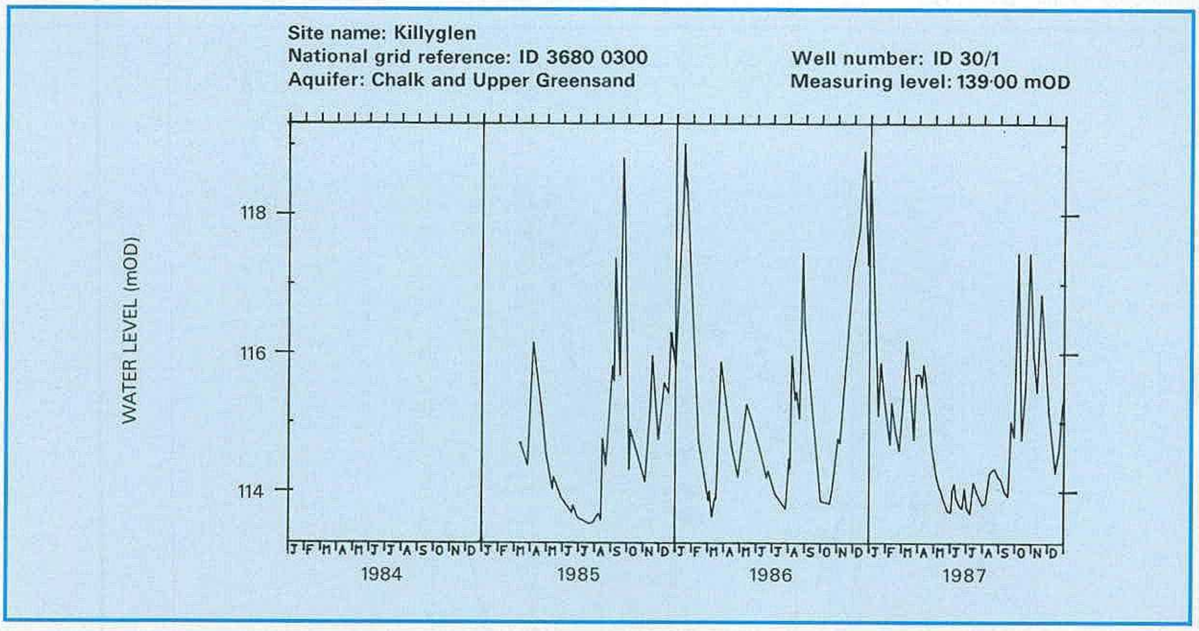
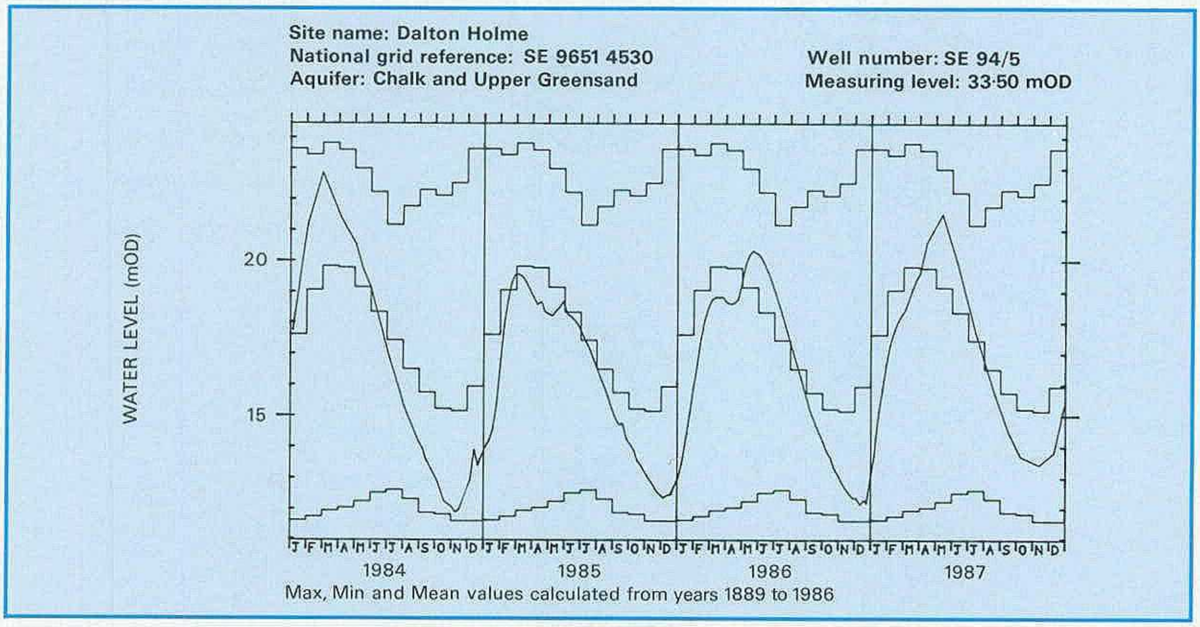


Figure 12. Principal aquifers and representative borehole locations.





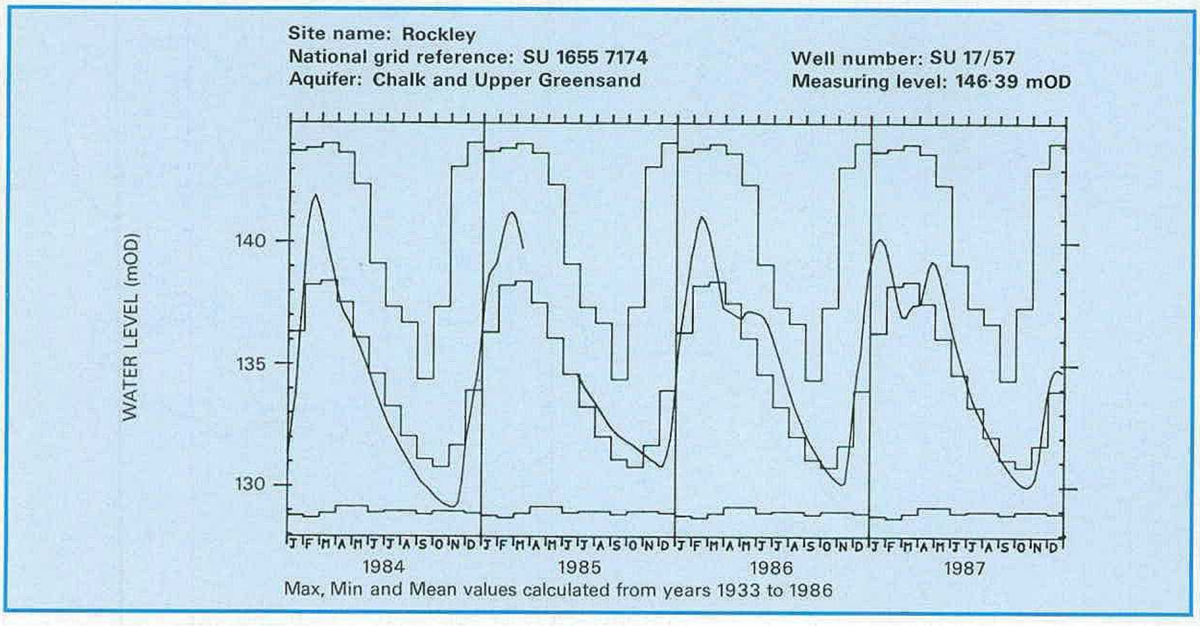
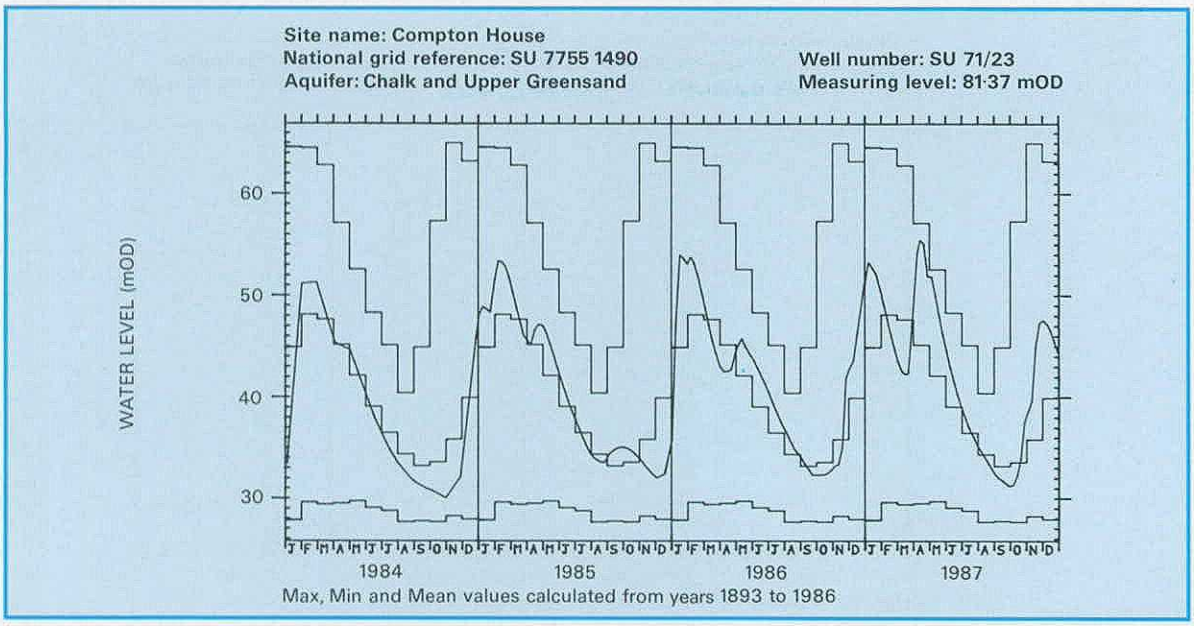
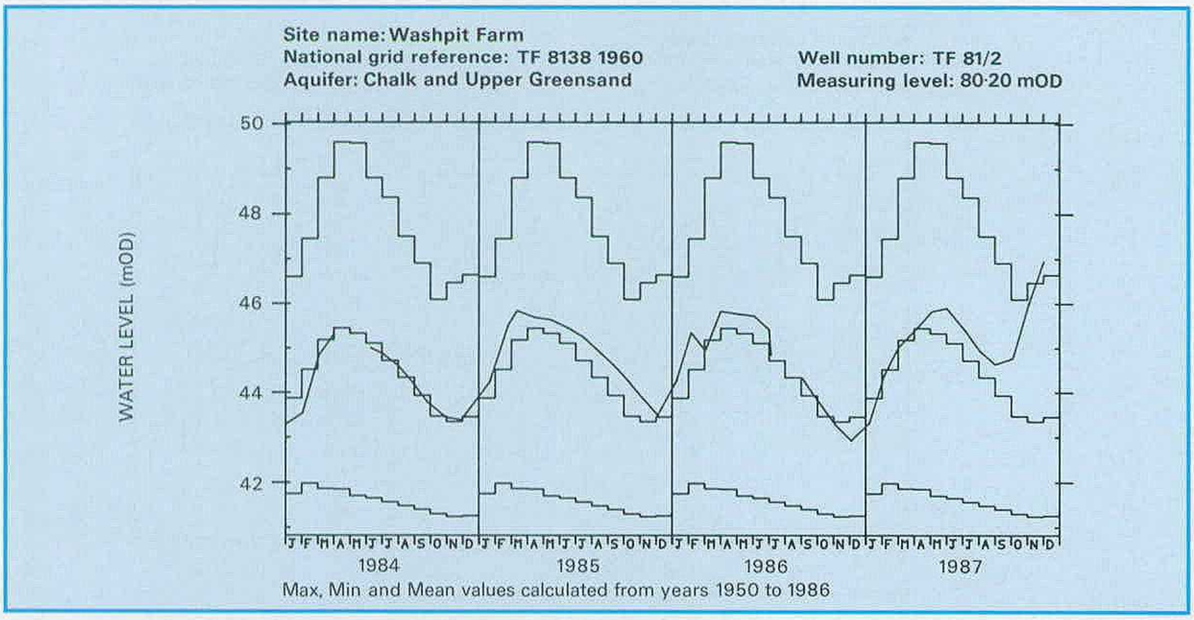


Figure 13. Hydrographs of groundwater level fluctuations 1984–7.





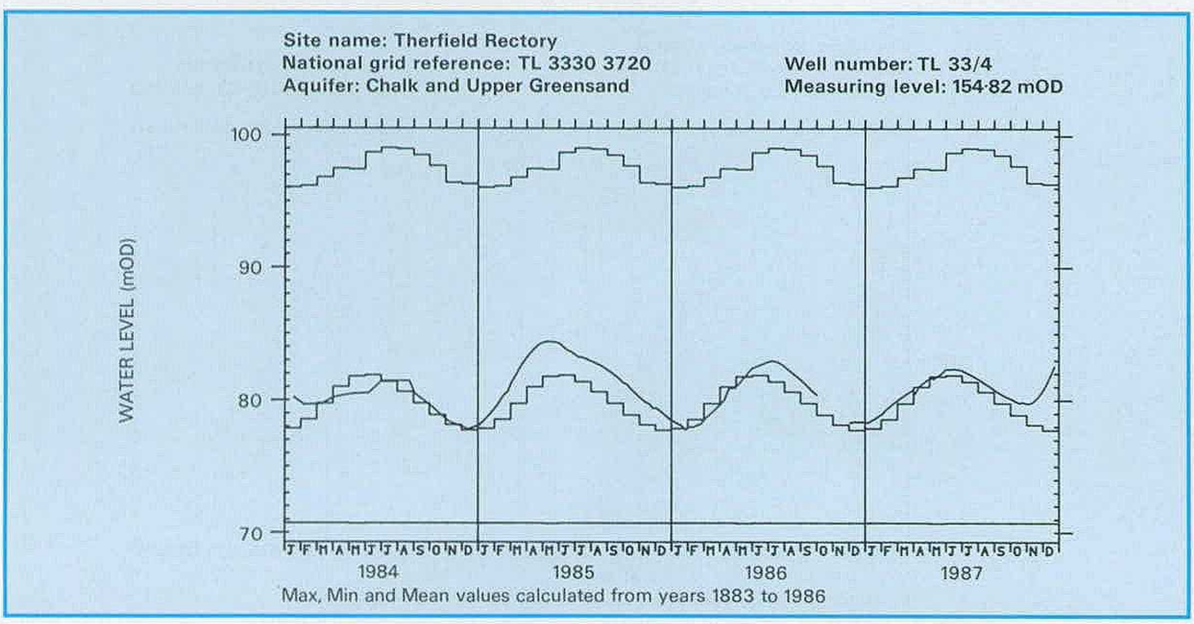
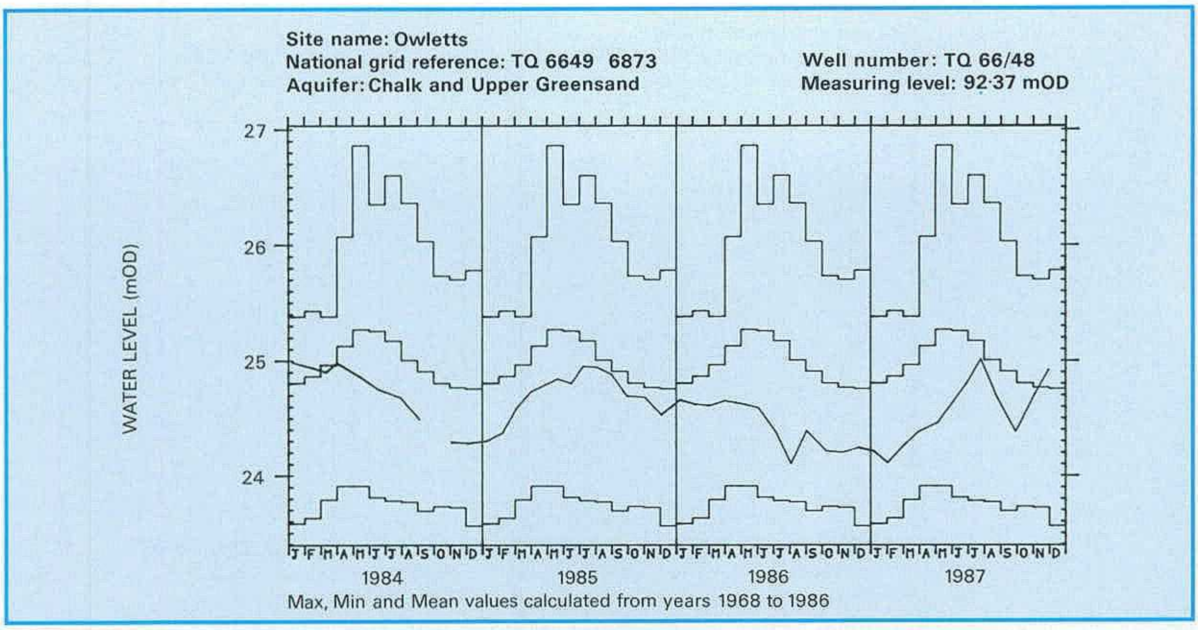
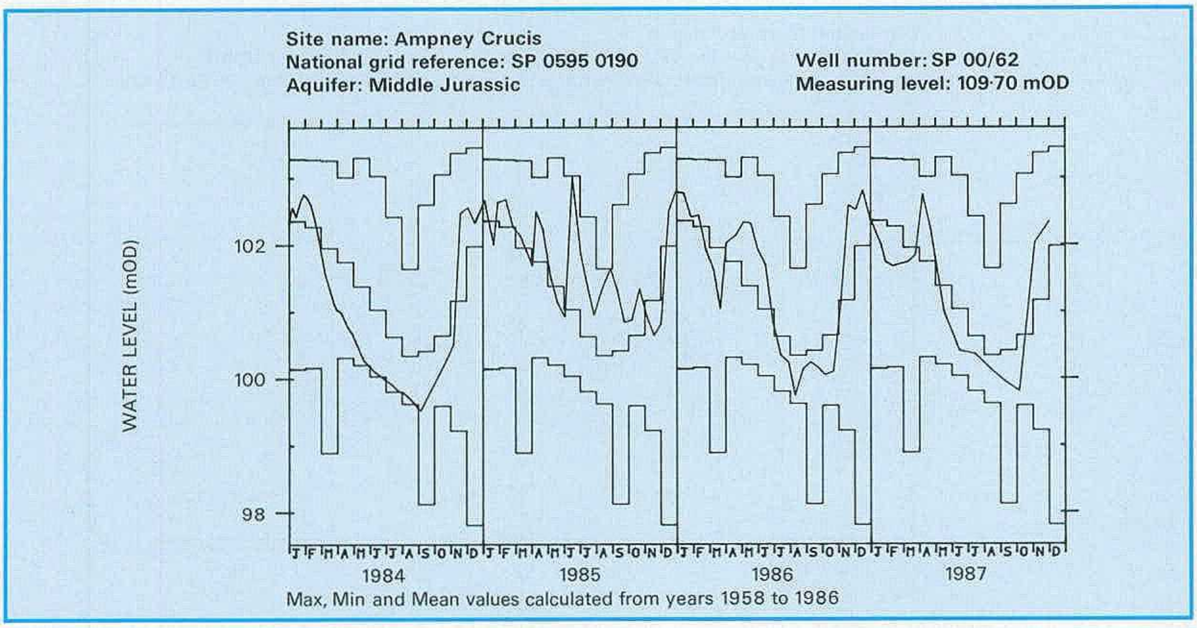


Figure 13 – (continued)





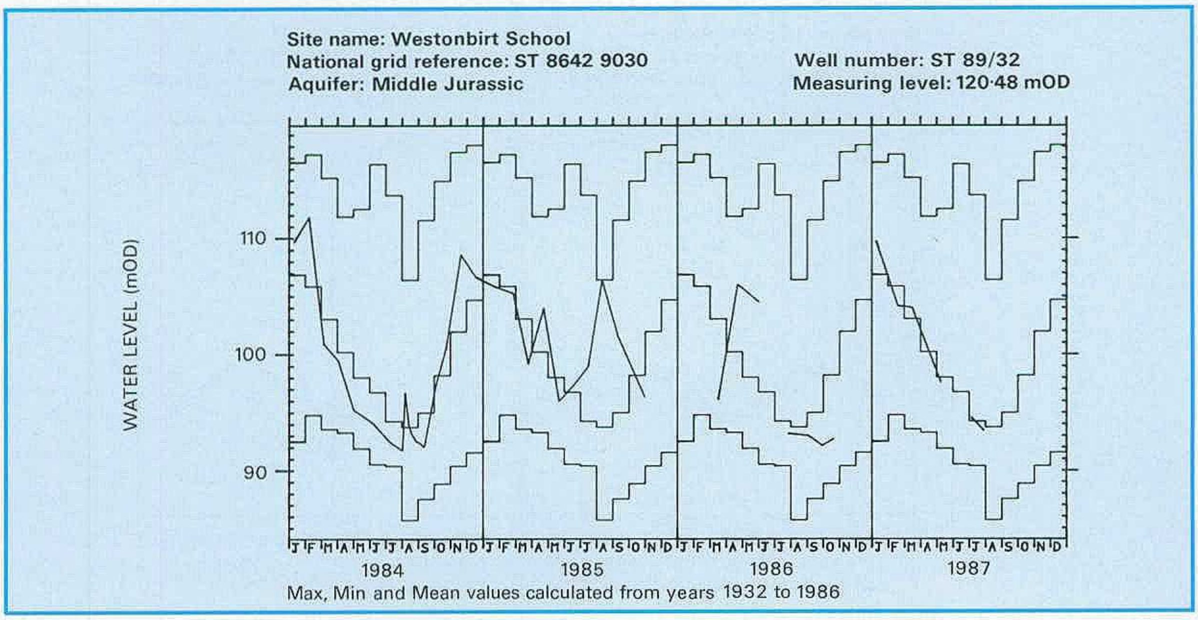
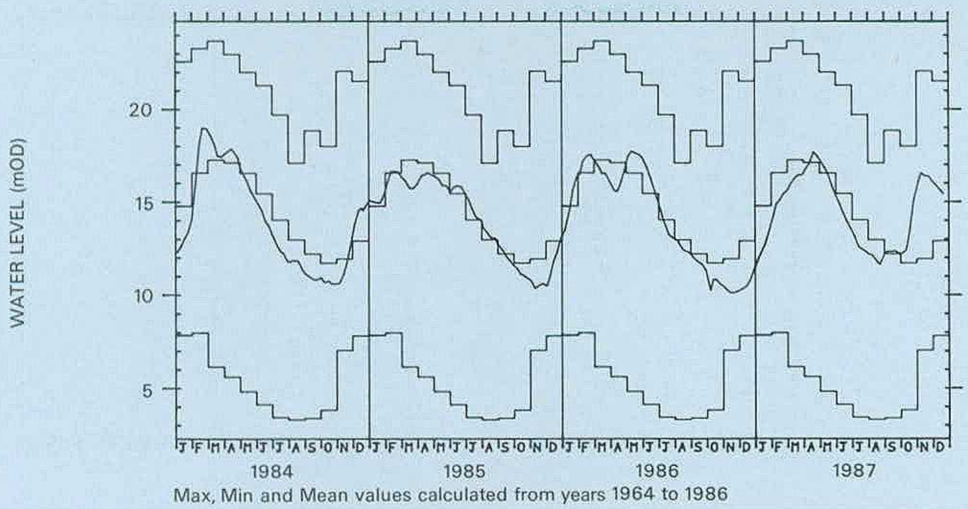


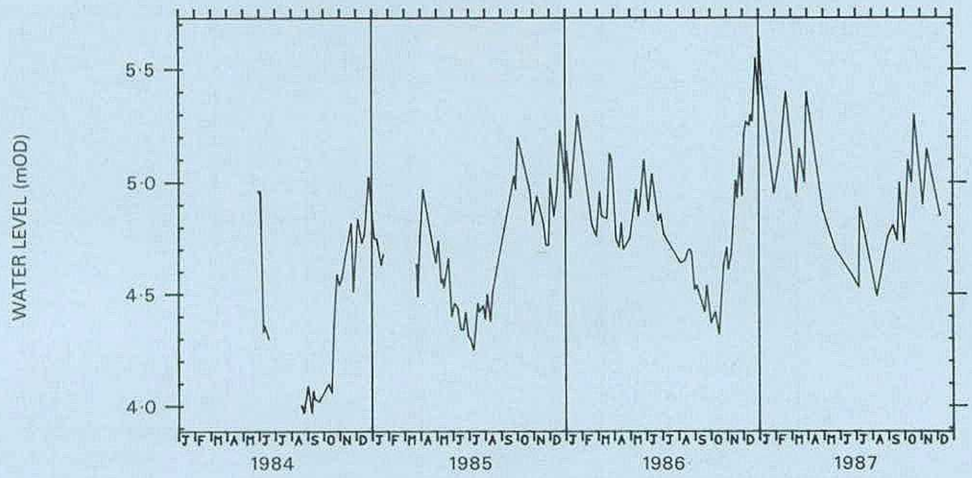
Figure 13 – (continued)

Site name: New Red Lion
National grid reference: TF 0885 3034
Aquifer: Lincolnshire Limestone
Well number: TF 03/37
Measuring level: 33·82 mOD



Max, Min and Mean values calculated from years 1964 to 1986

Site name: Redbank
National grid reference: NX 9667 7432
Aquifer: Permo-Triassic Sandstone
Well number: NX 97/1
Measuring level: 10·00 mOD



Site name: Skirwith
National grid reference: NY 6130 3250
Aquifer: Permo-Triassic Sandstone
Well number: NY 63/2
Measuring level: 133·25 mOD

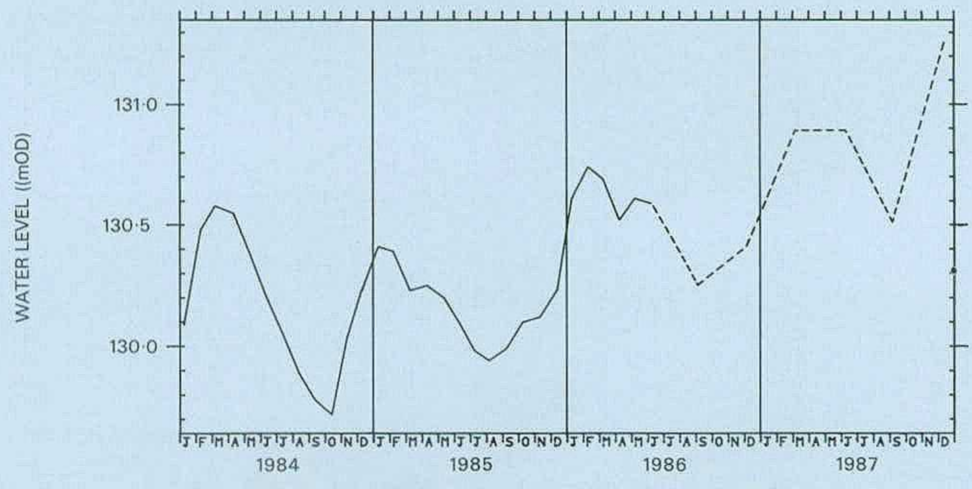
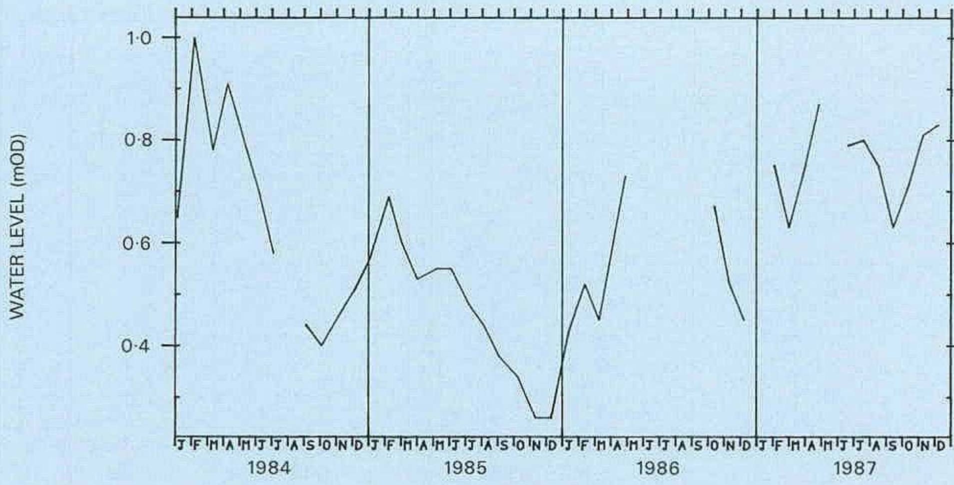
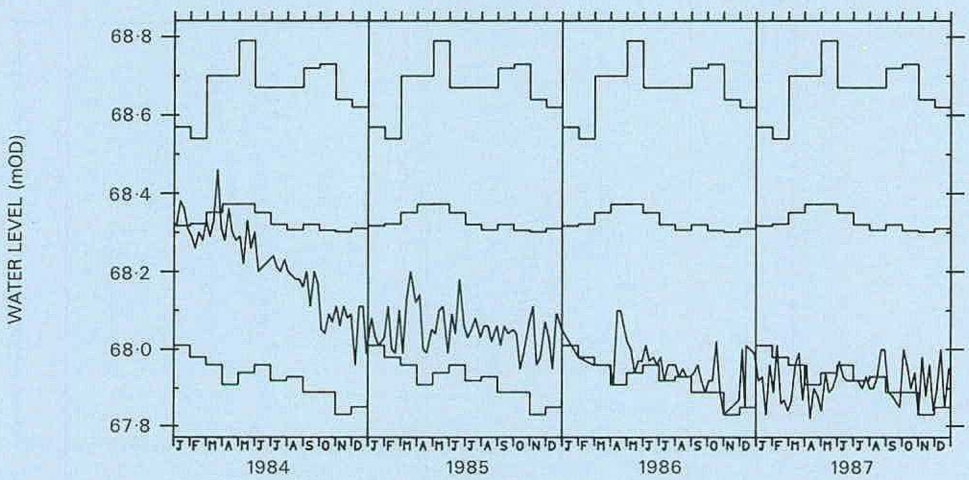


Figure 13 – (continued)

Site name: Woodhouse Grange
National grid reference: SE 6784 0709
Aquifer: Permo-Triassic Sandstone
Well number: SE 60/76
Measuring level: 4·35 mOD

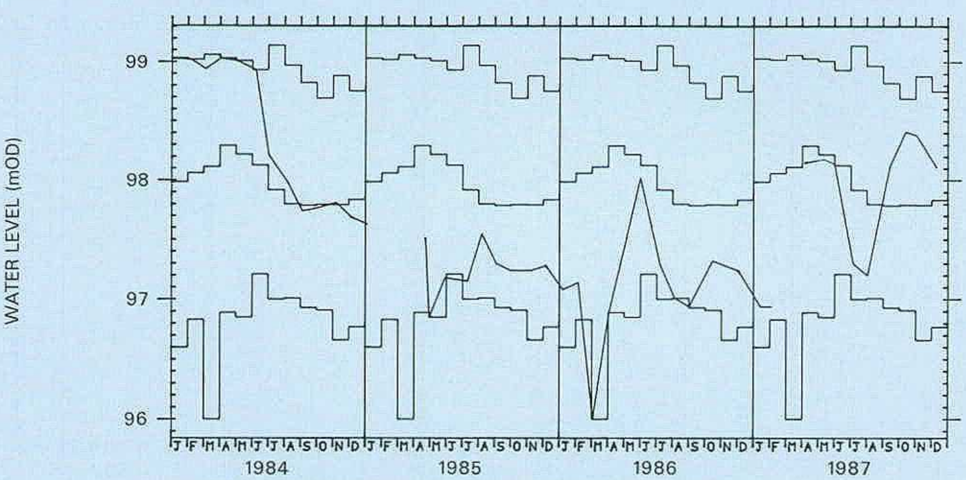


Site name: Eastwick Farm
National grid reference: SJ 3814 3831
Aquifer: Permo-Triassic Sandstone
Well number: SJ 33/39
Measuring level: 73·00 mOD



Max, Min and Mean values calculated from years 1974 to 1986

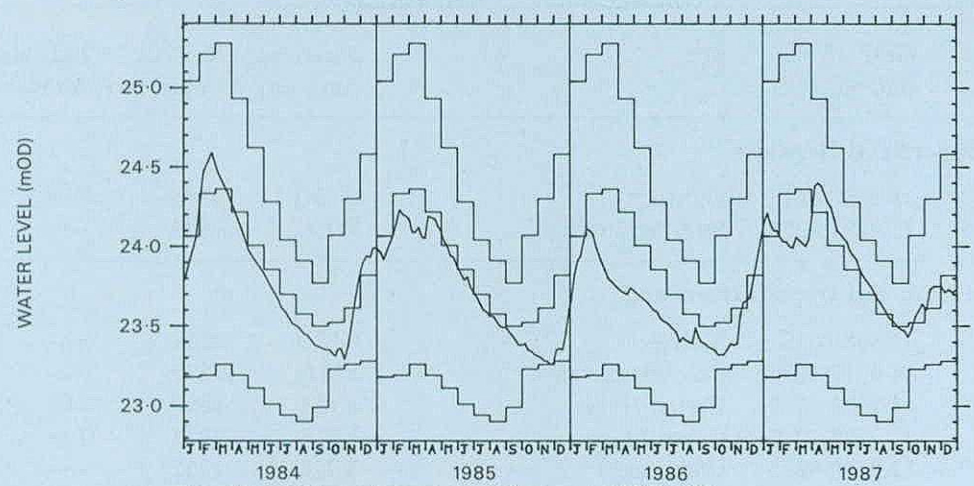
Site name: Dale Brow
National grid reference: SJ 8969 7598
Aquifer: Permo-Triassic Sandstone
Well number: SJ 87/32
Measuring level: 138·36 mOD



Max, Min and Mean values calculated from years 1973 to 1986

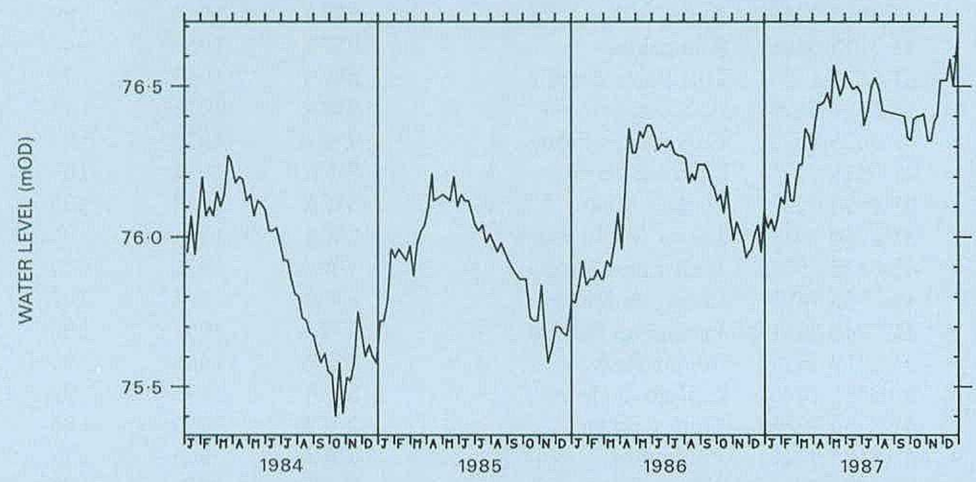
Figure 13 – (continued)

Site name: Bussels No. 7A
National grid reference: SX 9528 9872
Aquifer: Permo-Triassic Sandstone
Well number: SX 99/37B
Measuring level: 26·07 mOD

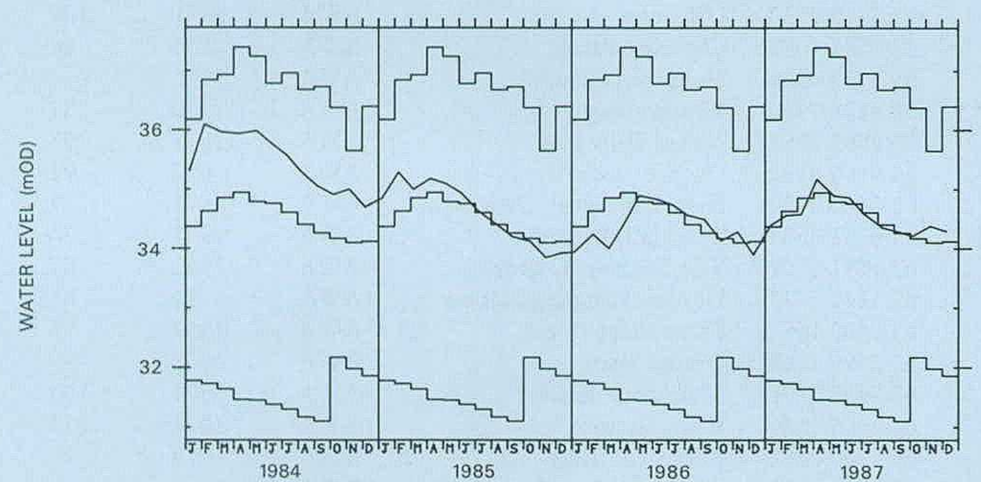


Max, Min and Mean values calculated from years 1972 to 1986

Site name: Rushyford North East
National grid reference: NZ 2875 2896
Aquifer: Magnesian Limestone
Well number: NZ 22/22
Measuring level: 92·53 mOD



Site name: Peggy Ellerton Farm
National grid reference: SE 4535 3964
Aquifer: Magnesian Limestone
Well number: SE 43/9
Measuring level: 51·40 mOD



Max, Min and Mean values calculated from years 1968 to 1986

Figure 13 – (continued).

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
Aquifer: Superficial Deposits					
IJ28/1	*33* 225 862	Dunadry	GSNI	1985	---
SO44/4	32 4683 4253	Stretton Sugwas	WELSH	1973	---
Aquifer : Chalk and Upper Greensand					
ID30/1**	*34* 368 030	Killyglen	GSNI	1985	---
SE93/4	44 9212 3634	Dale Plantation	YWA	1970	---
SE94/5**	44 9651 4530	Dalton Holme	YWA	1889	119
SE97/31	44 9345 7079	Green Lane	YWA	1972	146
SP90/26	42 9470 0875	Champneys	TWA	1962	---
SP91/59	42 9380 1570	Pitstone Green Farm	AWA	1970	112
ST30/7	31 3763 0667	Lime Kiln Way	SWWA	1969	79
SU01/5B	41 0160 1946	Woodyates	WWA	1942	89
SU04/2	41 0310 4883	Tilshead	WWA	1966	103
SU17/57**	41 1655 7174	Rockley	TWA	1933	93
SU32/3	41 3817 2743	Bailey's Down Farm	SWA	1963	89
SU35/14	41 3315 5645	Woodside	SWA	1963	---
SU51/10	41 5875 1655	Hill Place Farm	SWA	1965	95
SU53/94	41 5586 3498	Abbotstone	SWA	1976	45
SU57/159	41 5628 7530	Calversleys Farm	TWA	1973	82
SU61/32	41 6578 1775	Chidden Farm	SWA	1958	103
SU61/46	41 6890 1532	Hinton Manor	SWA	1953	100
SU64/28	41 6360 4049	Lower Wield Farm	SWA	1958	86
SU68/49	41 6442 8525	Well Place Farm	TWA	1976	139
SU71/23**	41 7755 1490	Compton House	SWA	1894	102
SU73/8	41 7048 3491	Faringdon Station	TWA	1961	106
SU78/45A	41 7419 8924	Stonor Park	TWA	1961	90
SU81/1	41 8356 1440	Chilgrove House	SWA	1836	91
SU87/1	41 8336 7885	Folly Cottage	TWA	1950	86
SU89/7	41 8103 9417	Piddington	TWA	1966	79
SY68/34	30 662 881	Ashton Farm	WWA	1977	93
TA06/16	54 0490 6120	Nafferton	YWA	1964	93
TA07/28	54 0940 7740	Hunmanby Hall	YWA	1976	87
TA10/40	54 1375 0885	Little Brocklesby	AWA	1926	122
TA21/14	54 2670 1890	Church Farm	YWA	1971	82
TF72/11	53 7710 2330	Off Farm	AWA	1971	108
TF74/1	53 7541 4087	Choseley Farm	AWA	1950	86
TF80/33	53 8738 0526	Houghton Common	AWA	1971	---
TF81/2A**	53 8138 1960	Washpit Farm	AWA	1950	84
TF92/5	53 9869 2183	Tower Hills P.S.	AWA	1977	95
TF94/1	53 9160 4135	Cuckoo Lodge	AWA	1952	98
TG00/92	63 0440 0020	High Elm Farm, Deopham	AWA	1971	77
TG03/25B	63 0382 3583	The Hall, Brinton	AWA	1952	136
TG11/5	63 1691 1101	The Spinney, Costessey	AWA	1952	87
TG12/7	63 1126 2722	Heydon Pumping Station	AWA	1974	81
TG21/9	63 2400 1657	Frettenham Depot	AWA	1952	91
TG21/10	63 2699 1140	Grange Farm	AWA	1952	---
TG23/21	63 2932 3101	Melbourne House	AWA	1974	100
TG31/20	63 3365 1606	Woodbastwick	AWA	1974	123
TG32/16	63 3700 2682	Brumstead Hall	AWA	1978	94
TL11/4	52 1560 1555	Mackerye End House	TWA	1960	---
TL11/9	52 1692 1965	The Holt	TWA	1964	---
TL13/24	52 1200 3026	West Hitchin	AWA	1970	61

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
TL22/10	52 2978 2433	Box Hall	TWA	1964	106
TL33/4**	52 3330 3720	Therfield Rectory	TWA	1883	62
TL42/6	52 4536 2676	Hixham Hall	TWA	1964	105
TL42/8	52 4669 2955	Berden Hall	TWA	1964	83
TL44/12	52 4522 4182	Redlands Hall	TWA	1964	80
TL66/2	52 6191 6013	Hall Farm	AWA	1964	67
TL72/54	52 7982 2516	Rectory Road	AWA	1968	---
TL84/6	52 8465 4106	Smeetham Cottages, Bulmer	AWA	1963	132
TL86/110	52 8850 6470	Cattishall Farm	AWA	1969	87
TL89/37	52 8131 9001	Grimes Graves	AWA	1971	115
TL92/1	52 9657 2562	Lexden Pumping Station	AWA	1961	---
TM15/112	62 1201 5618	Dial Farm	AWA	1968	120
TM26/46	62 2461 6109	Fairfields	AWA	1974	79
TM26/95	62 2786 6397	Strawberry Hill	AWA	1974	---
TQ01/133	51 0850 1170	Chantry Post, Sullington	SWA	1977	90
TQ21/11	51 2850 1289	Old Rectory, Pyecombe	SWA	1958	---
TQ28/119B	51 2996 8051	Trafalgar Square	TWA	1845	---
TQ31/50	51 3220 1180	North Bottom	SWA	1979	64
TQ35/5	51 3363 5924	Rose & Crown	TWA	1876	61
TQ38/9	51 3509 8536	Hackney Public Baths	TWA	1953	---
TQ50/7	51 5592 0380	Old Rectory, Folkington	SWA	1965	---
TQ56/19	51 5648 6124	West Kingsdown	TWA	1961	74
TQ57/118	51 5880 7943	Thurrock A13	AWA	1979	144
TQ58/2B	51 5622 8408	Bush Pit Farm	TWA	1967	129
TQ66/48**	51 6649 6873	Owletts	SWA	1968	86
TQ86/44	51 8595 6092	Little Pett Farm	SWA	1982	110
TQ99/11	51 947 971	Burnham	AWA	1975	---
TR05/11	61 0142 5874	Portway House, Faversham	SWA	1964	---
TR14/9	61 1225 4690	Little Bucket Farm	SWA	1971	84
TR14/50	61 1265 4167	Glebe Cottage	SWA	1970	---
TR34/81	61 3173 4725	Church Farm	SWA	1971	---
TR35/49	61 3330 5090	Cross Manor Cottages	SWA	1971	---
TR36/62	61 3208 6634	Alland Grange	SWA	1969	55
TV59/7C	50 5290 9920	Westdean 3	SWA	1904	75
Aquifer: Lower Greensand					
SU82/57	41 8888 2505	Madam's Farm	SWA	1984	102
SU84/8A	41 8716 4087	Tilford Pumping Station	TWA	1971	104
TL45/19	52 4110 5204	River Farm	AWA	1973	130
TQ41/82	51 4370 1320	Lower Barn Cottages	SWA	1975	103
TR13/21	61 1132 3881	Ashley House	SWA	1972	127
Aquifer: Hastings Beds					
TQ22/1	51 2348 2770	The Bungalow	SWA	1964	135
TQ32/19	51 3760 2890	Horsted Keynes	SWA	1968	87
TQ42/80A	51 4725 2990	Kingstanding	SWA	1979	92
TQ61/44	51 6658 1803	Dallington Herrings	SWA	1964	82
TQ62/99	51 6199 2282	Whiteoaks	SWA	1978	---
TQ71/123	51 7969 1659	Red House	SWA	1974	---
Aquifer: Upper Jurassic					
SE68/16	44 6890 8590	Kirkbymoorside	YWA	1973	94
SE77/76	44 7690 7300	Broughton	YWA	1975	79
SE98/8	44 9910 8540	Seavegate Farm	YWA	1971	107
SU49/40B	41 4117 9307	East Hanney	TWA	1978	134

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
Aquifer : Middle Jurassic					
SP00/62**	42 0595 0190	Ampney Crucis	TWA	1958	98
SP20/113	42 2721 0634	Alvescot Road	TWA	1975	108
ST51/57	31 591 169	Over Compton	WWA	1971	100
ST88/62A	31 8275 8743	Didmarton 1	WWA	1977	---
ST89/32**	31 8642 9030	Westonbirt School	WWA	1932	85
Aquifer : Lincolnshire Limestone					
SK97/25	43 9800 7817	Grange de Lings	AWA	1975	114
TF03/37**	53 0885 3034	New Red Lion	AWA	1964	83
TF04/14	53 0429 4273	Silk Willoughby	AWA	1972	88
Aquifer: Permo-Triassic sandstones					
IJ26/1	33 291 694	Dunmurry	GSNI	1985	70
NX97/1**	25 9667 7432	Redbank	SRPB	1981	109
NY00/328	35 0511 0247	Brownbank Layby	NWWA	1974	120
NY45/16	35 4947 5667	Corby Hill	NWWA	1977	---
NY63/2**	35 6130 3250	Skirwith	NWWA	1978	72
NZ41/34	45 4861 1835	Northern Dairies	NWA	1974	80
SD27/8	43 2172 7171	Furness Abbey	NWWA	1972	104
SD41/32	43 4400 1164	Yew Tree Farm	NWWA	1971	---
SD44/15	43 4396 4928	Moss Edge Farm	NWWA	1961	156
SE36/47	44 3945 6575	Kelly's Cafe	YWA	1977	55
SE39/20B	44 3004 9244	Scruton Village	YWA	1969	51
SE45/3	44 4470 5580	Cattal Maltings	YWA	1969	73
SE52/4	44 5473 2363	Southfield Lane	YWA	1955	---
SE54/32A	44 5532 4646	Bilborough	YWA	1984	148
SE55/4	44 5829 5383	Clifton Hospital	YWA	1967	70
SE60/76**	44 6784 0709	Woodhouse Grange	STWA	1980	122
SE64/1	44 6751 4463	Wheldrake Station	YWA	1971	---
SE72/3B	44 7047 2149	Rawcliffe Bridge	YWA	1971	---
SE83/9	44 8040 3640	Holme on Spalding Moor	YWA	1972	---
SJ15/15	33 1374 5556	Oaklands Bridge	WELSH	1972	---
SJ33/38	33 3809 3112	Hordley Wharf	STWA	1975	104
SJ33/39**	33 3814 3831	Eastwick Farm	WELSH	1974	86
SJ56/45E	33 5042 6953	Ashton 4	NWWA	1969	---
SJ83/1A	33 8969 3474	Stone	STWA	1974	132
SJ87/32**	33 8969 7598	Dale Brow	NWWA	1973	---
SJ88/93	33 8611 8645	Bruntwood Hall	NWWA	1972	---
SJ96/41	33 9310 6301	Rushton Spencer 1	NWWA	1969	---
SK00/41	43 067 012	Nuttal's Farm	STWA	1974	145
SK21/111	43 2731 1419	Grange Wood	STWA	1967	60
SK24/22	43 2539 4431	Burtonshuts Farm	STWA	1972	77
SK56/53	43 5632 6440	Peafield Lane	STWA	1969	62
SK73/50	43 7693 3228	Woodland Farm	STWA	1980	---
SO71/18	32 7170 1970	Stores Cottage	STWA	1973	72
SO87/28	32 8160 7970	Hillfields	STWA	1961	---
ST12/48	31 108 267	Milverton Bypass	WWA	1972	53
SX99/37B**	20 9528 9872	Bussels 7A	SWWA	1972	92
SY09/21A	30 0666 9235	Heathlands	SWWA	1951	105

Well Number	Grid Reference	Site	Measuring Authority	Records Commence	Indicated % Annual Recharge
Aquifer: Magnesian Limestone					
NZ22/22**	45 2875 2896	Rushyford	NWA	1967	89
NZ32/19	45 3575 2650	Heley House	NWA	1969	---
NZ33/20	45 3349 3501	Garmondsway	NWA	1974	91
SE28/28	44 2460 8520	Bedale	YWA	1972	51
SE35/4	44 3830 5830	Castle Farm	YWA	1970	43
SE43/9**	44 4535 3964	Peggy Ellerton Farm	YWA	1968	91
SE43/14	44 4660 3550	Coldhill Farm 35	YWA	1971	69
SK46/71	43 4800 6030	Stanton Hill	STWA	1973	148
SK58/43	43 5248 8018	Southeads Lane	STWA	1973	100
Aquifer: Coal Measures					
SE23/4	44 2850 3414	Silver Blades Ice Rink	YWA	1971	55
Aquifer: Millstone Grit					
SD92/8	34 9833 2660	Horsehold Farm	YWA	1971	---
SE04/7	44 0295 4792	Lower Heights Farm	YWA	1971	---
SE24/2B	44 2067 4053	Green Lane Dyeworks	YWA	1971	165
SE27/8	44 2120 7380	Kirkby Moor Farm	YWA	1971	---
Aquifer : Carboniferous Limestone					
NT95/21	36 9695 5055	Middle Ord	NWA	1974	---
SE06/1	44 0241 6183	Jerry Laithe Farm	YWA	1971	111
SK15/16	43 1292 5547	Alstonfield	STWA	1974	116
SK17/13	43 1778 7762	Hucklow South	STWA	1969	58
ST64/33	31 6560 4790	Oakhill 1	WWA	1977	---

Sites marked '**' are indicator wells; well hydrographs are shown in Figure 13. Where the annual percentage recharge cannot be estimated, the entry '---' is substituted.

THE GROUNDWATER DATA RETRIEVAL SERVICE

A suite of retrieval programs has been written in order to facilitate data usage. At the present time, retrievals using the options described below are available for most of the sites listed in the Register of Selected Groundwater Observation Wells, although not all the data contained within this archive have been validated.

Five options are available for retrieving data. A description of each option is given below and examples of the computer listings and graphical output are given on pages 172 to 174. Options 1 to 4 give details of the well site, the period of record available, and maximum and minimum recorded levels in addition to the output specific to each option. Data may be retrieved for a specific well or for groups of wells by well reference numbers, by area (using National Grid References), by aquifer, by hydrometric area, by water authority, or by any combination of these parameters.

Cost of Service

To cover the computing and handling costs, a moderate charge will be made depending on the output options selected. Estimates of these charges may be obtained on request; the right to amend or waive charges is reserved.

Requests for Retrieval Options:

Requests for retrieval options should include: the name and address to which the output should be directed, the sites, or areas, for which data are required together with the period of record of interest (where appropriate) and the title of the required option. Where possible, a daytime telephone number should be given.

Requests should be addressed to:

The British Geological Survey
Hydrogeology Research Group
Maclean Building
Crowmarsh Gifford
WALLINGFORD
OXFORDSHIRE OX10 8BB

Telephone (0491) 38800
Fax: (0491) 25338

LIST OF GROUNDWATER RETRIEVAL OPTIONS

OPTION	TITLE	NOTES
1	Table of groundwater levels	All recorded observations of groundwater level in metres above Ordnance Datum, with dates of observation and maximum and minimum levels for each year. Specific years, or ranges of years, may be requested, otherwise the full period of record is given.
	Table of annual maximum and minimum groundwater levels	Annual maximum and minimum groundwater levels in metres above Ordnance Datum with dates of occurrence. Specific years, or ranges of years, may be requested, otherwise the full period of record is given.
	Table of monthly maximum, minimum and mean groundwater levels	Monthly maximum, minimum and mean groundwater levels in metres above Ordnance Datum, together with the number of years contributing values to the calculation of each monthly mean. A specific period of years may be nominated, otherwise the full period of record is given.
	Hydrographs of groundwater levels	Provides a well hydrograph for a number of specified years. Castellated annual plots of monthly maximum and mean groundwater levels calculated from a nominated period of years are superimposed upon the hydrograph, provided that the nominated period

exceeds 10 years. Tabulations of the monthly maximum, minimum and mean values are also listed, together with the number of years of record used in the calculations, and the number of observations used for each month.

Site details

The output comprises the well reference number of the British Geological Survey, the original (Water Data Unit) station number (where applicable), the hydrometric area, the aquifer name and code, the site name and location, the National Grid Reference, the depth of the well, the datum points (from which measurements are made), the altitude of the ground surface, the period of record and the water authority area in which the well or borehole is located.

OPTION 1 TABLE OF GROUNDWATER LEVELS

Station number	TFO3/37
Station name	NEW RED LION, ASLACKBY (CONTINUES OLD RED LION)
Grid Reference	TF 0885 3034
Water Authority	AWA
Hydrometric Area	30
Aquifer	Lincolnshire Limestone
Aquifer Code	13
EEC Unit	ANO3
Surface Level (MOD)	33.82
Datum Point (MOD)	33.45
Well Depth (M)	50.00
Max. Expected (MOD)	33.45
Min. Expected (MOD)	5.00
Period of records in Archive:-	1964 to 1985

Maximum GW Level for period of records 23.69
Number of Maxima 1
Date(s):-
14 03 1977

Minimum GW Level for period of records 3.29
Number of Minima 1
Date(s):-
24 08 1976

(Note: The above reference information is also provided with the output from options 2–4)

Station Number	TF03/37
Year of record	1975
Date	Level (MOD)
03 Jan	17.29
31 Jan	16.68
28 Feb	17.85
04 Apr	20.31
24 Apr	20.12
02 May	20.13
30 May	18.58
13 Jun	17.34
11 Jul	15.77

01 Aug	14.44
29 Aug	13.24
26 Sep	12.11
10 Oct	11.57
07 Nov	10.42
21 Nov	9.85
19 Dec	8.98

Maximum GW level for year 20.31
Number of maxima 1
Dates 04 Apr
Minimum GW Level for year 8.98
Number of minima 1
Dates 19 Dec

OPTION 2 TABLE OF ANNUAL MAXIMUM AND MINIMUM GROUNDWATER LEVELS

Year	Max/Min	Level(MOD)	Date(s)	No. of occasions
1965	Max	21.50	26 Dec	1
	Min	7.85	24 Jan	
1966	Max	23.51	06 Mar	1
	Min	14.43	09 Oct–16 Oct	1 Period
1967	Max	19.79	04 Jun	
	Min	12.69	29 Oct	
1968	Max	22.06	17 Nov	
	Min	14.08	07 Jul	
1969	Max	23.17	30 Mar	
	Min	11.83	16 Nov	
1970	Max	20.21	26 Apr	
	Min	10.76	15 Nov	1

OPTION 3 TABLE OF MONTHLY MAXIMUM, MINIMUM AND MEAN GROUNDWATER LEVELS

Period maximum, minimum and mean groundwater levels for years 1964 to 1985

	Maximum	Minimum	Mean	No. of years
Jan	22.58	7.85	14.75	21
Feb	23.29	7.97	16.50	21
Mar	23.69	6.14	17.27	21
Apr	22.97	5.61	17.17	22
May	22.00	4.80	16.52	21
Jun	21.28	4.11	15.40	21
Jul	19.69	3.42	14.03	21
Aug	17.08	3.29	12.97	21
Sep	18.84	3.37	12.23	21
Oct	17.98	3.82	11.78	21
Nov	22.06	7.03	12.08	21
Dec	21.51	7.81	13.04	21

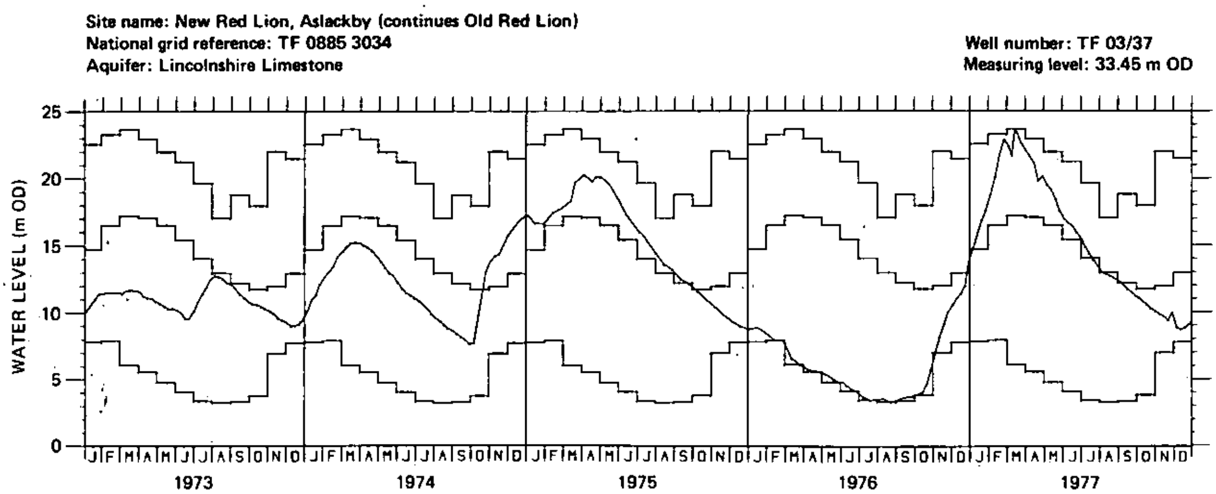
OPTION 4 HYDROGRAPHS OF GROUNDWATER LEVELS

Hydrograph of monthly maximums, minimums and means calculated from years 1964 to 1982

Therefore maximum number of years from which monthly maxs, mins and means may be calculated is 19

	Maximum	Minimum	Mean	No. of Years
Jan	22.58	7.85	14.77	18
Feb	23.29	7.97	16.47	18
Mar	23.69	6.14	17.34	18
Apr	22.97	5.61	17.23	19
May	22.00	4.80	16.42	19
Jun	21.28	4.11	15.23	19
Jul	19.69	3.42	13.97	19
Aug	17.08	3.29	12.98	19
Sep	18.84	3.37	12.28	19
Oct	17.98	3.82	11.85	19
Nov	22.06	7.03	12.20	19
Dec	21.51	7.81	13.09	19

Hydrograph(s) plotted for year ranges:- 1973 to 1977



Max, Min and Mean values calculated from years 1964 to 1982

OPTION 5 SITE DETAILS

BGS NUMBER	COMPUTER NUMBER	HA	AQ	NAME—LOCATION REC—PERIOD—WA AQUIFER	GRID REF.	DEPTH (M)	DATUM POINT	SURFACE LEVEL
NZ22/22	25624	25	17	RUSHYFORD NORTH EAST, GREAT CHILTON 1957-1985 NWA MAGNESIAN LIMESTONE	NZ 2875 2896	62.50	92.65	92.53
SE94/5	26352	26	6	DALTON ESTATE, DALTON HOLME 1889-1985 YWA CHALK AND UPPER GREENSAND	SE 9651 4530	28.50	34.57	33.50
SE43/9	27360	27	17	PEGGY ELLERTON FARM, HAZLEWOOD 1968-1985 YWA MAGNESIAN LIMESTONE	SE 4535 3964	55.42	51.40	51.40
TF03/37	30229	30	13	NEW RED LION, ASLACKBY (CONTINUES OLD RED LION) 1964-1985 AWA LINCOLNSHIRE LIMESTONE	TF 0885 3034	50.00	33.45	33.82

SURFACE WATER QUALITY DATA

Background

A national archive of water quality data is maintained by Her Majesty's Inspectorate of Pollution (Department of the Environment) to provide information concerning the quality of rivers throughout the United Kingdom and to satisfy certain international obligations - mostly concerned with the exchange of information. Data for this archive are collected as part of the Harmonised Monitoring programme which provides for the sampling and analysis of water quality on a national basis.

The Harmonised Monitoring Scheme was established, for England and Wales, in 1974; a similar scheme was instituted for Scotland, under the aegis of the Scottish Development Department, in July 1975. Responsibility for the collection and analysis of the samples rests with the 10 Water Authorities in England and Wales and the 7 River Purification Boards in Scotland.

Measuring authorities send analytical results of routinely collected samples of river water from approximately 220 monitoring stations; sampling frequencies vary substantially but are, typically, in the range 6 to 52 per year. Most of the monitoring stations are located on major rivers at, or near, the tidal limit.

The monitoring programme can embrace a large number - over 80 - of physical and chemical attributes of river water but typically only 25 are measured. A number of determinands are measured as standard but a larger proportion are monitored only where it is considered necessary to do so.

The measuring authorities maintain major programmes of chemical and biological sampling of rivers for their own purposes. From the 31st July 1985, Water Authorities have been required, under the Control of Pollution Act, to maintain registers of the results of all samples of water and effluent taken for pollution control purposes together with details of all consented discharges. These registers are open for inspection by the public - free of charge - at the offices of the Water Authorities. Persons wishing to consult the registers are advised to first contact the individual authorities; a list of addresses is given on pages 183 to 185.

Data Retrieval

A comprehensive range of retrieval options has been developed by Her Majesty's Inspectorate of Pollution to make available the water quality data held on the Harmonised Monitoring Archive and to provide statistical summaries based on that data. Requests for data, and guidance concerning its availability, should be addressed to:

Department of the Environment
HMIP
Room A4.26
Romney House
43 Marsham Street
London SW1P 3PY

Telephone: 01 276 8245

Scope of the Water Quality Data Tabulations

River water quality data are presented for 16 monitoring sites on rivers throughout the United Kingdom. The location of each monitoring site is given on Figure 14. For each site 1987, and period of record, data are given for a range of determinands; the determinands featured may differ between monitoring sites reflecting the character of the rivers themselves and differences in the sampling regimes between monitoring stations.

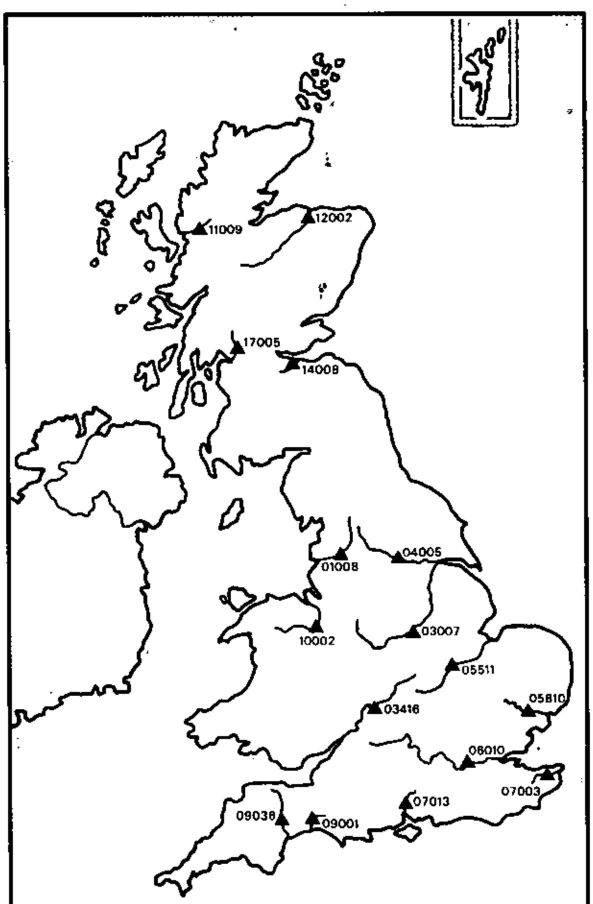


Figure 14. Water quality monitoring station location map.

The following notes are provided to assist in the interpretation of particular data items.

Harmonised Monitoring Station Code

A five-digit reference number which serves as the primary identifier of the station on the Harmonised Monitoring Archive. The first two digits refer to the measuring authority, the remainder refer to individual sites within each measuring authority.

Measuring Authority

An abbreviation referencing the organisation responsible for the operation of the monitoring site. See pages 183 to 185 for a full list of the codes together with the corresponding authority names and addresses.

The Government's legislative programme provides for the setting up of a new body, the National Rivers Authority, which will assume responsibility, in England and Wales, for much of the sampling and analysis of the data submitted to the Harmonised Monitoring Archive for water quality stations in the national network.

Grid Reference

The initial two-letter and two-figure codes each designate the relevant 100 kilometre National Grid square; the standard six-figure map reference follows.

Associated Flow Measurement Station

The reference number, name, catchment area and grid reference of the gauging station whose flow record is used to determine the discharge data stored on the Harmonised Monitoring Archive. For most sites the flow corresponding to the time the quality sample was taken is archived; at other locations the corresponding daily mean flow is utilised. Where the gauging station and water quality monitoring site are not coincident some method of flow adjustment may have been employed to allow for the differing catchment areas.

1987 flow data for all but one of the relevant gauging stations may be found in the River Flow Data section. The shortness of the flow record for the Fleet Weir gauging station on the River Aire precludes its incorporation in the River Flow Data section; summary river flow data for 1987 are, however, included at the head of the water quality listing.

Determinands

Inadequate or unrepresentative sampling frequencies, or the presence of a substantial number of samples with concentrations recorded at or below the limit of detection, will normally result in the omission of a particular determinand.

Notes:

i. Conductivity results are standardised to 20° C.

ii. The biochemical oxygen demand data normally relate to the inhibited analytical results – BOD(atu).

iii. Nitrate concentrations are normally derived by subtracting the nitrite concentration from the reported Total Oxidised Nitrogen (TON) concentration; if the nitrite determination is below the limit of detection, nitrate is recorded as equivalent to TON.

Units

The standard units used to record and report each determinand. The precision with which individual data values, for each determinand, are presented corresponds to the way the data are stored on the Harmonised Monitoring Archive and reflects the uncertainty associated with the relevant analytical procedures.

1987 Data

Samples

The number of samples taken for each determinand during 1987. Where a proportion of analytical results were below the limit of detection, the number of samples in this category is given in parentheses.

Mean

The average* of all the sample values for each determinand in 1987. Where concentrations below the limit of detection are held on the Harmonised Monitoring Archive, the threshold value itself is used to compute the mean.

Maximum / Date

The maximum determinand value recorded during 1987 together with its date of occurrence. Where the maximum value recurs the date refers to the initial occurrence.

Minimum / Date

The minimum determinand value together with its date of occurrence. Where the minimum value recurs the date refers to the initial occurrence. A < symbol indicates a value below the limit of detection.

Period of Record Data

Generally, the pre-1987 summary statistics are presented for the thirteen-year period beginning in 1974; where individual stations were not incorporated into the Harmonised Monitoring network until after 1974, the appropriate first year of data is given. For certain stations the sampling frequency varies significantly from year to year and data for a few determinands may not extend over the full period of record; in particular the first year of data will normally be incomplete.

Where the pre-1987 data series includes values below the limit of detection, the threshold value has been used in the computation of the summary statistics.

For a number of the featured monitoring stations, a considerable amount of pre-1974 data, at least for certain determinands, may be stored on local, or regional, archives maintained by the measuring authorities. Also, for the period 1974–86, such archives may hold analytical results for substantially more samples than are represented on the Harmonised Monitoring Archive. Hence full equivalence between statistical summaries derived from national and regional databases cannot be expected for all monitoring sites.

Mean

The average* value of all the sample values for each determinand.

Percentiles

The 5, 50 and 95 percentile values for each determinand based on all the samples taken over the 1974–86 period.

Quarterly Averages

The mean quarterly average* for each of the three-monthly periods: January to March, April to June, July to September and October to December.

* In all cases this refers to the temporal mean rather than the flow-weighted average.

Ribble at Samlesbury 1987

Harmonised monitoring code : 01 008
Measuring authority : NWWA
Grid reference : 34 (SD) 590 305

Flow measurement station : 071001 - Samlesbury
Catchment area (sq km) : 1145.0
Grid reference : 34 (SD) 589 304

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles			Quarterly averages			
									5%	50%	95%	J-M	A-J	J-S	O-D
Temperature	°C	48	9.4	17.5	20/08	0.0	15/01	9.2	0.9	9.2	17.0	3.5	11.1	14.6	7.4
pH	pH units	48	7.7	8.6	09/07	6.8	12/11	7.7	7.0	7.7	8.6	7.5	7.8	7.9	7.6
Conductivity	µS/cm	48	379	533	17/12	218	19/11	427	234	414	649	437	446	440	365
Suspended solids	mg/l	48 (2)	18.4	182.0	04/06	<1.0	05/11	19.6	3.0	9.0	68.3	18.3	16.9	14.6	28.7
Dissolved oxygen	mg/l O	48	9.64	13.04	10/12	4.20	04/06	10.3	7.7	10.3	13.0	11.9	9.6	8.8	10.8
Biochemical oxygen demand	mg/l O	47	2.8	13.4	04/06	0.6	01/10	3.0	1.1	2.6	6.5	2.8	3.3	2.8	3.0
Chemical oxygen demand	mg/l O	48 (2)	25.9	101.0	30/07	<4.0	23/07	24.3	10.0	22.0	49.5	21.2	24.5	25.9	26.0
Ammoniacal nitrogen	mg/l N	48 (2)	0.226	1.250	15/01	<0.005	28/05	0.28	0.05	0.16	0.90	0.56	0.19	0.14	0.24
Nitrite	mg/l N	48	0.072	0.160	08/10	0.028	15/10	0.08	0.02	0.06	0.18	0.06	0.11	0.09	0.06
Nitrate	mg/l N	46	3.64	9.25	28/05	0.63	23/04	4.3	1.3	3.4	9.8	3.6	5.2	5.0	2.9
Chloride	mg/l Cl	48	33.4	144.0	09/04	12.0	15/10	33.6	14.0	30.0	60.0	41.9	34.4	32.5	25.3
Total alkalinity	mg/l $CaCO_3$	36	118.4	156.0	12/03	62.0	12/02	112.3	65.0	115.0	149.3	107.1	118.0	118.8	105.3
Orthophosphate	mg/l P	34	0.510	1.475	30/04	0.075	23/04	0.38	0.10	0.30	1.00	0.25	0.41	0.58	0.27

Trent at Nottingham 1987

Harmonised monitoring code : 03 007
Measuring authority : STWA
Grid reference : 43 (SK) 581 383

Flow measurement station : 028009 - Colwick
Catchment area (sq km) : 7486.0
Grid reference : 43 (SK) 620 399

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles			Quarterly averages			
									5%	50%	95%	J-M	A-J	J-S	O-D
Temperature	°C	22	12.9	24.7	07/07	5.0	07/01	13.3	5.9	13.4	22.0	7.7	15.3	19.1	11.3
pH	pH units	22	8.0	8.4	07/07	7.7	24/08	7.7	7.3	7.7	8.2	7.6	7.8	7.9	7.6
Conductivity	µS/cm	22	802	1004	03/06	563	24/08	897	616	910	1130	811	903	976	873
Suspended solids	mg/l	22	28.3	153.0	24/08	4.0	05/08	24.9	8.0	17.0	76.0	29.6	23.1	19.5	28.2
Dissolved oxygen	mg/l O	22	9.80	11.60	23/02	7.60	24/08	9.7	7.6	9.8	11.8	10.7	9.6	8.8	9.8
Biochemical oxygen demand	mg/l O	22	3.3	8.1	24/08	1.7	02/10	3.5	1.6	3.3	5.6	3.2	3.8	3.7	3.1
Ammoniacal nitrogen	mg/l N	22	0.404	1.090	05/02	0.040	07/07	0.38	0.01	0.30	1.03	0.67	0.27	0.23	0.35
Nitrate	mg/l N	22	8.11	10.40	23/02	5.80	24/08	8.6	6.1	8.6	11.2	8.5	8.7	8.5	8.6
Chloride	mg/l Cl	22	85.0	117.0	11/05	48.0	06/04	99.8	54.0	98.0	149.2	86.6	96.3	117.8	94.6
Total alkalinity	mg/l $CaCO_3$	21	156.5	186.0	23/02	108.0	24/08	159.9	118.2	163.0	188.5	156.0	162.4	164.0	156.0
Fluoride	mg/l F	9	0.33	0.38	24/09	0.26	17/03	0.36	0.22	0.35	0.52	0.32	0.36	0.41	0.35
Orthophosphate	mg/l P	9	1.407	2.730	02/10	0.510	07/01	1.51	0.51	1.46	2.70	0.93	1.52	2.07	1.49

Avon at Evesham Road Bridge 1987

Harmonised monitoring code : 03 416
Measuring authority : STWA
Grid reference : 42 (SP) 034 431

Flow measurement station : 054002 - Evesham
Catchment area (sq km) : 2210.0
Grid reference : 42 (SP) 040 438

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles			Quarterly averages			
									5%	50%	95%	J-M	A-J	J-S	O-D
Temperature	°C	21	11.8	22.0	06/07	3.2	11/03	11.0	2.6	11.0	20.0	4.9	12.8	16.8	8.8
pH	pH units	24	7.9	8.8	08/05	7.0	11/03	8.0	7.6	7.9	8.7	7.9	8.2	8.1	7.8
Conductivity	µS/cm	24	898	1090	13/08	565	08/04	922	621	930	1160	830	887	1030	929
Suspended solids	mg/l	24	32.8	290.0	08/04	8.0	30/09	28.2	7.1	18.5	87.0	43.3	29.4	17.9	24.4
Dissolved oxygen	mg/l O	21	10.39	15.00	08/05	6.30	21/07	10.5	7.8	10.3	13.2	11.9	10.6	9.0	10.7
Biochemical oxygen demand	mg/l O	24	3.7	9.1	06/07	1.4	11/03	3.2	1.2	2.8	7.4	2.9	4.5	3.0	2.4
Ammoniacal nitrogen	mg/l N	24 (1)	0.324	1.700	21/07	<0.005	08/05	0.26	0.01	0.19	0.77	0.51	0.14	0.15	0.26
Nitrate	mg/l N	24	10.24	11.90	11/03	8.00	21/07	10.4	7.6	10.2	13.6	11.2	9.6	9.9	11.1
Chloride	mg/l Cl	24	63.8	94.5	05/06	31.0	08/04	73.8	37.2	72.0	105.9	65.3	64.3	87.1	75.0
Total alkalinity	mg/l $CaCO_3$	23	207.0	240.0	06/07	150.0	08/04	194.9	148.3	200.0	230.4	191.4	198.3	198.0	196.0
Fluoride	mg/l F	13	0.37	0.50	08/10	0.26	08/04	0.37	0.21	0.35	0.51	0.31	0.34	0.47	0.36
Orthophosphate	mg/l P	24	1.615	3.300	13/08	0.580	19/10	1.67	0.45	1.40	3.43	1.00	1.34	2.44	1.84

Aire at Fleet Weir 1987

Harmonised monitoring code : 04 005
Measuring authority : YWA
Grid reference : 44 (SE) 381 285

Flow measurement station : 027080 - Fleet Weir
Catchment area (sq km) :
Grid reference : 44 (SE) 381 285

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles			Quarterly averages			
									5%	50%	95%	J-M	A-J	J-S	O-D
Flow	m^3/s	52	16.5	124.0	07/04	5.09	27/05								
Temperature	°C	47	11.7	22.0	07/07	1.5	13/01	12.4	4.3	12.0	21.0	6.7	14.3	17.7	10.2
pH	pH units	52	7.4	7.8	19/11	7.1	18/06	7.5	7.2	7.5	7.8	7.6	7.5	7.4	7.5
Conductivity	µS/cm	51	720	963	19/01	333	30/12	688	390	660	1124	680	688	774	590
Suspended solids	mg/l	52	26.8	219.0	13/11	7.0	24/07	28.0	8.4	17.0	85.0	30.5	28.5	16.3	35.5
Dissolved oxygen	mg/l O	50	6.87	12.10	13/01	2.10	13/07	7.9	2.9	8.0	11.5	10.3	7.1	5.3	8.6
Biochemical oxygen demand	mg/l O	52	9.5	28.5	13/11	4.5	22/04	7.8	3.9	7.3	14.7	7.8	8.5	7.6	7.8
Ammoniacal nitrogen	mg/l N	51	2.351	7.000	08/05	0.290	30/12	2.24	0.50	1.80	5.42	2.23	2.45	2.57	1.71
Nitrite	mg/l N	51	0.533	1.330	03/09	0.080	07/01	0.35	0.07	0.30	0.90	0.16	0.45	0.58	0.25
Nitrate	mg/l N	51	3.81	6.27	17/08	1.57	05/03	5.0	2.6	4.7	7.6	4.3	5.1	5.6	4.4
Chloride	mg/l Cl	52	69.8	151.0	08/05	19.6	30/12	83.3	34.1	75.0	160.8	85.4	82.9	91.5	67.9
Total alkalinity	mg/l $CaCO_3$	29	127.8	167.0	07/12	71.6	21/09	119.3	75.0	122.0	158.0	114.4	122.7	127.8	113.4
Fluoride	mg/l F	26	0.17	0.25	08/05	0.14	03/04	0.17	0.11	0.17	0.26	0.14	0.19	0.20	0.16
Orthophosphate	mg/l P	52	1.368	3.500	02/06	0.320	13/11	1.45	0.23	1.16	3.57	0.90	1.52	2.18	1.12

Nene at Wansford 1987

Harmonised monitoring code : 05 511
Measuring authority : AWA
Grid reference : 52 (TL) 082 996

Flow measurement station : 032001 - Orton
Catchment area (sq km) : 1634.3
Grid reference : 52 (TL) 166 972

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	50	11.3	21.0	14/07	1.0	12/01	11.5	2.0	11.0	21.0	5.0	13.7	18.0	8.6
pH	pH units	49	8.0	9.0	26/05	7.0	02/12	8.1	7.7	8.0	8.7	7.9	8.3	8.2	7.9
Conductivity	µS/cm	42	952	1127	05/10	476	23/07	927	719	921	1200	916	904	964	939
Suspended solids	mg/l	49	16.9	120.0	06/04	1.0	14/08	20.6	4.0	13.0	55.6	25.5	22.6	12.7	21.0
Dissolved oxygen	mg/l O	50	10.35	13.60	20/01	7.30	14/07	10.6	7.9	10.7	13.1	12.1	10.7	9.1	10.7
Biochemical oxygen demand	mg/l O	49 (2)	3.2	11.0	26/05	0.2	08/09	3.7	1.2	2.9	8.5	3.3	5.4	3.2	2.4
Ammoniacal nitrogen	mg/l N	50 (1)	0.283	1.010	02/02	0.010	14/08	0.36	0.05	0.19	1.17	0.75	0.18	0.12	0.38
Nitrite	mg/l N	50 (2)	0.108	0.280	23/07	<0.010	15/12	0.11	0.03	0.10	0.20	0.09	0.12	0.09	0.13
Nitrate	mg/l N	49	10.93	17.51	22/04	6.56	14/07	9.9	5.6	9.6	15.6	12.6	9.8	7.1	10.8
Chloride	mg/l Cl	49	70.5	125.0	26/08	44.0	06/04	73.2	41.0	71.0	112.0	67.3	67.3	82.3	73.9
Total alkalinity	mg/l $CaCO_3$	42	211.7	375.0	09/09	178.0	21/10	208.4	170.0	210.0	240.0	208.2	208.5	212.0	205.0
Orthophosphate	mg/l P	45	1.260	2.400	23/07	0.311	25/11	1.13	0.31	1.00	2.26	0.73	0.94	1.59	1.36

Stour at Langham 1987

Harmonised monitoring code : 05 810
Measuring authority : AWA
Grid reference : 62 (TM) 026 345

Flow measurement station : 036006 - Langham
Catchment area (sq km) : 578.0
Grid reference : 62 (TM) 020 344

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	48	10.6	21.0	20/08	2.0	29/01	11.2	2.0	11.0	20.0	4.7	13.5	17.1	8.3
pH	pH units	48	8.2	8.8	28/05	7.9	29/01	8.2	7.8	8.1	8.8	8.0	8.4	8.2	8.0
Conductivity	µS/cm	48	919	1100	05/03	690	09/07	915	749	920	1100	937	884	894	951
Suspended solids	mg/l	47	20.5	120.0	12/11	3.0	05/02	16.0	3.0	9.0	50.5	19.1	19.8	11.1	16.1
Dissolved oxygen	mg/l O	48	11.31	16.50	09/07	5.50	16/07	10.8	7.5	10.9	14.0	12.2	11.4	9.2	10.6
Biochemical oxygen demand	mg/l O	48 (1)	2.8	9.0	14/05	<1.0	19/02	3.2	1.0	2.3	9.4	2.3	5.3	2.7	2.3
Ammoniacal nitrogen	mg/l N	48(10)	0.138	1.100	22/01	<0.020	30/04	0.13	0.02	0.08	0.42	0.23	0.09	0.08	0.15
Nitrite	mg/l N	13	0.078	0.150	29/10	0.030	06/08	0.08	0.02	0.07	0.16	0.07	0.10	0.05	0.09
Nitrate	mg/l N	48	8.68	15.00	08/01	3.80	09/07	8.7	2.8	8.0	16.0	13.3	8.3	4.6	9.2
Chloride	mg/l Cl	48	55.4	88.0	01/10	30.0	18/06	67.4	39.0	65.0	97.0	56.7	61.2	75.0	71.8
Total alkalinity	mg/l $CaCO_3$	26	271.0	335.0	29/10	180.0	09/07	242.4	195.0	250.0	280.0	238.1	240.8	248.5	246.0
Orthophosphate	mg/l P	47	0.580	1.500	11/06	0.100	09/07	0.66	0.15	0.60	1.40	0.45	0.51	0.81	0.83

Thames at Teddington Weir 1987

Harmonised monitoring code : 06 010
Measuring authority : TWA
Grid reference : 51 (TQ) 171 714

Flow measurement station : 039001 - Kingston
Catchment area (sq km) : 9948.0
Grid reference : 51 (TQ) 177 698

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	23	11.8	21.0	29/06	1.5	21/01	11.5	3.0	11.0	20.0	5.7	13.6	18.0	9.4
pH	pH units	23	7.8	8.8	13/05	7.3	07/10	8.0	7.6	8.0	8.7	8.0	8.3	8.0	7.9
Conductivity	µS/cm	21	735	805	09/09	674	13/05	580	485	585	706	584	568	608	587
Suspended solids	mg/l	21	18.8	37.3	11/11	5.5	07/10	22.8	4.8	14.5	77.0	27.8	22.8	13.5	26.2
Dissolved oxygen	mg/l O	9	9.75	14.30	21/05	6.40	15/07	10.1	7.1	10.1	13.1	11.4	10.5	8.6	9.8
Biochemical oxygen demand	mg/l O	24 (1)	2.6	7.8	13/05	<1.0	02/04	2.9	1.0	2.3	6.5	2.1	4.1	3.0	2.1
Ammoniacal nitrogen	mg/l N	24 (3)	0.350	1.100	07/10	<0.050	13/05	0.32	0.01	0.22	0.94	0.32	0.22	0.40	0.36
Nitrite	mg/l N	20	0.093	0.170	12/02	0.029	07/10	0.12	0.06	0.10	0.22	0.10	0.10	0.10	0.13
Nitrate	mg/l N	24	6.85	8.90	02/04	5.18	17/06	7.5	5.5	7.2	10.6	8.6	6.7	6.8	7.8
Chloride	mg/l Cl	24	43.0	54.0	12/01	34.0	14/04	41.3	30.0	40.0	59.0	40.0	38.2	45.3	42.2
Total alkalinity	mg/l $CaCO_3$	21	200.2	223.0	13/05	165.0	20/10	185.8	149.0	190.0	213.6	184.7	192.3	190.9	177.0
Orthophosphate	mg/l P	24	1.335	2.700	07/10	0.570	14/04	1.33	0.40	1.08	2.94	0.81	1.08	2.08	1.40

Great Stour at Bretts Bailey Bridge 1987

Harmonised monitoring code : 07 003
Measuring authority : SWA
Grid reference : 61 (TR) 187 603

Flow measurement station : 040011 - Horton
Catchment area (sq km) : 345.0
Grid reference : 61 (TR) 116 554

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	15	10.7	18.0	24/08	1.0	20/01	11.6	4.0	11.9	18.0	6.6	13.2	16.4	10.3
pH	pH units	16	7.8	8.0	09/03	7.4	22/07	7.8	7.3	7.8	8.3	7.7	7.9	7.9	7.7
Conductivity	µS/cm	16	683	774	05/02	504	22/07	693	590	695	785	693	677	686	714
Suspended solids	mg/l	16	9.3	21.0	22/07	3.3	24/08	12.8	2.0	7.0	44.3	21.8	7.6	5.7	15.6
Dissolved oxygen	mg/l O	15	9.96	16.30	04/03	4.10	22/07	11.0	7.6	10.8	15.1	11.6	11.7	10.0	10.3
Biochemical oxygen demand	mg/l O	16	2.6	6.6	20/01	1.1	12/08	2.8	1.2	2.6	5.2	3.2	3.1	2.3	2.6
Ammoniacal nitrogen	mg/l N	16 (1)	0.548	1.800	16/12	<0.020	13/07	0.33	0.02	0.15	1.39	0.53	0.36	0.10	0.37
Nitrite	mg/l N	16	0.093	0.150	27/10	0.030	07/09	0.10	0.03	0.08	0.28	0.09	0.12	0.10	0.12
Nitrate	mg/l N	16	5.93	8.70	09/03	4.20	22/07	5.8	3.9	5.6	8.6	6.9	5.3	4.8	6.3
Chloride	mg/l Cl	16	61.1	87.0	20/01	42.0	07/09	49.4	37.0	48.0	70.5	52.1	46.0	48.7	53.2
Orthophosphate	mg/l P	16	0.879	1.500	13/07	0.500	25/11	0.93	0.33	0.87	1.64	0.65	0.89	1.13	1.05

Itchen at Gatersmill 1987

Harmonised monitoring code : 07 013
Measuring authority : SWA
Grid reference : 41 (SU) 434 156

Flow measurement station : 042010 - Highbridge+Allbrook
Catchment area (sq km) : 360.0
Grid reference : 41 (SU) 467 213

Determinand	Units	1987 Samples	Mean	Max.	Date	Min.	Date	Period of record: 1974 - 1986 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	27	11.3	17.0	18/09	3.0	22/01	10.7	4.0	10.0	18.0	6.9	12.7	16.1	10.1
pH	pH units	29	8.2	8.7	01/10	7.5	03/06	8.1	7.8	8.1	8.4	8.1	8.1	8.2	8.0
Conductivity	µS/cm	29	545	619	05/08	467	09/04	496	440	498	576	502	494	503	508
Suspended solids	mg/l	29	10.9	26.9	02/04	2.6	18/09	12.8	2.6	8.1	32.8	23.7	10.6	4.6	12.1
Biochemical oxygen demand	mg/l O	29	1.9	4.4	13/01	0.3	17/07	2.1	1.0	2.0	3.6	2.2	2.4	1.5	2.0
Ammoniacal nitrogen	mg/l N	27 (4)	0.137	0.640	01/10	<0.005	10/11	0.11	0.01	0.09	0.28	0.17	0.07	0.07	0.12
Nitrite	mg/l N	28 (1)	0.065	0.571	27/05	<0.010	05/08	0.05	0.03	0.04	0.09	0.04	0.05	0.05	0.06
Nitrate	mg/l N	24	5.15	7.58	01/10	3.54	23/04	5.2	4.0	5.2	6.1	5.5	5.2	4.6	5.1
Chloride	mg/l Cl	28	21.2	30.7	04/11	15.4	08/10	20.9	17.4	20.3	25.3	21.0	20.1	20.2	22.2
Total alkalinity	mg/l $CaCO_3$	2	230.0	236.0	03/06	224.0	04/03	228.5	179.0	230.0	260.0	235.0	227.0	230.0	223.0
Fluoride	mg/l F	29	0.08	0.10	02/09	0.06	06/05	0.07	0.04	0.07	0.10	0.07	0.07	0.08	0.08
Orthophosphate	mg/l P	28 (1)	0.368	0.860	01/10	<0.010	27/05	0.37	0.14	0.37	0.68	0.31	0.32	0.42	0.48

Axe at Whitford Road Bridge 1987

Harmonised monitoring code : 09 001
Measuring authority : SWWA
Grid reference : 30 (SY) 262 953

Flow measurement station : 045004 - Whitford
Catchment area (sq km) : 288.5
Grid reference : 30 (SY) 262 953

Determinand	Units	1987 Samples	Mean	Max.	Date	Min.	Date	Period of record: 1974 - 1986 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	22	9.5	16.5	19/08	3.0	13/03	10.8	3.5	10.0	18.0	5.9	12.3	16.2	8.8
pH	pH units	24	8.2	8.6	06/07	7.7	19/10	7.9	7.4	7.9	8.5	7.8	8.1	8.0	7.8
Conductivity	µS/cm	24	388	456	19/08	294	19/10	382	293	387	463	361	387	420	364
Suspended solids	mg/l	24	9.3	40.0	19/10	2.0	19/08	15.1	2.0	6.0	55.2	18.2	11.0	5.9	23.0
Dissolved oxygen	mg/l O	24	11.21	13.90	19/05	8.50	19/10	11.0	8.5	10.9	13.7	12.0	11.1	10.1	10.7
Biochemical oxygen demand	mg/l O	24	2.0	4.0	23/01	0.9	14/10	2.1	0.9	1.7	4.4	2.2	2.3	1.8	2.0
Ammoniacal nitrogen	mg/l N	24 (2)	0.092	0.380	23/01	<0.010	15/06	0.11	0.01	0.07	0.35	0.17	0.08	0.06	0.13
Nitrite	mg/l N	24	0.045	0.089	28/10	0.018	14/12	0.05	0.02	0.04	0.10	0.04	0.06	0.03	0.06
Nitrate	mg/l N	24	4.11	5.50	28/10	2.30	19/11	3.7	2.1	3.5	5.7	4.1	3.2	3.0	4.8
Chloride	mg/l Cl	24	23.9	30.5	23/01	14.0	19/05	23.2	18.6	22.0	29.2	23.9	21.0	23.1	24.9
Total alkalinity	mg/l $CaCO_3$	24	135.3	170.0	19/08	74.0	19/10	133.8	82.3	138.0	167.0	116.8	140.9	155.1	124.3
Orthophosphate	mg/l P	24	0.237	0.370	01/09	0.060	03/11	0.24	0.12	0.22	0.44	0.18	0.23	0.31	0.23

Exe at Thorverton Road Bridge 1987

Harmonised monitoring code : 09 036
Measuring authority : SWWA
Grid reference : 20 (SX) 936 916

Flow measurement station : 045001 - Thorverton
Catchment area (sq km) : 600.9
Grid reference : 21 (SS) 936 016

Determinand	Units	1987 Samples	Mean	Max.	Date	Min.	Date	Period of record: 1974 - 1986 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	16	8.9	16.5	04/08	3.0	19/01	11.3	4.0	10.5	19.0	6.1	13.0	16.6	9.5
pH	pH units	16	7.7	8.4	12/05	7.4	24/03	7.4	6.8	7.5	8.1	7.3	7.7	7.5	7.3
Conductivity	µS/cm	16	169	212	18/05	126	24/03	171	122	160	244	155	178	193	157
Suspended solids	mg/l	16	10.9	31.0	24/03	3.0	03/11	11.7	2.0	6.0	41.2	13.9	10.9	6.8	15.0
Dissolved oxygen	mg/l O	16	11.68	14.00	19/01	8.70	16/07	11.1	8.8	11.3	13.3	12.4	11.0	9.7	11.2
Biochemical oxygen demand	mg/l O	16	1.8	4.0	16/12	0.7	04/08	1.7	0.8	1.6	3.3	1.6	2.2	1.5	1.8
Ammoniacal nitrogen	mg/l N	16 (1)	0.082	0.290	16/12	<0.010	18/05	0.07	0.01	0.05	0.19	0.08	0.08	0.05	0.06
Nitrite	mg/l N	16	0.027	0.050	16/07	0.013	18/11	0.03	0.01	0.02	0.06	0.02	0.04	0.03	0.02
Nitrate	mg/l N	16	2.58	3.30	03/02	1.90	08/06	2.5	1.5	2.4	3.8	2.9	2.4	2.0	2.5
Chloride	mg/l Cl	16	16.4	23.0	03/02	12.2	24/03	17.9	12.9	17.0	27.4	17.4	17.4	20.0	18.4
Total alkalinity	mg/l $CaCO_3$	16	39.5	56.0	12/05	25.0	24/03	40.1	24.0	37.0	65.0	32.6	44.2	48.4	35.8
Orthophosphate	mg/l P	16	0.093	0.200	04/08	0.040	30/03	0.12	0.03	0.08	0.31	0.06	0.13	0.20	0.08

Dee at Overton 1987

Harmonised monitoring code : 10 002
Measuring authority : WELS
Grid reference : 33 (SJ) 354 427

Flow measurement station : 067015 - Manley Hall
Catchment area (sq km) : 1019.3
Grid reference : 33 (SJ) 348 415

Determinand	Units	1987 Samples	Mean	Max.	Date	Min.	Date	Period of record: 1974 - 1986 Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	7	7.2	14.9	12/08	1.9	09/12	9.9	2.7	9.6	17.6	4.6	11.5	15.3	8.0
pH	pH units	6	7.2	7.4	20/03	7.0	12/11	7.2	6.5	7.2	7.8	7.2	7.3	7.2	7.1
Conductivity	µS/cm	6	164	194	09/12	119	12/11	171	97	163	267	161	211	177	136
Suspended solids	mg/l	6	10.8	30.0	12/11	3.0	09/12	8.9	1.0	3.0	38.3	11.2	5.8	5.8	13.3
Dissolved oxygen	mg/l O	7	12.13	14.00	19/02	9.10	10/09	11.2	9.1	11.2	13.3	12.7	10.8	9.8	11.7
Ammoniacal nitrogen	mg/l N	7 (2)	0.113	0.240	21/01	<0.020	10/09	0.05	0.01	0.04	0.15	0.06	0.04	0.04	0.06
Nitrite	mg/l N	7 (1)	0.023	0.040	10/09	<0.010	19/02	0.02	0.01	0.01	0.05	0.02	0.02	0.02	0.02
Nitrate	mg/l N	7	1.15	2.67	20/03	0.14	12/11	1.2	0.5	1.1	2.2	1.5	1.2	0.9	1.1
Chloride	mg/l Cl	7	24.9	33.6	20/03	14.7	12/11	19.6	10.0	18.2	33.0	19.7	22.9	20.7	15.4
Orthophosphate	mg/l P	7	0.066	0.100	12/11	0.050	21/01	0.06	0.01	0.05	0.16	0.05	0.06	0.07	0.05

Carron at A890 Road Bridge 1987

Harmonised monitoring code : 11 009
Measuring authority : HRPB
Grid reference : 18 (NG) 938 425

Flow measurement station : 093001 - New Kelso
Catchment area (sq km) : 137.8
Grid reference : 18 (NG) 942 429

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	12	8.5	16.6	23/07	3.3	20/01	8.5	2.1	8.5	15.2	3.6	11.0	12.9	7.1
pH	pH units	12	6.5	6.9	10/12	6.1	23/09	6.7	5.8	6.7	7.4	6.7	6.7	6.7	6.6
Conductivity	µS/cm	12	35	43	23/06	26	23/09	46	27	44	66	51	48	42	40
Suspended solids	mg/l	11 (1)	1.5	3.4	23/09	0.3	10/12	1.6	0.2	1.0	4.8	1.8	1.3	1.4	1.6
Dissolved oxygen	mg/l O	12	11.10	12.80	10/12	9.30	23/07	11.4	9.8	11.3	13.2	12.7	11.0	10.1	11.4
Biochemical oxygen demand	mg/l O	12	0.9	1.5	23/09	0.3	23/06	0.8	0.2	0.8	1.4	0.8	0.7	0.8	0.9
Ammoniacal nitrogen	mg/l N	12 (1)	0.007	0.014	17/03	<0.003	23/07	0.01	0.00	0.01	0.03	0.01	0.01	0.01	0.01
Nitrite	mg/l N	12	0.001	0.002	14/04	0.001	23/07	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate	mg/l N	12	0.06	0.10	10/12	0.03	23/09	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Chloride	mg/l Cl	12	8.0	9.8	14/04	6.0	23/09	11.2	6.0	10.0	18.9	14.3	11.0	8.5	9.5
Total alkalinity	mg/l $CaCO_3$	12	4.1	6.8	10/12	1.7	20/01	6.9	1.9	5.0	15.0	6.6	6.8	6.9	6.0
Orthophosphate	mg/l P	12	0.004	0.007	23/07	0.003	23/06	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00

Spey at Fochabers 1987

Harmonised monitoring code : 12 002
Measuring authority : NERPB
Grid reference : 38 (NJ) 341 596

Flow measurement station : 008006 - Boat o Brig
Catchment area (sq km) : 2861.2
Grid reference : 38 (NJ) 318 518

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	17	10.7	16.5	18/08	1.5	26/02	9.1	1.7	9.3	18.7	3.2	9.8	14.3	6.0
pH	pH units	16	7.2	7.6	02/06	6.7	15/09	7.1	6.3	7.2	7.8	6.9	7.2	7.4	6.9
Conductivity	µS/cm	16	75	88	04/08	48	15/09	77	50	76	109	81	70	83	69
Suspended solids	mg/l	17	6.6	38.0	04/08	0.1	01/12	3.7	0.0	2.0	19.2	3.0	4.0	4.9	4.2
Dissolved oxygen	mg/l O	6	11.53	13.15	26/02	9.25	18/08	11.3	9.2	11.2	13.6	12.8	11.0	9.9	11.7
Biochemical oxygen demand	mg/l O	17	0.9	1.7	18/08	0.4	07/07	0.9	0.5	0.9	1.5	0.8	1.0	0.9	0.9
Ammoniacal nitrogen	mg/l N	17	0.046	0.231	16/06	0.003	16/06	0.04	0.00	0.02	0.12	0.03	0.04	0.05	0.03
Nitrite	mg/l N	17	0.007	0.016	25/08	0.003	02/06	0.01	0.00	0.01	0.02	0.01	0.01	0.01	0.01
Nitrate	mg/l N	17	0.34	0.99	04/08	0.18	15/09	0.3	0.2	0.3	0.7	0.5	0.3	0.3	0.3
Chloride	mg/l Cl	17	8.7	11.0	26/02	6.0	15/09	10.9	7.0	10.0	16.0	12.7	10.2	10.6	9.3
Total alkalinity	mg/l $CaCO_3$	17	26.5	35.0	15/07	15.0	15/09	27.4	17.0	25.0	40.0	23.6	25.4	30.1	27.7
Orthophosphate	mg/l P	17	0.026	0.107	11/08	0.004	02/06	0.03	0.00	0.01	0.12	0.02	0.02	0.04	0.02

Almond at Craigiehall 1987

Harmonised monitoring code : 14 008
Measuring authority : FRPB
Grid reference : 36 (NT) 165 752

Flow measurement station : 019001 - Craigiehall
Catchment area (sq km) : 369.0
Grid reference : 36 (NT) 165 752

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	26	8.7	17.0	01/07	1.0	07/01	9.6	2.0	9.0	17.5	3.9	11.6	14.3	7.2
pH	pH units	24	7.5	8.0	05/05	6.6	06/10	7.5	7.0	7.6	8.0	7.4	7.7	7.5	7.5
Conductivity	µS/cm	15	554	880	28/04	295	15/09	598	309	575	880	520	676	643	513
Suspended solids	mg/l	21 (1)	43.4	579.0	20/01	<1.0	01/06	20.8	3.0	11.0	82.5	43.4	11.3	17.3	27.4
Dissolved oxygen	mg/l O	12	8.98	12.60	07/01	4.30	26/05	9.4	5.3	9.8	12.2	11.3	9.3	7.3	9.8
Biochemical oxygen demand	mg/l O	15	2.9	5.3	23/06	1.6	04/02	3.4	1.6	2.8	6.8	3.2	3.8	3.2	3.1
Ammoniacal nitrogen	mg/l N	15	1.240	3.000	01/12	0.190	06/10	1.15	0.22	0.93	2.98	1.21	1.50	1.04	0.86
Nitrite	mg/l N	9 (2)	0.202	0.530	28/04	<0.010	31/03	0.24	0.04	0.13	0.85	0.06	0.32	0.42	0.13
Nitrate	mg/l N	15 (1)	3.62	6.35	26/05	1.90	15/09	3.8	2.1	3.6	5.6	3.6	4.0	3.7	3.7
Chloride	mg/l Cl	10	48.2	75.0	28/04	29.0	19/08	63.3	25.9	60.0	103.1	59.4	71.3	68.6	47.8
Total alkalinity	mg/l $CaCO_3$	22	115.6	163.0	26/05	52.0	02/03	120.9	51.1	120.0	190.0	100.3	139.8	129.0	105.1
Fluoride	mg/l F	12	0.21	0.39	26/05	0.10	06/10	0.22	0.03	0.19	0.44	0.20	0.27	0.17	0.22
Orthophosphate	mg/l P	14	0.584	2.150	26/05	0.150	07/01	0.69	0.09	0.42	2.04	0.24	0.87	1.17	0.38

Leven at Renton Foot Bridge 1987

Harmonised monitoring code : 17 005
Measuring authority : CRPB
Grid reference : 26 (NS) 389 783

Flow measurement station : 085001 - Linnbrane
Catchment area (sq km) : 784.3
Grid reference : 26 (NS) 394 803

		1987						Period of record: 1974 - 1986							
Determinand	Units	Samples	Mean	Max.	Date	Min.	Date	Mean	Percentiles 5%	50%	95%	Quarterly averages J-M	A-J	J-S	O-D
Temperature	°C	12	8.5	15.0	07/09	1.0	09/01	9.1	2.0	9.0	17.0	3.5	10.5	15.0	7.8
pH	pH units	12	7.2	7.5	07/05	7.0	09/03	7.1	6.7	7.1	7.6	7.0	7.2	7.2	7.0
Conductivity	µS/cm	12	70	82	09/01	62	06/10	73	60	70	96	73	75	71	74
Suspended solids	mg/l	12	5.8	13.0	09/03	1.0	05/06	4.9	1.0	4.0	13.0	7.5	4.3	3.6	4.7
Dissolved oxygen	mg/l O	12	11.13	12.80	09/03	9.40	07/09	11.0	9.3	11.0	12.7	12.4	11.4	9.7	10.7
Biochemical oxygen demand	mg/l O	12	1.9	2.7	05/06	1.1	06/10	1.7	0.8	1.7	2.7	2.2	2.0	1.3	1.5
Ammoniacal nitrogen	mg/l N	12 (3)	0.030	0.100	05/08	<0.020	02/07	0.05	0.01	0.02	0.23	0.05	0.05	0.05	0.05
Nitrate	mg/l N	12	0.28	0.40	02/12	0.10	05/08	0.3	0.0	0.3	0.5	0.4	0.3	0.2	0.3
Chloride	mg/l Cl	12	9.0	14.0	09/01	7.0	07/09	9.9	6.0	9.0	15.9	10.9	10.5	8.6	9.0
Total alkalinity	mg/l $CaCO_3$	12	13.0	18.0	02/12	8.0	06/10	17.1	10.0	16.0	23.0	15.6	16.9	17.2	17.2
Orthophosphate	mg/l P	12	0.012	0.020	07/09	<0.010	05/08	0.02	0.00	0.01	0.04	0.02	0.02	0.02	0.02

DIRECTORY OF MEASURING AUTHORITIES

The Government's current legislative programme provides for the creation of water utility PLCs to take over the Water Authorities' responsibilities for water supply and sewerage and for the setting up of a new body, the National Rivers Authority, to operate their regulatory and river management functions. Responsibility for most hydrometric activities will pass to the NRA. As part of the necessary restructuring prior to this major water industry reorganisation, 'shadow' regional NRA Units have been established in each Water Authority. The Units began operating as fully independant units within each Water Authority on the 1st April 1989. The official addresses of each Unit appears in the list below. Some further relocation of offices is expected; an updated address list will appear in the 1988 Yearbook.

Water Authorities	Address	Code
Anglian Water	Ambury Road, Huntingdon PE18 6NZ	AWA
NRA Regional Unit	Aqua House, London Road, Peterborough PE2 8AG	
Northumbrian Water	PO Box 4, Regent Centre, Gosforth, Newcastle-upon-Tyne NE3 3PX	NWA
NRA Regional Unit	Eldon House, Regent Centre, Gosforth, Newcastle-upon-Tyne NE3 3UD	
North West Water	Dawson House, Great Sankey, Warrington WA5 3LW	NWWA
NRA Regional Unit	PO Box 12, New Town House, Buttermarket Street, Warrington WA1 2QG	
Severn-Trent Water	Abelson House, 2297 Coventry Road, Sheldon, Birmingham B26 3PU	STWA
NRA Regional Unit	Sapphire East, 550 Streetsbrook Road, Solihull B91 1QT	
Southern Water	Guildbourne House, Chatsworth Road, Worthing, W. Sussex BN11 1LD	SWA
NRA Regional Unit	Guildbourne House, Chatsworth Road, Worthing, W. Sussex BN11 1LD	
South West Water	Peninsula House, Rydon Lane, Exeter EX2 7HR	SWWA
NRA Regional Unit	Manley House, Kestrel Way, Exeter EX2 7LQ	
Thames Water	Nugent House, Vastern Road, Reading RG1 8DB	TWA
NRA Regional Unit	Kings Meadow House, Kings Meadow Road, Reading RG1 8DQ	
Welsh Water	Plas-y-ffynnon, Cambrian Way, Brecon, Powys LD3 7HP	WELS (WELSH)

NRA Regional Unit	Rivers House/Plas-yr-Afon, St Mellons Business Park, St Mellons, Cardiff CF3 0EG	
Wessex Water	Wessex House, Passage Street, Bristol BS2 0JQ	WWA
NRA Regional Unit	Bridgwater House, King Square, Bridgwater, Somerset TA6 3EA	
Yorkshire Water	West Riding House, 67 Albion Street, Leeds LS1 5AA	YWA
NRA Regional Unit	21 Park Square South, Leeds LS1 2QG	

River Purification Boards

Clyde River Purification Board	Rivers House, Murray Road, East Kilbride, Glasgow G75 0LA	CRPB
Forth River Purification Board	Colinton Dell House, West Mill Road, Colinton, Edinburgh EH13 0PH	FRPB
Highland River Purification Board	Strathpeffer Road, Dingwall IV15 9QY	HRPB
North East River Purification Board	Greyhope House, Greyhope Road, Torry, Aberdeen AB1 3RD	NERPB
Solway River Purification Board	Rivers House, Irongray Road, Dumfries DG2 0JE	SRPB
Tay River Purification Board	1 South Street, Perth PH2 8NJ	TRPB
Tweed River Purification Board	Burnbrae, Mossilee Road, Galashiels TD1 1NF	TWRP

Other measuring authorities

Borders Regional Council (Directorate of Water and Drainage Services)	West Grove, Waverley Road, Melrose TD6 9SJ	BRWD
Corby (Northants) and District Water Company	Geddington Road, Corby, Northants NN18 8ES	CDWC
Department of the Environment for Northern Ireland	Water Service, 3 Federick Street, Belfast BT1 2NS	DOEN
Dumfries and Galloway Regional Council (Department of Water and Sewerage)	Marchmount House, Dumfries DG1 1NR	DGRW
Essex Water Company	Hall Street, Chelmsford, Essex CM2 OHH	EWC
Geological Survey of Northern Ireland	20 College Gardens, Belfast BT9 6BS	GSNI
Grampian Regional Council (Water Services Department)	Woodhill House, Ashgrove Road West, Aberdeen AB9 2LU	GRWD

Highland Regional Council (Water Department)	Regional Buildings, Glenurquhart Road, Inverness IV3 5NX	HRCW
Institute of Hydrology	Maclean Building, Crowmarsh Gifford, Wallingford OX10 8BB	IH
Lothian Regional Council (Department of Water and Drainage)	8 Cockburn Street, Edinburgh EH1 1NZ	LRWD
Newcastle and Gateshead Water Company	PO Box 10, Allendale Road, Newcastle-upon-Tyne NE6 2SW	NGWC
North of Scotland Hydro-Electric Board	16 Rothesay Terrace, Edinburgh EH3 7SE	NSHE
Strathclyde Regional Council (Water Department)	419 Balmore Road, Glasgow G22 6NU	SRCW
Tayside Regional Council (Water Services Department)	Bullion House, Invergowrie, Dundee DD2 5BB	TRWS

PUBLICATIONS - in the Hydrological data UK series

Title	*Published*	*Price* (inclusive of second class postage within the UK)	
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Hydrometric Register and Statistics 1981-5[1]	1988	£12	£15
The 1984 Drought[2]	1985		£12

The Yearbooks are available as bound volumes or as sets of pre-punched sheets for insertion in a ring binder designed to hold the five yearbooks in each publication cycle together with the five-yearly catalogue of summary statistics. The ring binder for 1981-5 may be purchased for £40 to include the 1981, 1982, 1983, 1984 and 1985 Yearbooks and the statistical volume. The ringbinder to hold the Yearbooks for 1986-90 may be purchased for £5.

Organisations and individuals purchasing the ring binder will be entitled to receive free updates of the data sheets for individual Yearbooks when a significant revision to the published data is made.

All the Hydrological data UK publications and the ring binder may be obtained from:-

Institute of Hydrology
Maclean Building
Crowmarsh Gifford
WALLINGFORD
OXFORDSHIRE OX10 8BB

Telephone: Wallingford (0491) 38800

Enquiries or comments regarding the series, or individual publications are welcomed and should be directed to the Surface Water Archive Office at the above address.

1. Hydrometric Register and Statistics 1981-5

This reference volume includes maps, tables and statistics for over 800 river basins and 150 representative observation boreholes throughout the United Kingdom. The principal objective of the publication is to assist data users in the selection of monitoring sites for particular investigations and to allow more effective interpretation of analyses based upon the raw data. To this end, concise gauging station and catchment descriptions are given for the featured flow measurement stations - particular emphasis is placed on hydrometric performance, especially in the high and low flow ranges, and on the net effect of artificial influences on the natural flow regime.

Summary hydrometric statistics, for each of the years 1981-5, are provided alongside the corresponding long term averages, or extremes, to allow the recent variability in surface and groundwater resources to be considered in a suitable historical context.

2. The 1984 Drought

This, the first, occasional report in the Hydrological data UK series concerns the 1984 drought. The report documents the drought in a water resources framework and its development, duration and severity are examined with particular reference to regional variations in intensity. Assessments are made of the likely frequency of occurrence of the drought and its magnitude is considered both in the perspective provided by historical records of rainfall and runoff, and in the context of the recent somewhat erratic climatic behaviour.

ABBREVIATIONS

Note: The following abbreviations do not purport to represent any standardised usage; they have been developed for use in the Hydrological data UK series of publications only. Where space constraints have required alternative forms of these conventional abbreviations to be used, the meaning should be evident from the context.

AOD	Above Ordnance Datum
Bk	Beck
Blk	Black
Br	Bridge
Brk or B	Brook
Brn	Burn
CEGB	Central electricity generating board
Ch	Channel
C/m	Current meter(ing)
Com	Common
Dk	Dike
Dr or D	Drain
D/s	Downstream
E	East
Frm	Farm
G/s	Gauging station
Gw	Groundwater
HEP	Hydro-electric power
Ho	House
Hosp	Hospital
L	Loch or lake
Lb	Left hand river bank (looking downstream)
Ln	Lane
Lst	Limestone
Ltl	Little
MAF	Mean annual flood
Mkt	Market
Ml/d	Megalitres per day
Mnr	Manor
N	North
Ntch	Notch
NW	North West
O/f	Outfall or outflow
ORS	Old Red Sandstone
Pk	Park
Pop	Population
POR	Period of record
PS	Pumping station
Pt	Pont
PWS	Public water supply
Rb	Right hand river bank (looking downstream)
R/c	Racecourse
RCS	Regional communications system
Rd	Road
Res	Reservoir
Rh	Right hand
S	South
SAGS	Stour Augmentation Groundwater Scheme
Sch	School
S-D	Stage-discharge relation
SDD	Scottish Development Department
SE	South East
Sl	Sluice
Sp	Spring
St	Stream
STW	Sewage Treatment Works
SW	South West
TS	Transfer scheme
US	Ultrasonic gauging station
U/s	Upstream
W	West
W'course	Watercourse
Wd	Wood
Wht	White
Wr	Weir
WRW	Water reclamation works
Wtr	Water
WTW	Water treatment works

Natural
Environment
Research
Council