

WORLD DATA CENTER-A
for
Solid Earth Geophysics



BIBLIOGRAPHY
OF
HISTORICAL GEOMAGNETIC MAIN FIELD SURVEY
AND
SECULAR VARIATION REPORTS
AT THE
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August 1993



NATIONAL GEOPHYSICAL DATA CENTER

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by

Susan McLean
Dennis Smith

August 1993

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National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
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Imposing order on chaos is never easy.

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Introduction

In order to determine the extent of historical data publications at the World Data Center-A for Solid Earth Geophysics, a digital inventory was begun in 1992. The main emphasis of the project was the inventory of data-related reports published prior to 1972. The intent was to aid in the retrospective modeling of the main magnetic field. Therefore, publications concerning crustal anomalies and observatory magnetograms were not targeted for this project. The results of this effort are contained in a digital bibliographic data base which is partially reproduced in this report.

Many of the reports abstracted here were printed over a century ago and are in a severe state of deterioration. In order to preserve the content of these reports, WDC-A is digitally imaging (scanning) these older books. The digital images of the books are being written to 3480 archive tape in PCX format. In this digital format, these books are now more readily available to researchers studying the historic main magnetic field.

The main bibliography is organized alphabetically by author. The title of the work, date and place of publication, publisher, and a short description of the work are shown whenever available. For those reports written in a language other than English, an attempt has been made to translate the title. The original title follows in parentheses. However, the authors of this report claim no fluency in any language other than English, and welcome corrections to the translated titles. In no instance has an effort been made by WDC-A to translate the original publications.

Following the bibliography, there are four appendices which index the entries in several ways. In Appendix I the reports are sorted by date, and the author and title are shown to allow the reader to refer to the main bibliography for more information. Appendix II is indexed by descriptive word, Appendix III by seismic region, and Appendix IV by geographic region. For each of these indices, a heading is followed by one or several citation numbers referring the reader to the main bibliography.

The bibliography printed here is maintained as a digital bibliographic data base. Researchers interested in obtaining a digital copy of the entire data base with a read-only copy of the data base management system should contact WDC-A. The read-only copy of the data base will allow the user full search and retrieve capabilities, but will not allow changes nor additions to be made to the data base. Researchers interested in studying any of the reports contained in this bibliography should contact WDC-A. Most of the older reports have been digitally imaged and are available on 3480 tape. Reports published since 1947 may be subject to copyright and no further reproduction is authorized by WDC-A.

WDC-A is interested in receiving additional publications containing observational main field

survey and secular change data for years prior to 1957. We also welcome visiting scientists and can make some resources available for researchers needing access to these or other data at the World Data Center.

Please address all inquiries to:

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August 1993

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1. **Magnetic Observations in the West Indies 1911-12-13** (Udskrift af Deviations-Journalen Misoisningobservationer Vestindien 1911-12-13); Deviations Journal 1911-13, 1913. The journal contains values of compass deviations made in the West Indies from 1911 through 1913. Observations were probably made on the schooner *Ingolf*. The text is Norwegian or Danish.
2. **The Academy of Science of the USSR, Analysis of the Space-Time Structure of the Geomagnetic Field.** Moscow: The Academy of Sciences of the USSR, 1975. The book discusses the structure of Earth's magnetic field. Several articles pertaining to the modeling of the magnetic field, magnetic indices, and observatory data are included. The text is in Russian.
3. **Afshar, H.K., The Construction of the Magnetic Map of Iran;** Iranian National Report to the 13th General Assembly of the International Union of Geodesy and Geophysics, 1963. The journal contains values of declination, inclination, horizontal intensity, vertical intensity and total intensity from thirty-eight stations in Iran. For each station the latitude, longitude, elevation, and magnetic parameters are recorded. Charts for each element are also produced.
4. **Afshar, H.K., Geomagnetic Activities in Iran during the Years 1961 and 1962;** Iranian National Report to the 13th General Assembly of the International Union of Geodesy and Geophysics, 1963. The journal describes the construction of the magnetic observatory at Tehran and gives test observations of the magnetic field for instrument comparison. The results of the magnetic storm, solar flare, pulsation, and sudden impulse observations are tabularized for 1961 and 1962.
5. **Agocs, W.B., J.R. Paton, and J.B. Alexander,** Extract from Colombo Plan Report on Airborne Magnetometer and Scintillation Counter Survey over Parts of Perak, Selangor and Negri Sembilan: Area 1; Records of the Geological Survey, Federation of Malaya, 1958. The journal discusses a survey made in 1952 in Malaya seeking possible locations of tin ores, and zones of sulphide mineralization and radioactivity for possible concentrations of uranium and thorium minerals.

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The report discusses attempts in Malaya to locate tin ores and zones of sulphide mineralization and radioactivity for possible uranium and thorium mineral concentrations.

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The report discusses a survey in Malaya in 1952 which sought to locate tin ores and zones of sulphide mineralization and radioactivity for possible concentrations of uranium and thorium.

8. **Alessio, Alberto**, Geomagnetic Determinations Performed in the State of Maggiore from 1905–1906 (Determinazioni de Magnetismo Terrestre eseguite dallo Stato Maggiore della 1905–1906); Yearbook of Hydrography, Collection of Documents: Hydrography and Navigation (Annali Idrografici, Raccolta de Documenti: Idrografia e La Navigazione). Genoa: Institute of Hydrography of R. Marina, 1913.

The book contains results of hydrographic, meteorological, and geophysical observations made from 1903 to 1911. Magnetic declination, inclination, and horizontal intensity were observed at various locations, world-wide from 1905 through 1906. The text is in Italian.

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The bulletin discusses the use of the Automatic Standard Magnetic Observatory-Remote (ASMOR). The instrument takes field measurements automatically and telemeters them to distant receiving and recording stations. The report describes the magnetic sensors and the theoretical basis on the development of the program.

10. **Amaro, Carlos C.**, Report on the Work of the Department of Geomagnetism of the Institute of Geophysics of the National University of Mexico; Yearbook of the Institute of Geophysics of the National University of Mexico (Anales del Instituto de Geofisica, UNAM), 1967.

This report was presented to the 14th General Assembly of the International Union of Geodesy and Geophysics. It discusses the work done at the Magnetic Observatory of Teoloyucan, Mexico, from 1963 through 1966. Annual mean values for 1963 through 1965 and values of declination for 63 repeat stations throughout Mexico were used to construct the magnetic charts for Epoch 1965.0.

11. **Angenheister, G.**, Measurement of Geomagnetic Fields of Longitudinal Profiles in the North Alpine Region and in the Alps: 1958–1962 (Vermessung des erdmagnetischen Feldes langs Profilen im nordlichen Alpenvorland und in den Alpen: 1958–1962); Geophysical Observatory of Furstenfeldbruck (Geophysikalishes Observatorium Furstenfeldbruck), 1963.

The journal shows changes in vertical intensity and total intensity measured along nine profiles

in the "foreland" of the Alps and along two profiles crossing the Alps from 1958 through 1962.

12. Angot, Alfred, Yearbook of the Central Bureau of Meteorology of France: Year 1903 (Annales du Bureau Central Meteorologique de France: Annee 1903); Th. Moureaux, Magnetic Observations (Observations Magnetiques). Paris: Gauthier-Villars, 1907.

Yearbook for the magnetic and meteorological observatory, Val-Joyeux, Paris, for 1903. The book contains hourly values of declination, inclination, and horizontal intensity. Meteorological data are also recorded for stations in former French Colonies. The text is in French.

13. Angot, Alfred, Yearbook of the Central Bureau of Meteorology of France: Year 1904 (Annales du Bureau Central Meteorologique de France: Annee 1904); Th. Moureaux, Magnetic Observations (Observations Magnetiques). Paris: Gauthier-Villars, 1908.

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Yearbook for the magnetic and meteorological observatory, Val-Joyeux, Paris, for 1908. The book contains hourly values of declination, inclination, and horizontal intensity. The text is in French.

- 18. Angot, Alfred**, Yearbook of the Central Bureau of Meteorology of France: Year 1913 (Annales du Bureau Central Meteorologique de France: Annee 1913); Ch. Dufour, Magnetic Observations (Observations Magnetiques). Paris: Gauthier-Villars, 1919.

Yearbook for the magnetic and meteorological observatory, Val-Joyeux, Paris, for 1913. The book contains hourly values of declination, inclination, horizontal intensity, and vertical intensity. Seismological and meteorological data from Parc Saint-Maur Observatory are also included. The text is in French.

- 19. Angot, Alfred**, Yearbook of the Central Bureau of Meteorology of France: Year 1914 (Annales du Bureau Central Meteorologique de France: Annee 1914); Ch. Dufour, Magnetic Observations (Observations Magnetiques). Paris: Gauthier-Villars, 1920.

Yearbook for the magnetic and meteorological observatory, Val-Joyeux, Paris, for 1914. The book contains hourly values of declination, inclination, horizontal intensity, and vertical intensity. The text is in French.

- 20.** Description of Ritchie's Liquid Steering Compasses, with Accompanying Drawings and Ritchie's Monitor Compass. [Date unknown]

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- 21. Arctowski, H.**, Results of the Voyage of the S.Y. *Belgica* in 1897–1898–1899 under the command of A. De Gerlache De Gomery; Scientific Commission of Belgium (Rapports Scientifiques Publies Aux Frais Du Gouvernement Belge, de La Commission De La Belgica), 1902.

The journal discusses solar flares observed on board the *Belgica* in the Antarctic. Included are tables of auroral activity from 1897 through 1899. The text is in French.

- 22. Ault, J.P. and S.J. Mauchly**, Ocean Magnetic and Electric Observations, 1915–1921; Researches of the Department of Terrestrial Magnetism; Vol. 5. Washington, D.C.: Carnegie Institution, 1926.

The book discusses magnetic and electric observations made aboard the *Carnegie* from 1915 through 1921. Magnetic observations include tables of declination, inclination, and horizontal intensity made world-wide.

- 23. Ault, J.P., S.J. Mauchly, W.J. Peters, L.A. Bauer, and J.A. Fleming**, Ocean Magnetic and Electric Observations, 1915–1921; Researches of the Department of Terrestrial Magnetism; Vol. 5. Washington, D.C.: Carnegie Institution, 1926.

The book contains results of ocean magnetic and electric observations made on the *Carnegie* in the Atlantic, Indian, Pacific, and Southern Oceans from 1915 through 1921. The text includes synopses of the *Carnegie's* cruises, discussion of the instrumentation, and tables of meteorological and geomagnetic data. Geomagnetic data include declination, inclination, and horizontal intensity observed world-wide.

24. **Avery, O.E. and F.N. Waits**, Proton Magnetometer Test on Board a Survey Aircraft; U.S. Naval Oceanographic Office, 1965.

The journal discusses Project Magnet and magnetometer tests made during surveys conducted in 1965.

25. **Bache, A.D.**, Abstract of a Discussion of the Horizontal Component of the Magnetic Force from Observations Made at the Girard College Observatory, Philadelphia, in the Years 1840–1845; *The American Journal of Science and Arts*, 1862.

The journal discusses horizontal intensity and shows the data used for an investigation into diurnal, annual, and solar variation of horizontal intensity from observations made at the Girard College Observatory between 1840 and 1845.

26. **Bache, A.D.**, Observations at the Magnetic and Meteorological Observatory at the Girard College, Philadelphia: 1840–1845. Washington, D.C.: Gates and Seaton, 1847.

The book contains hourly value observations of declination, horizontal intensity, and vertical intensity made at the Girard College Observatory in Philadelphia from 1840 through 1845. Also recorded are temperature, barometric pressure, wind speed, and comments on meteorology.

27. **Banerjee, Subir K., Robert F. Butler, and Victor A. Schmidt**, Problems and Current Trends in Rock Magnetism and Paleomagnetism; Asilomar Workshop of the Geomagnetism and Paleomagnetism Section of the American Geophysical Union, 1986.

The report discusses the status and future prospects for rock magnetic research including the need for interdisciplinary research and state-of-the-art instrumentation.

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The book contains values of apogees and perigees of the moon from 1850 through 1975. Tables of moon phases for each day of the year are also calculated from 1850 to 1975. The text is in German.

34. **Bartels, Julius and Naoshi Fukushima**, A Q-Index for the Geomagnetic Activity in Quarter-Hour Intervals (Ein Q-Index für die erdmagnetische Aktivität in viertelstündlichen Intervallen); The Academy of Science of Goettingen (Der Akademie der Wissenschaften in Goettingen). Goettingen: Vandenhoeck and Ruprecht, 1956.

The journal discusses computation of Q-indices based on data from Sodankyla, Meanook, College, and Sitka observatories. Indices are calculated on quarter-hour intervals as opposed to three-hour intervals. The text is in German.

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The book discusses the history of geomagnetism and magnetic surveys in Maryland. Included are tables showing mean hourly values of declination and secular variation from 1750 through 1896.

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The book discusses geomagnetic surveys carried out world-wide from 1905 through 1910. Included are summaries of information pertaining to site locations, personnel, and instrumentation. Included also are tables of declination, inclination, and horizontal intensity.

38. **Bauer, L.A.**, *Magnetic Declination Tables and Isogonic Charts for 1902 and Principal Facts Relating to the Earth's Magnetism*; U.S. Coast and Geodetic Survey. Washington, D.C.: Government Printing Office, 1902.

The book discusses the history of geomagnetism and magnetic properties. Tables of declination and secular variation are shown for observations made throughout the United States from 1650 through 1902.

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The journal discusses the magnetic survey carried out in the north Pacific Ocean from 1904 through 1906. Topics include the routes of the survey ships, the personnel, the nature of geomagnetism, and instrumentation.

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The journal discusses the past, present, and future work of the U.S. Coast and Geodetic Survey. No data are recorded.

41. **Bauer, L.A.**, *Ocean Magnetic Observations 1905–1916 and Reports on Special Researches*; *Researches of the Department of Terrestrial Magnetism*; Vol. 3. Washington, D.C.: Carnegie Institution, 1917.

The book contains the final results of the ocean magnetic observations made on the *Galilee* and the *Carnegie* in the Atlantic, Indian, and Pacific Oceans. Tables of data show declination, inclination, and horizontal intensity observed throughout the world from 1905 through 1916.

42. **Bauer, L.A.**, *Results of Magnetic Observations Made by the Coast and Geodetic Survey Between July 1, 1902 and June 30, 1903*; U.S. Coast and Geodetic Survey, 1904.

The report contains values of declination, inclination, and horizontal intensity observed in 1902 and 1903 throughout the United States. Data are ordered in tables by state, with station descriptions located at the end of the text.

43. **Bauer, L.A.**, *Results of Magnetic Observations Made by the Coast and Geodetic Survey Between July 1, 1903 and June 30, 1904*; U.S. Coast and Geodetic Survey, 1904.

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44. **Bauer, L.A.**, *Results of Magnetic Observations Made by the Coast and Geodetic Survey Between July 1, 1905 and June 30, 1906*; U.S. Coast and Geodetic Survey, 1906.

The report contains values of declination, inclination, and horizontal intensity observed in 1905 and 1906 throughout the United States. Data are in tables ordered by state, with stations descriptions at the end of the text.

- 45. Bauer, L.A.,** United States Magnetic Tables and Magnetic Charts for 1905; U.S. Coast and Geodetic Survey. Washington, D.C.: Government Printing Office, 1905.

The book contains values of declination, inclination, horizontal intensity, vertical intensity, and total intensity in the United States for the Epoch 1905.

- 46. Bauer, L.A. and J.A. Fleming,** Land Magnetic Observations 1911–1913; Researches of the Department of Terrestrial Magnetism; Vol. 2. Washington, D.C.: Carnegie Institution, 1915.

The book discusses instrumentation, reductions to standard instruments, and lists observation sites and the personnel involved. Tables of declination, inclination, and horizontal intensity are given for locations throughout the world.

- 47. Bauer, L.A. and J.A. Fleming,** Magnetic Observatories of the United States Coast and Geodetic Survey in Operation July 1, 1902; U.S. Coast and Geodetic Survey, 1903.

The journal discusses U.S. Coast and Geodetic Survey observatories in the United States in terms of site selection, construction, and equipment. Cheltenham, Sitka, Honolulu, and Baldwin observatories are discussed.

- 48. Bauer, L.A., J.A. Fleming, H.W. Fisk, W.J. Peters, and S.J. Barnett,** Land Magnetic Observations 1914–1920 and Special Reports; Vol. 4. Washington, D.C.: Carnegie Institution, 1921.

The book discusses land magnetic observations made from 1914 through 1920 throughout the world. Included are tables of declination inclination and horizontal intensity observed at many stations world-wide.

- 49. Bauer, L.A., J.A. Fleming, H.W. Fisk, and W.J. Peters,** Land Magnetic Observations 1914–1920; Researches of the Department of Terrestrial Magnetism; Vol. 4. Washington, D.C.: Carnegie Institution, 1921.

The book describes instrumentation, reductions to standard instruments and lists site-locations and personnel for observations made from 1914 through 1920. Tables of declination, inclination, and horizontal intensity are given for locations throughout the world.

- 50. Baylor, James B. and Daniel L. Hazard,** General Report on the Magnetic Survey of North Carolina, Louisiana, South Carolina, Alabama, Georgia, Mississippi and Massachusetts; U.S. Coast and Geodetic Survey. Washington, D.C.: Government Printing Office, 1900–1935.

This book contains several bulletins from the Coast and Geodetic Survey showing values of magnetic declination and secular variation in states along the eastern seaboard from 1700 through 1935. Each bulletin contains thorough descriptions of the magnetic stations where observations were made. Data for the State of Massachusetts come from the Massachusetts Geodetic Survey.

- 51. Beattie, J.C.,** Report of a Magnetic Survey of South Africa. London: Cambridge University Press, 1909.

The book discusses the magnetism of Earth and provides a history of observations of the magnetic elements made by seamen, travelers, and surveyors in South Africa from 1595 through 1904. Included are appendices of tables showing observations of declination, inclination, and horizontal intensity at 400 stations from 1902 through 1908 and a summary of monthly means at Natal Observatory in Durban 1893 and 1894.

52. **Besairie, Henri**, Contributions in the Study of Magnetic Declination of Madagascar and Its Connections with Geology; Geologic Annual of the Service of Mines of the General Government of Madagascar and Dependencies (Annales Geologiques du Service des Mines des Gouvernement General de Madagascar et Dependances). Tananarive: The Official Printery (Imprimerie Officielle), 1937.

The book discusses the geomagnetism of Madagascar and the geological connections. Included are tables of declination, inclination, and horizontal intensity made from 1890 through 1936. The text is in French.

53. **Bhargava, B.N.**, Geomagnetism and Geoelectricity; Progress in Geophysics, 1972.

The journal discusses the work of the Geophysics Research Board of the National Geophysical Research Institute of Hyderabad. Topics include observational geomagnetism and geoelectricity, analysis of geomagnetic and geoelectric data, paleomagnetism, geophysical exploration by magnetic methods, and instrumentation. A summary of the status of the magnetic observatories is given on pages 20–21.

54. **Bhargava, B.N.**, Geomagnetism and Geoelectricity; Progress in Geophysics: Geophysical Activities in the Republic of India, 1973.

The article discusses the status of the work of the Colaba and Alibag Observatories in Bombay for 1973. Included are sections on observational geomagnetism and geoelectricity, analysis of geomagnetic and geoelectric data, paleomagnetism, geophysical exploration by magnetic methods, and instrumentation.

55. **Bhaskara Rao, V., P. Sitapathi Rao, P.V. Sanker Narayan, C.V. Raju, S.V.S. Sarma, R. Ramakrishnayya, D. Atchuta Rao, P.C. Paul, and K.C. Sogani**, [Multiple titles:] (1) Regional Magnetic Profiles over the Gondwana Sections of the Godavary Valley; (2) Results of a Total Intensity Magnetic Survey in Uppal Area, Hyderabad; (3) Magnetic Investigation on a Charnockite Intrusion at Waltair; and, (4) Electromagnetic and Magnetic Studies for Lead Ore in the Shishkhani Area, Almora District, Uttar Pradesh; Problems in Geophysics Relating to the Crust of the Earth: Proceedings of the Symposium of the Geophysics Research Board of the Indian National Committee for Geodesy and Geophysics, 1964.

The journal contains articles on a variety of topics pertaining to geomagnetism, paleomagnetism, meteorology, and geology in India. Topics of geomagnetism include the profiling of the Godavary Valley, total intensity survey results in Hyderabad, investigations at Waltair, and studies for lead ore in Pradesh.

- 56. Bidlingmaier, F.,** Results of Magnetic Observations in 1910 (Ergebnisse der magnetischen Beobachtungen im Jahr 1911); New Series, Vol. 2 (Neue Folge, Heft 2). Berlin: Ernst Siegfried Mittler und Sohn, 1911.

The book discusses a magnetic survey made in 1910 in Germany. Included are tables of daily mean values of declination and horizontal intensity. The text is in German.

- 57. Bidlingmaier, Friederich,** Geomagnetic Ocean Observations and Subsequent Investigations (Erdmagnetische See-Beobachtungen und Anschliessende Untersuchungen); German South Pole Expedition (Deutsche Sudpolar Expedition): 1901–1903, Part 2, Declination (Deklination), 1903.

The book discusses observations and investigations of geomagnetic surveys made in the South Atlantic Ocean, the Indian Ocean, and in Antarctica in 1901, 1902, and 1903.

- 58. Blum, V.J.,** The Magnetic Field over Igneous Pipes; Geophysics, 1945.

The journal discusses a magnetic field in Colorado which is located over igneous pipes. The intensity of geomagnetism is shown in a regional map.

- 59. Bock, R. and W.S. Schumann,** Catalog of the Annual Means of Magnetic Elements of the Observatories and the Stations on which the Conditions of Geomagnetic Observations are Based; Numbers 8–11. (Katalog der Jahresmittel der magnetischen Elemente der Observatorien and der Stationen, an denen eine Zeitlang erdmagnetische Beobachtungen stattfanden; Nr. 8–Nr. 11; Berlin: Akademie Verlag, 1948.

The catalog shows declination, inclination, horizontal and vertical intensity, and geographic north and east components at stations around the world. Included are graphs and tables of values at many observatories. The text is in German.

- 60. Bohme, W.,** Concerning the Two-Year Cycle of the Earth's Atmosphere and Its Cause (Uber den etwa 2-jahrigne Zyklus der allgemeinen Zirkulation und seine Ursachen); Geod. Geoph. Veroff, 1969.

The journal discusses a number of hypotheses of the twenty-six month circulation of Earth's atmosphere. The text is in German.

- 61. Bonnet, G., J. Hunaerts, and M. Nocolet,** Analysis of the Ionospheric Results Obtained in Africa during the Solar Eclipse of February 25, 1952 (Analyse de Resultats Ionospheriques Obtenus en Afrigue Lors de L'Eclipse de Soleil du 25 Fevrier 1952); Royal Institute of Meteorology of Belgium, 1957.

The journal discusses the meteorological and geomagnetic effects observed at six observatories in Africa during the February, 1952 solar eclipse. The text is in French.

- 62. Borisov, A.A. and G.I. Kruglyakova,** Regional and Zonal Anomalies of the Geomagnetic Field in the European Part of the USSR; Technical Translation of Aeronautical Chart and Information Center, 1967.

The article discusses characteristics of regional and zonal anomalies of the geomagnetic field

in the European part of the USSR. The magnetic field is examined at heights of 6, 10, 20, and 30 kilometers.

- 63. Bossolasco, M., A. Elena, and A. Caneva, Geomagnetic Research (Ricerca Di Geomagnetismo); Institute of Geophysics and Geodetics of the University of Genoa, 1962.**

The journal discusses a geomagnetic survey made in the Monte Capellino region of Italy from 1959 through 1961. Included are tables of declination, horizontal intensity, and north and east components. The text is in Italian.

- 64. Bouska, J., Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1958.**

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity observed in Czechoslovakia for the month of April, 1958. The text is in Russian.

- 65. Bouska, J., Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1958.**

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity observed in Czechoslovakia at the observatories of Pruhonice and Budkov in the month of August, 1958. The text is in Russian.

- 66. Bouska, J., Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1958.**

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity observed in Czechoslovakia at the observatories of Pruhonice and Budkov in the month of September, 1958. The text is in Russian.

- 67. Bouska, J., Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1958.**

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of October, 1958. The text is in Russian.

- 68. Bouska, J., Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1958.**

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of November, 1958. The text is in Russian.

69. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1958.

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of December, 1958. The text is in Russian.

70. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of January, 1959. The text is in Russian.

71. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of February, 1959. The text is in Russian.

72. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of March, 1959. The text is in Russian.

73. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of April, 1959. The text is in Russian.

74. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.

The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of May, 1959. The text is in Russian.

75. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.
The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of June, 1959. The text is in Russian.
76. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.
The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of July, 1959. The text is in Russian.
77. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.
The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of August, 1959. The text is in Russian.
78. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.
The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of September, 1959. The text is in Russian.
79. **Bouska, J.**, Geomagnetic Observatory of Pruhonice and of Budkov; Geophysical Observatory Reports, Geophysical Institute of the Czechoslovakian Academy of Sciences, 1959.
The journal contains tables of hourly mean values of declination, horizontal intensity, and vertical intensity made in Czechoslovakia at the Pruhonice and Budkov Observatories in the month of October, 1959. The text is in Russian.
80. **Bracey, Dewey R.**, Blake Ridge Aeromagnetic Survey; U.S. Naval Oceanographic Office, 1967.
The journal contains charts showing total magnetic intensity, regional magnetic intensity, residual magnetic intensity and bathymetric contours in the Blake Ridge, east of Georgia/Carolina coast.
81. **Bramhall, Ervin and Arthur Zuhn**, Values of the Magnetic Elements at Little America; Bulletin of the Little America Forum, 1934.
The bulletin discusses Earth's magnetic field and contains a table of values of inclination,

declination, horizontal intensity, and total intensity in the Antarctic.

82. Breiner, S. and R.L. Kovach, Local Geomagnetic Events Associated with Displacements on the San Andreas Fault; Science, 1967.

83. British National Committee for the Polar Year, British Polar Year Expedition: Fort Rae, N.W. Canada, 1932–33; The Royal Society, Vol. 1: Discussion of Results: Meteorology, Terrestrial Magnetism and Aurora, Atmospheric Electricity. London: Burlington House, 1937.

The book contains meteorological and geomagnetic data for Fort Rae, Canada observed in 1932 and 1933. The work contains monthly mean values for declination, horizontal intensity, and vertical intensity. Monthly mean values for international quiet days in 1882 and 1883 are listed in Table 13.

84. Brittain, J.H. and J.R. Boyle, Earth Movement Investigations and Geodetic Control for Stanford Linear Accelerator Center; Report of Aetron-Blume-Atkinson, 1966.

The report discusses the utilization of geodetic engineering practices and parameters in the process of site ground movements and measurements. Included are summaries of precise surveying and geodesy programs, recommendations of programs on Earth and structure movement accumulation, and list of reports, drawings, and other sources where Earth movement investigations are recorded.

85. Brosge, William P., Earl E. Brabb, and Elizabeth R. King, Geologic Interpretation of Reconnaissance Aeromagnetic Survey of Northeastern Alaska; Geological Survey Bulletin, 1970.

This U.S. Geological Survey bulletin details an aeromagnetic reconnaissance survey from 64° North latitude to the Arctic Ocean and 148° West longitude to the Alaska-Yukon boundary. The bulletin contains two aeromagnetic profile maps, a magnetic contour map, and a geological map based on the interpreted aeromagnetic data and geological data. The survey, taken in 1965, shows the magnetic character of northeastern Alaska.

86. Broun, John Allan, Observations in Magnetism and Meteorology Made at Makerstoun in Scotland in the Observatory of Gen. Sir Thomas Makdougall Brisbane in 1844; Vol. 18, Transactions of the Royal Society of Edinburgh. Edinburgh: Neill and Company, 1848.

The book discusses topics of geomagnetism and meteorology in Scotland. Included are tables of declination, inclination, horizontal intensity, and vertical intensity observed in 1844.

87. Broun, John Allan, Observations in Magnetism and Meteorology Made at Makerstoun in Scotland; Royal Society of Edinburgh, Vol. 19, Part 1. Edinburgh: Neill and Company, 1849.

The book contains meteorological and geomagnetic data observed in Scotland in 1845 and 1846. Geomagnetic data include declination, horizontal intensity, and vertical intensity.

88. **Brown, J., Shenna MacIntosh, J.C. Riddick, and W.F. Stuart**, Progress Report on the Development of a Rubidium Magnetometer System; Geophysical Division of the Institute of Geological Sciences, 1969.

The journal describes the development of a rubidium magnetometer. Included is a description of the sensor and an investigation into its stability, limitations, recordings, and analytical methods.

89. **Bruckmann, W.**, Report in the Swiss High Alps concerning the Changes of Geomagnetic Strength with the Altitude (Beobachtungen in den Schweizer Hochalpen über die Änderung der erdmagnetischen Kraft mit der Höhe); Royal Prussian Meteorological Institute (Königlich Preussischen Meteorologischen Instituts), 1913.

The journal discusses geomagnetic observations made in the Swiss Alps to juxtapose changes of intensity with changes in altitude. Included are measurements of horizontal intensity taken at the summits of several Swiss mountain peaks in 1909. The text is in German.

90. **Brzozowy, Peter**, Magnetic and Seismic Reflection Surveys of Lake Superior; Technical Report of Sea Grant College of the University of Wisconsin, 1974.

The journal discusses a study of a large syncline in the Lake Superior region north and east of the Keweenaw Peninsula. Magnetic data consist of total magnetic intensity profiles; seismic data consist of continuous reflection profiles.

91. **Bullard, E.C., S.K. Runcorn, J. Coulomb, David Knapp, F.J. Lowes, E.H. Vestine, et al.**, Introduction to a Discussion on "Movements in the Earth's Core and Electrical Conductivity"; Bulletin of the International Association of Geomagnetism and Aeronomy, 1955.

The journal contains eleven articles discussing hypotheses of possible causes and consequences of the movements of the Earth's core. Included are physical properties, core motions and reversals of the magnetic field, the synthesis of external magnetic fields, and electrical conductivity.

92. **The Bureau of Navigation**, The Variation of the Compass: As Determined in Various Parts of the World (Chiefly at Sea) between 1881 and 1885; U.S. Navy Department. Washington, D.C.: U.S. Government Printing Office, 1886.

The book contains declinations observed around the world, primarily at sea, from 1881 through 1885. Observations were made using compass and azimuth circle by U.S. Navy navigators. Each observation has a date, latitude, longitude, magnetic variation, and note on observations recorded. Observations were made globally from 80° North to 55° South latitude.

93. **Burrows, A.L.**, Magnetic Survey: Christchurch; Geophysics Division, 1952.

The report contains the results of magnetic observations made in 1952 at airports on the Pacific islands of Norfolk, Nandi, Faepolo, Aitutaki, Rarotonga, and Bora. Included are tables of declination, inclination, and horizontal intensity.

- 94. Byrdatkay, C.T.,** *Archaeomagnetic Determinations of Geomagnetic Field Elements; Soviet Geophysical Committee of the USSR Academy of Sciences, 1986.*
The journal discusses archaeomagnetic data as a means for the study of ancient geomagnetic fields. Tables show determinations in Middle Asia, Mongolia, Japan, the United States, Peru, Italy, and France. The text is in Russian with an English introduction.
- 95. Cables, Lucien,** *Installation of Instruments and Methods of Observation (Installation des Instruments et Methodes D'observations); Scientific Results of the Belgium Antarctic Expedition of 1957–1958 (Resultats Scientifiques d'Expedition Antarctique Belge 1957–1958), 1961.*
The book discusses meteorological and geomagnetical observations carried out during the Belgium Antarctic Expedition of 1957–1958. Geomagnetic data include tables of declination, horizontal intensity, and vertical intensity. The text is in French.
- 96. Cage, Allan L. and Edward J. Zawalick,** *A Discussion of the Geomagnetic Indices Kp and Ap, 1932 to 1971; Environmental Research Paper, 1972.*
The paper contains values for indices of frequency distributions, monthly and annual average values, and diurnal variation of Kp and ap for data from 1932 through 1971.
- 97. Cagle, Lana G.,** *1985 World Magnetic Model: Charts and Grid Values, Department of Defense, 1987.*
- 98. Cain, J.C.,** *Annual Mean Values of Geomagnetic Elements since 1900; IAGA Working Group on the Analysis of the Geomagnetic Field, 1965.*
The journal is a file providing an analysis of Earth's main geomagnetic field and its secular variation. The data were gathered by the IAGA working group from records ranging from 1900 to 1963.
- 99. Cain, Joseph C.,** *Annual Mean Values of Geomagnetic Elements since 1900; Goddard Space Flight Center, 1965.*
The journal contains three tables summarizing observatory annual mean values available. Table 1 summarizes observatory locations, Table 2 summarizes operating periods, and Table 3 lists available annual means. Annual mean values of declination, inclination, horizontal intensity, vertical intensity, total intensity, and north and east components are shown from 1900 to 1962.
- 100. Cain, Joseph C.,** *Geomagnetic Models From Satellite Surveys; Goddard Space Flight Center, 1970.*
The article discusses the evaluation of spacecraft experiments in measuring magnetic fields from low altitudes. The work shows the contributions of aeromagnetic surveys and how their data have been used to determine numerical models of the internal geomagnetic field.
- 101. Cain, Joseph C., and Shirley J. Cain,** *Derivation of the International Geomagnetic Reference Field (IGRF 10/68); NASA Technical Note D-6237, 1971.*

102. Cain, Joseph C. and Shirley J. Hendricks, The Geomagnetic Secular Variation, 1900–1965; NASA Technical Note, 1968.

The journal discusses magnetic charts produced from field models using linear and parabolic terms in time to represent secular change over the interval 1900–1965. The journal compares predicted fields with observatory annual means to investigate systemic residuals.

103. Cain, Joseph C. and Ronald E. Sweeney, Magnetic Field Mapping of the Inner Magnetosphere; Journal of Geophysical Research, Space Physics, 1970.

The paper discusses spherical harmonic modeling of Earth's magnetics based on data from the OGO-2, -4, and -6 spacecraft. The model of degree and order 10 is published.

104. Cain, Joseph C. and Christopher D. Wright, A Compilation of Magnetic Observatories; Goddard Space Flight Center, 1964.

The journal contains a listing of current and past magnetic observatories. Station locations, codes, and operating years are given for all magnetic observatories.

105. Cain, Joseph C., W.E. Daniels, Shirley J. Hendricks, and D.C. Jensen, An Evaluation of the Main Geomagnetic Field 1940–1962; Goddard Space Flight Center, 1964.

The journal discusses the methods used to model the geomagnetic field and its secular change using data for the interval 1900–1962. The spherical harmonic coefficients for the model Epoch 1960.0 are included.

106. Cain, Joseph C., Shirley Hendricks, Robert Langel, and William V. Hudson, A Proposed Model for the International Geomagnetic Reference Field: 1965; Journal of Geomagnetism and Geoelectricity, 1967.

The journal discusses a model of the main geomagnetic field described by a series of 120 spherical harmonic coefficients and their first- and second-time derivatives. The model is based on data available from 1900 to 1964 including OGO-2.

107. Cain, Joseph C., Ivan R. Shapiro, John D. Stolarik, and James P. Heppner, Measurements of the Geomagnetic Field by the Vanguard III Satellite; Technical Note, National Aeronautics and Space Administration, 1962.

The journal contains magnetic field data from the Vanguard III satellite. Differences between the measured field intensities and those computed from frequently used sets are listed.

108. Cain, Joseph, Folke Eleman, S.J. Hendricks, Herbert Meyers, and K.L. Svendsen, U.S. Coast and Geodetic Survey: NASA Geomagnetic Data Reduction Program; NASA, Goddard Space Flight Center, 1966.

The journal discusses a project for the reduction of selected geomagnetic field data into a form useful for computer processing. Data include hourly scalings, magnetograms, observatory annual means, and world magnetic survey data.

109. Cain, Joseph, Shirley Hendricks, Walter Daniels, and Duane Jensen, Computation of the Main Geomagnetic Field from Spherical Harmonic Expansions; Goddard Space

- Flight Center and National Space Science Data Center, 1968.
The report discusses geomagnetic characteristics of the main internal field and the development of the GSFC 12/66 Spherical Harmonic Model. Included is an analysis utilizing spherical harmonic expansion of the geomagnetic potential.
- 110. Calmet, Fernando Noriega,** Geomagnetic Map of Peru for 1955.0 (Carta Geomagnetica del Peru a 1950.0); Institute of Geophysics of Huancayo, 1955.
The journal discusses geomagnetic surveys in Peru. Included are tables of declination, inclination, and horizontal intensity reduced to the Epoch 1955.0. The text is in Spanish.
- 111. Campbell, W.H.,** An Introduction to Geomagnetic Instruments and Observing; ESSA Technical Report ERL 183-ESL 12, 1970.
The journal contains a description of the systems and techniques for observations of the magnetism of Earth from space. Included is a discussion of observatory site selection and general information regarding measurements above Earth's surface.
- 112. Campbell, W.H.,** Introduction to Solar Terrestrial Activity for Geomagnetic Studies Part II: The Earth's Main Field; NOAA Technical Report, 1972.
This report reviews magnetic field models made from surface observations. Simple dipole and spherical harmonic expansion as well as the geomagnetic pole, dip pole, and eccentric axis are discussed.
- 113. Caner, B., P.A. Camfield, F. Andersen, and E.R. Niblett,** A Large-Scale Magnetotelluric Survey in Western Canada; Canadian Journal of Earth Sciences, 1969.
The journal discusses two methods of determining the electrical conductivity structure of Earth's crust: magnetotelluric (MT) and geomagnetic depth-sounding (GDS).
- 114. Cattala, Louis,** Recent Measurements of Magnetic Declination in Madagascar and Declination Maps for 1955.0 (Nouvelles Mesures de la Declinaison Magnetique a Madagascar et Carte des Declinaisons Pour 1955.0); Works of the Geologic Bureau of the Chief Commission of Madagascar and Dependencies (Travaux du Bureau Geologique du Haut Commissariat de Madagascar et Dependances), 1955.
The journal discusses a magnetic survey made in Madagascar in 1954. Included are tables of observed declination and isogonic charts reduced to the Epoch 1955.0. The text is in French.
- 115. Cattala, Louis and Charles Poisson,** [Two titles:] (1) Some Measurements of the Magnetic Declination toward the Southeast of Madagascar (Quelques Mesures de la Declinaison Magnetique dans le sud et L'Ouest de Madagascar; and, (2) Studies of the Variations of Magnetic Declination of Madagascar (Recherches Sur La Variation De La Declinaison Magnetique a Madagascar); Geological Service of the Chief Commission of Madagascar and Dependencies (Service Geologique de le Haut Commissariat de Madagascar et Dependances), 1955.
The journal contains two separate articles on magnetic declination in and near Madagascar.

Tables of declination show data from 1908 through 1954. The text is in French.

- 116. The Central Establishment for Meteorology and Geodynamics, Results of Magnetic Observations at the Kobenzl Geophysical Observatory 1964** (*Ergebnisse der Magnetischen Beobachtungen am Geophysikalischen Observatorium Kobenzl 1964*); Yearbooks of the Central Establishment for Meteorology and Geodynamics (*Jahrbucher der Zentralanstalt fur Meteorologie und Geodynamik*), 1965.

The journal contains monthly and annual mean values of declination, inclination, horizontal intensity, vertical intensity, total intensity, and north components and east components made at the Wien-Kobenzl Geophysical Observatory in 1964.

- 117. The Central Establishment for Meteorology and Geodynamics, Results of Magnetic Observations at the Kobenzl Geophysical Observatory 1965** (*Ergebnisse der Magnetischen Beobachtungen am Geophysikalischen Observatorium Kobenzl 1965*); Yearbooks of the Central Establishment for Meteorology and Geodynamics (*Jahrbucher der Zentralanstalt fur Meteorologie und Geodynamik*), 1965.

The journal contains monthly and annual mean values of declination, inclination, horizontal intensity, vertical intensity, total intensity, and north components and east components made at the Wien-Kobenzl Geophysical Observatory in 1964.

- 118. The Central Establishment for Meteorology and Geodynamics, Results of Magnetic Observations at the Kobenzl Geophysical Observatory 1969** (*Ergebnisse der Magnetischen Beobachtungen am Geophysikalischen Observatorium Kobenzl 1969*); Yearbooks of the Central Establishment for Meteorology and Geodynamics (*Jahrbucher der Zentralanstalt fur Meteorologie und Geodynamik*), 1970.

The journal contains tables of annual mean values of declination, inclination, horizontal intensity, north and east components, vertical intensity, and total intensity observed at the Koblenz Observatory in 1969. The text is in German.

- 119. Central Meteorological Observatory of Tokyo, Results of Magnetical and Meteorological Observations: 1905–1910.** Tokyo: Central Meteorological Observatory of Tokyo, 1910.

The book contains tables of declination, horizontal intensity, and vertical intensity observed in Japan from 1905 through 1910.

- 120. Chamberlain, N.G., Observations of Terrestrial Magnetism at Heard, Kerguelen and Macquarie Islands, 1947–1948;** Commonwealth of Australia, 1952.

The journal contains data for declination, inclination, vertical intensity, and horizontal intensity taken on Heard, Kerguelen and the Macquarie Islands in 1947 and 1948.

- 121. Chambers, Charles Dreckman, Vinayek Narayen Nene, and Frederick Chambers, Magnetical and Meteorological Observations Made at the Government Observatory, Bombay, in the Year 1883–1890.** Bombay: Central Government Press of India, 1884–1891.

This book is a collection of eight yearbooks which discuss meteorological and magnetic observations carried out in India. Included are tables of declination, inclination, and horizontal intensity observed from 1883 through 1890.

122. Chree, C., Magnetic Declination at Kew Observatory 1890–1900; Philosophical Transactions of the Royal Society of London, 1908.

The journal discusses an analysis of quiet days during an eleven year period at the Kew Observatory with the same quiet-day period at the Falmouth Observatory. Included are tables showing the number of quiet days, the number of storms and the daily range of diurnal inequality from 1890 through 1900.

123. Chree, C. and D.L. Hazard, [Two titles:] (1) Magnetic Activity and Hourly Ranges; and, (2) Activity of the Earth's Magnetism; Terrestrial Magnetism and Atmospheric Electricity, 1917.

The journal contains two articles discussing magnetic activity and hourly ranges, and activity of the Earth's magnetism.

124. Christie, S. Hunter, Discussion of the Magnetic Observations Made by Captain Back, R.N. during His Late Arctic Expedition, 1836.

The journal contains the results of magnetic observations made in route from London to the Arctic where Captain Back was to relieve the Ross Expedition. Values of inclination and declination from 1833 through 1836 at a number of sites are recorded.

125. Cirera, P. Ricardo, Geomagnetism in the Philippines (El Magnetismo Terrestre en Filipinas); Manila: Meteorological Observatory of Manila, 1893.

The book discusses the history of magnetic surveys in Manila including site description and the instruments used. The work includes tables of declination, inclination, and horizontal intensity observed at locations throughout the Philippines from 1888 through 1892. The text is in Spanish.

126. Clark, J.F., Geomagnetic Surveys at West Hawk Lake, Manitoba, Canada; Geomagnetic Service of Canada, 1980.

The journal contains maps of West Hawk Lake in Manitoba showing geologic formations, the distribution of total force, contour of magnetic intensity, and a table showing declination, inclination, total intensity, horizontal, and vertical intensity.

127. Clark, J.F., Magnetic Results, 1948–1961. Ottawa: Dominion Observatory, 1964.

The journal contains tables of declination, inclination, and horizontal intensity observed at locations throughout Canada from 1948 through 1961. At stations where the horizontal intensity was less than 1000 gamma vertical intensity is also recorded.

128. Committee of the International Geophysical Year of the Academy of Sciences of the USSR, [Multiple titles on topics of geomagnetism]; Bulletin of the Committee of the International Geophysical Year of the Academy of Sciences of the USSR, 1958.

The journal contains five articles on topics of geomagnetism in the USSR. The text is in Russian.

- 129. Contarino, F.,** Determination of Absolute Magnetic Inclination at the Observatory of Capodimonte in 1898, 1899, and 1900. (Determinazioni assolute dell'Inclinazione Magnetica dell'Osservatorio di Capodimonte eseguite negli anni 1898, 1899, e 1900); Academy of Physical Science and Mathematics (endiconto dell'Accademia delle Scienze Fisiche e Matematiche), 1902.

The journal contains values of inclination observed at the Capodimonte Observatory in 1898, 1899, and 1900 with a summary of annual mean values of inclination from 1882 to 1900. The text is in Italian.

- 130. Contarino, F.,** Determination of Absolute Magnetic Inclination (Determinazioni assolute della Inclinazione Magnetica); Academy of Physical Science and Mathematics of Napoli (Accademia delle Scienze Fische e Matematiche de Napoli), 1906.

The journal discusses geomagnetic surveys made in Italy from 1901 through 1903. Included are tables of inclination observed at the Capodimonte Observatory in 1901, 1902, and 1903. The text is in Italian.

- 131. Council of Scientific and Industrial Research,** Rapid Variations of Earth's Electromagnetic Field: January–December, 1972; Council of Scientific and Industrial Research of the National Geophysical Research Institute, 1972.

The journal contains twelve tables of electromagnetic data observed in India in 1972.

- 132. Council of Scientific and Industrial Research,** Rapid Variations of the Earth's Electromagnetic Field: January–December, 1973; Council of Scientific and Industrial Research of the National Geophysical Research Institute, 1973.

The journal contains twelve tables of electromagnetic data observed in India in 1973.

- 133. Courtillot, V. and J.L. LeMouel,** Aeromagnetic Survey of the Republic of Djibouti (Le Leve Aeromagnetique de la Republique de Djibouti); Institute of Geophysics (Institut de Physique de Globe), 1978.

The journal discusses the geomagnetism in the Republic of Djibouti. Included are tables of data showing total intensity for 1977.

- 134. Courtillot, V., J.L. LeMouel, and B. Lepetre,** Magnetic Observations from the Geomagnetic Repeat Stations of France, 1977 (Observations Magnetiques, Resau Magnetique de Repetition de la France Campagne 1977); Institute of Geophysics (Institut de Physique du Globe), 1978.

The journal discusses geomagnetism in France. Included are tables of declination and secular variation for the period 1972.5 through 1977.5.

- 135. Cumme, G. and E.A. Lauter,** Final Report on IQSY Activities in the German Democratic Republic: 1964–1965; National Committee for Geodesy and Geophysics of

the DDR and the German Academy of Science of Berlin (Nationalkomitee für Geodäsie und Geophysik der DDR bei der Deutschen Akademie der Wissenschaften zu Berlin), 1966.

The report contains a survey of actual performed measurement and observations of the various IQSY disciplines and a review of data available from WDCs or from the indicated institutes on request.

136. Curtis, G.E., Hourly Readings of the Declinometer, December 1881–September 9, 1882: Ooglaamie, Alaska; U.S. Signal Corps, 1883.

The journal contains scaled values of declination observed in Alaska from 1881 through 1882. Included are notes of inferior instrumentation.

137. Darker, W.R., Determining Mean Hourly Values by Electronic Integration; Earth Physics Branch of the Department of Energy, Mines and Resources, 1971.

The publication discusses the use of an electronic integrator with a time constant of one hour for the purpose of determining the mean hourly values of the magnetic field in real time.

138. Darker, W.R. and D.L. McKeown, Record of Observations at Agincourt Magnetic Observatory: 1968 and January to March 1969; Earth Physics Branch of the Department of Energy, Mines and Resources, 1972.

The publication contains hourly, monthly, and annual mean values of declination, horizontal intensity, and vertical intensity observed at the Agincourt Observatory in 1968 and 1969.

139. Davidson, R.J., L.W. Williams, R.P. Loh, J. Horvath, and O. Keunecke, Geophysical Survey of the Renison Bell Tin Field, Tasmania; Commonwealth of Australia, 1957.

The journal provides charts showing magnetic anomalies yielding strong indications of sulphide mineralization containing pyrrhotite in the Renison Bell Tin Field, Tasmania, from 1951 through 1952.

140. Davis, Gualterio G., Enlightening Notes upon the Climate in the Republic of Argentina (Ligeros Apuntes Sobre el Clima de la Republica Argentina). Buenos Aires: Pablo E. Coni E Hijos, 1889.

The book contains meteorological and geomagnetic data including declination, inclination, and horizontal intensity observed at locations throughout Argentina. Meteorological data are from 1876 through 1888. Magnetic observations are from 1882 through 1884.

141. Dawson, E. and L.C. Dalgetty, Magnetic Charts of Canada for Epoch 1965.0. Ottawa: Dominion Observatory, 1966.

The publication discusses magnetic chart components for declination, inclination, horizontal intensity, vertical intensity, total field intensity, north component, east component, grid variation, grid-north component and grid-east component.

142. Dawson, E., L.R. Newitt, A. Nandi, and D. Nagy, A Spherical Harmonic Approach to Mapping the Magnetic Declination in Canada for 1980 (Une Approche Par

Harmonique Spherique de la Cartographie de la Declinaison Magnetique au Canada Pour 1980); Geomagnetic Service of Canada, 1981.

The journal contains data showing the pattern of magnetic declination for 1980 from measurements of north and east components obtained in surveys from 1969 through 1976.

143. De Azpiazu, Ubaldo and Gil Rodrigo, Geomagnetism: Its Study in Spain (Magnetismo Terrestre: su estudio in Espana); National Congress of Engineering (Congreso Nacional de Ingenieria). Madrid: Geographical and Statistical Institute, 1919.

The book discusses a number of magnetic surveys carried out in Europe from 1881 through 1910. Information pertaining to the Spanish survey includes a discussion of instrumentation, station location and tables of declination, inclination, horizontal intensity, and secular variation observed and recorded from 1912 through 1915. The text is in Spanish.

144. De Gasparis, A., Notes on the Values of Magnetic Inclination (Avvertenze e Valori dell'Inclinazione Magnetica); Capodimonte Astronomical Observatory of Napoli (Capodimonte a Napoli Observatorio Astronomico), 1885.

The report discusses geomagnetic observations made in Italy in 1883 and 1884. Included are tables of declination and inclination observed at the Capodimonte Observatory throughout the year. Some pages appear to be missing. The text is in Italian.

145. De Jesus, Angel G., Magnetic Declination in the Philippines in 1955; Bureau of Coast and Geodetic Survey of the Philippines, 1958.

The journal contains values of declination, inclination, and horizontal intensity observed in the Philippines reduced to January 1, 1955. Also included are nineteen pages of station descriptions and an isogonic chart.

146. De Meyer, F., Results of Observations of Earth Tides in 1974 (Resultats des Marees terrestres en 1974); Yearbook of the Royal Meteorological Institute of Belgium, 1976.

The yearbook discusses the nature of Earth tides and the methods for gathering data used at the Center Earth Physics of Dourbes, Belgium, in 1974. The work contains 60 pages of hourly value tables showing the horizontal motions. The text is in both French and Dutch.

147. De Miguel Gonzalez-Miranda, Luis, Thunderstorms in Telluric Currents (Tormentas en Corrientes Teluricas); Revista De Geofisica, 1956.

The journal discusses the coincidences of registered thunderstorms with telluric currents. It is pointed out that there is a great amplitude in rapid variation of telluric currents while medium values remain almost constant. The text is in Spanish.

148. De Miguel, Luis, The Study of Profound Magnetic Anomalies in the Iberian Peninsula (Estudio de Anomalias Magneticas Profundas en la Peninsula Iberica); Institute of Geophysics and Registry, 1969.

The journal discusses the magnetic anomalies of the Iberian Peninsula in 1959. Included are graphs showing variations of declination, horizontal intensity, and vertical intensity. The text is in Spanish.

- 149. De Souza, J.A.,** Monthly Magnetic Determinations from December 1866 to May 1869 Inclusive, Made at the University of Coimbra; Magnetic Observatory of Coimbra, 1869. The journal contains monthly values of declination, inclination, north component, east component, and total intensity made at the Coimbra Observatory from 1866 through 1869.
- 150. De Vuyst, A.,** The Definition of the Normal Magnetic Field of Belgium for the Epoch 1960.5 (La Definition D'un Champ Magnetique Normal De La Belgique pour L'Epoch 1960.5); Royal Meteorological Institute of Belgium, 1963. The journal discusses geomagnetic measurements made in Belgium from 1952 through 1957 and reduced to the Epoch 1960.5. Tables of data include declination, inclination, horizontal intensity, vertical intensity, total intensity, and north and east components. The text is in both French and Dutch.
- 151. De Vuyst, A.,** The Magnetic Anomalies of Belgium (Les Anomalies Magnetiques de la Belgique); Royal Institute of Meteorology of Belgium, 1963. The journal shows data for the Epoch 1960.5 for the seven geomagnetic elements—declination, horizontal intensity, vertical intensity, total intensity, inclination, and both north and east component in Belgium. The text is in French.
- 152. De Vuyst, A., L. Koenigsfeld, and Edm. LaHaye,** Distribution of the Geomagnetic Field in Belgium for the Epoch 1960.5 (La Distribution Du Champ Magnetique Terrestre en Belgique a L'Epoque 1960.5); Royal Meteorological Institute of Belgium, 1962. The journal contains values of declination, inclination, horizontal intensity, vertical intensity, and total intensity observed in Belgium and reduced to the Epoch 1960.5. The text is in French and Flemish.
- 153. De Vuyst, Andre Pierre,** De Verdeling, De Op En Neerwaartse Voortzetting en de Statistische Behandeling van de Magnetische Anomalieen van de Vertikale Intensiteit van Belgie; Klasse Der Wetenschappen, Jaargang 29, No. 98. Brussels: Paleis Der Academien, 1967. The book discusses the distribution of vertical anomalies in Belgium obtained by quadratic interpolation. The distribution has strong relation with features of the "basement" of Belgium and positive anomalies are essentially connected with Cambrian-Silurian socle. The text is in Dutch.
- 154. Dechevrens, Marc,** Bulletin of Magnetic and Meteorological Observations (Bulletin des Observations Magnetiques et Meteorologiques); The St. Louis (St. Hellier) Observatory, 1894–1907. St. Hellier (Iles de la Manche): The Chronicle of Jersey (Chronique de Jersey), 1894–1907. Observatory yearbooks for the St. Louis (St. Hellier) Observatory for the years 1894–1907. Each yearbook contains atmospheric pressure, temperature, humidity, wind speed, declination, and inclination. Magnetic observations were begun in 1900. The text is in French.

- 155. Deel, Samuel A.,** Alaska Magnetic Tables and Magnetic Charts for 1940; U.S. Coast and Geodetic Survey, 1944.

The journal contains values of declination, inclination, and horizontal intensity observed off-shore and on land in Alaska from 1873 through 1941. Values observed are also reduced to January 1, 1940.

- 156. Deel, Samuel A.,** Magnetic Declination in the United States 1945; U.S. Coast and Geodetic Survey, 1945.

The journal shows data pertaining to declination, secular change, daily variation, azimuth corrections, and corrections for both refraction and parallax in the United States in 1945.

- 157. Deel, Samuel A. and H. Herbert Howe,** United States Magnetic Tables and Magnetic Charts for 1945; U.S. Coast and Geodetic Survey, 1948.

The work is a continuation of observations of declination and secular change made at ten-year intervals throughout the United States.

- 158. Del Castillo, Luis,** Magnetic Investigation in the Vicinity of Derby, Adams County, Colorado, U.S.A.; International Geophysics (Geofisica Internacional), 1972.

This journal contains a series of articles published by the Institute of Geophysics of the National University of Mexico. The article discusses the results of a magnetic survey made in the vicinity of Derby, Colorado, to obtain information about the structural attitude of the basement complex rocks.

- 159. Delporte, A. and L. Gillis,** Astronomic and Magnetic Observations in the Territory of the Independent State of the Congo (Observations Astronomiques and Magnetiques sur le Territoire de L'Etat Independant du Congo); Vol. 53. Brussels: The Royal Academy of Science of Belgium, 1892.

The book contains tables of astronomic, barometric, and magnetic observations including declination, inclination, and horizontal intensity. Observations were made at fourteen stations in the Congo from 1890 through 1892. The text is in French.

- 160. Demetrescu, C. and T. Nestianu,** Normal Values of the Geomagnetic Elements H, Z, and F in Romania, at 1980.0 (Valori Normale Ale Elementelor Geomagnetice H, Z and F in Romania, La Epoca 1980.0); Romanian Review of Geology, Geophysics and Geography, Academy of the Socialist Republic of Romania, 1984.

The journal contains values of horizontal, vertical, and total components of the geomagnetic field for the Epoch 1980.0. Data are based on measurements taken at twenty-one base stations in 1979 and 1980.

- 161. Demetrescu, D., M. Ene, and T. Nestianu,** The Secular Variation of the Geomagnetic Field in Romania between 1974 and 1981; Romanian Review of Geology, Geophysics and Geography; Academy of the Socialist Republic of Romania, 1984.

The journal describes a magnetic survey carried out in Romania from 1964 through 1984.

Tables showing values of horizontal intensity, vertical intensity, and total intensity are included.

162. Dennis, Leonard S. and Patrick T. Taylor, Aeromagnetic Survey of Tampico Bank; U.S. Naval Oceanographic Office, 1967.

The journal contains a total intensity and bathymetric chart of the Tampico Bank showing data obtained in a survey in 1967.

163. Denza, P.F., Magnetic Inclination at Torino; Atti. R. Academy de Parte Fisica, 1885.
The journal contains tables of magnetic inclination measured at several stations in Italy from 1871 through 1884. The book is extremely fragile. The text is in Italian.

164. Department of Geophysics of the Directory of Hydrography and Navigation, Geomagnetic Observations on the Island of Trinidad: November to December, 1964 (Observacoes Geomagneticas na Ilha da Trindada: Novembro-Dezembro de 1964); Division of Geophysics of the Observatory of Trinidad, 1965.

The journal discusses geomagnetic surveys on the Island of Trinidad in 1964. Included are observations of declination, inclination, and horizontal intensity. The text is in Portuguese.

165. Deutsch, E.R., J.L. Roy, and G.S. Murphy, An Improved Astatic Magnetometer for Paleomagnetism. Ottawa: Dominion Observatory, 1967.

The journal discusses the design and application of an improved astatic magnetometer for use in paleomagnetic studies.

166. DiPiazza, N.J., An Interpretation of an Aeromagnetic and Gravity Survey of Eastern Virginia; Marine Sciences Department of the U.S. Naval Oceanographic Office, 1963.

The manuscript discusses an aeromagnetic and gravity survey conducted in eastern Virginia in 1961. Data gathered in the survey were used to produce magnetic total intensity contour and curvature of magnetic intensity charts of the region.

167. Dixon, B.A., Hourly Ranges of the Magnetic Elements during the Polar Year 1932-3 at the Observatories of Lerwick and Eskdalemuir; Geophysical Memoir No. 80 of the Meteorological Office of the Air Ministry, 1949.

The journal discusses geomagnetic observations made near the auroral zone during the Polar Year of 1932 and 1933. Included are tables of observed values of declination, horizontal intensity, and vertical intensity.

168. Djurovic, D., The Duration of the Tide within Universal Storms and Coordinates of the Pole and TU1 for the Interval 1967-1974 (Les termes de maree dans le Temps Universel and Coordonnees du pole et TU1-TUC pour l'ntervalle 1967-1974); Bulletins of Observations of Earth Tides (Bulletin D'Observations d'Marees Terestres), 1975.

The journal discusses Earth tides and polar stability in relationship to variations in Earth's rotation. Tables contains model results are listed in the text. The text is in French.

169. Doyle, Rev. John, *Magnetical Dip and Declination in the Philippine Islands; Brief Notice of the Same.* Manila: Manila Central Observatory, 1901.

The work discusses declination and secular variation from 1840 through 1899 in the Philippine Islands. Monthly, semi-annual and annual mean values of declination and inclination for the Manila Observatory and other stations throughout the Far East are recorded. Declination curves for 1890 through 1897 and isogonic and isoclinic charts for Epoch 1892 are also included.

170. Dubourdieu, Georges, *Concerning the Theory of Internal Pulsations of the Earth and Certain Variations of Terrestrial Magnetic Fields (Sur La Theorie Des Pulsations Internes De La Terre Et Sur Certaines Variations Du Champ Magnetique Terrestre);* Neubourg: Imprimerie Du Neubourg, 1973.

The work discusses internal pulsations and variation of the terrestrial magnetic field as reflected in the horizontal and vertical intensity. The text is in French.

171. Dubourdieu, Georges, *On the Earth's Mechanism;* Laboratory of Geology of the College de France, 1970.

The journal discusses geomagnetism as it relates to major geological displacement which take place between oceanic ridges and deep earthquake zones.

172. Eaton, Norma F., *Magnetic Declination in Texas 1945;* U.S. Coast and Geodetic Survey, Serial 717. Washington, D.C.: U.S. Government Printing Office, 1949.

The book contains tables of secular change, declination, and an isogonic chart with lines of equal magnetic declination for January 1, 1945.

173. Eckerson, Frank M., *NURE-GJOIS Data Repository Catalog (National Uranium Resource Evaluation),* 1980.

The catalog is a file of two-hundred pages listing the names of data repository records containing uranium resources and evaluations.

174. Eighmy, Jeffrey L. and Pamela Y. Klein, 1988 *Additions to the List of Independently Dated Virtual Geomagnetic Poles and the Southwest Master Curve.* Fort Collins: Archaeometric Lab of Colorado State University, 1988.

The publication contains the data list for the master virtual geomagnetic pole (VGP) curve. The work includes independently dated VGP positions used by the Archaeometric Lab to date archaeomagnetic samples.

175. Eighmy, Jeffrey L. and Pamela Y. Klein, 1990 *Additions to the List of Independently Dated Virtual Geomagnetic Poles and the Southwest Master Curve.* Fort Collins: Archaeometric Lab of Colorado State University, 1990.

The publication contains the data list for the master virtual geomagnetic pole (VGP) curve. The work includes independently dated VGP positions used by the Archaeometric Lab to date archaeomagnetic samples.

176. Eighmy, Jeffrey L., J. Holly Hathaway, and Sharilee Counce, *Independently Dated Virtual Geomagnetic Poles: The Colorado State University Archaeometric Data Base*. Fort Collins: Archaeometric Lab of Colorado State University, 1987.

The publication contains the data list for the master virtual geomagnetic pole (VGP) curve. The work includes independently dated VGP positions used by the Archaeometric Lab to date archaeomagnetic samples.

177. Eleman, Folke, Kjell Borg, Ulf Oquist, and Chr. Sucksdorff, *The Aeromagnetic Survey of Denmark, Finland, Norway, Sweden; Meteorological Institutes of Denmark, Finland, Norway, and the Swedish Board of Shipping and Navigation*, 1965.

The journal contains the results of an airborne survey of Scandinavia carried out in the Autumn of 1965. Tables of declination, horizontal intensity, vertical intensity, and location are presented in Appendix B.

178. Elliot, Charles M., *Magnetic Survey of the Eastern Archipelago*. London: Richard Taylor, 1851.

The book contains information from a magnetic survey of the Eastern Archipelago. Values of declination, inclination, and horizontal intensity were observed at sea and in Indonesia, Malaysia, Brunei, and the Bay of Bengal from 1846 through 1848. Recording methods and probable error are noted for each site.

179. Elliot, C.M., *Magnetical Observations Made at the Honorable East India Company's Magnetical Observatory at Singapore in the Years 1841-1845; Vol. 2*. Madras: The American Mission and Male Asylum Presses, 1851.

The book discusses magnetic surveys in the Singapore region of China. Included are tables of declination, inclination, horizontal intensity, and vertical intensity from 1841 through 1845.

180. Elstner, Cl. and H. Wirth; Kl. Lindner, and H. Wirth, [Two titles:] (1) *Relative Gravity Measurements between Potsdam and the Antarctica (Relative Schweremessungen Zwischen Potsdam und Antarktika)*; and, (2) *DDR Participant Group on the 10th Soviet Antarctic Expedition in the Winter of 1965 (Bericht der DDR-Teilnehmergruppe an der 10. Sowjetischen Antarktisexpedition Uberwinterung 1965)*. Berlin: Geodesy Group of the German Academy of Science (Fachgruppe Geodasie bei der Deutschen Akademie der Wissenschaften zu Berlin), 1967.

The two journal articles discuss gravity measurements taken between Potsdam and the Antarctic, and in the Antarctic in 1965. The text is in German.

181. Engelmann, Gerhard, *The Prussian Sea Charts Produced before the Foundation of the German Navy (Das preussische Seekartenwerk vor Grundung der Kriegsmarine)*; German Hydrographic Publication (*Deutsche Hydrographische Zeitschrift*), 1971.

The journal is a collection of several articles concerning oceanography with an associated bibliography. The production of Prussian charts of the Baltic in 1840 and 1841 based on a nautical survey of the coast carried out in the period from 1833 through 1838 is discussed. The text is in German.

- 182. Errulat, Fr.,** Geomagnetic Measurements in the Area of the Free State of Danzig (Erdmagnetische Messungen im Gebiete der Freien Stadt Danzig); Journal of Geophysics of the University of Konigsberg, 1929.

The journal contains values of declination, horizontal intensity, and vertical intensity in the Free State of Danzig observed in 1925. Observations were reduced to Epoch 1925.0 based on observations at Potsdam Observatory. Observations were made at forty-one stations in Danzig.

- 183. Establishment of Education of the University of Madagascar (Etablissement d'Enseignement l'Universite de Madagascar),** Magnetism (Magnetisme); Bulletin of the University of Madagascar, 1983.

The journal discusses a geomagnetic survey carried out in Madagascar in 1983. Included are tables of declination, inclination, and horizontal intensity for the month of May, 1983. The text is in French.

- 184. Evans, A. E. and E.I. Loomer,** Summary of Observations at Magnetic Observatories in Northwest Territories for 1963. Ottawa: Dominion Observatory, 1965.

The journal contains hourly, monthly, and annual mean values of declination, inclination, horizontal intensity, vertical intensity, total intensity, and north and east components made at observatories in Baker Lake, Alert, Mould Bay, and Resolute Bay in the Northern Territories, Canada in 1963.

- 185. Evans, Frederick J.,** On the Magnetic Character of the Armour-Plated Ships of the Royal Navy, and on the Effect on the Compass of Particular Arrangements of Iron in a Ship; Philosophical Transactions, 1865.

The journal discusses the magnetic disturbance of nautical compasses in relation to the mass of iron used in construction of war ships.

- 186. Ewing, J., J.L. Worzel, M. Ewing, and C. Windisch,** Ages of Horizon A and the Oldest Atlantic Sediments; Lamont Geological Observatory, 1966.

The journal discusses paleomagnetism and old Atlantic sediments.

- 187. Fabiano, E.B. and N.W. Peddie,** Grid Values of Total Magnetic Intensity IGRF: 1965; ESSA Technical Report, 1969.

- 188. Fabiano, E.B., W.J. Jones, and N.W. Peddie,** The Magnetic Charts of the United States for Epoch 1975; Geological Survey Circular 810, 1979.

- 189. Fabiano, E.B., N.W. Peddie, D.R. Barraclough, and A.K. Zunde,** International Geomagnetic Reference Field 1980: Charts and Grid Values; Bulletin of the IAGA, 1983.

190. Fabiano, E.B., N.W. Peddie, D.R. Barraclough, and A.K. Zunde, International Geomagnetic Reference Field 1980: Charts and Grid Values (IAGA Bulletin No. 47); Geological Survey Circular 873, 1983.

191. Fanselau, G. and H. Wolter, Methodology of Precision Structure Research of Sq (Methodik der Feinstruktur-Untersuchung des Sq); National Committee for Geodesy and Geophysics of the German Academy of Science of Berlin (Nationalkomitee für Geodäsie und Geophysik der Deutschen Akademie der Wissenschaften zu Berlin), 1967.

The journal contains tables showing hourly mean values of north and east components made at the Seddin Observatory for the Epochs 1911–1923. The text is in German.

192. Faris, R.L., Results of Magnetic Observations Made by the Coast and Geodetic Survey Between July 1, 1906 and June 30, 1907; U.S. Coast and Geodetic Survey, 1908.

The report contains values of declination, inclination, and horizontal intensity observed throughout the United States in 1906 and 1907. Data are in tables ordered by state with stations descriptions at the end of the text.

193. Faris, R.L., Terrestrial Magnetism: Results of Magnetic Observations Made by the Coast and Geodetic Survey between July 1, 1907, and June 30, 1908; U.S. Coast and Geodetic Survey, 1909.

The journal contains values of declination, inclination, horizontal intensity, and total intensity observed throughout the United States and adjacent countries in 1907 and 1908. Also included are observations made by the survey ships *Bache*, *Explorer*, and *Patterson* in the Pacific and Atlantic Oceans.

194. Faris, R.L., Terrestrial Magnetism: Results of Magnetic Observations Made by the Coast and Geodetic Survey Between July 1, 1908, and June 30, 1909; U.S. Coast and Geodetic Survey, 1910.

The journal contains values of declination, inclination, horizontal intensity, and total intensity observed throughout the United States and adjacent countries in 1908 and 1909. Also included are observations made by the survey ships *Bache*, *Explorer*, and *Patterson* in the Pacific and Atlantic Oceans.

195. Faris, R.L., Terrestrial Magnetism: Distribution of the Magnetic Declination in Alaska and Adjacent Regions for 1910; U.S. Coast and Geodetic Survey, 1910.

The journal contains values of magnetic declination observed in Alaska and adjacent regions. Tables record historically observed declinations, the current declination as observed, and declination reduced to Epoch 1910.

196. Faris, R.L., Terrestrial Magnetism: Distribution of the Magnetic Declination in the United States for January 1, 1910; U.S. Coast and Geodetic Survey, 1911.

The journal contains values of magnetic declination and secular change computed for the United States based on observed values. Tables of declination span the years 1750 to 1910.

- 197. Faris, R.L.,** *Terrestrial Magnetism: Results of Magnetic Observations Made by the Coast and Geodetic Survey between July 1, 1909, and June 30, 1910; U.S. Coast and Geodetic Survey, 1911.*

The journal contains values of declination, inclination, horizontal intensity, and total intensity observed throughout the United States and adjacent countries in 1909 and 1910. Also included are observations made by the survey ships *Bache*, *Explorer*, and *Patterson* in the Pacific and Atlantic Oceans.

- 198. Faris, R.L.,** *Terrestrial Magnetism: Results of Magnetic Observations Made by the Coast and Geodetic Survey between July 1, 1911, and December 31, 1912; U.S. Coast and Geodetic Survey, 1913.*

The journal contains values of declination, inclination, horizontal intensity, and total intensity observed throughout the United States and adjacent countries in 1911 and 1912. Also included are observations made by the survey ships *Bache*, *Explorer*, and *Patterson* in the Pacific and Atlantic Oceans.

- 199. Faris, R.L.,** *Terrestrial Magnetism: Results of Magnetic Observations Made by the Coast and Geodetic Survey in 1913; U.S. Coast and Geodetic Survey, 1914.*

The journal contains values of declination, inclination, horizontal intensity, and total intensity observed throughout the United States and adjacent countries in 1913. Also included are observations made by the survey ships *Bache*, *Explorer*, *Hydrographer*, *McArthur*, and *Patterson* in the Pacific and Atlantic Oceans.

- 200. Farr, Coleridge C.,** *Magnetic Survey of the Dominion of New Zealand and Some of the Outlying Islands for the Epoch 30th June, 1903; Lands and Survey Department of New Zealand, 1916.*

The book discusses the history of geomagnetism and magnetic surveys in the New Zealand region. Included are tables of declination, inclination, and horizontal intensity observed at a number of locations throughout the New Zealand region from 1899 through 1915.

- 201. Fassig, Oliver L.,** *Magnetic Observations in the Bahama Islands; The Bahama Islands. New York: The MacMillan Company, 1905.*

The article is an extract from a book on the Bahama Islands discussing geomagnetic instrumentation and station locations. Included is a table of observations of declination, inclination, and total intensity made by the Bahama Expedition of the Baltimore Geographical Society in 1903.

- 202. Fedorov, E.K.,** *Magnetic Observations in Taimyr Peninsula 1935; Articles on Terrestrial Magnetism and Atmospheric Electricity; Arctic Institute of the USSR, 1937.*

The journal contains values of declination, inclination, vertical intensity, and horizontal intensity observed in the Taimyr Peninsula in 1935. The text and tables are in Russian.

- 203. Finger, D.L.,** *The Conference on Problems of the Study of Magnetic Field of the Earth on the World Ocean; Geophysical Bulletin, 1963.*

This journal is a collection of articles pertaining to geophysical research activities of the Academy of Sciences of the USSR. The article cited discusses problems of the study of magnetic field of the Earth on the world's oceans. The text is in Russian.

204. Fischer, Marion P., Annual Mean Values of Geomagnetic Elements since 1941; Bulletin of the Institute of Geological Sciences, 1976.

The journal contains values for declination, horizontal intensity, vertical intensity, total intensity, inclination, and north and east components from stations around the world.

205. Fisher, Marion P. and D.R. Barraclough, Geomagnetism Unit: User Manual and Catalogue for Machine-Readable Data; Bulletin of the Institute of Geological Sciences. [Date unknown]

The bulletin contains data about the observatory and format documentation written to implement the use of the Institute's data retrieval system.

206. Fisk, H.W. and H.U. Sverdrup, Land Magnetic and Electric Observations, 1918–1926; Publication No. 175, Vol. 6. Washington, D.C.: Carnegie Institution, 1927.

The book discusses geomagnetic surveys carried out world-wide from 1905 through 1926. Included are summaries of information pertaining to site locations and instruments. Included also are tables of declination, inclination, and horizontal intensity.

207. Fleming, I.A., et al. (Committee of the International Association of Geomagnetism and Aeronomy), Description of Geomagnetic Observations (Description Des Observatoires Geomagnetiques); Royal Meteorological Institute of Belgium, 1957.

The journal provides description and history of magnetic observatories of the Royal Institute of Meteorology of Belgium operating in 1957.

208. Forbush, Scott E. and Mateo Casaverde, Equatorial Electrojet in Peru; Department of Terrestrial Magnetism of the Carnegie Institute and the Geofiscal Institute of Huancayo, Publication No. 620. Washington, D.C.: Carnegie Institution, 1961.

The book analyzes the electrojet phenomenon which flows eastward, overhead near midday in equatorial regions. The work contains data obtained from magnetograms of horizontal intensity, declination, and vertical intensity traces obtained on the west coast of South America.

209. French, C.A. and R.C. Madili, Magnetic Results, 1924–1926. Ottawa: Dominion Observatory, 1930.

The journal contains the results of astronomical and magnetic observations carried out from 1924 through 1926. Values of declination, inclination, and horizontal intensity were made at several stations throughout Canada. The observed values and station descriptions along with an isogonic chart for 1921 are recorded.

210. French, C.A. and R.C. Madili, Magnetic Results, 1927–1937. Ottawa: Dominion Observatory, 1940.

The journal contains the results of astronomical and magnetic observations carried out from

1927 through 1937. Values of declination, inclination, and horizontal intensity were made at several stations throughout Canada. The observed values and station descriptions are recorded.

- 211. Fritsche, H.,** Atlas of Geomagnetism for the Epochs 1600, 1700, 1780, 1842 and 1915 (Atlas des Erdmagnetismus für die Epochen 1600, 1700, 1780, 1842 und 1915). Riga, Latvia: Muellerschen Buchdruckerei, 1903.

The atlas shows declination, inclination, and horizontal intensity for Epochs ranging from 1600 to 1915 around the world.

- 212. Fritsche, H.,** Magnetic Observations at 509 Locations in Asia and Europe during the Period 1867–1894 (Observations Magnetiques sur 509 lieux Faites en Asia et en Europe pendant la periode de 1867–1894). St. Petersburg: 1897.

The book contains the results of magnetic observations at 509 stations throughout Europe and Asia. Data recorded include latitude, longitude, time, declination, inclination, and force fields. Data are also reduced to a grid and anomalous areas outlined. The text is handwritten and in French.

- 213. Fritsche, H.,** Results of Astronomical and Magnetic Observations (Resultate aus Astronomischen und Magnetischen Beobachtung); Trips from St. Petersburg through Siberia and Mongolia to Peking from 1867 through 1873. Moscow: The Imperial Academy of Science of Russia, 1874.

The book contains meteorological and geomagnetic observations made between St. Petersburg and Peking. Declination, inclination, and total intensity were observed at several locations in the USSR and China. The data span the years 1828 through 1873. The text is in German.

- 214. Fritsche, Hermann Peter Heinrich,** The Daily Periods of Geomagnetic Elements (Die Tagliche Periode Erdmagnetischen Elemente); St. Petersburg: 1902.

The book contains geomagnetic observations from observatories and stations during the last quarter of the Nineteenth Century world wide. Declination, horizontal intensity, and inclination from twenty-seven stations were used to calculate theoretical gh coefficients. The text is handwritten and in German.

- 215. Fukushima, Naoshi and Takesi Nagata,** Morphology of Magnetic Disturbance; Yearbook of Geophysics (Annales de Geophysique), 1968.

The journal discusses the nature of geomagnetic activity in terms of maximum activity and systematic latitude changes. Theories of the effects of auroral electrojet appearances and solar wind streaming around the magnetosphere are considered.

- 216. Fukushima, Naoshi and Takesi Nagata,** Morphology of Magnetic Disturbance; Yearbook of Geophysics (Annales de Geophysique), 1968.

The journal discusses the nature of geomagnetic activity in terms of maximum activity and systematic latitude changes. Theories of the effects of auroral electrojet appearances and solar wind streaming around the magnetosphere are considered.

- 217. Gaibar-Puertas, C. and M. Pfannenstiel, Geological Interpretation of a Bathymetric-Geomagnetic Profile from the Alboran and Balearen Sea. (Geologische Interpretation einiger bathymetrisch-geomagnetischer Profile aus dem Alboran und Balearenmeer); German Hydrographic Journal (Deutschen Hydrographischen Zeitschrift), 1974.**

The journal discusses geological interpretations of the Alboran and Balearen Sea region based on geomagnetic observations and bathymetric profiles.

- 218. Gaibar-Puertas, Constantino, Secular Variation of the Magnetic Field (Variacion Secular Del Campo Geomagnetico); Superior Council of Scientific Investigations, Record No. 11 (Memoria No. 11). Tarragona: 1953.**

This book is written in three parts. Part One is a text book on geomagnetism, Part Two is an investigation of secular variation based on data from 112 magnetic observatories, 115 magnetic stations, and 41 IGY polar stations. Observed values recorded include declination and inclination in Paris and London from 1540 through 1833. Part Three is a bibliography. The text is in Spanish, with English and French summaries.

- 219. Gaimard, M. Paul, Voyages of the Scientific Commission of the North in Scandinavia to Spitzberg and Feroe: 1838, 1839 and 1840 (Voyages de la Commission Scientifique du Nord, Scandinavie, En Laponie au Spitzberg aux Feroe, 1838, 1839 and 1840); Paris: Arthus Bertrand de Didot Fieres, 1840.**

The book discusses geomagnetic surveys in Scandinavia in 1838, 1839, and 1840. Included are tables of declination and horizontal intensity. The text is in French.

- 220. Galton, F., The Kew Observatory, Richmond, Surrey 1890–1899; Reports of the Kew Committee for the Years 1890–1899. London: Harrison and Sons, 1890.**

The book contains magnetic, meteorological and solar observations made at Kew Observatory during the years 1890–1899. Annual mean values of magnetic declination, inclination, horizontal intensity, vertical intensity, and diurnal variation are recorded.

- 221. Gama, Lelio I., Diurnal Variation of the Geomagnetic Field of Brazil (Sobre A Variacao Diurna Do Campo Magnetico No Brasil); Publications of Geomagnetism, 1972.**

The journal contains tabular and graphical representations of diurnal variation in Peru, Argentina and Brazil. Data from Huancayo, La Quiaca, Pilar, Tatuoca, Trelew, and Vassouras magnetic observatories were used to study the geomagnetic field in Brazil in 1960. The text is in Portuguese.

- 222. Gama, Lelio I., Installation of the Tatuoca Magnetic Observatory; Publicacoes Do Servico Magnetico, 1958.**

The journal discusses the establishment of the Tatuoca Magnetic Observatory in Brazil in terms of site location, instrumentation, and administration.

- 223. Gama, Lelio I., The Normal Magnetic Field in Brazil and Its Secular Variation: 1965.0 (Campo Magnetico Normal e Sua Variacao Secular No Brasil: 1965.0); National**

Observatory, 1969.

The journal contains values of declination, inclination, and horizontal intensity observed in Brazil from 1953 through 1965. Absolute observations were made at 85 magnetic stations for use in the construction of the magnetic charts. All data values are reduced to Epoch 1965.0. The text is in Portuguese.

224. **Gama, Lelio I.**, A Precise Theory of Magnetometry (Precis de Theorie du Magnetometre); Publication of Magnetic Service (Publicacoes do Servico Magnetico), 1957.

The journal discusses the theory behind the construction of magnetometers including determination of deflection, magnetic moments, and oscillations. The text is in French.

225. **Geikie, A.**, Magnetic Observations: The National Antarctic Expedition, 1901–1904. London: The Royal Society, 1909.

The book contains an extended discussion of the magnetic work of the *Discovery* National Antarctic Expedition of 1901–1904. Hourly mean values of declination, horizontal intensity and vertical intensity are computed from photographic records. Data from Kew, Falmouth, Colaba, Mauritius, and Christchurch observatories were used for the data reduction.

226. **Gelcich, Eugen**, Magnetic Location Determinations at the South-East Austrian-Hungarian Border (Magnetiische Ortsbestimmungen an den sudostlichen Grenzen Ostereich-Ungarns); Imperial Academy of Science, 1888.

The journal contains values of declination, inclination, and horizontal intensity observed at eleven stations along the south-eastern Austrian border in 1886 and 1887. The text is in German.

227. **The Geophysical and Polar Research Center of the Department of Geology**, Regional Aeromagnetic Map of Wisconsin (Contour Map); The Department of Geology, the Geophysical and Polar Research Center, 1964.

The maps show magnetic anomalies made from observations in Wisconsin in 1964. The survey was made with a proton precession magnetometer at an elevation of 3,000 feet above sea level. Observations were made at 1,000 foot intervals.

228. **The Geophysical Institute of the University of Alaska: S.I. Akasofu and K. Kawasaki**, Geophysical Institute of the University of Alaska: 1972–1973; Analysis Center for Geomagnetic Disturbances, 1973.

The report summarizes the work carried out at the Geophysical Institute in 1972–1973. Each grant is described briefly, including the scientific personnel involved. Topics being researched include DP-2 magnetic variations, geomagnetic storms, the magnetosphere, magnetic micropulsations, and paleomagnetic studies.

229. **The Geophysical Institute of the University of Alaska**, Annual Report of the Geophysical Institute of the University of Alaska: 1972–1973; 1974.

The report summarizes the work carried out at the Geophysical Institute in 1971 and 1972.

Research grants are described briefly, including the scientific personnel involved. Topics researched include incoherent-scatter investigations, aurora and airglow, analysis for geomagnetic disturbances, magnetospheric substorms, and magnetic micropulsations.

- 230. Gerard, V.B. and J.A. Lawrie, Aeromagnetic Surveys in New Zealand 1949–1952; Department of Scientific and Industrial Research of New Zealand, 1955.**

The journal contains the data of aeromagnetic surveys as absolute total-force maps or as profiles. Both a regional absolute total-force map and a total-force anomaly map are shown.

- 231. Gesco, Reynaldo P., Extremes, Daily Variations, Monthly and Annual Means of D, H, Z, Reference and Scale Values and a Brief Description of the Observatory of Trelew (Extremos, Variacion Diurna, Promedios Mensuales Y Anuales De D, H, Z, Valores de Lineas de Referencia, Valores de Escala y Breve Descripcion del Observatorio Magnetico de Trelew); Institute of Astronomical Observatory of the National University of La Plata, Argentina, 1958.**

The paper is report of geomagnetic observations made at the Trelew Observatory in Argentina in 1957 and 1958. Included are tables of declination, horizontal intensity, and vertical intensity. The text is in Spanish.

- 232. Gilbert, William, On the Magnet (De Magnete); Derek J. Price, editor, The Collector's Series in Science. New York: Basic Books, Inc., 1958.**

The book is a reprint in English of Gilbert's original treatise in Latin published in 1600; it discusses the history of geomagnetism as it was known in the Sixteenth Century.

- 233. Gilliss, J.M., Magnetical and Meteorological Observations Made at Washington under Orders of the Honorable Secretary of the Navy, August 13, 1838; Public Documents Printed by Order of the Senate of the United States. Washington, D.C.: Gales and Seaton, 1845.**

The book contains nearly seven-hundred pages of data including atmospheric pressure, air temperature, dew point, and magnetic declination from observations made at Washington, D.C. from 1838 through 1842. Magnetic declination hourly values are recorded June 1840 through July 1842.

- 234. Golovkov, V.P., E.M. Dimant, and G.I. Kolomiitseva, Summary of the Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1986.**

The journal contains tables of values for the seven magnetic elements throughout the world from 1984 through 1985. The text is in Russian.

- 235. Golovkov, V.P., E.M. Dimant, and G.I. Kolomiitseva, Summary of the Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1989.**

The journal contains tables of values for the seven magnetic elements observed at locations throughout the world from 1982–1988. The text is in Russian.

- 236. Good, S.E. and F.J. Pettijohn, Magnetic Survey and Geology of the Stager Area, Iron County, Michigan; Geological Survey Circular of the U.S. Department of the Interior, 1949.**

The article discusses the geology, magnetic anomalies, structure, and exploration possibilities in the Stager Area of Iron County, Michigan. The article concludes that the discovery of high-grade oxide ores is not good, but that yields of unoxidized chert siderite iron-formations might yield a "merchantable" product.

- 237. Graulich, J.M. and J.L. Koenigsfeld, Geomagnetic Research of the Southern Grand-Halleux Mass: Stavelot (Etude geomagnetique de la partie meridionale du massif devillien de Grand-Halleux: massif de Stavelot); Geological Service of Belgium, 1962.**

The journal shows tables of vertical intensity in eastern Belgium, which detect "marker-horizons" consisting of magnetite-bearing phyllites embedded in the devillian strata.

- 238. Greenhouse, John P., Geomagnetic Time Variations on the Sea Floor off Southern California; Marine Physical Laboratory of the Scripps Institution of Oceanography, 1972.**

Data from 12 geomagnetic stations on the sea floor off southern California have been analyzed to infer the structure of electrical conductivity within the oceanic basement.

- 239. Grenet, G., Meteorology and Geophysics of the Sahara: 1943 (Meteorologique et Geophysique de Sahara: 1943); Institute of Meteorology and Earth Physics of Algeria, 1949.**

The journal contains meteorological and geomagnetic observations made in North Africa in 1943. Geomagnetic data include three tables of declination for the years 1941, 1942, and 1943.

- 240. Grenet, G., Meteorology and Geophysics of the Sahara: 1944 (Meteorologique et Geophysique de Sahara: 1944); Institute of Meteorology and Earth Physics of Algeria, 1950.**

The journal contains meteorological and geomagnetic observations made in North Africa in 1944. Geomagnetic data include tables of declination for 1944.

- 241. Grenet, G., Meteorology and Geophysics of the Sahara: 1945 (Meteorologique et Geophysique de Sahara: 1945); Institute of Meteorology and Earth Physics of Algeria, 1950.**

The journal contains meteorological and geomagnetic observations made in North Africa in 1945. Geomagnetic data include tables of declination for 1945. The text is in French.

- 242. Grenet, G., Meteorology and Geophysics of the Sahara: 1946 (Meteorologique et Geophysique de Sahara: 1946); Institute of Meteorology and Earth Physics of Algeria, 1950.**

The journal contains meteorological and geomagnetic observations made in North Africa in

1946. Geomagnetic data include tables of declination for 1946. The text is in French.

243. Griffiths, D.H., R.P. Riggihough, H.A.D. Cameron, and P. Kennett, Geophysical Investigation of the Scotia Arc; Scientific Reports of the British Antarctic Survey, 1964. The journal shows height corrections, theoretical gravity, the absolute value of gravity, and Bouguer anomalies in explaining "marked magnetic highs" in the region off the north coast of South Shetland Islands and northern Graham Land from 1959 through 1962.

244. Grim, Paul J., Bathymetric and Magnetic Anomaly Profiles from a Survey South of Panama and Costa Rica (U.S. Coast and Geodetic Survey *Oceanographer*, August 1969); Environmental Science Services Administration, 1970.

The journal contains magnetic anomaly data from observations made in Costa Rica and south of Panama in 1969.

245. Griveau, P., N. Debeglia, A. Gerard, C. Weber, C. Gateau, J.M. Prevosteau, F. Munck, et al., [Multiple titles on geomagnetism]; Bulletin of the Bureau of Geological Research and Mining (Bulletin du Bureau de Recherches Geologiques et Minieres), 1975.

The journal contains nine abstracts of articles on geophysics.

246. Grivet, P., Measurement of Weak Terrestrial Magnetic Fields (Mesure des champs magnetiques faibles du type champ terrestre); P.L. Bender, Measurement of Weak Magnetic Fields by Optical Pumping Methods, 1960.

The journal discusses various methods of measuring weak magnetic fields. The texts are in French and English.

247. Gudoias, Basilio, Graciela Font de Affolter, and Alejandro Mateo, Gravimetric Observations in the Province of Buenos Aires in 1967 (Observaciones Gravimetricas en la provincia de Bueno Aires, Ano 1967); Astronomical Observatory of the National University of La Plata, Argentina, 1970.

The book contains forty-two pages of gravimetric observations made in Buenos Aires in 1967. Gravity data are reduced to the observatory at La Plata. No magnetic data are recorded.

248. Guerrieri, E., Determination of Absolute Magnetic Inclination (Determinazioni assolute della Inclinazione Magnetica); Academy of Physical Science and Mathematics of Napoli (Accademia delle Scienze Fische e Matematiche de Napoli), 1907.

The journal discusses geomagnetic absolute measurements made at Capodimonte, Italy, from 1904 through 1906. Included are annual value tables of inclination at the Capodimonte Observatory in 1904, 1905, and 1906 and a summary of values from 1882. The text is in Italian.

249. Guerrieri, Eugenio, Determination of Absolute Magnetic Inclination at the Capodimonte Observatory during the Years 1913–1921 (Determinazioni assolute della Inclinazione Magnetica durante gli anni 1913–1921); Academy of Physical Science and Mathematics of Napoli (Accademia delle Scienze Fische e Matematiche de Napoli), 1933.

The journal discusses magnetic observations made in Italy at the Capodimonte Observatory from 1913 through 1921. Included are hourly and monthly tables of inclination with a summary of annual mean values from 1882 through 1921. The text is in Italian.

250. Gun Bayer, Francis S., *The Lunar Magnetic Field Revealed by Its Projections on Earth;* University Review (Revista Universitaria), 1958.

The journal discusses the effects of the moon's magnetism on Earth's magnetic field. The publication consists of three parts: historical considerations, basic ideas without arguments and finally, a detailed exposition of the arguments.

251. Gupta, Jadish Chandra, *Information on the Geomagnetic Data Collected for the Lunar Current System Project;* NCAR Technical Notes, 1968.

The journal describes methods and data used to study the Earth's current system. Data from 102 IGY/IGC magnetic observatories were collected and written to magnetic tape.

252. Gurariy, G.Z., *Geomagnetic Field Reversals: Catalogue 1957–1982;* Soviet Geophysical Committee of the Academy of Sciences of the USSR, 1985.

The catalog is a summary of data of geomagnetic field reversals, composed on the basis of papers published from 1957 through 1982. Included are numerical parameters of reversals, qualitative characteristics, and pictures with VGP positions during reversals.

253. Haines, G.V., W. Hannaford, and R.P. Riddihough, *Magnetic Anomalies over British Columbia and the Adjacent Pacific Ocean;* Canadian Journal of Earth Sciences, 1971.

The journal contains a contoured residual map of the vertical magnetic field observed at approximately 5 km altitude. The journal discusses the major structures of the buried Canadian Shield, the Cordilleran Region, and the northeast Pacific Ocean based on observations from that map.

254. Haines, G.V., *Polynomial Estimation of Certain Geomagnetic Quantities, Applied to a Survey of Scandinavia.* Ottawa: Dominion Observatory, 1968.

The publication discusses geomagnetic field descriptions in terms of polynomials in a polar stereographic coordinate system. Polynomials of the third degree were fitted by the method of least squares to the observed values of two orthogonal horizontal components and the vertical component in three independent analyses.

255. Haines, G.V., *A Taylor Expansion of the Geomagnetic Field in the Canadian Arctic.* Ottawa: Dominion Observatory, 1967.

The journal discusses the 1963 aeromagnetic survey in terms of non-orthogonal Taylor series expansion of 1st, 2nd, and 3rd degrees by the least squares method. Basic analysis was carried out in mutually perpendicular components of grid-north components, grid-east components, and vertical intensity.

- 256. Haines, G.V. and W. Hannaford,** Magnetic Anomaly Maps of British Columbia and the Adjacent Pacific Ocean; Earth Physics Branch of the Department of Energy, Mines and Resources, 1972.

The publication discusses data obtained in a three-component aeromagnetic survey of British Columbia and the northeastern Pacific Ocean carried out in 1969. Several residual profiles are reproduced in this journal.

- 257. Haines, G.V. and W. Hannaford,** A Three-Component Aeromagnetic Survey of the Canadian Arctic; Earth Physics Branch of the Department of Energy, Mines and Resources, 1974.

The publication discusses data obtained in a three-component aeromagnetic survey of the Canadian Arctic carried out in 1970. Magnetic declination, horizontal intensity, and vertical intensity were measured at an average altitude of 3.7 km.

- 258. Haines, G.V. and W. Hannaford,** A Three-Component Aeromagnetic Survey of Eastern Canada; Geomagnetic Service of Canada, 1980.

The journal contains graphs and charts of residual magnetic fields made from an aeromagnetic survey of eastern Canada in 1976.

- 259. Haines, G.V., W. Hannaford, and P.H. Serson,** Magnetic Anomaly Maps of the Nordic Countries and the Greenland and Norwegian Seas. Ottawa: Dominion Observatory, 1970.

The publication provides charts derived from a three-component aeromagnetic survey in one-half minute residuals represented as residual profiles for each magnetic component; as two-dimensional vector residuals in two orthogonal planes; and, as segments of contour lines.

- 260. Hann, J.,** Yearbook of the K.K. Central Establishment for Meteorology and Geomagnetism (Jahrbucher der K.K. Central-Anstalt fur Meteorologie und Erdmagnetismus; Annual 1879, Series 16 (Jahrgang 1879, Folge 16). Vienna: Wilhelm Braumuller, 1882.

The yearbook contains meteorological and geomagnetic observations made at stations in Austria and adjacent countries from 1879 through 1871. Geomagnetic data include tables of declination and horizontal intensity. The text is in German.

- 261. Hann, J.,** Yearbook of K.K. Central Establishment for Meteorology and Geomagnetism (Jahrbucher der K.K. Central-Anstalt fur Meteorologic und Erdmagnetismus); Year 1882, Sequence, Vol. 19. (Jahrgang 1882, Folge XIX Band). Vienna: Wilhelm Braumuller, 1884.

The book contains meteorological and geomagnetic data observed at sites throughout Europe from 1882 through 1884. Geomagnetic data include observed values of declination, inclination, and horizontal intensity. The text is in German.

- 262. Hannaford, W. and G.V. Haines,** A Three-Component Aeromagnetic Survey of the Nordic Countries and the Greenland Sea. Ottawa: Dominion Observatory, 1969.

The journal exhibits data from the 1965 aeromagnetic survey of Iceland, Greenland, the Greenland Sea, Denmark, Norway, Sweden, and Finland in terms of declination, horizontal intensity, and vertical intensity in continuous analog form, producing averages computed over five-minute intervals of time.

- 263. Hannaford W. and G.V. Haines, A Three-Component Aeromagnetic Survey of British Columbia and the Adjacent Pacific Ocean; Department of Energy, Mines and Resources, 1974.**

The publication shows tables of declination, horizontal intensity, vertical intensity, and total intensity derived from an aeromagnetic survey in British Columbia in 1969. The regional field, in the form of a 3rd-degree polynomial, is compared with IGRF.

- 264. Hansel, Horst and Hans-Joachim Wilke, Results of Special Geophysical Analogy Experiments and Their Interpretation (Durchführung spezieller geophysikalischer Analogieexperimente und ihre Deutung); Research Branch of Cosmic Physics of the German Academy of Science of Berlin (Forschungsbereich Kosmische Physik der Deutsche Akademie der Wissenschaften zu Berlin), 1969.**

The journal contains the results of geoelectrical laboratory experiments concerning magnetic storms. The text is in German.

- 265. Harang, Leiv, Pulsations in the Terrestrial Magnetic Records at High Latitude Stations; Geophysical Publications (Geofysiske Publikasjoner), 1942.**

The journal discusses pulsations in the magnetic records observed at high latitude stations in Sweden in 1929. Included are tables showing the frequency and oscillations of magnetic storms.

- 266. Harris, T.J., P.R. Robinson, A.C.J. Greenwood, and A.J. Forbes, Magnetic Results 1986: Eskdalemuir, Hartland and Lerwick Observatories; Institute of Geological Sciences of the Natural Environment Research Council of the British Geological Survey, 1988.**

The journal contains tables of declination, inclination, horizontal, and vertical intensity and secular variation for observatories in England in 1986.

- 267. Hartnell, George, Distribution Coefficients of Magnets; U.S. Coast and Geodetic Survey, 1930.**

The journal discusses a theory of the distribution of coefficients of magnets which endeavors to simplify mathematical analysis and to render formulas available for practical use. Emphasis is given to theory.

- 268. Haworth, R.T. and L.F. Barrett, Bathymetry, Gravity and Magnetic Data over the Orpheus Gravity Anomaly, Cruise B1 27-64 Hudson; Bedford Institute of Oceanography, 1972.**

The journal contains total magnetic field and magnetic anomaly data from observations made in 1970.

269. Haworth, R.T., L.F. Barrett, and J.B. MacIntyre, Bathymetry, Gravity and Magnetic Data Cruise BI 72-009 *Dawson*; Bedford Institute of Oceanography, 1972.

The journal contains total magnetic field and magnetic anomaly observations made in the Grand Banks, southeast of Newfoundland, the Laurentian Channel and the Scotian Shelf in 1970.

270. Hazard, Daniel L., Alaska: Magnetic Tables and Magnetic Charts for 1930; U.S. Coast and Geodetic Survey, 1934.

The journal contains the results of intensive surveying to better define magnetic declination in Alaska. Shipboard and ground observations of declination, inclination, and horizontal intensity observed through 1930 are recorded in several tables and charts.

271. Hazard, Daniel L., Directions for Magnetic Measurements; U.S. Coast and Geodetic Survey, Serial 166. Washington, D.C.: United States Government Printing Office, 1921.

The publication is a manual for the guidance of officers of the U.S. Coast and Geodetic Survey working in terrestrial magnetism dealing with instruments and the set-up of observatories. The work is a handbook for making magnetic measurements.

272. Hazard, Daniel L., Directions for Magnetic Measurements: Third (1930) Edition, Corrected, 1957; U.S. Coast and Geodetic Survey, Serial 166. Washington, D.C.: United States Government Printing Office, 1957.

The publication is a manual for the guidance of officers of the U.S. Coast and Geodetic Survey working in terrestrial magnetism dealing with instruments and the set-up of observatories. The work is a handbook for making magnetic measurements.

273. Hazard, Daniel L., Magnetic Declination in the United States in 1925; U.S. Coast and Geodetic Survey, 1926.

The journal provides tables of declination in the United States beginning in 1750 at intervals of two degrees of latitude or longitude. Magnetic declination and annual change are shown graphically on an isogonic chart.

274. Hazard, Daniel L., Magnetic Declination in the United States in 1930; U.S. Coast and Geodetic Survey, 1932.

The report contains tables of historic declination for a two-degree by two-degree grid in the United States from 1750 through 1930. The grid was based on observations made prior to 1925. Also included is a table of declination at Vieques, Cheltenham, Toronto, Tucson, Sitka, and Honolulu Observatories.

275. Hazard, Daniel L., Magnetic Dip and Intensity Observations January, 1897, to June 30, 1902; U.S. Coast and Geodetic Survey, 1903.

The journal contains observations of inclination, and horizontal intensity made in the United States from 1897 through 1902.

- 276. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1915. Washington, D.C.: U.S. Government Printing Office, 1916. The book discusses the results of magnetic observations made in the United States by the Coast and Geodetic Survey in 1915. Included are tables of declination and inclination. The work also contains sixty pages of stations descriptions.
- 277. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1916; U.S. Coast and Geodetic Survey, 1917. The journal contains values of declination, inclination, and horizontal intensity at locations throughout the United States and adjacent countries in 1916. The work also contains descriptions of the magnetic stations.
- 278. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1917; U.S. Coast and Geodetic Survey, 1918. The journal contains observations of declination, inclination, and horizontal intensity made in the United States in 1917. The work includes forty-six pages of station descriptions and seven pages of observations.
- 279. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1919; U.S. Coast and Geodetic Survey, 1920. The journal contains observations of declination, inclination, and horizontal intensity made in the United States in 1919. The work includes fifteen pages of station descriptions and five pages of observations.
- 280. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1921; U.S. Coast and Geodetic Survey, 1922. The journal contains observations of declination, inclination, and horizontal intensity made in the United States in 1921. The work includes thirteen pages of station descriptions and five pages of observations.
- 281. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1924; U.S. Coast and Geodetic Survey, 1925. The journal contains observations of declination, inclination, and horizontal intensity made in the United States in 1924. The work includes thirty-eight pages of station descriptions and six pages of observations.
- 282. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1926; U.S. Coast and Geodetic Survey, 1927. The journal contains observations of declination, inclination, and horizontal intensity made in the United States in 1926. The work includes nine pages of station descriptions and five pages of observations.
- 283. Hazard, Daniel L.,** Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1927; U.S. Coast and Geodetic Survey, 1928.

The journal contains observations of declination, inclination, and horizontal intensity made in the United States in 1927. The work includes fourteen pages of station descriptions and four pages of observations.

284. Hazard, Daniel L., Results of Magnetic Observations Made by the United States Coast and Geodetic Survey in 1929; U.S. Coast and Geodetic Survey, 1930.

The journal contains observations of declination, inclination, and horizontal intensity made in the United States in 1929. The work includes twenty-one pages of station descriptions and five pages of observations.

285. Hazard, Daniel L., Results of Observations Made at the Coast and Geodetic Survey Magnetic Observatory near Honolulu, Hawaii, 1902–1912. Washington, D.C.: U.S. Government Printing Office, 1909, 1913.

This series of five yearbooks contains a discussion of observations made near Honolulu, Hawaii from 1902 through 1912. Included are tables of declination, inclination, and horizontal intensity.

286. Hazard, Daniel L., Results of Observations Made at the United States Coast and Geodetic Survey Magnetic Observatory at Cheltenham, Maryland, from 1913 through 1920; Serial Numbers 19, 94, 170, and 214. Washington, D.C.: U.S. Government Printing Office, 1915.

The book contains tables of diurnal variation, monthly and annual means, hourly values of declination, horizontal intensity, and vertical intensity. There is a summary of seismic activity and magnetic storms observed at Cheltenham Observatory for each year.

287. Hazard, Daniel L., Results of Observations Made at the United States Coast and Geodetic Survey Magnetic Observatory near Tucson, Arizona: 1915 and 1916; Washington, D.C.: U.S. Government Printing Office, 1918.

The book discusses magnetic surveys made near Tucson, Arizona, in 1915 and 1916. Included are tables of hourly, monthly, and annual means of declination, horizontal intensity, and vertical intensity.

288. Hazard, Daniel L., Results of Observations Made at the United States Coast and Geodetic Survey Magnetic Observatory near Tucson, Arizona: 1921 and 1922; Washington, D.C.: U.S. Government Printing Office, 1925.

The work contains hourly, monthly, and annual mean values of declination, horizontal intensity, and vertical intensity made at the magnetic observatory in Tucson, Arizona, in 1921 and 1922.

289. Hazard, Daniel L., Results of Observations Made at the United States Coast and Geodetic Survey Magnetic Observatory near Tucson, Arizona: 1925 and 1926; Washington, D.C.: U.S. Government Printing Office, 1934.

The book discusses the results of geomagnetic observations made near Tucson, Arizona, in 1925 and 1926. Included are tables of hourly, monthly, and annual means of declination,

horizontal intensity, and vertical intensity.

290. Hazard, Daniel L., United States Magnetic Tables and Magnetic Charts for 1915; Special Publication No. 44. Washington, D.C.: U.S. Governments Printing Office, 1917.

The work contains values of declination, inclination, and horizontal intensity observed at stations throughout the United States from 1810 through 1915. Data were used to construct isogonic charts for Epoch 1915. Only the charts for total intensity and vertical intensity are contained in this book.

291. Hazard, Daniel L., United States Magnetic Tables and Magnetic Charts for 1925; Washington, D.C.: U.S. Government Printing Office, 1929.

The work contains values of declination, inclination, and horizontal intensity observed at stations throughout the United States from 1882 through 1928. Data were used to construct isogonic charts for declination, inclination, vertical intensity, and horizontal intensity which are included in the publication.

292. Hazard, D.L., Magnetic Declination in the Caribbean Sea and Central America; Manuscript of D.L. Hazard, 1912.

The journal contains eleven pages of handwritten tables showing observations of declination, inclination, and horizontal intensity. Observations were made at sites in Cuba, Barbados, Panama, Nicaragua, Costa Rica, Honduras, Guatemala, San Salvador, and Colombia from 1700 through 1912.

293. Hazard, D.L., Magnetic Survey of North Carolina; Bulletin of the U.S. Coast and Geodetic Survey, 1901.

The journal discusses the history of magnetic surveys carried out in North Carolina. Included are tables of declination from 1750 through 1910 and magnetic station descriptions.

294. Heaviside, Oliver, Electromagnetic Theory; Ernst Weber, Vol. 1, 2 and 3. New York: Dover Publications, Inc., 1950.

The book contains nearly four-hundred pages of Oliver Heaviside's work on electromagnetic theory covering a broad range of topics including electromagnetic connections, vector analysis, plane electromagnetic waves, diffusion of electric displacement waves, and waves in ether. This edition contains previously published Vol. 1, 2, and 3 of Heaviside's work.

295. Heck, N.H., Celebration of the Completion of One-third Century of Continuous Operation at the Cheltenham Magnetic Observatory; Terrestrial Magnetism and Atmospheric Electricity, 1934.

296. Heck, N.H., Instructions for the Compensation of the Magnetic Compass; U.S. Coast and Geodetic Survey, 1938.

The publication discusses the history of the compass as a navigational instrument. Included are sections on the compensation and care of the compass and an explanation of magnetic declination.

297. Heck, N.H. and W.E. Parker, Instructions for the Compensation of the Magnetic Compass; U.S. Coast and Geodetic Survey, 1923.

The publication discusses the history of the compass as a navigational instrument. Included are sections on the nature of magnetic compensation, on the care of the compass, and an explanation of magnetic declination.

298. Hegybiro, Zsuzsanna, (editor), [Multiple titles:] (1) Rubidium Vapour Vector Magnetometer; (2) Low Noise Quartz Torsion Magnetometers; (3) Digital Quartz Torsion Magnetometer; (4) French Antarctic Magnetic Observatories; and, (5) Fluxgate Magnetometers; Geophysical Transactions, 1991.

The journal contains thirteen articles which discuss a variety of topics pertaining to geomagnetism including magnetometers, indices, INTERMAGNET, and computer algorithms for processing magnetic data.

299. Heirtzler, J.R. and D.E. Hayes, Magnetic Boundaries in the North Atlantic Ocean; Lamont Geological Observatory, 1967.

300. Henderson, John R. and Isidore Zietz, Interpretation of an Aeromagnetic Survey of Indiana; Geophysical Field Investigations, 1958.

This work combines aeromagnetic survey data acquired in 1947, 1948, and 1950 in Indiana. Data have been used to prepare a regional contour map of buried Precambrian crystalline surfaces. Included are contour charts and a magnetic contour map.

301. Hernandez, Roberto P.J. and Mercedes Barrionuevo, Appendix of Magnetic Cartography (Apendice Cartografia Magnetica); The Argentina Summary of Geography, 1963.

The journal discusses magnetic observation methods and magnetic cartography in Argentina. The isogonic, isoclinic, and isodynamic charts for Argentina are published. The text is in Spanish.

302. Hesselberg, Th., Various Papers on the Projected Cooperation with Roald Amundsen's North Polar Expedition; Geophysical Publications, 1920.

The journal discusses geomagnetic surveys carried out in the Arctic region prior to 1918 and the proposed cooperative Arctic expedition of 1918.

303. Heuring, F.T., A Study of the Harmonic Description of the Geomagnetic Field at Satellite Altitudes; Applied Physics Laboratory of the Johns Hopkins University, 1963.

The journal discusses spherical harmonic expansion of the geomagnetic field. It attempts to determine which model furnishes the best description at satellite altitudes and the number of coefficients necessary to reduce to noise the residual geomagnetic field and it seeks evidence of an external magnetic field source.

- 304. Hide, R.,** Motions of the Earth's Core and Mantle, and Variations of the Main Geomagnetic Field; Science, 1967.
- 305. Hilgard, J.E.,** Magnetic Observations on the Boundary Line between the United States and Mexico under the Treaty of 1853; 1855.
The journal discusses a magnetic survey made along the boundary between the United States and Mexico in 1855. Included are tables of declination, inclination, and horizontal intensity.
- 306. Hilgard, J.E.,** Methods and Results on a Chart of the Magnetic Declination in the United States; U.S. Coast and Geodetic Survey, 1879.
The journal contains an isogonic chart for the year 1875 for the United States with a discussion of the method of production.
- 307. Hilgard, J.E. and Charles A. Schott,** Report Appendices for 1874, 1876, 1879, 1880, 1882, 1886; Secular Change of Declination, U.S. and at Some Foreign Stations (Third edition, 1879), U.S. Coast and Geodetic Survey. Washington, D.C.: U.S. Government Printing Office, 1874-1886.
The book is a collection of appendices for the U.S. Coast and Geodetic Survey Reports from 1874 through 1882. Each appendix contains tables and charts showing declination and secular variation in the United States and other foreign stations.
- 308. Hill, Donald W.,** An Evaluation of the 1965.0 Epoch, H.O. World Magnetic Variation Chart; Technical U.S. Naval Oceanographic Office, 1968.
The journal evaluates previous world magnetic charts and improves them by abstracting representative quantities of data for comparison with observed data. The work contains a histogram of data density for World Magnetic Chart.
- 309. Hine, Alfred B.,** Magnetic Compasses and Magnetometers. Toronto: University of Toronto Press, 1968.
- 310. Hoge, E.,** Research of Anomalies of the Vertical Component of the Geomagnetic Field in the Region of the High Fagnes (Etude des Anomalies de la Composante Verticale du Champ Magnetique Terrestre Dans la Region des Hautes Fagnes); Royal Academy of Belgium, 1935.
The journal shows data for over five hundred observations of anomalies and vertical intensity in eastern Belgium in 1934 and 1935.
- 311. Hope, E.R. (translator),** Large-Scale Geomagnetic Features in the Region of Transition from the Asiatic Continent to the Pacific Ocean by O.N. Solovyev, A.G. Gainanov, B.A. Andreyev, and L.A. Rivosh. Ottawa: Defense Research Board, 1964.
This book is a collection of three papers dealing with large-scale geomagnetic anomalies and their associated geological structures in the northwest Pacific basin.

312. Horvath, J. and R.J. Davidson, Geophysical Survey of the Rye Park Scheelite Deposit, New South Wales; Commonwealth of Australia, 1958.

The journal provides charts revealing five well-defined anomalies in New South Wales suggesting the existence of "important quantities" of scheelite in New South Wales in 1952.

313. Howe, Herbert H., Magnetic Observations in the American Republics 1945–48; U.S. Coast and Geodetic Survey, Serial 690. Washington, D.C.: United States Government Printing Office, 1949.

Data are shown in terms of declination, inclination, and horizontal intensity for a number of American Republics from 1945 through 1948. The project is a continuation of observations made in the years 1941–1944.

314. Howe, Herbert H. and L. Hurwitz, Magnetic Surveys; U.S. Coast and Geodetic Survey, Serial 718. Washington, D.C.: U.S. Government Printing Office, 1964.

The pamphlet contains general information on the magnetic field and the survey methods of the U.S. Coast and Geodetic Survey. Values of magnetic declination, inclination, and horizontal intensity at the Cheltenham Observatory are shown to illustrate secular variation.

315. Howe, Herbert H. and David G. Knapp, United States Magnetic Tables and Magnetic Charts for 1935; U.S. Coast and Geodetic Survey, Serial 602. Washington, D.C.: U.S. Government Printing Office, 1938.

The book contains observed values of magnetic declination, inclination, and horizontal intensity for stations in the United States in 1935.

316. The Hungarian Geophysical Institute, Annual Report of the Hungarian Geophysical Institute "Roland Eotvos" for 1978; Hungarian Geophysical Institute, 1979.

The report is a collection of articles on topics of geophysics. Topics pertaining to geomagnetism include: prospecting, instrumental research, geoelectricity, magnetic variation, magnetospheric research, and paleomagnetism. The text is in both English and Hungarian.

317. Husti, G.J., Geodetic-Astronomical Observations in the Netherlands, 1947–1973; Geodesy of the Netherlands Geodetic Commission, 1975.

The journal contains five tables of data constructed to establish a reference ellipsoid for national triangulation in the Netherlands from 1947 through 1973.

318. The Hydrographic Surveys Department of the U. S. Naval Oceanographic Office, Geomagnetic Surveys 1953–1965; Brochure Number 3; U.S. Naval Oceanographic Office, 1966.

The journal contains maps showing the location charts of surveys from 1953 through 1965, a list of microfilm reel index numbers for Project Magnet tracks, and 15 pages of track location charts.

319. The Imperial Academy of Science of St. Petersburg, Magnetic Data of the Russian Empire; Imperial Academy of Science, 1912.

The journal discusses a geomagnetic survey carried out in Russia. Included are tables of declination, inclination, horizontal intensity, and total intensity for 1910 and 1911. The text is in Russian.

- 320. Institute of Geography and Cartography of Spain and the National Meteorological Service of Portugal, Results of Magnetic Measurements at Stations Referenced to 1960.0: Iberian Peninsula (Relacion de Valores Magneticos de las Estaciones Referidos a 1960.0: Peninsula Iberica); Institute of Geography and Cartography of Spain and the National Meteorological Service of Portugal (Instituto Geografico y Catastral de Espana y Servicio Meteorologico Nacional de Portugal), 1963.**

The journal contains forty-seven pages of tables showing observations of declination, horizontal intensity, and vertical intensity at sites in Spain and Portugal reduced to 1960.0. For each station the latitude, longitude, and reduced magnetic values are recorded.

- 321. Institute of Geophysics, The History of the Earth's Magnetic Field. Moscow: The Academy of Sciences of the USSR, 1965.**

The textbook contains sixty chapters or sections dealing with a variety of topics pertaining to paleomagnetism and the history of Earth's magnetic field. The text is in Russian.

- 322. The Institute of Geophysics of the National University of Mexico, Yearbook of the Institute of Geophysics for 1970 (Anales del Instituto de Geofisica para 1970); Institute of Geophysics, 1971.**

The yearbook contains abstracts of scientific articles on work carried at the Institute of Geophysics in 1970. Topics cover general geophysics, gravimetry, the atmosphere, hydrology, mathematical applications, oceanography, seismology, and geomagnetism. The text is in Spanish.

- 323. The Institute of Geophysics of the National University of Mexico, Yearbooks of the Institute of Geophysics for 1972 and 1973 (Anales del Instituto de Geofisica para 1972 y 1973); Institute of Geophysics, 1975.**

The yearbook contains abstracts of scientific articles on work carried at the Institute of Geophysics in 1972 and 1973. Topics cover general information on geophysics including: gravimetry, the atmosphere, hydrology, mathematical applications, oceanography, seismology, and geomagnetism. The text is in Spanish.

- 324. Institute of Military Geography of Chile (Instituto Geografico Militar de Chile), Geomagnetic Measurements (Mediciones Geomagneticas); Technical Military Geographical Institute, 1969.**

The bulletin discusses geomagnetic surveys in Chile from 1958 through 1965. Included are summaries of declination, inclination, and horizontal intensity observed at 41 repeat stations in Chile from 1943 through 1963. The text is in Spanish.

- 325. International Union of Geodesy and Geophysics and the Royal Meteorological Institute of Pays-Bas, Magnetic Character of the Year 1936 (Caractere Magnetique**

L'Annee 1936); International Union of Geodesy and Geophysics and the Royal Meteorological Institute of Pays-Bas, 1937.

The journal discusses the magnetic characteristics of solar flare activity observed at the Pay-Bas Observatory in 1936. Included are tables of solar disturbances from 1906 through 1914.

326. Ionosphere Research Committee of the Science Council of Japan, Catalogue of Disturbances in Ionosphere, Geomagnetic Field, Field Intensity of Radio Wave, Cosmic Ray Solar Phenomena and Other Related Phenomena: No. 46; Report of Ionosphere and Space Research in Japan, 1963.

The catalog contains values of data of remarkable disturbances from September 28 through October 4, 1962, observed at sixteen observatories in Japan. Values are shown for ionosphere, geomagnetic field, field intensity of radio wave, cosmic-ray, and solar phenomena. Geomagnetic data were contributed by Kakioka, Memambetsu, Kanoya, Simosato, and Aso magnetic observatories.

327. Ionosphere Research Committee of the Science Council of Japan, Catalogue of Disturbances in Ionosphere, Geomagnetic Field, Field Intensity of Radio Wave, Cosmic Ray Solar Phenomena and Other Related Phenomena: No. 47; Report of Ionosphere and Space Research in Japan, 1964.

The catalog contains values of data of remarkable disturbances from April 30 through May 4, 1963 observed at sixteen observatories in Japan. Values are shown for ionosphere, geomagnetic field, field intensity of radio wave, cosmic-ray, and solar phenomena. Geomagnetic data were contributed by Kakioka, Memambetsu, Kanoya, Simosato, and Aso magnetic observatories.

328. Jackson, W.E.W., Magnetic Survey Work on the MacMillan Arctic Expedition of 1926; The National Geographic Society, 1925.

The journal contains tables of data observed during the MacMillan Arctic Expedition of 1926. Included are values of declination, inclination, and horizontal intensity.

329. Jacobs, J.A., Annual Report: 1974; Institute of Earth and Planetary Physics of the University of Alberta, 1974.

The annual report is the University of Alberta's research activity for 1974. The work contains a list of faculty and visitors, curriculum, and a brief description of the research programs including geomagnetism and paleomagnetism.

330. Jankowski, Jerzy, Results of Geomagnetic Observations of the Polish Polar Station Hornsund, Spitsbergen, 1982–1983; Institute of Geophysics of the Polish Academy of Sciences, 1988.

The journal discusses the results of observations of Earth's magnetic field for the years 1982 and 1983 carried out at the Polish Polar Station in Spitsbergen as well as a summary of annual mean values from 1979. Tables of data include annual mean values of declination, horizontal intensity, and vertical intensity.

331. **Jankowski, Jerzy**, Results of Geomagnetic Observations of the Hel Geophysical Observatory: 1958–1965; Institute of Geophysics of the Polish Academy of Sciences, 1991.

The journal contains the results of magnetic observations carried out at the Hel Geophysical Observatory, Poland, for the years 1958–1965. Included are tables listing monthly and hourly means and the mean diurnal variation of magnetic elements for each month.

332. **Jankowski, Jerzy**, Results of Geomagnetic Observations of the Polish Polar Station Hornsund, Spitsbergen, 1984–1985; Institute of Geophysics of the Polish Academy of Sciences, 1991.

The journal contains the results of magnetic observations carried out at the Hornsund Observatory at Spitsbergen. Included are tables of declination, horizontal intensity, and vertical intensity for 1984 and 1985, with a summary of annual means from 1979 to 1985.

333. **Jankowski, Jerzy**, Results of Geomagnetic Observations at Arctowski Antarctic Station 1988–1989; Institute of Geophysics of the Polish Academy of Sciences, 1991.

The journal contains the results of magnetic observations carried out at the Arctowski Antarctic Station. Included are tables of declination, horizontal intensity, and vertical intensity for 1988 and 1989, with a summary of annual mean values from 1978 through 1989.

334. **Jankowski, Jerzy**, Results of Geomagnetic Observations at Belsk in 1990; Institute of Geophysics of the Polish Academy of Sciences, 1991.

The journal contains the results of magnetic observations carried out at the Belsk Observatory, Poland. Included are hourly mean value tables of vertical intensity, and north and east components for 1990. Also included is a summary of annual mean values for 1966 through 1990.

335. **Jelinek, Carl and Carl Fritsch**, Yearbook of the K.K. Central Organization for Meteorology and Geomagnetism (*Jahrbucher der K.K. Central-Anstalt Fur Meteorologie und Erdmagnetismus*); Vol. 2, Series 1865, through Vol. 4, Series 1867. Vienna: Kaiserlich-Konglichen Hof und Staatsdruckerei, 1867.

The book discusses meteorological and geomagnetic surveys carried out in Austria and Hungary from 1865 through 1867. Included in the geomagnetic data are tables of daily and monthly means values of declination, inclination, and horizontal intensity. The text is in German.

336. **Jelinek, Carl and Carl Fritsch**, Yearbook of the K.K. Central Organization for Meteorology and Geomagnetism (*Jahrbucher der K.K. Central-Anstalt Fur Meteorologie und Erdmagnetismus*); Vol. 5, Series 1868, through Vol. 7, Series 1870 (V. Band, Jahrgang 1868 durch Band VII, Jahrgang 1870). Vienna: Kaiserliche-Konglichen Hof und Staatsdruckerei, 1870–1873.

The book contains tables of meteorological and geomagnetic data observed at locations in

Europe from 1868 through 1870. Geomagnetic data include declination and horizontal intensity for 1869. The text is in German.

337. Joesting, Henry R., Magnetometer and Direct-Current Resistivity Studies in Alaska; Technical American Institute of Mining and Metallurgical Engineers, 1941.

The publication discusses the use of geomagnetism for use in Alaska in connection with prospecting, mining, and geological studies.

338. Jones, Lester, Magnetic Ranges: San Francisco Bay, California; U.S. Coast and Geodetic Survey, 1920.

The journal discusses the locations of range objects in the San Francisco Bay area primarily for the use of "shipmasters" in testing their magnetic compasses. The book contains several pages of photographs.

339. Jordan, W.H. and E.P. Rothrock, A Magnetic Survey of Central South Dakota; Report of Investigations of the University of South Dakota, 1940.

The report is part of a program to make a magnetic survey of South Dakota first begun in 1939. The report contains tables of data, charts, and maps which may serve as a guide to "favorable oil prospecting" because "highs" are logical places to look for geologic structure.

340. Joselyn, J.A., A Degree of Disturbance Analysis Technique for the Horizontal Magnetic Field; Technical Memorandum of the Space Disturbances Laboratory of ESSA, 1969.

The journal discusses the theory of a "degree of disturbance" technique to replace the subjective method of removing the quiet-day diurnal trends from K figures.

341. Just, Heinz, The Second Geomagnetic Reference Numbers according to Faselau (Die zweiten erdmagnetischen Kennziffern nach Faselau); Geophysical Institute of Potsdam, 1954.

The journal gives an historical overview of the universal Kennziffern and new methods for the computation of k_2 and k_1 . The text is in German.

342. Kahle, A.B., J.W. Kern, and E.H. Vestine, Spherical Harmonic Analyses for the Spheroidal Earth, II; Memorandum of the National Aeronautics and Space Administration, 1965.

The memorandum is a continuation of RAND's efforts at a better representation of Earth's magnetic field by use of geometry more accurately representing the shape of the Earth. These corrections were applied to three existing models of Earth's magnetic field; the differences between corrected and uncorrected models were tabulated.

343. Kakioka Magnetic Observatory, Memoirs of the Kakioka Magnetic Observatory; Kakioka Magnetic Observatory, 1951 through 1989.

These journals contain papers presenting the results of research carried out at the Kakioka Magnetic Observatory from 1951 through the 1980s. The papers cover diverse topics within geophysics, including geomagnetic secular variation, current systems, earthquake studies, Earth

currents, geomagnetic storms, and impulses. The papers may contain scannable data. The text is in English or Japanese.

- 344. Kakioka Magnetic Observatory, Geomagnetic and Geoelectric Observations: Rapid Variations, 1961 through 1989.**

This is a series of annual reports which present the observational results of geomagnetic and geoelectric rapid variation at Kakioka, Memambetsu, and Kanoya observatories from 1961 through the 1980s. The reports are composed of two parts. Part I presents the results of observations of rapid variation which are defined by the Committee X of IAGA. Part II presents copies of rapid-run induction magnetograms and rapid-run tellurigrams on some occasions.

- 345. Kalashnikov, A.G. and V.A. Troitskaya, Short-Period Pulsations of the Earth's Electromagnetic Field; NASA Technical Translation, 1965.**

The journal contains twelve articles which discuss Earth's electromagnetic field, Earth currents, and mid-latitude pulsations, with preliminary results from Spitzbergen.

- 346. Kalinin, J.D., J.N. Avsjuk, V.I. Koptev, O.G. Sorokgtin, and O.P. Kolomiytsev, (Committee of the International Geophysical Year of the Academy of Sciences of the USSR), [Multiple titles:] (1) Geomagnetism; (2) Structure of the Central Sector of the Eastern Antarctica According to Seismic and Gravimetric Research Data; and, (3) A Year on the Geomagnetic Pole; Bulletin of the Committee of the International Geophysical Year of the Academy of Sciences of the USSR, 1960.**

The journal contains three articles on geomagnetism and gravimetry. The text is in Russian.

- 347. Keeling, B.F.E., Magnetic Observations in Egypt 1895–1905 with a Summary of Previous Magnetic Work in Northern Africa; Survey Department of the Ministry of Finance, Egypt, 1907.**

The journal contains values of declination, inclination, horizontal intensity, total intensity, and secular variation made at locations in Egypt and northern Africa from 1895 through 1905. Appendix 2 contains a summary of magnetic observations in northern Africa.

- 348. Kendall, P.C., Geomagnetism and Aeronomy Research in the United Kingdom: 1967–1970; Royal Society for Geodesy and Geophysics, 1971.**

The report was prepared and submitted to the International Association of Geomagnetism and Aeronomy at the 15th General Assembly of IUGG in Moscow. The report is a directory listing research work-in-progress in the U.K. Included are name and addresses of each laboratory or university department, a personnel roster, and a brief outline of the fields of study.

- 349. Keranen, J., Results of Magnetic Observations in 1916 in Finnish Lapland; Geomagnetic Researches of the Central Institution of Meteorology of Finnish States (Erdmagnetische Untersuchungen des Meteorologische Zentralanstalt des Finnischen Staates), 1921.**

The journal discusses the results of magnetic observations carried out in Finnish Lapland. Included are tables of declination, inclination, and horizontal intensity observed at thirty-two

stations in 1916.

350. Keranen, J., Summary of the Activity of the Geophysical Institute of Sodankyla (Ubersicht uber die Tatigkeit der Geophysikalischen Institution in Sodankyla); Proceedings of the Finnish Academy of Science and Letters, 1964.

The journal discusses the history of geomagnetic observations in Finland from 1914 through 1964 including site locations, personnel, and instrumentation. The text is in German.

351. Keranen J. and H. Odelsio, Magnetic Measurements in the Baltic Sea—South Quarken: First Report; Hydrographic Service of Sweden (Kungl. Sjokarteverket), 1926.

The journal discusses magnetic surveys made in the Baltic Sea region. Included are tables of declination, horizontal intensity, and vertical intensity made from 1913 through 1925.

352. Keranen, J. and H. Odelsio, Magnetic Measurements in the Baltic Sea—South Quarken: Second Report; Hydrographic Service of Sweden (Kungl. Sjokarteverket), 1927.

The journal discusses magnetic surveys made in the Baltic Sea region in 1926. Included are tables of declination, horizontal intensity, vertical intensity, and north and east components.

353. Kesslitz, Wilhelm, Observations of a Geomagnetic Excursion: Group IV (Erdmagnetische Reisebeobachtungen: Gruppe IV); Magnetic Declination in the Austro-Hungarian Coastal Areas. Vienna: Pester Buchdruckeri AKG, 1907.

The book discusses magnetic surveys carried out in the Austro-Hungarian Empire from 1854 through 1907. Included are tables of declination and isogonic charts for the coastal areas of the Austro-Hungarian Empire (now Yugoslavia) observed at several stations. The text is in German.

354. Khramov, A.N., Paleomagnetic Directions and Paleomagnetic Poles; Soviet Geophysical Committee of the Academy of Science of the USSR, 1979.

The journal contains twenty-four pages of tables showing: geological age, site latitude and longitude, ancient magnetization (declination, inclination), Fisher precision parameter, circle of 95% confidence, polarity (normal, reversed, or indeterminate), pole position latitude and longitude, the semi-axes for the 95% oval of confidence about the mean pole position, and name of the investigator. The text is in Russian.

355. Khramov, A.N., Paleomagnetic Directions and Paleomagnetic Poles; Soviet Geophysical Committee of the Academy of Sciences of the USSR, 1982.

The journal contains forty-three pages of paleomagnetic determinations for the USSR. The tables show: geological age, site latitude and longitude, ancient magnetization (declination, inclination), Fischer precision parameter, circle of 95% confidence, polarity (normal, reversed, or indeterminate), paleomagnetic pole position (latitude and longitude), the semi-axes for the 95% oval of confidence about the mean pole position, and name of the investigator. The text is in Russian.

- 356. Khramov, A.N.,** *Paleomagnetic Directions and Paleomagnetic Poles: Data for the USSR;* Soviet Geophysical Committee of the Academy of Sciences of the USSR, 1984.
The journal contains 94 pages of paleomagnetic determinations for the USSR. The tables show: geological age, site latitude and longitude, ancient magnetization (declination, inclination), Fischer precision parameter, circle of 95% confidence, polarity (normal, reversed or indeterminate), paleomagnetic pole position (latitude, longitude), the semi-axes for the 95% oval of confidence about the mean pole position, and name of the investigator. The text is in Russian.
- 357. Khramov, A.N.,** *Paleomagnetic Directions and Pole Positions;* Soviet Geophysical Committee of the USSR Academy of Sciences, 1986.
- 358. Khramov, A.N.,** *Paleomagnetic Directions and Pole Positions;* Soviet Geophysical Committee of the USSR Academy of Sciences, 1989.
The journal contains twenty-nine pages of paleomagnetic data. Tables show: geological age, site latitude and longitude, ancient magnetization (declination, inclination), Fischer precision parameter, circle of 95% confidence, polarity, (normal, reversed, or indeterminate), paleomagnetic pole position, the semi-axes for the 95% oval of confidence about the mean pole position (latitude and longitude), and the name of the investigator. The text is in Russian.
- 359. Kiefer, H.,** *Magnetic Inclination in Tiflis: 1870–1876 (Magnetische Inclinationen in Tiflis: 1870–1876).* Tiflis: The Hauptverwaltung des Statthalters von Kaukasien, 1877.
The book contains weekly observations of inclination measured at Tiflis (Tbilisi) Observatory from 1870 through 1876. The text is in German.
- 360. Kilenyi, Eva, (editor),** [Multiple titles:] (1) *Electromagnetic Parameters...;* (2) *Magnetic Anomalies Due to Spherical Sources;* and, (3) *Magnetic Susceptibility Anisotropy Measurements;* Geophysical Transactions, 1990.
The journal contains eight articles which discuss a variety of topics pertaining to geomagnetism.
- 361. Kingston, J.I.,** *Abstracts and Results of Magnetical and Meteorological Observations at the Magnetic Observatory, Toronto, Canada, from 1841 to 1871, Inclusive.* Toronto: Copp, Clark and Company, 1875.
The book contains monthly and annual mean values of declination, inclination, horizontal intensity, and total intensity made at the Toronto Observatory from 1841 through 1871.
- 362. Kis, K., K. Kloska, F. Kovacs, S. Toth, J. Vero, A. Adam, et al.,** *Studies of Hungarian Geodesy, Geophysics and Tectonics;* Scientific Academy of Budapest, 1989.
The journal contains multiple articles on topics of geophysics in Hungary. Articles concerning geomagnetism include: magnetic anomalies, sudden impulses, and magnetotellurics. The text is in Hungarian and English.

363. Knapp, David G., Charting Magnetic Dip Poles and Associated Field Patterns; Geophysical Journal of the Royal Astronomical Society, 1967.

The paper explains procedures involving the resolution of the horizontal component and secular change into components parallel and perpendicular to an appropriate meridian in the Arctic. The paper discusses techniques of deriving the drift of a dip pole.

364. Knapp, David G., On Modeling Magnetic Fields on a Sphere with Dipoles and Quadrupoles; Geological Survey Professional Paper, 1980.

The paper presents an understanding of the global geomagnetic field in models more complex than the centered dipole, with special emphasis on the quadrupole.

365. Knapp, David G., Reversible Susceptibility and the Induction Factor Used in Geomagnetism; U.S. Coast and Geodetic Survey, Special Publication No. 301. Washington, D.C.: United States Government Printing Office, 1953.

The booklet deals with theoretical topics ranging from magnetization, convexity, magnetic stabilization, the effects of aging and heat treatment, and the coefficients of induction.

366. Knapp, David G., A Review of Geomagnetic Research in NOAA 1971–1972; NOAA Technical Report, 1972.

The report discusses the third annual review of geomagnetic research in NOAA conducted in Boulder, Colorado, in 1972. The report contains twenty-two abstracts of papers presented at the two-day conference. Topics include magnetic poles, field models, indices, aeromagnetism, and observatories.

367. Knapp, David G., Some Features of Magnetic Storms in High Latitudes; Journal of Geophysical Research, 1961.

The journal discusses magnetic disturbances called "cusped bays." These disturbances are characterized by a marked displacement of the trace, coupled with augmented short-period fluctuations.

368. Knapp, David G. and John W. Gettemy, A New Longitude Effect in the Geomagnetic Solar Daily Variation; Journal of Geophysical Research, 1963.

The journal discusses daily variation of vertical intensity at Koror (Palau Islands), Huancayo, Trivandrum, and Addis Ababa attributable to a flow of ionospheric current.

369. Knapp, David G. and Elliott B. Roberts, Geomagnetism: Cosmic and Prosaic; Alaskan Science Conference. [Date unknown]

The journal discusses the importance of geomagnetism and the phenomena of the magnetic field as a study within geophysics. The work specifically focuses on Alaska and the history of observatories in that territory.

370. Knapp, D.G., Arctic Aspects of Geomagnetism; Office of the Chief of U.S. Naval Operations, 1956.

The journal discusses early notions of geomagnetism and a modern view of geomagnetism in

the Arctic. The journal summarizes magnetic work in the Arctic and includes a bibliography of published works.

- 371. Koenigsfeld, L.,** Anomalies of Secular Variation of the Geomagnetic Field in Belgium from 1913 and 1957 (*Les Anomalies de la Variation Seculaire de Champ Magnetique Terrestre en Belgique de 1913 et 1957*); Royal Meteorological Institute of Belgium, 1963.

The journal discusses secular variation in Belgium from 1913 through 1957. Included are tables showing observations at over one-hundred locations throughout Belgium. These were used to produce the isogonic chart for 1913 and 1957. The text is in French.

- 372. Konkoly, Thege Miklos,** The Royal Hungarian Institution for Meteorology and Geomagnetism in Budapest and the Royal Hungarian Meteorological and Physical Observatory in O'Gyalla, 1898.

The journal discusses the organization, personnel, instrumentation, and history of the O'Gyalla Observatory in Budapest, Hungary. The text is in German and Hungarian.

- 373. Kontis, A.L. and G.A. Young,** Analysis of Approximating Residual Total Magnetic Intensity by the Projection of the Anomalous Force on the Earth's Normal Field; Unpublished Manuscript of the U.S. Naval Oceanographic Office, 1963.

The journal contains charts showing residual and anomalous total intensity in the Plantagenet Bank.

- 374. Kontis, A.L. and G.A. Young,** A Study of Aeromagnetic Data: New England Seamount Area; Technical Marine Surveys Division, U.S. Naval Oceanographic Office, 1965.

The journal shows track and bathymetric contour charts as well as tables of total intensity, magnetic inclination, residual horizontal intensity, anomalous vertical intensity, and residual total intensity in the northwest end of the New England-Bermuda Seamount chain.

- 375. Kontis, Angelo L.,** A Study of Multi-Level Aeromagnetic Survey Data off Barking Sands, Kauai, Hawaii; U.S. Naval Oceanographic Office, 1970.

The journal shows total intensity data and a residual magnetic intensity contour chart made from observation in Kauai, Hawaii, in 1967 and 1968.

- 376. Kreil, Karl,** Magnetic and Meteorological Observations of Prague: 1840–1842 (*Magnetische und meteorologische Beobachtungen zu Prag: 1840–1842*); First series: July 1, 1839–July 31, 1840. Prague: Gottlieb Hasse Sohne, 1841.

The book discusses meteorological and magnetic observations made in Prague from 1839 through 1840. Magnetic observations include tables of hourly mean values of declination, inclination, and horizontal intensity. The text is in German.

- 377. Kreil, Karl,** Magnetic and Meteorological Observations of Prague: 1840–1842 (*Magnetische und meteorologische Beobachtungen zu Prag: 1840–1842*); Second series August 1, 1840–July 31, 1841. Prague: Gottlieb Hasse Sohne, 1842.

The book discusses meteorological and magnetic observations made in Prague from 1840 through 1842. Magnetic observations include tables of monthly mean values of declination, horizontal intensity, and magnetic storms. The text is in German.

- 378. Kreil, Karl and Karl Fritsch**, Magnetic and Geographic Location Determinations in the Austrian Empire (Magnetische und geographische Ortsbestimmungen im osterreichischen Kaiserstatte); First through fourth series (1846–1850): Austria, Tirol, Vorarlberg, Lombardy, Mahren, Schlesien, northern Hungary, Galizien, and Bohmen. Prague: Gottlieb Hasse Sohne, 1846–1851.

The book contains four sections of astronomic and geomagnetic data with values of declination, inclination and horizontal intensity observed throughout the Austrian Empire from 1846 through 1850.

- 379. Krogness, O. and K.F. Wasserfall**, Results from the Magnetic Station at Dombas: 1916-33; Publication of the Northern Institute for Earth Physics (Publikasjoner fra Det Norske Institutt for Kosmisk Fysikk), 1936.

The journal contains over ninety pages of tables showing declination, inclination, vertical and horizontal intensity, and secular variation in Norway from 1916 through 1933.

- 380. Kruger, A. and E.A. Lauter**, Work of the Proton-Flare-Project for the Observation Period 1966 (Arbeiten zum Proton-Flare-Project der Beobachtungsperiode 1966); National Committee for Geodesy and Geophysics of the German Academy of Science of Berlin (Nationalkomitee fur Geodasie und Geophysik bei der Deutschen Akademie der Wissenschaften zu Berlin), 1969.

The journal contains seven articles which discuss magnetic activity related to proton flares and high energy particle effects. The text is in German.

- 381. Kulanian, N.V.**, Magnetic Declination in the European Region of Pre- and Post-columbian Period; Institute of Geophysics RAS, 1991.

The journal discusses unusual appearances of regional properties of the geomagnetic field described as pre- and postcolumbian in Europe and adjacent regions. The text is in Russian.

- 382. La Cour, D.**, The Magnetometric Zero Balance, the BMZ; Meteorological Institute of Danois, 1942.

The journal describes a magnetometric zero balance which can be used for measuring vertical intensity by a zero method. The description includes both technical and theoretical details.

- 383. La Cour, D. and Johs. Olsen**, Contribution to the Knowledge of Modern Variometers Behavior; Experiences from the Magnetic Observatory Godhavn (Contribution a la Connaissance du Comportement des Variometres Modernes; Experiences Obtenues a L'Observatoire Magnetique De Godhavn); Publication of the Meteorological Institute of Danske (Publikationer fra Det Danske Meteorologiske Institut), 1936.

The journal discusses the use of variometers for measuring magnetic declination and horizontal intensity, and baseline control. The text is in French.

384. **La Cour, D. and E. Sucksdorff**, Example of QHM for the Control of Variometers for Declination and Horizontal Intensity (Exemple D'emploi du Qhm pour le Controle des Variometres pour la Declinaison et pour la Force Horizontale); Publication of the Meteorological Institute of Danske (Publikationer fra Det Danske Meteorologiske Institut), 1936.

The journal discusses the use of the variometer for measuring drift in magnetic declination and horizontal intensity at Sodankyla Observatory. The text is in French.

385. **Lagrange, Ch.**, The Declination of a Free Compass in a Stationary State: Is It Independent of the Sun's Magnetism? (La Declinaison d'une Boussole Libre et a L'etat Statique, Est-elle independante de Son Moment Magnetique?); Royal Academy of Belgium, 1895.

The journal discusses the effects of the sun on geomagnetism. The text is in French.

386. **LaHaye, E., L. Koenigsfeld, A. de Vuyst, and E. Hoge**, New Collection of Magnetic Data from Belgium (Nouveau Leve Magnetique de la Belgique); Royal Institute of Meteorology of Belgium, 1957.

The journal discusses magnetic surveys carried out in Belgium. Included are tables of declination, horizontal intensity, and vertical intensity made in re-surveying at nearly seven-hundred locations throughout Belgium from 1952 through 1957.

387. **LaHaye, Edm.**, Development of the Geophysics Center at Dourbes (Realisation du Centre de Physique du Globe a Dourbes); Royal Meteorological Institute of Belgium, 1958.

The journal contains an examination of the planning, construction and building of the site for the Center of Geophysics at Dourbes in Belgium. Included are chapters on the magnetic field, observation techniques, electromagnetic propagation, atmospheric electricity, and the installation of instrumentation at the site.

388. **Lamden, R.J.**, A Fourier Covariance Analysis of the Long Period Magnetic Field Variations in the British Isles during 1958; *Geophys. J.R. Astr. Soc.*, 1970.

The journal discusses a Fourier analysis made of magnetic variation in both North and East components and vertical intensity at four British observatories in 1958. Spatial variation of activity was determined by computing covariance spectra for each component.

389. **Lamont, J.**, Magnetic Maps of Germany and Bavaria according to New Bavarian and Austrian Methods under Use of Old Determinations (Magnetische Karten von Deutschland und Bayern nach den neuen Bayerischen und Oesterreichischen Messung, unter Benutzung einiger alterer Bestimmungen). Munich: Franz Seraph Huebschmann, 1854.

The book contains tables showing declination, inclination, and horizontal intensity observed at locations throughout Europe from 1834 through 1854. Also included are six maps of Germany and Bavaria showing declination, inclination, and horizontal intensity. The text is in German.

- 390. Lange, Richard C. and Barbara A. Murphy, Data for 301 Archaeomagnetic Dating Samples from Arizona and New Mexico. Ft. Collins: Archaeometric Lab of Colorado State University, 1989.**

The publication discusses the value of archaeomagnetic data used for construction of dating curves and for dating interpretations. Tables contain values for three-hundred samples are included to facilitate interpretation of the dating ranges and to permit their use in future revisions of dating curves.

- 391. Langel, R.A. and B.J. Benson, The Magsat Bibliography; NASA Technical Memorandum, 1987.**

The memorandum comprises two hundred-twenty papers concerned with the Magsat project. Bibliographical descriptions include the Magsat program, spacecraft and instrumentation, data and data processing, scientific studies of Earth's crust and core, fields external to the Earth, and induction.

- 392. Langel, R.A., R.T. Baldwin, J.R. Ridgway, and W. Minor Davis, W. Minor, A Compressed Marine Data Set for Geomagnetic Field Modeling; Journal of Geomagnetism and Geoelectricity, 1990.**

The journal discusses scalar magnetic field data collected from the world's oceans by marine research institutes. Results of 24,243 reduced points and the distribution of the reduced data in time, position, and local time is presented.

- 393. Laska, V., Magnetic Bulletin (Bulletin Magnetique); National Geophysical Institute of Czechoslovakia (Institut Geophysique National Tchecoslovaque), Years: 1929 through 1936, Vol. 1 through 7. Prague: Joseph Sefl, 1929.**

The book contains seven yearbooks containing hourly, monthly and annual mean values of declination observed at the Stara Dala (O'Gyalla, Hurbanova) Observatory from 1929 through 1936. The text is in Czechoslovakian and French.

- 394. Law, L.K. and T.R. Hartz, Canadian National Report on Geomagnetism and Aeronomy. Ottawa: Dominion Observatory, 1967.**

The publication discusses activities carried out by the Department of Energy, Mines and Resources of Canada from 1963 through 1966. Topics covered include geomagnetic surveys, observatory operations, paleomagnetic research, and pulsations.

- 395. Le Borgne, E. and J. LeMouel, The New Magnetic Maps of France (La Nouvelle Carte Magnetique de la France); Institute of Physics of the Earth (Institut de Physique du Globe), 1966.**

The journal discusses magnetic surveys in France. Included are six charts which were used to create magnetic maps of France using data compiled in 1965.

- 396. Le Comte Cancrine, M. and A.T. Kupffer, Yearbook of Magnetism and Meteorology of the Russian Corps of Mining Engineers (Annuaire Magnetique et Meteorologique de**

Corps Ingenieurs des Mines de Russie); Collection of the Magnetic and Meteorological Observatory (Recueil d'Observations Magnetiques et meteorologiques). St. Petersburg: The Academy of Sciences of St. Petersburg, 1843.

The book contains meteorological and geomagnetic data gathered in Russia from 1841 through 1843. Included are tables of declination, vertical intensity, and horizontal intensity. The text is in French.

397. LeBorne, E. and J.L. LeMouel, Aeromagnetism at Leve and the French Antilles (Le Leve Aeromagnetique des Antilles Francaises); Institute of Geophysics (Institut de Physique de Globe), 1976.

The journal contains charts showing total intensity in the French Antilles in 1975.

398. Lenz, R., Inquiries in an Unregulated Distribution of Geomagnetism in the Northern Part of the Finnish Sea Basin (Untersuchung einer unregelmassigen Vertheilung des Erdmagnetismus im nordlichen Theile des Finnischen Meerbusens); Vol. 5, No. 3. St. Petersburg: The Imperial Academy of Sciences of St. Petersburg, 1862.

The book discusses the results of a geomagnetic survey carried out in the northern part of the Finnish Sea basin. Included are tables of declination, inclination, and total intensity from 1830 through 1861. The text is in German.

399. Littlehales, G.W., The Secular Change in the Direction of the Terrestrial Magnetic Field at the Earth's Surface; Bulletin of the Philosophical Society of Washington, 1899.

The journal contains values of declination and inclination measured at various stations throughout the world for the purpose of deriving magnetic charts. Observations reference the observer and source. Secular change data from 1700 through 1890 are presented.

400. Liznar, Josef, Concerning Magnetic Declination and Inclination at Vienna: 1852-1871 (Uber die magnetische Declination and Inclination zu Wien: 1852-1871); Notes of the Mathematics and Science Class of the Academy of Science, 1877.

The notes contain values of declination, inclination, and horizontal intensity observed at Vienna from 1853 through 1871. The values are compared with observations in Munich and Cracow. The text is in German.

401. Ljungdahl, Gustaf S., Earth Magnetic Researches along the Coasts of Sweden—Part 1: Magnetic Declination at the Epoch July 1, 1929; Hydrographic Service of Sweden (Kungl. Sjøkartverket), 1936.

The journal discusses magnetic surveys carried out in Sweden from 1915 through 1932. Included are tables of observed values of declination, inclination, and horizontal intensity reduced to Epoch 1929.5.

402. Ljungdahl, Gustaf S., Magnetic Declination Variables in 1919: Stockholm's Northern Areas (Magnetiska Deklinationsbestamningar ar 1919: Stockholms Norra Skaagard); Geomagnetics of Sweden (Jordmagnetiska Sjøkartverket), 1920.

The journal discusses a magnetic survey carried out in Sweden in 1919. Included is a table

of magnetic declinations observed at several stations in July 1919. The text is in Swedish.

- 403. Ljungdahl, Gustaf S.,** Magnetic Declination in 1919 in Gottland (Magnetiska klinationsbestamningar ar 1919 pa Gottland); Geomagnetism of Sweden (Jordmagnetiska Sjukarteverket), 1922.

The journal discusses a magnetic survey carried out in Gottland in 1919. Included is a table of magnetic declination observed at several stations in July 1919. The text is in Swedish.

- 404. Ljungdahl, Gustaf S.,** Research in Magnetic Declination Anomalies at Lake Werner: 1914, 1916 and 1917 (Undersokning av Magnetiska Deklinationen inom Anomalierna vid Varern: 1914, 1916 and 1917); Geomagnetism of Sweden (Jordmagnetiska Sjukarteverket), 1922.

The journal discusses a magnetic survey carried out in the Lake Werner area of Sweden in 1914, 1916, and 1917. Included is a table of magnetic declination observed at several stations and reduced to Epoch 1916.5. The text is in Swedish.

- 405. Ljungdahl, Gustaf S.,** The Re-Survey of the Magnetic Main Repeat-Stations in Sweden for the Epoch July 1, 1936; Hydrographic Service of Sweden (Kungl. Sjukarteverket), 1939.

The journal discusses magnetic surveys in the years 1928 through 1930. Included are tables of declination, inclination, horizontal intensity, vertical intensity, and north and east components observed from 1929 through 1936.

- 406. Loomer, E.I.,** Annual Report for Magnetic Observatories: 1970; Geomagnetic Service of Canada, 1975.

The report contains a description of instrumentation and methods of data reduction and data relevant to instrument changes, baselines, scale values, and corrections for temperature and parallax effects. The work includes tables of mean values of the magnetic field components observed at Fort Churchill, Alert, Resolute Bay, Mould Bay, Baker Lake, Great Whale River, Victoria, Meanook, Ottawa, and St. Johns, Canada, in 1970.

- 407. Loomer, E.I.,** Annual Report for Magnetic Observatories: 1971; Geomagnetic Service of Canada, 1980.

The journal contains a general description of instrumentation and methods of data reduction and data relevant to instrument changes, baselines, scale values, corrections for temperature and parallax effects, and a summary of mean values of the magnetic field components.

- 408. Lorenzen, K.F. and H. Berckhemer,** The Geomagnetic Field in the Area of the Laacher See (Das geomagnetische Feld im Gebiet des Laacher Sees); N. Jb. Geol. Palaeot. Mh, 1976.

The journal discusses a geomagnetic survey carried out in western Germany in the Laacher See area. Delta Z was measured in a dense net defining a strong anomaly in the northeastern part of the lake. The text is in German.

- 409. Lowman, Paul D. and Herbert V. Frey, A Geophysical Atlas for Interpretation of Satellite-Derived Data; Technical Memorandum of the Goddard Space Flight Center of the National Aeronautics and Space Administration, 1979.**

The atlas contains a series of maps showing gravity field anomalies, free-air gravity anomalies, gravimetric geoid, scalar magnetic anomalies, seismic epicenters, recent volcanic activity, and tectonic boundaries intended for qualitative inter-comparison.

- 410. Lubimova, E.A. and G.B. Udintsev, Expedition on the American Scientific Research Ship *Argo*; Geophysical Bulletin, 1965.**

This journal contains reports on the geophysical research activities of the Academy of Sciences of the USSR. The report discusses the expedition on the American scientific research ship *Argo*. The text is in Russian.

- 411. Ludy, Albert K. and J. Herbert Howe, Magnetism of the Earth; U.S. Coast and Geodetic Survey, Serial No. 663. Washington, D.C.: U.S. Government Printing Office, 1945.**

The book discusses topics of geomagnetism including the permanent magnetic field and secular change, variation of Earth's magnetic field, magnetic surveys, instruments, and the origins of geomagnetic science. An isogonic chart for Epoch 1940 is included.

- 412. The Magnetic Observatory of Maddalena (Osservatorio Magnetico di La Maddalena), Indices of Geomagnetic Activity; Geomagnetic Bulletin (Bollettino Geomagnetico), 1958–1963.**

This work is a collection of bulletins containing observations made at the Maddalena Observatory in Sardinia ranging from January, 1958, through December, 1963. For each month there is a summary for K indices and magnetographs showing declination, inclination, and horizontal intensity. The text is in Italian.

- 413. Mahmoud-Effendi, Records of the Present Condition of Isoclinic and Isodynamic Lines (Memoire sur L'Etat Actuel Des Lignes Isocliniques Et Isodynamiques); Vol. 29: Records of Great Britain, Holland, Belgium and France (Tome XXIX: La Grande-Bretagne, La Hollande, La Belgique et La France). Brussels: The Royal Academy of Belgium, 1856.**

The work contains values of magnetic inclination and horizontal intensity measured in Great Britain, Holland, Belgium, and France from 1855 through 1856. The text is in French.

- 414. Malin, S.R.C. and Edward Bullard, The Direction of the Earth's Magnetic Field at London, 1570–1975; Philosophical Transactions of the Royal Society of London, 1981.**

The journal discusses the geomagnetic field at London, England. Included are tables of declination, inclination, and secular variation at locations in England from 1540 through 1975.

- 415. Manchester, K.S., K.G. Shih, and B.L. Johnston, Magnetic and Bathymetric Profiles in the Davis Strait and Labrador Sea, B1 5-63 *Baffin* Cruise; Data Series B1-D-72-2,**

1972.

The journal discusses magnetic and bathymetric profiles in the Davis Strait and the Labrador Sea. Included are tables of total magnetic field and magnetic anomaly data observed in 1965.

- 416. Manchester, K.S., K.G. Shih, and B.L. Johnston,** Magnetic and Bathymetric Profiles in the Eastern Canadian Arctic Areas Bl 12-63 *Labrador* Cruise; Bedford Institute of Oceanography, 1972.

The journal discusses magnetic and bathymetric profiles of the eastern Canadian Arctic. Included are magnetic and bathymetric profiles taken in eastern Canadian Arctic areas during 1963.

- 417. Mansurov, S.M.,** Geomagnetic Secular Variation in East Antarctica; Directorate of Scientific Information Services of Canada, 1962.

The journal discusses observations made from 1957 through 1960 at Oasis, Mirny, Pionerskaya, and Vostok Stations in East Antarctica. These data made possible the determination of secular variation in that region. Translated from the Academy of Sciences USSR, IGY Committee, Moscow, Academy of Sciences Press, 1960, by E. R. Hope.

- 418. Mascart, E.,** Yearbook of the Central Bureau of Meteorology of France: Year 1902 (Annales du Bureau Central Meteorologique de France: Annee 1902); Part 1: Memorandum; Part 2: Observations. Paris: Gauthier-Villars, 1905.

The book contains magnetic and meteorological observations in France, Algeria, and Tunisia. Hourly observations of declination, horizontal, and vertical intensity were made at Val-Joyeux, Paris. Meteorological observations were made at numerous stations throughout France, Tunisia, Algeria, and other European countries.

- 419. Maso, M. Saderra,** Annual Report of the Director of the Philippine Weather Bureau for the Year 1903; Part 1: Hourly Observations of Atmospheric Phenomena at the Manila Central Observatory, 1903. Manila: Bureau of Public Printing, 1905.

The yearbook contains meteorological data observed in 1903 at the Central Observatory of Manila. Tables of data include vapor pressure, temperature, relative humidity, wind direction, and force.

- 420. Maso, M. Saderra,** Annual Report of the Director of the Weather Bureau for the Year 1904; Parts 1 and 2: Hourly Meteorological and Magnetic Observations of the Manila Central Observatory, 1904. Manila: Bureau of Printing, 1906.

The yearbook contains meteorological and geomagnetic data observed in 1904 at the Central Observatory of Manila. Tables of geomagnetic data include hourly and monthly mean values of declination, horizontal intensity, and vertical intensity.

- 421. Maso, Miguel Saderra,** Annual Report of the Director of the Philippine Weather Bureau for the Year 1903; Part 2: Hourly Magnetic Observations made at the Manila Central Observatory, 1903. Manila: Bureau of Public Printing, 1905.

The yearbook contains geomagnetic data observed in 1903 at the Central Observatory of

Manila. Tables of data include hourly mean values of declination, horizontal intensity, and vertical intensity.

- 422. Massachusetts Geodetic Survey, Magnetic Declination in Massachusetts: 1935;** (William Callahan, George H. Delano, and Elmer C. Houdlette). Boston: Massachusetts Geodetic Survey, 1938.

The book discusses the history of land surveys in the State of Massachusetts including a state-wide survey made in 1935. Included are tables of declination, diurnal variation, and secular change.

- 423. Mathias, E.,** Investigations of Geomagnetism (*Recherches sur le Magnetisme Terrestre*); General Review of Science: Pure and Applied (*Revue generale de Sciences: pures et appliquees*), 1909.

The article analyzes the effects of terrain, elevation, and rock type on the magnetic field. Differences between observed elements at Toulouse, Parc St. Maur, Greenwich, and Perpignan are recorded for 1883 through 1906. The text is in French.

- 424. Matsuzaki, T. and S. Utashiro,** On Magnetic Anomalies over Toya Lake and Its Vicinity; Report of Hydrographic Researches, 1966.

The journal contains data observed in an aeromagnetic survey carried out in 1964. From the results it has been found that there are "remarkable" magnetic anomalies at the central part of the Toyal Lake area and over Mt. Usu. The text is in Japanese with an English introduction.

- 425. Matsuzaki, T. and S. Utashiro,** On the Aeromagnetic Surveys in the Kagoshima Bay and Its Vicinity; Hydrographic Researches, 1966.

The journal contains data observed in an aeromagnetic survey in November of 1964. Results of the survey show that there are "remarkable" magnetic anomalies at the Mt. Sakurajima area, around the mouth of the River Beppu, east of Kushikino, and at Mt. Kaimondake. The text is in Japanese with an English introduction.

- 426. Matsuzaki, Takuichi,** Data Report of Hydrographic Observations: Magnetic Survey of Japan, 1962-1965; Maritime Safety Agency of Japan, 1968.

The journal contains values of declination, inclination, horizontal intensity, vertical intensity, total intensity, and north and east components from observations made in Japan from 1962 through 1965. These data were used to construct the magnetic charts of Japan for Epoch 1965, which are also included in the publication.

- 427. Matsuzaki, Takuichi,** Magnetic Survey of Japan: 1959-60; Bulletin of the Japanese Hydrographic Office, 1964.

The journal includes charts showing lines of magnetic declination and equal annual change, equal horizontal intensity and equal annual change, equal magnetic dip and equal annual change, equal north component, equal east component, and equal downward component in Japan for 1960.0.

- 428. Mauersberger, P., K. Sellien, E. Thiele, and M. Richard, [Four titles:]** (1) Consideration of the Secular Variation of the Geomagnetic Fields as the Source of Potential Wandering (Betrachtungen über die zeitliche Änderung der Parameter des geomagnetischen Feldes auf Grund der vorliegenden Potentialentwicklungen); (2) The Normal Field of Gravity for Germany (Das Normalfeld der Schwere für Deutschland); (3) The Rossiger Normal Field of Vertical Intensity and Its Secular Variation (Das Rossigersche Normalfeld der Vertikalintensität und seine zeitliche Änderung); and, (4) A Design for the Magnetic Variometer of Least Volume (Über die Änderung geomagnetischer Variometer auf engstem Raum); Geophysical Institute of Potsdam, 1952.

The journal contains four separate articles concerning geomagnetism and gravity measurements in Germany. Geomagnetic data include tables of vertical intensity reduced to the Epoch 1950.5.

- 429. Maurain, Ch.,** Yearbook of the Institute of Geophysics of the University of Paris and the Central Bureau of Terrestrial Magnetism (Annales de L'Institut de Physique du Globe de L'Université de Paris et du Bureau Central de Magnetisme Terrestre); Magnetic Observations in France in 1921 (Les Observations Magnetiques en France jusqu'en 1921). Paris: The University Press of France (Les Presses Universitaires de France), 1922.

The book discusses magnetic surveys carried out in France. Included are tables of hourly values of declination, inclination, horizontal intensity, and secular variation made from observations at Val Joyeux and Parc Saint-Maur in 1921. The text is in French.

- 430. Mayaud, P.N.,** Geomagnetic Data 1957, Indices K and C, Rapid Variations, Reprint of Appendix B: Circular on Very Calm Periods, Report on the Measure of K-Indices; IAGA Bulletin, 1960.

In January, 1960 the IAGA Committee collected reproductions of magnetograms from observatories of a number of intervals ranging from January, 1947 through January, 1959. This bulletin discusses conclusions reached by a study of those magnetograms.

- 431. Mayaud, P.N.,** Topics in the Classification of International Magnetic Days (A propos de la classification des jours magnetiques internationaux); Ann. Geophys, 1969.

The journal discusses current methods of defining quiet and disturbed magnetic days. New methods are proposed for the definition of quiet days with supporting data. The text is in French with an English introduction.

- 432. McDonald, Keith L. and Robert H. Gunst,** An Analysis of the Earth's Magnetic Field from 1835 to 1965; ESSA Technical Report, 1967.

The journal presents data showing a decrease in the Earth's dipole moment and predicts that the dipole moment will vanish in A.D. 3991.

- 433. McElhinny, M.W.,** The Paleomagnetism of the Southern Continents: A Survey and Analysis; Department of Geophysics and Geochemistry of the Australian National

University, Canberra, 1967.

The journal discusses the nature of Earth's magnetic field during the Phanerozoic era. Paleomagnetic data for Australia, Africa, South America, India, and Antarctica are examined and conclusions concerning the configuration of Gondwanaland presented.

- 434. McFarland, W.N.,** Results of Observations Made at the United States Coast and Geodetic Survey Magnetic Observatory Near Tucson, Arizona: 1923 and 1924; Washington, D.C.: U.S. Government Printing Office, 1931.

The book discusses the results of geomagnetic observations made near Tucson, Arizona in 1923 and 1924. Included are tables of hourly, monthly, and annual means of declination, horizontal intensity, and vertical intensity.

- 435. McFarland, W.N. and R.W. Knox,** Magnetic Declination in Texas in 1927; U.S. Coast and Geodetic Survey, 1928.

The publication contains values of declination reduced to Epoch 1927 for several stations in Texas along with station descriptions. A one-degree grid of computed declinations for 1800 through 1927 is also published.

- 436. McQuillin, R. and D.A. Ardu,** Exploring the Geology of Shelf Seas; London: Graham and Trotman Limited, 1977.

This textbook contains nine chapters covering the geology of shelf seas and offshore exploration including gravity and magnetic methods.

- 437. McWilliams, J.B.,** The Secular Variation of Magnetic Declination in Ireland (1980); Meteorological Service of Ireland, 1980.

The journal contains annual mean values of declination at a number of stations in Ireland for Epochs 1970.0 and 1980.0 and an isogonic map for 1980.0.

- 438. Medvedev, N.D.,** Geomagnetic Observations in Eastern Antarctica; Fourth Complex Antarctic Expedition, 1959.

The report contains tables of declination, horizontal intensity, and vertical intensity made from observations in Antarctica. The text is in Russian.

- 439. Melchior, P., B. Ducarme, and J.C. Usandivaras,** [Two titles:] (1) The Ratio L/H: A Simple Method for the Prospection of Tidal Deformations of Cavities in the Earth's Crust; and, (2) Studies of the Structure of the Diurnal Spectrum of Earth Tides by the Method of Least Squares; Bulletin of Geodesy (Bulletin Geodesique), 1976.

These two articles discuss methods for the prospection of tidal deformation of cavities in Earth's crust and possible liquid core resonance effects. The first article is in English; the second article is in French with an English summary.

- 440. Melchior, Paul,** Bibliography of the Results of Observations of Earth Tides (Bibliographie des Resultats D'observations de marees Terrestres); Bulletin of the International Association of Geodesy and the International Center of Earth Tides, 1974.

The bulletin is a twenty-seven page bibliography of articles on Earth tides.

- 441. Melchior, Paul**, Earth Tides in 1974; Bulletin of Information of the Permanent Commission of Earth Tides and the International Association of Geodesy (Bulletin D'Informations d'Commission Permanente des Marees Terrestres et Association International de Geodesie), 1975.

The journal discusses Earth tide research and contains four bibliographical tables.

- 442. Melchior, Paul**, General Bibliography of Earth Tides: Supplement II (Bibliographie Generale des Marees Terrestres: Supplement II); Bulletin of Information of the Permanent Commission of Earth Tides and the International Association of Geodesy (Bulletin D'Informations d'Commission Permanente des Marees Terrestres et Association International de Geodesie), 1976.

The bulletin is a twenty-three page bibliography of articles on Earth tide research.

- 443. Melchior, Paul**, Information Bulletin (Bulletin D'Informations); Bulletin of Information of the Permanent Commission of Earth Tides and the International Association of Geodesy (Bulletin D'Informations d'Commission Permanente des Marees Terrestres et Association International de Geodesie), 1974.

The journal contains eleven articles on Earth tide research. Most of the articles are in French.

- 444. Melchior, Paul**, Information Bulletin (Bulletin D'Informations); Bulletin of Information of the Permanent Commission of Earth Tides and the International Association of Geodesy (Bulletin D'Informations d'Commission Permanente des Marees Terrestres et Association International de Geodesie), 1976.

The journal contains eight articles on Earth tide research. Most of the articles are in French.

- 445. Melchior, Paul**, Information Bulletin (Bulletin D'Informations); Bulletin of Information of the Permanent Commission of Earth Tides and the International Association of Geodesy (Bulletin D'Informations d'Commission Permanente des Marees Terrestres et Association International de Geodesie), 1976.

The journal contains seven articles on Earth tide research. Most of the articles are in French.

- 446. Melchior, Paul**, Information Bulletin (Bulletin D'Informations); Bulletin of Information of the Permanent Commission of Earth Tides and the International Association of Geodesy (Bulletin D'Informations d'Commission Permanente des Marees Terrestres et Association International de Geodesie), 1977.

The journal contains seven articles on Earth tide research. Most of the articles are in French.

- 447. Melchior, Paul**, Information Bulletin (Bulletin D'Informations); Bulletin of Information of the Permanent Commission of Earth Tides and the International Association of Geodesy (Bulletin D'Informations d'Commission Permanente des Marees Terrestres et Association International de Geodesie), 1977.

The journal contains eleven articles on Earth tide research. Most of the articles are in French.

- 448. Meyer, O., D. Voppel, U. Fleischer, H. Closs, and K. Gerke, Results of Bathymetric, Magnetic and Gravimetric Measurements between Iceland and 70°N; Deutschen Hydrographischen Zeitschrift (The German Hydrographic Journal), 1972.**

The journal shows the results of a survey of the Jan Mayen Ridge on 31 east-west profiles carried out with the German SRV *Komet* in 1971.

- 449. Meyers, H. and A.X. Meyer, Magnetic Results Ellsworth Highland Traverse and McMurdo-to-Pole Traverse Antarctica: 1960–1961; U.S. Coast and Geodetic Survey, 1962.**

The report contains tabulations of measurements of magnetic fields made on the Ellsworth Highland and McMurdo-to-Pole Traverses in the 1960–1961 austral summer.

- 450. Mikhailova, N.P., A.M. Glevskaya, and V.N. Tsikora, Paleomagnetism of Volcanogenic Rocks and the Reconstruction of the Geomagnetic Field of the Neogene System. Kiev: The Institute of Geophysics of the Academy of Science of USSR, 1974.**

The book contains several chapters discussing paleomagnetic data leading to the reconstruction of the geomagnetic field of the Neogene System. The text is in Russian.

- 451. Missionaries of the Society of Jesus (Missionnaires de la Compagnie de Jesus), Yearbook for Zi-Ka-Wei Observatory; Monthly Bulletin of the Magnetic and Meteorological Observatory of Zi-Ka-Wei (Bulletin Mensuel de l'Observatoire Magnetique et Meteroloque), 1886.**

This series of three yearbooks for 1883, 1884, and 1885 contains hourly, monthly, and annual observations of declination, horizontal intensity, and vertical intensity. Meteorological data include atmospheric pressure, air temperature, humidity, and wind speed with summaries from 1873 through 1885.

- 452. Missionaries of the Society of Jesus (Missionnaires de la Compagnie de Jesus), Yearbook for Zi-Ka-Wei Observatory; Monthly Bulletin of the Magnetic and Meteorological Observatory of Zi-Ka-Wei (Bulletin Mensuel de l'Observatoire Magnetique et Meteroloque), 1888.**

This series of three yearbooks for 1886, 1887, and 1888 contains hourly, monthly, and annual observations of declination, horizontal intensity, and vertical intensity. Meteorological data include atmospheric pressure, air temperature, humidity, and wind speed with summaries from 1873 through 1888.

- 453. Miyadi, Masasi, Report on Aeromagnetic Survey in Japan; Geodetic Council of Japan. Kyoto: World Data Center C2 for Geomagnetism, 1966.**

The book shows declination, horizontal and vertical intensity, total intensity, and inclination for the Japanese Islands for the Epoch 1965.0.

- 454. Moens, M., Solid Earth Tide and Arctic Oceanic Loading Tide at Longyearbyen (Spitsbergen); Physics of the Earth and Planetary Interiors, 1976.**

The journal discusses the three components of the indirect oceanic effect which are calculated for the M2, K1, and O1 waves and compared with the observed Earth tide. The vertical component of the near Arctic oceanic load explains fairly well the large 45° observed phase lag of M2. The results for the horizontal components are satisfactory; the discrepancies between different tiltmeters are not due to the oceanic perturbations unless some local or cavity effects are supposed.

455. Moitoret, V.A., Airborne Geomagnetic Data: 1953–1961; The U.S. Naval Oceanographic Office, Special Publication No. 66. Washington, D.C.: U.S. Government Printing Office, 1963.

The publication contains the results of the Project Magnet surveys through 1961. Data recorded are: track line, latitude, longitude, date, GMT, Altitude, declination, inclination, horizontal intensity, vertical intensity, and total intensity observed world-wide.

456. Moitoret, V.A., Airborne Geomagnetic Data: Supplement No. 1, 1962–1963; U.S. Naval Oceanographic Office, 1965.

The journal contains the results of the U.S. Naval Oceanographic Office airborne magnetic survey, Project Magnet. This work is an addendum of data from 1962 through 1963 and provides an appendix of corrections of Special Publication No. 66. Tables show values of declination, inclination, horizontal intensity, vertical intensity, and total intensity, at locations world-wide from 1962 through 1963.

457. Moitoret, V.A., Airborne Geomagnetic Data: 1953–1961; U.S. Naval Oceanographic Office, 1963.

The journal contains the results of the U.S. Naval Oceanographic Office airborne magnetic survey, Project Magnet. Tables show values of declination, inclination, horizontal intensity, vertical intensity, and total intensity, at locations world-wide from 1953 through 1961.

458. Moos, N.A.F., Magnetic Observations Made at the Government Observatory, Bombay, for the Period 1846–1905; Part II: The Phenomenon and Its Discussion. Bombay: The Government Central Press, 1910.

The book contains values of declination, inclination, horizontal intensity, vertical intensity, secular change, diurnal variation, and daily means from observations made in Bombay from 1846 through 1905. Tables of observed values, monthly, and annual means as well as magnetographs are recorded.

459. Moureaux, M. Th., The Magnetic Anomaly of the Paris Basin (L'Anomalie Magnetique du Bassin De Paris), 1891.

The book contains values of declination, inclination, horizontal intensity, and vertical intensity observed in the Paris Basin from 1885 through 1890. The text is in French.

460. Moureaux, M. Th., Magnetic Determinations from the Government of Kursk (Russia) (Determinations Magnetiques faites dans Le Gouvernement de Kursk (Russie); Academy of Sciences of the USSR, 1897.

The journal discusses a geomagnetic survey carried out in Russia in 1896. The work contains tables of declination, inclination, and horizontal intensity. The text is in French.

- 461. Moureaux, M. Th.,** *Magnetic Observations for the Observatory of Parc Saint-Maur for the Years 1883 and 1889 (Observations Magnetiques Faites a L'Observatoire du Parc Saint-Maur Pendant Les Annes 1883 et 1884)*; Paris: 1884.

This series of yearbooks discuss the history and instrumentation of geomagnetic surveys made at the Parc Saint-Maur Observatory. Tables of declination, inclination, and horizontal intensity are included from 1883 through 1889.

- 462. Nagata, T.,** *A National Magnetic Survey over Japan and Adjacent Areas; Geographical Survey Institute and the Hydrographic Office of Japan*, 1968.

The paper discusses an aeromagnetic survey carried out in Japan and adjacent seas from 1961 through 1964. Included are isonomalic charts, graphs, and maps showing total intensity and a number of anomalies.

- 463. Nagata, T. and M. Sawada,** *Annual Mean Values of Geomagnetic Elements since 1955; Geophysical Institute of the University of Tokyo*, 1963.

The journal contains annual mean values of declination, horizontal intensity, vertical intensity, total intensity, north component, and east component for a number of observatories around the world. Data are recorded from Epoch 1955 to the latest available data at time of publication, July, 1963.

- 464. Nakano, Tokuro,** *Results of a Magnetic Survey of Japan for the Epoch 1913.0 Executed by the Hydrographic Office*. Tokyo: The Tokyo Mathematical-Physical Society, 1915.

The book contains results of the magnetic survey of Japan carried out from April, 1912 to May, 1915. Declination, inclination, and horizontal intensity were reduced to the Epoch 1913.0. Secular variation and acceleration are recorded from 1899 to 1907 based on data from Zika-Wei and Hong Kong observatories.

- 465. National Academy of Sciences,** *Geomagnetic Transient Fluctuations; U.S. National Committee for the International Geophysical Year*, 1954.

This report details scientific work in support of the International Geophysical Year. Sections reporting include: World Days, Meteorology, Geomagnetism, Aurora and Air Glow, Ionospheric Physics, Solar Activity, Cosmic Rays, Longitude and Latitude, Glaciology, Oceanography, Rocket Exploration, Gravity, and Seismology.

- 466. National Committee of Geologists of the Soviet Union,** *Geochemistry, Mineralogy and Petrology; Ministry of Geology of the USSR*. Moscow: The Academy of Sciences of the USSR, 1976.

The book contains broad descriptive sections on geochemistry, mineralogy, and petrology. The text is in Russian with an English table of contents at the end.

467. National Committee of Geodesy and Geophysics, National Report of Geomagnetism and Aeronomy for 1967–1971; National Committee of Geodesy and Geophysics of the Czechoslovak Academy of Sciences, 1971.

This report was presented at the Fifteenth General Assembly of the International Union of geodesy and Geophysics in Moscow. The report lists observatories in operation in Czechoslovakia from 1967 through 1971 and briefly discusses Academy work in electro-dynamics, rock magnetism, archaeomagnetism, paleomagnetism, and diurnal variation.

468. National Geographic Institute of Guatemala (Instituto Geografico Nacional de Guatemala), Magnetic Observations in the Region of Central America (Observaciones Magneticas en la Region Centroamericana); National Geographic Institute of Guatemala, 1965.

The journal contains values of declination, horizontal intensity, and inclination observed at repeat stations in Central America from 1962 through 1964. The text contains ten pages of observations and station descriptions.

469. National Geophysical Data Center, Proceedings of the Aeromagnetic Data Workshop: November 16–18, 1982; David M. Clark, compiler; Workshop Proceedings–1. Boulder: National Geophysical Data Center, 1983.

The book is a collection of papers presented at the Aeromagnetic Data Workshop sponsored by the National Geophysical Data Center in Boulder, Colorado in 1982. Topics covered include data availability, Project Magnet data, digital data bases, the IGRF, and requirements for a national data base.

470. National Meteorological Service of Argentina (Servicio Meteorological Nacional de Argentina), Climatological and Geomagnetic Data of the Southern Orcadas Islands 1903–1950 (Datos Climatologicos y Geomagneticos Islas Orcadas del Sur: 1903–1950); Ministry of Technical Affairs of the Republic of Argentina (Ministerio de Asuntos Tecnicos de la Republica Argentina), 1951.

The journal discusses meteorological and geomagnetic surveys in the Orcadas Islands of Argentina. Geomagnetic data include tables of declination, horizontal intensity, vertical intensity, and quiet and disturbed days from 1903 through 1950.

471. The Natural Environment Research Council of the Institute of Geological Sciences, Magnetic Results 1978–79: Eskdalemuir, Hartland, and Lerwick Observatories; Institute of Geological Sciences, 1981.

The journal contains values for declination, horizontal intensity, vertical intensity, total intensity, north and east components, and inclination from observatories at Eskdalemuir, Hartland, and Lerwick for 1978 and 1979.

472. The Natural Environment Research Council of the British Geological Survey, Magnetic Results 1982: Eskdalemuir, Hartland, and Lerwick Observatories; Institute of Geological Sciences, 1984.

The journal contains values for declination, inclination, horizontal intensity, vertical intensity,

total intensity, and secular variation for observatories at Eskdalemuir, Hartland, and Lerwick observatories in 1982.

- 473. The Natural Environment Research Council of the British Geological Survey, Magnetic Results 1982: Eskdalemuir, Hartland, and Lerwick Observatories; Bulletin of the Institute of Geological Sciences, 1985.**

The journal contains tables showing declination, inclination, vertical intensity, horizontal intensity, and secular variation at Eskdalemuir, Hartland, and Lerwick for 1983 and 1984.

- 474. Navarro De Fuentes, Jose Rodriguez, and H. Amorim Ferreira, The Magnetic Map Project of the Iberian Peninsula (Proyecto de Mapa Magnetico de la Peninsula Iberica). Madrid: The Institute of Geophysics, 1951.**

The book discusses the magnetic map project of the Iberian Peninsula undertaken by the Spanish Institute of Geophysics. Included are tables of magnetic declination and secular variation observed in Spain and Portugal reduced to Epochs 1924.0 and 1939.5.

- 475. Nelson, James H., L. Hurwitz, and David G. Knapp, Magnetism of the Earth; U.S. Coast and Geodetic Survey, Publication No. 40-1. Washington, D.C.: U.S. Government Printing Office, 1962.**

The book discusses topics of geomagnetism including the magnetic field and secular change, magnetic surveys, instruments, and origins of geomagnetic science. An isogonic chart for Epoch 1960 is also included.

- 476. Nelson, J. H., R.E. Gebhardt, and J.L. Bottum, The Constant-Field Coil House at the Fredericksburg Magnetic Observatory; U.S. Coast and Geodetic Survey, 1958.**

The journal discusses the design and construction of the coils installed at the Fredericksburg Magnetic Observatory. The coils were designed to duplicate the geomagnetic field at any location on the Earth.

- 477. The Ninth General Assembly of IPGH and the Second Reunion of the Pan American Committee of Geophysical Science, Magnetic Stations in Central America in the Period 1970–1974 (Estaciones Magneticas en America Central Para el Periodo 1970 a 1974); National Institute of Geophysics of Guatemala (Instituto Geofisicas Nacional de Guatemala), 1969.**

The publication lists magnetic observatories in Central America for the period 1970 through 1974.

- 478. Nogi, Yoshifumi, Nobukazu Seama, Noboshiro Isezaki, and Minoru Funaki, Magnetic Survey in Ongul Islands, East Antarctica; Proceedings of the NIPR Symposium on Antarctic Geosciences, 1991.**

The journal contains several papers covering geophysical and meteorological studies carried out in Antarctica. Of special interest are the papers reporting on measurements of the geomagnetic field in the Ongul Islands in 1989 and paleomagnetic studies in Antarctica.

- 479. Nunome, M.,** The Bulletin of the Hydrographic Office of the Imperial Japanese Navy, Vol. 2; A Magnetic Survey of Japan for the Epoch 1913.0. Tokyo: The Hydrographic Office of the Imperial Japanese Navy, 1918.

This book contains data in 36 tables pertaining to the magnetic survey of Japan. Observations include: declination, inclination, and horizontal intensity reduced to Epoch 1913.0; declination observed by the *Carnegie*; annual means and mean secular variation of magnetic elements observed at Zika-Wei and Hong Kong; and repeat observations of declination, inclination, and horizontal intensity. The work also includes station descriptions and ten isogonal and isoclinic maps.

- 480. Ochaba, S. and M. Hvozدارa,** The Geomagnetic Field and Its Secular Variation in Slovakia Determined from Magnetic Survey and the International Geomagnetic Reference Field, Vol. 10; Geophysical Institute of the Slovak Academy of Sciences. Bratislava: Veda Publishing House, Slovak Academy of Sciences, 1980.

The book is a collection of journal articles. The article named above contains values of the seven magnetic elements observed at locations in Slovakia and reduced to the Epoch 1967.5.

- 481. Ochaba, S. and A. Pospiechova,** [Multiple titles:] (1) Contribution to the study of the Geomagnetic Field and Its Secular Variation Distribution in Slovakia; (2) The Normal Geomagnetic Field on Limited Part of the Earth's Surface Expressed by Taylor Series, Derived from IGRF; and, (3) Secular Variation of the Geomagnetic Field in Slovakia and Their Interpretation by Means of a Dipole and Quadrupole; Comeniana University of Czechoslovakia, 1979.

The journal contains three articles on topics of geomagnetism in Czechoslovakia.

- 482. O'Donnell, J.E. and H.E. Kaufmann,** Repeat Magnetic Field Survey of the San Fernando Earthquake Epicentral Area, *in* San Fernando, California Earthquake of February 9, 1971. Washington, D.C.: Environmental Research Laboratories, 1973.

This article is a chapter from a book on the 1971 San Fernando earthquake. It discusses seismomagnetic effects of the San Fernando earthquake.

- 483. Orlov, B.P., M.P. Ivchenko, and G.Y. Kolomyeva,** The Secular Path of the Geomagnetic Field for the Period 1960–1965; Academy of Science of the USSR, 1968.

The journal discusses the secular variation of Earth's magnetic field. Included are tables of changes in the magnetic elements observed at observatories located world-wide. The text is in Russian.

- 484. Orlov, V.P. and V.N. Belugin,** Catalogue of Annual Means of Geomagnetic Field at Magnetic Observatories Beginning in 1930 and Their Changes in Time from Year to Year; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1966.

The journal contains tables of values for the seven magnetic elements observed at locations throughout the world from 1930–1965. The text is in Russian.

- 485. Orlov, V.P. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1965.

The journal contains tables of values for the seven magnetic elements observed at locations throughout the world from 1955 through 1964. The text is in Russian.

- 486. Orlov, V.P. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories: Part 2; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1967.

The journal contains annual mean values of declination, inclination, horizontal intensity, vertical intensity, total intensity, and north and east component made world-wide in 1965.

- 487. Orlov, V.P. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1968.

- 488. Orlov, V.P. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1969.

The journal contains annual mean values of declination, inclination, horizontal intensity, vertical intensity, total intensity, and north and east component made world-wide from 1965 through 1968.

- 489. Orlov, V.P. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1971.

The journal contains tables of values for the seven magnetic elements throughout the world. The text is in Russian.

- 490. Orlov, V.P., (editor), Sh. Sh. Dolginov, V.N. Nalivaiko, et al.**, Catalog of Data from Tension Models along Geomagnetic Poles from the Satellite Data of "Kosmos-49"; Academy of Sciences of the USSR, 1967.

The catalog contains tables showing total magnetic intensity along geomagnetic poles gathered in the Kosmos-49 survey.

- 491. Orlov, V.P., (editor), Sh. Sh. Dolginov, V.N. Nalivaiko, et al.**, Catalog of Data from Tension Models along Geomagnetic Poles from the Satellite Data of "Kosmos-49"; Academy of Sciences of the USSR, 1967.

The catalog contains tables showing total magnetic intensity along geomagnetic poles gathered

in the Kosmos-49 survey.

- 492. Orlov, V.P., (editor), Sh. Sh. Dolginov, V.N. Nalivaiko, et al.,** Catalog of Data from Tension Models along Geomagnetic Poles from the Satellite "Kosmos-49"; Academy of Sciences of the USSR, 1967.

The catalog contains tables showing total magnetic intensity along geomagnetic poles gathered in the Kosmos-49 survey.

- 493. Osnaghi, Ferdinand,** Yearbook of the K. K. Central Institution for Meteorology and Geomagnetism; (Jahrbucher der K.K. Central-Anstalt Fur Meteorologie and Erdmagnetismus), Issue: Vol. 12, Series 1875, through Vol. 15, Series 1878 (Neue Folge: Band XII, Jahrgang 1875 durch Band XV, Series 1878). Vienna: Kaiserliche und Konigliche Hof und Staatsdruckerei, 1877–1881.

The yearbook is made up of four volumes of annual meteorological and geomagnetic data from observations made in Europe from 1875 through 1878. Daily mean values of declination and inclination are recorded for each year. The text is in German.

- 494. Ostenso, Ned A. and Edward C. Thiel,** Aeromagnetic Reconnaissance of Antarctica between Byrd and Wilkes Stations; Geophysical and Polar Research Center of the Department of Geology of the University of Wisconsin, 1964.

The journal discusses the airborne magnetic surveys flown in Antarctica from 1958 through 1961. Discussed are the tracks of twelve flights, the equipment used, and observations of total intensity.

- 495. Ostrekina, M.E.,** Results of Magnetic Observations at Polar-Arctic Stations from 1934–1948. Moscow: Institute of the Academy of Sciences, 1955.

The book contains hourly, monthly and seasonal values of magnetic activity indices, declination, horizontal intensity, and vertical intensity for polar arctic stations from 1934–1948. The text is in Russian.

- 496. Otagaki, T.,** Magnetic Survey of Japan: 1932–1933; The Hydrographic Department of the Imperial Japanese Navy, The Bulletin of the Hydrographic Department of the Imperial Japanese Navy, Vol. 8. Kakioka: The Hydrographic Department of the Imperial Japanese Navy, 1936.

The book contains observations of declination, horizontal intensity, and inclination from 236 stations in and around Japan from 1932 through 1933. Detailed information on observations at each station and reduction of observations to Kakioka and Toyohara observatories are recorded.

- 497. Otaki, Mitsuo and Koichi Tsukahara,** Geomagnetic Survey with the Triaxial Fluxgate Magnetometer; Bulletin of the Geographical Survey Institute, 1990.

The journal discusses the use of the triaxial fluxgate magnetometer in the geomagnetic survey of Japan carried out from 1987 to 1989. The journal also contains other geophysical research articles.

498. **Pagac, P., M. Krajcovic, S. Ochaba, M. Hvozدارا, P. Bobovnický, et al.,** [Miscellaneous articles on geomagnetism]; Geophysical Institute of the Slovak Academy of Sciences, 1972.

The journal contains four articles on geomagnetism: (1) Magnetic Field Homogenization by Two Pairs of Circular Coils; (2) Distribution of the Geomagnetic Field in Slovakia for the Epoch 1967.5; (3) The Geomagnetic Field in Slovakia, Derived from Spherical Harmonic Analysis, for 1955.0; and, (4) Non-Harmonic Electromagnetic Induction in a Two-Layer Earth. Other articles on geophysics are also contained in this journal.

499. **The Pan American Committee of the Geophysical Sciences,** Magnetic Observations in the Region of Central America (*Observaciones Magneticas en la Region Centroamericana*); National Geographical Institute of Guatemala and the Eighth Assembly of the IPGH (Instituto Geografico Nacional), 1965.

The journal discusses magnetic surveys in Central America. Included are tables of declination, inclination, and horizontal intensity observed from 1962 through 1964. The text is in Spanish.

500. **Pao, H.P. and C.C. Chang,** Magnetohydrodynamic Boundary Layer between Parallel Streams of Different Magnetic Fields and Temperatures; Department of Space Science and Applied Physics of the Catholic University of America, 1964.

The article discusses the interaction between parallel streams and magnetic fields. An analysis and calculations of the free laminar boundary layer flow between parallel streams of different magnetic fields and temperatures were made for an incompressible, viscous, thermally, and electrically conducting fluid.

501. **Pardo De Figueroa, Don Rafael,** Compensation of Magnetic Declination in the Iberian Peninsula (*Compensacion de Declinaciones Magneticas en la Peninsula Iberica*). Madrid: Ricardo Alvarez, 1895.

The book describes the methods used to model the magnetic declination for the Iberian Peninsula. It contains values of declination at locations throughout Spain and Portugal from 1879 through 1893, and an isogonic map for Epochs 1879 and 1893. The text is in Spanish.

502. **Parkinson, W.D.,** Errors and Limitations of the Magnetic Compass; Bureau of Mineral Resources, Geology and Geophysics of the Commonwealth of Australia, 1965.

The journal contains an explanation of some facts about Earth's magnetic field. It includes an example of the maps published every five year by the Bureau of Mineral Resources, Geology and Geophysics.

503. **Passalskii, P.T.,** Magnetic Anomalies in the Region of Krivoi-Rog (*Anomalies magnetiques dans la region des mines de Krivoi-Rog*). Odessa: The Department of Physics of the Royal University of Odessa, 1901.

The book discusses magnetic anomalies in the Krivoi-Rog region of the USSR. Included are isogonic charts showing declination, inclination, horizontal intensity, vertical intensity, and north and east components. The text is in French and Russian.

- 504. Paul, P.A.**, Depth Rules for Some Geometric Bodies for Interpretation of Aeromagnetic Anomalies; Bulletin of the National Geophysical Research Institute, 1964.

The journal discusses depth rules which may be helpful in the interpretation of aeromagnetic anomalies. The data are presented in simple geometric bodies employing the distance between the positive and negative peaks.

- 505. Paulsen, Adam**, Anomalies of the Geomagnetic Field in Denmark (Anomalies du Champ Magnetique Terrestre en Danemark); Journal of the International Maritime Congress of Copenhagen, 1902.

The journal contains values of declination, inclination, and horizontal intensity in Denmark for the Epoch 1900.5 along with a discussion of the methods of observation.

- 506. Payo Subiza, Gonzalo**, Yearbooks of the Central Geophysical Observatory "Alfonso Rey Pastor"—Toledo, Almeria, Logrono, Santa Cruz De Tenerife: 1972 (Anuario del Observatorio Central Geofisico "Alfonso Rey Pastor"—Toledo, Almeria, Logrono, Santa Cruz De Tenerife: 1972); Yearbook of the Geomagnetic and Aeronomy Service (Anuarios del Servicio de Geomagnetismo y Aeronomia), 1974.

The journal contains the results of the systematic observation of the geomagnetic field carried out at the magnetic observatories: Toledo, Almeria, Logrono, and Santa Cruz De Tenerife, Spain in 1972. Included are hourly value tables of declination, horizontal intensity, and vertical intensity observed at each observatory. The text is in Spanish.

- 507. Peddie, Norman**, Geomagnetic Report: South Pole—Queen Maud Land Traverse I, 1964–1965; U.S. Coast and Geodetic Survey, 1966.

The journal discusses the South Pole multi-discipline scientific expedition of 1964 and 1965. A section on geomagnetism describes the equipment used and locations of observations. Table 1 provides preliminary magnetic declination, inclination, horizontal intensity, vertical intensity, and total field values.

- 508. Peddie, Norman W. and Audronis K. Zunde**, An Assessment of the Near-Surface Accuracy of the International Geomagnetic Reference Field 1980 Model of the Main Geomagnetic Field; Physics of the Earth and Planetary Interiors, 1985.

The journal compares the International Geomagnetic Reference Field (IGRF) for 1980 with surface data and the World Chart model 1980. The results of the comparison show that the IGRF 1980 and WC 1980 agree closely and IGRF 1980 gives a generally accurate depiction of the main field at the surface.

- 509. Perez-Urquiola, Manuel Catalan and Francisco Gomez-Armario**, Proton Magnetometers: A Procedural Control of Geomagnetic References (Magnetometros de Protones: un Procedimiento Sencillo de Control De Referencias Geomagneticase); Institute and Observatory of Marina, 1970.

The journal discusses theoretical bases of proton magnetometers and Helmholtz coil design. Included is a description of a method for using the system to control the base lines of the

geomagnetic observatory, San Fernando. The text is in Spanish.

- 510. Perkins, D.M.,** Magnetic Results South Pole Traverse: 1962–1963; U.S. Coast and Geodetic Survey, 1964.

The report contains tabulations of the measurements of magnetic fields made on the South Pole Traverse conducted during the 1962–1963 austral summer.

- 511. Pernter, J.M.,** Yearbook of the K.K. Central Establishment for Meteorology and Geomagnetism (Jahrbucher der K.K. Central-Anstalt fur Meteorologie und Erdmagnetismus; Annual 1904, Series 41 (Jahrgang 1904, Neue Folge 41). Vienna: Wilhelm Braumuller, 1906.

The yearbooks contain tables of meteorological data for the years 1904 through 1907 in Austria and adjacent European countries. The text is in German.

- 512. Pernter, J.M.,** Yearbook of K.K. Central-Establishment for Meteorology and Geomagnetism: Series 1896–1897 (Jahrbucher of the K.K. Central-Anstalt for Meteorologie und Erdmagnetismus (Jahrgang 1896–1897); Series 1896, Issue 33 through Series 1897, Issue 34 (Neue Folge 34 Band). Vienna: Wilhelm Braumuller, 1899.

The book contains meteorological observations at locations throughout Europe in 1896 and 1897.

- 513. Petrova, G.N.,** Archeomagnetic Determinations of Geomagnetic Field Elements; Soviet Geophysical Committee of the Academy of Sciences of the USSR, 1977.

The journal has approximately eighty pages of archaeomagnetic field data. Tables contain information on the age of the sample, country, site latitude and longitude, ancient declination and inclination (with and without thermal cleansing), radius of circle of 95% confidence, number of samples, and error determinations. Each entry is referenced to the source paper. The text is in Russian.

- 514. Phelan, Michael,** Magnetic Results Filchner Ice Shelf Traverse: 1963–1964; U.S. Coast and Geodetic Survey, 1965.

The report contains tabulations of the results of measurements of magnetic fields made on the Filchner Ice Shelf Traverse conducted during the 1963–1964 austral summer.

- 515. Physics Laboratory of the Faculty of Science of the University of Madagascar,** Magnetism; Monthly Bulletins of the Observatory of Tananarive (Bulletin Mensuel des Observatoire de Tananarive), 1968–1969.

This series is a collection of eleven journals containing observations made at the magnetic and seismic observatory of Tannarive in Madagascar from December, 1967, through April, 1969. Recorded data include preliminary monthly values of declination, inclination, and horizontal intensity. The text is in French.

- 516. Praus, Olrich, Jon M. DeLaurier, and L.K. Law,** The Extension of the Alert Geomagnetic Anomaly through Northern Ellesmere Island, Canada; Canadian Journal of

Earth Sciences, 1971.

The journal contains an analysis of magnetic recordings obtained at eleven sites in Ellesmere Island during 1967. The data were collected to study the Alert anomaly which appears to be generated by electric currents flowing in the Earth's crust or upper mantle. The data indicate that the Alert anomaly extends 475 km to the southwest.

517. Preston, E.D., Magnetic and Gravity Observations on the West Coast of Africa and at Some Islands in the North and South Atlantic; *The American Journal of Science*, 1890.

The journal discusses reasons for and methods of gravity and magnetic observations. The locations of stations visited during the 1889–1890 voyage of the U.S. Navy ship *Pensacola* are recorded. No observations accompany the station locations.

518. Price, A.T. and D.J. Stone, The Quiet-Day Magnetic Variations during the IGY; *Annals of the International Geophysical Year*, 1964.

The journal is a three-part discussion of Dst, Ring current, and quiet day variation research carried out during the International Geophysical Year (IGY). The article contains values of Sq monthly and hourly values of north and east components, and vertical intensity observed at locations around the world.

519. Prior, L.S. and J.C. Dooley, Geophysical Observatory Report; Bureau of Mineral Resources of the Commonwealth of Australia, 1965.

This three-volume report is a collection of twelve monthly reports for each year 1963–1965. Each monthly report contains values of magnetic K-indices and monthly means computed for the observatories at Mawson, Wilkes, Macquarie Island, Toolangi, Gngangara, and Port Moresby, Australia.

520. Pushkov, A.N. and M.P. Ivchenko, The Summary of the Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN), 1980.

The journal contains annual mean values of magnetic elements for the period 1978–1979. Observations were made at magnetic observatories located world-wide. The text is in Russian.

521. Pushkov, A.N. and M.P. Ivchenko, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1967.

The journal contains tables of values for the seven magnetic elements throughout the world. The text is in Russian.

522. Pushkov, A. N. and M.P. Ivchenko, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1972.

The journal contains tables of values for the seven magnetic elements throughout the world.

The text is in Russian.

- 523. Pushkov, A.N. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1973.

The journal contains tables of values for the seven magnetic elements throughout the world. The text is in Russian.

- 524. Pushkov, A.N. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1975.

The journal contains tables of values for the seven magnetic elements throughout the world. The text is in Russian.

- 525. Pushkov, A.N. and M.P. Ivchenko**, The Summary of Annual Mean Values of Magnetic Elements at the World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Academy of Sciences of the USSR, 1976.

The journal contains tables of values for the seven magnetic elements throughout the world. The text is in Russian.

- 526. Pushkov, A.N. and M.P. Ivchenko**, The Summary of the Annual Mean Values of Magnetic Elements at World Magnetic Observatories; Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) Academy of Sciences of the USSR, 1974.

The journal contains annual means values of declination, inclination, horizontal intensity, vertical intensity, total intensity, north component, and east component for sixty-one observatories throughout the USSR. The text is in Russian.

- 527. Quetelet, A.**, Geomagnetism in Italy (Magnetisme Terrestre en Italie); Supporting Record (Second Memoire). Brussels: The Printery of the Royal Academy, 1840.

The book contains values of horizontal intensity made at observatories in Brussels, Paris, Innsbruck, Turin, Venice, Genoa, Pisa, Florence, Rome, and Naples in 1839. The values of inclination at these observatories are recorded for 1836, 1837, 1838, and 1839. The text is in French.

- 528. Quilty, J.H.**, Gippsland Basin Airborne Magnetic Surveys, Victoria 1951–52 and 1956; Bureau of Mineral Resources, Geology and Geophysics of the Commonwealth of Australia, 1965.

The journal contains a contour map of both the on-shore and off-shore areas of the Gippsland Basin, Victoria. An aeromagnetic survey of that region was conducted in 1951 and 1952. Anomalies shown on the contour map indicate a trough containing 15,000 feet of sediment.

529. Reilly, W.I. and A.L. Burrows, The Geomagnetic Field in New Zealand at Epoch 1970.5; Department of Scientific and Industrial Research, Bulletin 211, Geophysical Memoir No. 8. Wellington, New Zealand: Crown, 1973.

The book shows data for 708 vector determinations at 211 magnetic stations in New Zealand and outlying islands and at 269 points on Project Magnet's survey flight lines providing contour maps of seven normal field elements at Epoch 1970.5.

530. Richardson, L.A. and K. Wadati, Magnetic Data from the Japanese Empire, Western Pacific Ocean and Countries Overrun in the War, 1904–1945.

The files contain values of declination, horizontal intensity, and vertical intensity. Data are recorded as monthly and annual means. Observations were made in Japan, China, Korea, and the Philippines from 1904 through 1945. The reports contain notes on observatory practices.

531. Riddihough, R.P., Regional Magnetic Anomalies and Geology in Fennoscandia: A Discussion; Canadian Journal of Earth Sciences, 1972.

The journal discusses a magnetic anomaly map constructed from aeromagnetic profiles in Fennoscandia. The map reflects the established tectonic patterns of the Fennoscandian region and permits speculation about continental discontinuities colinear with oceanic fracture zones.

532. Riddihough, R.P., G.V. Haines, and W. Hannaford, Regional Magnetic Anomalies of the Canadian Arctic; Canadian Journal of Earth Sciences, 1973.

The journal contains a contoured residual map of the vertical magnetic field in the Canadian Arctic region. The article discusses tectonic patterns and relations between the Canadian Shield, the Innuitian Region, and the oceanic ridges of the Arctic Basin.

533. Rikitake, Tsuneji, Electromagnetic Induction in a Hemi-Spherical Ocean by Sq; Journal of Geomagnetism and Geoelectricity, 1960.

The journal describes a theory of electromagnetic induction within a hemispherical conducting sheet. The theory is applied to the induction by Sq in a large ocean of uniform depth bounded by two meridians. The patterns of the induced currents are obtained and illustrated both for the 24- and 12-hourly components.

534. Rikitake, Tsuneji, Electromagnetism and the Earth's Interior; Developments in Solid Earth Geophysics: 2. Amsterdam: Elsevier Publishing Company, 1966.

The text book discusses topics of geomagnetism including the main magnetic field of the Earth, the theory of steady dynamo, the stability of the dipole field, secular variation, electromagnetic induction, electric conductivity, and conductivity anomalies.

535. Rikitake, Tsuneji, Resonant Behavior of Electric Currents Electromagnetically Induced within a Nonuniform Sheet of Conductor; Journal of Geophysical Research, 1968.

The journal discusses electromagnetic induction in a nonuniform sheet. A time-dependent inducing field is used to clarify the relation of the induced current intensity and the wave lengths of the non-uniformity and the inducing field.

536. Rikitake, Tsuneji and Yukio Hagiwara, Non-steady Bullard-Gellman Dynamo Model (2); Journal of Geomagnetism and Geoelectricity, 1968.

The journal discusses examples of non-steady Bullard-Gellman models by using the equation of motion coupled to the induction equation into account. The zonal flow is approximated by rotation of a rigid sphere in actual calculation.

537. Rikitake, Tsuneji, Seiya Uyeda, Takesi Yukatake, and Eiko Nakagawa, The Anomalous Behavior of Geomagnetic Variations of Short Period in Japan and Its Relation to the Subterranean Structure, 8th Report; Bulletin of the Earthquake Research Institute, 1959.

The journal discusses the results of magnetic observations carried out on two islands in the South Sea, 270 and 340 km south of Tokyo, Japan, respectively. Extremely large amplitude, short-period vertical component anomalies are analyzed.

538. Roberts, E.B. et al. (IAGA Committee on Observatories), Description of Geomagnetic Observatories; International Association of Geomagnetism and Aeronomy, 1959.

The journal discusses the location, description and history of observatories in operation world-wide in 1959.

539. Robertson, W.A. and W.F. Fahrig, The Great Logan Paleomagnetic Loop: The Polar Wandering Path from Canadian Shield Rocks during the Neohelikian Era; Canadian Journal of Earth Sciences, 1971.

The journal discusses probable paleopole positions during the Neohelikian Era relative to the Canadian Shield. Thermal and alternating field demagnetization for five study groups support the hypothesis that the relative polar movement giving rise to the Logan Loop was preceded and followed by polar stability.

540. Romana, Antonio, Diffusion of the Copernican System of the World (Difusion del Sistema de Copernico en el Mundo); Ebro Observatory, 1973.

The work discusses the historical significance of Copernicus' theory and its impact on astronomy. The text is in Spanish.

541. Romana, Antonio, The Special Soviet Program (El programa especial sovietico); Ebro Observatory, 1972.

The work discusses the history of space exploration with an emphasis on the Soviet program from 1957 through 1972. The text is in Spanish.

542. Rooney, W.J., Earth-Current Results at Tucson Magnetic Observatory, 1932-1942; Washington, D.C.: Carnegie Institution, 1949.

The journal contains the results of an eleven-year study and analysis of Earth currents including hourly values of potential measured at Tucson Observatory. The relationship with the solar activity of an eleven-year sunspot cycle observed at the observatory from 1932 to 1942 is also discussed. Tables include 290 pages of hourly observations of Earth current potential.

543. Rotanova, N.M., Investigations of the Earth's Deep Electro-Conductivity Using Dst Variations; Academy of Science of the USSR, 1975.

The journal discusses methods of analyzing deep electro-conductivity in the Earth using Dst variations. The text is in Russian.

544. Rother, Klaus, Rock and Paleomagnetic Research on the Rock Probes in the Territory of the DDR Precambrian to the Tertiary and Conclusions for the Changes of the Geomagnetic Main Field for Geological-Geotectonic Interpretation (*Gesteins und palaeomagnetische Untersuchungen an Gesteinsproben vom Territorium der DDR aus dem Praekambrium bis zum Tertiaer und Folgerungen für die Veraenderungugen des geomagnetischen Hauptfeldes sowie für geologisch-geotektonische Interpretationsmöglichkeiten*). Berlin: Research Branch of Cosmic Physics of the German Academy of Science (Forschungsbereich Kosmische Physik der Deutsche Akademie der Wissenschaften zu Berlin), 1969.

The journal is a dissertation presented to the faculty of the Humboldt University of Berlin in March of 1970. The work is a contribution to methods for solving geological problems dealing with relative dating, the detection of movement, and the genesis of rocks. The text is in German.

545. Roy, J.L., The Dominion Observatory Astatic Magnetometer. Ottawa: Dominion Observatory, 1967.

The journal discusses the construction and performance of an astatic magnetometer. It is shown that the use of a fluxgate system to maintain a steady field-free space at the magnetometer greatly reduces the noise level.

546. Roy, J.L., N.D. Opdyke, and E. Irving, Further Paleomagnetic Results from the Bloomsburg Formation. Ottawa: Dominion Observatory, 1967.

The journal contains paleomagnetic results from 161 specimens in the Bloomsburg red beds in the Appalachians. The values of mean intensity and direction, magnetization, and magnetic pole location collected at 13 localities is used to determine if the curvature of the tectonic arc was original or if it was produced by bending in plan.

547. The Royal Meteorological Institute of Belgium, Terrestrial Magnetism, Atmospheric Electricity and Temperature of the Sun: Years 1914 and 1915 (*Annales de L'Institut Royal Meteorologique de Belgique: Annees 1914 and 1915*); Yearbook of the Royal Meteorological Institute of Belgium, 1919.

The journal contains meteorological and geomagnetic data observed at the Royal Meteorological Institute of Belgium in 1914 and 1915. Geomagnetic data include observed values of inclination, declination, and horizontal intensity. The text is in French.

548. The Royal Observatory of Greenwich, Results of Magnetical and Meteorological Observations: 1899–1903. Greenwich: Royal Observatory, 1903.

The book contains values of declination, horizontal intensity, and vertical intensity observed

at the magnetic observatory in Tokyo from 1899 through 1903. Tables are also included showing observations of atmospheric electricity.

549. The Royal Observatory of Brussels, Yearbook of the Royal Observatory of Brussels; Second Series, Vol. 1 (Deuxieme Serie, Tome 1). Brussels: F. Hayez, Printery of the Royal Academy, 1881.

The book contains tables of meteorological and geomagnetic data observed in Belgium from 1834 through 1881. Geomagnetic data include three-hour mean values of declination, horizontal intensity, and vertical intensity for 1876. The text is in French.

550. The Royal Observatory of Brussels, Yearbooks of the Royal Observatory of Brussels (Annales de L'Observatoire Royal de Bruxelles); Vol. 2. Brussels: F. Hayez, 1885.

This series of yearbooks contain tables of meteorological and geomagnetic data made from observations at the Royal Observatory of Brussels from 1877 through 1879. Tables of magnetic data include declination, horizontal intensity, and vertical intensity. The text is in French.

551. Rudzki, M.P., Results of Meteorological, Seismological and Magnetical Observations at the Krakow Observatory (Resultate der meteorologischen, seismologischen und magnetischen Beobachtungen an der k. k. Sternwarte Krakau); Krakow Observatory, 1913.

The journal makes twenty-six observations of declination correcting errors to earlier observations caused by the presence of an electric street car system in Krakow, Poland, in 1913. Daily and monthly meteorological and seismological observations are recorded.

552. Ruiz Lopez, Jose, Magnetic Anomalies of the Iberian Peninsula: Epoch 1960.0 (Anomalias Magneticas de la Peninsula Iberica: Epoca 1960.0); Institute of Geography and Cartography, 1967.

The journal shows the data of the seven magnetic elements—declination, horizontal intensity, vertical intensity, total intensity, inclination, and both north and east components in the Iberian Peninsula in 1960.

553. Rysinova, I.L., The Results of Magnetic Observations of the Magnetic Observatories of Matochkin Shar, Franz-Joseph Land and Dickson, 1933; Transactions of the Arctic Institute of the USSR, 1937.

The journal discusses the results of magnetic observations of the Matochkin Shar, the Franz-Joseph Land, and the Dickson Observatories during 1933. Included are tables of hourly values of declination, horizontal intensity, and vertical intensity. The text is in Russian.

554. Sabine, Edward, Observations Made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island and by the Antarctic Naval Expedition; Vol. 1, Commencing with 1841. London: Longman, Brown, Green, and Longmans, 1850.

The book contains meteorological and magnetic data observed at Hobarton Observatory at Van Diemen Island, Australia from 1841 through 1848. Geomagnetic data include hourly mean values of declination, inclination, vertical intensity, and horizontal intensity.

555. Sabine, Edward, Observations Made at the Magnetical and Meteorological Observatory at the Cape of Good Hope; Vol. 1, Magnetical Observations, 1841 to 1846. London: Longman, Brown, Green and Longmans, 1851.

The book contains hourly values of declination, inclination, horizontal intensity, vertical intensity, and secular change observed at the Cape of Good Hope Observatory from 1841 through 1846. Monthly means are recorded for 1846–1850.

556. Sabine, Edward, Observations Made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island; Vol. 2. London: Longman, Brown, Green and Longmans, 1852.

The book discusses geomagnetic surveys made at the Hobarton Observatory on Van Diemen Island from 1843 through 1848. Included are tables of declination, inclination, horizontal intensity, vertical intensity, and total intensity.

557. Sabine, Edward, Observations Made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island; Vol. 3. London: Longman, Brown, Green and Longmans, 1853.

The book discusses magnetic and meteorological observations made at the Hobarton Observatory on Van Diemen Island from 1846 through 1848. Geomagnetic data include tables of declination, inclination, horizontal intensity, vertical intensity, and total intensity.

558. Sandkuhl, Ernst, Results of Meteorological and Magnetic Observations at Clausthal from January 1, 1876 to January 1, 1886; The Imperial Southern Mountain Region of Clausthal (Der Koniglichen Oberbergamts zu Clausthal). Saarbrucken: Drud von Gebuder Hofer, 1887.

The book contains climatology data and observations of magnetic declination in Clausthal, Germany, from 1876 to 1886. Magnetic declination was observed daily at 8 A.M. and 1 P.M. local time. Hourly, five-day, and monthly means are recorded. Notes on observations are also recorded where appropriate. Magnetograms for 1876 through 1885 are included. The text is in German.

559. Sano, S., Magnetic Surveys of Japan and the Spherical Harmonic Analysis of the Earth's Magnetic Field for the Epoch 1945; Hydrographic Division, Maritime Safety Agency of Tokyo, Japan, 1950.

The journal contains observed values of declination, inclination, and horizontal intensity made at a number of stations in Japan, Korea, Manchuria, and Formosa from 1942 through 1944.

560. Sano, S., Magnetic Surveys of Japan and the Spherical Harmonic Analysis of the Earth's Magnetic Field for the Epoch 1945; Hydrographic Division of the Maritime Safety Agency of Japan, 1950.

The journal contains the results of the fourth magnetic survey of Japan. Declination, inclination, and horizontal intensity were observed at stations throughout Japan from 1942 through 1948. The spherical harmonic model resulting from the survey is also recorded.

- 561. Sauer, Herbert H. and J.G. Roederer, Quantitative Magnetospheric Models: A Symposium Held at Boulder, Colorado 1970; Environmental Science Services Administration Research Laboratories, 1970.**

The publication contains twenty-one papers presented at the Boulder ESSA symposium in 1970. Topics of papers include magnetospheric models, mapping, a description of the outer magnetosphere, drift shell splitting, electron drift effects, and particle motion.

- 562. Schenzl, Guido, Contributions to the Knowledge of Magnetic Conditions in Southeastern Hungary (Beitrag zur Kenntniss der magnetischen Verhältnisse im südöstlichen Ungarn); Hungarian Scientific Academy, 1875.**

The journal contains values of declination observed at locations throughout Hungary from 1848 through 1875. Some data are reduced to Epoch 1850. Observations made in 1875 include date, time, location, and observed declination. The text is in German.

- 563. Schenzl, Guido and Gusztav Kondor, Mánnetikai helymeghatározások Magyarország délnyugati részén; M.T.A. Math S. Tetmeszett, Közlemények, 1870.**

The journal appears to contain magnetic and meteorological observations made in and around Hungary in 1869. There appears to be a conclusion on pages 165–168 summarizing observations of declination, inclination, and horizontal intensity from 1848 to 1869. Tables at the end of the text summarize actual observations. The text is in Hungarian.

- 564. Schering, Karl, Reports of the Magnetic Observatory (Beobachtungen im magnetischen Observatorium); Reports from the Imperial Organization of Science and the George-Augusts University in Göttingen, 1881.**

The reports discuss Earth's magnetic field. Included are tables of horizontal intensity and secular variation observed from 1834 through 1880. The text is in German.

- 565. Schlich, R. and M. Palomares, Semi-Automatic Treatment in Recording Analogies: Application from Magnetograms (Traitement Semi-Automatique D'enregistrements Analogiques: application aux magnetogrammes); Yearbook of the Institute of Geophysics (Annales L'institut de Physique du Globe), 1966.**

The journal describes computer methods of recording magnetometer readings. Included are sample programs and examples from the magnetic observatory at Port Aux Français. The text is in French.

- 566. Schmidt, Ad., Representations at the Observatory at Potsdam Employing Proceedings of Earth Core of Monthly Bands of Geomagnetic Elements (Darstellung des am Observatorium zu Potsdam verwendeten Verfahrens zur Ermittlung des monatlichen Ganges der erdmagnetischen Elemente); Results of Magnetic Reports in Potsdam and Seddin in the Year 1922 (Ergebnisse der magnetischen Beobachtungen in Potsdam und Seddin im Jahre 1922), 1922.**

The journal discusses the results of magnetic observations made in Potsdam and Seddin in 1922. Tables of calculations are shown for the north component for the years 1905 through

1940. The text is in German.

- 567. Schmidt, Adolf**, Magnetic Declination in West and East Prussia: 1905–1913; Prussian Meteorological Institute (Veröffentlichungen des Preussischen Meteorologischen Instituts), 1922.

The journal discusses geomagnetic surveys carried out in Prussia. Included are tables of declination observed from 1905 through 1913. The text is in German.

- 568. Schmucker, Ulrich**, Geomagnetic Deep Soundings in Germany 1957–59: Magnetograms and First Evaluation (Erdmagnetische Tiefensondierung in Deutschland 1957–59: Magnetogramme und Erste Auswertung); Book No. 5. Gottingen: Vandenhoeck and Ruprecht, 1959.

The book discusses a project in Northern Germany to examine the underground electromagnetic anomaly. Data from Niemeck and Wingst magnetic observatories are used. The text is in German.

- 569. Schott, C.A.**, Distribution of the Magnetic Declination in Alaska and Adjacent Waters for the Year 1895, with Two Charts; U.S. Coast and Geodetic Survey, 1895.

The journal discusses magnetic surveys carried out in Alaska and adjacent waters. Included are tables of magnetic declination and secular variation observed from 1861 through 1894 and reduced to Epoch 1895.0.

- 570. Schott, C.A.**, The Secular Variation and Annual Change of the Magnetic Force at Stations Occupied by E.D. Preston in Connection with the U.S. Eclipse Expedition to the West Coast of Africa in 1889–1890; Bulletin of the U.S. Coast and Geodetic Survey, 1891.

The bulletin discusses secular variation as related to solar flare activity in west Africa in 1889 and 1890. Included are tables of declination, inclination, horizontal intensity, and total intensity.

- 571. Schott, Charles**, Magnetic Traces, 1881.

The file contains ten or twelve magnetic traces recorded at Madison, Wisconsin, in September, 1881.

- 572. Schott, Charles**, Methods and Results: Report upon Magnetic Observations Made at the U.S. Polar Station Ooglaamie, Point Barrow, Alaska 1881–1882–1883; U.S. Coast and Geodetic Survey, 1883.

The report discusses the magnetic observations made at the U.S. Polar Station Ooglaamie, Point Barrow, Alaska, in 1881, 1882 and 1883. Tables include monthly mean values of declination, inclination, and horizontal intensity.

- 573. Schott, Charles A.**, Contributions to Terrestrial Magnetism—Appendix 139: Report on the Record with Computation and Results of the Magnetic Observations Made by the Expedition to Lady Franklin Bay, 1881–1884; U.S. Coast and Geodetic Survey.

Washington, D.C.: U.S. Coast and Geodetic Survey, 1886.

The book contains the results of the U.S. Coast and Geodetic Survey Polar Expedition of 1881–1884. Observed values of magnetic declination, inclination, and horizontal intensity made at Fort Conger, Lady Franklin Bay, and Grinnel Land in 1881 through 1883 are published.

574. Schott, Charles A., *Distribution of the Magnetic Declination in the United States for the Epoch January 1, 1900—Appendix 1: Terrestrial Magnetism Report for 1896*; U.S. Coast and Geodetic Survey. Washington, D.C.: Government Printing House, 1897.

The book discusses the distribution of magnetic declination in the United States for the Epoch January 1, 1900. Included are tables of declination and secular variation.

575. Schott, Charles A., *Distribution of the Magnetic Declination in the United States for the Epoch January 1, 1900*; U.S. Coast and Geodetic Survey, 1897.

The journal contains values of declination in the United States and adjacent areas observed prior to 1900. Each observation is reduced to Epoch January 1, 1900.

576. Schott, Charles A., *Distribution of the Magnetic Dip and Magnetic Intensity in the United States for the Epoch January 1, 1900*; U.S. Coast and Geodetic Survey, 1898.

The journal contains values of inclination, horizontal intensity, and total intensity in the United States. Values are also reduced to Epoch January 1, 1900.

577. Schott, Charles A., *Magnetic Dip and Intensity with Their Secular Variation and Geographical Distribution in the United States—Appendix 6: Report for 1885*; U.S. Coast and Geodetic Survey. Washington, D.C.: Government Printing House, 1886.

The book discusses inclination, total intensity, and secular variation in the United States. Included are tables of data for 1885.

578. Schott, Charles A., *The Magnetic Work of the Greely Arctic Expedition: 1881–1884*; U.S. Coast and Geodetic Survey, 1889.

The journal contains a description of the 1881–1884 Greely Arctic Expedition.

579. Schott, Charles A. *Methods and Results: Directions for Measurement of Terrestrial Magnetism—Appendix 8 and 9 for 1881, Appendix 12 for 1882, Appendix 6 for 1885*; U.S. Coast and Geodetic Survey. Washington, D.C.: U.S. Government Printing Office, 1882.

The book is a series of appendices containing definitions of declination, inclination, and absolute and relative measures of magnetic force. Appendices for 1882 and 1885 contain tables of declination, inclination, and total intensity made at locations in the United States and adjacent countries from 1841 through 1885. Magnetic charts for declination, inclination, horizontal intensity, and total intensity for the Epoch 1885 are included at the end of the text.

580. Schott, Charles A., *Methods and Results: Secular Variation of the Magnetic Declination in the United States and at Some Foreign Stations*; U.S. Coast and Geodetic Survey, 1883.

The journal contains values of magnetic declination observed at locations in the United States and foreign stations from 1541 through 1882. Included data were determined to be suitable for the study of secular variation.

581. Schott, Charles A., *Methods and Results: Distribution of the Magnetic Declination in the United States at the Epoch January 1885*; U.S. Coast and Geodetic Survey, 1883. The journal contains values of magnetic declination observed at locations in the United States and foreign stations from 1541 through 1882 with declinations reduced to 1885. Included data were determined to be suitable for the study of secular variation.

582. Schott, Charles A., *Methods and Results: Magnetic Dip and Intensity with Their Secular Variation and Geographical Distribution in the United States*; U.S. Coast and Geodetic Survey, 1886. The journal contains observed values of inclination, horizontal intensity, total intensity, and secular variation in the United States. Values are also reduced to Epoch 1895.0.

583. Schott, Charles A., *Notes on Measurements of Terrestrial Magnetism*; United States Coast Survey, 1872. The journal contains instructions for the determination of magnetic declination, inclination, and horizontal intensity on land. No actual observations are recorded.

584. Schott, Charles A., *Report on Results of Magnetic Observations, Both Absolute and Differential, at Key West, 1860 to 1866*; United States Coast Survey, 1874. The journal contains values of corrected daily, monthly, and annual variation of magnetic declination, inclination, and horizontal intensity at Key West, Florida, from 1860–1866.

585. Schott, Charles A., *Report on the Results from the Observations Made at the Magnetical Observatory on Capitol Hill, Washington, D.C. between 1867 and 1869*; United States Coast Survey, 1869. The journal contains monthly mean values of magnetic declination, inclination, and horizontal intensity observed on Capitol Hill, Washington, D.C. from 1867 through 1869. Three tables summarize observations of magnetic declination, inclination, and horizontal intensity in the Washington, D.C. area.

586. Schott, Charles A., *Results of Magnetic Observations Recorded at Los Angeles, California: 1882–1889; Part 3: Differential Measures, Horizontal Intensity*; U.S. Coast and Geodetic Survey. Washington, D.C.: U.S. Government Printing Office, 1892. The book contains nearly three-hundred pages of values for horizontal variation, hourly means and diurnal variation from observations recorded at Los Angeles Observatory from 1882 through 1889.

587. Schott, Charles A., *The Secular Change of Magnetic Declination in the United States and Other Parts of North America*; United States Coast Survey, 1874. The journal contains values of magnetic declination observed at locations in the United States

and foreign stations from 1609 through 1874. Included data were determined to be suitable for the study of secular variation.

- 588. Schott, Charles A.,** *Secular Variation of the Earth's Magnetic Force in the United States and Some Adjacent Foreign Countries—Appendix 1: Terrestrial Magnetism for 1895;* U.S. Coast and Geodetic Survey. Washington, D.C.: U.S. Government Printing Office, 1896.

The book contains values of declination, inclination, and total intensity observed at locations throughout Canada, Mexico, and the United States.

- 589. Schott, Charles A.,** *Secular Variation of the Earth's Magnetic Force in the United States and in Some Adjacent Foreign Countries—Appendix 1 for 1895.* Washington, D.C.: U.S. Government Printing Office, 1896.

The book discusses secular variation in the United States, Canada, Mexico, and adjacent countries. Included are tables of declination and inclination made from observations from 1600 through 1895.

- 590. Schott, Charles A.,** *Terrestrial Magnetism: Secular Variation of the Magnetic Declination in the United States and at Some Foreign Stations;* U.S. Coast and Geodetic Survey, 1890.

The journal contains values of magnetic declination observed at locations in the United States and foreign stations from 1525 through 1887. Included data were determined to be suitable for the study of secular variation.

- 591. Schott, Charles A. and George Davidson,** *Report of the Superintendent of the U.S. Coast and Geodetic Survey Showing the Progress of the Work during the Fiscal Year Ending with June, 1886;* U.S. Coast and Geodetic Survey. Washington, D.C.: U.S. Government Printing Office, 1887.

The book contains data from geodetic and hydrographic surveys and magnetic observations in most of the United States conducted in Fiscal Year 1886. Data are arranged by region with magnetic observations recorded in Appendix 12. Appendix 7 contains an examination of voyages from 1539 to 1603 on the northwest coast of America.

- 592. Schott, Charles A. and Werner Suess,** *Reports on the Magnetic Observatory at Madison, Wisconsin;* U.S. Coast Survey, 1876–1877.

The journals contain hand-written notes made at the observatory at Madison, Wisconsin, in 1876 and 1877. Included are "general remarks" of description of the observatory and tables of azimuth recorded from 1876 through 1877.

- 593. Schuck, A.,** *Magnetic Observations at Hamburg Bay, the German Bay of the North Sea and Central Regions (Magnetische Beobachtungen an der Hamburger Bucht, deutsche Bucht der Nordsee, mittlerer Theil); Yearly Changes of the Elements of Geomagnetism: 1893 to 1896 (Jährliche Aenderung der Elemente des Erdmagnetismus: 1893–96).* Hamburg: Emil Korff, 1898.

The book contains values of declination, inclination, horizontal intensity, and vertical intensity observed at stations in Europe from 1893 through 1896. Data are reduced to Epochs. The text is in German.

594. Schuck, Albert, *Essays in the Areas of Natural Science presented by the Natural Science Club of Hamburg; Observations of Direction, Inclination and Frequency of the Magnetic Needle (Beobachtungen der Missweisung, Inklination und Schwingungszeit der Magnetnadel) on the Elbe and the North Sea Between Hamburg and Rouen from 1884 to 1885 and London to Hamburg in 1886.* Hamburg: L. Friederichsen and Co., 1886.

The book contains values of declination, inclination, and horizontal intensity with azimuth sightings in 1884 and 1885. D, I, and H for numerous observatories are recorded prior to 1850, 1850–1858, 1858–1868, and 1868–1871. The text is in German with tables and charts summarizing the data.

595. Schultz, Gunter and Uwe Carstens, *A Period Measuring Proton Magnetometer with a Direct Readout; The German Hydrographic Journal (Deutsche Hydrographische Zeitschrift), 1979.*

The journal discusses utilization of a proton magnetometer using a direct readout.

596. The Secretariat of the Geophysics Research Board of the National Geophysical Research Institute, *Progress in Geophysics; Report of the Geophysical Activities in the Republic of India, 1965.*

The report contains sections of summaries by the Geophysics Research Board concerning topics of geophysics and geology. A section on geomagnetism discusses the magnetic observatory at Hyderabad and IQSY programs for 1964.

597. The Secretariat of the Geophysics Research Board of the National Geophysical Research Institute, *Progress in Geophysics; Report of the Geophysical Activities in the Republic of India, 1967.*

The report contains sections of summaries by the Geophysics Research Board concerning topics of geophysics and geology. A section on geomagnetism discusses the magnetic observatory at Hyderabad and IQSY programs for 1967.

598. Serson, P., E. Dawson, J.F. Clark, and G.V. Haines, *Ground and High-Level Aeromagnetic Observations.* Ottawa: Dominion Observatory, 1968.

The journal discusses the history of geomagnetism and includes a section on the history of magnetic observations in the Hudson Bay region. A table and charts on pages 19 through 21 contain values of secular variation from 1600 through 1965.

599. Serson, P.H. and W.L.W. Hannaford, *A Statistical Analysis of Magnetic Profiles.* Ottawa: Dominion Observatory, 1957.

The journal discusses auto-correlation functions computed for profiles of declination, horizontal intensity, and total intensity obtained by a three-component airborne magnetometer over Western Canada and over the Atlantic Ocean, east of Bermuda.

600. Shelley, E.P., Daly River Detailed Aeromagnetic Survey, Northern Territory 1966; Bureau of Mineral Resources, Geology and Geophysics, 1969.

The journal contains the results of an aeromagnetic survey covering 55 square miles of the Daly River Mineral Field in the Northern Territory. The purpose of the survey was to determine the source and extent of the copper mineralization and to assist geological mapping in areas of alluvial cover. The results of the survey are shown in two maps.

601. Shih, K.G., B.L. Johnston, and S.P. Srivastava, Bathymetric and Magnetic Data Collected in the Northeastern Pacific and Bering Sea Onboard the C.S.S. *Parizeau*, 1970; Bedford Institute of Oceanography, 1972.

The journal contains total magnetic field and magnetic anomaly data observed in the Northeastern Pacific and in the Bering Sea in 1970.

602. Shih, K.G., J.B. MacIntyre, and B.L. Johnston, Gravity and Magnetic Data Collected in the Northeastern Pacific and Bering Sea on the C.S.S. *Baffin* in 1970; Data Series B1-D-72-7, 1972.

The journal contains total magnetic field and magnetic anomaly observations made in 1970.

603. Shih, K.G., D.I. Ross, and B.L. Johnston, Gravity and Magnetic Data of Baffin Bay Collected in 1970 C.S.S. *Hudson* and C.S.S. *Baffin* Cruises; Bedford Institute of Oceanography, 1972.

The journal contains total magnetic field and magnetic anomaly data observed in the region of Baffin Bay in 1970.

604. Slaucitajs, L., Geomagnetism in the Region of the Peninsula of Antarctic, the Adjacent Islands and the Weddel Sea in 1951–56 (Mediciones Geomagneticas en la regions de la Peninsula Antartica, Islas Adjacentesy Mar de Weddell en 1951–56); Pure and Applied Geophysics (Geofisica Pura e Applicata), 1956.

The journal discusses geomagnetism in the Antarctic Peninsula, adjacent islands, and the Weddel Sea. Included are tables of declination, horizontal intensity, and vertical intensity observed at a number of stations from 1951 through 1956. The text is in French.

605. Slaucitajs, L., Magnetic Survey of Latvia: 1937–1943; Baltic University, 1946.

The journal discusses the history of magnetic measurements in Latvia. Included are tables of declination, horizontal intensity, and vertical intensity observed from 1937 through 1943.

606. Slaucitajs, Leonid, Isogonic Chart of the Baltic Sea for the Year 1930 (Baltijas juras izogonu karte 1930. gadam). Riga: Gramatrupnieks, 1930.

The booklet contains a description of a magnetic survey made in the region of the Baltic Sea. An isogonic map of the Baltic Sea region, the coast of Estonia, Latvia, Sweden, and Finland shows magnetic declination for the year 1930. The text is in Latvian.

- 607. Slaucitajs, Leonidas**, Characteristics of Magnetic Variations Observed in the Provinces of Buenos Aires and Chubut (Algunas Caracteristicas de las Variaciones Magneticas Observadas en las Provincias de Buenos Aires y Chubut); Astronomical Observatory of the National University of La Plata, 1962.

The journal discusses studies of diurnal variation and electro-jet currents in Argentina. Data from the magnetic observatories Las Acacias, Trelew, and Pilar are used for the studies. Observations of variations made at the Trelew Observatory for 1958 are shown in graphs throughout the text. The text is in Spanish.

- 608. Slaucitajs, Leonidas**, Geomagnetic Information of the South American Antarctic (El Conocimiento de la Antartida Sudamericana); Antarctic Institute of Argentina, Publication No. 3. Buenos Aires: Antarctic Institute of Argentina, 1957.

The book summarizes magnetic investigations in the region of the antarctic peninsula since the 19th century. Data from the *Nordenskjold*, *Charcot*, *Alemana de Filchner*, *Shackleton*, *Carnegie*, and *Ronne* expeditions as well as the Argentinean expedition of 1953–54, 1954–55 and 1955–56 are contained in the report. The text is in Spanish.

- 609. Slaucitajs, Leonidas**, Results of the Geomagnetic Investigation of 1952 in Tierra del Fuego and Parts South of Patagonia (Resultados de las Investigaciones Geomagneticas efectuadas en el ano 1952 en Tierra del Fuego y parte S de Patagonia); Astronomical Observatory of Eva Peron City (Publicaciones de Observatorio Astronomico de las Ciudad Eva Peron), 1952.

The journal discusses the results of a geomagnetic survey made in 1952 in Chile at Tierra del Fuego and in Patagonia. Included is a table of observed values of declination, inclination, and horizontal intensity.

- 610. Smith, W.O., C.P. Vetter, and G.B. Cummings**, Lake Mead Comprehensive Survey of 1948–49, Vol. 1; U.S. Geological Survey, Department of the Interior, 1954.

This is the first volume of a three-volume set detailing the comprehensive survey of Lake Mead. The journal describes the scope of the Lake Mead comprehensive survey, of 1948 and 1949, including the environment of Lake Mead, the program for the survey and geodetic surveys.

- 611. Smith, W.O., C.P. Vetter, and G.B. Cummings**, Lake Mead Comprehensive Survey of 1948–49, Vol. 2; U.S. Geological Survey, Department of the Interior, 1954.

This is the second of a three-volume set detailing the comprehensive survey of Lake Mead. The journal describes the scope of the Lake Mead comprehensive survey of 1948 and 1949, including hydrographic surveys, reservoir storage, limnology, sedimentology, life of the reservoir, and problems for future study.

- 612. Smith, W.O., C.P. Vetter, and G.B. Cummings**, Lake Mead Comprehensive Survey of 1948–49, Vol. 3; U.S. Geological Survey, Department of the Interior, 1954.

This is the third of a three-volume set detailing the comprehensive survey of Lake Mead. The journal contains the results of core and sample collections for the Lake Mead

environment. Profiles are obtained using echo sounding to supplement the sample data.

- 613. Sola, Marcial, Report of the Director of the Philippine Weather Bureau for the Year 1902; Part 2, Meteorological Service of the Philippine Islands: 1865–1902. Manila: Bureau of Public Printing, 1903.**

The yearbook discusses the history of meteorology in the Philippines. Included are chapters on instrumentation, a description of the observatories, notes on meteorological techniques and two location maps.

- 614. Soulat, J.M. and P. Bouvet, Study of Prototype of a Magnetic Digital Recorder (Etude du Prototype d'un Enregistreur Magnetique Digital); Ionospheric Research Group (Groupe de Recherches Ionospheriques). [Date unknown]**

The journal discusses a digital magnetic recorder prototype to record the magnetic field observations. The text is in French.

- 615. Soviet Geophysical Committee of the Academy of Sciences of the USSR, Deep Electromagnetic Soundings; Soviet Geophysical Committee of the Academy of Sciences of the USSR, 1989.**

This catalog contains the results of deep magnetotelluric sounding data recorded at locations through the USSR in 1988. The data include the name and locations of the observation sites, time and data of the observations, the methods of recording, the type of the apparatus used, and the method of processing and characteristics of the cross-section. The text is in Russian.

- 616. Soviet Geophysical Committee of the Academy of Sciences of the USSR, Deep Electromagnetic Soundings; Soviet Geophysical Committee of the Academy of Sciences of the USSR, 1989.**

This catalog contains the results of deep magnetotelluric sounding data recorded at locations through the USSR in 1988. The data include the name and locations of the observation sites, time and data of the observations, the methods of recording, the type of the apparatus used, and the method of processing and characteristics of the cross-section. The text is in Russian.

- 617. Sparkes, R., B.L. Johnston, and D.L. Barrett, Bathymetry and Magnetic Data in Davis Strait, Lancaster Sound and Jones Sound, Cruise B1 65-022 Labrador; Bedford Institute of Oceanography, 1973.**

The journal contains total magnetic field and magnetic anomaly data observed in 1965.

- 618. Spencer, Nye S. and George F. Kucera, Handbook of Magnetic Compass Adjustment and Compensation; U.S. Navy, H.O. No. 226. Washington, D.C.: United States Government Printing Office, 1944.**

The book deals with basic principles of compass deviation and its correction. The text is written for the Specialist Officer Training Program of the U.S. Navy at Norfolk, Virginia.

- 619. Srivastava, B.J., P.V. Sanker Narayan, D.S. Bhaskara Rao, et al., Geomagnetism and Geoelectricity; Annual Report of the National Geophysical Research Institute of**

Hyderabad, India: 1969–1970, 1970.

The journal discusses the Institute's progress in a number of its research projects. Topics include: studies on conductivity anomalies; proton vector magnetometry; lunar, luni-solar and solar daily variation; spectral analysis of storm-time irregular variation; night-time geomagnetic solar flare effect; and, geomagnetic disturbances versus road traffic accidents.

620. Srivastava, B.J., P.V. Sanker Narayan, D.S. Bhaskara Rao, et al., Geomagnetism and Geoelectricity; Annual Report of the National Geophysical Research Institute of Hyderabad, India: 1970–1971, 1971.

The journal discusses the Institute's progress in a number of its research projects in geomagnetism, geoelectricity, paleomagnetism, and geophysical prospecting. Topics include: studies on conductivity anomalies; proton vector magnetometry; lunar and solar daily variations; spectral analysis of storm-time irregular variation; preliminary investigations for geophysical prospecting for chromite; and, model resistivity experiments.

621. Srivastava, B.J., P.V. Sanker Narayan, D.S. Bhaskara Rao, et al., Geomagnetism and Geoelectricity; Annual Report of the National Geophysical Research Institute of Hyderabad, India: 1971–1972, 1972.

The journal discusses the Institute's progress in a number of its research projects in geomagnetism, geoelectricity, paleomagnetism, and geophysical prospecting. Topics include: studies of deep-seated electrical conductivity and coastal effect; solar activity versus heart diseases and psychiatric cases; study of the geomagnetic field reversal; and, resistivity and magnetotelluric sounding for homogeneous and transitional Earth.

622. Srivastava, B.J., P.V. Sanker Narayan, D.S. Bhaskara Rao, et al., Geomagnetism and Geoelectricity; Annual Report of the National Geophysical Research Institute of Hyderabad, India: 1972–1973, 1973.

The journal discusses the Institute's progress in a number of its research projects in geomagnetism, geoelectricity, paleomagnetism, geophysical prospecting, and airborne surveys. Topics include: field investigations on geomagnetic induction anomalies along the Hyderabad-Waltair profile; applied research in electrical and electromagnetic methods of geophysical prospecting; and, developmental airborne geophysical surveys.

623. Srivastava, S.P., Magnetotelluric Two- and Three-Layer Master Curves. Ottawa: Dominion Observatory, 1967.

The publication discusses extension of the master curve technique to include theoretical development in which the dimensions of the inducing field are considered as well as the vertical distribution of resistivity. Curves for both apparent resistivity and phase are plotted as functions of period for various values of horizontal wave-length of the source and various layered models.

624. Srivastava, S.P., Geophysical Data Collected during *Hudson-70*, Phase VII off British Columbia, Canada; Atlantic Oceanographic Laboratory of the Bedford Institute, 1971.

The journal contains the data of total magnetic field and magnetic anomaly observations taken

off of British Columbia in 1970.

- 625. Stassinopoulos, E.G. and Gilbert D. Mead, ALLMAG, GDALMG, LINTRA: Computer Programs for Geomagnetic Field and Field-Line Calculations; Goddard Space Flight Center and the National Space Science Data Center, 1972.**

The report discusses computer programs developed for the calculation of the geomagnetic field and the tracing of field lines in space. The programs are described in detail and sample calculations are given.

- 626. Stearn, Noel H., A Geomagnetic Survey of the Bauxite Region in Central Arkansas; Bulletin of the Arkansas Geological Survey, 1930.**

The journal describes data used to create a magnetic map showing boundaries of an igneous province and a bauxite area in central Arkansas. The existence of an igneous province of some 400 square miles is inferred.

- 627. Steen, Aksel S., Geomagnetic Observations in the North: Summer 1902 (Jordmagnetiske maalinger i Norge: Sommeren 1902); Archives for Mathematics and Natural Science, 1904.**

The journal contains values of declination, inclination, horizontal intensity, and vertical intensity observed at sixteen stations in Norway in 1902. The location, date, time, and observed values are recorded for each station. The text is in Norwegian.

- 628. Stelling, Ed, Magnetic Observations in the Lena Area in the Summer of 1888 and Remarks concerning the Secular Variation of Geomagnetic Elements (Magnetische Beobachtungen im Lena-Gebiet im Sommer 1888 und Bemerkungen über die Säkulare Änderung der Erdmagnetischen Elemente Dasselbst); Vol. 13, No. 4. St. Petersburg: The Repertory for Meteorology of the Imperial Academy of Sciences, 1889.**

The book discusses geomagnetism in the region of the Lena River near Yaturst in the USSR. Included are tables of declination, inclination, and horizontal intensity observed in 1888. The text is in German.

- 629. Stelling, Ed, Magnetic Observations from a Journey to Urga in the Summer of 1893 (Magnetische Beobachtungen auf einer Reise nach Urga im Sommer 1893); Remarks concerning the Changes of Geomagnetic Elements in Eastern Siberia (Bemerkungen über die Änderungen der erdmagnetischen Elemente im Ost-Sibirien). St. Petersburg: The Imperial Academy of Sciences of St. Petersburg, 1895.**

The book discusses magnetic observations made on a trip from Irkutsk to Urga in eastern Siberia in 1893. Observed data include declination, inclination, vertical intensity, and horizontal intensity. The text is in German.

- 630. Stelling, E.W., D.A. Smirnov, and N.V. Rose, Collection of the Magnetic Observatory in Yakutsk, Alaska (Recueil D'Observations Magnetiques, Faites en Iakoutie); Vol. 2. Leningrad: Office of the Commission for Studies in the Soviet Socialist Republic, 1926.**

The book discusses geomagnetic observations made in the Yakutsk region from 1736 through

1921. Included are tables of declination, inclination, and horizontal intensity. The text is in both Russian and French with an English summary.

631. Stewart, Balfour, Results of the Monthly Observations of Dip and Horizontal Force Made at the Kew Observatory: April, 1863–March 1869; Proceedings of the Royal Society, 1870.

The journal discusses the results of magnetic observations made at the Kew Observatory. Included are tables of inclination and horizontal intensity observed from 1863 through 1869.

632. Stockard, H.P., U.S. Naval Oceanographic Office Geomagnetic Surveys; Informal Report, 1967.

This report provides information concerning survey locations, dates, navigational control, track patterns, data format, and the availability of geomagnetic technical reports and charts.

633. Stuart, W.F., The High Resolution Magnetic Stations Operated by the Institute of Geological Sciences; Geomagnetism Unit of the Institute of Geological Sciences at Hailsham, Sussex, England, 1969.

The report describes the network of high-resolution magnetic recording stations in the British Isles with some examples of data recordings.

634. Sucksdorff, C., On The Processing of Geomagnetic Hourly Data with an Electronic Computer; Nurmijarvi Geophysical Observatory of the Finnish Meteorological Office, 1961.

The journal discusses the technique of converting hourly data compiled from magnetograms into a form suitable for publishing in the yearbook. Sample programs and data are shown.

635. Sucksdorff, C., M. Kivinen, and H. Nevanlinna, Results of Magnetic Measurements in South and East Finland 1967–1971; Studies on Earth Magnetism, 1972.

The journal contains values of declination, total intensity, and horizontal intensity made in South and East Finland between 1967 and 1971. Observed values are also reduced to Epoch 1970.0.

636. Sucksdorff, C., D. Soderman, and N. Gustafsson, Numerically Analyzed Magnetic Charts of Finland for 1970.0; Finnish Meteorological Institute, 1971.

The journal discusses the three-component aeromagnetic survey used in Finland to update data to 1970.0. Included are tables of declination, horizontal intensity, vertical intensity, and total intensity.

637. Sucksdorff, C., D. Soderman, and N. Gustafsson, Numerically Analyzed Magnetic Charts of Finland for 1970.0; Studies of Earth Magnetism of the Finnish Meteorological Institute, 1971.

The journal discusses magnetic charts made of Finland for 1970. The charts were prepared using some 400 three-component aeromagnetic survey points for the main area and more than 500 new land measurements for the eastern boundary area and the coast of the Gulf of

Finland. The work contains a table of values used to create magnetic charts of declination, horizontal intensity, vertical intensity, and total intensity of Finland Epoch 1970.0 as well as the resulting charts. The text is in Finnish and English.

638. Suda, Kanzi, Magnetic Survey of Japan 1949–50; Bulletin of the Hydrographic Office, 1954.

The journal contains values of declination and horizontal intensity observed in Japan during 1949 and 1950. A total of 53 stations were occupied. These are clearly marked as repeat observations or new stations. Declination was observed at each station continuously for twenty-four to thirty hours. Inclination and horizontal intensity were observed three to four times daily. Current and previously observed data are recorded for each repeat station. Observations were compared and reduced to Kakioka Magnetic Observatory.

639. Suslennikov, V.V., Basic Results of Aeromagnetic Surveys of the Karelo-Finnish SSR; Razvedka Nedr, 1947.

The journal discusses an aeromagnetic survey made in the Karelo-Finnish SSR in 1945 and 1946 with the intent of prospecting for iron ore deposits. The text consists of hand-written notes in English.

640. Svendsen, K.L., United States Magnetic Tables for 1960; U.S. Coast and Geodetic Survey, 1962.

The journal contains values of declination, inclination, horizontal intensity, vertical intensity, and total intensity observed in the United States from 1955 through 1960.

641. Swift, Charles M., A Magnetotelluric Investigation of an Electrical Conductivity Anomaly in the Southwestern United States; Geophysics Laboratory of Massachusetts Institute of Technology, 1967.

This thesis reports on projects NR 371-401 and NR 081-264 and investigates magnetotelluric anomalies in the southwestern United States. Telluric data are combined with magnetic data from Tucson Observatory. Data are analyzed for tensor apparent resistivities, principal directions, and two-dimensionality measures.

642. Szarka, L. and G. Fischer, Subsurface Electromagnetic Parameters in Terms of the Distribution of Current; Geophysical Transactions, 1992.

The journal contains several geophysical articles. Noted here is an article discussing electric and magnetic fields below the horizontal surface of a conducting structure.

643. Tarczy-Hornoch, A., The Calculation of Magnetic Declination in the Carpathian Basin (Über die Berechnung der magnetischen Deklination im Karpathenbecken); Acta Technica of the Scientific Academy of Hungary, 1951.

The bulletin contains calculations of declination made in the Carpathian Basin from 1850 through 1943. This is a photostat from Acta Technica, Academiae Scientiarum Hungaricae, Vol. 3, No. 1–2, Budapest, 1952. The text is in German.

644. Tarczy-Hornoch, A., Geophysical Observatory Reports of the Geophysical Research Laboratory of the Hungarian Academy of Sciences: 1967; Observatory of Nagycenk of the Hungarian Academy of Sciences, 1968.

This annual report of the observatory Nagycenk contains four sections: Earth Currents, Geomagnetism, Atmospheric Electricity, and Ionosphere. Geomagnetic data include tables of hourly averages of declination, horizontal intensity, and vertical intensity and an analysis of daily variations.

645. Tarczy-Hornoch, A., Geophysical Observatory Reports of the Geophysical Research Laboratory of the Hungarian Academy of Sciences: 1967; Observatory of Nagycenk of the Hungarian Academy of Sciences, 1968.

The journal contains reports on Earth currents, geomagnetism, atmospheric electricity, and the ionospheric studies carried out at Nagycenk in 1967. Monthly and yearly mean values for horizontal intensity, vertical intensity, and declination are given.

646. Tarczy-Hornoch, A., Geophysical Observatory Reports of the Geophysical Research Laboratory of the Hungarian Academy of Sciences: 1968; Observatory of Nagycenk of the Hungarian Academy of Sciences, 1969.

This annual report of the observatory Nagycenk contains four sections: Earth Currents, Geomagnetism, Atmospheric Electricity, and Ionosphere. Geomagnetic data include tables of hourly averages of declination, horizontal intensity, and vertical intensity and an analysis of daily variations.

647. Tarczy-Hornoch, A., Geophysical Observatory Reports of the Geophysical Research Laboratory of the Hungarian Academy of Sciences: 1968; Observatory of Nagycenk of the Hungarian Academy of Sciences, 1969.

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649. Tarczy-Hornoch, A., Geophysical Observatory Reports of the Geophysical Research Laboratory of the Hungarian Academy of Sciences: 1970; Observatory of Nagycenk of the Hungarian Academy of Sciences, 1971.

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hourly averages of declination, horizontal intensity, and vertical intensity and an analysis of daily variations.

650. Teisseyre, Roman, Bibliography 1979–1988 and Activity Report for the 35-Year Anniversary; Institute of Geophysics, Polish Academy of Sciences, 1990.

The journal lists the bibliography of publications written by the staff of the Institute of Geophysics of the Polish Academy of Sciences and a bibliography of articles on general topics of geophysics throughout Poland from 1979 through 1988.

651. Tenani, Mario, Results of Absolute Determination of Variation of Geomagnetism Performed at Spitsbergen (Risultati Delle Determinazioni Assolute e di Variazione del Magnetismo Terrestre eseguite allo Spitsbergen); Yearbook of Hydrography, Collection of Documents: Hydrography and Navigation (Annali Idrografici, Raccolta de Documenti: Idrografia e La Navigazione). Genoa: Institute of Hydrography of R. Marina, 1939.

The book contains meteorological, oceanographic, and magnetic measurements in and near Italy from 1925 to 1928. Magnetic declination, inclination, and horizontal intensity were observed at four sites near Spitsbergen in 1928. The book is fragile. The text is in Italian.

652. Theberge, Jr., A.E., Magnetic Survey off Southern California and Baja California; Operational Data Report NOS DR-12, National Ocean Survey, 1971.

The journal contains a residual magnetic anomaly map of Southern California and Baja California constructed from data collected in 1970.

653. Thomas, M.D. and J.G. Tanner, Cryptic Suture in the Eastern Grenville Province; Nature, 1975.

The journal discusses the separation and rejoining of Grenvillia and Interior Laurentia forming the present day Canadian Shield. The work examines the idea that a suture exists within the Grenville Province and is defined by metamorphosed equivalents of rocks in the adjacent, older provinces.

654. Tichonov, N., A.G. Ivanov, V.A. Troickaja, and B.P. Pjakonov, Concerning the Connection of Geostorms and Earthquakes (Uber den Zusammenhang von Erdstормen und Erdbeben); Bergakademie: Newspaper for Mountain Construction, Cabins Systems and Other Science (Bergakademie: Zeitschrift fur Bergbau, Huttenwesen and verwandte Wissenschaften), 1956.

The journal discusses the connection of geostorms and earthquakes in Russia in 1950 and 1951. The text is in German.

655. Tipper, D.B., Strangways Range Detailed Aeromagnetic Survey Northern Territory, 1965; Bureau of Mineral Resources, Geology and Geophysics, 1969.

The journal contains the results of an aeromagnetic survey covering 115 square miles in the Alice Springs area. The purposes of the survey was to outline known copper and apatite deposits, to discover anomalous areas, and to assist geological mapping. Five maps show the results of the survey.

- 656. Tipper, D.B. and R. Gerdes, Laverton-Edjundina Airborne Magnetic and Radiometric Survey, Western Australia, 1969; Bulletin of the Bureau of Mineral Resources, Geology and Geophysics of the Commonwealth of Australia, 1971.**

The journal shows data from an airborne magnetic survey in Western Australia in 1969. It is shown that magnetic patterns are attributed to differences in properties between rock units at or near ground level.

- 657. Torta, J.M., Regional Model of Spanish Geomagnetic Field Anomalies, Secular Variation and Fields of References (Modelizacion Regional Del Campo Geomagnetico Sobre Espana: Campo Anomalo, Variacion Secular y Campo de Referencia); Ebro Observatory, 1992.**

The journal discusses the study of modeling the geomagnetic field of Spain and neighboring areas using the Spherical Cap Harmonic Analysis technique. Included are tables, charts, and isoporic maps showing the values of inclination, declination, horizontal intensity, and north and east component. The text is in Spanish with an English abstract.

- 658. U.S. Coast and Geodetic Survey, Cheltenham Observatory Office Computations 1919–1920; U.S. Coast and Geodetic Survey, 1921.**

The journal contains tables of hourly values of declination, horizontal intensity, and vertical intensity observed at the Cheltenham Observatory in 1919 and 1920.

- 659. U.S. Coast and Geodetic Survey, Magnetic Declination in Delaware, Maryland, Virginia, West Virginia, Kentucky, and Tennessee; U.S. Coast and Geodetic Survey, 1928.**

The book contains values of declination reduced to 1925 in Delaware, Maryland, Virginia, West Virginia, Kentucky, and Tennessee. Station locations and descriptions follow the reduced observations. An isogonic chart for the area is included.

- 660. U.S. Coast and Geodetic Survey, Magnetic Declination in the Philippine Islands in 1925; U.S. Coast and Geodetic Survey, 1930.**

The journal contains values of declination, inclination, and horizontal intensity at stations throughout the Philippine Islands. Previous observations at the magnetic repeat stations are also recorded along with descriptions of the stations.

- 661. U.S. Coast and Geodetic Survey, Magnetic Declination in Florida: 1935; U.S. Coast and Geodetic Survey, 1935.**

The journal describes magnetic secular variation and its effect on surveying practices. Tables describing values of secular change in Florida from 1750 through 1935 are included along with an isogonic chart for Florida for Epoch 1935. Complete descriptions of the magnetic stations are given on pages 18 through 37.

- 662. U.S. Coast and Geodetic Survey, Magnetic Declination in South Carolina: 1935. Washington, D.C.: U.S. Government Printing Office, 1935.**

Values of magnetic declination reduced to Epoch 1935 are recorded for several stations in Georgia and South Carolina along with the station descriptions. The book also contains annual mean values of declination at the magnetic observatories Cheltenham, Toronto, Tucson, Sitka, and Honolulu. A one-degree grid of magnetic declination in Georgia and South Carolina from 1750 through 1935 is also included.

663. U.S. Coast and Geodetic Survey, Magnetic Hourly Values in Tucson, Arizona: 1949; U.S. Coast and Geodetic Survey, 1952.

The publication contains hourly, daily, monthly, and annual mean values of declination, inclination, horizontal intensity, vertical intensity, and total intensity observed at the Tucson Magnetic Observatory in 1949. A summary of annual mean values for 1910 through 1950 is included.

664. U.S. Coast and Geodetic Survey, Magnetograms and Hourly Values, Tucson, Arizona, 1950; U.S. Coast and Geodetic Survey, 1953.

The publication contains hourly, monthly, and annual mean values of declination, horizontal intensity, and vertical intensity observed at the Tucson Magnetic Observatory in 1950. A summary of annual mean values from 1910 through 1952 is given.

665. U.S. Coast and Geodetic Survey, Magnetograms and Hourly Values, Tucson, Arizona, 1951; U.S. Coast and Geodetic Survey, 1953.

The publication contains hourly, monthly, and annual mean values of declination, horizontal intensity, and vertical intensity observed at the Tucson Magnetic Observatory in 1951. A summary of annual mean values from 1910 through 1952 is given.

666. U.S. Naval Oceanographic Office, U.S. Naval Oceanographic Office: Geomagnetic Surveys; U.S. Naval Oceanographic Office, 1967.

The report discusses a description of U.S. Naval Oceanographic surveys beginning in 1953. Included are reports of airborne surveys, shipboard surveys, and Project Magnet. Location charts for the various surveys are included.

667. The United States National Committee for the International Geophysical Year, Antarctic Program of the United States National Committee for the International Geophysical Year, 1957–58; National Research Council of the National Academy of Sciences, 1957.

The publication discusses the seven Antarctic stations, the program's personnel, facilities, equipment, communications, and the program's operations in support of the International Geophysical Year 1957–1958.

668. U.S. Coast and Geodetic Survey, Magnetic Observations in the American Republics 1941–44; Leo Otis Colbert, compiler; Serial 677. Washington, D.C.: United States Government Printing Office, 1946.

The book covers the work of the American Republics Magnetic Program for 1941 through 1944 providing data in terms of declination, inclination, and horizontal intensity at 145 stations

in southern Mexico, the West Indies, and Central and South America.

669. U.S. Coast and Geodetic Survey, Magnetic Declination Tables and Isogonic Charts for 1902; Second Edition. Washington, D.C.: U.S. Government Printing Office, 1903.

The book contains a history of geomagnetism and geomagnetic methods with more than one-hundred fifty pages of tables of values of magnetic declinations. Values in the United States and outlying territories are recorded as observed, and reduced to January 1, 1902.

670. U.S. Coast and Geodetic Survey, Magnetic Observations Made at the Girard College Magnetic Observatory, 1840–1845; Vol. 2. Washington, D.C.: The U.S. Coast and Geodetic Survey, 1846.

The book contains meteorological and geomagnetical observations made at Girard College, Philadelphia. Hourly values of declination, and vertical and horizontal intensity were observed from 1843 through 1844. Special measurements of inclination were made during 1844.

671. U.S. Coast and Geodetic Survey, Magnetic Observations by U.S. Coast and Geodetic Survey Vessels: 1900–1907; Miscellaneous Journals of the U.S. Coast and Geodetic Survey, 1905.

The work is a collection of three journals containing data observed world-wide by five ships of the U.S. Coast and Geodetic Survey from 1900 through 1905. Recorded values include declination, inclination, and horizontal intensity.

672. U.S. Coast and Geodetic Survey, Magnetic Observations in the American Republics: 1941–44. Washington, D.C.: U.S. Government Printing Office, 1946.

The book contains the results of magnetic surveys made in cooperation with the republics of Mexico, the West Indies, and Central and South America. There are fifty pages of data concerning the location and description of stations and four pages showing declination, inclination, and horizontal intensity measured in 1941–1944.

673. U.S. Coast and Geodetic Survey, Principal Facts of the Earth's Magnetism and Methods of Determining the True Meridian and the Magnetic Declination. Washington, D.C.: U.S. Government Printing Office, 1919.

The book contains a history of geomagnetism, a description of magnetic variations, and ten tables of magnetic declination values observed in the United States from 1904 through 1914.

674. The U.S. Coast and Geodetic Survey, Report of the Superintendent of the U.S. Coast and Geodetic Survey Showing the Progress of the Work during the Fiscal Year Ending with June, 1887; Charles A. Schott, The Magnetic Work of the Greely Arctic Expedition. Washington, D.C.: U.S. Government Printing Office, 1889.

The book contains geodetic, magnetic and hydrographic surveys in most of the United States. Appendix 10 is a report on the magnetic work of the Greely Arctic Expedition. Magnetic declination, secular variation, and storm extremes are recorded. Appendix 16 is a bibliography of geodesy.

675. The U.S. Coast and Geodetic Survey, Report of the Superintendent of the U.S. Coast and Geodetic Survey Showing the Progress of the Work during the Fiscal Year Ending with June, 1888. Washington, D.C.: U.S. Government Printing Office, 1889.

The book contains data from geodetic, topographic, magnetic, and hydrographic surveys for most of the United States and adjacent lands. Appendix 6 contains magnetic determinations for the Seventeenth Century based on "Arcano Del Mare" published in 1646. Appendix 7 contains secular variation of magnetic declination in the United States.

676. The U.S. Coast and Geodetic Survey, Report of the Superintendent of the U.S. Coast and Geodetic Survey for the Fiscal Year Ending June 30, 1895. Washington, D.C.: U.S. Government Printing Office, 1896.

The book contains topographic, magnetic, hydrographic, and gravity measurements throughout the United States. Appendix 1 contains magnetic observations in the U.S and some foreign countries by C. Schott. The book is a comprehensive report of work carried out by the Coast and Geodetic Survey in 1895.

677. U.S. Coast Survey, Directions and Notes of Terrestrial Magnetism: 1872–1902. Washington, D.C.: U.S. Coast Survey, 1872–1902.

This volume is a series of ten reports on terrestrial magnetism throughout the world. The reports contain tables of scale readings for declination and inclination made from 1872 through 1902.

678. U.S. Department of Commerce Coast and Geodetic Survey, Magnetic Declination in California and Nevada, 1935; U.S. Coast and Geodetic Survey, 1935.

Data is provided for magnetic surveys in California and Nevada for secular change, magnetic storms, diurnal variation, local disturbance, and compass correction. The data retrace old compass surveys.

679. U.S. Naval Oceanographic Office, Geomagnetic Survey Information; U.S. Naval Oceanographic Office, 1965.

The brochure contains index charts and brief descriptions of geomagnetic surveys including shipboard data obtained with nuclear precision magnetometers and airborne magnetic measurements obtained from vector airborne magnetometers.

680. U.S. Naval Oceanographic Office, U.S. Naval Oceanographic Office Geomagnetic Surveys 1953–1965; Magnetics Division of the Hydrographic Surveys Department, 1966.

The brochure presents information concerning survey locations, data, navigational control, track patterns, data format, and the availability of geomagnetic technical reports and charts.

681. Van Bemmelen, W., Magnetic Survey of the Dutch East-Indies Made in the Years 1903–1907; Royal Magnetical and Meteorological Observatory at Batavia. Batavia: Government Printing Office, 1909.

The book discusses the magnetic survey of the Dutch East Indies carried out from 1903 through 1907. Included in the work is the history of the survey, personnel, instrumentation,

station location, and tables of declination, inclination, and horizontal intensity.

682. Van Bemmelen, W., *On Pulsations; Royal Magnetical and Meteorological Observatory at Batavia, 1906.*

The journal discusses geomagnetic observations made at the Batavia Observatory from 1895 through 1906. Included are tables of Earth currents, spasms, and daily periods of frequency.

683. Van Dijk, G., *Magnetic Character of the Annual Polar International: 1932–1933 (Caractere Magnetique L'Annee Polaire Internationale: 1932–1933); International Union of Geodesy and Geophysics, 1937.*

The journal discusses geomagnetic surveys in the polar regions. Included are tables showing the classification of stations according to magnetic character at several locations throughout the world.

684. Van Dijk, G., *Magnetic Characteristics of the Years 1890–1905 (Caractere magnetique des annees 1890–1905); IUGG Association of Geomagnetism and Electricity, 1938.*

Van Dijk used data from twenty-nine observatories world-wide to compute the value of the magnetic character. Daily, monthly, and annual mean values are recorded for 1890 through 1905. Quiet and disturbed days are noted. The text is in French.

685. Van Ruymbeke, M., *The Horizontal Pendulum Equipped to Recover the Displacement of Variable Capacity (Sur un pendule horizontal equipe d'un capteur de deplacement a capacite variable); Geodesic Bulletin (Bulletin Geodesique), 1976.*

The journal describes the Verbaandert-Melchior horizontal pendulum used for tilt measurements. Results of tidal analysis for two one-month fifty-days recording in the Laboratory of Geodynamics at Walferdange are included. The text is in French.

686. Van Ryckevorsel, Eric and E. Engelenburg, *Magnetic Survey of the Eastern Part of Brazil; Amsterdam: Johannes Muller, 1890.*

The book discusses the magnetic survey carried out in Brazil from 1880 through 1885. Included are tables of declination, inclination, and horizontal intensity.

687. Van Voorhis, Gerald and James Walczak, *Summary of Magnetization: Computations for Kelvin Seamount; Preliminary Marine Sciences Department of the U.S. Naval Oceanographic Office, 1963.*

The journal contains the results of a survey of the New England Seamount Chain conducted by the U.S.S. *Sheldrake* in 1962. Values included are declination, inclination, vertical intensity, north component, and east component. Airborne data were used as an independent check of the method. Data are contained in tables and charts on pages 5–19.

688. Vanyan, L.L., A.A. Zhamaletdoinov, et al., *Results of Researches on the International Geophysical Projects; Geomagnetic Researches, 1988.*

The journal contains eleven articles pertaining to topics of magneto-tellurics relating to international geophysical projects. The text is in Russian.

- 689. Veinberg, B.P., V.P. Shibaev, and A.N. Pushkov,** The Results of Magnetic Determinations at the Equidistant Points and Epochs: 1500–1940; Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation of the Academy of Sciences of the USSR, 1969.

The journal contains values of declination and inclination reduced to Epoch and displayed in ten by ten degree charts of longitude and latitude. The editor, Dr. Pushkov, was attempting to disseminate the data gathered by Veinberg and Shibaev. The text is in Russian with an English preface.

- 690. Verma, R.K., D. Ghosh, D.K. Ghosh, and D. Prakash,** Results of Vertical Magnetometer Surveys over Raniganj Coal Field, India; Geophysical Research Bulletin, 1973.

The journal discusses the vertical magnetometer survey conducted over the region of the Raniganj coal field. A magnetic anomaly map is included which indicates the presence of a magnetic high practically along the northern part of the basin.

- 691. Vestine, E.H.,** WMS Notes (World Magnetic Survey Notes); International Union of Geodesy and Geophysics and the International Association of Geomagnetism and Aeronomy (IAGA), 1964.

The journal contains information pertaining to the World Magnetic Survey and notes on geomagnetic operations world-wide. The work includes information on national programs and a roster of WMS scientists.

- 692. Vestine, E.H.,** WMS Notes (World Magnetic Survey Notes); International Union of Geodesy and Geophysics and the International Association of Geomagnetism and Aeronomy (IAGA), 1964.

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- 694. Vestine, E.H., Lucille Laporte, Caroline Cooper, Isabelle Lange, and W.C. Hendrix,** Description of the Earth's Main Magnetic Field and Its Secular Change, 1905–1945; U.S. Department of Terrestrial Magnetism, Publication 578. Washington, D.C.: Carnegie Institution, 1947.

The book summarizes a study of the Earth's main field and its secular change. The work discusses the distribution of stations and influences of fluctuations of the field. Included in the

book are graphs, isoporic charts, and tables of declination, inclination, horizontal intensity, and secular change from 1905 through 1945.

- 695. Von Drygalski, Erich and Karl Luyken, German South Pole Expedition: 1901–1903 (Deutsche Sud-Polar Expedition: 1901–1903); Karl Luyken, Geomagnetic Results of the Kerguelen Station (Erdmagnetische Ergebnisse der Kerguelen-Station). Berlin: Georg Reimer, 1906.**

The book discusses the history of geomagnetic surveys in the Antarctic and future plans for an expedition in the years 1901 through 1903. Included are tables concerned with the calibration of instruments to be used in the expedition. The text is in German.

- 696. Voppel, Dietrich and Karl Wienert, The Geomagnetic Survey of the Federal Republic of Germany, Epoch 1965.0 (Die geomagnetische Vermessung der Bundesrepublik Deutschland, Epoche 1965.0); German Hydrographic Journal (Deutschen Hydrographischen Zeitschrift), 1974.**

The journal discusses the geomagnetic survey made in Federal Republic of Germany in 1964 and 1965. The data, reduced to Epoch 1965.0, contains declination, horizontal intensity, and total intensity observed by means of QHMs and proton spin magnetometers.

- 697. Voppel, Dietrich, Surat P. Srivastava, and Ulrich Fleischer, Detailed Magnetic Measurements South of the Iceland-Faroe Ridge; German Hydrographic Journal (Deutsche Hydrographische Zeitschrift), 1979.**

The journal discusses a number of anomalies observed and recorded southwest of the Iceland-Faroe Ridge. The article postulates that the ocean-continent boundary lies west of the Faroe Islands.

- 698. Vozoff, K., A. Orange, and H.S. Lahman, Magneto-Telluric Deep Earth Resistivity at Eight U.S. "Type Locations"; Geoscience Incorporated, 1969.**

The journal discusses magnetotelluric measurements carried out in eight areas of the United States in 1968. The purpose of the survey is to see if systematic differences exist in their deep crustal and upper mantle electrical resistivities. The work was carried out by Geoscience under contract Nonr 4900(00) with the Office of Naval Research.

- 699. Walter, A., Annual Reports of the Director of the Royal Alfred Observatory for the Years 1897–1919; Royal Alfred Observatory of the Colony of Mauritius, 1919.**

The work is a series of fifteen yearbooks of meteorological and geomagnetic observations for the years 1897 and 1903 through 1919 on the Colony of Mauritius. Included are tables of horizontal intensity and vertical intensity.

- 700. Walter, A., Annual Reports of the Director of the Royal Alfred Observatory for the Years 1920–1931; Royal Alfred Observatory of the Colony of Mauritius, 1920–1931.**

The reports are a summary of yearly operations of the Royal Alfred Observatory in the Colony of Mauritius. Each report contains tables of meteorological and geomagnetic data. Included in the tables of geomagnetic data are values of declination, inclination, horizontal intensity,

and vertical intensity.

- 701. Wasilewski, P.J.,** Magnetic Results Antarctic Peninsula Traverse: 1961–1962; U.S. Coast and Geodetic Survey, 1963.

The report contains tabulations of the measurements of magnetic fields made on the Antarctic Peninsula Traverse conducted during the 1961–1962 austral summer.

- 702. Wasserfall, K.F.,** The Horizontal Component of Magnetic Intensity at Oslo Observatory 1843–1930; Geophysical Publications (Geofysiske Publikasjoner), 1942.

The journal discusses the history of the work done at the Oslo Observatory beginning in 1841. Included are tables of daily values for horizontal intensity for 9 and 14 o'clock for the interval 1843–1930.

- 703. Wasserfall, K.F.,** The Magnetic Declination at Oslo Observatory 1843–1930; Geophysical Publications (Geofysiske Publikasjoner), 1945.

The journal discusses the history of magnetic surveys made at the Oslo Observatory. Included are tables showing hourly values of declination and secular variation from 1843 through 1930.

- 704. Weber, Albert M.,** A Description of the Methods of Compiling the 1955 Magnetic Charts; U.S. Coast and Geodetic Survey, 1955.

The publication is a paper which discusses the methods used in compiling the U.S. Coast and Geodetic Survey's magnetic charts. The work gives the background and history of the compilation of magnetic charts.

- 705. Weber, Ernst K., Fritz Gassman, Ernst Niggli, and Hans Rothlisberger,** The Magnetic Anomalies of Western Locarno (Die Magnetische Anomalie Westlich von Locarno); Swiss Mineralogy and Petrographic Journal (Schweizerische Mineralogische und Petrographische Mitteilungen), 1949.

The journal contains a table of observations of altitude, absolute, and relative vertical and horizontal intensity, and two charts plotting magnetic anomalies in the Lake Maggiore region in northern Italy. The text is in German.

- 706. Weill, Gilbert M.,** National Report of French Works Carried out from 1967 through 1970: Geomagnetism and Aeronomy (Rapport National Sur Les Travaux Francais Executes de 1967 a 1970: Geomagnetisme et D'Aeronomie); French National Committee of Geodesy and Geophysics, 1971.

The journal is a collection of articles concerning a variety of geomagnetic topics. Included are: observatories and instruments, secular variation, paleomagnetism, magnetotellurics, magnetic prospecting, and electricity in the magnetosphere. The text is in French.

- 707. Weinberg, B.P.,** Catalog of Magnetic Determinations in the USSR and in Adjacent Countries from 1556 to 1926; Parts 1, 2, and 3. Leningrad: Central Geophysical Observatory of the USSR, 1929.

The catalog contains values of declination, inclination, and secular variation in the USSR, parts

of China and Mongolia from 1556 through 1926.

- 708. Weinstein, B.,** *Magnetic Storms in the Area of German Telegraphs and Its Connection with the Geomagnetic Appearance (Erdströme im Deutschen Reichstelengraphen-gebiet und ihr Zusammenhang mit den Erdmagnetischen Erscheinungen)*; Braunschweig: Friedrich Vieweg und Sohn, 1900.

The book discusses problems of inaccurate geomagnetic values when telegraph systems are near observatories. The text is in German.

- 709. Weiss, O., D.J. Simpson, and G.L. Paver,** *Some Magnetometric and Gravimetric Surveys in the Transvaal*; Geological Survey Division of the Department of Mines, 1936.

The journal contains a discussion of the methods used in an Earth-magnetic and gravimetric investigation undertaken in the Transvaal region of South Africa. Included with the journal are eight plates showing magnetometric and gravimetric traverses across the Lower Witwatersrand, the Doornkop Fault, the Witpoortje Fault, and magnetometric surveys of Gossan and chromitite seams.

- 710. Wesselowski, K.,** *Report of the Proceedings and Results of the Third International Polar Conference (Bericht über die Verhandlungen und Ergebnisse der 3. internationalen Polar-Konferenz)*; Royal Academy of Science at St. Petersburg, 1881.

The report discusses the proceedings and results of the Third International Polar Conference held at St. Petersburg in 1881.

- 711. Wexler, Harry,** *Antarctic Program of the United States National Committee for the International Geophysical Year, 1957–1958*; National Research Council of the National Academy of Sciences, 1956.

The publication discusses the seven Antarctic stations, the program's personnel, facilities and equipment, communications, and the program's operations in support of the International Geophysical Year.

- 712. Weyer, G.D.E.,** *Concerning the Secular Variation of Magnetic Declination in Rio de Janeiro (Ueber die sakulare Variation der magnetischen Deklination in Rio de Janeiro*; *Annals of Hydrography and Maritime Meteorology (Annalen der Hydrographie und Maritimen Meteorologie)*, 1888.

The journal discusses geomagnetism in the Rio de Janeiro region. Included are tables of observed and calculated values of declination from 1450 through 1880. Measurements are calculated and predicted through 1990. The text is in German.

- 713. Whitham, K. and E. Hoge,** *Geomagnetic Investigations in British East Africa during 1959*. Ottawa: Dominion Observatory, 1961.

The journal, written in three parts, outlines a geomagnetic survey of East Africa undertaken in 1960. Part One discusses the selection of fifty-eight magnetic stations, equipment, and field techniques; included are field observations reduced to Epoch, isogonic, and isodynamic charts and a summary on the secular variation of the area. Part Two deals with diurnal variation

including a discussion of the results of the survey. Part Three, a miscellaneous study of the magnetization of country rock, is missing from the journal.

- 714. Wiegank, Friedrich,** *Magnetostratigraphic-Geochronological Research in the History of Plio-Pleistocene in Middle Europe and Its Relationship to Global Geologic, Paleoclimatic and Paleoecological Development (Magnetostratigraphisch-geochronologische Untersuchungen zur Geschichte des Plio-Pleistozans in Mitteleuropa und ihrer Beziehungen zur globalen geologische, paläoklimatischen und paläoökologischen Entwicklung)*; Central Institute for Geophysics of the Academy of Science of the DDR, 1990.

The journal discusses the history of paleomagnetic research in Plio-Pleistocene Middle Europe and its relationship to later climatic and ecological developments. The text is in German.

- 715. Wijkander, Aug.,** *Works of the Swedish Arctic Expedition in 1872–1873 (Faites Pendant L'expédition Arctique Suedoise en 1872–1873)*; Vol. 1 and 2. Stockholm: P.A. Norstedt and Soner, 1877.

The book discusses the 1872–1873 Swedish Arctic Expedition. Included are tables of declination, inclination, horizontal intensity, and magnetic disturbances and magnetograms. The text is in Swedish.

- 716. Wild, H.,** *Communications of the International Polar Commission: Parts 1–6. (Mittheilungen der Internationalen Polar-Commission: Erstes Heft bis Sechstes Heft)*. St. Petersburg: Commission of the Royal Academy of Science, 1882–1884.

The journal discusses geomagnetic surveys carried out in the Arctic from 1882 through 1884. Included are tables of horizontal intensity.

- 717. Wild, H.,** *Concerning the Accuracy of Absolute Determinations of Horizontal Intensity of Geomagnetism (Über die Genauigkeit Absoluter Bestimmungen der Horizontal-Intensität des Erdmagnetismus)*; *Repertory of Meteorology of the Royal Academy of Science (Repertorium für Meteorologie der Herausgeg. von der Kaiserlichen Akademie der Wissenschaften)*, 1883.

The journal discusses the measurement of horizontal intensity and the accuracy of absolute determinations. The text is in German.

- 718. Wild, H.,** *Fixed Observations of Geomagnetic Elements and Magnetic Storms at the Pavlovsk Observatory (Termins-Beobachtungen der Erdmagnetischen Elemente und Erdströme im Observatorium zu Pawlowsk)*; Imperial Academy of Sciences of St. Petersburg, *Observations from September, 1882 to August, 1883*. St. Petersburg: Imperial Academy of Sciences, 1885.

The book contains hourly mean values of declination, horizontal intensity, vertical intensity, and geomagnetic storms observed at the Pavlovsk Observatory from 1882 through 1883. The text is in German.

- 719. Wild, H.,** Meteorologic and Magnetic Observations in St. Petersburg: 1876 (Meteorologische und Magnetische Beobachtungen in St. Petersburg: 1876); Yearbook of the Physical Central Observations: Series 1876 (Annalen des Physikalischen Central-Observatoriums). St. Petersburg: Imperial Academy of Science, 1877.

The book contains meteorological and magnetic observations in St. Petersburg, Russia. Included are tables of declination, inclination, horizontal intensity, vertical intensity, and total intensity. Hourly values, daily monthly and annual means are also included. The text is in Russian and German.

- 720. Wild, H.,** Program of the Proceedings of the Fourth International Polar Conference (Program der Verhandlungen der Vierten Internationalen Polar-Conferenz); Royal Academy of Science (Kaiserlichen Akademie der Wissenschaften), 1884.

The journal discusses the nature of meteorological and geomagnetic observations in terms of expectations and minimal requirements needed during polar explorations.

- 721. Wild, Henry,** On the Causes of the Phenomena of Terrestrial Magnetism and on Some Electro-Mechanism for Exhibiting the Secular Changes in Its Horizontal and Vertical Components; Proceedings of the Royal Society, 1890.

The journal discusses theories of geomagnetic origins. Included are tables showing secular changes in declination and inclination from 1605 through 1880. The text is in English, German, and French.

- 722. Williams, Carol, D.M. Porteous, and K.G. Shih,** Gravity and Magnetic Data Collected in the North Atlantic Ocean C.S.S. *Hudson*, 1965; Bedford Institute of Oceanography, 1972.

The journal shows total magnetic field observations and magnetic anomaly data in the North Atlantic Ocean.

- 723. Wilson, Charles R. and John O. Annexstad,** Study of Geomagnetic Micropulsations; Electronics Branch of the Physical Sciences Division of the Office of Naval Research, 1966.

The report contains a study of the correlation of micropulsation activity, a morphological description of auroral zone micropulsations, and an analysis of the conjugate relationships between micropulsations, a study of the variations, and a theoretical study of the hydromagnetic oscillations of field lines and the propagation of hydromagnetic waves.

- 724. WMS Special Committee of International Geophysical Cooperation,** Report on Aeromagnetic Survey in Japan. Kyoto: World Data Center C2 for Geomagnetism, 1967.

The book discusses the aeromagnetic survey of the Japanese Islands and neighboring seas undertaken from 1961 through 1964. Included are tables of all seven elements reduced to Epoch 1965.0.

- 725. Wold, Richard J. and Thomas R. Wolfe,** Computer Methods of Analyzing Aeromagnetic Data; Geophysical and Polar Research Center of the Department of

Geology of the University of Wisconsin, 1966.

The journal discusses computer conversion of digitally recorded aeromagnetic data to map projections. Also discussed is the surface fitting of various degree polynomials to original data and contouring by an X-Y plotter.

726. Woolley, R. v.d. R., Annual Values of Geomagnetic Elements since 1941; Royal Observatory Bulletins, 1967.

The journal contains values for the seven geomagnetic elements—declination, horizontal intensity, vertical intensity, total intensity, inclination, and geographic north and east components from a number of observatories around the world from 1941 through 1965.

727. Yonemura, S., The Bulletin of the Hydrographic Office of the Imperial Japanese Navy; Vol. 5; A Magnetic Survey of Japan for the Epoch 1923.0. Tokyo: Hydrographic Office of the Imperial Japanese Navy, 1926.

This book contains sixteen tables of magnetic observations covering Japan, and the Marshall, Caroline and the Mariana Archipelagos. Observations were made by the Japanese Hydrographic Department, the Chinese government, and Carnegie Institution. Measurements include: mean secular acceleration of declination for 1896–1923, mean secular variations of declination, inclination and horizontal intensity, and the values of declination on the Siberian coast. The work includes 28 maps.

728. Young, G.A. and A.L. Kontis, A Study of Aeromagnetic Component Data Plantagenet Bank; Technical Report of the Marine Surveys Division, U.S. Naval Oceanographic Office, 1964.

The journal shows data dealing with the directional components for the anomaly associated with Plantagenet Bank as well as total intensity, inclination, and declination of the anomalous magnetic field.

729. Yukutake, Takesi, William I. Paddock, and Joe H. Allen, Annual Mean Values of Geomagnetic Components for Selected Observatories, 1940–73. Boulder: World Data Center A for Solid Earth Geophysics, 1979.

The journal contains compiled values of north and east component and vertical intensity from observatories located world-wide. The values are based on all-day means obtained by communication with observatories or taken from year books.

730. Zaccara, G., C. Raimondi, C. Morelli, S. Diceglie, and V. Cotecchia, Geophysical Studies in the Pugliese Region (Studio geofisico della regione pugliese); METANO, 1956.

The tectonic features of the Pugliese Region, Italy are examined based on geomagnetic, gravity, and seismic data. Magnetic anomalies in the vertical component are measured by magnetic variometers. The Bouguer anomalies are calculated from a first-order net with measurements on land and sea.

731. Zatrutina, R.F. and Z.M. Mikhaylova, International Geophysical Year Bibliography of Literature in the Russian Language for 1958; NASA Technical Translation, 1960.
The publication is a bibliography containing the titles of 625 books and articles devoted to general and specialized questions of the International Geophysical Year, including a section devoted to geomagnetics, geodesy, gravimetry, and electrostatic fields of the Earth.

732. Zmuda, A.J., World Magnetic Survey: 1957–1969; Bulletin of the International Union of Geodesy and Geophysics, 1971.
The bulletin outlines the history of magnetic surveys, presents data from modern airborne and satellite surveys and discusses theories of the origins of the geomagnetic field.

A P P E N D I C E S

Appendix I

Index by Date of Publication

The following short bibliographies are sorted by year of publication and alphabetically by author within each year. Reports containing data collected prior to 1900 which have no date of publication or a date of publication more recent than 1900, are listed at the end of this index (on page 156). For a more complete reference, please refer to the main bibliography, sorted by author.

Reports published prior to 1850:

- Christie, S. Hunter**, Discussion of the Magnetic Observations Made by Captain Back, R.N. during His Late Arctic Expedition; 1836.
- Gaimard, M. Paul**, Voyages of the Scientific Commission of the North in Scandinavia to Spitzberg and Feroe: 1838, 1839 and 1840 (Voyages de la Commission Scientifique du Nord, Scandinavie, En Laponie au Spitzberg aux Feroe; 1838, 1839 and 1840); 1840.
- Quetelet, A.**, Geomagnetism in Italy (Magnetisme Terrestre en Italie); 1840.
- Kreil, Karl**, Magnetic and Meteorological Observations of Prague: 1840–1842 (Magnetische und meteorologische Beobachtungen zu Prag; 1840–1842); 1842.
- Le Comte Cancrine, M. and A.T. Kupffer**, Yearbook of Magnetism and Meteorology of the Russian Corps of Mining Engineers (Annuaire Magnetique et Meteorologique de Corps Ingenieurs des Mines de Russie); 1843.
- Gilliss, J.M.**, Magnetical and Meteorological Observations Made at Washington under Orders of the Honorable Secretary of the Navy, August 13, 1838; 1845.
- Kreil, Karl and Karl Fritsch**, Magnetic and Geographic Location Determinations in the Austrian Empire (Magnetische und geographische Ortsbestimmungen im osterreichischen Kaiserstatte); 1846–1851.
- U.S. Coast and Geodetic Survey**, Magnetic Observations Made at the Girard College Magnetic Observatory, 1840–1845; 1846.
- Bache, A.D.**, Observations at the Magnetic and Meteorological Observatory at the Girard College, Philadelphia, 1840–1845; 1847.
- Broun, John Allan**, Observations in Magnetism and Meteorology Made at Makerstoun in Scotland in the Observatory of Gen. Sir Thomas Makdougall Brisbane in 1844; 1848.
- Broun, John Allan**, Observations in Magnetism and Meteorology Made at Makerstoun in Scotland; 1849.

Reports published between 1850 and 1869:

- Sabine, Edward**, Observations Made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island and by the Antarctic Naval Expedition; 1850.
- Elliot, Charles M.**, Magnetic Survey of the Eastern Archipelago; 1851.
- Elliot, C.M.**, Magnetical Observations Made at the Honorable East India Company's Magnetical Observatory at Singapore in the Years 1841-1845; 1851.
- Kreil, Karl and Karl Fritsch**, Magnetic and Geographic Location Determinations in the Austrian Empire (Magnetische und geographische Ortsbestimmungen im oesterreichischen Kaiserstatten); 1846-1851.
- Sabine, Edward**, Observations Made at the Magnetical and Meteorological Observatory at the Cape of Good Hope; 1851.
- Sabine, Edward**, Observations Made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island; 1852.
- Sabine, Edward**, Observations Made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island; 1853.
- Lamont, J.**, Magnetic Maps of Germany and Bavaria according to New Bavarian and Austrian Methods under Use of Old Determinations (Magnetische Karten von Deutschland und Bayern nach den neuen Bayerischen und Oesterreichischen Messung, unter Benutzung einiger alterer Bestimmungen); 1854.
- Hilgard, J.E.**, Magnetic Observations on the Boundary Line between the United States and Mexico under the Treaty of 1853; 1855.
- Mahmoud-Effendi**, Records of the Present Condition of Isoclinic and Isodynamic Lines (Memoire sur L'Etat Actuel Des Lignes Isocliniques Et Isodynamiques); 1856.
- Bache, A.D.**, Abstract of a Discussion of the Horizontal Component of the Magnetic Force from Observations Made at the Girard College Observatory, Philadelphia in the Years 1840-1845; 1862.
- Lenz, R.**, Inquiries in an Unregulated Distribution of Geomagnetism in the Northern Part of the Finnish Sea Basin (Untersuchung einer unregelmässigen Vertheilung des Erdmagnetismus im nordlichen Theile des Finnischen Meerbusens); 1862.
- Evans, Frederick J.**, On the Magnetic Character of the Armour-Plated Ships of the Royal Navy, and on the Effect on the Compass of Particular Arrangements of Iron in a Ship; 1865.
- Jelinek, Carl and Carl Fritsch**, Yearbook of the K.K. Central Organization for Meteorology and Geomagnetism (Jahrbucher der K.K. Central-Anstalt Fur Meteorologie und Erdmagnetismus); 1867.
- De Souza, J.A.**, Monthly Magnetic Determinations from December 1866 to May 1869 Inclusive, Made at the University of Coimbra; 1869.
- Schott, Charles A.**, Report on the Results from the Observations Made at the Magnetical Observatory on Capitol Hill, Washington, D.C. between 1867 and 1869; 1869.
- Jelinek, Carl and Carl Fritsch**, Yearbook of the K.K. Central Organization for Meteorology and Geomagnetism (Jahrbucher der K.K. Central-Anstalt Fur Meteorologie und Erdmagnetismus); 1870-1873.

Schenzl, Guido and Gusztav Kondor, Mannelikai helymeghatározások Magyarország delnyugati reszien; 1870.

Stewart, Balfour, Results of the Monthly Observations of Dip and Horizontal Force Made at the Kew Observatory: April, 1863–March 1869; 1870.

Reports published between 1870 and 1879:

Schott, Charles A., Notes on Measurements of Terrestrial Magnetism; 1872.

U.S. Coast Survey, Directions and Notes of Terrestrial Magnetism: 1872–1902; 1872–1902.

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Fritsche, H., Results of Astronomical and Magnetic Observations (Resultate aus Astronomischen und Magnetischen Beobachtung); 1874.

Hilgard, J.E. and Charles A. Schott, Report Appendices for 1874, 1876, 1879, 1880, 1882, 1886; 1874–1886.

Schott, Charles A., Report on Results of Magnetic Observations, Both Absolute and Differential, at Key West, 1860 to 1866; 1874.

Schott, Charles A., The Secular Change of Magnetic Declination in the United States and Other Parts of North America; 1874.

Kingston, J.I., Abstracts and Results of Magnetical and Meteorological Observations at the Magnetic Observatory, Toronto, Canada; 1875.

Schenzl, Guido, Contributions to the Knowledge of Magnetic Conditions in Southeastern Hungary (Beitrag zur Kenntniss der magnetischen Verhältnisse im sudostlichen Ungarn); 1875.

Schott, Charles A. and Werner Suess, Reports on the Magnetic Observatory at Madison, Wisconsin; 1876–1877.

Kiefer, H., Magnetic Inclination in Tiflis: 1870–1876 (Magnetische Inclinationen in Tiflis: 1870–1876); 1877.

Liznar, Josef, Concerning Magnetic Declination and Inclination at Vienna: 1852–1871 (Uber die magnetische Declination and Inclination zu Wien: 1852–1871); 1877.

Osnaghi, Ferdinand, Yearbook of the K. K. Central Institution for Meteorology and Geomagnetism; 1877–1881.

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Reports published between 1880 and 1889:

- The Royal Observatory of Brussels**, Yearbook of the Royal Observatory of Brussels; 1881.
- Schering, Karl**, Reports of the Magnetic Observatory (Beobachtungen im magnetischen Observatorium); 1881.
- Schott, Charles**, Magnetic Traces; 1881.
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- Hann, J.**, Yearbook of the K.K. Central Establishment for Meteorology and Geomagnetism (Jahrbucher der K.K. Central-Anstalt für Meteorologie und Erdmagnetismus); 1882.
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- Wild, H.**, Communications of the International Polar Commission: Parts 1–6. (Mittheilungen der Internationalen Polar-Commission: Erstes Heft bis Sechstes Heft); 1882–1884.
- Curtis, G.E.**, Hourly Readings of the Declinometer, December 1881–September 9, 1882: Ooglaamie, Alaska; 1883.
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- Chambers, Charles Dreckman, Vinayek Narayen Nene, and Frederick Chambers**, Magnetical and Meteorological Observations Made at the Government Observatory, Bombay, in the Year 1883–1890; 1884–1891.
- Hann, J.**, Yearbook of K.K. Central Establishment for Meteorology and Geomagnetism (Jahrbucher der K.K. Central-Anstalt für Meteorologie und Erdmagnetismus); 1884.
- Moureaux, M. Th.**, Magnetic Observations for the Observatory of Parc Saint-Maur for the Years 1883 and 1889 (Observations Magnetiques Faites à L'Observatoire du Parc Saint-Maur Pendant Les Annes 1883 et 1884); 1884.
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- Schuck, A.**, Magnetic Observations at Hamburg Bay, the German Bay of the North Sea and Central Regions (Magnetische Beobachtungen an der Hamburger Bucht, deutsche Bucht der Nordsee, mittlerer Theil); 1898.
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Appendix III Index by Seismic Region

Seismic region codes were assigned to each bibliographic record, based on those delineated by Flinn, Engdahl, and Hill ("Seismic and Geographical Regionalization," *Bulletin of the Seismological Society of America*, 64, Part II, 1974, p. 771). Figure 1 (next page) shows the location of these regions. The more detailed geographical regionalization of Flinn, Engdahl, and Hill was not used. For the purpose of this report, Region 0 was created by the authors (McLean and Smith) to indicate global coverage.

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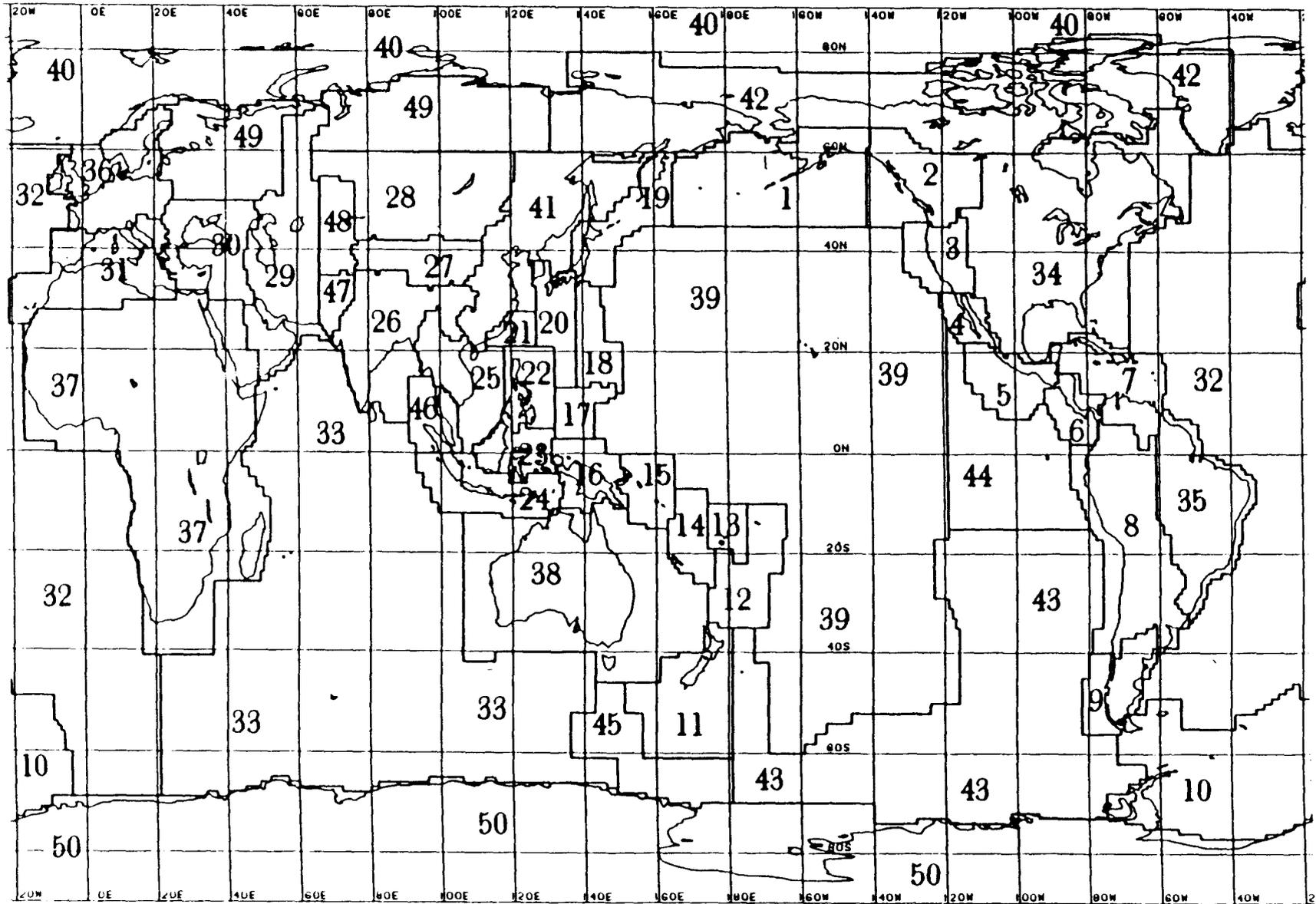


FIGURE 1. Map of Seismic Regions (from Flinn, Engdahl, and Hill, 1974).

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Appendix IV Index by Geographic Region

Geographic reference codes were assigned to each record in the bibliographic data base. The selected codes are from the Federal Information Processing Standards (FIPS) Publication 10-3, *Countries, Dependencies, and Areas of Special Sovereignty*. The FIPS codes are currently undergoing a period of rapid change; Table 1 lists the most recent codes available to us. In cases where a recent change of code was made, both the older code and the current code are listed.

TABLE 1
Federal Information Processing Standards
Country Codes

AC Antigua and Barbuda	BZ Germany, Berlin	ET Ethiopia
AF Afghanistan	CA Canada (see also Table 2)	EU Europa Island
AG Algeria	CB Cambodia	EZ Czechoslovakian Republic
AJ Azerbaijan	CB Kampuchia	FA Falkland Islands (Islas Malvinas)
AL Albania	CD Chad	FG French Guiana
AM Armenia	CE Sri Lanka	FI Finland
AN Andorra	CF Congo	FJ Fiji
AO Angola	CG Zaire	FO Faroe Islands
AQ American Samoa	CH China	FP French Polynesia
AS Australia	CI Chile	FQ Baker Island
AT Ashmore and Cartier Islands	CJ Cayman Islands	FR France
AU Austria	CK Cocos (Keeling) Islands	FS French and Southern and Antarctic Lands
AV Anguilla	CM Cameroon	GA Gambia
AY Antarctica	CN Comoros	GB Gabon
BA Bahrain	CO Colombia	GC German Democratic Republic
BB Barbados	CQ Northern Mariana Islands	GE Germany, Federal Republic of
BC Botswana	CR Coral Sea Islands	GG Georgia
BD Bermuda	CS Costa Rica	GH Ghana
BE Belgium	CT Central African Republic	GI Gibraltar
BF Bahamas	CU Cuba	GJ Grenada
BG Bangladesh	CV Cape Verde	GK Guernsey
BH Belize	CW Cook Islands	GL Greenland
BK Bosnia and Herzegovina	CY Cyprus	GN Tuvalu (also TV)
BL Bolivia	CZ Czechoslovakia (also EZ, LO)	GO Glorioso Islands
BM Burma	DA Denmark	GP Guadeloupe
BN Benin	DJ Djibouti	GQ Guam
BO Belarus	DM Benin	GR Greece
BP Solomon Islands	DO Dominica	GS Kiribati
BQ Navassa Island	DQ Jarvis Island	GT Guatemala
BR Brazil	DR Dominican Republic	GV Guinea
BS Bassas Da India	EC Ecuador	GY Guyana
BT Bhutan	EG Egypt	GZ Gaza Strip
BU Bulgaria	EI Ireland	
BV Bouvet Island	EK Equatorial Guinea	
BX Brunei	EN Estonia	
BY Burundi	ES El Salvador	

HA	Haiti	MN	Monaco	SS	Western Sahara
HK	Hong Kong	MO	Morocco	ST	St. Lucia
HM	Heard Island and McDonald Islands	MP	Mauritus	SU	Sudan
HO	Honduras	MQ	Midway Islands	SV	Svalbard
HR	Croatia	MR	Mauritania	SW	Sweden
HQ	Howland Island	MT	Malta	SY	Syria
HU	Hungary	MU	Oman	SZ	Switzerland
IC	Iceland	MV	Maldives	TC	United Arab Emirates
ID	Indonesia	MW	Montenegro	TD	Trinidad and Tobago
IM	Isle of Man	MX	Mexico	TE	Tromelin Island
IN	India	MY	Malaysia	TH	Thailand
IO	British Indian Ocean Territory	MZ	Mozambique	TI	Tajikistan
IP	Clipperton Island	NA	Netherlands Antilles	TK	Turks and Caicos Islands
IQ	Baker Island, Howland Island, Jarvis Island, Kingman Reef, Palmyra Atoll	NC	New Caledonia	TL	Tokelau
IR	Iran	NE	Niue	TN	Tonga
IS	Israel	NF	Norfolk Island	TO	Togo
IT	Italy	NG	Niger	TP	Sao Tome and Principe
IU	Israel	NH	Vanuatu	TQ	North Mariana Islands, Trust Territory of the Pacific Islands
IV	Ivory Coast	NI	Nigeria	TS	Tunisia
IW	Israel	NL	Netherlands	TU	Turkey
IY	Iraq-Saudi Arabia Neutral Zone	NO	Norway	TV	Tuvalu
IZ	Iraq	NP	Nepal	TW	Taiwan
JA	Japan	NQ	Trust Territory of the Pacific Islands	TX	Turkmenistan
JE	Jersey	NR	Nauru	TZ	Tanzania, United Republic of
JM	Jamaica	NS	Surinam	UG	Uganda
JN	Jan Mayen	NU	Nicaragua	UK	United Kingdom
JO	Jordan	NZ	New Zealand	UP	Ukraine
JQ	Johnston Atoll	PA	Paraguay	UR	Union of Soviet Socialist Republics (see also AM, AJ, BU, GG, KZ, KG, MD, RS, TI, TX, UP, UZ)
JU	Juan de Nova Island	PC	Pitcairn Islands	US	United States (see also Table 2)
KE	Kenya	PE	Peru	UV	Upper Volta
KG	Kyrgyzstan	PF	Paracel Islands	UY	Uruguay
KN	Korea, Democratic People's Republic of	PG	Spratly Islands	UZ	Bekistan
KQ	Kingman Reef	PK	Pakistan	VC	St. Vincent and the Grenadines
KR	Kiribati	PL	Poland	VE	Venezuela
KS	Korea, Republic of	PM	Panama	VI	British Virgin Islands
KT	Christmas Island	PO	Portugal	VM	Vietnam (also VN)
KU	Kuwait	PP	Papua New Guinea	VQ	Virgin Islands
KZ	Kazakhstan	PQ	Panama	VT	Vatican City
LA	Laos	PT	Indonesia (deleted)	WA	Namibia
LE	Lebanon	PU	Guinea-Bissau	WB	Germany, Berlin (also BZ)
LG	Latvia	QA	Qatar	WE	West Bank
LH	Lithuania	RE	Reunion	WF	Wallis and Futuna
LO	Slovakia	RH	Zimbabwe	WI	Western Sahara
LI	Liberia	RO	Romania	WQ	Wake Island
LQ	Palmyra Atoll	RP	Phillippines	WS	Western Samoa
LS	Liechtenstein	RQ	Puerto Rico	WZ	Swaziland
LT	Lesotho	RS	Russia	YE	Yeman (Sanaa)
LU	Luxembourg	RW	Rwanda	YO	Yugoslavia (see also BK, HR, MK, MW, SR, SI)
LY	Libya	SA	Saudi Arabia	YQ	Japan (also JA)
MA	Madagascar	SB	St. Pierre and Miquelon	YS	Yemen (Aden)
MB	Martinique	SC	St. Christopher and Nevis	ZA	Zambia
MC	Macau	SE	Seychelles	ZI	Zimbabwe
MD	Moldova	SF	South Africa		
ME	Spain	SG	Senegal		
MF	Mayotte	SH	St. Helena		
MG	Mongolia	SI	Slovinia		
MH	Montserrat	SK	India		
MI	Malawi	SL	Sierra Leone		
MK	Macedonia	SM	San Marino		
ML	Mali	SN	Singapore		
		SO	Somalia		
		SP	Spain		
		SQ	Honduras		
		SR	Serbia		

TABLE 2
Federal Information Processing Standards
State and District Names of the U.S. and Canada

AK Alaska	MB Manitoba	ON Ontario
AB Alberta	MD Maryland	OR Oregon
AZ Arizona	MA Massachusetts	PA Pennsylvania
AR Arkansas	MI Michigan	PE Prince Edward Is
BC British Columbia	MN Minnesota	PQ Quebec
CA California	MS Mississippi	PR Puerto Rico
CO Colorado	MO Missouri	RI Rhode Island
CT Connecticut	MT Montana	SK Saskatchewan
DE Delaware	NE Nebraska	SC South Carolina
DC District of Columbia	NV Nevada	SD South Dakota
FL Florida	NB New Brunswick	TN Tennessee
GA Georgia	NH New Hampshire	TX Texas
HI Hawaii	NJ New Jersey	UT Utah
ID Idaho	NM New Mexico	VT Vermont
IL Illinois	NY New York	VA Virginia
IN Indiana	NF Newfoundland	WA Washington
IA Iowa	NC North Carolina	WV West Virginia
KS Kansas	ND North Dakota	WI Wisconsin
KY Kentucky	NT Northwest Territories Canada	WY Wyoming
LB Labrador	NS Nova Scotia	YT Yukon
LA Louisiana	OH Ohio	
ME Maine	OK Oklahoma	

Countries and Areas of Special Sovereignty

The Country Code is followed by the record number(s) listed in the text of this publication.

AC 577	AT 604
AG 239, 240, 241, 242, 347, 418	AU 11, 116, 117, 118, 226, 312, 335, 336, 378, 389, 400, 493, 519, 527, 554, 655
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Appendix V The World Data Center System

DESCRIPTION OF WORLD DATA CENTERS

The World Data Centers (WDCs) were created in 1957 to provide archiving for the observational data resulting from the International Geophysical Year (IGY). In the years following the IGY, the International Council of Scientific Unions (ICSU) recommended that the WDCs continue to collect, archive, and redistribute data. This new system for exchanging geophysical data was found to be very effective, and the operations of the WDCs were extended by ICSU on a continuing basis to other international programs. The WDCs were under the supervision of the Comité International de Géophysique for the period 1960 through 1967 and are now supervised by the ICSU Panel on World Data Centres.

World Data Centers have been established in a variety of countries: WDC-A is located in the USA; WDC-B in the USSR; WDC-C in western Europe, Australia, and Japan; and, WDC-D in the People's Republic of China. The Centers collect and distribute data for a number of disciplines:

- meteorology
- oceanography
- astronomy
- rockets and satellites
- solar-terrestrial physics: solar and interplanetary phenomena, ionospheric phenomena, flare-associated events, geomagnetic phenomena, aurora, cosmic rays, airglow
- nuclear radiation
- glaciology (snow and ice) and geocryology
- marine geology and geophysics: gravity, magnetics, bathymetry, seismic profiles, marine sediment, rock analyses
- solid earth geology and geophysics: seismology, tsunamis, gravimetry, Earth tides, recent movements of Earth's crust, Earth's rotation, magnetic measurements, paleomagnetism and archaeomagnetism, volcanology, geothermics
- renewable resources and environment

In each discipline, the scientific community determines the nature and form of data exchange, based on research needs. Thus, the type and amount of data in the WDCs differ from discipline to discipline. However, each WDC is responsible for:

- collecting data in the field or discipline for which it is responsible
- protecting the incoming data
- copying and reproducing data, maintaining adequate standards of clarity and durability

- supplying copies of data to other WDCs
- preparing catalogs of data
- making data available to the scientific community.

All the Centers are staffed, funded, and maintained exclusively by the countries in which they are located. The WDCs catalog the data and make them available to scientists in all countries upon written request or personal visit. Minimal charges may be requested to cover costs of processing the requested data.

WORLD DATA CENTER-A

World Data Center-A was established in the United States under the auspices of the National Academy of Sciences. WDC-A is operated with national resources, but follows ICSU guidelines. The National Academy of Sciences has overall responsibility through the Geophysics Research Forum and its Committee on Geophysical Data. WDC-A consists of a Coordination Office and nine sub-centers at scientific institutions in various parts of the United States. Most WDC-A sub-centers are at corresponding national data centers, whose large national collections are available through the WDC-A sub-centers.

Organizations wishing to contribute data or establish exchange agreements should contact the appropriate World Data Center-A.

World Data Center-A
COORDINATION OFFICE
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418, U.S.A.
Telephone: 202-334-3368

World Data Center-A: Glaciology
(Snow and Ice)
Cooperative Institute for Research in
Environmental Sciences
University of Colorado
Boulder, Colorado 80309, U.S.A.
Telephone: 303-492-5171

World Data Center-A for Marine Geology
and Geophysics
National Geophysical Data Center
NOAA, E/GC3
325 Broadway
Boulder, Colorado 80303-3328, U.S.A.
Telephone: 303-497-6487

World Data Center-A: Meteorology
National Climatic Data Center
NOAA, E/CC
Federal Building
Asheville, North Carolina 28801, U.S.A.
Telephone: 704-259-0682

World Data Center-A: Oceanography
National Oceanographic Data Center
NOAA, E/OC
1825 Connecticut Avenue, NW
Universal Building, Room 406
Washington, D.C. 20235, U.S.A.
Telephone: 202-673-5594

World Data Center-A: Rockets and
Satellites
NASA/Goddard Space Flight Center
Code 630.2
Greenbelt, Maryland 20771, U.S.A.
Telephone: 301-286-7354

World Data Center-A: Rotation of
the Earth
U.S. Naval Observatory
Washington, D.C. 20392-5100, U.S.A.
Telephone: 202-653-1529 or 1527

World Data Center-A: Seismology
U.S. Geological Survey
Branch of Global Seismology
and Geomagnetism
Box 250436, Mail Stop 967
Denver Federal Center
Denver, Colorado 80225, U.S.A.
Telephone: 303-236-1500

World Data Center-A for Solar-Terrestrial
Physics
National Geophysical Data Center
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325 Broadway
Boulder, Colorado 80303-3328, U.S.A.
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World Data Center-A for Solid Earth
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National Geophysical Data Center
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Boulder, Colorado 80303-3328, U.S.A.
Telephone: 303-497-6521

WDC-A FOR SOLID EARTH GEOPHYSICS: REPORTS

World Data Center-A for Solid Earth Geophysics has a variety of reports related to its activities. This publication, SE-51, *Bibliography of Historical Geomagnetic Main Field Survey and Secular Variation Reports at the World Data Center-A for Solid Earth Geophysics*, is one in a series. To obtain ordering information about the other publications (listed below), call 303-497-6277, fax 303-497-6513, telex 592811 NOAA MASC BDR, or write to:

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NATIONAL GEOPHYSICAL DATA CENTER
NOAA, CODE E/GC1
325 BROADWAY
BOULDER, COLORADO 80303-3328, U.S.A.

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