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GENERAL

Byrd Station: The first aircraft of the summer season arrived on October 18. A new motor for the Nodwell vehicle was brought in on the plane and this vehicle was soon afterwards in operating condition. An inspection trip was made to the auroral sub-station early in the month.

All scientific programs are in good condition, although still somewhat handicapped by the lack of building material for office and living furnishings.

Ellsworth Station: Word has been received that this joint Argentine-U.S. station, built and occupied by the United States for the International Geophysical Year period 1957-59, will be abandoned this summer season. Preparations are under way for the removal of the most valuable of the scientific equipment, and eventual transfer to other Antarctic stations or return to the U.S. Like many of the other IGY stations built about five years ago, the buildings are deeply buried under the snow and further occupancy is unsafe without major reconstruction.

USNS Eltanin: Cruise No. 5 of the Eltanin took place between September 10 and November 15 in the western Drake Passage, with the farthest South position 67°33'S. Lat. and 74°34'W. Long. The cruise route is shown on page 26. The operations of the ship were curtailed somewhat by the need to put into Punta Arenas three different times during the cruise due to the illness or injury of personnel on board. However, this trip made it possible to obtain a first-hand evaluation of this small southern port as a possible refueling station between future cruises.

Personnel from Texas Instruments, Inc., performed the machine and electronic shop repairs, fabrication, and maintenance; operated all heavy deck equipment and supervised the deck handling and over-side procedures for coring, trawling, grabs, rock dredge, camera and current meter buoy work.

Considerable problems were encountered in communications with the single-side-band radio on the Eltanin, operated by the scientific personnel. Part of the problem was due to equipment breakdown, which was generally solved in time, and part was due to lack of coordination in scheduling with shore stations. This was especially serious for the meteorological data which lost much of its value by not being available for operational uses in Chile, Argentina or Antarctica.

Hallett Station: There was considerable airplane traffic during the latter part of October between McMurdo and Hallett Stations, and most of the summer programs were operational by the first of the month. All but a few of the 1962 wintering-over personnel left the station during these October flights.

McMurdo Station: With the return in early October of the USS Durant to the ocean station midway between New Zealand and Antarctica, air activities to the continent were resumed. The first U.S. Air Force flight to Antarctica in a C-124 Globemaster was made on October 7.

Intensive training in ice climbing, crevasse work and emergency procedures was given to the VX6 para-rescue team, as well as to USARP field scientists, by a New Zealand team of mountaineers in the McMurdo area.

On October 6 the Little Rockford and Beardmore summer weather stations were established.

Although the start of major field summer work was delayed by poor weather, most of the parties were either in the field by November 1 or were ready to go in soon afterwards. A 24-foot Jamesway Hut was established at Cape Crozier, above the Adélie penguin rookery. Later in the month an 8-foot extension was added to the meteorological rocket launching building. All field equipment and supplies stored in the warehouse and outdoor caches were in good order and were provided to the various parties with a minimum of effort.

The garage was in full use by the mechanics to maintain the seven USARP vehicles. The power wagon continued to be the most useful vehicle and several trips were made with it to Cape Evans and Cape Royds. A new power wagon was also received and put into operation. The Nodwell vehicles have suffered continual track breakage at the low temperatures and will be generally restricted to the warmer summer periods.

Pole Station: Most of the scientific data has been microfilmed and packed for shipment to the United States. With the beginning of warmer weather near the end of the month, the incoming planes from McMurdo were expected early in November.

BIOLOGY

Ellsworth Station (June) (Argentine Program): During the month, 10 dishes with Czapek-Dox and 2 with Sabourand honey were exposed in the open. In all 27 colonies were obtained.

(July): The microbiology program continued during July with 6 dishes exposed in the open and 20 colonies of fungi and bacteria were obtained. There were 12 dishes also exposed indoors and 43 colonies obtained.

In the human physiology program determinations were started on leucocyte

formula, globular computation, eritrosedimentation, pulse rate, blood pressure, urine, metabolimetry, spirometry and body weight. Methods of Tallqvist and Adare have both been used for the determination of hemoglobin percentage.

(August): Six dishes were exposed in the open with Czapek-Dox. One bacteria and 5 fungi colonies were obtained. Sixty-six colonies of fungi and bacteria were obtained from 14 dishes exposed indoors with Sabourand honey.

Fifteen blood analyses were made on cell malformations (poikilocytosis and anisocytosis). On 11 samples, the assessment of hemoglobin content was continued on the basis of the Hellinger method.

USNS Eltanin:

Bernice P. Bishop Museum: For the insect dispersal studies information regarding the possible spread of insects to isolated environments is obtained by using insect nets strung on the various ship rigging. On Cruise No. 5, about 97 percent of all insects caught were obtained near the Punta Arenas area at the southern tip of South America. Except for one, a Lepidoptera, all were Dipterans. Considerable problems were encountered with the insect nets during strong winds and snow which made the lowering and raising of the nets difficult, and during these periods of strong winds unfortunately most of the insects were lost. No insects were obtained south of 54°10.5'S.

Columbia University: During Cruise No. 5 under the microbiology program of the Lamont Geological Observatory, a total of 126 chlorophyll, 51 preserved plankton, 20 chemical with concurrent primary productivity, 254 bacteriological, and 4 accumulated radiation stations were taken. The chlorophyll samples were obtained from the salt water laboratory source and by plankton tows. Chemical analysis was done at five or six pelagic levels with C¹⁴ primary productivity studies on the four upper levels of sampling. Bacteriological sampling was done on pack ice, bottom cores, and waters from seven pelagic levels. Fifteen samples from the piston trigger cores and three from the Phleger cores were frozen for further studies to be made at the Lamont laboratories.

University of Southern California: One hundred and eighteen biological stations were made at which marine organisms were collected. The types of gear and the number of times each was successfully used are as follows: plankton nets, 30 tows; Campbell grab, 2 samples; Menzies small biological trawl, 19 hauls; Phleger cores, 13 samples; 10-foot Blake trawls, 3 hauls; 40-foot otter trawl, 4 hauls; Isaacs-Kidd midwater trawl, 31 tows; Rock dredge (with Florida State University), 9 hauls; and Peterson grab (with Florida State University), 2 samples.

Losses and damage to the gear were higher than anticipated. One Isaacs-Kidd midwater trawl was lost from an unknown cause, together with almost 3,000 fathoms of cable. One 10-foot Blake trawl was lost with 150 fathoms of cable while the Menzies trawl and the Phleger corer were lost with about 200 fathoms of hydrographic wire when the trawl hung up on the bottom. Damage was suffered to all three of the otter trawls during work on rock and coral bottoms.

The Isaacs-Kidd midwater trawl was in general very successful, and some distribution patterns are evident. Three specimens of a species belonging to the family of Treichiuridae (probably Paradiplospinus antarcticus), a specimen each of two species of the family Scopelarchidae, obtained on both sides of the Antarctic Convergence, and a single specimen of the family Nemichthyidae, were among the marine organisms obtained.

The Menzies trawl with a short Phleger corer proved to be the most reliable for collecting bottom specimens, particularly the worm and other sessile invertebrates where bottom sediments were soft. However, it was too light to be effective on hard or rock bottom. The 40-foot Otter trawl was most efficient in obtaining the larger and more active benthic organisms. Although the trawl was badly damaged on the corals and rocks of the bottom, large and varied collections were obtained, the most noteworthy specimens being Notothenia kempi, Gerlachea australis, and Racovitzia harrissoni.

Out of six attempts the Campbell grab was successful only twice, one of the attempts resulting in five gallons of bottom mud. Additional specimens were also obtained from rock dredges and Peterson grabs used by Florida State University.

The plankton nets were satisfactory only for surface towing when the ship was under way. The release mechanisms of the opening-closing nets usually tripped prematurely due to the ship's roll. The Clarke-Bumpus nets were used for one series of tows, though the result was not too successful.

Virginia Institute of Marine Science: In the study of ectoparasite fauna, a total of 35 fish specimens were preserved from the first Otter trawl station though damage to the nets at the other stations resulted in the loss of fish specimens. The program was temporarily terminated before the completion of the cruise and the investigator returned to the United States from Punta Arenas.

Hallett Station (New Zealand Program): The Adélie penguins and the skuas first began to arrive at Hallett on October 12. Experiments were made with an underwater incubator constructed for specific yolk absorption studies. Descriptive studies were also made of skins of the Adélie penguin and McCormick's skua.

Ohio State University: The equipment for the microbiology program was checked and the laboratory equipment, including considerable chemical glassware brought from McMurdo, put in order. The research, however, has been curtailed pending the arrival of the main equipment.

The lichen ecological studies started on the 19th of October with sampling, and calibration of the temperature and humidity microclimatological equipment. The lichen program was delayed somewhat due to snow cover of the vegetated area.

McMurdo Station:

Biological Laboratory (Stanford University): The inventory of the biology laboratory equipment and supplies was started, along with routine maintenance, plus the uncrating and assembling of instruments for summer research work. The water supply pump system, water distillation apparatus and snow melter were cleaned and repaired.

Stanford University: The fish metabolism chamber equipment, damaged in transit, was repaired to allow measurements in the field, and a series of experiments have been initiated with 50 or 60 fish run simultaneously. For the Trematomus bernacchii group metabolism was 20 to 25 percent lower than the cumulative metabolism of individual fish, according to the preliminary analysis.

An ice hole was cut some fifty yards from the previously established winter station. Utilizing a closed system of pipe coils with a pump to force circulation of fluid, a heat exchange system was developed to keep the ice hole open.

Scuba diving and under-water photo activities were made without technical difficulties though the lighting at great depths is inadequate for movies. Using the scuba gear, it has been possible to connect to ice hole stations with an under-ice line and thus to make horizontal tows.

University of Wisconsin: Penguin studies began in mid-October at Cape Crozier. On October 17, 1,120 emperor chicks were counted, the rookery then being in the early creche stage of the breeding cycle. The first skuas were seen on October 19 and the first Adelie penguins arrived on October 22, although the influx was slow until about the 27th of October. The departure for the central Ross Ice Shelf with penguins to use in the homing experiments was delayed due to weather.

Wilkes Station (Australian Program): The human physiology program was

continued with 16 records of weight, temperature, pulse and skinfold; 17 interviews for information, and 72 interviews for motion studies and sleeping habits.

In the bacteriological program, 17 samples from human throats were processed and bacteriologically classified. Also 57 samples from gastrointestinal tracts (30 from Adelie penguins, 31 from seals, 3 from leopard seals, and 3 from Antarctic petrels) were processed and classified for colli bacilli.

CARTOGRAPHY

U.S. Geological Survey: Personnel and aircraft arrived at Hallett Station from McMurdo the last of the month to begin survey of Topo West. In this survey, surface control will be obtained in the northeastern corner of Victoria Land.

GEOLOGY

Hallett Station:

University of Wisconsin: The patterned ground project personnel set up a station at Hallett but found that most of the ground was too weakly developed for any statistical studies.

McMurdo Station:

Texas Technological College: The geology party was airlifted to the Shackleton Glacier area on October 23 to begin their geological studies.

University of Wisconsin: Some local work was started on the patterned ground in the vicinity of the McMurdo Station.

GLACIOLOGY

Byrd Station:

U.S. Weather Bureau: The average net change on 27 snow stakes from the 2nd and the 27th was -.01 cms.

Ellsworth Station (June) (Argentine Program): Sub-surface temperature averages during the month were as follows:

<u>Depth</u>	<u>Temperature</u>
42 cm	-26.9°C
87	-26.7
137	-26.4
207	-25.8
287	-24.9
387	-24.0
487	-23.1
687	-23.3
1087	-24.3
1887	-25.1

A station latitude of 77°38'31" was found, using 12 stars at meridian passage.

(July): In a perforation made with a thermoprobe for disposing of garbage, a crevasse 2 to 4 m wide was encountered. This was opened up and inspected, air samples obtained for CO₂ determination, and a temperature reading of -21.8°C obtained 26 m below the surface.

A new station location was obtained on July 28 of 15 stars at meridian passage giving 77°38'28" Lat., and 3 pairs of stars giving 41°01'39" Long.

(August): Thermohm observations yielded the following average sub-surface temperatures:

<u>Depth</u>	<u>Temperature</u>
43 cm	-38.2°C
88	-31.0
138	-28.1
208	-27.3
288	-25.8
388	-25.2
488	-24.2
688	-23.8
1088	-24.1
1888	-25.1

The net accumulation of snow on 13 stakes was 8.45 cm.

South Pole Station: The average net change of 50 snow stakes was +1.3 cm. Snow density, precipitation chemistry and snow collections were continued on schedule.

Wilkes Station (Australian Program): The glaciological measurements of stakes in the ablation area were made on schedule. Preparations are under way for a trip to map the crevassed area of the Cape Folger region.

GRAVITY AND MAGNETICS

USNS Eltanin:

University of Wisconsin - The magnetometer was inoperative during most of the cruise. Early in the cruise, salt water was found to have penetrated over 450 feet in the marine cable. Efforts made to seal the cable were unsuccessful and a new cable was flown to Punta Arenas. However, even after this cable had been installed the signals received were not entirely unsatisfactory. After some repairs in the amplifier and recorder circuit and the fabrication of new plexiglass fish by the machinist a good precession signal was obtained, and the unit was in full operation for the remaining third of the cruise.

McMurdo Station:

University of Wisconsin: Some gravity stations in the McMurdo vicinity were made but the magnetics program could not be started until the arrival of a new sensing element.

METEOROLOGY

U.S. Weather Bureau personnel are stationed at Byrd, Hallett, Pole, Ellsworth, Wilkes Stations and on the Eltanin. At Wilkes and Ellsworth they are assisted by Australian and Argentine personnel, respectively. U.S. Navy aerological personnel take the upper air observations at Hallett and McMurdo Stations.

Byrd Station: A good radiometersonde average height, 32,659 m, was made during October. This included two flights to 1 mb heights on the 5th and 7th, both using the KS-156-GP balloons.

For flight operational uses, two forecasts per day were made after the 15th

Ellsworth Station (June): A total of 25 radio soundings were made averaging 14,545 meters. Ten balloons that were pre-heated in oil had an average bursting height 4,527 meters higher than the ones not treated. The temperature results from all flights were as follows:

<u>Level (mb)</u>	<u>Height (geo- potential meters)</u>	<u>Temperature</u>
850	1,216	-18.2 °C
700	2,649	-24.4
500	5,030	-39.0
400	6,527	-49.6
300	8,357	-62.3
200	10,785	-71.7
150	12,453	-71.9
100	14,835	-76.6

At the average tropopause height, 244 mb or 9,639 geopotential m, the average temperature was -69.8° C.

Six determinations of CO₂ were carried out in the open during June, the average content being .0238 percent.

(July): Twenty-seven radio soundings were carried out during the month averaging 13,760 m heights. From these soundings the main condition of the atmosphere was as follows:

<u>Level (mb)</u>	<u>Height - geopotential m.</u>	<u>Temperature</u>
850	1,109	-21.3 °C
700	2,527	-25.4
500	4,901	-40.0
400	6,384	-50.8
300	8,211	-63.1
200	10,635	-73.7
150	12,335	-76.3
100	14,616	-80.6

(August): Twenty-six radio soundings were taken during the month with an average height of 16,492 geopotential meters. According to these soundings

the mean condition of the open atmosphere was the following:

<u>Level (mb)</u>	<u>Height - geopotential m.</u>	<u>Temperature</u>
850	1,098	-23.1 °C
700	2,518	-25.7
500	4,890	-40.0
400	6,384	-50.2
300	8,213	-62.4
200	10,638	-74.0
150	12,304	-78.2
100	14,601	-82.0
50	18,448	-86.6

The tropopause was located about 211 mb, or 10,481 m, and had an average temperature of -75.0. Fifteen determinations of CO₂ were carried out in the open between the 4th and the 28th and gave an average content of .0231 percent.

USNS Eltanin: Seventy successful radiosonde releases were made on Cruise No. 5 with an average height of 26,319 m. The tracking radar, however, was out of action due to lack of spare parts and no upper wind observations were obtained. All the radiosondes were obtained between September 18 and November 8 with approximately 44 releases eliminated due to proximity of land and lack of parachutes. The 600-g balloons, used about 60 percent of the time, gave much higher average heights than the 500-g balloons. The supply of radiosonde train regulators was exhausted during the trip and difficulty was encountered consequently with balloon releases during heavy seas.

Two hundred and forty-four synoptic observations were made and 43 maps prepared of surface weather analysis. Continuous recordings were obtained in the ozone measurements until October 21 when equipment failures caused a shutdown in the program. A total of 10 carbon dioxide air samples was taken at 5 different locations near the Antarctic Convergence.

Although the problem of weather report transmission has not been entirely resolved, messages are sent out by radio to available Chilean or Argentine coastal stations, and by means of the amateur radio to McMurdo. This means, however, was not entirely satisfactory because of the shortage of personnel to operate the radio.

Hallett Station: Between the 28th of the month and the 1st of November there was a 90-hour storm in which the average speed was 22.8 knots. All meteorological programs operated normally throughout the storm.

The Dobson total ozone program was suspended on the 15th to work on the equipment. Insufficient replacement parts were available to put this equipment back in operation satisfactorily. Twelve hours of recordings were lost on the Regener surface ozone program due to chart drive problems.

McMurdo Station: For the standard meteorological upper-air and surface observations, a U.S. Navy program, averages are given in the Climat.

U.S. Weather Bureau: The airborne albedo program got under way on October 25th during the 972-mile flight to Hallett Station, and 128 miles of albedo measurements were made simultaneously with the vertical photography. The albedo values varied from .52 to .80 over many types of ice and some open water areas. The flight was made 7500 feet above the surface.

Texas Western College: The 26th and last meteorological rocket of the first series was fired on October 18, yielding good temperatures and wind data. The firing of the 3rd of the month was also successful. New rockets arrived on the 26th but high surface winds prevented any additional firings in October.

The results of the first series appeared to have given good temperature and wind profiles for these rockets that performed properly. The rocket malfunctions included lack of propulsion and faulty fins, and though the latter was corrected after the middle of September, the expulsion problem has still not been completely solved.

South Pole Station: The cloudy conditions which prevailed most of the month changed to clear skies with ice crystals on the 28th. Winds aloft showed a persistent south or southeast component at all levels below 40 mb, with westerly and northerly currents above that without the appearance of a jet stream. The spring warming has not been spectacular and only during the last 5 days was a steady temperature rise in levels above 10 mb noted.

As the chemical ozone surface equipment was functioning satisfactorily, a major effort was put into the automatic instruments. After repairs to this equipment, numerical values of the two surface ozone recorders were in quite good agreement. A decrease in surface ozone amounting to 50 percent of normal occurred on the 28th at noon GMT, with full recovery achieved 36 hours later. Unfavorable weather prevented total ozone measurements during the first of the month but 80 observations were made during the later weeks. Two ozonesondes were successfully released both giving the highest ozone concentration at about 16 km.

Two radiation balances were taken during the brief periods of clear

weather, with a minimum of trouble experienced with recorders and instruments. Other programs were routine with only minor problems. The general level of radioactivity count was high but quite variable.

Wilkes Station: Except for a very heavy snowstorm on the 31st during which 10 inches of snow accumulated, October was an average month. The jet flow above 30 km disappeared during the last half of the month and upper winds at all levels decreased. The tropopause was relatively low and well defined. A good average balloon height was lost during several periods of bad weather. A new site was prepared adjacent to the old inflation shelter for the hydro-neal generator and hut which are planned for relocation in early November.

The sferics program continued normally and only a few schedules were missed. The lack of favorable conditions prevents all but a few of the energy balance studies though radiation equipment operated well. The infrared hygrometer and ozone observations were normal.

OCEANOGRAPHY

USNS Eltanin:

Lamont Geological Observatory: The physical oceanography program consisted of three parts: current meter stations, hydrographic stations and bathythermograph observations. Four current meter stations were scheduled along $69^{\circ}30'W$. Long., two to be north of the Antarctic Convergence and two south. The first buoy was put out on September 29 and recovered about 36 hours later with the four recording current meters which had been suspended on the buoy cable at various depths. Films from these recorders will be processed at the Lamont laboratories. The second buoy was launched October 6 but the contacts, both visual and radio, were lost early the next morning and searches were unsuccessful in locating the equipment, which is believed to have drifted out of the area during rough seas, perhaps because the buoy line had parted. Due to lack of equipment, the program had to be discontinued.

Twenty-eight hydrographic stations were obtained as follows: 10 stations along $68^{\circ}W$. Long. between 57° and $65^{\circ}S$. Lat., 11 along $71^{\circ}W$. Long. between 56° and $66^{\circ}S$. Lat. and three stations along $75^{\circ}W$. Long. between 66° and $68^{\circ}S$. Lat. Two stations were also taken in conjunction with the current meter sites and two were taken before reaching the main area of the cruise. At each of the hydrographic stations, temperatures, salinities, pH, dissolved oxygen, phosphates, nitrates and silicates were obtained.

Four crossings of the Antarctic Convergence were made and with each crossing bathythermograph and surface temperature readings were taken at intervals ranging from 10 miles to 5 miles in the immediate area of the Convergence. In all, 112 bathythermograph observations were made.

Florida State University: The submarine geology work of the cruise consisted of 30 successful piston cores. pH and eH determinations were taken on the majority of these long cores before they were crated and stored in the ship's reefer. Most of the cores were taken at 1° latitude increments along lines every three degrees of longitude. One core was taken on top of Sars Bank though this core was badly washed before it was brought aboard.

Six Peterson grab samples were attempted with 4 successes, and 19 rock dredges tried with 14 successes. From a rock ridge on the side of Sars Bank fossil corals were recovered which were entirely different from living fauna collected from the top of the bank. Manganese concretions, both of nodular form and as surface coating were dredged from a well-defined area north of the Antarctic Convergence. From the other dredges various erratics were recovered of volcanics or sedimentary rocks, presumably transported by glaciers.

STATION SEISMOLOGY

Byrd Station: The station seismic background was very high during October due to the large construction activity. Only the larger seismic events could be reported.

Hallett Station: Sixty earthquakes were recorded. The seismic equipment was turned over to the relief personnel in good working order.

South Pole Station: There were 152 earthquake phases recorded during October. Some difficulty was experienced with the Wilson-Lamson east-west seismometer, with portions of data for 9 different days lost. The problem was remedied by a thorough cleaning of the moving coil.

Wilkes Station: Except for the loss of about one-half day's recordings of the Grenet seismograph which resulted from re-freezing of melt water dripping on the unit, the equipment operated well. Travel times have been calculated for the earth core phases of the earthquakes recorded.

UPPER ATMOSPHERIC PHYSICS

Byrd Station:

Aurora and Airglow, Arctic Institute of North America: An inspection trip was made to the auroral sub-station buildings about 35 miles from the main Byrd site. This satellite station was in good condition with little additional snow accumulated during the winter, although most of the radio antennas had incurred some damage from winds.

Geomagnetism, Coast and Geodetic Survey: Twelve observations were made with the quartz horizontal magnetometer. The average station values for October were as follows:

declination	70°22.3'
horizontal field	16,264 g.
vertical field	58,091 g.

The level of the vertical variometer continues to change, and re-leveling has been necessary at least once a month.

Ionospheric Soundings, National Bureau of Standards: Disturbed ionospheric conditions continued through October with hourly numerical values for f_oF_2 recorded only 23 percent of the time. Sporadic E accounted for 11 percent loss, blackout 26 percent and spread echoes 37 percent. There was a continued drop since September in the values of sporadic E and a large increase in absorption and blackout. The maximum median value for f_oF_2 was 5.18 mc at 1200 local time, and the minimum was 3.8 mc at 0300 local. Considerable time has been put into efforts to reduce the interference to base facilities caused by the ionosonde. Though on regular ionosonde schedules there is now little interference, it has not been possible to operate continuously without serious detriment to the radio noise program. Some interference problems are introduced by the various radio transmitters around the station, particularly the low frequency aircraft homer.

Radio Noise, National Bureau of Standards: The atmospheric noise level continues to show diurnal variations, particularly between 2 and 20 mc. Unusually high radio noise levels occurred at 0300 GMT on the 24th on 246 and 545 kc, correlating with VLF and magnetic activity. Data loss increased in October due to interference from the higher level of activities at the station.

VLF and ELF, Stanford University: Whistler counts have now dropped almost to zero and though chorus activity is present it is much reduced. Increased evidence of diurnal variations have been noted in the 2 to 20 cps spectrums.

Ellsworth Station (June):

Aurora, Arctic Institute of North America: The all-sky camera operations, except for a few power failures, have been normal.

In the visual observation program, 2,481 reports were filled in as follows:

Number indicating aurora	1,110
Number indicating clear sky and no aurora	188
Number indicating partly overcast sky and no aurora	364
Number indicating overcast sky or other unfavorable conditions	819

In regard to the distribution and frequency of aurora occurrences, the following table shows the percentage distribution for the month:

<u>Altitude</u>	<u>North Sector</u>	<u>East Sector</u>	<u>South Sector</u>	<u>West Sector</u>
Zenith to 60°	Less than 1%	1%	2%	1%
60° to 30°	Less than 1	3	5	3
30° to the horizon	Less than 1	30	37	16

Cosmic Rays, University of California (Argentine observer): The recording of neutron intensities with the monitor was continued. On the 7th and 25th some data was lost from power failures and on the 29th through equipment failures. Due to irregularities in the standard chronometer the timing on some of the records was erratic.

Geomagnetism (Argentine Program): Strong geomagnetic activity occurred on the 5th, 10th, 15th and 23rd. The system was calibrated on the first, and the scale value found to be only 5 g/mm. Equipment failure occurred on the 26th and no recordings were taken during the remainder of the month.

Ionospheric Absorption (Argentine Program): Adjustments of the riometer equipment are still incomplete.

Ionospheric Soundings, National Bureau of Standards (Argentine observers): Some losses of vertical soundings occurred on five different days during the months, although no serious problems were encountered.

VLF, Dartmouth College (Argentine observers): Fluctuations in the

power line caused losses of recording on the 19th and 25th of the month.

Ellsworth Station (July):

Aurora, Arctic Institute of North America: Minor losses of records occurred on the 1st of July during replacement of the mirror.

A total of 2,595 report cards were filled in for the visual observation program, with the following results:

Number indicating aurora	910
Number indicating clear sky with no aurora	291
Number indicating partly overcast sky and no aurora	300
Number indicating overcast sky or other unfavorable conditions	1,094

During the nights of July 25-26 and 26-27 there were quite large auroral displays. The average distribution of auroras in the sky during July was as follows:

<u>Altitude</u>	<u>North Sector</u>	<u>East Sector</u>	<u>South Sector</u>	<u>West Sector</u>
Zenith to 60°	2%	3%	3%	3%
60° to 30°	2	6	6	5
30° to the horizon	Less than 1	25	32	12

Cosmic Rays, University of California (Argentine observer): Recordings of the neutron monitor were lost on the 2nd due to mechanical trouble and on the 4th and 9th due to electronic failures. On the 28th and 29th the frequency stabilizer was not operating satisfactorily, and the recordings were obtained in advance of the normal schedule.

Geomagnetism (Argentine Program): The magnetic equipment operated with less interruptions than during June though some records were lost during electrical repair work at the station and on another occasion while film speed tests were being made.

Ellsworth Station (August):

Aurora, Arctic Institute of North America: Except for brief

interruptions on the 21st the all-sky camera operated throughout the month during the darkness hours.

A total of 1,648 cards were filled in during the month, the decrease from the previous month being due to the increased hours of light. Results were as follows:

Number indicating aurora	507
Number indicating clear sky and no aurora	282
Number indicating partly overcast sky and no aurora	225
Number indicating overcast sky or other unfavorable conditions	634

Particularly active displays occurred on the nights of the 6th, 7th, 15th to 16th and 20th to 21st. The frequency of aurora locations by sectors is given in the following percentage distribution table.

<u>Altitude</u>	<u>North Sector</u>	<u>East Sector</u>	<u>South Sector</u>	<u>West Sector</u>
Zenith to 60°	3%	4%	4%	4%
60° to 30°	2	7	8	6
30° to the horizon	Less than 1	19	32	10

The spectrograph operated throughout the month, producing excellent records. Despite the auroral activity displayed, reflected also in the high index of geomagnetic activity, no particular features were noted on the spectrogram.

Cosmic Rays, University of California (Argentine observers): The recording of nuclear intensity continued with a few minor troubles occurring at various times due to power failure and difficulties with the frequency stabilizer.

Geomagnetism (Argentine Program): Despite interruptions from station power problems and mechanical failures, much useful information was obtained. On the 15th at 0505 GMT an unusual oscillation took place with an amplitude of nearly 1,000 gammas. A similar phenomena occurred on the 16th with an amplitude of 800 gammas.

Ionospheric Absorption, National Bureau of Standards (Argentine observers): Some recordings were lost on the 20th from power failures and on the 24th from the failure of the AMC unit.

USNS Eltanin:

Aurora and Airglow, University of Alaska: The photometer was in operation 10 different periods during the 76-day cruise with a total recording time of 48 hours and 43 minutes. Primary limitations of the program were weather conditions although moonlight, high latitude twilight and deck lighting resulted in some losses. The Pacific nuclear tests occurred either during overcast or daylight periods, and no auroral information was obtained.

Cosmic Rays, Bartol Research Foundation (Stanford University observers): The only equipment problem with the meson telescope recordings was due to a faulty timing mechanism, and was soon corrected.

Ionospheric Absorption, University of Alaska: The riometer operated continuously throughout the cruise. Some interference from the ship's single-side-band radio transmitter was noted. Equipment was in full operation during the nuclear test periods as other programs which might have interfered were curtailed during this time.

Radio Noise, National Bureau of Standards: The ARN-2 was completely operational for 52 days of the cruise. The loss of data in the remaining period was due principally to high stub factors during storms and to occasional mechanical failure. The ship's radio created some noise interference on all frequencies and an occasional 150 kc pulse from an unidentified source occurred at approximately 3-second intervals on some records. A coating of silicon glass applied to the antenna insulator has resulted in some stabilization of the stub factor.

Radioscience, Stanford University: A ray span analyzer was installed at the beginning of the cruise, and although routine difficulties were encountered most of these were quickly corrected. With this analyzer much more efficient data analysis is possible. Approximately 2.53 whistlers per minute were recorded in September, 3.52 per minute in October, and 2.07 per minute in November.

The occurrence of emissions during the cruise was exceptionally low, with October 19th a notable exception. Between 0850 and 1150 GMT on that day both whistlers and NAA signals were recorded which triggered risers, hooks and falling tones. A circuit was built up to allow the single-side-band transmitter to be turned off during the VLF recording periods.

The high frequency radio investigation was almost fully operational during the cruise, receiving data on 18, 30 and 60 mc. Although the 18 mc receiver was occasionally altered to 11 mc, extensive interference from commercial radio telegraph and short wave broadcast stations prevented continuous frequency monitoring at this lower frequency. The equipment was in

full operation when the nuclear test explosions were carried out in the Pacific. Absorption of high frequency radio noise was noted on only two of these tests. On November 1 and November 4 marked increases in absorption at 18 mc were noted shortly after the detonations, with the noise level slowly returning to original values afterwards. A control system has been designed which will maintain constant HF antenna heading despite variations in the ship's course.

Hallett Station:

Aurora, Arctic Institute of North America: The last operation of the all-sky camera was on the 10th of October. Though the weather was mainly clear and operations uninterrupted, only very faint activity was detected. The infrared spectrograph also operated trouble-free before being shut down on the 10th. Film processing has been completed and the records sent to Scott Base for transport to New Zealand.

On October 9th the visual spectrograph was programmed to record only twilight spectra, and these were terminated on October 28th. No unusual lines were obtained though several of the records included strong 3914, 4272, 5577, 6300 and 6364 Å lines.

Cosmic Rays, University of Maryland (Arctic Institute of North observer): The neutron monitor operated satisfactorily with no unusual count returns being recorded. Work continues on the scintillator calibration which is hoped will be operational in about a week.

Ionospheric Absorption, Arctic Institute of North America: There were only brief periods when the riometer records were free from radio transmission interference. One or two periods of mild ionospheric absorption were recorded.

Ionospheric Soundings, National Bureau of Standards (New Zealand observers): Conditions in the ionosphere remained calm and the equipment operated well, with only a few minor equipment problems.

VLF, Stanford University (New Zealand observers): Except for the continuous and chronic station interference problems, the equipment operated on schedule.

McMurdo Station:

Cosmic Rays, Bartol Research Foundation: The cosmic ray station operated throughout the month, except for station power interruptions. A

comparison was made between barometers at the cosmic ray station and at the weather station.

The cosmic ray observations at McMurdo were maintained continually while the Project Magnet plane of the U.S. Navy Oceanographic Office was flying in the general area. Similar cosmic ray equipment is being operated in this plane.

Ionospheric Absorption, Douglas Aircraft Co.: Operations of the 30 mc riometer were normal and though heavy winds broke off one of the antenna beams this was quickly repaired. Preparations are under way to convert the 10 mc unit, which cannot be used because of large station interference, into a 50 mc riometer. Construction of a sixteen-foot annex to the present Jamesway building was started.

South Pole Station:

Aurora, Arctic Institute of North America: All instruments have been secured and the microfilming of data has been completed. Comparisons are being made between the auroral data and geomagnetic activity. There is some evidence also of correlation between surface radio activity and the aurora and geomagnetic activity.

Geomagnetism, Coast and Geodetic Survey: No magnetograph data was lost during the month, but due to the very disturbed magnetic conditions only 8 observations of declination and 10 absolute values were made. The averages of the absolute values were as follows:

declination	27°22.6'
horizontal intensity	15,940 g.
vertical intensity	56,803 g.
total field	58,996 g.

Ionospheric Absorption, Arctic Institute of North America: A faulty chart drive motor in the riometer equipment had to be removed and replaced. Only one recorder is operating at present and the calibrations are made with an Esterline Angus recorder. There were no noticeable effects from the bomb tests on October 22nd and 26th, though these tests occurred during disturbed ionosphere periods.

Ionospheric Soundings, National Bureau of Soundings: A total of 89 hours of recording time was lost during the month, in addition to quite a few hours in which the data is only of marginal value. The main problems occurred with the plates of a variable capacitor which became loose. Since the capacitor

was the frequency determining element in the VFO, it was necessary to fabricate a new cam which could drive the control at the prescribed rate. Several other and totally unrelated problems also developed with the 250-volt power supply, sequence relay, the frequency marker unit and the alarm system.

Monthly medians of f_oF_2 showed a maximum value of 4.5 mc and a minimum of 4.0 mc with the general level of the curve higher than it has been for some time.

VLF, Stanford University (National Bureau of Standards observers):
There were no unusual VLF emissions during October, and although one bomb test was monitored on a special schedule nothing unusual was noted. Equipment failure was at a minimum.

Wilkes Station:

Aurora and Airglow, Arctic Institute of North America (Australian observer): This program was concluded on the 21st with no trouble except the failure of the shutter solenoid return spring on the 20th. A total of 4,400 feet of 16 mm film and the log books have been packed ready for return.

Cosmic Rays (Australian Program): The building housing the cosmic ray equipment is not being heated satisfactorily due to problems with the regulator. To prevent loss of time due to power failures, it is planned to install an automatic power change-over using an emergency cable from a second generator. Data collection is being processed on schedule.

Geomagnetism, Coast and Geodetic Survey (Australian observer): The simplex programming machine was erratic during October, reducing the duration of the time marks. This was repaired by transferring the change-over relay into the active AC line. Jamming of the translation gear caused failure of the high speed run of the sensitive variometer on the 26th, a few minutes before the nuclear event.

The plywood pier has undergone some warping due to leaking melt water, causing loss of leveling and drifting of the horizontal base line spot.

Ionospheric Soundings, National Bureau of Standards (Australian observer): The ionosonde has completed another month without major equipment failures. Variation of the date position on the film records was found to be caused by a worn-out microswitch and a loose can on the frequency sweep shaft. Repairs to the antenna have been delayed until arrival of additional equipment.

REGISTER OF AVAILABLE FOREIGN SCIENTISTS

Below is listed information received from scientists of other nations who wish to participate in the U.S. Antarctic Research Program. The information on these persons is presented as follows:

- a. Name
 - b. Date of Birth and Nationality
 - c. Present Place of Employment
 - d. Occupation and Desired Area of Investigation
 - e. Polar Experience
 - f. References
1.
 - a. Jung, Walter
 - b. May 8, 1933, Swiss
 - c. Working on thesis at Federal Institut of Technology, Zurich
 - d. Geologist (wants mapping, stratigraphic and petrographic research on Antarctic continent)
 - e. None
 - f. Prof. Dr. R. Trumpy and Prof. Dr. A. Gansser of the Federal Institut of Technology, Zurich; Dr. R. Friedrich, Wulflingerstr. 6, Winterthur; and H. R. Muller, Seestrasse 13, Horgen, both of Kt. Zurich
2.
 - a. Ossenkamp, Michael Hinrich
 - b. September 9, 1941, Deutsch
 - c. National Theater, Mannheim
 - d. Electrician
 - e. None
 - f. None
3.
 - a. Palosuo, Erkki
 - b. -----, Finnish
 - c. Scientist Member in Commission for Direction of Icebreakers and Winter Navigation, Institute of Marine Research, Helsinki, Finland (Ph.D., Chief of the Ice Department)
 - d. Glaciologist with special research field Crystallography
 - e. During IGY with Swedish-Finnish-American Expedition on Spitzbergen; during summers of 1957 and 1958 made all kinds of measurements; later worked on glaciers in Scandinavia
 - f. Dr. Weston Blake, Jr., Geological Survey of Canada, Department of Mines and Technical Surveys, 601 Booth Street, Ottawa, Ontario

4.
 - a. Schielly, Hanspeter
 - b. 1936, Swiss
 - c. Presently working on thesis "Geology of the western side of the Freiberge (Kanton Glarus)
 - d. Geologist, $3\frac{1}{2}$ years of college in Winterthur, Switzerland
 - e. Summer 1958 with Dr. Lauge Kochs Greenland Expedition doing geological field work in polar regions
 - f. Prof. Dr. R. Trumpy, Headmaster, Federal Institut of Technology, Zurich, Switzerland

5.
 - a. Sporli, Bernhard Niklaus
 - b. October, 1936, Swiss
 - c. Working on thesis at Federal Institut of Technology, Zurich
 - d. Geologist (wants mapping, stratigraphic and petrographic research on Antarctic continent)
 - e. None
 - f. Same reference as No. 4 above, also Prof. A. Gansser, Mr. Bernhard Blanc and Dr. Rene Hanthe of the Federal Institut of Technology

6.
 - a. Weber, Werner
 - b. January 25, 1934, Swiss
 - c. Working on thesis at Federal Institut of Technology, Zurich
 - d. Geologist (wants mapping, stratigraphic and petrographic research on Antarctic continent)
 - e. None
 - f. Prof. A. Gansser, Sonneggstrasse 5; Hansruedi Ruegger, in den Herrenreben 529, Mellingen (AARG); Peter Allenbach, Heggerstrasse 5, Schwerzenbach and Dr. O. Gruenenfelder, Zurich

TABLE I - CLIMAT FOR OCTOBER, 1962

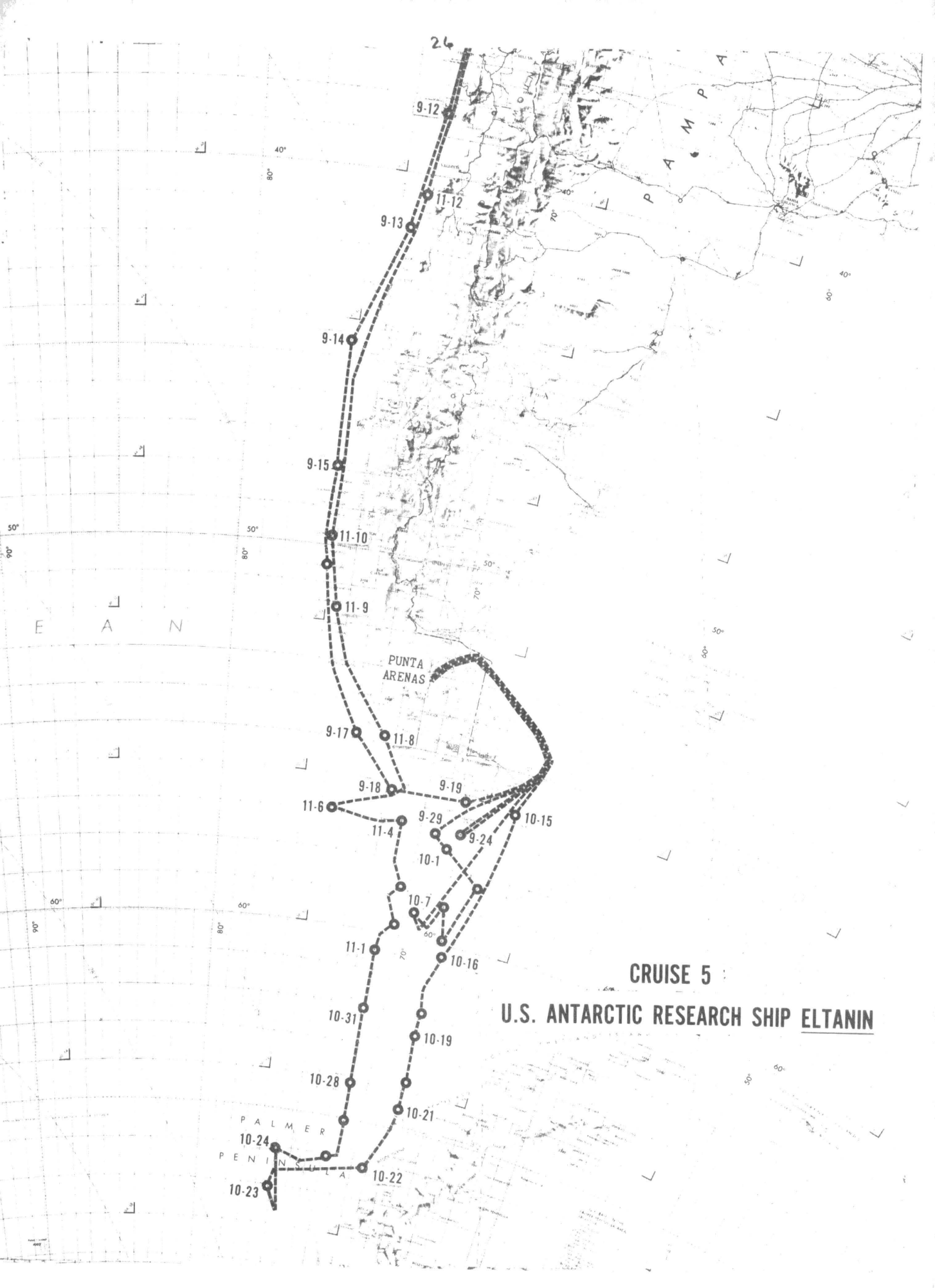
	<u>Byrd Station</u>	<u>Ellsworth Station</u>	<u>Hallett Station</u>	<u>McMurdo Station</u>	<u>South Pole Station</u>	<u>Wilkes Station</u>
Temperature, °C						
Average	-33.2	-27.8	-20.4	-22.4	-50.4	-10.0
Highest	-18.2	-10.0	- 7.2	- 9.4	-38.9	- 1.1
Lowest	-49.4	-40.4	-36.7	-35.6	-58.9	-20.6
Station Pressure (inches)						
Average	23.542	29.948	29.015	28.964	19.881	28.839
Highest	23.900	29.66*	29.72*	29.651*	20.350	29.469*
Lowest	23.080	28.60*	28.60*	28.629*	19.550	29.968
Precipitation (inches)	---	0.14	0.29	0.21	0.1	1.87
Snowfall (inches)	---	1.4	3.5	2.1	1.0	18.7
Wind						
Prevailing Direction	N	S	S	E	N**	E
Average Speed (knots)	20.3	12.2	3.4	9.3	13.0	13.5
Fastest Mile (MPH)	55.3	42	62	53 (peak gust)	38	88
Average Sky Cover (MPH)	5.9	7.1	5.5	4.3	5.9	8.2
No. clear days	6	3	14	16	12	2
No. partially cloudy	14	12	2	8	5	8
No. cloudy	11	16	15	7	14	21
No. Days with visibility less than 1/4 mile	19	7	2	7	6	6
No. of Radiosondes	60	26	59	58	62	57
Avg. height of Radiosondes	33,659	19,112	23,099	20,725	29,191	28,976
No. of Radiometersondes ^x	---	---	---	---	---	1
Avg. height of Radiometer- sondes	---	---	---	---	---	28,674
No. of Ozonesondes	---	---	2	---	---	---
Avg. height of Ozonesondes	---	---	19,226	---	---	---

All figures above have been taken from radio messages and are unconfirmed.

* Sea-level pressure

** North defined along 0° Greenwich

^x Radiometersonde flights taken replaced scheduled radiosonde flights, in addition to furnishing special radiation data.



Office of Antarctic Programs
National Science Foundation
1951 Constitution Avenue, NW.
Washington 25, D.C.

Revised
November 26, 1962

USARP-63
PERSONNEL ROSTER

Wintering Party 1963

<u>Name</u>	<u>Discipline</u>	<u>Affiliation</u>
<u>BYRD STATION</u>		
Bailey, Andrew M.	Meteorology	U.S. Weather Bureau
Brown, Thomas I.	Meteorology	U.S. Weather Bureau
Coulter, Neil M.	Meteorology	U.S. Weather Bureau
Hartkopf, Kenneth W.	Ionospheric Physics	National Bureau of Standards
Kinsey, James H.	Aurora	Arctic Inst. of N. America
Kosko, Arno	Radioscience	Stanford University
Landry, Edward J.	Meteorology	U.S. Weather Bureau
Lewis, L. David	Ionospheric Physics	National Bureau of Standards
*Morozumi, Henry M.	Radioscience	Stanford University
Pearson, Herbert E.	Geomagnetism/Seismology	U.S. Coast & Geodetic Survey
Vance, Dale L.	Ionospheric Physics	National Bureau of Standards
<u>BYRD STATION</u> <u>DELTA SUB-ONE</u>		
Gill, Allan	Aurora	Arctic Inst. of N. America
Jaron, Helmut P.	Aurora	Arctic Inst. of N. America
Roper, Nathaniel A.	Aurora	Arctic Inst. of N. America
<u>EIGHTS STATION</u>		
Goodman, Alan L.	Aurora	Arctic Inst. of N. America
*Huffman, Jerry W.	Geomagnetism/Seismology	U.S. Coast & Geodetic Survey
Matheson, Lorne D.	Ionospheric Physics	National Bureau of Standards
McKenny, Clarence D.	Meteorology	U.S. Weather Bureau
Trimpi, Michael L.	Radioscience	Stanford University
<u>HALLETT STATION</u>		
Barnes, Elwood E.	Cosmic Rays	University of Maryland
*Freimanis, Harry	Aurora	Arctic Inst. of N. America
Levi, Gene S.	Meteorology	U.S. Weather Bureau
Price, Rayburn	Meteorology	U.S. Weather Bureau
Willey, Francis J. III	Meteorology	U.S. Weather Bureau
Wyckoff, Kent A.	Meteorology	U.S. Weather Bureau

*Station Scientific Leader

**Senior U.S. Representative

MCMURDO STATION

Bobo, Robert
 *Briggs, Raymond S..
 Johnson, Dwight L.
 Laird, Robert J.
 Layman, Frank C.
 Osicki, Kenneth J.
 Smith, Benjamin F.
 Svaton, Ernest M.
 Thompson, Douglas C.

Wintering Party 1963

Meteorology
 Meteorology
 Biology
 Biology
 Transport Engineering
 Biology
 Meteorology
 Ionospheric Physics
 Cosmic Rays

Affiliation

Texas Western College
 Texas Western College
 Stanford University
 Stanford University
 U.S. Weather Bureau
 Stanford University
 Texas Western College
 Douglas Aircraft
 Bartol Foundation

SOUTH POLE STATION

Brown, Craig W.
 Burgess, Robert W.
 Davis, Ronald N.
 Falkenhof, Jack J.
 Fries, Robert H.
 Jensen, Kenard
 Petlock, James D.
 *Roberts, Charles L.
 Spohn, Harry R.

Meteorology
 Ionospheric Physics
 Geomagnetism/Seismology
 Meteorology
 Aurora
 Meteorology
 Ionospheric Physics
 Meteorology
 Meteorology

U.S. Weather Bureau
 National Bureau of Standards
 U.S. Coast & Geodetic Survey
 U.S. Weather Bureau
 Arctic Inst. of N. America
 U.S. Weather Bureau
 National Bureau of Standards
 U.S. Weather Bureau
 U.S. Weather Bureau

WILKES STATION

**Mallory, Roger P.
 Thompson, Russell W.
 Webster, Charles W.

Meteorology
 Meteorology/Ozone
 Meteorology

U.S. Weather Bureau
 U.S. Weather Bureau
 U.S. Weather Bureau

Office of Antarctic Programs
National Science Foundation
1951 Constitution Avenue, NW.
Washington 25, D.C.

Revised
November 26, 1962

USARP-62
1962-63 SUMMER PARTY

<u>Name</u>	<u>Discipline</u>	<u>Affiliation</u>
<u>BYRD STATION</u>		
Adams, Paul L.	Meteorology	U.S. Weather Bureau
Hendrickson, George	Glaciology	Cold Regions Res. & Engr. Lab.
Horner, Stanley	Radioscience	Pacific Naval Laboratory
Mellor, Malcolm	Glaciology	Cold Regions Res. & Engr. Lab.
<u>BYRD STATION TRAVERSE</u>		
Brandenberger, Arthur J.	Glaciology	Ohio State University
Bull, Colin B. B.	Glaciology	Ohio State University
Dickson, Donald T.	Glaciology	Ohio State University
Forrest, Robert B.	Glaciology	Ohio State University
Koerner, Roy M.	Glaciology	Ohio State University
<u>CHRISTCHURCH</u>		
MacDonald, William R.	Photogrammetry	U.S. Geological Survey
<u>BYRD STATION</u> <u>DELTA SUB-ONE</u>		
Lenton, Ralph O.	Aurora	National Science Foundation
<u>EIGHTS STATION</u>		
Barnes, Stephen S.	Ionospheric Physics	National Bureau of Standards
<u>HALLETT STATION</u>		
Allowitz, Ronald D.	Biology	Ohio State University
Rudolph, Emanuel D.	Biology	Ohio State University
Staley, James T.	Biology	Ohio State University
<u>ICEBREAKERS</u>		
Anderson, Frank A.	Ocean/USCGC <u>Eastwind</u>	U.S. Navy Hydro Office
Babis, William A.	Ocean/USCGC <u>Eastwind</u>	U.S. Navy Hydro Office
Crowell, John T.	Palmer Pen/USS <u>Edisto</u>	National Science Foundation
Francavillese, Louis J.	Ocean/USCGC <u>Eastwind</u>	U.S. Navy Hydro Office
McDonald, Edwin A.	Palmer Pen/USS <u>Edisto</u>	Arctic Inst. of N. America
Schaeffer, Robert A.	Ocean/USCGC <u>Eastwind</u>	U.S. Navy Hydro Office
Schmitt, Waldo L.	Palmer Pen/USS <u>Edisto</u>	Natural History Museum/NSF

MCMURDO STATION

1962-63 Summer Party

Affiliation

Alberts, Fred	Bd. of Geog. Names	U.S. Department of Interior
Armstrong, Fred	Visitor	U.S. Steel Foundation, Inc.
Berg, Thomas E.	Geology	University of Wisconsin
Bertrand, Kenneth	Bd. of Geog. Names	Catholic University
Black, Robert F.	Geology	University of Wisconsin
Boyd, William L.	Biology	Ohio State University
Csejtey, Bela	Geology	Rutgers University
Desio, Ardito	Visitor	University of Milan
Emlen, John T.	Biology	University of Wisconsin
Ester, Donald W.	Geology	University of Alaska
Faylor, Robert C.	Visitor	Arctic Inst. of N. America
Fearon, Colin E.	Biology	Bishop Museum
Flyger, Vagn F.	Biology	Johns Hopkins University
Forbes, Robert B.	Geology	University of Alaska
Goldman, Charles R.	Biology	University of California
Gould, Lawrence M.		National Science Board/NAS
Greenlee, David W.	Geology	Texas Technical College
Gressitt, J. Linsley	Biology	Bishop Museum
Hesburgh, Fr. Theodore M.		National Science Board
Hobbie, John E.	Biology	University of California
Holzappel, Eugene P.	Biology	Bishop Museum
Likens, Gene E.	Limnology	University of Wisconsin
Masley, Andrew J.	Ionospheric Physics	Douglas Aircraft
Mason, David T.	Biology	University of California
Meier, Mark	Visitor	U.S. Geological Survey
Penney, Richard L.	Biology	University of Wisconsin
Predoehl, Martin C.	Meteorology/Albedo	U.S. Weather Bureau
Ragotzkie, Robert A.	Limnology	University of Wisconsin
Rich, Charles C.	Geology	Bowling Green State University
Showalter, Albert K.	Meteorology	U.S. Weather Bureau
Spano, Angelo F.	Meteorology/Albedo	U.S. Weather Bureau
Thomas, Francis J.	Biology	Stanford University
Ugolini, Fiorenzo C.	Geology	Rutgers University
Vogt, Peter	Geology	University of Wisconsin
Wade, F. Alton	Geology	Texas Technical College
Wallace, James D.	Meteorology	Texas Western College
Wilkes, Owen R.	Biology	Bishop Museum
Wise, Keith A. J.	Biology	Bishop Museum
Wohlschlag, Donald E.	Biology	Stanford University
Wood, Robert C.	Biology	Johns Hopkins University
Wyss, Orville	Biology	University of Texas
Yeats, Vestal L.	Geology	Texas Technical College

MOUNT WEAVER

Doumani, George A.	Geology	Ohio State University
Lackey, Larry L.	Geology	Ohio State University
Minshew, Velon H.	Geology	Ohio State University
Skinner, Courtney J.	Geology	Ohio State University
Summerson, Charles H.	Geology	Ohio State University

MIRNY

Franceschini, Guy A.	Oceanography	Texas Agricultural and Mechan College
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PENSACOLA MOUNTAINS GEOLOGY

1962-63 Summer Party

Affiliation

Boyd, Walter W.	Geology	U.S. Geological Survey
Brown, Robert D.	Geology	U.S. Geological Survey
Dover, James H.	Geology	U.S. Geological Survey
Ford, Arthur B.	Geology	U.S. Geological Survey
Schmidt, Dwight L.	Topographic Engineering	U.S. Geological Survey
Taylor, Thomas E.	Topographic Engineering	U.S. Geological Survey

ROOSEVELT ISLAND

Bentley, Charles R.	Geology	University of Wisconsin
Boman, William M.	Traverse Engineering	University of Wisconsin
Doss, Edgar L.	Glaciology	University of Wisconsin
Heindemann, Richard P.	Glaciology	University of Wisconsin
Hochstein, Manfred	Glaciology	University of Wisconsin
Kreiling, Lee W.	Traverse Engineering	University of Wisconsin
Long, Jack B.	Traverse Engineering	University of Wisconsin
Tranter, David L.	Glaciology	University of Wisconsin

ROSS ICE SHELF

Campbell, William J.	Glaciology	University of Michigan
Dorrer, Egon	Glaciology	University of Michigan
Heap, John A.	Glaciology	University of Michigan
Hofmann, Walther	Glaciology	University of Michigan
Nottarp, Klemens J.	Glaciology	University of Michigan
Rundle, Arthur S.	Glaciology	University of Michigan

SENTINEL MOUNTAINS GEOLOGY

Barrett, Peter J.	Geology	University of Minnesota
Bowie, Glenn E.	Geology	University of Minnesota
Collier, Robert M.	Topographic Engineering	U.S. Geological Survey
Craddock, J. Campbell	Geology	University of Minnesota
Dolence, Jerry D.	Geology	University of Minnesota
Drake, Benjamin	Geology	University of Minnesota
Edson, Dean T.	Topographic Engineering	U.S. Geological Survey
Meyer, Harvey J.	Geology	University of Minnesota
Scholt, Donald E.	Geology	University of Minnesota
Webers, Gerald F.	Geology	University of Minnesota

SOUTH POLE STATION

DeBreuck, William	Glaciology	University of Brussels
Iavris, William C.	Meteorology	U.S. Weather Bureau
Pavlak, Thomas L.	Glaciology	Cold Regions Res. & Engr. Lab.
Picciotto, Ezra E.	Glaciology	University of Brussels
Rowland, Robert W.	Glaciology	Cold Regions Res. & Engr. Lab.

SOUTH POLE STATION TRAVERSE

1962-63 Summer Party

Affiliation

Brecher, Henry H.
DenHartog, Stephen L.
Koski, Raymond J.
Parks, Perry E.
Perkins, David M.
Robinson, Edwin S.
Taylor, Lawrence D.

Glaciology
Gravity
Traverse Engineering
Seismology
Geomagnetism
Seismology
Glaciology

Ohio State University
University of Wisconsin
University of Wisconsin
University of Wisconsin
U.S. Coast & Geodetic Survey
University of Wisconsin
Ohio State University

STAFF

Derrick, Robert O.

Eckins, Henry J.

Goodale, Edward E.

Harrower, Robert A.

Jones, Thomas O.

Asst. to Christchurch
USARP Rep

USARP Communications
Asst.

Christchurch USARP Rep

USARP Field Asst.

Head, Office of
Antarctic Programs

U.S. Weather Bureau

U.S. Weather Bureau

U.S. Weather Bureau

U.S. Weather Bureau

National Science Foundation

Litell, Richard J.
Mason, Robert W.
Mills, Lewis E.

USARP Info Officer
McMurdo USARP Rep
Asst. to Christchurch
USARP Rep

National Science Foundation
National Science Foundation
U.S. Weather Bureau

Moulton, Kendall N.

Eights Station
USARP Rep

National Science Foundation

Peters, Frank
Peters, Merrill J.
Renirie, Jack

USARP Field Asst.
USARP Field Asst.
USARP Info Officer

U.S. Weather Bureau
U.S. Weather Bureau
National Science Foundation

Skinner, Clement C.

Asst. to McMurdo
USARP Rep

U.S. Weather Bureau

Smith, Philip M.

National Science Foundation

TOPO EAST & WEST

Barnett, Donald C.
Bermel, Peter F.
McLean, Kenneth S.
Soza, Ezekiel R.

Topographic Engineering
Topographic Engineering
Topographic Engineering
Topographic Engineering

U.S. Geological Survey
U.S. Geological Survey
U.S. Geological Survey
U.S. Geological Survey

WORLD SEISMIC SYSTEM

Billingsley, Howell F.
Hoffman, John P.
Jaksha, Lawrence H.
Labhart, Robert J.
Sparks, Edgar C.

Seismology
Seismology
Seismology
Seismology
Seismology

U.S. Coast & Geodetic Survey
U.S. Coast & Geodetic Survey
U.S. Coast & Geodetic Survey
U.S. Coast & Geodetic Survey
U.S. Coast & Geodetic Survey

Alphabetical Listing 62-63

<u>Name</u>	<u>Station</u>	<u>Discipline</u>
Adams, Paul L.	Byrd	Meteorology
Alberts, Fred	McMurdo	USARP Visitor
Allowitz, Ronald D.	Hallett	Biology
Anderson, Frank A.	Icebreakers	Ocean/USCGC <u>Eastwind</u>
Armstrong, Fred	McMurdo	USARP Visitor
Babis, William A.	Icebreakers	Ocean/USCGC <u>Eastwind</u>
Bailey, Andrew M.	Byrd	Meteorology
Barnes, Elwood E.	Hallett	Cosmic Rays
Barnes, Stephen S.	Eights	Ionospheric Physics
Barnett, Donald C.	Topo East & West	Topographic Engineering
Barrett, Peter J.	Sentinel Mountains	Geology
Bentley, Charles R.	Roosevelt Island	Geology
Berg, Thomas E.	McMurdo	Geology
Bermel, Peter F.	Topo East & West	Topographic Engineering
Bertrand, Kenneth	McMurdo	USARP Visitor
Billingsley, Howell F.	World Seismic System	Seismology
Black, Robert F.	McMurdo	Geology
Bobo, Robert	McMurdo	Meteorology
Boman, William M.	Roosevelt Island	Traverse Engineering
Bowie, Glenn E.	Sentinel Mountains	Geology
Boyd, Walter W.	Pensacola Mountains	Geology
Boyd, William L.	McMurdo	Biology
Brandenberger, Arthur J.	Byrd	Glaciology
Brecher, Henry H.	South Pole	Glaciology
Briggs, Raymond S.	McMurdo	Meteorology
Brown, Craig W.	South Pole	Meteorology
Brown, Robert D.	Pensacola Mountains	Geology
Brown, Thomas I.	Byrd	Meteorology
Bull, Colin B. B.	Byrd	Glaciology
Burgess, Robert W.	South Pole	Ionospheric Physics
Campbell, William J.	Ross Ice Shelf	Glaciology
Collier, Robert M.	Sentinel Mountains	Topographic Engineering
Coulter, Neil M.	Byrd	Meteorology
Craddock, J. Campbell	Sentinel Mountains	Geology
Crowell, John T.	Icebreakers	Palmer Pen/USS <u>Edisto</u>
Csejtey, Bela	McMurdo	Geology
Davis, Ronald N.	South Pole	Geomagnetism/Seismology
DeBreuck, William	South Pole	Glaciology
DenHartog, Stephen L.	South Pole	Gravity
Derrick, Robert O.	Christchurch, N.Z.	Asst. to Christchurch
		USARP Rep
Desio, Ardito	McMurdo	USARP Visitor
Dickson, Donald T.	Byrd	Glaciology
Dolence, Jerry D.	Sentinel Mountains	Geology
Dorrer, Egon	Ross Ice Shelf	Glaciology
Doss, Edgar L.	Roosevelt Island	Glaciology
Doumani, George A.	Mount Weaver	Geology
Dover, James H.	Pensacola Mountains	Geology
Drake, Benjamin	Sentinel Mountains	Geology

*Station Scientific Leader
 *Senior U.S. Representative

Name

Station

Discipline

Eckins, Henry J.	McMurdo	USARP Communications Asst.
Edson, Dean T.	Sentinel Mountains	Topographic Engineering
Emlen, John T.	McMurdo	Biology
Ester, Donald W.	McMurdo	Geology
Falkenhof, Jack J.	South Pole	Meteorology
Faylor, Robert C.	McMurdo	Arctic Inst. of N. America
Fearon, Colin E.	McMurdo	Biology
Flyger, Vagn F.	McMurdo	Biology
Forbes, Robert B.	McMurdo	Geology
Ford, Arthur B.	Pensacola Mountains	Geology
Forrest, Robert B.	Byrd	Glaciology
Francavillese, Louis J.	Icebreakers	Ocean/USCGC <u>Eastwind</u>
Franceschini, Guy A.	Mirny	Oceanography
*Freimanis, Harry	Hallett	Aurora
Fries, Robert H.	South Pole	Aurora
Gill, Allan	Byrd	Aurora
Goldman, Charles R.	McMurdo	Biology
Goodale, Edward E.	Christchurch, N.Z.	USARP Representative
Goodman, Alan L.	Eights	Aurora
Gould, Lawrence M.	McMurdo	USARP Visitor
Greenlee, David W.	McMurdo	Geology
Gressitt, J. Linsley	McMurdo	Biology
Harrower, Robert A.	McMurdo	USARP Field Assistant
Hartkopf, Kenneth W.	Byrd	Ionospheric Physics
Heap, John A.	Ross Ice Shelf	Glaciology
Heindemann, Richard P.	Roosevelt Island	Glaciology
Hendrickson, George	Byrd	Glaciology
Hesburgh, Fr. Theodore M.	McMurdo	USARP Visitor
Hobbie, John E.	McMurdo	Biology
Hochstein, Manfred	Roosevelt Island	Glaciology
Hoffman, John P.	World Seismic System	Seismology
Hofmann, Walther	Ross Ice Shelf	Glaciology
Holzappel, Eugene P.	McMurdo	Biology
Horner, Stanley	Byrd	Radioscience
*Huffman, Jerry W.	Eights	Geomagnetism/Seismology
Jaksha, Lawrence H.	World Seismic System	Seismology
Jaron, Helmut P.	Byrd	Aurora
Jensen, Kenard	South Pole	Meteorology
Johnson, Dwight L.	McMurdo	Biology
Jones, Thomas O.		Antarctic Program Dire
Kinsey, James H.	Byrd	Aurora
Koerner, Roy M.	Byrd	Glaciology
Koski, Raymond J.	South Pole	Traverse Engineering
Kosko, Arno	Byrd	Radioscience
Kreiling, Lee W.	Roosevelt Island	Traverse Engineering
Labhart, Robert J.	World Seismic System	Seismology
Lackey, Larry L.	Mount Weaver	Geology
Laird, Robert J.	McMurdo	Biology
Landry, Edward J.	Byrd	Meteorology
Lavris, William C.	South Pole	Meteorology

<u>Name</u>	<u>Station</u>	<u>Discipline</u>
Layman, Frank C.	McMurdo	Transport Engineering
Lenton, Ralph O.	Delta Sub-One	Aurora
Levi, Gene S.	Hallett	Meteorology
Lewis, L. David	Byrd	Ionospheric Physics
Likens, Gene E.	McMurdo	Limnology
Litell, Richard J.	McMurdo	USARP Information Officer
Long, Jack B.	Roosevelt Island	Traverse Engineering
MacDonald, William R.	Christchurch, N.Z.	Photogrammetry
*Mallory, Roger P.	Wilkes	Meteorology
Masley, Andrew J.	McMurdo	Ionospheric Physics
Mason, David T.	McMurdo	Biology
Mason, Robert W.	McMurdo	McMurdo USARP Representative
Matheson, Lorne D.	Eights	Ionospheric Physics
McDonald, Edwin A.	Icebreakers	Palmer Pen/USS <u>Edisto</u>
McKenny, Clarence D.	Eights	Meteorology
McLean, Kenneth S.	Topo East & West	Topographic Engineering
Meier, Mark	McMurdo	USARP Visitor
Mellor, Malcolm	Byrd	Glaciology
Meyer, Harvey J.	Sentinel Mountains	Geology
Mills, Lewis E.	Christchurch, N.Z.	Asst. to Christchurch USARP Rep
Minshew, Velon H.	Mount Weaver	Geology
*Morozumi, Henry M.	Byrd	Radioscience
Moulton, Kendall N.	Eights	Eights Station USARP Representative
Nottarp, Klemens J.	Ross Ice Shelf	Glaciology
Osicki, Kenneth J.	McMurdo	Biology
Parks, Perry E.	South Pole	Seismology
Favlak, Thomas L.	South Pole	Glaciology
Pearson, Herbert E.	Byrd	Geomagnetism/Seismology
Penney, Richard L.	McMurdo	Biology
Perkins, David M.	South Pole	Geomagnetism
Peters, Frank	Christchurch, N.Z.	USARP Field Asst.
Peters, Merrill J.	McMurdo	USARP Field Asst.
Petlock, James D.	South Pole	Ionospheric Physics
Picciotto, Ezra E.	South Pole	Glaciology
Predoehl, Martin C.	McMurdo	Meteorology/Albedo
Price, Rayburn	Hallett	Meteorology
Ragotakie, Robert A.	McMurdo	Limnology
Renirie, Jack	McMurdo	USARP Information Officer
Rich, Charles C.	McMurdo	Geology
*Roberts, Charles L.	South Pole	Meteorology
Robinson, Edwin S.	South Pole	Seismology
Roper, Nathaniel A.	Delta Sub-One	Aurora
Rowland, Robert W.	South Pole	Glaciology
Rudolph, Emanuel D.	Hallett	Biology
Rundle, Arthur S.	Ross Ice Shelf	Glaciology

<u>Name</u>	<u>Station</u>	<u>Discipline</u>
Schaeffer, Robert A.	Icebreakers	Ocean/USCGC <u>Eastwind</u>
Schmidt, Dwight L.	Pensacola Mountains	Topographic Engineering
Schmitt, Waldo L.	Icebreakers	Palmer Pen/USS <u>Edisto</u>
Showalter, Albert K.	McMurdo	Meteorology
Skinner, Clement C.	McMurdo	Asst. to McMurdo USARP Rep
Skinner, Courtney J.	Mount Weaver	Geology
Smith, Benjamin F.	McMurdo	Meteorology
Smith, Philip M.	McMurdo	
Soholt, Donald E.	Sentinel Mountains	Geology
Soza, Ezekiel R.	Topo East & West	Topographic Engineering
Spano, Angelo F.	McMurdo	Meteorology/Albedo
Sparks, Edgar C.	World Seismic System	Seismology
Spohn, Harry R.	South Pole	Meteorology
Staley, James T.	Hallett	Biology
Summerson, Charles H.	Mount Weaver	Geology
Svaton, Ernest M.	McMurdo	Ionospheric Physics
Taylor, Lawrence D.	South Pole	Glaciology
Taylor, Thomas E.	Pensacola Mountains	Topographic Engineering
Thomas, Francis J.	McMurdo	Biology
Thompson, Douglas C.	McMurdo	Cosmic Rays
Thompson, Russell W.	Wilkes	Meteorology/Ozone
Tranter, David L.	Roosevelt Island	Glaciology
Trimpi, Michael L.	Eights	Radioscience
Ugolini, Fiorenzo C.	McMurdo	Geology
Vance, Dale L.	Byrd	Ionospheric Physics
Vogt, Peter	McMurdo	Geology
Wade, F. Alton	McMurdo	Geology
Wallace, James D.	McMurdo	Meteorology
Webers, Gerald F.	Sentinel Mountains	Geology
Webster, Charles W.	Wilkes	Meteorology
Wilkes, Owen R.	McMurdo	Biology
Willey, Francis J. III	Hallett	Meteorology
Wise, Keith A. J.	McMurdo	Biology
Wohlschlag, Donald E.	McMurdo	Biology
Wood, Robert C.	McMurdo	Biology
Wyckoff, Kent A.	Hallett	Meteorology
Wyss, Orville	McMurdo	Biology
Yeats, Vestal L.	McMurdo	Geology