

YOUR STAY AT McMURDO STATION ANTARCTICA



AUGUST 1985



NATIONAL SCIENCE FOUNDATION
DIVISION OF POLAR PROGRAMS
U.S. ANTARCTIC RESEARCH PROGRAM

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McMURDO STATION
ANTARCTICA**

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Coordinated by
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Division of Polar Programs
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YOUR STAY AT McMURDO

McMurdo Station is Antarctica's first city. Founded in 1956, it has grown from an outpost of a few buildings to a complex logistics staging facility of more than 100 structures. Year-round population is approximately 85 persons, while the summer population jumps to nearly 800. McMurdo has changed considerably in recent years. There are increasing numbers of women among the scientists and support personnel, journalists, and official visitors, greatly expanded international activity including flight operations of several Antarctic Treaty signatory nations, and commercial ventures, notably tourism, in which groups of adventurers are brought to Antarctica. McMurdo Station has the only large-production saltwater distillation plant in Antarctica. Greater McMurdo includes a "downtown" area, science and support facilities, and an outlying airport (Williams Field). From Williams Field, flights not only span the continent, but maintain McMurdo's contact with the outside world. Two miles away is the neighboring New Zealand research facility of Scott Base.

You will find that McMurdo Station is similar to other urban centers in its diversity of population and in its hectic pace. Like most major cities, McMurdo serves as an international center where people of different backgrounds meet and exchange ideas.

This booklet is intended to answer questions most frequently raised by participants in the U.S. Antarctic Research Program (USARP) upon their arrival at McMurdo. As this publication cannot address every possible situation, you will attend a short briefing upon your arrival to review basic procedures and anticipated conditions. In reading this booklet, please make a notation of anything about which you have a question and bring it up during your briefing.

Wherever general information is provided, there will likely be additional detailed information on the bulletin boards in the USARP Quarters. For example, the hours of service at the liquor sales and the Ship's Store or exchange will be posted. Whenever you require additional information, please consult the listing on pages 14 and 15 of this booklet for the appropriate person to see.

May your stay at McMurdo be productive and pleasant.

THE USARP CHALET

The Chalet was erected during the 1969-1970 Austral Summer. It is the USARP administration and operations center, and houses the offices of the National Science Foundation (NSF) Representative, and the support contractor, Antarctic Services, Inc. (ANS). The Chalet has a conference facility and a meeting room where presentations and official social gatherings are held. A single-sideband radio for contact with field parties is also located in the Chalet. Message and mail slots for each science project are located in the foyer of the Chalet. Generally, the Chalet Administrative Staff is the point of contact for information, assistance, and referral for the USARP community. (The Administrative Office is small and extremely busy. Please limit your time there to essential business.)

USARP SCIENCE FACILITIES

Science facilities are divided among three broad areas of research: atmospheric sciences, earth and glaciological sciences, and biological sciences.

The atmospheric science buildings are situated in areas free from noise and electrical interference. They include a cosmic ray intensity variations laboratory (Cosray) which is operated by the Bartol Research Foundation and is situated on the road to Scott Base, and the geodetic satellite tracking facility (Sat Track) operated by the University of Texas. The Infrasonics Study Facility, located next to Cosray, observes and records geophysical events. Infrasonic waves associated with marine storms and auroral activity are picked up through the array of sensitive microphones located temporarily at Windless Bight. The library for atmospheric sciences is divided between these facilities. The Arrival Heights Facility was constructed to facilitate studies of the various atmospheric segments including the Magnetosphere and Inosphere.

Glaciologists, topographic engineers, geologists and soil scientists use the Thiel Earth Sciences Laboratory situated on a shoulder of Observation Hill. The lab contains office space, a small library and conference room, two diamond saws, petrographic and binocular microscopes, a rock crusher, a polishing wheel and other lab equipment. It is used primarily in the summer when field parties fly back and forth between McMurdo and the outlying field areas.

Biological sciences are centered in the Eklund Biological Center (EBC). Facilities include over 6,500 square feet of laboratory space, including a wet lab with aquarium facilities, office space, a dark room, a library, a work space and a packing area at the rear of the building. Mobile fish houses are provided for the collection of marine organisms and are used during the early Austral Summer on the sea ice of McMurdo Sound.

USARP SUPPORT FACILITIES

Support facilities include a garage, a field party processing center and a storage center.

The Garage provides servicing and preventive maintenance of motor toboggans used by field parties, pickup trucks which are used by scientists working in the local McMurdo area and light tracked vehicles which are intended for use on the inland traverses and on the sea ice. Salt from sea ice and the volcanic rocks of Hut Point Peninsula are particularly hard on tracked vehicles, so their use locally is restricted to early summer. The garage also has grinders, welding equipment, air compressors, generators, etc., all of which are available to scientists. Those requiring their use should contact the Garage Manager.

The Berg Field Center (BFC) issues food and equipment to field parties and is the location where your equipment is gathered prior to deployment to the field. It also houses a diving locker for the maintenance of scuba equipment.

A storage building (Building 73), located adjacent to the BFC, is used primarily by the ANS support staff; however, specific science items may be stored in it. Arrange with the BFC Manager for use of this space. In addition, the storage building is the focal point of all cargo operations, including retrograde.

LODGING

Lodging facilities in McMurdo are limited in quantity and quality. Science personnel who live and work permanently in McMurdo are housed in Building 166, the "Hotel", or Building 188, the "Mammoth Mountain Inn". Those who are staying in McMurdo only for a short time or are moving frequently between the field and McMurdo may also be housed in Buildings 166 and 188. Senior administrative personnel and certain program guests are housed in Building 137. Buildings 19, 23, 106, 107, 110, 111, 125 and 204 are used to house the majority of the contractor support staff.

Particularly during the periods from late October through early November and from late January through early February berthing areas will be crowded to capacity. Your patience is needed. Please have consideration for your neighbors. Remember that some programs operate 24 hours a day and people will be sleeping during the day in various quarters. Quiet is to be maintained in berthing areas at all times.

During the winter, all personnel live in Building 155, the Central Facility at McMurdo Station.

EMERGENCIES

FIRE: The danger of fire is always present, and is always great. Be careful about smoking. Don't smoke in bed! Check the ashtrays and waste baskets before leaving common-use areas for the night. Most buildings are equipped with automatic fire alarm systems, but in the event of FIRE call 333, wait outside for the fire-fighting party to arrive, and direct them to the blaze. Call even if the alarm is sounding.

MEDICAL EMERGENCY: If someone is injured and requires immediate transportation to the Dispensary, call the ambulance at Extension 222. Please wait for the ambulance and direct it to the location of the injured person.

FACILITIES PROBLEMS: If you discover the heat off in a building, a water faucet that will not turn off, a leak in a water or sewer line, or any maintenance problem which will result in damage to a building or which would cause a safety hazard, call the ANS Trouble Desk.

FOOD AND DRINK

The Galley, opened in January 1969 and operated by the U.S. Navy, is situated in the NSFA Personnel Building (Building 155). USARP's may eat in either the Enlisted or Officer section of the Galley.

The Navy operates four clubs at McMurdo Station where liquor, beer and soft drinks may be purchased for consumption in the clubs. Civilian personnel may patronize any of the clubs.

There is also a package store located in Building 155 where liquor and wine may be purchased by the bottle. Liquor ration cards are required in order to purchase liquor or wine, these cards must be obtained before the time of initial purchase. See the Administrative Coordinator for information and for authorization for additional field party rations. The ration card is valid for an entire season and is required for all subsequent purchases.

Beer and soft drinks are sold by the case in Building 121. Operating hours will be announced in the Plan of the Day. Ration cards will also be needed for these purchases.

GENERAL SERVICES

The U.S. Naval Support Force, Antarctica (NSFA) provides basic logistics support to enable USARP to perform its specialized activities.

You will be arriving at McMurdo during the busy Austral Summer. The daily action is outlined in the PLAN OF THE DAY published by NSFA and in the FLIGHT SCHEDULE of the Antarctic Development Squadron Six (VXE-6). These are posted daily in the Eklund Biological Center, Thiel Earth Sciences Laboratory, the Berg Field Center, living quarters and the Chalet. The Plan of the Day provides information about special events, opening and closing of temporary roads on the sea ice, water supply changes, health and safety, movie schedules and other activities. Make a habit of reading these schedules daily.

1. SHIP'S STORE: Items sold include clothing, toiletries, stationery, radios, watches, tobacco, confectionery, cameras and film. Note, though, that at winter's end stocks are depleted and often items such as film may not be available.
2. POST OFFICE: It takes the Navy Post Office three to four hours to sort the mail from incoming flights. After it has been sorted, the Chalet will be notified and ANS Personnel will receive and sort mail for the USARP population. Mail will be sorted and placed into alphabetized boxes in the Mail Room located on the second floor of the USARP Hotel. The mail flag on the USARP Hotel is flown once the mail has been sorted.

Please pick up only mail which is addressed to you. If you see mail for someone not currently in McMurdo, please leave it in the Mail Room. The Chalet staff will return to sort through and forward mail to persons at field camps, inland stations, or those who have left Antarctica.

3. MEDICAL DISPENSARY AND HOSPITAL: Dispensary/medical care is available year-round in Building 142. Sick call hours are posted; emergencies will be admitted anytime. A dentist is available during the summer for dental emergencies.
4. BARBER SERVICE: This service is free and performed on an appointment basis to avoid wasting time. For an appointment in Building 155, just sign the schedule posted on the Barber Shop door. Tipping is not allowed.
5. CHURCH: The Chaplain is always available for consultations. Various denominational services are held according to schedules published in the Plan of the Day.
6. LAUNDRY SERVICE: Washing machines and dryers are available in Buildings 23, 107, 110, 111, 125, 137, 166 and 188. However, in times of water shortage (see Water) they will be placed out of service. Information about USARP day at the U.S. Navy Laundry (Building 155) will be posted

on your quarters' bulletin board. Laundry should be prepared for pick-up by 0800 on laundry day and will be returned to your building the afternoon of the same day. Each building's laundry is done communally; therefore small bags for socks and underwear should be used, and are available at the Ship's Store. Wool and other shrinkable materials or those with dyes that run should be hand-washed. Procedures for the weekly exchange of bed linen will be posted on appropriate bulletin boards. Complete procedures will be posted in each building.

7. RECREATION: The Recreation Hall (Building 63) has a recording center (for transferring music onto tapes), ping-pong and billiard tables and weight lifting apparatus. The bowling alley is open only during the winter. The Navy library in Building 155 contains a collection of polar books, some technical books and a great number of pocket books. The Chaplain has the key to the polar books cabinet. The Special Services Office in the upstairs part of the Recreation Hall contains a variety of musical instruments and music tapes for copying. These can be withdrawn on short-term loan. VCR's are located in most lounges and prerecorded movies are available. A small gymnasium is located in Building 75. During the Austral Summer, science lectures will be held on most Sunday evenings in the Chalet.

WATER

Seawater is distilled at the rate of about 30,000 gallons per day. This is barely enough to handle peak summer requirements even if water conservation is practiced. Problems have always existed in trying to pipe fresh water to McMurdo in freezing temperatures. On several occasions the heat tape systems have failed and the water pipes have ruptured from freezing. When the pipeline system is inoperative, water is hauled to various parts of the station by tank truck. This means that water cannot be provided to refill all tanks daily and shortages result. Therefore, strict discipline in using water is essential, especially during the summer. As stated previously, during water shortages washing machines will be placed out of service. During the times of normal operation, wash your clothing only once a week. Also, during times of normal operation, showers may be taken no more than twice a week and consist of a short wetting, followed by soaping and scrubbing without water, and then a quick rinse. The water faucets must never be left running while washing hands and brushing teeth. You will be expected to practice water conservation continually.

AIRCRAFT OPERATIONS

Hercules (LC-130) and Starlifter (C-141) aircraft are both used in airlift operations. They fly between Christchurch and McMurdo carrying passengers and cargo. The Hercules aircraft, which are ski-equipped, can land on the Ice Runway or on a prepared skiway in the open field. They use both runways for flights to Siple, South Pole, field camps and occasionally to other stations. Regular station resupply flights carrying fuel, cargo and passengers are flown daily or more frequently on a turn-around basis. The aircraft remain at the inland stations for the minimum time necessary to unload fuel (usually 20 minutes) and cargo (variable). The C-141 is a wheeled aircraft and lands only on the annual sea ice runway during October, November and December.

The flight plan is published daily by VXE-6, "the world's most experienced Antarctic airlines", and is posted in the late afternoon in USARP buildings. It includes helicopter and LC-130 flight schedules to and from McMurdo on the following day. Information on all flights should be verified with the Chalet office, as flights may change for a variety of reasons. If you are involved with the helicopter operations, you will receive a booklet entitled "Helicopter Operations and Safety Guide", which contains information of special importance to these operations. The Administrative Coordinator will issue these booklets.

All flights for USARP personnel and cargo are coordinated through the ANS Resident Manager or the NSF Representative. If you need air support, make your needs known to the Administrative Coordinator, who will place your request on the agenda for the next Air Operations meeting. The ANS Resident Manager or the NSF Representative will use this agenda for coordinating air support with VXE-6. Please do not attempt to arrange air support directly with VXE-6.

Because of the nature of Antarctic operations, flights are subject to various delays, such as weather. Since weather conditions are so critical, decisions to fly are often given on a very short notice and flight times may be advanced or delayed several hours. The best way to know what is happening to your flight is to stay in touch with the Chalet. Passengers for LC-130 and C-141 flights should be at the Williams Field "Strip Cargo" terminal for preflight processing at least one hour before scheduled departure time.

When you first arrive in McMurdo, the Administrative Coordinator will ask for the dates that you wish to redeploy to Christchurch New Zealand and to the United States. Please keep him/her informed of any changes, so that you may be scheduled to depart when you desire. The Chalet will also require details on your

ticketing and your entire itinerary within 10 to 14 days prior to your departure. Please provide accurate information and minimize alterations to your itinerary. Flights from New Zealand to the United States become more crowded each year; it has become increasingly difficult to change itineraries, particularly during the December holiday season.

Use of USARP vehicles is authorized only for transportation related to your work. When reporting for flights or on arriving in McMurdo, please use the transportation provided for your flight; alternate transportation must be approved. Because vehicles damage and weaken the Ice Roads, you are requested to use the Ice Roads for official work only, and especially, you are requested not to go out to the airfields to meet flights, as increased traffic also makes landing operations more hazardous.

SPACE AVAILABLE AIR TRAVEL

Occasionally, fuel deliveries to the South Pole do not utilize the total aircraft capability, and space available passenger travel is authorized on an equitable basis to military and civilian personnel residing in McMurdo. Civilian personnel who wish to visit the South Pole on a turn-around flight should sign up on the Space Available Roster maintained by the ANS Secretary in the Chalet. The list operates on a first-come, first-served basis with some consideration given to returning individuals who have not previously been to the Pole.

CARGO

The ANS Cargo Supervisor is the person responsible for handling all USARP cargo. He is the principal contact with the Military cargo system. If you have questions about the arrival or shipment of your cargo, please contact him. His office is located outside of the Berg Field Center. It is your responsibility to package your own retrograde cargo in McMurdo. The USARP Cargo staff can assist you.

The ANS Cargo Supervisor must know all of your cargo requirements at least one day before your flight. He will need to know the weight, cube and destination. In the case of large or bulky items, he can assist you in calculating the weight and cube. These three items are necessary for preparation of the Transportation Control and Movement Document (TCMD) which must be used to maintain control over the tons of cargo shipped in Antarctica. Undocumented cargo entrusted to a friend, crewman, or an anonymous person is the cargo that most frequently goes astray and cannot be traced. On occasion, fuel resupply flights are diverted from their planned destination because of poor weather conditions and are sent to refuel other stations.

All cargo on board would naturally go with it. If your cargo is undocumented, it may be lost.

VEHICLE USE

Scientific project members requiring vehicle use should contact the Administrative Coordinator in the Chalet. Since there are heavy demands, especially at certain times of the day, vehicle use will be limited to a checkout basis. You must have a valid state driver's license in order to operate vehicles in McMurdo.

Trips to Scott Base, sightseeing excursions, social visits, etc., are to be undertaken on foot. All civilian personnel who wish to leave the confines of downtown McMurdo on foot must log their departure and return at the Master at Arms office in Building 155. During the Austral Summer regular bus service is available between McMurdo, the Ice Runway and Williams Field.

Vehicle use may be great during the early morning and mid-afternoon hours, and when flights from Christchurch arrive. Availability may be restricted during such periods.

The ANS Garage Manager will brief you on how to use the vehicles. Make it a practice to check the fuel, tires, anti-freeze and the engine oil, especially before a long trip. These items are available at the Garage. Gasoline is available near the Public Works Building. Always fill the fuel tank after vehicle use. In this climate, condensation forms inside a partly empty tank and can enter into and freeze the fuel line. Be sure to warm the engine before use. If your program is unusual and requires vehicle operation in severe weather or if you are spending prolonged periods on the ice shelf with a vehicle, be sure to see the ANS Garage Manager for special instructions.

Please report any defects, however slight, to the Chalet when returning the vehicle. Maintenance at an early stage keeps the vehicles from undergoing costly, time-consuming and major repairs.

A Speed Limit of 15 MPH prevails in the narrow streets of McMurdo, and a limit of 20 MPH prevails on the McMurdo-Williams Field Expressway. As in any driving, road conditions vary; gear down when needed. In the vicinity of the Helo Pad, all operators must be familiar with instructions on safe distances between vehicles and helicopters. Authorization to enter the Helo Pad in a vehicle must be given by Helicopter maintenance personnel.

Weather conditions may cause restriction of travel between McMurdo, Williams Field, Scott Base and the Ice Runway. Please

adhere to current radio check-in and check-out procedures and obey MAC Center's instructions during foul weather conditions.

SHIPS

Two icebreakers, a T-5 mission class tanker and a cargo ship will arrive at McMurdo this season. They are expected in January and February. For field parties using ships for transportation, equipment must be taken to the ship at least a day before sailing. All passengers using ship transport should be prepared to board ship anytime up to 24 hours before scheduled sailing time, since rapidly changing weather and the ice conditions influence the ships' schedules. The Chalet will have current information on ship operations. Please remain where the Chalet staff can find you if you are scheduled to embark on a ship.

SOME HELPFUL SERVICES

1. **TERMINAL OPERATIONS:** This office handles all Antarctic cargo. Your contact with Terminal Operations, as stated previously, is through the ANS Cargo Supervisor.
2. **SUPPLY OFFICE:** The Navy Supply Officer supplies fuel and common-use items used by the various organizations at McMurdo. Your contact for obtaining these items is the BFC Manager or the ANS Cargo Supervisor.
3. **MAINTENANCE:** The performance of maintenance and related services is divided between the ANS Operations and Maintenance Staff and by NSFA's Public Works Department. Your point of contact with these systems is either the Chalet or the USARP Trouble Desk. Repair and maintenance functions include heating systems, light and power, transportation, plumbing, carpentry and telephone maintenance. Please do not attempt to arrange for construction projects or installation of equipment without the prior approval of the NSF Representative.
4. **COMMUNICATIONS:** Communications for all Antarctic stations and contact with Christchurch are maintained by the Navy on a 24-hour basis. Field party radio frequencies are also under continuous surveillance. If after 24 hours no contact is made with a field party, Search and Rescue (SAR) procedures may be initiated and an aircraft sent out to locate the party. If you are in the field, please make the daily radio check-in required by NSFA Communications.

All requests for radio communications with Christchurch, New Zealand, inland stations, field parties and ships or planes must be cleared by the NSF Representative.

An amateur radio facility (Ham Shack) is also operated by the U.S. Navy for the use of all. When atmospheric conditions permit, the Ham Shack can offer the opportunity to make a "phone patch" to talk to family and friends at home in the United States. Procedures for use of this service will be posted on appropriate bulletin boards. See the Administrative Coordinator if you have any questions.

If you wish to send an official radio-teletype message to your academic institution or to others involved in your research program, you are asked to deliver a reasonably legible text of your message to the Administrative Coordinator. He will have it typed and approved before delivery to the Naval Communications Center. All USARP message traffic from Antarctica must be approved by the NSF Representative, or in his absence, by the ANS Resident Manager. Incoming messages will be received by the Administrative Coordinator and distributed to you.

Satellite communication from McMurdo is also available utilizing the INMARSAT system. Collect personal phone calls may be made on the system, but placing calls will be limited to one hour a day. Emergency calls may be made any time the satellite is accessible. For more information, see the Administrative Coordinator at the Chalet.

FUELS

Conservation of fuels is of primary importance. Scarcity of this product and increased costs have a major impact on the operational program. Your continuing compliance with published Antarctic energy conservation measures will be appreciated. Keep room and building temperatures at a comfortable level (65 degrees or lower) and turn off all unnecessary lights.

COMMUNITY PARTICIPATION

McMurdo Station is inhabited by persons whose backgrounds are diverse but whose common mission in Antarctica is the continuation and advancement of scientific research. As in any community a distinct social structure develops as a result of individual interests, goals and associations. In order for the entire community to appreciate fully and understand the purpose of its mission in Antarctica, an exchange of ideas and explanation of individual projects is highly encouraged. One means provided for this exchange is through informal talks and presentations by program participants. To engender a better understanding of the U.S. Antarctica Research Program objectives, all station members are invited to attend these events. Presentations may be scheduled with the NSF Representative. Audiovisual equipment is available for presenting illustrated talks. You are encouraged to bring slides and other educational materials to Antarctica for such events.

LISTING OF SPECIFIC AREAS OF SUPPORT AND
OF THOSE RESPONSIBLE FOR PROVIDING ASSISTANCE

<u>FOR:</u>	<u>SEE:</u>
Aircraft	Administrative Coordinator NSF Representative
Field Party Alcoholic Beverage Use	Administrative Coordinator NSF Representative
Building Maintenance	Administrative Coordinator
Emergency	ANS Trouble Desk
Cargo (Receiving and Retrograde)	ANS Cargo Supervisor
Communications	
Radio Teletype Messages	
Preparation	Administrative Coordinator
Approval	ANS Resident Manager NSF Representative
Single-Sideband	Administrative Coordinator NSF Representative
Construction	ANS Resident Manager ANS Civil Engineering Manager
Diving Locker	EBC Manager
Mechanical Equipment Usage	Administrative Coordinator
Field Party Support	BFC Manager
Navy Supply	BFC Manager ANS Cargo Supervisor
Passenger Manifesting	Administrative Coordinator
Radioactive Materials (Registering and Handling Procedures)	EBC Manager
Storage (Limited)	BFC Manager ANS Cargo Supervisor

FOR:

SEE:

Vehicles

Maintenance

Usage (Science Support)

Garage Manager

Administrative Coordinator

For any area not covered, the Administrative Coordinator will provide help to contact the appropriate support unit.