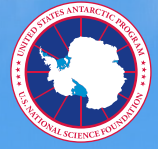
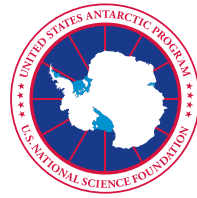


U.S. ANTARCTIC PROGRAM PARTICIPANT GUIDE



2024-2025



U.S. Antarctic Program Participant Guide

2024-2025 Edition

U.S. National Science Foundation

2415 Eisenhower Avenue, Suite W7100

Alexandria, VA 22314





**U.S. National Science Foundation
United States Antarctic Program**

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Welcome to the U.S. Antarctic Program

The U.S. Antarctic Program (USAP) Participant Guide provides practical information about this U.S. National Science Foundation-managed program and can help you prepare for living and working in Antarctica. You are strongly encouraged to read it in full, well before you deploy. The Guide should be used as a reference, since it contains answers to many questions that may arise during deployment.

Ensuring the safety and health of all its participants is a priority for the U.S. Antarctic Program. Harsh Antarctic conditions present numerous challenges to safety—even routine tasks can be potentially hazardous. We ask all participants to contribute to systematic risk assessment, hazard elimination or control, safe work practices, and the appropriate use of personal protective equipment to reduce the risk of injury and illness. It is imperative to stay safe!

As a USAP participant, you are also responsible for full compliance with measures to protect the Antarctic environment. Failure to meet these obligations may result in penalties under U.S. law. Please pay close attention during your training on how to facilitate the protection of Antarctica.

All USAP participants are subject to the Polar Code of Conduct and must adhere to its standards for professional and safe conduct. We strive to create a supportive culture and positive climate for all members of the program. Any form of harassment, bullying and the creation of a hostile work environment are not tolerated.

On behalf of the USAP leadership team, I wish you a productive and safe deployment.

Jean Cottam Allen, Acting Director
Office of Polar Programs
U.S. National Science Foundation

Guide Overview

This Participant Guide is the initial source of information for U.S. Antarctic Program (USAP) participants. It covers USAP's three permanent research stations, Antarctic field camps and research vessel. The information that follows will help you prepare for your Antarctic experience. Be sure to work closely with your point of contact (POC) for more detailed information and the requirements related to your objectives. The [USAP website](#) contains up-to-date information that augments this Participant Guide.

All USAP participants, including grantees, contractors, visitors and the military, should use this handbook for general reference only. Authoritative guidance is provided in grant instruments, employment contracts or other legally binding documents.

Some Antarctic Basics

Antarctica

This continent is the highest, driest, coldest, windiest and emptiest place on earth. An ice sheet covers more than 99% of Antarctica, which is 4,776 meters (nearly three miles) deep at its thickest. This ice holds approximately 90% of all the world's ice (by volume) and 70% of all the world's fresh water. While there is abundant sea life, including seals, whales and penguins, along the coast, there is little life in the interior, and there are no indigenous people on the continent.

Temperatures

Temperatures at NSF McMurdo Station may reach as high as 8°C (46°F) in summer, while at NSF Amundsen-Scott South Pole Station, the record high summer temperature of -12.3°C (9.9°F) was recorded in December 2011. The mean annual temperature at NSF South Pole Station is -49°C (-56°F). NSF Palmer Station's summer temperatures will exceed 4°C (40°F).

Daylight and Darkness

The area south of 66.5 degrees south latitude experiences one long day and one long night each year, with several weeks of sunrise and sunset in between. There are spectacular displays of aurora australis (southern lights) during the winter darkness.

Ownership

No nation owns Antarctica. The Antarctic Treaty, recognized by 56 countries, reserves the area south of 60 degrees south latitude as a zone for the peaceful conduct of research. Treaty nations coordinate and cooperate to maximize research results and minimize logistics requirements.

Size and Distance

The continent is roughly 14 million sq. km. (5.4 million sq. mi.). For comparison, the U.S. is 9.36 million sq. km. (3.6 million sq. mi.). The sea ice around Antarctica varies from 4 million sq. km. (1 million sq. mi.) in summer to 20 million sq. km. (7.7 million sq. mi.) in winter. The distance from Washington, D.C., to NSF McMurdo Station is approximately 14,830 km. (9,220 mi.).

Science

Antarctica provides excellent conditions for scientific research on global climate change, ozone depletion, UV radiation, earth sciences, glaciology, astronomy, oceanic and atmospheric circulation, marine ecosystems, meteorite studies and biology, among others.

History

The existence of the continent of Antarctica was only a hypothesis until it was first sighted in 1820-21. Sealers set foot briefly on the Antarctic Peninsula in 1821, but no one set foot on East Antarctica until 1895. The South Pole was first reached in 1911 and a year-round research station was established by the U.S. in Antarctica in 1956. Antarctica's history is full of extraordinary stories of exploration and survival.

USAP Statistics

- Approximately 3,000 participants work at U.S. Antarctic stations and field camps each year.
- Approximately 90% of the participants travel through New Zealand.
- Participants originate from all over the U.S., with Colorado having the highest representation.
- Approximately 75% of participants work during the austral summer and 25% during the winter.
- Approximately 33% of participants are female and 10% are minorities.
- More than 700 scientists conduct research on more than 200 different science projects each year in Antarctica.

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U.S. Navy pilot LCDR Gus Shinn starts up the Que Sera Sera before taking off for the South Pole from the Naval Air Facility McMurdo on 31 October 1956. This aircraft was the first to land at the South Pole. The Naval Air Facility was re-named McMurdo Station in 1961. Photo by U.S. Navy.

Chapter 1

The United States in Antarctica

The U.S. role in Antarctica derives from American expeditions to the region and diplomatic initiatives that have taken place since the earliest expeditions by American whalers. This history led to a continuous U.S. presence in the region since the 1950s and to a consistent U.S. policy toward Antarctica that has been reaffirmed repeatedly over the decades. Current federal policy is geared toward continuing a strong U.S. capability to support Antarctic scientific research into the foreseeable future.

Background

Antarctic Exploration

An international focus on Antarctica's scientific and geographical exploration began at the end of the 19th century and ended after World War I. During this period, the Antarctic continent was the focus of numerous international scientific and geographic expeditions. As a result, much of the continent's coastline was mapped, and significant areas of its interior were explored. These expeditions also generated large amounts of scientific data and sample collections that would be analyzed for many years after. Additional information on this fascinating history can be found in a variety of books and other publications, including the U.S. National Science Foundation (NSF) booklet "[Science on the Ice: The United States Antarctic Program.](#)"

American interest in the Antarctic continent blossomed in 1928 with Admiral Richard Byrd's first expedition to the continent and the establishment of the first Little America base. Further interest picked up in earnest after World War II, when several well-resourced private and national expeditions were conducted. In 1956–57 the U.S. Navy, in conjunction with research teams, established bases in Antarctica in preparation for the International Geophysical Year (IGY) which occurred from 1957 to 1958. Since 1956, Americans have been continuously conducting research in the Antarctic to better understand the continent and its interactions with the rest of the planet. For 43 years (1955–98) the U.S. Navy, through the Naval Antarctic Support Unit, conducted Operation Deep-Freeze in support of U.S. activities in Antarctica.

The United States was a leader in IGY, which was crucial for establishing Antarctica as a continent for peace and science. During IGY, 12 nations established 60 Antarctic research stations. Today more than 80 research stations exist and exploration continues both on the continent and under the ice and ocean.

United States Antarctic Program (USAP)

The United States established the U.S. Antarctic Research Program in 1959, immediately after the IGY. The name was later changed to the U.S. Antarctic Program (USAP). Through USAP, NSF facilitates and manages U.S. research efforts in Antarctica. The Department of Defense supports USAP's scientific efforts through Operation Deep Freeze.

Research supported by the NSF Office of Polar Programs (OPP), and by other U.S. federal agencies, aims to expand fundamental knowledge of the Antarctic region, elicit the connection between Antarctica and the rest of the Earth, and leverage Antarctica as a unique research platform. U.S. research has greatly improved global understanding of Antarctica and Antarctica's role in global environmental change and the universe beyond planet Earth. Research and the extensive logistic reach of USAP have placed the United States in a position of scientific and diplomatic leadership in Antarctica.

Programs to integrate research and education are important and unique elements of USAP. NSF also supports a [Polar STEAM](#) program that facilitates works of art to increase public understanding of both Antarctica and Antarctic research.

The Antarctic Treaty and U.S. Antarctic Policy



The ceremonial pole at Amundsen-Scott South Pole Station is surrounded by the flags of the original 12 signatory nations to the Antarctic Treaty. Photo by Deven Stross.

The international coordination resulting from IGY led to the development of the Antarctic Treaty. In 1959, the United States was one of the 12 original signatory nations to the Antarctic Treaty. The U.S. is a consultative party participating in the consensus-based decision-making process about Antarctica, and the number of consultative parties has grown to 29 nations. The essential science conducted in Antarctica is possible because of the unique international governance structure of the Antarctic Treaty, created to protect Antarctica as a place of peace, international scientific cooperation and environmental preservation. Recognizing the importance of environmental preservation of Antarctica, the Treaty Parties agreed the Protocol on Environmental Protection to the Antarctic Treaty (Protocol), which establishes rules and procedures designed to protect the Antarctic environment. The Protocol was ratified and went into effect in 1998. Now with six decades of unity and productive activity, the treaty remains a unique example of global cooperation. Continued U.S. leadership in the treaty and the science that it underpins is crucial to navigate the interconnected future of Antarctica, Earth and its inhabitants.

More than 50 nations are now signatories of the Antarctic Treaty. In addition to diplomatic interchanges carried out under the Antarctic Treaty by the U.S. Department of State and its counterparts in other nations, leaders of the various national Antarctic programs directly coordinate and exchange logistical and operational plans via the Council of Managers of National Antarctic Programs (COMNAP).

The Antarctic Treaty establishes Antarctica as a continent for science and international cooperation. It also provides for the annual exchange of plans, personnel, scientific observations and results. The United States, a leader the treaty's establishment and its continued operation, cooperates extensively with other treaty nations in scientific research and operational support.

The Antarctic Treaty consultative parties established a secretariat in Buenos Aires, Argentina, to support Antarctic Treaty activities. The secretariat assists with preparation for annual meetings and is responsible for information related to the Treaty System and the Protocol. The [Treaty website](#) includes a database that describes operations and scientific activities for each nation in Antarctica and provides information about treaty-related activities.

U.S. Antarctic Policy is based on four core principles:

1. Non-recognition of territorial claims.
2. Retention of the right to participate in any future uses of the region.
3. Use of Antarctica for peaceful purposes only.
4. Free access for scientific investigation and other peaceful pursuits.

USAP Structure

U.S. National Science Foundation (NSF)

NSF has overall management responsibility for U.S. activities in Antarctica, which include:

- Preparing an annual budget and operational plans for consideration by the executive branch and for review and appropriation by Congress.
- Obtaining advice from the scientific community, as needed, to develop scientific goals for NSF-supported research in Antarctica.
- Evaluating and supporting proposals for research and education from U.S. universities, research institutions and other federal agencies.
- Detailed planning of logistics and transmitting logistics requirements, along with necessary funds, to elements of the Department of Defense and the United States Coast Guard.
- Managing facilities, including the planning, design, engineering, construction and maintenance of Antarctic infrastructure.
- Developing a government support contract and managing a contractor charged with operating Antarctic stations and research vessels and providing related services, including construction.
- Developing and implementing a comprehensive safety, environmental and health program for U.S. activities in Antarctica.
- Arranging cooperative scientific and logistics programs with other Antarctic Treaty nations.
- Designating a senior U.S. representative in Antarctica and ensuring on-site management of field programs in Antarctica.
- Serving as a clearinghouse and source of information regarding Antarctic records, files, documents and maps maintained within agencies and nongovernmental organizations.

NSF’s Office of Polar Programs (OPP) has day-to-day responsibility for these functions. More information about OPP can be found on the [OPP website](#). The OPP address is 2415 Eisenhower Avenue, Suite W7100, Alexandria, VA 22314. Phone: 703-292-8030 Fax: 703-292-9081.

Support Contractors

Leidos is currently the prime contractor supporting the USAP under the Antarctic Support Contract (ASC). Leidos manages a team that includes partner companies performing operations and science support functions.

Antarctic Support Contract (ASC)

Leidos	ASC program management and science planning
Six Mile	Recycling and waste management
Maersk	U.S. and international cargo; Punta Arenas, Chile operations
Gana-A’ Yoo (GSC)	Lodging, dining (food/beverage), recreation, retail and post office
GHG Corporation	IT and computer support
Amentum	Infrastructure, operations, transportation and logistics
PAE New Zealand	Christchurch, New Zealand operations
Parsons	Design, engineering and construction management
University of Texas Medical Branch (UTMB)	Medical qualification, clinic staff and telemedicine

The scope of work ASC is responsible for includes:

- Supporting funded science projects and operating research facilities.
- Purchasing, shipping, warehousing and issuing equipment and supplies.
- Designing, procuring and constructing facilities.
- Operating and maintaining Antarctic stations, research vessels and field camps.
- Arranging medical clearance and travel for participants.

- Managing transportation of passengers and cargo.
- Providing marine terminal operations.
- Ensuring compliance with safety, health and environmental requirements.

More information about ASC can be found on the [ASC website](#). The ASC address is 7400 S. Tucson Way, Centennial, CO, 80112-3938. Phone: 800-688-8606 Fax: 303-790-9130.

Other organizations are also contracted by NSF, ASC and the Department of Defense to perform specific tasks, such as providing helicopter and fixed-wing aircraft support.

U.S. Department of Defense

The U.S. Department of Defense (DoD) provides logistical support to USAP, with costs reimbursed by NSF, as directed by [Presidential Decision Memorandum 6646](#) and in accordance with the NSF-DoD Memorandum of Agreement. This support includes:

- Shipborne cargo transport between the U.S. West Coast and NSF McMurdo Station (Military Sealift Command).
- Shipborne fuel delivery to NSF McMurdo Station (Military Sealift Command).
- Airlift (C-17) between Christchurch, New Zealand and McMurdo Station (Air Mobility Command) LC-130 Hercules (ski-equipped) airlift between Antarctica and New Zealand and within Antarctica (109th Air Wing, Air National Guard).
- Stevedore services (Navy Cargo Handling and Port Group).
- Weather forecasting, air traffic control, ground-navigation-aid electronics maintenance, RF spectrum management and DoD messaging (NIWC, Office of Polar Programs).
- Information Security/Information Assurance management and government oversight support (NIWC Office of Polar Programs).
- Electronic systems engineering, including design, procurement and installation (NIWC Office of Polar Programs).

The Commander, Joint Task Force - Support Forces Antarctica (CJTf-SFA), is responsible for DoD forces deployed in support of Operation Deep Freeze. This person is normally stationed at Joint Base Pearl Harbor - Hickam, Hawaii.

The Deputy Commander JTF-SFA (DCJTF) executes the DoD mission and manages DoD assets on behalf of CJTF-SFA. This individual is present in either New Zealand, Antarctica or Hawaii. The commander of the 13th Air Expeditionary Group (13 AEG/CC) commands all DoD aviation operations and is normally present at McMurdo Station. At different times, the DCJTF will act as the 13 AEG/CC.

U.S. Department of Homeland Security

The U.S. Department of Homeland Security, through the United States Coast Guard, provides icebreaker services, reimbursed by NSF. These services include:

- Breaking a channel through the sea ice of McMurdo Sound and escorting supply ships into and out of McMurdo Station.
- Providing other assistance, as required.

U.S. Department of the Interior

The U.S. Department of the Interior's Office of Aviation Services (DOI/OAS) provides procurement assistance, contract administration and inspection for commercial aircraft providers contracted to USAP. The U.S. Geological Survey (USGS) holds geodetic data that supports mapping in Antarctica and administers Antarctic place-name decisions.

U.S. Department of State

The U.S. Department of State is responsible for formulating foreign policy and providing foreign policy direction regarding developing and implementing an integrated U.S. policy for Antarctica. This includes conducting foreign relations regarding Antarctica and adjudicating legal matters related to interpreting and implementing the Antarctic Treaty. The Department of State leads the U.S. delegation to the annual Antarctic Treaty Consultative Meeting, where the international community discusses a range of issues pertaining to Antarctica. The State Department is also responsible for informing other treaty parties of non-governmental expeditions to Antarctica that are organized in or proceed from the United States and determines, in consultation

with the Environmental Protection Agency and NSF, whether expedition organizers are subject to U.S. environmental regulations.

International Cooperation

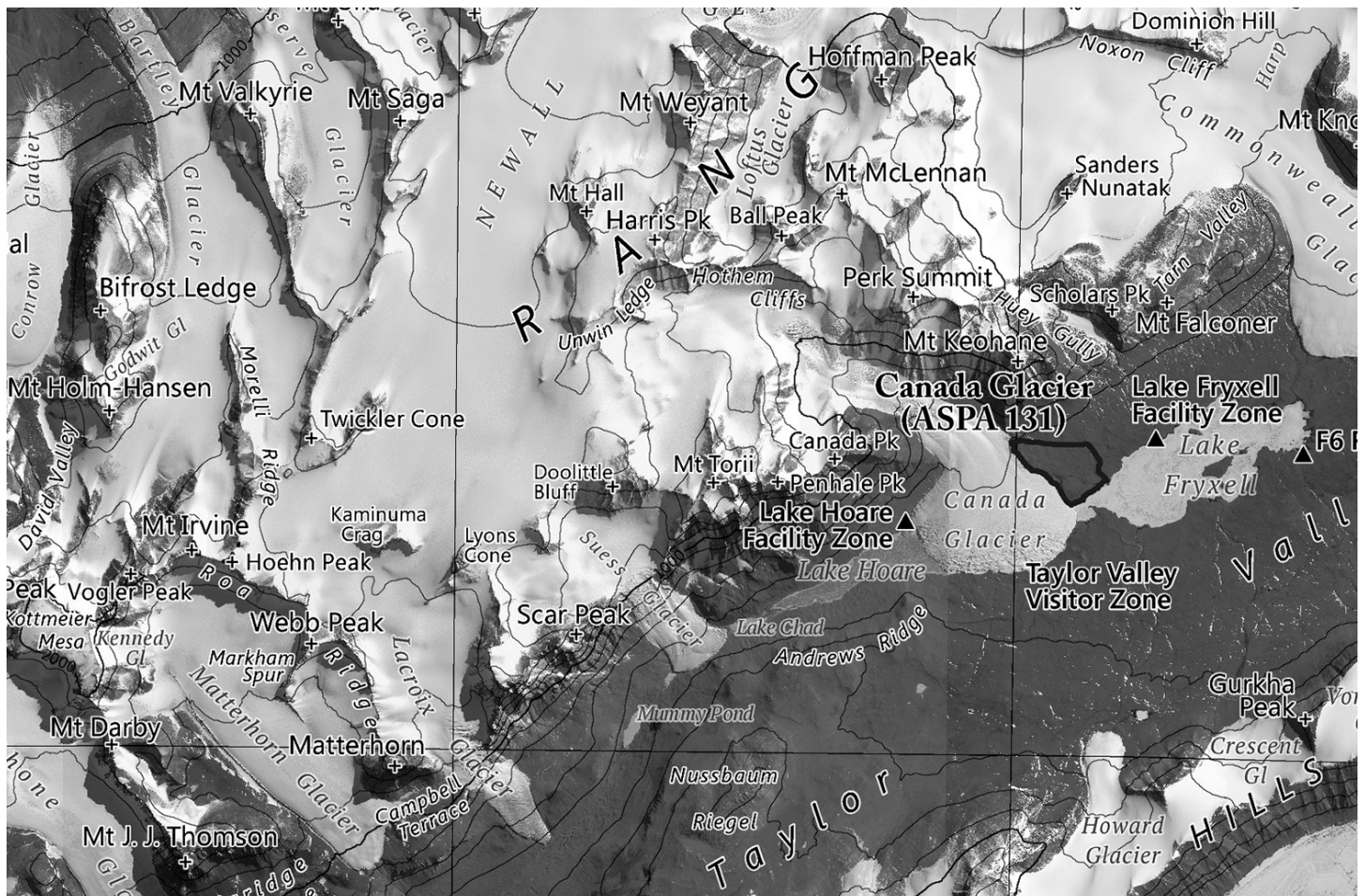
International cooperation between Antarctic Treaty nations in support of science is common. National Antarctic programs also cooperate with one another on logistics and operations when there are mutual benefits. Some past and current examples are exchanges of personnel among projects and stations, cooperative planning and execution of large-scale science projects, and the exchange or shared use of logistics assets, such as ships and airplanes.

The Scientific Committee on Antarctic Research (SCAR) is a part of the International Council of Scientific Unions. SCAR is a non-governmental body established to further the coordination of scientific activity in Antarctica, with a view to developing scientific programs of circumpolar scope and significance. SCAR organizes symposia, prepares annual reports to ensure the regular exchange of information about scientific programs, develops long-range scientific goals, and responds to special requests for scientific advice from the Antarctic Treaty organization. The Polar Research Board, National Academy of Sciences appoints the U.S. representatives to SCAR.

Science Proposal and Grants

OPP's mission is to promote and support excellence in scientific research and education in and about the polar regions, in accord with national policies. OPP's [Antarctic Sciences Section](#) receives proposals from scientists who wish to conduct research in or focused on Antarctica. Each proposal is peer-reviewed to provide detailed scientific advice to Antarctic science program directors, who determine which research proposals are most meritorious.

The [NSF website](#) provides additional information about NSF goals, strategic plans, budgets and activities. The "Awards" tab has a searchable database of grants, including abstracts and award amounts. The website contains information about the facilities and research areas in the Arctic and Antarctic that are supported by NSF.



The Polar Geospatial Center (PGC) provides mapping, high-resolution satellite imagery, and geospatial support to the USAP. This is a map of the McMurdo Dry Valleys. Map by www.pgc.umn.edu.

Antarctic Data Repositories

The following are critical Antarctic data repositories. Additional information on repositories and data resources are available on the [OPP website](#) and on the OPP data, code and sample policy, and encouragement for data and sample reuse Dear Colleague Letters.

- The USAP Data Center collects data sets and descriptions of data sets compiled from all USAP projects, as well as enters them into the international Antarctic Metadata Directory.
- The Antarctic Meteorological Research and Data Center (AMRDC) Repository provides archival, preservation, access and metadata authoring services for Antarctic meteorological data, managing data from submission to end-user retrieval. The repository hosts data collected by the Antarctic Meteorological Research Center and Automatic Weather Station projects, as well as campaign meteorological datasets deposited by other Antarctic investigators.
- The Ice Core Facility, Marine Geology Repository, and Polar Rock Repository curate and loan/provide physical samples from Antarctica for educational and research purposes.
- Other relevant disciplinary repositories include the Biological & Chemical Oceanography Data Management Office (BCO-DMO), IRIS for seismological data, and UNAVCO for geodetic data.
- The Antarctic Metadata Directory maintains the world's most complete catalog of Antarctic data globally.
- The Polar Geospatial Center develops and provides highly detailed Antarctic maps, aerial photographs and satellite images, and makes them available to scientists and the public.
- The Reference Elevation Model of Antarctica (REMA) is a high-resolution, time-stamped digital surface model of Antarctica at 8-meter spatial resolution.
- Topographic maps and aerial photographs of Antarctica are also available from the USGS.
- The USGS U.S. Antarctic Research Center also has a searchable database of Antarctic place names, maps and photographs.
- With funding from NSF, the USGS, NASA and the British Antarctic Survey have collaborated to provide the Landsat Image Mosaic of Antarctica (LIMA) and the MODIS Mosaic of Antarctica (MOA).
- The American Geological Institute maintains the world's most complete Antarctic bibliography.

USAP Stations and Ships

USAP has three permanent, year-round research stations and one research vessel. Additional temporary field stations are constructed and operated during the austral summer.

NSF McMurdo Station

McMurdo Station (77° 50.89' S, 166° 40.11' E) was established on December 18, 1955. It is situated on bare volcanic rock at the southern tip of Hut Point Peninsula on Ross Island (Fig. 2.2-2), the southernmost solid ground accessible by ship. The original station was constructed in 1955-1956. Since the IGY of 1957-58, McMurdo Station has staged logistics and science for USAP. It serves as the United States' largest base and central hub for research on the continent and onward to the NSF Amundsen-Scott South Pole Station.

The location of McMurdo Station is ideal because of its proximity to open water and stable sea ice. Nearby the station, situated on the McMurdo Ice Shelf, are the station's two airfields critical to its role as a hub for work further afield. Williams Field has two skiways and supports skied aircraft, and Phoenix Airfield has a compacted snow runway to support heavy-wheeled aircraft year-round. Also, the station is within a helicopter's ride from the McMurdo Dry Valleys and scientifically important locations on Ross Island, such as Mount Erebus, Cape Crozier and Cape Royds. When the nearby McMurdo Sound sea ice is frozen, many sites around Erebus Bay are accessible by snowmobile and other light vehicles.

With many additions and modernizations over the years, today's station is the primary logistics facility for airborne and overland resupply of inland stations and field science projects. McMurdo Station is also the waste management center for much of USAP.

Approximately 90% of USAP participants in Antarctica reside in or pass through McMurdo Station. The austral winter population ranges from 120 to 200, with the summer population varying between 800 and 1,000. The station has routine weekly flights to and from New Zealand during the austral summer (October - February), a period called "Mainbody," with less frequent

flights during the winter months (March – September).

Albert P. Crary Science and Engineering Center

The Albert P. Crary Science and Engineering Center (Crary Lab) serves as the primary laboratory and research facility at McMurdo Station. The Crary Lab supports scientists across a wide range of disciplines, including biology, geology, physics, chemistry and system sciences. The facility is named in honor of the geophysicist and glaciologist Albert Paddock Crary (1911-1987), the first American to reach both the North and South Poles.

The lab has more than 4,320 m² (46,500 ft²) of working space and provides researchers with general-use consumables, glassware, equipment, instrumentation, chemicals, cryogenics, cold storage units, laboratory materials and general laboratory personal protective equipment (PPE). Specialized gear and PPE must be brought to McMurdo Station by deploying science teams.

The south side of Phase I provides users with a library, shared-use computers, conference rooms, administrative and staff offices, shared equipment rooms, a cargo receiving area and equipment/material storage areas. The north side houses laboratories for biology and chemistry work; microscope rooms with light, petrographic and fluorescent scopes; office spaces; environmental and walk-in freezer rooms; and a staging area equipped with a carpentry workbench.

Phase II (both south and north sides) has laboratory space for physics, geology, glaciology and engineering work; staging areas; cold rooms for ice core work; and office spaces, including the Information Technology (IT) office.

Phase III contains aquarium tanks, a flow-through seawater system, and wet laboratories designed to support live animal work and pre-deployment testing of marine equipment and submersible robotics.

The lab staff is composed of facilities engineers, IT support personnel, materials and supply specialists, lab supervisors, a hazardous materials specialist, a research associate and an instrument technician. These personnel assist the hundreds of scientists who visit the station each year. They also allocate and distribute resources and ensure scientific operations comply with safety, environmental and health requirements. All scientists are expected to arrive at McMurdo Station trained in their respective disciplines or accompanied by a team member who can provide guidance.

Scientific posters and displays are found throughout the lab, and the McMurdo Station community is encouraged to visit the facility to learn more about USAP research. During the austral summer, the laboratory staff provides Sunday tours. In the summer, science lectures are presented by visiting researchers twice a week. Special events and tours are held throughout the season to encourage community and scientific interaction.

NSF Amundsen-Scott South Pole Station

NSF Amundsen-Scott South Pole Station (90° S, 0° E) and the area around it (Fig. 2.2-7) provide a support system for complex astrophysics telescopes, seismic instruments, a massive in-ice detector for elusive subatomic particles called neutrinos, an atmospheric observatory, and large-scale scientific experiments. The low temperatures (often reaching near -100° F in austral winter) and near-zero humidity of the polar air, combined with an altitude of more than 9,000 feet, cause the air to be far more transparent on some radio frequencies than is typical elsewhere, and the months of darkness permit sensitive equipment to run constantly.

More than a century ago, on Dec. 14, 1911, Norwegian explorer Roald Amundsen was the first person to reach the South Pole, the southernmost point on Earth. Robert Falcon Scott, Amundsen's British rival for that honor, and his expedition party arrived at the South Pole roughly a month later. Scott and his men died on the return trip. No one stood at the South Pole again until November 1956, when construction began on the original Amundsen-Scott South Pole Station. The station was built to carry out scientific observations during the IGY of 1957-1958. That original station, now referred to as the "Old Pole," was built by an 18-man U.S. Navy crew, the first group to winter-over at the South Pole.

After a multi-year design and construction campaign, the current elevated station was completed in 2008. South Pole Station provides housing, dining, recreation and medical services for approximately 150 scientific research and support personnel in the austral summer and approximately 50 scientific research and support personnel in the austral winter.

The favorable atmospheric conditions and the unique location of the South Pole Station on the high Antarctic plateau enable astronomers and astrophysicists to better study and understand outer space. The location of the South Pole Station also allows it to serve as a logistics hub, providing access to East Antarctica. Austral summer operations begin in November of each year. During that time an enormous effort begins to resupply the Station by air and land, bringing fuel (up to 450,000 gallons per season), personnel and all cargo needed to keep the station and science operating for a year until the next resupply is possible.

Most USAP personnel reach the South Pole from McMurdo Station via ski-equipped aircraft, whereas most cargo and fuel

are transported via surface traverse from McMurdo Station. The short austral summer, when most activity occurs, is from late October through mid-February. The station is isolated for the rest of the year.

Research at South Pole Station comprises astronomy, astrophysics, aeronomy, auroral and geospace studies, meteorology, geomagnetism, seismology, earth-tide measurements, and glaciology.

NSF Palmer Station

NSF Palmer Station ($64^{\circ} 46.45' S$, $64^{\circ} 3.2' W$) is a year-round research station located on Anvers Island off the west coast of the Antarctic Peninsula. Palmer Station is the only U.S. Antarctic station north of the Antarctic Circle. Palmer Station logistics and personnel movements are supported by USAP's largest icebreaking research vessel, *NSF Research Vessel Icebreaker (RVIB) Nathaniel B. Palmer*, and other ships from Punta Arenas, Chile. The vessels course follows the Strait of Magellan past Cape Horn, then directly south across the Drake Passage and on to Anvers Island. The entire journey usually takes four days, however, sea ice and storms can make the journey longer and rougher.

Palmer Station is named after Nathaniel Brown Palmer, who in 1820 became the first American to record sighting Antarctica. The original station, now a historic structure, was built in 1965 on Amsler Island. Today, two main buildings and several smaller structures comprise Palmer Station and provide year-round housing and research facilities for scientists and support personnel. In 2022 a new \$42 million concrete pylon pier was completed as the first step in modernizing the research station. It now allows for a range of vessels to dock at the Station.

The Palmer Station population is about 44 in the summer and 20 in winter. Palmer Station is generally accessible year-round by ice-class vessels. There are usually three main cruises to Palmer Station each year to support personnel turnover, station replenishment and waste removal.

Palmer Station's Mary Alice McWhinnie Laboratory is extensively equipped and includes seawater aquaria. The station is also an ideal location to conduct biological studies of birds, seals and marine ecosystems. The majority of the science research conducted at the station is biological, but there are also investigations of climate, meteorology, aeronomy and geospace science, marine geology and glaciology.

Research Vessels

The *NSF RVIB Nathaniel B. Palmer* is 94 meters (308 feet) long and can break three feet of ice at a continuous forward speed of three knots. The RVIB Nathaniel B. Palmer is a modern, multidisciplinary research vessel containing six laboratories with a combined space of 353.5 m² (3,800 ft²). It can accommodate 39 scientists and support personnel and operates throughout the Southern Ocean.

OPP is currently in the design stages for the next-generation [Antarctic Research Vessel \(ARV\)](#). While the project is dependent on approvals from the NSF Director, the National Science Board and appropriations from Congress, the ARV will ensure uninterrupted science operations in the Southern Ocean and the Antarctic for decades to come. The ARV project will produce a modern, world-class, icebreaking research vessel coupled with modern scientific tools and enhanced capabilities. The new research vessel will support NSF's mission, goals and objectives by increasing access to ice-protected, hard-to-reach study sites, allowing for longer mission durations, and delivering more scientists and equipment to the Antarctic region.

Facility Administration

NSF Representative in Antarctica

Each austral summer, the Director of OPP designates an OPP staff member as senior U.S. representative in Antarctica (NSFREP), with an office in Building 165 at McMurdo Station. The NSFREP ensures that U.S. policy and directives for USAP are implemented, represents the U.S. as it interacts with foreign nations in Antarctica, ensures that U.S.-sponsored Antarctic activities are carried out in a manner consistent with the Antarctic Treaty, and takes appropriate action in personnel matters not subject to military or other authorities. The NSFREP is NSF's principal representative for implementing planned field operations, and the position coordinates and establishes on-site priorities for USAP activities.

NSF Science Representative in Antarctica

The NSF Science Representative (SCIREP) is NSF's principal representative for Antarctic science activities. The SCIREP interacts with investigators and the NSFREP to set science-support priorities, gives on-site direction to the ASC laboratory services manager on science matters, and serves as the NSF science spokesperson. The position is occupied by different NSF program directors throughout the austral summer.

NSF Station Manager

The NSF Station Manager is a year-round position whose function is to oversee USAP operations and serve as a Special Deputy U.S. Marshal. The Station Manager interacts with all organizations represented at McMurdo Station and manages emergency situations. In the winter, the NSF Station Manager is the ranking U.S. government official in Antarctica.

Commander, Joint Task Force – Support Forces Antarctica (CJTF-SFA)

This individual is responsible for all DoD personnel and material assets that support USAP. The CJTF-SFA is located at Joint Base Pearl Harbor-Hickam, Hawaii.

13th Air Expeditionary Group Commander (13 AEG/CC)

The 13th AEG commander is the designated commander of all military forces deployed to the Joint Operations Area as part of JTF-SFA.

ASC Area Manager

ASC has an area manager at each of the three permanent research stations. These individuals, in conjunction with the senior ASC representative, oversee all contractor support activities. The area manager may be supplemented with a site manager during the austral summer, depending on the station and the scheduled workloads, and the winter site managers serve at the stations during the austral winter.

Station Science Leader

NSF designates a science leader for South Pole Station and Palmer Station. The station science leader is directly responsible to the Office of Polar Programs when no NSF representative is present. Researchers at each station or working out of the station are responsible to the station science leader, who coordinates science projects and arranges for science-support logistics. Researchers request support from the station science leader during the winter, who consults with the Station Manager or Site Manager to arrange it. The station science leader clears official messages concerning research projects before they are dispatched.

Marine Project Coordinators

The Marine Project Coordinators (MPCs) are provided by ASC on research vessels. MPCs coordinate and direct shipboard activities in conjunction with the ship's master. The MPC and the ship's master make all decisions regarding the safe conduct of the ship.



Adélie penguins at Cape Royds, Ross Island. Photo by Mike Lucibella.

Chapter 2

Before You Leave Home

You will travel through at least one foreign country en route to Antarctica and, once there, you will be living in a region with fewer conveniences than you may be used to. Planning is essential and will contribute significantly to your effectiveness and comfort. You will require a passport and you will have to pass physical and dental examinations. Please read the following information carefully. Your supervisor, science team leader or point of contact (POC) will answer any questions you may have.

Program Requirements

Background Investigation

NSF is responsible for completing federal background investigations for all contractors working as part of the U.S. Antarctic Program. It is vital that you respond to all inquiries from the NSF Personnel Security and Suitability office or ASC Personnel Security team immediately. A favorable determination is required for participants to be approved for deployment to Antarctica. Any delays in response or missing information will put your deployment at risk.

Medical and Dental Examinations

You must pass rigorous medical and dental examinations before going to Antarctica. Antarctica is an austere, remote environment with limited medical facilities. USAP stations are equipped and staffed to provide the routine ambulatory care expected in a U.S. urgent care clinic. There is limited capability to stabilize and manage various emergency medical and dental conditions before patients are transported off the continent for further care. However, medical evacuations are costly, labor intensive and place others at risk. The weather may make travel impossible for extended periods of time and evacuations from remote camps and ships present additional difficulties. Therefore, the [physical qualification \(PQ\) process](#) administered by ASC seeks to screen out people with conditions that cannot effectively be managed on the Ice or aboard ships.

The PQ process applies to all grantees, ASC and NSF employees, contractors, military personnel and guests of NSF. The U.S. will accept the PQ determinations of some other National Antarctic Programs. If you are not a U.S. citizen or permanent resident, contact your hiring manager or NSF Program Director to determine the process you will need to follow. If you are PQ'd under USAP, your PQ is also valid for deployment with the U.S. Arctic Sciences program.

Deployment clearance begins when ASC is notified that you are a candidate to deploy to Antarctica, through the Support Information Package (SIP) for grantees, hiring paperwork for contract employees or other documents. Upon authorization, the Center for Polar Medical Operations at the University of Texas Medical Branch (UTMB) in Galveston, Texas, sends each candidate an email containing information on how to access medical forms and instructions online.

Please note that the PQ process may change as new information on health risks or treatment options arise. Therefore, you should only obtain the tests required in your packet, even if different tests were required for a previous deployment. USAP will only reimburse you for the tests and exams indicated as necessary in your initial packet. Additional, add-on tests are not reimbursable. Do not allow your healthcare provider to add tests to this process. If they believe additional testing is necessary, they should submit a separate test form.

Please read all instructions. The information in the packet will answer most questions about scheduling exams and returning the completed information to UTMB. If you have further questions or need help with special circumstances, please contact your POC. UTMB contact information is also included in your deployment packet.

ASC Employees

If participants have insurance, they should submit expenses to their insurance first. ASC will reimburse participants for approved out-of-pocket expenses. Receipts must be submitted to the hiring teammate (e.g., Amentum, GSC). ASC employees are also required to use Labcorp for testing. If you live greater than 50 miles from the closest Labcorp facility, contact UTMB to have a Labcorp collection kit sent to you. You can take this kit to your local lab location to have your labs drawn.

Grantees

Grantees should also first submit expenses through their insurance and then may seek reimbursement for their physical and dental examinations from their NSF grant. Work with your principal investigator (PI) for procedures.

NOTE: Treatments to resolve medical or dental conditions to meet USAP screening criteria are not reimbursable.

You will mail or electronically submit the completed documentation to UTMB via Box, an approved online system. **DO NOT email documents to UTMB.** If your medical providers have questions concerning the deployment exam or required labs or tests, direct them to the “Dear Doctor” and “Dear Dentist” letters in the packet for detailed instructions. Doctors and dentists may contact UTMB directly.

Candidates are responsible for scheduling examinations early to ensure all information is provided to ASC **no more than eight weeks** after receiving the PQ packet. Start the process as early as possible in case additional testing is required for your clearance. ASC has deadlines for when PQ packets are due to allow for adequate processing time. Ensure that contacts at UTMB and ASC know how to reach you at all times (via phone and email) should additional information be required. **Make sure the information you submit is complete and submit it early to allow time to resolve any problems that might arise.**

All medical information, laboratory results, X-rays, dental exams, releases and personal information forms are the property of USAP and will not be returned to candidates. UTMB cannot provide copies of these records. Make copies of all the information or documentation you submit for your own files.

Waivers

Candidates who do not meet USAP criteria and are determined “Not Physically Qualified” (NPQ) may request a waiver, which triggers an NSF review of their condition. UTMB will provide information on how to apply for a waiver with the NPQ notification. Be aware that any additional testing or treatment needed for a waiver will not be reimbursable. Also, note that the waiver process can take up to eight weeks and your position may be offered to an alternate if you cannot make your deployment date while awaiting the results. Final waiver decisions are determined by NSF.

Immunizations

In addition to the immunization requirements to Physically Qualify, participants may need to meet additional requirements or recommendations due to personal travel after your deployment. Consult your physician or the Centers for Disease Control for current immunization recommendations for the areas where you plan to travel.

If vaccinations or medications (e.g., malaria chemoprophylaxis) are required before your travel, you must purchase them before leaving home and take them to the clinic upon your arrival at the station. Any vaccinations will be administered to you at the end of the season. No immunizations are required for return to the United States. Under international health regulations, other countries may require international certificates of vaccination against yellow fever and other infectious diseases.

Privacy Act Compliance

All medical information gathered from you by NSF or its contractor is maintained in accordance with the “Privacy Act of 1974” (Public Law 93-579). NSF’s authority to collect medical, dental and psychological information is derived from its authority to prescribe rules governing its operations, as set forth in section 1870(a) of Title 42 of the U.S. Code. If you do not provide the information requested, you may be disqualified from participating in USAP.

Deployment Documentation

Once you have been identified as a USAP participant (or alternate), you will receive an email with a Deployment Packet link. It will be sent a few weeks after you receive the PQ email. Please review this packet carefully. It includes information you need to know before you get to Antarctica and forms you will need to fill out and return to ASC Travel.

Travel Arrangements

ASC Travel begins work on your ticketing and itinerary early in the qualifying process. You may be consulted in advance to establish your deployment date, but your itinerary and tickets will not be released to you until you have:

1. Completed the physical qualification process and been medically approved for deployment.
2. Completed and signed all deployment paperwork and returned it to the ASC Travel office.
3. Completed the Elevated Background Investigation (EBI) process and received approval to deploy, if applicable.
4. Provided proof that any necessary visas have been obtained, if applicable.

You will travel through New Zealand, Chile or other countries en route to Antarctica using airline tickets provided by USAP. The “International Air Transportation Fair Competitive Practices Act of 1974” requires the use of U.S. carriers for USAP-supported travel. ASC Travel reserves, purchases and issues your tickets for direct air travel from your home airport to New Zealand or Chile. This information is taken directly from the travel paperwork you submit. Any deviation from the direct route must be authorized in advance by an NSF program manager or ASC management. To get the best fare, airline tickets are purchased at least three weeks in advance.

For grantees, every effort is made to obtain flight dates as requested, but this is not always possible. When ticket information is sent to you, make sure to check the date and time of travel as it may not be what you requested. Also, make sure the name on your tickets corresponds to the one in your passport, i.e., no nicknames. If your tickets have discrepancies, contact ASC Travel immediately.

If traveling to New Zealand, remember that during the southbound trans-Pacific flight you cross the International Date Line, losing a day. For example, if you leave the United States on a Tuesday, you will arrive in New Zealand on Thursday. On your return, you will leave New Zealand and arrive in the continental U.S. on the same day.

Your Airport of Departure (AOD) is the location you designate as your residence on your deployment paperwork or Support Information Package (SIP), and it is the city to which you will be returned. You cannot change your AOD once your tickets have been issued. The only exception would be proof of a change of residence that occurred during your deployment and approved before redeployment by ASC management.

Travel Expenses

Grantees

Your PI or team leader can tell you what expenses are covered by your grant and any special training or meetings that may be required.

ASC employees

Before deployment, contact your company’s Human Resources or Finance department with questions regarding expense reimbursement. Take any previously unreimbursed expense receipts with you to Antarctica, as you will be able to complete expense reimbursement there. Your employer will advise you if anything additional is required.

Federal employees or contractors supporting other federal agencies: Discuss your travel plans with your agency travel office.

Meals and Lodging in Antarctica

Meals and lodging are provided at no charge to participants at all USAP stations, aboard the NSF Research Vessel Icebreaker

Nathaniel B. Palmer, commercial vessels to NSF Palmer Station and in field camps. If you are traveling with foreign expeditions or private operators you may have to pay meal charges aboard their ships.

Food service at all locations is cafeteria style. There is no portion limit, but to minimize cost and waste take only what you will eat and eat all of what you take. A variety of food is offered every day. People with severe dietary restrictions or significant food allergies need to be prepared for limited choices. Gluten-free, vegetarian and vegan menu items are often available but not guaranteed.

Passports, Visas and Permits

Passports

You must have a valid passport before leaving the United States. Obtaining a passport is your responsibility and it typically takes at least six weeks. Go to the [U.S. Department of State Travel website](#) for information on how to apply for a passport. If you are a federal employee, your agency must obtain an official passport by contacting the Department of State. **Official passport holders require visas in some countries that may not require visas of regular passport-bearers.**

If you already have a passport, ensure that it will not expire during your overseas stay. **Some airlines require that your passport remain valid for at least six months beyond your intended stay.** You may visit the [Department of State website](#) to obtain passport validity requirements for specific countries.

It is a good idea to keep a photocopy and digital photo of your passport (including pages containing visas) in a separate place in case your passport is lost. Assistance with replacing passports lost in New Zealand or Antarctica can be done via the Christchurch Travel Office. ASC's South American agent, Maersk, provides similar assistance for Peninsula-based participants.

Visas and Permits

Foreign participants (non-U.S. citizens) should become familiar with the visa requirements of the country(s) they will be visiting. Visa requirements can typically be obtained by visiting the respective country's official Embassy website. Any necessary visas should be obtained before traveling out of your home country as not doing so could complicate or delay your travel. USAP does not pay for visas required for entry. This is not to be confused with the NZeTA required to enter New Zealand for which USAP does pay for when on official travel. If your New Zealand or Chilean visa application requires a letter confirming your participation in USAP, contact ASC Travel and the required documentation will be provided. For a list of countries that do not require a visa to enter New Zealand, visit the [New Zealand Immigration website](#). For a list of countries that do not require a visa to enter Chile, visit the [U.S. Embassy in Chile website](#).

New Zealand

ASC will provide all ASC-ticketed participants with an official letter requesting a 12-month visitor's permit issued upon arrival. To receive a 12-month visitor's permit you must speak with an immigration officer. Do not use the e-gates. If you are traveling to New Zealand on a red government passport (i.e., one issued for Federal employees traveling on behalf of the U.S. government), a visa is not required to travel through New Zealand. Please note you are responsible for ensuring you receive a 12-month visa when you arrive in New Zealand.

Additionally, American citizens must have an approved New Zealand Electronic Travel Authority (NZeTA) before departure. Since October 2019, an NZeTA from the United States has been mandatory for all American tourists heading to the country for short stays. **For most participants, the Christchurch office will apply for an NZeTA on the participant's behalf.** Select agencies or travelers that do not fill out or return a deployment packet to the ASC Travel office and that arrange their own transportation to New Zealand will need to apply for their own NZeTA via the [website](#) or app.

Be aware that New Zealand Immigration records the total time spent in both New Zealand and Antarctica as time spent in New Zealand. See [Chapter 5: Traveling Through New Zealand](#) for more information.

Chile

If you will be traveling with a standard U.S. passport, you do not need a visa to enter Chile. Official passport holders need a visa, which is available from the Chilean Embassy, 1732 Massachusetts Ave., N.W., Washington, D.C. 20036. Phone: 202-785-1746. Send a letter to the embassy stating the purpose of your visit and enclose your passport. A return envelope should be sent to the embassy to receive the visa. For more information, visit the [tourist travel from U.S. information website](#).

Australia

USAP participants with a U.S. passport who have been ticketed by ASC and routed through Australia en route to New Zealand

do not need a visa if they remain inside the airport's international terminal. If you plan to leave the airport, plan leisure travel through Australia, or your layover is more than 8 hours, you will be required to apply and get approved for an Australian ETA (Subclass 601). An Australian ETA can be applied for via the [Australian Home Affairs website](#) or the via the app on a smart phone.

Marine Crew Visas

Sea travel requires a Marine Crew Visa (MCV Class 988). If you are embarking or disembarking a ship in Hobart, Australia, the MCV must be obtained before you arrive. The application can take 5-30 days. ASC Travel can assist in this process.

Visas for Non-U.S. citizens

Foreign nationals residing in the U.S. are responsible for obtaining the appropriate visas before departing for Antarctica. Contact the embassy of the country through which you will pass to learn the requirements. Allow up to eight weeks for a visa to be processed. Remember, no tickets will be purchased until visas are obtained and proof provided to ASC Travel.

If you are not a U.S. citizen, you will need a two-entry visa for New Zealand or South American countries through which you will pass, one for initial entry and one for return from Antarctica. It is your responsibility to check with an official of your country well before the planned departure. USAP will not act on your behalf.

Resident aliens should determine if there are any other regulations governing absence from the U.S. by checking with the [U.S. Citizenship and Immigration Service](#). Lack of compliance with regulations can cause loss of accrued residence time benefits that are applicable toward citizenship and/or reentry. It can take several months and even require a visit to the consulate for non-U.S. citizens to get a new visa.

If you are a foreign national not residing in the U.S. and will be traveling to the U.S. after going to Antarctica, please review the [Department of State Visa Services website](#) for visitor visa and student visa information and requirements.

Customs

While in transit through foreign countries, your luggage will be inspected by customs officials and may be screened by dogs trained to detect controlled substances and agricultural products. Thorough luggage and body searches are routinely conducted by customs authorities at the time of entry. Importation and possession of controlled substances without prescriptions, marijuana, weapons (especially firearms and switchblade knives), pornography, and certain animal/agricultural products without special approval are strictly prohibited when entering New Zealand and Chile. In New Zealand, violators will be instantly fined NZ\$400 or more. Transportation of the above-mentioned items aboard U.S. military vessels and aircraft is also prohibited by federal law.

New Zealand has strict limits on what may and may not enter the country. Items are restricted if they are known to carry pests or diseases that could endanger native plants and animals. Travelers must declare all restricted items when entering New Zealand. Restricted items will be examined on arrival and, if found to comply with current requirements, will be permitted to enter. People who knowingly bring restricted items into New Zealand without declaring them will be prosecuted and are subject to severe and immediate penalties. For more information, visit the [New Zealand agriculture website](#).

Customs regulations require that prescription drugs be hand-carried and not placed in checked baggage. Carry a copy of each prescription provided by your personal physician. See [Chapter 3](#) for further information on prescription medications.

There are limits on the quantities of tobacco and alcohol that can be brought into many countries. Please refer to these websites for current customs regulations:

New Zealand: www.customs.govt.nz

Chile: www.aduana.cl

Australia: www.abf.gov.au

If you plan on carrying any single item worth more than US\$1,000, excluding personal items such as laptops and cameras, please indicate that on the Trip Details form in the deployment paperwork you will receive from ASC.

NOTE: ASC does not provide personal property insurance.

Customs and Your Equipment

All scientific and technical equipment should be shipped from the U.S. or Antarctica as cargo. Cargo is designated NSF and

is exempt from duty and taxes. If you decide to ship or carry technical equipment to Antarctica through another country as accompanied baggage, you must prepare in advance to avoid two possible costs: 1) paying import duty or posting bond to a foreign country (even though your equipment is only transiting through), and 2) paying duty when you bring the equipment back into the U.S.

There are several methods of protecting against payment of unwarranted duty. Payment of duty will not be reimbursed.

Registry with U.S. Customs and Border Patrol

Before leaving the U.S. you can register scientific and technical equipment, including cameras, personal computers, spare parts or other equipment, with U.S. Customs by completing [U.S. Customs Form 4457](#). For any additional questions, contact Customs at any U.S. international airport. Should you wish to register your items with Customs, you must do so in person and possess the articles and serial numbers to be registered. Prepare a list of items with serial numbers and appropriate documentation before you arrive at the registration center. If you do not have a receipt, or the item was a gift, Customs will determine the value. Registering your items will ease reentry into the U.S.

Letter from your Institution

When carrying scientific equipment as accompanied baggage, list it on your institution's stationery and include a statement that the material will be used for research as part of the U.S. Antarctic Program. Keep the list with the material to ease clearance through Customs in Argentina and Chile. This letter is not sufficient for transiting through New Zealand. Additional actions will need to be taken.

Temporary Importation of Your Equipment into New Zealand

Grantees, contractors and other visitors carrying high-tech and scientific equipment (not including laptop computers) as part of their luggage must carry a New Zealand Customs form that lists the equipment, its value and states 1) that the goods will not be left, sold or disposed of in New Zealand without the written permission of New Zealand Customs, and 2) that the goods listed will be exported from New Zealand within 12 months of their first landing.

Appropriate forms must be obtained from ASC Travel in Denver before you depart for New Zealand. Contact ASC Travel for the form.

Carnet de Passage

Visitors from the media and other non-grantee organizations are not issued NSF letters for their professional equipment. To avoid paying customs duty, anyone carrying professional equipment, including cameras and other recording devices, must have a carnet. NSF representatives will not help you get a carnet and will not pay customs duty for you. It is critical to obtain the Carnet de Passage for Temporary Admission before you leave for Antarctica. If you have a carnet, you do not need to register items with U.S. Customs. In the United States, the U.S. Treasury has appointed the U.S. Council for International Business (USCIB) to oversee this process. Visit the [USCIB website](#) for more information.

Personal Matters

Before you leave for Antarctica, take care of your personal affairs. Designate someone you trust as your stateside representative. It can be difficult to handle financial or other personal affairs from Antarctica. Because mail delivery to Antarctica is not always reliable or timely, you should NOT forward your mail or change your address to Antarctica. You will be able to communicate with your stateside representative by telephone and email.

Power of Attorney

You may wish to establish a general or special power of attorney before leaving home. A general power of attorney permits your agent to act for you in ordinary business and commercial transactions: to endorse and write checks, to sign documents and bills of sale on your behalf, etc. A special power of attorney restricts the agent's authority to functions specifically described. For example, you might empower your agent only to sell a particular piece of property for not less than a stated price.

Some institutions, such as banks, may not accept a power of attorney document. They may require you to make special arrangements with them before others may withdraw your funds. Individuals may be reluctant to communicate with your agent under a general power of attorney if the authority for a particular transaction is not specifically set forth or if your agent's authority is otherwise in doubt.

A power of attorney automatically expires at the time of your death and defers to information contained in your will. A will ensures the distribution of your estate as you desire and not arbitrarily as state laws require if there is no will. You are urged to consider having a will prepared before you deploy to Antarctica.

Consult a lawyer before drafting a power of attorney.

Notary Services

In-person notary services are not available in Antarctica and USAP telecommunications capabilities may not be able to support remote online notary services. Therefore, you cannot count on being able to execute or revoke legal documents requiring notarization while you are deployed to Antarctica. Settle legal matters before leaving for Antarctica.

Absentee Ballot

If you wish to vote in any local, state or federal elections by absentee ballot, you must arrange to receive an absentee ballot from your election authorities. However, keep in mind the uncertainties of mail in and out of Antarctica; you may not receive the ballot in time to vote or your ballot may not be received by your election authorities in time to be counted.

Voting regulations are frequently updated and the most current information for U.S. citizens interested in voting from overseas locations can be found on the [Federal Voting Assistance Program website](#). Be sure to check the absentee voting requirements of your home precinct before you leave for Antarctica.

Personal Finances

Paychecks are not sent to Antarctica. All employees are required to have a U.S. bank account for the electronic direct deposit of payroll funds. ASC employees should refer to the paperwork received from their employer for detailed information about travel funds, marine compensation and other pay-related issues.

When you deploy, take enough money with you to meet all eventualities. You should plan to have a minimum of US\$500 for your trip to Antarctica. This amount will vary with personal spending habits, length of stay and travel delays. Ensure you plan for the purchase of personal items (e.g., soap, toothpaste, souvenirs) in Antarctica. Most foreign banks will not cash personal checks or cashier checks drawn on your home bank. Neither NSF nor ASC representatives in New Zealand will advance funds, nor will they accept a personal check.

There is an ATM at McMurdo Station but none at the other Antarctic stations or onboard the research vessel. Palmer Station is 100% cashless (including checks). Bring a credit or debit card. Conversely, South Pole Station accepts ONLY cash. International credit cards (e.g., MasterCard, Visa) are generally accepted in New Zealand and South American countries.

NOTE: Ensure that your ATM and credit cards do not expire while you are away from home. Notify your bank(s) that you will be traveling internationally before you leave the U.S.

Banking in New Zealand

Banks in New Zealand will exchange U.S. cash for New Zealand currency. You can also withdraw funds from banks using your credit cards if you have previously established a personal identification number (PIN) with your bank. ATMs marked with “Plus” or “Cirrus” (located in both the Auckland and Christchurch airports) accept credit cards with a PIN, as well as ATM and debit cards.

Banking in Chile

In Santiago, money exchange is available only at the international terminal (not the domestic terminal). There are ATMs located throughout the airport but be aware that there may not be time to exchange money between your arrival in Santiago and your departure to Punta Arenas. However, U.S. currency can be used for taxes and fees. Banks in Punta Arenas are closed half day on Saturday and all day on Sunday, so plan accordingly. There are ample ATMs throughout Punta Arenas. ATMs marked with “Plus” or “Cirrus” accept credit cards with a PIN, as well as ATM and debit cards.

Joint bank accounts

If funds need to be drawn from a bank account while you are in Antarctica, you may wish to have the account established jointly with another person to permit the other person to withdraw the funds as required. The joint tenant of the account can legally withdraw any and all funds.

Debt payments

Arrange for the regular payment of insurance premiums and any other term debts that you may have while in Antarctica. Mail

service to McMurdo Station and Palmer Station during the austral winter is limited and unavailable at South Pole Station between February and November. Mail delivery to all stations in the austral summer is erratic. DO NOT rely on the mail service to pay bills from Antarctica (see [Chapter 6: Postal Services](#)).

Income Tax

It is each participant's responsibility to ensure that U.S. taxes are filed each year. For federal income tax returns, you may request a filing extension from the district director of the Internal Revenue Service (IRS). However, interest is charged on the unpaid balance of your tax beginning on April 15.

You can file your income taxes online (federal, state and local) or if you have arranged for someone to have a special power-of-attorney, they may file for you. IRS district directors have forms for this purpose, or you may have a lawyer draw up the document. Remember that if your agent fails to file, you are still responsible for paying any penalties.

The IRS does not consider Antarctica extraterritorial, so U.S. tax law applies. For further information, you can visit the [IRS website](#). District directors are in each state at the same address where you normally file tax returns.

ASC Employees

Federal and state income taxes are withheld from all ASC employee paychecks.

Insurance

Personal Baggage Insurance

Baggage insurance is provided if ASC purchases your airline ticket. If a claim needs to be processed, it is your responsibility to contact the airlines and complete the required paperwork. A claim for lost baggage should be made at your final destination airport. Notify ASC Travel and update them on the situation. Loss protection is limited and is only provided during commercial flight segments.

Personal Property and Cargo Insurance

To protect against loss that occurs during transit to or from the airport, while in a hotel or during your stay in Antarctica, it is your responsibility to retain personal property insurance coverage. The U.S. government normally does not assume liability for damage to or loss of personal property unless there is clear evidence of negligence by government personnel acting within the scope of their employment. Although every effort is made to care for cargo, personal and scientific, USAP is not responsible for any damage that may occur.

Grantees

Make sure you have adequate insurance for your stay in Antarctica. An NSF grant for work in Antarctica does not provide insurance coverage. Check with your employer or a financial consultant to find out what insurance you have and determine what additional insurance may be needed.

Health Insurance

Although medical personnel are available at each U.S. Antarctic station, the medical clinics are for urgent care and emergency needs only. The clinic physician is not to be considered your primary care physician. You will be responsible for any hospitalization costs, medical care, laboratory fees and other charges incurred outside of Antarctica. Before leaving the United States, examine your health coverage and purchase additional insurance if needed.

Life Insurance

Federal Employees' Civil Service policies remain in effect during Antarctic duty. However, NSF does not provide life insurance for its grantees in Antarctica. Therefore, you are urged to examine your life insurance coverage before departure to ensure you are adequately covered. You should also check with your institution to see whether its group policies provide coverage or exceptions for travel and work in remote regions. When making insurance arrangements, remember that Antarctic flights are generally considered non-scheduled military airplane operations.

Travel insurance

Some insurance companies offer air travel insurance for scheduled commercial and Air Mobility Command flights. This insurance is available at most commercial airports and Air Mobility Command terminals. It generally does not cover you during flights to or in Antarctica.

Equipment Insurance

You should have insurance for project equipment as determined by the project's PI.

Workers' Compensation

If you will be working for a PI as a volunteer, workers' compensation coverage may not be provided.

Contractors

ASC Employees

Employees may be eligible to enroll annually in various insurance options offered by their employer (e.g., Leidos, Amentum, GSC).

Health Insurance

If you are required to leave Antarctica for medical treatment, as approved by the ASC Medical organization, you are responsible for your medical bills unless the injury or illness is deemed work-related. However, the cost of extracting you from Antarctica is borne by your employer.

NOTE: It is highly recommended that you carry a form of medical insurance that provides coverage if you travel internationally after deployment. If you have enrolled in your employer's medical insurance, Continuation of Health Coverage (COBRA) will be available upon completion of your contract. If medical insurance was not elected, COBRA will not be available.

Workers' Compensation

Any ASC employee who is injured while in Antarctica may be covered by workers' compensation. Within one day of the incident (regardless of the severity), a Medical Report Form must be completed by the medical staff and submitted to the designated person at the station or vessel. If you feel you will need treatment after redeployment from Antarctica, you should contact your employer's human resources office to establish a claim before leaving Antarctica or before disembarking a vessel. If the injury cannot be treated at the station or on the vessel, as determined by ASC Medical, you may be transported off the continent or vessel to be evaluated. Keep in mind that workers' compensation covers only injuries. Medical issues that are pre-existing or are not work-related in nature (e.g., appendicitis, kidney stones) are not covered by workers' compensation. Your insurance policy through your employer or an outside carrier may cover different conditions.

Notification of Injuries and Evacuations

If you are injured while working in Antarctica, or if you are taken to New Zealand or South America for a medical consultation or evacuation, USAP management will not notify your family of the injury if you are physically capable of contacting them on your own. If you are physically unable to do so, USAP management will notify your emergency contact.



USAP participants carry their bags to the elevated station after arriving at the South Pole. Photo by Mike Lucibella.

Chapter 3

How and What to Pack

There will be several stops on your journey to Antarctica. Various transportation providers (i.e., U.S. and foreign military and vessel) have different baggage allowances and restrictions. Please adhere to the limitations set forth by each carrier. In New Zealand or Chile, you will pick up your USAP-provided Extreme Cold Weather (ECW) clothing. You may require additional personal items for the various climates, types of work and activities you will encounter. Planning is important. Read this chapter carefully.

Baggage Allowances

Commercial Carriers

You will travel from your airport of departure to Christchurch, New Zealand or Punta Arenas, Chile, on commercial carriers. It is important to review the airline's baggage limitations and fees before departure. The baggage allowance on the flight from Christchurch to NSF McMurdo Station differs from the commercial allowance on your flight to New Zealand.

Standard airline baggage allowances are one or two bags, 23 kg/50 lb. each, plus a carry-on. Updates regarding travel are posted on each airline's website and should be consulted before departure.

Flights from Christchurch to NSF McMurdo Station

All summer and winter personnel have the same luggage weight allowance when flying from New Zealand to NSF McMurdo Station. **A maximum of 39 kg/85 lb. for your checked luggage is allowed for this leg of your journey.** It is important to remember that your 'boomerang bag' counts towards the 85 lb. checked-bag allowance and is the only bag you will receive back if the flight returns to Christchurch. The Clothing Distribution Center (CDC) staff in Christchurch will provide more information when you are on site. See the Baggage Organization section below.

Winter personnel at NSF Amundsen-Scott South Pole Station are granted an excess baggage allowance from Christchurch to McMurdo Station and onward to NSF South Pole Station. **A maximum of 45 kg/100 lb. for your luggage is allowed for this leg of your journey.** It is important to remember that your 'boomerang bag' counts towards the 100 lb. checked-bag allowance.

NOTE: The ECW clothing issued to you in Christchurch weighs about 10 kg/22 lb. You are required to wear certain items on the flight. The rest of the issued clothing (about 3 kg/7 lb.) will be considered part of your checked baggage.

Research Vessel and NSF Palmer Station

There is no weight restriction for personal baggage on the research vessel. However, you should still indicate whether you have excess baggage, as storage space on the vessel is limited.

Grantee and Technical Event Excess Baggage

The program does not reimburse costs for excess baggage. However, you should indicate on the Trip Details form if you are carrying excess baggage, as this allows the Christchurch Travel Office to plan weight and balance for flights to McMurdo Station.

Mailing Excess Baggage

If you need to take more than the allowed weight to McMurdo Station or South Pole Station, you can mail boxes to yourself at the Air Force Post Office (APO) address in Antarctica. Flat mail can take 14-21 days or longer, depending on available space. Packages can take up to three months or longer. See [Chapter 6](#) for more information about mail services and restrictions. Do not send any items you will require immediately upon arrival to McMurdo Station or South Pole Station via the APO system from Christchurch, New Zealand.

Personal Prescription Medications

You are responsible for obtaining a supply of your regular prescription medications that is sufficient to cover the entire time you will be deployed. The station doctor is not your primary care physician and cannot refill your prescription medication. You will not be allowed to winter-over unless you have enough of your regular medications to last through the winter. Carry a copy of each prescription provided by your personal physician. When packing in Christchurch for your flight to McMurdo Station, it is best to place any required medications you will need in either your carry-on bag or your ‘boomerang bag.’

You are also responsible for complying with all U.S. and international laws when exporting and importing personal medications. Please seek guidance from the [U.S. Food and Drug Administration website](#) and the [U.S. Drug Enforcement Administration website](#) to determine whether your specific medication is controlled and may require special export or import authorizations.

Participants working at NSF McMurdo Station, NSF South Pole Station or Field Camps

New Zealand customs laws only allow hand-carrying three months of standard prescription medications (e.g., thyroid medication) and one month of controlled prescription medications (e.g., codeine) through New Zealand.

New Zealand law requires the following for transporting controlled drugs into the country:

- You must declare the controlled drugs on your passenger arrival card.
- If you have more than one month’s supply, you need an import license from the Ministry of Health.
- You must prove to Customs that the drug is required for treating your medical condition, and that it has been lawfully supplied to you in the country of origin. A letter from your doctor or a valid label on the container with your name and the quantity and strength of the drugs would be sufficient.

For more information on carrying medication through New Zealand visit the [Ministry of Health website](#).

All medications must be in properly labeled pharmacy containers. It is important that you hand-carry the initial three months of medication (one month for controlled medications) in order to provide enough time for any remainder to reach you via mail in Antarctica. When you get your prescription medications filled, ask the pharmacist to put three months of medication (or one month of controlled medications) in one labeled container and the remainder in a separately labeled container.

If you will be deployed for longer than your hand-carried medications will last, your doctor or pharmacy should mail additional or refill medications through the APO in small, priority-mail envelopes to ensure their timely arrival. Medicines should never be packed inside a larger box containing other items, as the box may not make it to Antarctica, whereas a small envelope, which is considered flat mail, likely will. Medicines destined for summer participants should be mailed after Labor Day or they will be returned.

If you need medications urgently while on station, contact the medical clinic staff and they will provide options on how to get it through Christchurch. In an emergency, you can also contact chc_medical@usap.gov with details of your situation. Remember that you will have to clear Customs in New Zealand to reenter the country on redeployment, and the same restrictions on the quantity of medications will apply.

Participants working at NSF Palmer Station

Chilean customs laws do not restrict the amount of personal medications hand-carried through Chile. If you are deploying through Chile you can take the amount of medication you need for the deployment.

Cannabis

Several U.S. states permit the medical and recreational use of cannabis and derived products. However, under federal law, cannabis products are not considered lawfully supplied unless the product has U.S. Food and Drug Administration approval. Cannabis and cannabis-derived products are not allowed in Antarctica. Cannabis is only legal for medical use in New Zealand and Chile, recreational use is prohibited. It is the responsibility of the participant to review cannabis laws of any foreign country/airport they may enter while enroute to their Antarctic gateway city. Do not bring cannabis or any cannabis derivative product (e.g. CBD gummies) to Antarctica.

What to Pack

Below is a list of personal items you should consider taking to Antarctica. The list is a guide only and should be modified for individual needs and preferences. Wintering personnel, for example, should increase some quantities, while official visitors and others scheduled for only a few days in Antarctica will require less. Your point of contact (POC) can give you specific advice about what you might need, depending on your length of stay and the Antarctic facility at which you will be working.

Clothing

- Prescription eyeglasses (if required) + extra pair
- Sunglasses
- Gym clothes and shoes
- Jacket or warm windbreaker
- Pajamas and robe
- Pants
- Shirts: t-shirts, long-sleeve; casual and work
- Slippers for indoor wear
- Sock liners: polypropylene or Merino wool to wick moisture away from feet
- Socks: heavy to wear outdoors with boots (Merino wool or nylon), indoor
- Swimsuit (for sauna)
- Towel and washcloth
- Long underwear; thermal top/bottom; both base and mid-weight layers; polypropylene, Merino wool or silk
- Underwear
- Shower shoes

Other

- Batteries, rechargeable/charger
- Camera/camera batteries
- Coffee mug or small thermos
- Day pack
- Hair dryer
- Hobby, craft items (small)
- Laundry bag
- Lip balm
- Ear plugs
- Lock; combination or key
- Ethernet adapter for your laptop
- Musical instrument/spare parts
- Prescription medications
- Skis: skate/cross country (many skis are available at the stations to borrow)
- Plastic food containers with lids to hold left-over food in your dorm room mini-refrigerator
- Toiletry articles: toothpaste, dental floss, comb, razor, shave cream, deodorant, soap and skin lotion for dry skin, tampons
- Vitamins
- Water bottles

Clothing

Boots and shoes: casual, work, hiking, insulated and/or composite toe as needed for your work. If you are unsure on the type of footwear, please contact your hiring manager or other work center POC prior to deployment. Be aware that your footwear soles will experience a significant change in their ability to supply traction in the Antarctic temperature swings. Please be mindful when choosing your footwear for both on and off duty tasks. Different sole compositions will lose friction coefficient at different temperatures. Be aware that soles that are labelled as “slip and oil resistant” as they are typically the first to experience the adverse

effect of traction loss. It is highly recommended to wear additional traction devices when temperatures decline and your footwear becomes noticeably more prone to causing slips and falls, for both on and off duty activities. Slips, trips and falls account for most of the injuries in Antarctica and appropriate footwear can prevent these injuries.

ARC Flash Clothing: For personnel in the electrical trades or other ARC Flash potential exposure positions, be cognizant in the selection of your base insulating layers, in addition to your normal work wear. When working during Arc-potential situations, your base insulating layers should be arc-rated cotton clothing in nature and NOT synthetics that would melt and adhere to skin, should an arc-event occur.

The station store at each facility carries a limited supply of toiletries, gift items, batteries, snacks and soda, but store stock is largely meant to supplement items you should bring with you. Your POC can give you a good idea of what items are stocked in the store at the station where you will be working.

Station Store

Each station store typically carries the following items with slight variations due to the remoteness and supply and demand. Snacks, drinks, souvenirs and other items are also sold.

- Body Soap
- Combs
- Dental Floss
- Deodorants
- Eye Care Solution, Eyeglass Repair Kits
- Facial Tissue
- Lotions
- Feminine Hygiene Products
- Hairbrushes
- Hair Conditioners
- Lip Balms
- Mouth Wash
- Nail Clippers
- Sewing Kits
- Shampoo
- Shaving Cream
- Sunscreen
- Toothbrushes
- Toothpaste
- Tweezers

Toiletries

Antarctica is extremely dry and it is recommended that you use hand lotion and lip balm. You are encouraged to bring your own as the station stores carry only a limited selection of these items, along with soaps, toothpaste and other toiletries. There is no store aboard the research vessels.

NOTE: Do not bring personal products that contain microbeads, such as some soaps, body washes, toothpaste and cosmetics. Under U.S. law, the manufacture and sale of such products are being phased out. See more information below.

OTC Medication and Pain Relievers

You should bring your own supply of over-the-counter (OTC) medications. There may be some special or brand-name products, such as vitamins, cold remedies, aspirin and toiletries that you may require during your deployment. Aspirin and cold capsules (non-prescription) are usually available for purchase at station stores. Quantities and brand names are unpredictable, however, and it is suggested that you bring your preferred pain relievers to Antarctica. If you re-pack them to conserve space, retain their original labels to avoid problems with Customs, but it is recommended to carry such substances in their original containers. Most herbal medicines, dietary supplements and OTC medications may be brought into New Zealand and Chile. However, some traditional medicine may contain extracts or parts of plants and animals that are protected by the Convention on International Trade in Endangered Species. If in doubt, declare OTC meds on your incoming passenger arrival card. See the Personal Prescription Medication section above for information on prescription medication.

Vitamin D3

Recent research suggests that maintaining an adequate level of vitamin D in the blood can reduce the frequency and severity of respiratory infections. Vitamin D3 supplements are easily acquired in most U.S. pharmacies. See [Chapter 6](#) for more information.

Menstrual Hygiene

Supplies are usually available at the station store, though brand selection is limited. Participants may wish to bring the items and brands they prefer.

Sunscreen

For personnel present when the sun is up, carry and use sunscreen with a minimum of SPF 15. Ensure it provides both UVA and

UVB coverage, and that the product expiration date does not occur during your stay. During the summer, the sun is up 24 hours a day and its reflection off snow and ice increases the potential for sunburn. Increased risk for sunburn is further exacerbated by the elevation at South Pole Station.

Outdoor Clothing

You will be issued ECW clothing as you pass through Christchurch or Punta Arenas. Special arrangements will be made if you are taking other routes to Antarctica. The ECW clothing system is a multi-layered insulating system that protects participants during emergency or survival situations. This clothing will include the outer garments necessary for warmth and dryness, fleece jackets and pants, gloves, thermal boots and other items.

Depending on your work, you may also be issued special clothing and safety gear (e.g., hard hats and goggles) upon arrival at your work site.

If you are experienced in cold weather conditions, you may add your own cold weather gear (e.g., boots, parka and gloves). Participants who have recently deployed through USAP may substitute some or all of the USAP-supplied ECW gear with their own clothing. First-time deployers are required to take all issued ECW clothing. If bringing your own clothing, be sure these items are clean and free of soil or plant material before packing them (i.e., check the Velcro®). A lightweight windbreaker is useful in McMurdo Station during the austral summer.

You must bring your own long underwear and heavy socks. It is highly recommended that you bring at least three pairs of heavy socks and sock liners, as well as two sets of lightweight and mid-weight long underwear. Polypropylene, Merino wool and silk are excellent at wicking away moisture and holding heat next to your body. Contact your POC to get a recommendation of how much to bring based on your job and location.

Indoor Clothing

You must bring your own regular indoor clothing, including underwear, socks, shirts, pants and shoes. No dry-cleaning services are available. Base the quantity of clothing you bring on recommendations from your POC, the length of your stay in Antarctica and the type of work you conduct while on station.

Layering

The temperature, both inside buildings and outside, can vary drastically. The best way to manage these changes is by layering your clothing. This will allow you to shed or add layers quickly and easily. Several thin layers are more effective than one bulky layer.

Attire in Route

While dress may be informal en route to and in New Zealand and South America, please remember that you are representing the United States and NSF and that your appearance may be noted.

New Zealand and Chile

Plan for changing weather conditions. Cold temperatures and rain can be expected even during the spring and summer months. Lightweight rain gear and a warm sweater or jacket are recommended.

Bed Linens

USAP supplies sheets, pillows, pillowcases and blankets while you are in Antarctica.

Towels and Washcloths

USAP does not provide towels and washcloths at McMurdo Station and South Pole Station, but it does provide towels at Palmer Station and on the research vessel.

Electric Power

USAP stations use 110-volt power, which is the same as in the U.S. No converters or adapters are needed for the research stations. The research vessels have both 220- and 110-volt power. However, in New Zealand, you will need a Type 1 to Type B plug adapter as they have a different electrical infrastructure than in the U.S. For Chile, a Type 1 to Type C adapter is needed.

Argentina, Chile and New Zealand use 230-volt, 50-hertz, power supply systems. While traveling in these countries U.S.-purchased appliances, such as hair dryers and razors, will need a power converter and plug adapter. Laptops, phones and other personal electronics generally have a built-in voltage converter but still need a plug adaptor for the wall socket.

Sunglasses

Sunglasses or goggles are crucial. Your ECW clothing issue will include ski-type, UV-protective goggles and will include clear

lenses for winterovers. Participants should bring two pairs of 100% UV protective sunglasses if one pair is lost or damaged. Consider wrap-around temple frames, side shields, nose guards or other features to protect from harsh sunlight and reflections off the snow. If you wear prescription glasses, you should also bring prescription sunglasses with the above recommended features. Eye protection is your responsibility.

Prescription Eyeglasses and Contact Lenses

If you wear glasses, carry a record of your prescription to Antarctica. You should also take a spare pair with you. The cost of eyewear replacement is your responsibility and the means to obtain replacements are limited. If you wear contact lenses, you should carry them with you when traveling to avoid possible damage from freezing.

There are no issues with contact lens use in Antarctica. Limited quantities of lens cleaning supplies are available at station stores, including regular and sensitive-eye solutions for soft contact lenses. Heat-type solutions are not available. If you prefer certain brands of lens care products, you should bring enough to last your entire stay.

Water Bottle

Bring at least one water bottle you can carry with you throughout the day. Antarctica is a desert and staying well hydrated is important. Water bottles may be available in the station store, but supplies are limited.

Recreational Gear (e.g., skis, musical instruments)

While musical instruments and recreational equipment are available for check-out at the three stations, the variety and availability are different at each facility. Depending on your length of stay, you may wish to bring or mail your own recreational gear. Be aware your gear may take three months or more to arrive if you mail it. Your POC can give you more information. Be sure all recreational gear is clean before it is packed.

Smartphones

You will NOT have cellular phone service in Antarctica. Depending on the station, you may connect your smartphone or tablet to the USAP-Public Wi-Fi service, which allows managed Internet access. You may also use your smartphone as an alarm clock, a source of music or a camera. Consult the [Information Technology and Communications](#) section of the USAP website for more information about bringing your smartphones and other devices to Antarctica.

Don't forget the charging cable and an extra set of earbuds. At McMurdo Station, Operations Wi-Fi is only available in limited areas and only to grantees with a 24/7 mission-critical need to stay connected, if approved in their SIP. For example, USAP-Public Wi-Fi is currently available in the dorms, Coffee House, gyms and common areas of B-155, excluding the Galley. At Palmer Station you can connect to the PalStar network in most areas for personal connectivity. At South Pole Station, you can connect to the USAP-Guest network for personal connectivity, when satellite coverage is available. For participants on the *RVIB Nathaniel B Palmer* vessel, you can connect to the NBPWIFI network for personal connectivity.

Your cell phone may work similarly to normal while on the network. Refer to the IT Orientation deck in Bridge for more information regarding Personal IT capabilities and requirements for McMurdo Station and South Pole Station.

What Not to Pack

Personal comfort in Antarctica is important as is environmental protection. When choosing items to make your stay more comfortable, please take the time to select items with the least environmental impact and package them frugally. Use biodegradable soaps and shampoos, which will have less environmental impact.

Plants, seeds and animals. The [Antarctic Treaty](#) and the "[Antarctic Conservation Act](#)" (ACA), as amended by the Antarctic Science and Tourism Conservation Act, prohibits the importation to Antarctica of any:

- Seeds, including chia seeds.
- Plants and plant parts, except by permit and under controlled conditions.
- Animals, including insects and animal parts.

Pests

Don't pack a pest when you pack bags for Antarctica! Be sure to clean your clothing and footwear before packing them to prevent inadvertently importing non-native species or other organic materials. For example, be sure there are no seeds or other plant parts caught in Velcro®, no mud on boots and no grass inside cuffs. Please read the [Don't Pack a Pest](#) brochure for more guidance.

In addition, biologically viable organisms in food, personal care products and supplements are prohibited from being imported

and used in Antarctica. This includes “SCOBY” (the symbiotic culture of bacteria and yeast used to make yogurt, kombucha and beer), probiotics, spirulina and similar biologically active products.

Plastics and Chemicals

Microbeads, tiny plastic particles in bath and beauty products, are banned in Antarctica. Do not pack any personal care products containing microbeads. They cannot be contained by wastewater treatment and will be discharged into the ocean environment, resulting in plastic pollution. Microbeads can absorb toxins and be ingested by marine organisms. The [Beat the Microbead website](#) has more information and comprehensive, country-specific lists of products that contain microbeads.

Antimicrobial Agent Triclosan

Similarly, the antimicrobial agent triclosan is banned. USAP has not purchased soaps or personal care products with triclosan since 2015, and participants should not bring them to Antarctica. Triclosan is not removed during wastewater treatment and accumulates in the tissues of marine organisms.

Polystyrene Packing Materials

Polystyrene packing materials such as peanuts, chips and beads are prohibited as they can easily blow away, posing a threat to wildlife. Cushion your packed items with clothing and advise family members and friends not to use polystyrene packing materials in mail they send to Antarctica.

Aerosols

Avoid using aerosols such as hair spray, pressurized containers of deodorant and shaving cream. These items become hazardous waste because of their ingredients or because they are pressurized.

Disposable Batteries

Disposable batteries, such as mercury, alkaline and lithium cells, are discouraged. Consider buying rechargeable batteries and a charger. Loose batteries (i.e., batteries not fitted to a device) and power banks may not be packed in your check in baggage. These must be in the manufacturer’s packaging or individually packaged in plastic bags at the CDC prior to check-in. Carry these items in your hand-carry bag. If you are flying from Christchurch to McMurdo Station on the Royal New Zealand Air Force Boeing 757 plane, all items containing batteries must be included in your hand-carry and cannot be checked in. Examples include rechargeable toothbrushes, razors, laptops, mobile phones and power banks. Your baggage is screened and x-rayed at check-in.

Unmanned Aerial Vehicles

Unless you have specific authorization from NSF, operating drones or remotely piloted aircraft in Antarctica is prohibited.

Magazines, Catalogs, Newspapers and Junk Mail

Magazines, catalogs, newspapers and junk mail are discouraged. Do not have your mail forwarded to your Antarctic address, as it increases the amount of waste that must be removed from the continent.

Throwaway Containers

Eliminate as many of these as possible. This will help reduce the volume of solid waste in Antarctica. Repackage products into containers you are more apt to take home with you or use Ziplock® bags that can be used repeatedly during your stay. Use the backpacker’s rule—if you pack it in, you pack it out.

NOTE: Be sure to keep prescription labels with repackaged medications.

Commercial or Other Business Activities

You may not market or sell clothing or finished articles that were printed, manufactured or assembled outside Antarctica. You may not import materials to finish and market such items locally. Federal law forbids using an APO address to ship articles or materials destined for private resale operations. USAP also prohibits using government transportation to ship goods and materials for unauthorized personal business activities.

Hazardous Materials

Explosive gases, flammables, oxidizers, poisons, radioactive material, corrosives and other hazardous materials may not be shipped as baggage, via mail or hand-carried. See [Chapter 4: Science Cargo](#) for more.

Candles and Similar

Fire danger is high in Antarctica and candles, incense and similar items are prohibited. Electric blankets are not allowed for safety and power reasons. Any device that can be used to heat cooking oil is not allowed, as splattered oil poses a fire danger. No open

flames, such as candles, are allowed.

Baggage Organization

If you are flying from Christchurch to McMurdo Station, your personal belongings and any ECW clothing you are not wearing, will be transported as checked baggage on a cargo pallet or in an aircraft hold. You will be allowed a carry-on bag, which must not exceed 61 x 38 x 23 centimeters (24 x 15 x 9 inches) or 45 x 30 x 23 centimeters (18 x 12 x 9 inches) if traveling on an RNZAF C130 or B757. All luggage will be screened as you check in at the Antarctic Passenger Terminal.

Laptops are accepted as hand-carry, but they must fit into the hand-carry dimensions along with the rest of your items. Unlike commercial airlines, liquids, aerosols and gels are not restricted in carry-on luggage. However, you may not bring sharp objects aboard planes. If you bring a pocketknife, scissors, multi-tool or other sharp object to Antarctica, stow them in your checked baggage. Your baggage will be screened using various detection sensors, including a drug-detection dog. The contents of your baggage may also be subject to visual inspection.

If you are traveling to Antarctica on a vessel, pack the items you'll need for the five-day ocean journey in a small piece of luggage. Any baggage you store in the cargo area will be inaccessible during the journey.

Mark all your bags clearly with tags, including the bags you carry aboard. Also, place identification inside each bag. Include your assigned Antarctic station, the initials "USAP," "ASC" or event number, and a return address.

Equipment that may be damaged by sub-freezing temperatures is considered Do Not Freeze (DNF) in the USAP transportation networks. DNF equipment should not be included in your checked baggage as there is no guarantee that baggage will not be subjected to freezing temperatures during transit to/from or staged for loading. Use the USAP cargo system to protect it from freezing. See [Chapter 4](#) for more information.

Other Personal Equipment

Personal baggage may also include delicate scientific instruments that must be hand-carried. You are responsible for handling personal baggage to and from Antarctica unless it is checked as air cargo. If delicate instruments are to be moved as air cargo, clearly mark any handling requirements on the container. Pack items securely in easily handled containers.

Storage Availability

In New Zealand

There is a limited amount of storage space available at the USAP Clothing Distribution Center (CDC) in Christchurch, where you can leave items not needed in Antarctica, such as summer clothing, street shoes, backpacking equipment and New Zealand souvenirs. You will not have much time to spend sorting through your baggage before checking in for your flight to McMurdo Station, so plan and organize your baggage and storage items in advance.

USAP participants who wish to mail personal equipment to New Zealand at international mailing rates (e.g., bicycles or camping gear) may use the address below. These items should not be mailed more than 60 days before your arrival in Christchurch. Items received after your departure to Antarctica will be held in the CDC's secure baggage storage room until you redeploy from Antarctica. The address is as follows:

[Participant's Name]
HOLD IN CHRISTCHURCH
Private Bag 4747
Christchurch 8140 New Zealand

Upon redeployment from Antarctica to Christchurch, it is also possible to store items in the CDC. This allows participants the opportunity to take personal vacations before returning to their airport of departure. This storage is limited to 60 days. Air Post Office (APO) services are available from Christchurch as well. For more information on APO services see [Chapter 6](#).

In Chile

In Punta Arenas there is limited secure storage and it is usually reserved for scientific projects and equipment. Reach out to Denver Travel if you require storage as approval and arrangements must be made with Maersk for the warehouse in Punta Arenas, Chile.



Blood Falls is a unique feature where iron-rich brine from the substrate is released at the terminus of the Taylor Glacier. Any work within the protected area of Blood Falls requires an ACA permit. Photo by Peter Rejcek.

Chapter 4

Environmental Protection, Permits and Science Cargo

This chapter describes environmental impact assessments and the “Antarctic Conservation Act,” and it explains how to get a permit for certain activities. The chapter also discusses the shipment of science cargo and explains permitting rules that apply to cargo, including specimens shipped from Antarctica.

Environmental Impact Assessment

U.S. Federal Regulations and the Protocol on Environmental Protection to the Antarctic Treaty require that all proposed activities in Antarctica be assessed for their impact on the environment or on dependent or associated ecosystems. Annex I of the Protocol establishes the process for environmental impact assessments (EIAs). A preliminary EIA is completed for all USAP activities. If it is determined that an activity will have a less than minor or transitory impact, the activity may proceed as documented in a Record of Environmental Review. If the environmental impacts are likely to be greater, then additional review will be required. Depending on the expected level of impact, an Initial Environmental Evaluation or Comprehensive Environmental Evaluation will be prepared. OPP works with those planning to conduct the activity to ensure that all environmental reviews have been completed and appropriate mitigating measures are in place before the activity proceeds.

Antarctic Conservation Act

The “Antarctic Conservation Act,” or ACA, as amended, 16 U.S.C. § 2401, et seq., implements various requirements, as delineated in the Antarctic Treaty and the Protocol on Environmental Protection to the Antarctic Treaty. The ACA applies to any person subject to the jurisdiction of the U.S. Any violations of this law may result in civil fines, criminal fines and imprisonment for up to one year. Other penalties could include removal from Antarctica, rescission of a grant or sanctions by an employer. The ACA assigns NSF and other agencies regulatory, permit and enforcement authority.

The ACA requires your involvement from the time you begin planning your trip until after you leave Antarctica. Your activities, on or off the job, must comply with the ACA. Much of your conservation planning will involve common sense—minimizing

pollution and avoiding interference with animals—but the Act is complex and you cannot rely solely on common sense. The ACA permit application instructions and form can be accessed online on the [NSF website](#).

Highlights of the ACA

The ACA prohibits the take or harmful interference of native Antarctic mammals, birds and plants unless specifically allowed by a permit. “Take” or “taking” means to kill, injure, capture, handle or molest a native mammal or bird, or to remove or damage such quantities of native plants that their local distribution or abundance would be significantly affected. “Harmful interference” means:

- Flying or landing helicopters or other aircraft, such as Unmanned Ariel Systems, in a manner that disturbs concentrations of birds and seals.
- Using vehicles or vessels, including hovercraft and small boats, in a manner that disturbs concentrations of birds and seals.
- Using explosives or firearms in a manner that disturbs concentrations of birds and seals.
- Willfully disturbing breeding or molting birds or concentrations of birds and seals by persons on foot.
- Significantly damaging concentrations of native terrestrial plants by landing aircraft, driving vehicles, walking on them or by other means.
- Engaging in any activity that results in the significant adverse modification of habitats of any species or population of native mammal, native bird, native plant or native invertebrate.

Specialty Protected and Managed Areas

Several places in Antarctica are designated under the Antarctic Treaty as Antarctic Specialty Protected Areas (ASPAs) that protect environmental, scientific, historic or wilderness values. You must have a compelling need to enter one of these areas and you must have a permit to do so. You must carry your permit with you while working in an ASPA. Some of these special areas are near stations, such as Arrival Heights next to McMurdo Station or Litchfield Island near Palmer Station. Other ASPAs include the historic huts in areas near McMurdo Station.

Antarctic Specialty Managed Areas (ASMAs) have been established to assist in the planning and coordination of activities to avoid possible conflict, minimize environmental impacts and improve cooperation between national programs. Entry into an ASMA does not require a permit. However, all activities conducted within the ASMA must be in accordance with the ASMA management plan and any associated codes of conduct. These areas and their management plans are described on the [website](#) maintained by the Antarctic Treaty Secretariat for the Committee on Environmental Protection. USAP commonly works in the McMurdo Dry Valleys ASMA, the South Pole ASMA, and the Southwest Anvers Island and Palmer Basin ASMA.

The Antarctic Treaty has also designated a number of Historic Sites and Monuments (HSM) for protection and a number of HSMs have been designated in the McMurdo Station area. Historic monuments (e.g., wooden crosses at Hut Point and atop Observation Hill near McMurdo Station) are protected sites. Do not touch, deface or damage them.

Historic Sites

More than 90 historic monuments or sites have been designated during Antarctic Treaty meetings. Steps have been taken to restore and preserve monuments, including tombs, buildings and objects of historic interest. If you go near historic sites or monuments, do not damage or disturb them. If you come across a potentially historic artifact, do not touch it. Report the find and its location to an NSF representative or ASC management.

There are five Antarctic Treaty historic sites in the McMurdo Station vicinity: Observation Hill, Scott’s Hut, Vince’s Cross, the Richard E. Byrd Memorial and a plaque commemorating the location of the former nuclear power plant.

USAP also commemorates historic events with plaques. The Our Lady of the Snows Shrine was established in memory of Richard Thomas Williams, a Navy Seabee who drowned when his tractor broke through the sea ice in January 1956. The Raymond Smith Monument commemorates BM1 Raymond Thomas Smith, U. S. Navy, who died in 1982 during an unloading accident in Winter Quarters Bay. Two Antarctic Treaty historic sites are located near South Pole Station: Amundsen’s tent, erected in 1911, and Flag Mast, established in 1965. The exact locations of these monuments are unknown.

Capes Royds, Evans and Adare have historic huts or other remains. Respect the basic rule that prohibits touching, removing or disturbing any materials from these sites, for either souvenir or scientific purposes. The historic huts at Hut Point, Cape Royds and Cape Evans have been designated ASPAs by the Antarctic Treaty and require a permit to enter. There are opportunities for group visits to these huts from time to time. Information about visits can be obtained from the administrative coordinator in

Building 165 at McMurdo Station.

Introducing Species

You need a permit to introduce non-native species to the Antarctic (south of 60° S) and a clear research or operational need must be demonstrated. Lab animals and plants, as well as viruses, bacteria, yeasts and fungi, require an ACA permit for introduction. The ACA does allow the importation of food plants under special circumstances. Many Antarctic stations, including South Pole Station, have hydroponic vegetable gardens. If you have questions about introducing non-native species, email the ACA Permit Office at ACApermits@nsf.gov.

Import into and Export from the United States

In the United States, it is unlawful, unless authorized by permit, to have, sell, import or export Antarctic plants, mammals, birds or their parts. An application for a permit must demonstrate that the import or export would further the purposes for which the species was taken or collected, demonstrate that the import or export is consistent with the purposes of the ACA, and state which U.S. port will be used. Mailing items to or from the United States constitutes import or export.

ACA Waste Management

Banned Substances

ACA waste management regulations ban these substances, and others, from Antarctica:

- Pesticides (except those required for scientific, medical or hygiene purposes, and a permit is needed).
- Polychlorinated biphenyls (PCBs).
- Nonsterile soil.
- Polystyrene beads, plastic chips and loose polystyrene packing material (e.g., packing peanuts).
- Microbeads typically found in personal hygiene products (e.g., toothpaste, face, body wash).

Environmental Guidelines

Aspects of environmental protection are covered in many parts of this guide. It is your responsibility to know them. Here are a few more common-sense examples of how you can do your part:

- **Don't litter.** Use the appropriate receptacles and comply with the waste management program at your station and work site. Winds can turn litter into dangerous flying materials.
- **Secure construction sites.** Pick up debris and dispose of it properly. Protect outdoor materials from being scattered by the wind.
- **Handle waste properly.** If you handle waste, know the rules. If you do not know them, ask a supervisor, lab manager, ASC waste management employee or NSF representative.
- **Leave only footprints.** Bring everything back to a research station or vessel from field camps. This includes human waste. Do not collect feathers, animal parts, plants or rocks as souvenirs.
- **Handle lab chemicals properly.** Pack, store and identify them correctly. Arrange for proper disposal according to instructions.
- **Prevent spills.** Take the time and precautions necessary to avoid spills. Use secondary containment and absorbent spill pads when transferring fuel. Waste fuels and lubricants must be labeled and stored for return to the United States. All spills must be reported.
- **Help clean up.** Volunteers assemble from time to time to remove any trash or debris from an area. This is an opportunity to work with your colleagues to keep camp and station areas clean.
- **Avoid disturbing wildlife.** Do not walk or sit on vegetation, touch or handle birds or seals, startle or chase any bird from its nest, or wander indiscriminately through penguin or other bird colonies. If wildlife is reacting to you, you are too close.
- **Do not introduce plants or animals to Antarctica.** Do not collect eggs, feathers or fossils. Clean your gear and clothing before arriving in Antarctica.
- **Prevent cross contamination.** Avoid transferring soil from stations to field sites and between field sites. Brush boots

before boarding vessels or aircrafts. Consider using boot covers or dedicated boots for work at field sites. Do not enter any ASPAs without a permit and adhere to the area management plan when working in these areas and in ASMAs. Avoid interference with scientific work and do not enter unoccupied buildings or refuges except in an emergency.

- **Take care of Antarctic historic monuments.** Do not touch historic sites or monuments. Do not damage, disturb or deface them.
- **No open burning.** Open burning of any kind is prohibited by the ACA.

Designated Pollutants

The ACA identifies some substances as designated pollutants that must be used, stored and disposed of in a way that prevents their release to, or adverse impacts on, the environment. Designated pollutants include any substance listed by name or characteristic (e.g., flammable, corrosive, reactive, toxic) in the “Clean Air Act,” the “Clean Water Act,” “Resource Conservation and Recovery Act” or other U.S. regulations. Waste containing designated pollutants is Antarctic hazardous waste and must be used, stored and disposed of in controlled ways. Many research and industrial supplies and common substances, such as lighter fluid and fingernail polish remover, are designated pollutants. ASC holds the USAP Master Waste Permit that describes the management of these substances. If you have any questions about substances you intend to bring to Antarctica, please contact Environmental@usap.gov.

Please pay attention when you pack for travel to Antarctica. Ask yourself: How might I reduce designated pollutants? Are there benign substances that might be substituted for designated pollutants? How should these substances be handled?

Enforcement Officers

ACA enforcement officers are federal officials responsible for ensuring compliance with both the ACA and issued permits. These officers are authorized to exercise the full spectrum of law enforcement powers when performing their duties.

Permits and Reporting

NSF will not allow work in Antarctica to commence until an ACA permit has either been approved or found not to be required. Collecting any materials in Antarctica is prohibited unless specifically authorized by an NSF-issued permit. You may not do things that require a permit unless you have a permit, and a permit cannot be retroactive. You are responsible for understanding whether or not an ACA permit will be needed for proposed activities in Antarctica. If there is any doubt, contact the ACA permit officer at ACApermits@nsf.gov or:

Permit Officer
Office of Polar Programs, U.S. National Science Foundation
2415 Eisenhower Avenue
Alexandria, Virginia 22314

Normally, 45 to 60 days are required for NSF to review and decide on an ACA permit. During that time, a summary of the application is published in the Federal Register so that the public can comment. NSF evaluates public comments and performs an internal review. It then approves the application, approves it with modifications or rejects it.

Post-Season Report

Following activities in Antarctica, a report of activities conducted under your ACA permit must be submitted to the permit officer at OPP by April 1.

Protected Resources

You may need to obtain permits from other federal agencies if your project involves:

- Any marine mammal, as defined by the “Marine Mammal Protection Act of 1972” (16 U.S.C. 1362(5)).
- Any endangered or threatened species under the “Endangered Species Act of 1973” (16 U.S.C. 1531 et seq.).
- Any bird protected under the “Migratory Bird Treaty Act” (16 U.S.C. 703 et seq.).

NSF cannot issue an ACA permit until the permit officer receives copies of valid permits issued under these regulations. The following websites provide information on the acts listed above: [National Oceanic and Atmospheric Administration](#) and the [U.S. Fish and Wildlife Service](#).

Meteorites

A U.S. regulation governing Antarctic meteorites ensures that meteorites in Antarctica will be collected for scientific research purposes only. U.S. expedition organizers who plan to collect meteorites in Antarctica will ensure that any specimens collected must be properly collected, handled, documented and curated to preserve their scientific value. For more information, visit the [NSF meteorite webpage](#).

Import-Export Regulations

Federal laws and regulations control the taking and importing into the U.S. of certain biological specimens, alive or dead. Other countries have rules for crossing their borders with some materials. The grantee is responsible for knowing these regulations, complying with restrictions and obtaining the required clearances. Keep your ASC science support POC informed by sending copies of relevant correspondence, actions and permits granted. The NSF representative in Antarctica cannot provide clearances from the field. It is your responsibility to obtain the necessary permits in a timely fashion.

Import of Animal-Origin Materials

The U.S. Department of Agriculture, [Animal and Plant Health Inspection Service](#), regulates the importation of all animal-origin materials and soils that could be a disease risk to U.S. livestock. Animal-origin materials include animal products, animal by-products and biological materials that contain or have been in contact with materials of animal origin (including cell cultures). You may not bring such materials into the country without a permit. To verify your project's requirement, contact [AskNIES](#). Products@aphis.usda.gov or:

Products Program
4700 River Road, Unit 40
Riverdale, MD 20737-1231
Telephone: 301-734-3277
Fax: 301-734-8226

Foreign Permit Restrictions

All countries have some restrictions against importing harmful plants or animals, or soil samples that might contain harmful seeds, insects, fungi or bacteria. New Zealand has particularly stringent regulations regarding the importation or transshipment of biological and laboratory samples. A permit from the Ministry for Primary Industries (MPI) must be obtained to bring them into the country. This applies to samples coming from either the U.S. or Antarctica. Chile does not currently restrict transshipment of specimens or technical equipment. For general information about materials sent by mail or shipped as retrograde cargo to the U.S., the websites below provide a first contact for information. It is important to obtain necessary foreign permits before you leave the U.S.; otherwise, customs may be difficult to clear, particularly when hand-carrying biological samples.

- For information about New Zealand Ministry of Primary Industries regulations: www.mpi.govt.nz.
- For information about Chilean restrictions, contact the consulate in your region: <https://chile.gob.cl/chile/>.
- For information about Argentinean restrictions: www.eeeuu.mrecic.gov.ar/en. Click on the “English” button, then “Consular Assistance,” and then “Consulates in the U.S.”

Please forward copies of all correspondence to your ASC science support POC.

Please enter information regarding the movement of samples into POLAR ICE, the online database used to create the Science Information Packet (SIP), which outlines the science group's requirements for the season. During this process, an application for an MPI permit will be created. You must apply for a permit at least eight weeks before you leave the U.S. for Antarctica.

Controlled Drugs, New Organisms, Genetically Modified Organisms

If your research requires moving controlled drugs, new organisms or genetically modified organisms from the U.S. to Antarctica, permits from U.S. and New Zealand government agencies must be obtained.

Controlled Drugs

Controlled drugs for research purposes require advance planning and documentation. Please notify your ASC science planner if you anticipate using controlled drugs during your field season. You must procure controlled drugs for your research. ASC will arrange for shipping these items to Antarctica. Protocols set forth by the U.S. Drug Enforcement Administration are applicable while in Antarctica.

NOTE: Personal prescription drugs are covered in [Chapter 3](#).

New Organisms or Genetically Modified Organisms

The NZ support contractor holds a standing approval from the New Zealand Environmental Protection Authority (NZEPA) to transship GMOs and new organisms through New Zealand en route to or from Antarctica. Provided your organisms meet the definition of the “Risk Groups” contained within the applicable NZEPA Decision Document, you can transport them. You can request a copy of the Decision Document and applicable MPI permit from the Crary Lab supervisor at MCM-Crary-LabSupervisor@usap.gov or from the PAE NZ office at CHC-MPIpermits@usap.gov.

If an organism does not meet the definitions in the Decision Document, a new application must be made to NZEPA. The process to complete this is available on the [NZEPA website](#). For GMOs, you must provide your approved ACA permit and an application available through POLAR ICE. For new organisms, you must provide your approved ACA permit. The application process could take 12 or more weeks to be completed.

Importing Samples into New Zealand

If samples are being imported into New Zealand as the final destination, the destination institution or agency must provide a copy of their MPI Permit to Import to accompany the samples. A copy must be sent to the grantee importing the samples, to the Crary Lab supervisor at MCM-Crary-LabSupervisor@usap.gov, and to CHC-MPIpermits@usap.gov.

Shipping Samples through New Zealand

United States to Antarctica. If you are shipping samples from the U.S. through New Zealand and on to Antarctica, a copy of your permit will be sent directly to you, along with a letter from the contract manager of New Zealand Operations. If you plan to hand-carry your samples, you must notify the Christchurch hand-carry email group (chc-handcarry@usap.gov) of your intentions and provide all special handling requirements. You will be advised in the letter from the contract manager that you need to carry your permit and your letter with you, and when you arrive in New Zealand you must declare your samples and present the permit and letter to the MPI inspector at the border. If you also have GMOs or new organisms, you must present the additional paperwork provided to you by the New Zealand support contractor.

If you are shipping your samples directly from the U.S. to Antarctica, you must attach the permit and any other applicable paperwork to the boxes being shipped.

Antarctica to the United States

If you are shipping or carrying samples from Antarctica to the U.S., your permit will be sent to the Crary Lab in McMurdo Station. It will be held there until you are ready to leave the Ice. All sample shipments need to be accompanied by a letter on university letterhead that answers the following three questions:

1. What is the source of the product?
2. If animal, what is the type and origin?
3. Does the product contain any animal by-products?

More information can be found in the USAP Packing and Shipping Instructions document. A copy of these instructions can be sent to you upon request.

If you plan to hand-carry your samples, you must present a copy of your permit and declare your samples to the MPI Biosecurity officials when you enter New Zealand.

When you are ready to ship your samples from McMurdo Station, contact the Crary Lab and Science Cargo supervisors with details of your shipment. If you are working in the Antarctic Peninsula area, get transport details from the ASC Palmer Station Area Manager, ASC transportation and logistics staff on station or the marine projects coordinator on your research vessel. You will be required to identify the contents of containers, relevant permits, special handling requirements (such as dry ice), and addressees. State whether the containers will be hand-carried or shipped independently. If you plan to hand-carry your samples, you must present a copy of your permit and declare your samples to the MPI Biosecurity officials when you enter New Zealand.

NOTE: If you plan to hand-carry samples and did not identify this in your SIP, you must let your ASC POC and ASC Travel (travel@usap.gov) know immediately of the nature of the samples and the name of the person who will be hand-carrying the samples. This will allow ASC Travel to ticket the individual appropriately through New Zealand. Australian law does not allow hand-carried samples.

Radioactive Materials

Using radioactive materials in Antarctica requires strict adherence to USAP policies and procedures to avoid contaminating the Antarctic environment and ensure the safety of personnel. Approval to use radioisotopes in Antarctica must be obtained from OPP before any radioactive material is shipped south. A hard copy of the approval should accompany all radioactive material shipments to and from Antarctica. PIs are responsible for procuring, packaging, transporting and retrograding the NSF-approved radioactive materials required for their projects.

PIs must direct their requirements through the radiation safety officer of their institution to ensure compliance with state, national and international regulations pertaining to packaging and shipping radioactive materials. For shipments to and through New Zealand, consult by email with the hazardous material (HAZMAT) specialist in Christchurch at chc-hazmat@usap.gov or fax +64-3-358-1479. When shipping radioactive materials or having them consigned from a vendor, please ensure that any material packaged within category “Yellow-II” does not exceed a transport index of 1.0 or that any “Yellow-III” packages do not exceed 3.0.

It is against the law to hand-carry radioactive materials into New Zealand. Radioactive isotopes cannot be shipped to New Zealand without the appropriate Certificate of Authorization to Import Radioactive Materials. The HAZMAT specialist in Christchurch must receive importation documents five business days before radioisotopes are shipped through or to New Zealand. Accordingly, if you plan to order and ship radioisotopes directly from U.S. vendors to New Zealand, then you MUST adhere to the following instructions:

All orders must be marked by the vendor for:

U.S. National Science Foundation c/o PAE (NZ) Limited
Gate 1, Orchard Road North
Christchurch International Airport
Christchurch, New Zealand

The project’s event number and the PI’s name must also be included in the shipping instructions so that the HAZMAT specialist in Christchurch will know to whom to consign the shipment in Antarctica.

After the order is placed with the vendor, you MUST then send the HAZMAT specialist in New Zealand either an email (hazmat@usap.gov) or a fax (+64-3-358-1479) with the applicable following information:

If the material is unsealed (not shipped as an integral part of equipment):

- Radionuclide
- Activity per item
- Number of items
- Description of radioactive material
- Country of origin
- Expected departure date from country of origin (include country name, e.g., United States) and expected arrival in Auckland, New Zealand

If the material is sealed (contained and shipped as an integral part of equipment):

- Radionuclide
- Activity per item
- Number of items
- Year of manufacture (if known)
- Source serial number (if known)
- Instrument type
- Model #
- Serial #
- Country of origin

- Expected departure date from country of origin (include country name, e.g., United States) and expected arrival in Auckland, New Zealand

You are required to follow up with confirmation of the airway bill, flight numbers and special handling instructions (e.g., do not freeze) as soon as the shipment is confirmed.

When the shipment is received in Christchurch, the HAZMAT specialist will ensure it is consigned to the PI at a station in Antarctica or aboard a USAP research vessel at Port Lyttelton.

Please do not hesitate to contact the HAZMAT specialist with any questions on this procedure:

Cargo/Hazardous Coordinator, PAE (NZ) Limited

Tel: +64-3-358-1417 Fax: +64-3-358-1479

Mobile: 027-4357731 Email: hazmat@usap.gov

Science Cargo

Data and specimens should be transported with the same care and forethought that went into planning research projects. The [Packaging and Shipping Instructions document](#) explains how to package and ship your science cargo to and from Antarctica. This publication is kept current with recent methods for safe and damage-free shipping; examples of how to time your shipments; and the current name, address and phone number of Port Hueneme representatives.

Due to the restrictions presented in transporting cargo to Antarctica, requirements are analyzed and cargo loads are planned months in advance. Planning begins with information gathered from the research proposal and Polar Ice. Responsibility for cargo and passenger movement within the continental area rests with the ASC Continental Transportation and Logistics (T&L) manager. During the austral summer, Antarctic Terminal Operations manages all cargo transported to McMurdo Station and onward.

USAP Science Cargo focuses on cargo related to science projects and technical events, and all hazardous cargo is also processed through the USAP Science Cargo office. At McMurdo Station, cargo is documented, packaged and labeled for transport and then turned over to Movement Control Center staff for transport. Science Cargo staff can tell you where in the USAP cargo system your particular items are located, which is made easier if you provide a copy of USAP shipping documents or, for commercial shipments, a copy of the bill of lading or airway bill.

Transport Methods for Science Support Cargo from USAP Gateway Cities

Palmer Station via Research Vessels

Cargo for Palmer Station is routed to Punta Arenas, Chile, either by commercial surface (COMSUR) or commercial air (COMAIR) for onward transport to Antarctica. See the [Peninsula Logistics Schedule](#) for cruise deadlines.

McMurdo Station via Charter Resupply Vessel

A chartered, U.S.-flag cargo vessel sails annually from Port Hueneme to McMurdo Station, arriving roughly the last week of January. Cargo for this ship typically must be received in Port Hueneme by December 1, but the date is subject to change. This vessel is the preferred mode of transport for delivering materials to McMurdo Station, South Pole Station and continental field camps. Maximum use of this mode is possible only through careful planning by all stakeholders. Allow sufficient time for shipment by vessel. When possible, plan to position cargo in Antarctica the season before scheduled field work.

McMurdo Station via USAP Airlift

USAP airlift refers to the scheduled movement of cargo and passengers from Christchurch, New Zealand, to McMurdo Station via aircraft. The airlift period is generally from late August to the end of the operating season, although recently there have been scheduled winter flights that may occur. There is an airlift gap period in the middle of the Austral Summer (late December through late January). Commercial surface vessel shipment to Christchurch (via Port Lyttelton) is the preferred transport mode for airlift cargo. In general, airlift cargo must arrive in Port Hueneme according to the shipping dates noted in the [Packaging and Shipping Instructions](#) document.

South Pole Station Cargo

Cargo to and from South Pole Station is transported only during the summer and almost entirely by LC-130 and Basler aircraft or overland via the South Pole Traverse from McMurdo Station. These aircraft operate from late-October through mid-February. During the summer, some cargo (mostly fuel) is transported via South Pole Traverse. The station is isolated the rest of the year. ASC logistics personnel at McMurdo Station and South Pole Station determine cargo plans and schedules.

Commercial Surface Cargo (COMSUR)

ASC books space on multiple oceangoing commercial vessel voyages to position cargo in Punta Arenas, Chile and Christchurch, New Zealand. COMSUR voyages are a more economical method when compared to airlift. Both the Peninsula Logistics Schedule and Continental Acquisition Schedule provide the shipping deadlines and required delivery dates to meet the associated Required on Site dates for the operating seasons. These schedules are built off the long lead timelines to accommodate the lengthy ocean voyages between the continental U.S. and the foreign ports.

Commercial Air Cargo (COMAIR)

If circumstances prohibit shipment by sea, NSF may authorize ASC to ship cargo by commercial airline to Christchurch, New Zealand and Punta Arenas, Chile. This is the most expensive way to transport cargo and will be used only for essential material that cannot go by sea. Commercial air shipments need to provide sufficient benefits to warrant the added cost of this transport mode. Air cargo will not be authorized as a substitute for inadequate advance planning. Certain hazardous cargo items are restricted for movement via COMAIR and must be moved either by commercial surface shipments or ground transport.

Hazardous Cargo

Explosives, gases, flammables, oxidizers, poisons, radioactive materials, corrosives and other hazardous items are forbidden in personal baggage, prohibited from being sent via mail, and cannot be hand-carried. These items must be shipped as cargo. Hazardous cargo must be packaged, labeled, marked and documented in accordance with applicable federal, international, military and USAP regulations. Contact the ASC Hazardous Cargo supervisor at MCM-USAPCargo-HazCargoSpecialists@usap.gov for more information.

Transportation schedules are available at the USAP website, under the [Grantees Support Calendars and Schedules webpage](#). The Peninsula Logistics Schedule provides the cut-off dates for shipping to the research vessels, which indicate when the cargo must be at Port Hueneme to meet the quoted delivery dates at the ship. The Continental Area Acquisition Schedule provides the timeline for cargo movement to McMurdo Station and South Pole Station.

Retrograde (Return) Science Cargo

Near the end of your stay in Antarctica, you will arrange with the USAP cargo representative at McMurdo Station or with logistics personnel at Palmer Station or South Pole Station to have your science cargo shipped to the U.S. This person will issue you the appropriate documents and accept the cargo for shipment. You are responsible for insuring, packing and crating the equipment and for labeling the containers.

All retrograde cargo will go by ship unless air shipment is fully justified, approved in the SIP and authorized by the NSF Representative at McMurdo Station or the NSF Representative (or designate) at Palmer Station. Air cargo will be authorized only when necessary.

Retrograde cargo is shipped to a U.S. entry point and onward to its ultimate destination. The grantee pays shipping costs from the U.S. entry point to the ultimate destination as part of the grant.

NOTE: It is the shipper's responsibility to insure cargo against loss while in transit. You are entirely responsible for any items you mail or hand-carry.



A U.S. Air Force C-17 aircraft lands near McMurdo Station. Photo by Jack Green.

Chapter 5

Travel Guidelines

This chapter provides travel advice for the foreign countries through which you might travel, explains how to obtain your Extreme Cold Weather (ECW) clothing and describes how to transport your baggage. It also describes your arrival in Antarctica and your return from the continent.

Travel Advice

Customs and Mail Warning

Like any traveler, USAP participants must obey foreign laws. These laws can differ from those of the U.S. and penalties for violations can be severe. Persons found in violation of these laws are subject to prosecution in local courts. Association with USAP affords neither preferential treatment nor immunity from prosecution.

Governments make all attempts to prevent the passage of illegal materials, especially illegal drugs, through their countries. You could be imprisoned for life for transporting or mailing illegal drugs to a foreign country.

At NSF's request, all mail destined for the continental side of the program is screened and inspected by the New Zealand Customs Service. On occasion, U.S. citizens have been detained by Customs on their return from Antarctica. Some of them have been found guilty of mailing illegal materials and have been fined. U.S. law also prohibits the mailing of controlled substances and illegal drugs. It is U.S. policy (April 6, 1982, Federal Register, pages 14864-14866) to ensure personnel authorized to use military postal facilities do not abuse the customs, tax and other laws of the host country. In short:

- Obey the law.
- Do not try to take illegal substances through foreign countries.
- Do not mail illegal substances.
- Tell your friends not to mail illegal substances to you.

Stay in Contact

While awaiting transportation to Antarctica from New Zealand or Chile, you must keep local program representatives informed of where you are and how they can contact you. Transport schedules are often revised on short notice.

Be Patient

Whether you travel to Antarctica via research vessel or air, you should be prepared to handle delays and schedule changes. Every effort is made to ensure the safety of program participants, and that often means departures are delayed or flights are turned around. This may be due to mechanical considerations, ice conditions or, most commonly, the weather.

Currency Exchange

Learn the currency exchange rate before departing for a foreign country. Bank representatives will exchange U.S. money for foreign money at U.S. international airports, but generally, a better exchange rate will be found in the country whose currency you are purchasing. You can exchange money at most banks in foreign countries but remember that banks and stores may be closed on weekends and holidays. ATM cards can be used in both New Zealand and Chile. In Chile, rates can vary significantly between banks and currency exchange houses.

Chilean and New Zealand banks will not cash personal checks drawn on U.S. checking accounts. A credit card with a chip is required in many stores.

Electrical Compatibility

The electrical voltage in New Zealand is 230v 50hz. In Chile, it is 220v 50hz. Most laptop computers have a compliant AC converter. You will require an adapter, which can be purchased from hardware and travel stores, to connect to the wall outlet. Some small appliances, such as razors and hair dryers, have dual voltage capabilities but still require an adapter plug. You can find information on the type of electricity used and the electrical plugs needed worldwide at various websites. See [Chapter 3: How and What To Pack](#) for more information.

Pre-Deployment Personal Vacations

Pre-deployment personal vacations will not be ticketed or accommodated by the program for contract employees. Travel to New Zealand or the surrounding area outside of NSF-approved business or ASC programmatic requirements in advance of programmatic timelines will not be eligible for reimbursement (e.g., arriving in New Zealand two weeks prior to ice flight).

Participants that choose to travel ahead at their own expense and are vacationing in New Zealand before traveling to Antarctica must provide an arrival itinerary to Denver Travel and the Christchurch Travel Office at least three weeks before their scheduled date to fly to Antarctica. This allows both offices to facilitate the arrangements of hotels and other accommodations in Christchurch prior to your arrival.

Post-Deployment Personal Vacations

You may elect to travel before returning to the U.S. NSF requires travelers to cover any extra expenses related to post-deployment vacations. This includes changes to airline ticketing, which could be significant. Participants are responsible for making their own leisure travel arrangements, and you must comply with local Immigration and Customs. When you stay in a country as a tourist, USAP is no longer your sponsor.

Traveling Through New Zealand

All ASC-ticketed participants traveling through New Zealand en route to Antarctica will have been provided with a 12-month visitor permit letter before deployment. Present this letter to New Zealand Immigration when you first arrive. Failure to do so will result in you receiving a three-month permit. Do not use the express passport kiosks in the airport as the machines will not provide a visitor's permit with an adequate length of time for most deployments. **Confirm that you have been given a 12-month visitor's permit before exiting Immigration.** If you deploy for longer than a year and your visitor's permit or visa will expire while you are deployed, you can obtain a three-month extension by providing the following information to New Zealand Immigration at INZCHCHExpress@mbie.govt.nz or s61@mbie.govt.nz:

- Name on your passport.
- Passport number and expiration date.
- Date of birth.
- Your redeployment date (approximate will suffice).

NOTE: USAP regards the above information as Personal Identifiable Information that should not be transmitted via USAP email.

If you plan to travel in New Zealand after your deployment, you must ensure that your permit or visa will not expire during

that time. You can request an electronic extension from the above address while you are still in Antarctica. Please contact the Christchurch Travel Office, who can help with a 3 month extension. Visas can also be extended for a fee at any New Zealand Immigration office. Please contact PTServices@usap.gov for more information.

A week or so before you arrive in Christchurch, the Christchurch Travel Office will email your hotel reservation and ECW clothing issue time, as well as information on taxis and shuttles. If you have a problem with mishandled luggage, file a claim with the airline at the airport of your final destination upon arrival. Retain a copy of your luggage claim form and advise Travel Office personnel so they are aware of the problem.

Accommodations

Christchurch Travel manages hotel reservations in Christchurch for all participants. Do not change your reservation without prior approval from Christchurch Travel so you can be advised of any changes to the date or time of your departure to Antarctica. If you do not honor your hotel reservation, you will be billed by the hotel for the first night of the booking.

Please note that during busy periods, you may be required to move hotels due to room availability. Should your flight be cancelled please confirm with the front desk whether you will need to change hotels.

If you plan to make your own arrangements, please provide a contact phone number where ASC Travel can contact you before you deploy. Flight schedules change often and it is critical that the office knows how to contact you with updates. For those individuals not ticketed by ASC, please provide flight itineraries and accommodation information to Christchurch Travel at PTServices@usap.gov.

Always keep your passport and valuables on you. Hotel bills should be settled the night before you depart from Christchurch.

Grantees are responsible for paying for their accommodations.

ASC pays for accommodations for its employees.

Medical Care

If you need medical care in New Zealand, please contact the USAP Medical Coordinator within the Christchurch office, who will assist you with arranging medical and/or dental appointments. There will be a charge for your visit to the doctor or dentist. See [Chapter 2: Insurance](#).

Transportation

An extensive network of bus routes serves Christchurch, Lyttelton, the airport and USAP offices. Taxi and shuttle details are provided in your arrival documents.

Car rental and insurance. If you rent a car, be sure you know New Zealand traffic regulations and have sufficient insurance. A booklet on traffic laws called the Road Code is available at rental agencies and online. Driving is on the left side of the road and requires strict attention. A driving permit is not required if you can provide a valid U.S. driver's license.

ECW Clothing Issue

ECW clothing and accessories will be provided to you at no charge at the Christchurch Clothing Distribution Center (CDC). The clothing is functional and sturdy. It includes special outerwear items, such as parkas and boots, that protect participants in the Antarctic environment during emergency or survival situations. Most ECW is in men's sizes but will fit both men and women. Recently, USAP began stocking women's specific ECW items to ensure all participants have access to clothing that properly fit them. Be sure to provide accurate measurements on the ECW form submitted with your travel/deployment forms. In addition, it is important that you try on and test all ECW clothing at your fitting session (including boots) to ensure it is fully operational (i.e., check all zippers). Any sizing errors will be corrected at that time. If you expect to gain weight while in Antarctica, which is common, select clothing that fits loosely. No additional clothing will be issued once you are in Antarctica.

The type and amount of clothing you receive depends on where



A participant tries on ECW gear during clothing issue at the CDC in Christchurch, New Zealand. Photo by Elaine Hood.

you work and what your job classification is and what your job position entails (mainly indoor or outdoor/fieldwork). Certain positions will receive specialty ECW components, which will double as outdoor/trade clothing. Most, but not all, ECW clothing is mandatory. Participants who have recently deployed through USAP may substitute some or all of the USAP-supplied ECW gear with their own clothing and will need to provide an attestation that their personal gear is at or greater than the USAP standard. If you are new to the program, you must take all the clothing issued to you according to the USAP ECW Policy.

Some issued clothing, especially parkas, is subject to theft and special attention should be taken to prevent loss. Abnormal damage or unreported loss of clothing will result in you being billed for repair or replacement costs. Any theft or loss should be reported immediately to the NSF Representative or the Station Manager. It is illegal for you to mail, buy or sell government property, including USAP clothing.

Traveling to NSF McMurdo Station

The flight from Christchurch to McMurdo Station is called your Ice flight, and the date you fly is called your Ice date. Report for your flight at the time given to you by the Christchurch Travel Office.

You will be asked to pack a “boomerang bag” with personal items, toiletries, medications, clothing, shoes or sandals, and other essentials needed for a one- or two-night delay. In the event your flight turns around (boomerangs) or is otherwise delayed after you have checked in, this is the only bag that will be returned to you. As part of the check-in process, you will be given time to change into your ECW gear, pack your carry-on and boomerang bags, and store any baggage you will not need in Antarctica in the CDC secure storage room.

It is critical to pack any essentials you need daily, especially medications, either in your carry-on or boomerang bag.

Notify the ASC representative or the agent of any accompanied cargo or baggage that exceeds your authorized weight. Remember that authorization for excess baggage must be obtained in advance from ASC. This also applies to your northbound return. See [Chapter 3: How and What to Pack](#).

You will be issued an Antarctic Departure Card, which you are required to complete before moving through to the Antarctic Passenger Terminal (APT). After dressing for your flight and completing your Antarctic Departure Card, you will take your luggage to the APT for official check-in, where your passport and departure card will be checked and your luggage weighed. This is commonly known as “bag drag.” Make sure you keep your passport accessible.

After check-in, you will no longer have access to your baggage except the carry-on piece. You may not leave the area unless authorized by officials. Transportation to the aircraft is provided. Personnel who, in the judgment of the crew, are intoxicated will not be permitted to board the aircraft. This applies when traveling to or from Antarctica or when traveling within Antarctica.

Your flight will take five to eight hours, depending on the aircraft and winds in route. Military aircraft are not designed for passenger comfort, though food and water are provided. There are toilets, but the facilities can be awkward. There have been instances when your ice flight must turn around (aka “boomerang”) before reaching McMurdo Station and return to Christchurch due to updated weather forecasts or other operational issues. Depending on where your flight is when it turns around the total flight time can last up to 10 hours.

The weather in Antarctica when you arrive is likely to be clear, windy, cold and bright. After the plane has landed, gather your possessions, zip up your parka and put on sunglasses and gloves. Be ready for transport to the station soon after you disembark. Upon arrival at the station, you will be given an arrival brief and instructions about your lodging and collecting your luggage. Generally, your checked luggage will be ready for you about two to three hours after arrival.

Traveling Within Antarctica

Timeframes and transportation schedules for work in remote locations are planned well in advance. Working together, grantees, NSF, implementers and transport schedulers agree on a field plan that is published in the Research Support Plan six weeks before the participant deploys. All plans are subject to change given weather conditions and other unforeseen circumstances.

Grantees and ASC employees traveling to remote locations should read the [Continental Field Manual](#) or [Peninsula Field Manual](#) for the U.S. Antarctic Program, available in PDF under the [Travel and Deployment website](#).

Air Transport

Transportation to remote stations and field camps is provided by fixed-wing aircraft, helicopters and ground vehicles. Teams planning to travel must meet with Fixed-Wing Operations or Helicopter Operations staff to confirm flight plans and arrange

personnel and cargo movements.

South Pole Station

Grantees and employees traveling to the South Pole Station will coordinate their trip with the South Pole Station population specialist and Area Management. Because of limited berthing, all participants going to South Pole Station must be approved by NSF in advance of the trip.



A Twin Otter delivering people and supplies to a deep-field camp. Photo by Peter Rejcek.

search-and-rescue for the entire continent. Science project team members must first work with Fixed-Wing Operations staff or cargo coordinators to develop their project’s logistics plan, and then coordinate with Science Cargo staff to stage their cargo. All project cargo must be staged and ready 72 hours before scheduled transport. Passengers must check in at Air Services with all of their checked and hand-carry baggage as well as ECW the night before the scheduled flight. Passengers will leave their checked bags at Air Services and keep their ECW and hand-carry with them. This is called “bag drag.”

Twin Otters are twin-engine, high-wing aircraft used by small field teams deploying to remote locations that typically do not have groomed landing areas. The aircraft can carry small to moderate cargo loads. Basler aircraft are larger, twin-engine, low-wing aircraft that can carry moderate loads for longer distances but have ski-field grooming requirements and other landing-site restrictions. Science project team members must work with Fixed-Wing Operations staff to develop a transport schedule and create cargo and passenger priority lists. The team must then work with Science Cargo staff to stage all cargo 72 hours before scheduled transport. On the day of the flight, science team members and ASC camp staff will check in with Fixed-Wing Operations staff before transporting personal bags to the airfield via the shuttle service. Both science and ASC team members will assist flight crews in loading the Basler and Twin Otter.

NOTE: Please provide accurate weights for all cargo, including personal bags, to the Fixed-Wing Operations office.

Helicopters

Helicopters are used principally for logistical support in the Ross Island region and McMurdo Dry Valleys. Anyone expecting to fly on a helicopter must attend helicopter-specific safety training. People traveling to the Dry Valleys must also attend environmental training. Cargo capacity and range vary depending on the model of helicopter. Science team members work with the Helicopter Operations staff to arrange passenger and cargo movement.

Detailed packing and planning guidelines, including field and mechanical equipment weights, are presented in the field manual noted above.

Safety

As with all operations in Antarctica, safety comes first. Mechanical problems and bad weather can delay or cancel missions.

Aircraft Travel Rules and Guidelines

- You must be manifested on all aircraft on which you travel. Any unauthorized travel may result in your removal from Antarctica.

Deep Field Camps

All cargo and passenger movements to and from deep field camps must be planned in detail with the cargo coordinator or Fixed-Wing Operations staff, and they must be approved by the ASC continental field supervisor.

Fixed-wing aircraft. Intracontinental air support is currently provided by three types of ski-equipped fixed-wing aircraft: LC-130 Hercules, Baslers (modified DC-3s) and Twin Otters.

The LC-130s are operated by the 109th Airlift Wing of the New York Air National Guard. These airplanes provide heavy-lift capability to all inland stations and some field camps, as well as



A helicopter brings researchers to an Automatic Weather System outside of McMurdo Station. Photo by Josh Thorsland.

- Be on time. Departures will not be delayed for persons arriving late or for cargo or passengers identified after the deadlines provided by either Fixed-Wing Operations or Helicopter Operations staff. Special transport to/from the airfields must be made in advance with the Passenger Services department at McMurdo Station to provide accountability of all passengers.
- Passengers can make a brown-bag flight lunch from the McMurdo Station cafeteria “grab and go” cooler before transport to the airfield.
- Do not consume alcoholic beverages before a flight. You will not be allowed to board the aircraft if you appear to be under the influence of alcohol.
- Consumption of alcoholic beverages is not permitted onboard any USAP aircraft.
- You must wear specific items of ECW clothing. The requirements will be posted in advance of your flight.
- All hazardous materials must be packed and certified by USAP cargo personnel. You may not carry unauthorized hazardous material in your baggage or on your person.
- Anyone flying on an intracontinental USAP aircraft (other than on South Pole Station flights) must attend Field Safety Training. See [Chapter 6: Field Safety Training](#).

Returning to New Zealand

Grantees

At least ten days before your planned departure from Antarctica, advise the ASC passenger services representative located in the Movement Control Center in Building 140 at McMurdo Station, or the science coordinator at South Pole Station, of your intended departure date. They will coordinate your departure with the Christchurch Travel team. You must ensure that your retrograde cargo is ready for transport. See [Chapter 4: Retrograde \(Return\) Science Cargo](#) for details.

ASC Employees

Weeks before redeployment begins, employees are given check-out instructions. Before completion of your contract, your supervisor will schedule you on a flight from McMurdo Station to Christchurch.

All Participants

Remember that prior approval for excess baggage is required for anything over the standard limits (see [Chapter 3](#)). If you check in for a northbound flight in McMurdo Station without the necessary excess baggage approvals, you will be required to mail any excess at your own expense through the U.S. Post Office at the station, which may or may not be open between bag drag and your departure. **Be sure to carry your passport on you and not put it in your checked bag.**

NOTE: Removing any materials from Antarctica, such as wood, bone, eggshells, feathers, plant or animal parts is prohibited unless specifically authorized by an NSF-issued permit. Immediately upon returning to Christchurch, you must return your ECW clothing to the CDC. You will also retrieve any personal belongings you left in the CDC storage room. You will be given information about your accommodations and onward travel at that time.

NOTE: Your APO privilege to mail items at U.S. rates expires ten days after your return to Christchurch. See [Chapter 6: Postal Services](#).

Traveling Through Chile

In Chile, USAP has contracted with Maersk to provide passenger support and to manage local facilities. Chile, Argentina and the U.S. frequently cooperate in Antarctica. Both Argentina and Chile are Antarctic Treaty nations, with year-round stations along the Antarctic Peninsula. While Spanish is the national language, English is widely spoken in Chile, including by the agents ASC employs to assist you in your passage. Nevertheless, a simple Spanish phrase book may prove helpful.

Health Care

If you require health care while in Chile, contact the local Maersk representative for assistance with making appointments. If you are in Punta Arenas, you can contact the Marine Project Coordinator (MPC) on the vessel for assistance. Be prepared to pay for services provided. See [Chapter 2: Insurance](#).

Upon your arrival at the airport in Santiago, you will pick up your baggage and pass through customs. After processing through customs, you will be met by a Maersk representative wearing a red vest. They will direct you from the international terminal to

the domestic terminal for your flight to Punta Arenas. It is your responsibility to be alert for domestic gate changes, which may or may not be announced in English.

Once you arrive in Punta Arenas, a Maersk representative will transport you to your hotel and notify you of your ECW clothing issue time, ship embarkation time and ship orientation time. Please show up promptly as the window to complete your outfitting is short and ship schedules are often tight.

Maersk will provide you with a QR code card upon arrival that gives you access to the vessel through the Prat Pier security gate, allowing you to come and go easily between the city and pier area. Most people traveling to Palmer Station will spend one night in a hotel and board the ship the following day. However, you may be asked to board the vessel immediately. Do not request to board the vessel early.

Hotel rooms for ASC personnel are directly billed, but you must pay for incidentals and meals. Grantees must pay for their hotel rooms. Agents and ships' representatives can provide local information about restaurants, shops and money exchange:

Maersk L&S Chile S.p.A. (Santiago)
Andres Bello No2447 floor 10, Edificio Costanera Center – Torre 2, Providencia, Santiago
Contact: asc.scl@maersk.com (USAP Cargo only) +56 (2) 230-9900
Emergency: Octavio Ojeda, octavio.ojeda@lns.maersk.com, +56 (9) 7548-3739

Maersk L&S Chile S.p.A. (Punta Arenas)
Warehouse #4, Prat Pier O'Higgins #1385 Punta Arenas, Chile
Contact: asc.puq@maersk.com, +1 720 568-2870
Emergency: Octavio Ojeda, octavio.ojeda@maersk.com, +56 (9) 7548-3739

NOTE: Nothing may be charged to the Maersk agent that has not been approved in writing by NSF.

ECW Clothing Issue

ECW clothing and accessories will be provided to you at no charge from the Punta Arenas warehouse. You are responsible for the safekeeping and accountability of all items issued and may be charged for loss or damage resulting from gross negligence or willful misconduct.

The clothing is functional and sturdy. It includes special outerwear items, such as parkas and boots, that protect participants in the Antarctic environment during emergency or survival situations. Most ECW is in men's sizes but will fit both men and women. Recently, USAP began stocking women's specific ECW items to ensure all participants have access to clothing that properly fit them. Be sure to provide accurate measurements on the ECW form submitted with your travel/deployment forms. In addition, it is important that you try on and test all ECW clothing at your fitting session (including boots) to ensure it is fully operational (i.e., check all zippers multiple times during your clothing issue session). Any sizing errors will be corrected at that time. If you expect to gain weight while in Antarctica, which is common, select clothing that fits loosely. No additional clothing will be issued once you are in Antarctica.

The type and amount of clothing you receive depends on where you work and what your job classification is and what your job position entails (mainly indoor or outdoor/fieldwork). Certain positions will receive specialty ECW components, which will double as outdoor/trade clothing. Most, but not all, ECW clothing is mandatory. Participants who have recently deployed through USAP may substitute some or all of the USAP-supplied ECW gear with their own clothing. If you are new to the program, you must take all the clothing issued to you according to the USAP ECW Policy.

Some issued clothing, especially parkas, is subject to theft and special attention should be taken to prevent loss. Abnormal damage or unreported loss of clothing will result in you being billed for repair or replacement costs. Any theft or loss should be reported immediately to the NSF Representative or the Station Manager. It is illegal for you to mail, buy or sell government property, including USAP clothing.

Participants deploying to a vessel and Palmer Station should note that there is a considerable amount of rain and other precipitation on the Peninsula. Any personal clothing choices should take this into account. For information regarding Peninsula ECW options, visit the Travel and Deployment section of the [USAP website](#).

Baggage

Due to crowded conditions on the vessel, you should pack the clothing and personal items you'll need on the journey into a single

piece of baggage. The remainder of your baggage will be stowed in the ship's hold and returned to you on arrival at the work site.

Only science equipment used in multi-year projects may be stored in the Punta Arenas warehouse, and only if approved in advance by NSF.

Traveling to NSF Palmer Station

Travel to Palmer Station and other Peninsula research sites is via USAP research vessel or a commercial vessel. The transit takes four to five days, depending on routing and sea conditions. Before sailing, the ASC representative and ship's personnel will provide an orientation that includes ship procedures, safety policies and room assignments. Attendance is mandatory.

Ship transits are usually crowded, so please comply with regulations and show courtesy in common areas, passageways and dining areas. Remember that ships operate 24/7 and crew members and staff are either working or sleeping at all times of day. Be considerate and quiet in passageways.

There is no charge for meals. If you are prone to motion sickness, consult with your personal physician before deployment. Over-the-counter medications (e.g., Meclizine) are often sufficient to relieve sea sickness. Bland crackers, such as saltines or soda crackers, can also help and it is important to stay hydrated.

Prior to disembarking at Palmer Station, please clean your cabin and place all linens in the laundry room to assist the ship's stewards. Take all your baggage and personal items with you when you disembark.

Returning to Chile

Grantees

At least three weeks before you plan to return from the Antarctic Peninsula to South America, give your northbound travel plan to the ASC administrative coordinator at Palmer Station or the MPC on the vessel. Identify any requirement for excess baggage or special handling of material. Airline and hotel bookings will be confirmed for you with the appropriate agent. You should also ensure that any retrograde cargo is ready for transport. See [Chapter 4: Retrograde \(Return\) Science Cargo](#).

ASC Employees

Your departure will be scheduled before you complete your contract. Be sure you notify the ASC administrative coordinator or MPC of any travel plans.

All Participants

Upon arrival in South America, you will be met by a Maersk representative who will give you your return itinerary and collect your ECW clothing.

Generally, the clothing is collected on the vessel prior to docking in Punta Arenas and returned to the warehouse in bulk.

Individuals who plan personal travel following their return to Chile are responsible for their own transportation to the Punta Arenas airport and will not receive "meet and greet" service in Santiago.



McMurdo Station is the largest station in Antarctica and the southernmost point to which a ship can sail. This photo faces south, with sea ice in front of the station, Observation Hill to the left (with White Island behind it), Minna Bluff and Black Island in the distance to the right, and the McMurdo Ice Shelf in between. Photo by Elaine Hood.

Chapter 6

Living and Working at USAP Facilities

USAP participants are required to put safety and environmental protection first while living and working in Antarctica. Individuals are also responsible for their personal behavior and are expected to behave responsibly. This chapter contains general information that applies to all Antarctic locations, as well as information specific to each station and research vessel.

Work Requirement

At Antarctic stations, the typical work week is 54 hours (nine hours per day, Monday through Saturday). Aboard the research vessel, at field camps, and on traverses, the work week is 84 hours (12 hours per day, Monday through Sunday). At times, everyone may be expected to work more hours or an atypical schedule, assist others in performing their duties or assume community-related job responsibilities, such as washing dishes or cleaning the bathrooms. Due to the challenges of working in Antarctica, no guarantee can be made regarding the duties, location or duration of work. The objective is to support science, maintain the station and ensure the well-being of all station personnel.

Overall Safety in the Workplace

USAP is committed to safe work practices and safe work environments. There is no operation, activity or research worth the loss of life or limb—no matter how important the future discovery or emergency response may be—and all proactive safety measures shall be taken to ensure the protection of participants.

Should you require Safety assistance, you may stop by any of the stations' Safety offices/desks or email the following:

- All Locations – DEN-SafetyandHealth@usap.gov
- McMurdo Station – MCM-Safety-Staff@usap.gov
- South Pole Station – safetyeng@southpole.usap.gov
- Palmer Station – DEN-SafetyandHealth@usap.gov

USAP also strives to build a safe workplace free from harassment and assault at all USAP locations on or off the continent. If you have experienced sexual assault or harassment, help is available. Support resources are listed in the [Appendix](#) of this document.

USAP will not tolerate the physical or verbal abuse of any person, including, but not limited to, harassment, stalking, bullying or hazing of any kind, whether the behavior is carried out verbally, physically, electronically or in written form. If you feel that someone is creating a hostile work environment or engaging in harassment, please report to:

- USAP Confidential Victim Advocate, USAPadvocate@LDSScorp.com.
- NSF Office of Equity and Civil Rights (OECR), saferscience@nsf.gov.
- NSF Station Manager/Special Deputy U.S. Marshal, mcm-nsfstmgr@usap.gov or 720-568-1039.
- NSF Antarctic Helpline (24/7 crisis intervention and emotional support services), <https://nsfantarctichelpline.org/>.
- Station management, camp management or marine project coordinator.
- Human Resources contact for your organization.



A diver prepares to take a plunge under the frozen surface of the ocean to collect scientific specimens for researchers. Photo by Mike Lucibella.

Everyone has a role in safety. Although work in Antarctica poses risks, no personnel shall be allowed or required to expose themselves to unmitigated conditions in the performance of their work. All USAP participants are responsible for performing their work safely and ensuring they have all the safety and occupational health (SOH) training, appropriate tools, personal protective equipment (PPE), and other hazard protections necessary to do so. Supervisors are responsible for the safe conduct of all work under their control. They shall be familiar with all codes, standards and regulations relevant to their work and ensure that such requirements are strictly enforced. These include all applicable Occupational Safety and Health Administration (OSHA) standards, applicable host nation requirements and USAP procedures.

For emergencies in Antarctica, it may take hours or days before help arrives. If you are injured, seek medical attention first. Any participant suffering an injury, no matter how minor, or any participant involved in or witnessing an accident or incident, no matter how minor, must report it to one of the contacts below. Accidents or incidents may include injuries, spills, near misses or unsafe conditions and practices. Participants will immediately report these concerns to their supervisor, scientific leaders, the ASC safety representative, station management and/or NSF representative(s) following USAP standard operating procedures and NSF Office of Polar Programs (OPP) SOH guidance.

All employees, grantees and guests are encouraged to speak up when an unsafe condition or practice is observed. The participant noticing the condition should notify the affected personnel and the responsible supervisor or relevant leadership immediately to remove any one at risk of harm. If a participant reasonably believes working conditions present an immediate danger to life or health, they have the right, the responsibility and the authority to STOP such work activity.

The “Occupational Safety and Health Act of 1970” gives an employee assurance that no discriminatory or discharge action will be taken toward any employee who exercises their rights under the Act. No retribution shall be taken toward any employee or researcher who reports an unmitigated hazard, unsafe condition or unsafe practice.

If any participant who believes unsafe or unhealthful work conditions are not being mitigated or addressed following the notification chain above may file a confidential complaint with the NSF OPP Safety Officer directly by email at oppsafety@nsf.gov.

Fire Safety

Fire seriously threatens life in Antarctica, especially since shelter is critical to survival. No person or entity shall tamper with, cause damage to or interfere with the effectiveness of any fire detection or protective equipment or devices.

Because of the dry and windy conditions, fires start easily and spread rapidly. Most fires are caused by carelessness, poor housekeeping or faulty electrical or mechanical operations. Precautions must be taken to eliminate all fire hazards.

All participants must:

- Understand and obey fire prevention rules.
- Attend fire prevention trainings.

- Become familiar with their surroundings.
- Respond rapidly to any alarms.
- Know and follow evacuation and muster plans.
- Know how to locate and operate extinguishers.
- Understand how and where to report a fire.

Safety

The five most common injuries in Antarctica are:

- Sprains and strains.
- Contusions (bruises).
- Lacerations (cuts).
- Repetitive motion or overuse-type injury.
- Fractures from slips, trips and falls related to ground conditions and footwear choices.

If you do have an injury:

- Get immediate medical attention.
- Never hesitate or delay going to Medical for treatment.
- Report it promptly.

Reporting and analyzing incident occurrences are the best way to prevent future incidents. Near-miss and incident reporting is essential to improving field risk management in the polar programs through lessons learned and best practices among peers. Sharing field mishaps is a service to the community by helping others avoid similar circumstances. Reporting should be completed without retribution. If you have people working for you:

- Ensure your staff have the resources and support to do their job safely.
- Ensure your employees are properly trained, work safely, maintain safe conditions and are aware of changing circumstances, conditions, deviations or procedural drifts that may affect the safe working environment.
- In the event of an injury or incident, complete an injury or incident investigation report and take corrective actions to prevent reoccurrence.
- Ensure your staff have the support and medical care needed if they are ill or injured. File the report on the day of the incident or injury and no later than 24 hours if additional confirming information is required.

Footwear Safety

It must be highlighted that the Antarctic environment will cause your footwear (work and personal) to lose some of its friction coefficient, thus contributing to slips and falls. Prior seasons have seen a rise in season-ending compound fractures that are attributed to footwear choices and colder temperatures. This includes personal footwear during “off-work” periods. It is advised that you exercise caution and acknowledge that colder temperatures will negatively affect the grip of the sole.

Areas that have been common sites for slips and falls include the exterior entrances of common buildings and work centers. Please do your part to actively manage the conditions through either shoveling, surface chopping, spreading of fines or other means that are available respective to the station location and capabilities.

Be aware that soles labeled or marketed as “oil and slip resistant” will have the opposite result. Past participants’ feedback has indicated this type of sole has a higher risk of slip potential in the exterior environment than other sole compositions.

Traction devices and diligent attention to walking and working surface conditions are encouraged whenever the grounds or temperature ranges warrant. Allow enough transit time between meeting and work locations to avoid rushing, which further exacerbates the potential for a slip-and-fall incident. Traction devices are available in many supply locations, work centers and safety offices.

Diving Safety

Some science projects in Antarctica require scuba or surface-air-supplied diving. There are unique risks associated with polar diving, including extreme cold, limited entry/exit points, ice in many forms, potentially dangerous marine life, low light and visibility and contaminated water. Because of these risks, Antarctic diving demands special training, experience and an on-site orientation for divers, proper equipment, and a thorough and realistic dive plan. All diving under NSF auspices in Antarctica requires prior approval from NSF. To obtain approval, a dive plan must be submitted that is consistent with USAP Standards for the Conduct of Scientific Diving.

If the PI's home institution has a diving safety officer, he or she will be required to comment on and approve any request to dive in Antarctica. Final authorization will be made by the OPP diving safety officer or another NSF designated individual. Before approval, additional training may be required, or it may be necessary to change the original dive plan. Dive plan forms and individual diver information sheets are available in the dive section of POLAR ICE, the online application for science and technical support.

A variety of diving equipment is available at McMurdo Station, Palmer Station and aboard the research vessel, including scuba tanks and backpacks, weight belts and weights, regulators, dive computers and compressors. PIs must specifically request the use of any NSF equipment in their SIP during pre-season planning. Recreational diving is not permitted. The [Antarctic Dive Guide](#) contains reference tables and information on certification, dive sites, environment, operations and emergencies.

Field Safety Training

USAP continually strives to improve safety. Safety is a result of good risk management and part of this effort consists of field safety training, which includes a variety of specialized courses with the following objectives:

- Provide basic training in cold weather survival skills. Topics include:
 - Risk assessment and management
 - Cold weather camping
 - ECW use
 - Hypothermia and frostbite
 - Working on sea ice
 - Altitude awareness
 - Glacier travel
- Provide field teams with instruction on the use of the equipment they will be using in the field.
- Provide an opportunity for field team members to work together as a unit, perhaps for the first time, before going into the field. This is an excellent opportunity for the team leader and team members to learn the strengths and weaknesses of others.



Sea ice safety training teaches participants how to determine the thickness and condition of the sea ice and whether it is safe for travel. Photo by Peter Rejcek.

Generally, people leaving the established road system in and around McMurdo Station must complete training appropriate to their expected exposure, previous training and experience. Some courses are tailored to the needs of each team, such as those spending their time in the McMurdo Dry Valleys, working on sea ice or traveling long distances by snowmobile.

Courses are not intended to develop advanced field skills or build to full competence (e.g., mountaineering or traversing crevasse fields) in the inexperienced person. Rather, they familiarize proficient people with specific situations they might encounter in the Antarctic. Leaders of remote field projects work to select team members with wilderness survival skills, and there should be at least one Field Safety Coordinator to oversee any activities that occur on technical terrain.

Due to the nature of instruction, there is some risk of injury. Instructors have full responsibility for conducting the program safely. Please follow their directions. People who enter the training area to observe are also the responsibility of course instructors and must obey their instructions.

Antarctic Field Safety Courses

The following courses are provided at McMurdo Station:

Antarctic Field Safety

A four-hour class required annually for all personnel who will be traveling to a remote Field setting, off the established roads and trail system and/or riding in a helicopter, and all McMurdo Station winterover personnel.

Sea Ice Safety

A one-day course required for all personnel who will be working or traveling independently on the sea ice. Personnel who have taken the full course any time within the previous five seasons need only take the sea ice refresher course, which is approximately 45 minutes.

Altitude Safety

A two-hour course required for all McMurdo Station-based personnel who will be working at or above 8,000 feet without a helicopter remaining onsite.

Glacier Travel Safety

A 1.5-day course required for all personnel whose work requires travel in steep and/or crevassed terrain above the firn line and/or on active glaciers.

GPS Training

A three-hour class required for all grantees working on the sea ice and highly recommended for all ASC participants who work on the sea ice and/or the ice shelf during winter or WinFly.

Outdoor Safety Lecture

A one-hour class required for all personnel who want to participate in recreational activity, such as hiking and skiing, in the immediate area surrounding McMurdo Station. The class covers rules and guidelines for safe travel and explains the check-in/check-out process.

Shakedown Courses

Two-day, customized courses are required for those going to unestablished field camps that do not have 24-hour heated buildings with food and water easily accessible. The Deep Field Shakedown course is oriented to camps based on snow. The Dry Valleys Shakedown course is for camps based on rock or ice. The Antarctic Field Safety course must be completed before taking either Shakedown course.

NSF Palmer Station Safety Courses

Small Boat Passenger Training

A one-hour class required annually for all personnel who will be traveling as a passenger in any small boat.

Small Boat Operator Training

A multiple-hour class required annually for all small boat drivers.

RHIB Competent Crew Training

A multiple-hour class required for personnel who will be conducting research or traveling as a passenger on one of the rigid-hull inflatable boats.

Islands Survival

A one-hour class required for all small boat operators and recommended for frequent small boat passengers.

Backyard and Glacier Travel

A 15-minute video required for personnel who visit the Backyard or the glacier behind Palmer Station.

Vessel-Based Course

Peninsula Field Safety

An eight-hour class required annually for all personnel who will be working from the vessel on islands or sea ice. Marine Staff receive field training as part of Marine Orientation once a year. Grantees will receive field training either prior to the cruise or on the ship prior to going ashore.

The [USAP Peninsula Field Manual](#) provides information on field party preparation, safety training, transportation safety, radio usage, weather, shelters, sea ice, glacier travel, rescue and other topics.

Health

Antarctica's extreme environment and relative isolation challenge human health and wellness. [Chapter 2](#) discusses the rigorous screening participants must undergo, as well as the limited medical care available in Antarctica. This section will discuss specific health and wellness issues as they relate to the Antarctic environment.

Most of Antarctica is a polar desert and thus dry. In this environment, large amounts of fluid are lost through the skin and lungs. The mucous membranes lining your nose and mouth become dry and no longer offer adequate protection against viruses. You must increase your fluid intake, even if you don't feel thirsty, and especially if you are physically active. Caffeine and alcohol will increase fluid loss, so avoid consuming large amounts of beverages or foods containing them. Chocolate and many soft drinks contain caffeine.

Viral Respiratory Infections

Colds and flus are often exacerbated by the extreme dryness and can be quite severe. Eating well and getting plenty of sleep, exercise and fluids will help you stay healthy during your deployment. In addition, research strongly suggests that maintaining an adequate level of vitamin D in the blood may reduce the frequency and severity of these infections. Consult with your healthcare provider regarding your blood level of vitamin D and the proper daily dose. Vitamin D3 is not always available at Antarctic stores, so if you do need it, you should bring an adequate supply with you.

Remember also to bring your own supply of over-the-counter medications, including aspirin, ibuprofen, cold medications and cough drops (see [Chapter 3](#)).

To limit your exposure and to prevent exposing others if you are ill, cover your mouth when you cough or sneeze, don't share cups and eating utensils, and wash your hands frequently and every time you visit the food service line.

Sunburn

Snow and ice reflect 85% of ultraviolet radiation. Overestimate the protection necessary and carry a sunscreen with SPF 15 or greater that includes both UVA and UVB protection. Reapply frequently according to package directions.



Hiking the Castle Rock loop, a 10-mile marked trail near McMurdo Station, is a popular recreational activity. Photo by Robyn Waserman.

Altitude sickness

Amundsen-Scott South Pole Station and some field camps are at physiological elevations above 2,700 m (9,000 ft). The short flight from McMurdo Station doesn't allow time to acclimate in route. People can feel the effects of altitude as low as 6000-8000 feet. If you are assigned to these areas, you should check with your doctor to see if living at high altitudes will affect any pre-existing medical conditions.

The signs of altitude sickness can include shortness of breath that is not relieved promptly by resting, headache, dizziness and difficulty sleeping. You should avoid strenuous activities for the first two days after arriving at high elevation, increase fluid intake,

stop or limit smoking, and avoid alcohol and caffeine. Altitude sickness can occur as late as five days after reaching altitude and occasionally can progress to a serious or life-threatening condition. Anyone developing symptoms should see the local medical provider.

A preventative medicine called acetazolamide is available at the McMurdo Station clinic. Treatment should begin up to 24 hours before leaving for high altitude. This drug should not be taken by those allergic to sulfa medications.

Vision Care

If you require contacts or other prescription eyewear, you are required to bring them with you. You should also bring your own contact lens supplies and spare eyeglasses. Contacts generally perform well in Antarctica, although some people develop severe dry eyes and are not able to use them. Field work will be prohibited if you are not wearing appropriate prescription eyewear. Serious injuries and deaths have occurred because participants could not see well.

Snow blindness

This condition is caused by exposure of the eyes to excessive ultraviolet light at levels typically experienced in Antarctica. It can be serious, painful and disabling. Snow blindness is prevented by wearing 100% UV protective sunglasses. Snow goggles are issued to those who need them. Everyone in Antarctica must have sunglasses that protect the eyes from ultraviolet radiation. Some “dark” glasses do not block UV and do more harm than good because the iris widens and admit more sunlight. Sunglasses or goggles are especially important on windy days to protect against volcanic ash particles getting into the eyes.

Smoking

In addition to well-known health hazards, smoking greatly increases your chance of dehydration. Smoking is prohibited in all indoor areas at all three stations. The indoor ban includes e-cigarettes. There are designated outdoor smoking shelters. Put cigarette butts in appropriate containers—not on the ground.

Recreation

Attendance at the appropriate outdoor safety briefing(s) is required by all participants before they are allowed to recreate off-station.

NOTE: The work equipment you are issued is for authorized activities and is not to be used for recreation. You are authorized to use U.S. government equipment only to accomplish your approved work.

Personal Conduct

The guidelines and operational procedures that govern your conduct while in Antarctica vary considerably at different locations, and with changing conditions—particularly weather. Familiarize yourself with local knowledge at your station or camp and follow local rules. It is impossible to write rules to cover all circumstances, and you are expected to regulate your own activities to avoid injury to yourself and others who might have to attempt a rescue.

Antarctica—every part of it—can suddenly and unexpectedly become a dangerous place. You must always keep this in mind.

In addition, all participants are required to conduct themselves in a manner that reflects positively on themselves and USAP, whether in transit, at a station, aboard a research vessel or in a field camp. All participants must strictly adhere to the [Polar Code of Conduct](#), which can be found online.

The Code’s tenets are rigorously enforced, and violations will result in disciplinary actions, up to and including termination, revocation of grant or prosecution.

Alcohol and Drugs

A limited amount of alcohol is available for purchase at the three Antarctic stations. Alcohol is not available on the research vessel.

The ability to deal effectively with a mishap is reduced when a person is intoxicated or under the influence of drugs or alcohol. NSF will not tolerate abuse of alcohol or drugs, including controlled, prescribed and over-the-counter drugs. With reasonable cause, testing for alcohol may be conducted while an employee is in active working status. Disciplinary action, up to and including termination, may occur if a person is determined to have any amount of alcohol in their system while on the job. Existing grants are subject to revocation in the event of substance abuse.

Persons under the influence of alcohol or other controlled substances will not be allowed to board USAP aircraft or ships.

In addition, all participants are required to conduct themselves in a manner that reflects positively on themselves and USAP, whether in transit, at a station, aboard a research vessel or in a field camp. All participants must strictly adhere to the [USAP Alcohol Policy](#).

U.S. Criminal Jurisdiction

Public Law 98-473, the “Comprehensive Crime Control Act of 1984” (Part H, chapter XII; 18 USC 7), extends Special Maritime and Territorial Jurisdiction to cover offenses committed by or against U.S. nationals in areas not under the jurisdiction of other states. Since, in accordance with provisions of the Antarctic Treaty, the United States does not recognize territorial claims in Antarctica, this law establishes that persons can be prosecuted in a federal court for violation of U.S. criminal law in Antarctica. The NSF Station Manager at McMurdo Station is a sworn Special Deputy U.S. Marshal with jurisdiction across the continent.

Waste, Energy and Water

The Antarctic environment requires close attention to aspects of life easily overlooked at home. Services typically taken for granted—abundant electrical power, plentiful potable water, ample food, convenient transportation, and timely and easy waste disposal—are expensive and should be respected in Antarctica. Conservation and efficient management are imperative if the U.S. is to continue supporting science programs in Antarctica. For that reason, and because of our commitment to preserving Antarctica for future research and discovery, USAP requires that participants think carefully about what they bring, use or throw away. Regulations governing waste management under the “Antarctic Conservation Act” specifically require that we change the way we think about trash.

Waste Management

Disposal of waste is far more stringent in Antarctica than in the U.S. Every work center is required to schedule a briefing regarding the waste management program, and all personnel are required to sort their own trash. Marked receptacles are located in work centers and lodging areas for separating solid waste (e.g., cardboard, recyclables, metal) and hazardous wastes (e.g., batteries, aerosol cans, fuel, oil).

Given that neither the climate nor the remoteness of the southern polar region is naturally conducive to human life and work, everything needed to support scientific research in Antarctica must be shipped or flown to the continent. USAP waste management practices follow the same principle in reverse: All USAP refuse, except wastewater, is removed from the continent for proper disposal. What comes in must eventually go out. The intent is to diminish the environmental impact of a sizeable human presence on a continent where cold, dry conditions tend to preserve things rather than degrade them. In addition, reducing waste reduces the cost of handling and furthers USAP’s primary mission of supporting research.

Energy and Water

Power at all three stations and on the research vessel is provided by diesel-powered generators that deliver electricity to buildings at 120 volts, 60 hertz, the same as in the U.S. McMurdo Station also uses renewable energy that is produced by wind turbines operated by Antarctica New Zealand. Reliability is good, but rare surges or outages could affect electronic equipment. Energy constitutes a significant operational cost for USAP, and this includes the cost of producing potable water.

Fresh water at McMurdo Station and Palmer Station is made from seawater using reverse osmosis. At South Pole Station, a Rodriguez well produces fresh water from melted ice, but production capacity is limited and water conservation is critical. Residents at South Pole Station are restricted to two, two-minute showers per week. Although there are no such restrictions at the other stations, nor on the research vessel, everyone is expected to make efforts to conserve both energy and water.

Information Technology and Communications (ITC) Services

As part of your work in Antarctica, you may have access to or be responsible for various types of information technology and communications (ITC), to include operational technologies and industrial control systems. You may also be deploying with your own personal devices, such as your smartphone, tablet or laptop. All USAP participants have a role in protecting the USAP network and USAP information, and all are subject to USAP policies related to information security.

This section covers your use of USAP Information Technology and Communication (ITC) Services while deployed, for both your work activities and your personal activities. Please check the [USAP website](#) for current information about USAP ITC services. You can also contact ITCEnterpriseServiceDesk@usap.gov for specific information, or to report a security or privacy issue.

USAP ITC includes any service or device owned by NSF, or managed by ASC on behalf of NSF, as part of running USAP. Common ITC services and devices include:

Computers and Related Devices

Includes any government-owned or government-furnished device, such as workstations, laptops, tablets, mobile phones, printers and scanners.

Network services/devices

Includes any government-owned or government-furnished network capability, such as wired or wireless networks, used for either science and operations activities or morale activities, and the devices used to provide those services.

Satellite Communications Services/Devices

Includes any government-owned or government-furnished satellite communications services, such as station satellite links used for operations and science traffic, and those used for morale traffic. Examples include USAP-managed Iridium phones, Starlink service at stations, and the iCafe on the research vessel.

Radio Communications Services/Devices

Includes any government-owned or government-furnished radio communications capability, such as pagers or radios issued for station operations, or for some morale activities that occur outside the main station. Examples include radios issued to field parties to maintain contact with the main station or radios issued to people for activities such as hiking the trails on Ross Island.

Please be aware that the bandwidth available for the three Antarctic research stations and the research vessel is limited compared to what you may have available in the U.S. and may not be available at all times during the day.

Acceptable Use and Rules of Behavior

Your use of USAP ITC services is governed by the USAP Acceptable Use Policy (AUP), which is explained in AIL-POL-5000.06, Acceptable Use of USAP Information Resources, and by the NSF USAP Rules of Behavior (ROB). The Acceptable Use Policy includes the NSF Policy for Social Media. Both the AUP and the ROB are available on the [USAP website](#), as well as on the Master List of policies and procedures at each station.

Violation of the AUP or the ROB is a Code of Conduct violation.

Your use of USAP ITC services includes:

- Using a government-issued/furnished service or device for work activities.
- Using a government-issued/furnished service or device for personal activities.
- Using your personal device while it is connected to any government-furnished network.

The AUP and ROB identify acceptable and prohibited activities.

Acceptable Uses of USAP Information Resources

Occasional personal use of NSF-supplied technology and communication resources is allowed when the cost to the government is negligible, and the personal use does not interfere with official business. Additional considerations apply:

- The use is not offensive to coworkers.
- The use is not for illegal activities, such as the distribution of copyrighted materials or media.
- The use is not for gambling and online auctions.

Telecommunications services must not violate the federal [Executive Order 13513](#) forbidding federal employees to send text messages while driving.

All users are reminded that USAP mission activities always take precedence over any personal activity. NSF reserves the right to restrict or otherwise limit personal use based on resource availability, conflict with official business and unacceptable information security risks. See the Acceptable Use Policy for activities considered acceptable uses of USAP ITC services/devices.

Prohibited Uses of USAP Information Resources

The following activities are prohibited uses of USAP ITC services/devices.

- All illegal activities are forbidden.
- Any activity that could adversely affect NSF or U.S. Government interests, interfere with the performance of the USAP mission.
- No processing of Classified Information.

Hostile Environment

Under no circumstances is it permissible to access or download material that would create a hostile or offensive work environment, such as racist or sexually explicit material.

As noted in the USAP Rules of Behavior, you are prohibited from seeking, transmitting, collecting or storing:

- Defamatory, discriminatory, harassing or intimidating material that could discredit NSF or damage its public reputation.
- Obscene or pornographic material.

See the Acceptable Use Policy for activities considered prohibited uses of USAP ITC services/devices.

Computer Screening

All devices that you bring when you deploy must be screened to ensure they meet USAP requirements before they are allowed to connect to any USAP network. This includes your personal, company or university devices, such as computers for science experiments, mission operation systems, workstations, servers, laptops, notebooks, tablets and smart phones.

All devices must continuously maintain compliance with USAP requirements, including keeping up with software updates and regular anti-malware scanning. Any device that falls out of compliance, such as falling behind in anti-virus definitions, patches or vulnerability remediation, may be disconnected without notice if NSF determines there is an unacceptable level of risk or threat to the USAP IT environment.

General information about USAP information and communications technology requirements can be found on the [USAP website](#). Changes to guidance occur frequently, so please check the website regularly.

USAP Email Service

If you require a USAP email address, ASC will provide you with one upon your arrival on station. Work-related emails cannot exceed 20 MB. If you need to transfer a file that exceeds 20 MB for business or scientific purposes, contact the local IT Service Desk.

Grantees are not assigned a USAP email address unless one is either requested in their SIP or requested on arrival. If a USAP email account is not requested, all local mail is sent to the email address specified in the project's SIP.

You may continue to use your private email account for non-work activities. Please be aware that you are using program bandwidth and resources and still must adhere to the Rules of Behavior.

Email service varies at each station and the research vessel. See the station-specific information below for more details.

Telephone Services

U.S. Antarctic stations and ships access commercial and government satellites for transmitting data and voice. Telephone service is available for business and private use, with official communications having priority. Satellite systems are reliable, but service outages do occur. Free long-distance calls to the U.S. are allowed from all stations.

At South Pole Station, telephone calls can easily be made only when there is active satellite coverage. Coordinate with station IT Service Desk to arrange for emergency calls outside of satellite coverage times.

Aboard the research vessel, telephone service is available for personal use at no cost via the Iridium satellite phone system. This phone is a shared resource and calls should be limited to 10 minutes.

USAP Station Intranets

Each station has their own station-specific internal website, or intranet. The station intranets serve as a central repository for the latest station-specific announcements and updates, scientific endeavors, flight/vessel information, community events and recreational activities, online tools and resources, services and more.

The Intranet also provides access to the station Master List, an online platform synchronized with the USAP Master List, which

houses standard operating procedures, preventive maintenance manuals, templates, forms and other programmatic documents.

Station Bandwidth Constraints

The satellite infrastructure used to provide off-continent communications in Antarctica is limited when compared to Internet access across much of the U.S. Each station and the vessel have constraints on the amount of bandwidth available to support station operations, science activities and morale activities. While each station has Internet access available, you will experience a considerably slower Internet response when compared to the typical Internet experience in the U.S. Large downloads and streaming media have a negative impact on everyone else. Due to this limited bandwidth, any desired software, music or videos should be downloaded before you leave home.

At South Pole Station, Internet access and real-time USAP email is available only during periods with active satellite coverage. Emails sent and received when there is no satellite coverage are delivered in the next satellite pass. For an up-to-date look at the satellite schedule, please visit the South Pole Station [Satellite Communications and Pass Schedules website](#). Contact the South Pole Station IT Service Desk if you have a need to send business, science or emergency emails outside of satellite availability hours.

Email is sent from the vessel in near real time and received by the vessel on a 30-minute schedule. The message size, including attachments, is limited to 10 MB. There is limited Internet access while at sea. Please consult your POC for the current vessel Internet access policy.

Video Chat Applications

While high-bandwidth mission activities can be supported with prior coordination, e.g., through the science planning process and the POLAR ICE application, participants should have no expectations regarding service for non-mission activities. Video chat applications, such as Zoom or FaceTime, and social media applications are restricted on the USAP Operations network, since they severely impact the bandwidth available for science and operational traffic.

Many high-bandwidth and inappropriate sites are blocked or de-prioritized to support mission-essential traffic. Texting, personal shopping and social media use are restricted to the USAP-Public network, though reliability of this network is not guaranteed 24/7. Additional guidelines regarding social media usage are provided on the USAP Master List.

Use of USAP Public Network

NSF continues to implement capabilities to support the use of USAP network services to support morale and life management activities. Public network activities include being able to use your smart phone for personal texting and calling via Wi-Fi. You must enable Wi-Fi calling before you leave the U.S. All activities conducted on the public network, even with your own personal device, must abide by the USAP Acceptable Use Policy and the USAP Rules of Behavior.

Radio Communications

Each station and ship use hand-held and vehicle-mounted VHF radios for local communications. Based on your work duties, you may be issued a pager instead of or in addition to a hand-held radio. Observing radio etiquette is necessary to ensure efficient and available radio communications. Keep messages short and professional. For more information on proper radio etiquette, contact the communications group on station.

Before leaving for a lengthy field deployment, or even for a day, you must inform the station communications center of your intentions, so that frequencies and call signs can be assigned and check-in procedures arranged. To avoid unnecessary search-and-rescue missions, you must make every effort to adhere to the established check-ins. Immediately upon returning from the field, inform the communications center that you have returned safely.

Radio communications use and procedures also apply to any leisure activities that take you out of the main station area. For example, you may be required to have a radio with you while you are hiking on approved station trails. See the local station intranet for more information on when activities require you to use a radio.

Television and Radio Services

The cable television and broadcast radio stations at McMurdo Station are affiliates of the American Forces Network (AFN) and receive technical support and programming under the direction of the Defense Media Activity. AFN programming for the television station includes a variety of news, sports, movies and general entertainment, and the Navy Motion Picture Service provides movies. Additional channels may include programming from other sources, as well as local programming that provides information vital to station operations, including the emergency alert service, weather and flight information, the dining menu

and other community information. The radio station broadcasts AFN feeds consisting of popular music, news, talk radio and local programming designed by volunteer DJs from the community.

Smart Card Required

A USAP-issued Smart Card is required to access any USAP computer or to use the USAP network. You will be issued your USAP Smart Card during the deployment process. Please contact the IT Service Desk at your location if you lose your Smart Card or it stops working.

Removable Media Restrictions

As of April 2023, NSF restricts the use of removable storage devices on USAP workstations. This includes storage devices such as external hard drives or thumb drives. If the use of an external hard drive or thumb drive is required to conduct operational or science tasking on a USAP managed workstation, a request must be submitted to the local ITC Service Desk for authorization. Users will be unable to connect a drive until it has been authorized. Find more information about the USAP Removable Media policy by reading the [Removable Media FAQs](#).

Internet Protocol Version 6 (IPv6) Migration

NSF and ASC are upgrading the USAP ICT environment to support IPv6 at all locations, with completion expected at the end of September 2025. Eventually, all USAP IPv4 addresses will be retired. This means that any software application you may be using on your personal device must be able to run using IPv6, or it will not work while you are deployed. You can learn more about USAP IPv6 activities on the [USAP website](#).

Endorsement of Products or Services

NSF/USAP cannot appear to endorse a product or service, or to take a political stance on issues. Photos taken of participants holding a commercial product while standing in front of NSF/USAP logos, signage or other federal property may give the appearance of endorsement and should be avoided. It is perfectly okay to have a photo taken while wearing a USAP-issued red parka in front of a sign with a logo on it. It is NOT okay if you are promoting a product or political stance next to that logo as that would imply endorsement by NSF/USAP. Please consult the [USAP Social Media Quick Reference Guide \(COM-ATT-0001\)](#) for further information.

Postal Services

U.S. domestic postal rates and regulations apply to all Air Force Post Office (APO) mail to New Zealand, McMurdo Station and South Pole Station. **There is no APO service to Palmer Station or the research vessel.**

While postage stamps can be purchased at all locations, participants are encouraged to bring their own supply. Registered mail service is not available. All NSF- and ASC-sponsored participants are granted use of the APO in Christchurch for 10 days after arriving in New Zealand from the United States and for another 10 days upon returning from Antarctica. This benefit provides a tremendous cost savings if you need to mail boxes to the United States from New Zealand. The Christchurch and McMurdo Station APO's only accepts credit and debit cards.

The Christchurch APO only distributes packages received via the U.S. Postal Service. This means you cannot order items via the Internet for courier delivery (i.e., FedEx) to you in Antarctica. Neither the Christchurch APO nor USAP offices will accept such deliveries.

In addition, the APO cannot be used to support any type of commercial activity. It is illegal for you to ship items to Antarctica for resale. This prohibition is based on federal law.

Mail is received in Christchurch seven days a week. Letter mail (also known as flat mail) is transported from Christchurch to Antarctica on southbound flights as space allows. NSF priorities dictate that science cargo and flat mail take priority over personal packages, both to and from Antarctica. Flat mail delivery generally takes 14 to 21 days, though it can be longer depending on the time of year. Personal packages can three months or more to be delivered during the austral summer. If you only plan on being in Antarctica for the austral summer, you may not receive boxes you sent yourself until you are about to leave. Do not place medications in package mail and do not send perishable foods.

Mail for WinFly (late-August) delivery should be sent after the first week in July or it will be returned. WinFly transportation and space for parcel mail is limited. If space is not available for your package, it will be held in Christchurch until space allows during Mainbody.

Packages destined for summer participants at McMurdo Station or South Pole Station **MUST** be mailed after Labor Day and before October 15. Mail that misses participants is either forwarded, if a directory card has been given to the U.S. Post Office in McMurdo Station or returned to the sender.

Mail and packages destined for winterovers who will be arriving at the end of the austral summer should be mailed **AFTER** Christmas so they don't displace mail for summer participants. In addition, the U.S. Post Office in McMurdo Station will only hold mail for 30 days. During the winter, there is no mail service to South Pole Station and only limited mail to McMurdo Station.

Do not use single-use packing material (e.g., packing peanuts) to cushion contents. Instead, use clothing or something similarly useful and non-polluting. Do not rely on mail service for critical business, as the timing for delivery is always subject to weather, transportation options, cargo space, forwarding and your movement between locations.

Medicines should be mailed to you by your doctor or pharmacy in envelopes, not boxes, to ensure arrival as flat mail. Medication is not given any special priority and may take upwards of three months to reach you.

Remember that all mail going to McMurdo Station, South Pole Station and surrounding field camps is subject to customs, agricultural and drug inspections as it passes through Christchurch. For a complete listing of prohibited and restricted items, ask your local post office to show you a copy of Publication 52, Acceptance of Hazardous, Restricted or Perishable Matter, or go to the [U.S. Postal Service website](https://www.usps.com). The Postal Service prosecutes people who mail items improperly. The Postal Service states, "full responsibility rests with the mailer for any violation of law under Title 18, United States Code 1716, which may result from placing these items in the mail."

Near the end of the season, many program participants realize they have accumulated more than they will be allowed to take with them on their flight north. This excess must be sent by mail. It is important to pay attention to announcements about mailing deadlines and procedures for mailing personal packages from Antarctica. Timelines and options differ depending on the station and the time of year.

Mail to and from McMurdo Station

The U.S. Post Office at McMurdo Station offers basic services and maintains regular hours during the summer. There is limited service during the austral winter. The Post Office only accepts credit and debit cards for sending packages, and it does not send "cash on delivery" mail. Stamps are sold at the station store. Your address in McMurdo Station is:

[Your Name]
PSC 769 Box 700
APO AP 96599-9998

If filling out an online shipping form, enter "APO" as the city and "AP" as the state.

Mail to and from South Pole Station

South Pole Station has a postal service center where stamps can be purchased (cash only) and mail posted. However, it does not offer any registered services or sell money orders. Mail is placed aboard resupply airplanes and routed through McMurdo Station. Your address at South Pole Station is:

[Your Name]
PSC 768 Box 400
APO AP 96598-0001

If filling out an online shipping form, enter "APO" as the city and "AP" as the state.

Mail to and from Palmer Station

Palmer Station has no post office. Mail infrequently reaches the station on southbound vessels, and there may only be opportunity to send and/or receive mail once or twice a season.

Friends and family should send letters and limited small packages (smaller than a shoe box) to the ASC office about two weeks before the ship's scheduled departure from Punta Arenas. Packages should include a packing list, as they will be opened and inspected before they are sent to the station. Mail should be sent to:

[Your Name]
[Palmer Station or Vessel Name] c/o ASC
7400 S. Tucson Way Centennial, CO 80112-3938

Mail to and from New Zealand

Due to the increased usage of New Zealand Post Private Bag 4747, security and safety concerns have risen. In the past, packages were inspected by N.Z. Customs. However, this service is out of their scope and is no longer an option. There is now the need to have better control of the type of mail coming through this stream. Therefore, every parcel coming through the private bag will require a [U.S. Customs declaration](#), PS Form 2976 or PS Form 2796-A—not a N.Z. customs form.

NOTE: Any parcel missing a PS Form 2976 or PS Form 2796-A, will be held in the Clothing Distribution Center (CDC) until the participant returns off the ice. The CDC reserves the right to refuse goods deemed excessive or restricted.

If you are a USAP participant on the ice and corresponding with New Zealand residents, you must use the address below to avoid the unnecessary time and expense of having the letter go to the United States:

[Participant's Name]
NSF McMurdo Station
Private Bag 4747
Christchurch 8140

This address is a courtesy and must not be used for ordering large quantities of personal goods. Items must be delivered by NZ Post only. Items delivered by any other agency will be refused. The items must comply with rules applied by USPS for mailing hazardous materials, restricted matter and perishable matter, i.e., alcohol, batteries, perishables, flammable, drugs, knives, corrosives or vapes are prohibited. The Christchurch APO Postmaster reserves the right to refuse goods deemed excessive.

If you have any questions about this change or the above guidelines, please contact chc-apo@usap.gov.

Station-Specific Information

NSF McMurdo Station

Lodging

Rooms are similar to those in college dormitories, including shared bathrooms, and participants are assigned to at least one roommate. Roommate requests, including spouses or partners, may not be honored for temporary or transient station residents. Temporary residents are defined as ASC employees staying fewer than 30 days and grantees staying fewer than 15 days. Those transiting through McMurdo Station to South Pole Station or field camps will be assigned to transient lodging. Due to round-the-clock operations, roommates may arrive at any time of the day or night.

Housekeeping Chores

“House mouse” duties, which include cleaning common areas or maintaining waste collection areas, are shared by all personnel on a rotating basis.

Fax Machines

Contact the McMurdo Station IT Service Desk if you need to send or receive a fax. Alternatively, scan and share the document via email or other approved online sharing services.

Recreation

Facilities include a library, a craft room, clubs, a climbing wall, a gymnasium, weight and cardio gyms, an aerobics room, saunas, pool tables and dart boards, and a band room. Volunteers organize activities such as art shows, chili cook-offs, running races, yoga classes, dances, music performances, league play, lessons and lectures. Board games, costumes, musical instruments, cross-country skis and other items are available for rental.

Laundry

Washers and dryers and detergent for personal use are provided at no charge in the dormitories. Participants are responsible for washing linens and clothing. Full loads are encouraged to minimize water consumption.

Religious Services

Limited services are typically provided by a military chaplain during the austral summer. In addition to conducting regular worship services and religious programs, the chaplain accommodates all religious practices and is available for counseling, both religious and secular. The chapel program provides opportunities for volunteers to use their gifts in ministry and service.

USAP Counselor

The USAP counselor is stationed in McMurdo Station during the austral summer and typically visits South Pole Station at least

once. This person provides counseling services to participants at all locations and is available remotely during the austral winter.

Meals

Food service is cafeteria style. There is no portion limit, but to minimize cost and waste take only what you will eat and eat all of what you take. A variety of food is offered every day. People with severe dietary restrictions or significant food allergies need to be prepared for limited choices. Gluten-free, vegetarian and vegan menu items are often available but not guaranteed. In addition to the regular three meals, a midnight meal is served in the summer, first to night workers and then to the general population. Snacks, pizza and leftovers are available at any time.

Volunteers provide assistance with dish washing and, on special occasions, with food preparation.

Money

McMurdo Station has two Wells Fargo ATMs. Credit cards are accepted in the station store.

Station Store

The station store stocks a limited supply of toiletries, snacks, beverages and souvenirs. Rationing systems help ensure that all residents have access to items. It is prudent to bring a sufficient supply of toiletries for your entire deployment.

Medical

The McMurdo Station Clinic provides health care on both a walk-in and appointment basis during posted hours, six days a week. Hours are posted at the entry and on the McMurdo Station intranet. For emergencies, staff can be reached 24/7 by calling 911. The facility is equipped to handle a wide range of minor illnesses and injuries and to stabilize critical patients for evacuation.

Services include X-ray, laboratory, pharmacy and nursing. A dentist is not available during the season, although one may be deployed near the end of the summer to help with winterover PQ exams. During the winter, the physician has only limited capability to treat and manage dental and rehabilitation needs. The clinic has a limited pharmacy and does not provide over-the-counter medications.

All injuries should be evaluated at the clinic. The physician will fill out a Medical Reporting Form, which gets submitted to the Medical and Emergency Response Manager and the corresponding HR representative who, if appropriate, will file the workers' compensation claim. Injuries are tracked anonymously to identify potential incident trends.

Vehicles

Vehicles are assigned to work centers and some grantee groups as designated in their RSP. If your assignment requires driving a vehicle, you will receive training in proper operation and preventive maintenance. Vehicles are government property and are not authorized for personal use. A valid driver's license and site-specific training are required for vehicle operators.

Waste

It is the responsibility of all persons to keep the station presentable by properly sorting and disposing of all recyclables and waste. By entering a U.S. Antarctic station, you automatically consent to abide by local procedures prescribed for waste management.

NSF Amundsen-Scott South Pole Station



The elevated station at the South Pole contains dormitory rooms, offices, a cafeteria, a gym, a store, and a postal service center. Photo by Ethan

Lodging

There are 153 rooms in the Elevated Station. Rooms are similar to college dormitories with community bathrooms. All are single rooms, but double-occupancy rooms can be created when requested.

Recreation

There is a large gymnasium, a weight and cardio room, a sauna, a small arts-and-crafts room stocked with basic supplies, a quiet reading room, a small greenhouse with public lounge, two movie lounges, a lounge with board games and a pool table, and a music room stocked with basic instruments.

Laundry

Washers, dryers and detergent are provided free of charge, but due to water conservation, participants are only allowed one load of laundry each week.

Meals

Food service at the South Pole Station is cafeteria style, with three meals served daily. Take as much as you want, but only take what you are able to eat. Remember, every piece of food thrown in the garbage has to be flown out of the station.

A variety of food is offered every day. Though some food accommodations may be made, people with severe dietary restrictions or significant food allergies need to be prepared for limited choices. Volunteers provide assistance with dish washing and, on special occasions, with food preparation.

Station Store

The store stocks a limited supply of toiletries and beverages. Antarctic and South Pole Station souvenirs are also available for purchase, but supplies are limited in variety and quantity. Only cash is accepted at the store. Bring cash with you or pick up cash in McMurdo Station from the ATMs on your way to South Pole Station.

Medical

The South Pole Station clinic is equipped to handle a wide range of minor illnesses and injuries and to stabilize critical patients for evacuation. It has a limited pharmacy and does not provide over-the-counter medications. Medical staff are on site year-round and provide health care on a walk-in basis.

Housekeeping Chores

“House mouse” responsibilities are shared by all personnel on a rotating basis. All residents participate in cleaning residential bathrooms and most work centers have other weekly cleaning chores.

Money

There is no ATM at South Pole Station and credit cards cannot be used. No check cashing services are available. Some ASC employees may be able to have funds deducted from their paychecks and cash provided to them while they are on station. University of Texas Medical Branch employees do not have this option, as UTMB does not participate in remote cash disbursements. Non-ASC participants (grantees) must bring all their cash with them.

NSF Palmer Station

Lodging. Rooms are similar to college dormitories, with two-person shared rooms and community bathrooms. Linens, pillows, comforters and towels are provided, as are laundry facilities and detergent. Water is plentiful and usage is generally not restricted, though conservation is encouraged. There is no janitorial staff. Everyone participates in station clean-up, radio watch and hosting visitors.

Recreation

Facilities include an exercise room with weights and cardio equipment and a club area with billiard and ping pong tables. There are arts-and-crafts supplies and, for outdoor recreation, there is a limited selection of cross-country skis, snowshoes and camping equipment. The station also has a sauna and an outdoor hot tub. There is a library of movies and TV shows available for viewing on a large-screen projector in the lounge and some capability of viewing live TV via Starlink.

Meals

Food service is cafeteria style and is offered every day, except on Sunday, when there are ample leftovers available. People with severe dietary restrictions or significant food allergies need to be prepared for limited choices. Vegetarian options are generally offered, while gluten-free and vegan items are often available but not guaranteed.

Station Store

A small store stocks toiletries, over the counter medicines, souvenirs and beverages.



Palmer Station, on Anvers Island in the Antarctic Peninsula region, is the smallest of the three permanent U.S. stations. Photo by Julian Race.

Medical

The station has a small but well-equipped clinic, with a physician available year-round.

Tourism

During the summer, tour ships and yachts may visit the station. Members of the community participate in preparing for these visits, giving tours of the station or working in the store.

Boating

Palmer Station maintains a fleet of small boats and two 30-foot, closed-cabin, rigid-hull inflatable boats (RHIBs). Some recreational use is allowed for viewing local wildlife. Safety training is required before participants are allowed to travel in or operate these boats.

Research Vessel

Lodging

Accommodation on the research vessel consists of primarily two-person cabins with private toilets and showers. The ship has laundry facilities that are free of charge.

Recreation

The vessel has a small exercise room and a TV lounge with DVDs.

Meals

Cafeteria-style meals are provided.

Motion Sickness

Be aware that travel on a USAP research vessel often involves passing through some of the roughest seas in the world. If you are prone to motion sickness or have never sailed before, consult with your personal physician for the appropriate medication before you depart. See [Chapter 5: Traveling to Palmer Station](#) for more information.

A detailed vessel orientation guide is available on the USAP website.



The research vessel Nathaniel B. Palmer. Photo by Julian Race.

Appendix



NSF Antarctic Helpline
Sexual Assault/Harassment Support



Sexual Assault and Harassment Prevention and Response (SAHPR) Program

Resources for the U.S. Antarctic Program (USAP)

Are you a survivor or witness of a sexual assault or sexual harassment in the USAP? **Help is available.**

To report an incident or request information, email saferscience@nsf.gov.

Receive 24/7 immediate crisis intervention and emotional support via the **NSF Antarctic Helpline:**

Website and Online Chat

NSFAntarcticHelpline.org

Phone

833-673-1733

Text

202-932-7569

Additional resources for the USAP community:

NSF's SAHPR Office

Email: saferscience@nsf.gov

NSF's Office of Inspector General (OIG)

OIG Hotline: <https://oig.nsf.gov/hotline>

USAP Special Deputy U.S. Marshal

Email: mcm-nsfstmgr@usap.gov

Advocacy services and mental health counseling:

USAP Victim Advocate

Provides confidential information about safety planning, reporting, possible accommodations, and other support resources.

Email: USAPadvocate@LDSScorp.com

Phone: 720-568-1083

USAP Extension: x42709

USAP Licensed Clinical Counselor

Provides confidential mental health support and counseling services.

Email: USAP-counselor@usap.gov

For medical services, such as physical examinations, medical forensic exams, and preventative treatments, contact:

McMurdo Station Medical Services

Local extension: x42551

Pager: 876

South Pole Station Medical Services

Local extension: x61602

Radio call number: 242

Palmer Station Medical Services

Local extension: x52778

Glossary

62nd Airlift Wing – USAF unit that provides C-17 aircraft support to USAP.

109th Airlift Wing – Division of the New York Air National Guard that supports USAP.

139th Expeditionary Airlift Squadron (EAS) – Designation of the 109th Airlift Wing when deployed.

304th Expeditionary Airlift Squadron (EAS) – Designation of the 62nd Airlift Wing when deployed.

500th Air Expeditionary Group (500 EAG) – Commands all LC-130 and C-17 activities and personnel in New Zealand and Antarctica.

ACA – Antarctic Conservation Act.

ACL – Allowable Cabin Load. This aircraft payload is based on take-off conditions, landing restrictions, range, weather and fuel requirements.

AFN – American Forces Network; provides television and radio content for McMurdo Station.

AIL – Antarctic Infrastructure and Logistics. NSF/OPP section responsible for material assets and logistics.

AIMS – Antarctic Infrastructure Modernization for Science.

AMC – Air Mobility Command, U.S. Air Force.

ANG – Air National Guard, U.S. Air Force Reserve Component.

ANT – NSF/OPP section that manages research grants.

AOD – Airport of Departure.

APHIS – Animal and Plant Health Inspection Service, U.S. Department of Agriculture.

APO – Air Post Office.

APT – Antarctic Passenger Terminal at the International Antarctic Center in Christchurch, New Zealand.

ASC – Antarctic Support Contract. The primary logistical support contractor for USAP, managed by Leidos.

ASMA – Antarctic Specially Managed Area.

ASPA – Antarctic Specially Protected Area.

ATO – Antarctic Terminal Operations. Division of ASC that manages the movement of passengers and cargo.

Bag Drag – The process whereby passengers are weighed and checked for ECW gear, carry-on bags are approved and luggage is palletized for transport.

BEST Recycling – ASC teammate that provides waste and recycling services for USAP.

BFC – Berg Field Center. The McMurdo Station building that contains field camp equipment.

Biolab – Palmer Station building containing the biology laboratory.

BizOps – Business Operations. ASC functional work group overseeing finance and budget.

Boomerang – A flight that departs and returns to its origin due to weather or mechanical problems.

Bumped – Refers to cargo or passengers that is/are removed from a flight due to weight restrictions or other considerations.

C-17 – A U.S. Air Force aircraft used for transporting cargo and personnel between New Zealand and McMurdo Station.

CDC – Clothing Distribution Center in Christchurch, New Zealand

Chalet – Building at McMurdo Station that houses NSF and ASC headquarters staff.

CHC or CHCH – Acronym for Christchurch. Pronounced “cheech.”

Clean Air Sector – Area upwind from the South Pole Station that is not contaminated by exhaust fumes from station activity.

COBRA – Continuation of Health Coverage

COMAIR – Commercial airline transport.

COMNAP – Council of Managers of National Antarctic Programs.

COMSUR – Commercial surface vessel transport.

Communications – ASC functional work group overseeing publications, media relations, technical editing, education outreach, photo archiving and USAP-related news stories.

Condition One – Weather condition when visibility is less than 100 ft., wind is greater than 55 knots or wind chill is greater than -100°F. Work and travel are severely restricted.

Condition Two – Weather condition when wind speed is between 48-55 knots or visibility is less than 1/4 mile, but greater than 100 ft., or wind chill is greater than -75°F, but less than -100°F. There are some travel and work restrictions.

Condition Three – Weather condition in which there are no restrictions to work or travel.

Continental Area – The part of Antarctica that includes McMurdo Station, South Pole Station and many field camps (including deep-field camps). Does not include the Peninsula area.

CONUS – Continental United States.

Crary Lab – Crary Science and Engineering Center. Main laboratory at McMurdo Station. Also known as Building One, or CSEC.

Dark Sector – Area near the South Pole Station that is not contaminated by light pollution.

DEA – U.S. Drug Enforcement Administration

Deployment – Initial passenger transport from airport of departure to destination.

DNF – Do Not Freeze.

DoD – Department of Defense.

DV – Distinguished Visitor.

EBI – Elevated Background Investigation.

ECO – Edison Chouest Offshore LLC. The company that owns and operates the USAP research vessel.

ECW – Extreme Cold Weather. Used in reference to the special clothing and equipment issued to USAP participants.

EIA – Environmental impact assessment.

EntROB – USAP Enterprise Rules of Behavior.

Event Number – A number identifying a science group that has received funding from NSF to perform research in Antarctica.

FAR – Federal Acquisition Regulations.

Facilities – ASC functional area for facilities maintenance, construction and professional services.

Gana-A' Yoo (GSC) – ASC teammate providing lodging, recreation, food service, retail service and postal service for USAP.

Genetically Modified Organism (GMO) – Any organism in which any of the genes or genetic material has been modified by in vitro techniques.

GHG Corporation – ASC teammate providing most of the on-Ice IT and communications support.

Grantee – Any individual who has received or is supported by a grant from NSF.

GWR – Palmer Station building containing the garage, warehouse and recreation.

HAZMAT – Hazardous material.

Herbie – Term used to describe a storm with fierce winds and/or snow.

HR – Human Resources.

IAC – International Antarctic Center, Christchurch, New Zealand.

Ice – Slang term for Antarctica, as in “I’m going to the Ice.”

IGY – International Geophysical Year, 1957-1958.

Implementers – The people who work most closely with science projects in Antarctica.

IRS – Internal Revenue Service.

ITC – Information Technology and Communications. ASC functional work group overseeing telecommunications and computers.

JSOC – Joint Space Operations Center; a building in McMurdo Station.

KBA – Kenn Borek Air, Ltd. The company that provides small fixed-wing aircraft, pilots and support.

Kiwi – Nickname for New Zealanders.

Landline – A regular telephone line, as opposed to radio or other wireless communication.

LC-130 – A ski-equipped, four-engine Lockheed Hercules turboprop airplane.

Lidos – The prime contractor supporting USAP; manages the group of companies known as Antarctic Support Contract (ASC).

LTER – Long Term Ecological Research.

Maersk – ASC teammate providing cargo logistics and operational support in Punta Arenas, Chile.

Mainbody – The period of time between October and February when the majority of USAP activity occurs.

MCC – Movement Control Center, McMurdo Station, Antarctica.

MCV – Marine Crew Visa.

MEC – Mechanical Equipment Center, McMurdo Station, Antarctica.

Medevac – Medical evacuation of a patient.

Milvan – Vernacular for cargo containers used for shipping and storing supplies.

MOGAS – Motor automotive gasoline.

MPC – Marine projects coordinator.

MPI – Ministry of Primary Industries, New Zealand.

MPSM – McMurdo Station, Palmer Station and South Pole Station Modernization.

MRF – Medical Report Form/

MSC – Military Sealift Command.

NBP – Research vessel ice breaker RVIB Nathaniel B. Palmer.

NGO – Nongovernmental organization.

NIWC – Naval Information Warfare Center. Agency that provides weather forecasting and air traffic control services for USAP.

NPQ or NPQ’d – Not physically qualified.

NSF – U.S. National Science Foundation, the agency of the U.S. government that manages USAP.

NYANG – New York Air National Guard.

NZAP – New Zealand Antarctic Programme.

NZDF – New Zealand Defence Force.

NZEPA – New Zealand Environmental Protection Authority.

NZeTA – New Zealand Electronic Travel Authority.

OECR – Office of Equity and Civil Rights, U.S. National Science Foundation

OIG – Office of the Inspector General.

OMB – Office of Management and Budget.

Operations – ASC functional work group overseeing vehicle fleet maintenance and operation, fuels, fire department, station services and recycling.

OPP – Office of Polar Programs, U.S. National Science Foundation.

OSHA – Occupational Safety and Health Administration.

PA – Abbreviation for Punta Arenas, Chile; a staging area for Peninsula operations.

PAE – ASC teammate providing infrastructure, operations, transportation and logistical support for USAP. PAE New Zealand (PAE NZ) provides Christchurch operations.

Pax – Vernacular for passenger/s.

PCB – Polychlorinated biphenyl.

Peninsula Area – The part of Antarctica that extends up toward South America and includes Palmer Station.

PHI – The company providing helicopters, pilots and helicopter support.

Phoenix – A runway on compressed snow near McMurdo Station that accommodates wheeled airplanes.

PI – Principal Investigator. Team leader or scientist in charge of a funded research project.

PMO – Program Management Office. ASC functional group that oversees the prime contract.

POC – Point-of-contact.

POLAR ICE – Participant On-Line Antarctic Resource Information Coordination Environment. A web-based data collection and dissemination system designed to capture and administer all relevant support requirements for scientific research in Antarctica.

PPE – Personal protective equipment.

PQ or PQ'd – Physically Qualified.

PSR – Point of Safe Return.

PTH – Abbreviation for Port Hueneme, California, the port through which most USAP cargo passes.

Radioisotope – Radioactive material used in research.

Redeployment – Passenger transport from destination to origin.

Retrograde – Describes cargo returned from the field to McMurdo Station, or from McMurdo Station to destinations north. Usually in the reverse order of its initial deployment.

RNZAF – Royal New Zealand Air Force.

ROER – Record of Environmental Review (ROER).

ROS – Required on Site. Date that an item is required to be at a station or on a vessel, usually expressed as a Julian calendar date.

RSP – Research Support Plan. The planned support to be provided for a science project.

SAAM – Special Assignment Airlift Mission, a mission supported by the USAF AMC at the request of NSF.

SAR – Search-and-rescue.

SCAR – Scientific Committee on Antarctic Research, of the International Council of Scientific Unions, a nongovernmental organization.

Science Planners – ASC personnel who work with science groups to plan their research season.

SCOBY – Symbiotic culture of bacteria and yeast. Refers to the cultures used to make yogurt and kombucha.

S&TPS – Science and Technical Project Services. ASC functional work group that works with scientists to ensure their research requirements are met.

SFA – Support Forces Antarctica. The tactical operational name given to U.S. military personnel and equipment in Antarctica.

SFTP – Secure file transfer protocol.

SIP – Support Information Package, a listing of the resources requested by the grantees.

SOH – Safety and occupational health.

SPoT – South Pole Traverse.

SSC – Science Support Center, a building in McMurdo Station containing the MEC and field safety instructors.

T&L – Transportation and Logistics, an ASC functional work group overseeing cargo and passenger transport and inventory management.

UAS – Unmanned Aerial System.

USAF – United States Air Force.

USAP – United States Antarctic Program. The U.S. government’s program for research and related activities in Antarctica.

USAP Airlift – Refers to the scheduled movement of cargo and passengers from Christchurch to McMurdo Station.

USCIB – U.S. Council for International Business.

USCG – United States Coast Guard.

USDA – U.S. Department of Agriculture (USDA).

USGS – United States Geological Survey.

UTMB – University of Texas Medical Branch. ASC teammate providing medical qualifications and telemedicine services.

V-Event – An individual, approved by NSF, visiting USAP locations.

Vessel – Generally refers to the annual resupply ship or to research vessels.

VHF – Very high frequency. VHF radios are used locally around stations and ships.

VMF – Acronym for the Vehicle Maintenance Facility, also known as the heavy shop.

WinFly – Vernacular for “winter fly-in.” Usually occurs in late August.

Williams Field – A snow skiway airfield located near McMurdo Station.

Contact Information

U.S. National Science Foundation, Office of Polar Programs

703-292-8030

<https://www.nsf.gov/div/index.jsp?div=OPP>

Antarctic Support Contract (ASC)

1-800-688-8606

www.usap.gov

ASC Travel

1-800-688-8606, ext. 33202

For emergencies related to travel (while in transit): 720-979-5764

deploy@usap.gov

redeploy@usap.gov

University of Texas Medical Branch (UTMB)

1-855-300-9704

polmedpq@utmb.edu

Christchurch Travel Office

From U.S.: 1-800-390-1449

In New Zealand: 0-800-358-8139

PTServices@usap.gov or chctravel@usap.gov

Emergency

To get an urgent message to someone in Antarctica, call ASC headquarters at 303-790-8606. Explain the emergency and you will be put in contact with the appropriate person.

Antarctic Mailing Addresses

NSF McMurdo Station

[Participant's Name] PSC 769 Box 700

APO AP 96599-9998

NSF South Pole Station

[Participant's Name] PSC 768 Box 400

APO AP 96598-0001

NSF Palmer Station

(flat mail and small packages only)

[Participant's Name]

c/o Antarctic Support Contract

7400 S. Tucson Way Centennial, CO 80112-3938