

CHAPTER 4: Environmental Protection, Permits, and Science Cargo



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.

U.S. environmental conservation and waste management laws apply in Antarctica. This chapter describes environmental impact assessment 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 it explains permitting rules that apply to cargo, including specimens shipped from Antarctica.

ENVIRONMENTAL IMPACT ASSESSMENT

U.S. Federal Regulations 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 Environmental Protocol to the Antarctic Treaty 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 (ROER). 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 (IEE) or Comprehensive Environmental Evaluation (CEE) will be prepared. NSF/OPP works with those who are planning to conduct the activity to ensure that all environmental review has been completed and appropriate mitigating measures are in place before the activity proceeds.

ANTARCTIC CONSERVATION ACT

The Antarctic Conservation Act (ACA) 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. 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, avoiding interference with animals – but the Act is complex, and you cannot rely solely on common sense. The ACA and permit application instructions and form can be accessed online at www.nsf.gov/geo/opp/antarct/aca/aca.jsp.

Highlights of the ACA

"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 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; or
- 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.

Specially Protected and Managed Areas. A number of places in Antarctica are designated under the Antarctic Treaty as Antarctic Specially 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 or Litchfield Island near Palmer. Other ASPAs include the historic huts in areas near McMurdo.

Antarctic Specially Managed Areas (ASMAs) have been established to assist in the planning and coordination of activities in order 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 at www.ats.aq/e/ep_protected.htm.

Introducing species. You need a permit to introduce non-native species to the Antarctic (south of 60° S), and a clear research 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 regarding the introduction of non-native species, contact 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 science or hygiene, and a permit is needed)
- polychlorinated biphenyls (PCBs)
- nonsterile soil

- polystyrene beads, plastic chips, and loose polystyrene packing material

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 (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.

You need to pay attention when you pack for travel to Antarctica. Ask yourself: How might I reduce the number and amount of designated pollutants, are there benign substances that might be substituted for designated pollutants, and how should these substances be handled?

Historic sites. More than 90 historic monuments or sites have been designated during Antarctic Treaty meetings.

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 McMurdo, Palmer, South Pole, or the research vessel from field camps. This includes human waste.
- **Handle lab chemicals properly.** Pack, store, and identify them correctly. Arrange for proper disposal, according to instructions.
- **Don't spill fuel.** Take the time and precautions necessary to avoid spills. Use secondary containment and absorbent spill pads when transferring fuel. Waste fuels and lubricants have to 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 police an area. This is an opportunity to work with your colleagues to keep camp and station areas clean.
- **Avoid disturbing wildlife.** In particular, do not walk 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 the wildlife are reacting to you, you are too close.
- **Do not introduce plants or animals to Antarctica** or collect eggs, feathers, or fossils. Clean your gear and clothing before arriving in Antarctica.
- **Do not cross contaminate.** Avoid transferring soil from stations to field sites and between field sites. Brush boots before boarding vessels or aircraft. 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 ASMA's.
- **Avoid interference with scientific work** and do not enter unoccupied buildings or refuges except in an emergency.
- **Take care of Antarctic historic monuments.**

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. The 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, and the Raymond Smith Monument commemorates BM1 Raymond Thomas Smith, USN, who died in 1982 during an unloading accident aboard USNS Southern Cross 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 their 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 as 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 ASC staff in the Chalet at McMurdo Station.

Enforcement officers. ACA enforcement officers are federal officials responsible for ensuring compliance with both the ACA and issued permits. These officers help USAP participants understand their obligation to protect native plants and animals and prevent the release of pollutants, and they are authorized to exercise the full spectrum of law enforcement powers when performing their duties.

PERMITS AND REPORTING

Antarctic Conservation Act. 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 the person who initially decides 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, National Science Foundation
2415 Eisenhower Avenue
Alexandria, Virginia 22314
Fax: 703-292-9081

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

Protected resources. If your project involves any marine mammal, as defined by the Marine Mammal Protection Act of 1972 (16 U.S.C. 1362(5)); any species that is an endangered or threatened species under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.); or any bird that is protected under the Migratory Act (16 U.S.C. 703 et seq.), you may need to obtain permits from other federal agencies. 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:

- www.nmfs.noaa.gov/pr/permits
- www.fws.gov/birds/index.php

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 www.nsf.gov/geo/opp/antarct/meteorite_regs.jsp.

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. Responsibility for knowing these regulations, complying with restrictions, and obtaining clearances rests with the grantee. 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 (USDA), Animal and Plant Health Inspection Service (APHIS), 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:

USDA, APHIS, VS, NCIE
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 the importation of harmful plants or animals, or soil samples that might contain harmful seeds, insects, fungi, or bacteria. New Zealand has particularly stringent regulations (see below). 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, there may be difficulty in clearing customs, particularly when hand-carrying biological samples.

- For information about New Zealand Ministry of Primary Industries (MPI) regulations, visit their website: www.mpi.govt.nz.
- For information about Chilean restrictions, contact the consulate in your region: chile.gob.cl/chile/en/site/edic/base/port/consulados.html.
- For information about Argentinean restrictions, go to the following website, click on the “English” button, then “Consular Assistance,” and then “Consulates in the U.S.”: www.eeeuu.mrecic.gov.ar/en.

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

New Zealand health and agricultural requirements. New Zealand has strict regulations regarding the importation or transshipment of biological and laboratory samples. A permit from the Ministry for Primary Industries (MPI) must be obtained in order to bring them into the country. This applies to samples coming from either the U.S. or Antarctica.

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. Applications are gathered by the senior administrative coordinator at PAE (NZ) for processing. 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. ASC personnel will arrange for procuring and shipping these items to Antarctica. Protocols set forth by the U.S. Drug Enforcement Administration (DEA) are applicable while in Antarctica. (NOTE: Personal prescription drugs are covered in Chapter 3.)

New Organisms or Genetically Modified Organisms. PAE NZ 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 are able to transship them. You can request a copy of the Decision Document and applicable MPI permit from the Crary Lab supervisor at Mcm-CraryLabSupv@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 www.epa.govt.nz. For GMOs, you must provide your approved ACA permit, along with 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 with New Zealand being the ultimate destination of the samples, 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 (Mcm-CraryLabSupv@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 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 e-mail 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 Ministry for Primary Industries inspector at the border. If you also have GMOs or new organisms, you must present the additional paperwork provided to you by PAE NZ.

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. 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 document Packing and Shipping Instructions (www.usap.gov/logistics/documents/TL-MAN-0002.pdf). A copy of these instructions can be sent to you on 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, 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 manager 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.

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 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 NSF/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 e-mail with the hazardous material (HAZMAT) specialist in Christchurch (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:

1. All orders must be marked by the vendor for:
 - National Science Foundation
 - c/o PAE (NZ) Limited
 - Gate 1, Orchard Road North
 - Christchurch International Airport
 - Christchurch, New Zealand
2. 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.
3. After the order is placed with the vendor, you **MUST** then send the HAZMAT specialist in New Zealand either an e-mail (hazmat@usap.gov) or a fax (+64-3-358-1479) with the applicable following information:
 - A. If the material is unsealed** (not shipped as an integral part of equipment):
 - i. Radionuclide
 - ii. Activity per item
 - iii. Number of items
 - iv. Description of radioactive material
 - v. Country of origin
 - vi. Expected departure date from country of origin (include country name, e.g., United States) and

expected arrival in Auckland, New Zealand

B. If the material is sealed (shipped as an integral part of an instrument):

- i. Radionuclide
 - ii. Activity per item
 - iii. Number of items
 - iv. Year of manufacture (if known)
 - v. Source serial number (if known)
 - vi. Instrument type
 - vii. Model #
 - viii. Serial #
 - ix. Country of origin
 - x. Expected departure date from country of origin (include country name) and expected arrival in Auckland, New Zealand
4. You are required to follow up with confirmation of the airway bill, flight numbers, and special handling instructions (e.g., DNF) as soon as the shipment is confirmed.
 5. 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 E-mail: hazmat@usap.gov

SCIENCE CARGO

Data and specimens should be transported with the same care and forethought that went into planning research projects. The document “Packaging and Shipping Instructions” (see above for URL) 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 SIP and from ASC management. Responsibility for cargo and passenger movement within the continental area rests with the ASC director of Transportation and Logistics and the ASC manager of Antarctic Terminal Operations (ATO). During the summer at McMurdo, ATO manages all cargo transported to McMurdo Station and onward.

USAP Science Cargo focuses on cargo related to science projects and technical events, but 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 (MCC) staff for transport. Science Cargo staff can tell you where in the USAP cargo system your particular items are located. You can assist them 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

Palmer Station via research vessels. Cargo must reach the NSF contractor representative in Port Hueneme, California at least 90 days before it is scheduled for loading onto the research vessel in Punta Arenas, Chile for transport to Antarctica. See the Peninsula Logistics Schedule for cruise deadlines at: www.usap.gov/logistics/documents/TL-FRM-0100.pdf.

McMurdo Station via charter resupply vessel. A chartered, U.S.-flag cargo vessel sails annually from Port

Hueneme to McMurdo Station, arriving the last week of January. Cargo for this ship must be received in Port Hueneme by December 1. This vessel is the preferred mode of transport for delivering materials to McMurdo, as well as for ongoing transport to South Pole Station and continental field camps. Maximum use of this mode is possible only through careful planning by all concerned. 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 to McMurdo via any aircraft capable and certified to operate in Antarctica. The airlift period is generally from late August to the end of the operating season, although recently there have been scheduled winter flights. Commercial surface vessel shipment to Christchurch (via Port Lyttleton) is the preferred transport mode for airlift cargo. In general, airlift cargo needs to arrive in Port Hueneme according to the shipping dates noted in Packaging and Shipping Instructions.

Commercial air cargo. If circumstances prohibit shipment by sea, NSF may authorize ASC to ship cargo by commercial air to Christchurch. 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 benefit to warrant the added cost of this transport mode. Air cargo will not be authorized as a substitute for inadequate advance planning.

South Pole Station cargo. Cargo to and from South Pole Station is transported almost entirely by LC-130 aircraft 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 Science Cargo personnel in McMurdo and at South Pole determine cargo plans and schedules.

Hazardous cargo. Explosives, gases, flammables, oxidizers, poisons, radioactive materials, corrosives, and other hazardous items are forbidden in personal baggage, mail, or hand-carry and 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 for more information.

Transportation schedules are available at www.usap.gov under the Grantees Support/ Calendars and Schedules link. 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 and South Pole stations.

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 cargo personnel at Palmer or South Pole stations 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 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. Note that it is the shipper's responsibility to insure cargo against loss. You are entirely responsible for any items you mail or hand-carry.

