

**FACILITIES AND SERVICES AVAILABLE
TO NSF-SPONSORED PROJECTS IN GREENLAND**



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TABLE OF CONTENTS

Introduction	1
Logistics and Clearances	2
Logistics Support by PICO	2
Clearances	2
Transportation to and from Greenland	3
AMC Flights	3
109th Airlift Group Flights	3
Special Assignment Airlift Missions (SAAM)	3
Scheduled Airlines	3
Commercial Charter Aircraft	3
Baggage Allowances	4
Personal Baggage	4
Professional Baggage	4
Skis	4
Baggage Limitations for Various Modes of Travel	5
Ground Transportation and Accommodations Enroute	6
McGuire AFB, NJ	6
Schenectady, NY	6
Charter Transportation to and from Greenland	6
Cargo Shipment	7
Deadlines	7
Ship Transportation	7
Documentation	7
Packing	9
Hazardous Cargo	9
Retrograde Cargo (Greenland to CONUS)	10
Support Services in Greenland	11
General Support	11
Secure Storage	11
Transportation within Greenland	11
Supplies and Services	12
Taxed Items	12
Remote Field Support	12
Greenland Operating Locations	13
Kangerlussuaq	13
Thule Air Base	14
GISP2	15

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INTRODUCTION

This brochure provides a general overview of services available at Kangerlussuaq, Thule Air Base, and remote field sites in Greenland to assist Principal Investigators (PIs) in planning for the 1993 Greenland field season.

At this writing, the decision on where we will stage 1993 Greenland operations has not been made. The closure of Sondrestrom Air Base, planned runway repair at Thule Air Base, and the uncertainty of where we will operate in 1993 requires that PICO remain flexible enough to support your field work, regardless of the facilities available to us. For these reasons, we are providing information on the services and facilities available at all anticipated operating locations. Telephone numbers, schedules, and specific travel plans are not addressed in this document as the information will not be available until very near your travel date.

A supplement to this brochure will be published and distributed when all the information is available. We are requesting more information on passenger and cargo movement than in the past to allow us the flexibility of using all available transportation methods on short notice should the need arise. It is anticipated that procedures and support facilities will change throughout the year. We encourage everyone to contact PICO early and on a regular basis so we may better assist you with your field planning.

The Polar Ice Coring Office (PICO) at the University of Alaska Fairbanks (UAF) provides logistics planning, remote camp equipment, and coordination of services for all National Science Foundation (NSF)-sponsored research projects in Greenland. PICO is stationed in Greenland to act as liaison between NSF-sponsored personnel and support agencies.

While in Greenland, each project's participants are guests of the Greenlandic and Danish governments. The changes in support facilities and locations will complicate the coordination of support this year. We ask your cooperation in building rapport with the organizations that support and host us. Please let the PICO representatives in Greenland attend to your support needs and resolve your problems. This will insure the completion of your work and help establish clear communications with our hosts.

TRANSPORTATION TO AND FROM GREENLAND

Many modes of transportation will be used this year. PICO will determine the best mode to use based upon your requirements and the most cost-effective mode available. Travelers who choose to use an alternate mode of transportation do so at their own expense. The following modes may be used.

AMC Flights

Currently the U.S. Air Force is operating "passenger only" flights into Kangerlussuaq on an "as needed basis only." These flights are only a temporary measure that will be discontinued as soon as the Greenland Home Rule Government establishes commercial or contract air service between Thule AB and Kangerlussuaq. These flights can be used by NSF personnel on a space available basis. However, the flight will be flown only if DOD passengers require transportation. Flights are, therefore, subject to cancellation without notice. As of this writing, there is no AMC cargo service available to Kangerlussuaq. PICO will make use of available AMC flights; but, for planning purposes anticipate most passenger travel via chartered aircraft or military special assignment airlift missions (SAAM).

109th Airlift Group Flights

PICO arranges transport of personnel and equipment on a limited, space-available basis aboard 109th AG flights from the New York Air National Guard of Scotia, NY, to Kangerlussuaq and return. The 109th AG is under no obligation to support NSF projects in this way, and requests are considered in light of their primary mission requirements. PICO forwards requests for space-available transport to the 109th well in advance of each field season.

Special Assignment Airlift Mission (SAAM)

PICO contracts with the USAF for transportation via USAF aircraft on a "military charter" basis. The flight is bought for the exclusive use of PICO. The specifics of cargo and passenger procedures for each SAAM will be forwarded when details become firm.

Scheduled Airlines

Scheduled jet service is available to Kangerlussuaq through Copenhagen. Some personnel may travel via this method. The decision on the mode of travel used will be made based on the most cost effective of the available options. SAS schedules change considerably during the year varying from two flights per week to five. Contact SAS @ (800) 221-2350 for the latest information.

Commercial Charter Aircraft

The use of commercially chartered aircraft for the movement of both cargo and passengers is likely for the 1993 season. A deployment cargo charter is tentatively scheduled to depart 26 April 1993.

NOTE: Individual projects are expected to cover the costs of participants' transportation within CONUS from grant funds.

BAGGAGE ALLOWANCES

IMPORTANT NOTE:

The maximum amount of baggage a traveler can hand carry varies greatly dependent upon the mode of travel. In some cases the baggage allowance is as low as 44 pounds. If you have any doubt about how much baggage you can hand carry, contact PICO first. PICO will not pay for excess baggage charges without prior approval.

Personal Baggage

Because of the uncertainty of what transportation modes will be used this year, excess baggage must be strictly controlled. Personal baggage includes all equipment, clothes, and supplies not used for the official business of the project. Cold-weather clothing is personal baggage. The following uniform policy has been adopted for baggage. *NSF personnel will be allowed a maximum of 140 pounds personal baggage to or from Greenland. This does not mean you are authorized to hand carry the entire amount.* In some cases your baggage will be shipped via other means. Some modes of transportation limit baggage to less than 140 pounds, in some cases as low as 44 pounds. In these cases PICO will determine how your baggage will be shipped. Contact PICO for instructions. In no case will PICO pay excess baggage charges without prior authorization. Personal baggage in excess of 140 pounds will not be transported to or from the summit camp.

Skis

An exception to the 140-pound limitation on personal baggage will be made for skis. Any NSF personnel desiring to ship skis to Greenland may place the skis in their science cargo shipment (via charter or SAAM). This will not count toward the 140-pound baggage limitation. Skis transported in any other manner will be counted against the personal baggage limitation. Science personnel can ship skis on the science cargo SAAM tentatively scheduled for 17 June, 1993. PICO employees can ship their skis on the cargo charter scheduled for 26 April 1993.

Professional Baggage

Professional, project related equipment or tools in excess of that amount may be shipped as unaccompanied or accompanied cargo. Accompanied cargo can be hand carried to the CONUS or Greenland departure point but it must be packed, labeled and reported as cargo so the appropriate tracking reports and handling facilities can be prepared. We strongly recommend that all professional equipment be shipped as unaccompanied cargo. There is very limited funding for excess baggage charges.

Baggage Limitations for Various Modes of Travel

Personnel will not be allowed excess baggage at PICO expense without prior authorization.

If your baggage and accompanying cargo exceed the amount for the mode of travel you are using, contact PICO for instructions on how to transport the excess. *Any costs incurred for excess baggage without prior authorization will be borne by the project involved.* The following are the baggage allowances for each of the various modes of

travel. Keep in mind that your return travel may not be via the same mode as your travel to Greenland.

AMC: You are allowed two checked bags not to exceed 70 pounds each. Checked baggage exceeding the weight criteria is counted as one piece for each increment of 70 pounds. **NO ONE PIECE OF BAGGAGE CAN EXCEED 100 LB. ANY PIECES OVER THIS WEIGHT WILL NOT BE TRANSPORTED--NO EXCEPTIONS.**

109th AG: Same as AMC.

SAAM: Same as AMC

Domestic Commercial Air Within CONUS: You are allowed three bags total, checked and carry-on:

- **Bag 1** Weight not to exceed 70 pounds. The sum of the length, height, and width dimensions cannot exceed 62 inches.
- **Bag 2** Weight not to exceed 70 pounds. The sum of the length, height, and width cannot exceed 55 inches.
- **Bag 3** Weight not to exceed 70 pounds. The sum of the length, height, and width cannot exceed 45 inches.

Commercial Air Between CONUS and Copenhagen: You are allowed to check two bags and carry on one:

- **Bag 1** Weight not to exceed 70 pounds. The sum of the length, height and width cannot exceed 62 inches.
- **Bag 2** Weight not to exceed 70 pounds. The sum of the length, height and width cannot exceed 55 inches.
- **Bag 3** Carry on only. Weight not to exceed 40 pounds. The sum of the length, height, and width cannot exceed 45 inches.

Commercial Air Between Copenhagen and Greenland: You are allowed only **ONE** checked bag, weight not to exceed 44 pounds, and one carry on not to exceed 11 pounds. Excess baggage will be charged at the rate of \$2.85 per pound.

CARGO SHIPMENT

In order to assure the timely delivery of your cargo for the 1993 field season in Greenland, we have developed the following procedures. PICO must be notified of all cargo shipments, including commercial air freight, so that we can arrange for receipt of your cargo in Greenland and forwarding to remote camps.

Deadlines

SAAM: To allow time for Air National Guard personnel to palletize the cargo for air shipment, all cargo must arrive at Scotia no later than 14 days prior to the scheduled departure date.

AMC Channel Cargo: At this time, the availability of AMC channel cargo to Greenland for the 1993 season is unclear. If AMC is used, cargo must arrive at McGuire AFB, NJ, at least 14 days prior to the scheduled flight period it is needed in Greenland.

Commercial Air Cargo: If it is necessary to use commercial air transportation to Greenland, the cargo must arrive at its point of embarkation in the U.S. at least 14 days prior to the scheduled flight period it is needed in Greenland.

Commercial Cargo Charter: Cargo destined for Greenland via chartered cargo flights must arrive at the point of embarkation in the CONUS not later than 14 days prior to the scheduled departure of the charter.

109th Airlift Group, Scotia, New York: Space-available cargo shipments via the 109th AG are extremely limited. Negotiations for space on these flights take place several months prior to the field season. All contacts with the 109th for movement of cargo must be done through PICO.

Ship Transportation

With the closure of Sondrestrom Air Base, shipment via military sealift originating at the Military Ocean Terminal (MOT) in Bayonne, NJ, is no longer available.

Documentation

Because of the closure of Sondrestrom AB and scheduled runway maintenance at Thule AB, we may use more alternative shipment methods than in past seasons. For that reason we are asking for more complete marking and documentation procedures than in the past. This is necessary to allow us to ship your cargo via any means available if unforeseen problems arise. While we know this creates additional work for our clients we believe it is a prudent precaution that could prevent an unacceptable delay during the all-too-short field season.

Shipment ID Number: To quickly track errant cargo, we are asking PIs to assign a unique number to each container. The number will be called the shipment ID. As in the past, it will be composed of the institution code followed by a sequential three-digit number. For example, the first container from Ohio State University would have a container ID of "OSU001." The twenty-fifth container from The University of New Hampshire would be labeled "UNH025."

Labeling: We have standardized all shipping labels for Greenland cargo to make it easier for the Air Force to load and inventory and for PICO to track. Please insure the labels we have provided are filled out as accurately and completely as possible. If there are special instructions needed to handle your cargo please detail them in the block provided on the PICO label. Additionally, cargo requiring special handling requires special labeling. See the following section on "labeling." Attach one label to the side of the container and one to the top. The PICO label has a block for "field destination." We have established three letter codes for known field locations. Please use the following codes:

- GISP bound scientific cargo GSM
- ATM cargo ATM
- Cargo for Kangerlussuaq SFJ

NOTE: If other field locations generate significant cargo please contact us to establish a field destination code.

Several types of cargo require special labeling as detailed below. These labels will be provided by PICO.

- **Hold at field operations office (Kangerlussuaq or Thule):** Label with the bright yellow "PICO Special Instruction No. 1" label. Place one label directly below the PICO shipping label on both the top and one side of the container. Additionally, the special instructions block on the PICO shipping label should contain the instructions needed such as "Hold at Kangerlussuaq for Dr. Tim Jones."
- **Do Not Freeze:** "Do not freeze" cargo must be conspicuously marked to prevent damage to your cargo. We have adopted commercial "DO NOT FREEZE" labels. These labels are widely used in the commercial cargo business. Labels should be applied to one side and the top of the container adjacent to the right side of the PICO shipping label.
- **Keep Frozen:** "Keep Frozen" Cargo should be marked with the PICO supplied commercial "Keep Frozen" labels. Labels should be applied to one side and the top of the container adjacent to the right side of the PICO shipping label.
- **Hazardous Cargo:** Hazardous Cargo must be marked in accordance with the applicable regulations as detailed in the section on hazardous cargo. Additionally, color the border of the PICO label with red permanent marker to readily identify hazardous materials during transportation.
- **Other:** Any cargo requiring any other special handling should be marked with a bright pink "PICO Special Instruction No. 2." The special handling required should be clearly indicated in the special instructions section on the PICO shipping label. Place one label directly below the PICO shipping label on both the top and one side of the container.

Packing Lists: Prepare a shipping list for each container that lists the shipment identification number and a detailed list of the contents to include approximate dollar values. Attach two copies to the outside of the container using a separate shipping list envelope for each one, one inside the container and forward one with your shipping log.

Cargo Lists: Prepare a list of all cargo being shipped and forward it to PICO. The list for the initial SMO SAAM flight needs to arrive at PICO not later than 30 days

prior to the date of the flight. For subsequent shipments, forward the information to PICO as soon as it is available. The list must include the following information:

- PI name
- Shipment ID number
- Weight
- Cube
- Type and color of container
- Destination of cargo
- Description of contents
- Date cargo is scheduled to depart the port of embarkation, i.e. Scotia, NY
- Special Instructions

Packing

To expedite the forwarding of cargo to the field camp, all cargo will be segregated by type (normal / hazardous/special handling) and final destination. To prevent delays or unnecessary shipping expense, do not mix cargo of different types or destination in the same container. Cargo containers must be accessible to insure they do not contain hazardous material and to facilitate customs inspection.

Hazardous Cargo

Hazardous cargo must be packed and labeled according to CFR 49, Air Force Regulation 71-4 and IATA Dangerous Cargo Regulations. The transport of hazardous materials to and from your research site requires particular attention to assure that the materials are prepared and packaged properly. Proper packaging and documentation of any hazardous substance is required to safeguard personnel and equipment involved in the movement of your shipment. Proper documentation and packaging of these materials is the sole responsibility of the individual shipper. There are severe civil penalties for false or misleading identification of hazardous goods offered for shipment.

Knowing proper documentation and packaging is your responsibility; it is best to begin the process at the time you purchase your chemicals and supplies as follows:

- First, confirm that your vendor or supplier of hazardous goods is aware of safe packaging procedures. Therefore, contact various vendors and select one who is able to properly prepare the shipment for you.
- Include on the Purchase Order statement, "Goods must be packed for air transport in accordance with Code of Federal Regulation-49 (CFR-49)." This procedure can expedite the process but does not remove you from the responsibility of knowing exactly how the material is packaged.
- Each PI must contact the PICO/UAF Transportation Specialist [(907)474-5585, FAX (907)474-5582] before shipping hazardous cargo to the CONUS departure point. We require the specific weight, cube, flash point, type of packaging and contents of each container.
- Each PI should obtain (in addition to the above listed documentation) four copies of the Material Safety Data Sheet (MSDS) for each hazardous material

being shipped. These are usually available from the vendor. Distribution will be as follows:

- ▶ Copy enclosed in the "Packing List Enclosed" envelope affixed to the container
- ▶ Copy to be included with the shipper's documents
- ▶ Copy to be filed in the PICO Office in Greenland
- ▶ Copy to be kept on site with the material

Retrograde Cargo

The procedures for retrograde cargo are the same as those for field-bound cargo with the following additions:

Because of the high probability of cargo movement via chartered aircraft, PICO will select the carrier for cargo movement from the arrival point in the CONUS to your institution. Retro-Cargo will be shipped prepaid. PICO will bill your institution for reimbursement. You will be asked to fill out a Retro-Cargo work sheet in Greenland. It includes a point of contact for your shipment at your institution. This point of contact must be available while the PI is in the field to answer questions about receipt of your shipment. We recommend that you use your institution's shipping and receiving department. When the retrograde cargo worksheets are received by PICO's Greenland Field Office, PICO will prepare shipping labels for your retro-cargo. Retrograde cargo manifested for transport will include only equipment, samples, and baggage specifically used for project related field work. Personal baggage must be cleared through U.S. Customs on an individual basis. All items purchased in Greenland are to be included in personal baggage.

For project-related cargo, please be prepared to provide the PICO representative in Sondrestrom with the following information:

- Destination, mark for address
- Type of container, description and color
- Weight and cube of each piece
- Contents of each piece
- Your institution's phone number and point of contact for receiving cargo
- Principal investigator

SUPPORT SERVICES IN GREENLAND

General Support

Secure Storage: Storage of money and other valuables at the forward operating location. Secure storage space at the PICO office is extremely limited. Many people wish to leave plane tickets, cash and other valuables at the office rather than take those items to the summit camp. Because of our limitations we can only store your plane tickets and \$100 in cash. No additional secure storage is available.

Transportation within Greenland: If your project requires transport to areas other than the GISP2 camp, arrangements will be made with the following local transport authorities through PICO's Greenland Field Office.

- **Greenland Air:** GLAIR operates scheduled fixed-wing and helicopter service from Kangerlussuaq to most coastal towns and villages within Greenland. Advance reservations are required. Personal travel arrangements can be made at the SAS terminal in Kangerlussuaq. Project-related travel must be prearranged through PICO. Please note that June-August is the peak tourist season in Greenland, so be advised that it may not be possible to depart Kangerlussuaq via commercial transport on the same day you arrive.
- **Scandinavian Airlines:** SAS provides scheduled jet service between Kangerlussuaq and Copenhagen. Schedules vary depending upon the travel date. Contact SAS for the latest information @ 800 221-2350.
- **Coastal Vessels:** Small coastal vessels provide scheduled cargo service to many coastal towns and villages.
- **Chartered and Commercial Aircraft:** With NSF's approval, chartered aircraft can be contracted through PICO to projects that require long-term, exclusive use support. PICO should be advised of your charter needs at least 6 months prior to your anticipated starting date to allow the preparation of contract specifications and to follow the bid process and selection. PICO can arrange ad hoc fixed wing and helicopter support for those projects that require only limited support.
- **NSF Vehicles:** PICO maintains two vehicles in Greenland: a 3/4-ton crew-cab pickup and a 1-ton flat-bed truck. The PICO Field Operations Manager will assign vehicles as requirements are presented. NSF groups must check with the FOM in Greenland for use of the vehicles. Vehicles are not for sightseeing, personal use or personnel transport.
- **Primary transportation in both Kangerlussuaq and Thule AB is by walking.** PICO has a few bicycles for loan at the PICO office. Limited shuttle bus/base taxi support are also available at both locations.

Supplies and Services:

- While in Greenland, if your project requires equipment/supplies, work performed, storage or freezer space, you should make your request for these services through PICO at least 60 days in advance. This will be done through the SMO support request if you are part of the GISP2 project. Short notice requests will be worked to the best of our ability.

- Should your project involve extended hiking, you should bring your own foodstuffs as PICO does not provide freeze-dried food. Fresh, frozen and canned goods can be purchased locally.
- Foodstuffs in support of field camps can be procured through PICO. Orders must be received no later than 120 days prior to arrival in Greenland. Contact PICO for details.

Requests for Technical or Manpower Assistance from Danish Scientific Groups in Greenland

- If your program requires assistance from the various scientific groups in Greenland, such as maps from the Greenland Geological Survey (GGU) or weather information from the Kangerlussuaq Meteorological Office, your requests should be made directly to these organizations well in advance of your deployment.

Contact PICO for points of contact and/or assistance.

Taxed Items: The Greenlandic Home Rule Government places a tax on many items entering Greenland. The tax is especially high on "luxury" items such as alcohol, tobacco, chocolate, soap and shampoo. Most items entering Greenland in the duty free areas of Kangerlussuaq and Thule AB are not taxed. However, some items leaving the duty free areas of Kangerlussuaq and Thule may have a tax applied to them. This includes the GISP2 camp. Additionally, items purchased in Thule or Kangerlussuaq are subject to the tax if they are taken to other parts of Greenland. Check with the Field Operations Manager for details.

Remote Field Support

Remote field projects require special attention and in-depth pre-season coordination between all interacting groups. PICO will provide administrative, logistical and operational assistance to all NSF-sponsored remote programs.

PICO can provide both camp facilities and full camp support as outlined by NSF, if requirements are identified at least 120 days in advance of deployment to the field.

Radio communication is routinely established with all remote camps in Greenland. PICO uses Southcom SC-120/SC-130 HF SSB Transceivers, hand-held VHF aviation radios, base station HF radios, and hand-held land mobile radios. The amount of equipment available for loan is limited. Please make your communications requirements known well in advance.

Resupply and retrograde assistance is supplied by PICO to remote camps according to the individual situation. Again, any anticipated support should be communicated in advance to PICO.

Greenland Operating Locations

PICO's forward operating base for the 1993 season has not been selected as of this writing. For that reason information is provided for both Thule AB and Kangerlussuaq. The services described are those planned for our forward operating base. Although only one location will be selected as a base of operations for PICO, many of the services described will be available at both locations should the need arise. Please contact PICO if you have any specific questions.

Kangerlussuaq: The airport complex at Kangerlussuaq is run by The Greenland Home Rule Government. Through their contractors they maintain most of the support facilities available.

Weather:

- To aid project planning for field work in the coastal areas of Greenland, it is always best to prepare for the worst. Weather in the Kangerlussuaq area through May can be cold, and snow is always a possibility. June, July and August are normally fairly temperate, ranging from 40-70°F (5-21°C). Rain is common in these months, and it can still be quite cool.
- Field clothing should include wind breaker, rain wear, work boots, warm hats, gloves, wool shirts, sweaters and trousers. Given the wide range of temperatures during summer months, the use of layered clothing offers the greatest flexibility for field work.
- One other important consideration in field planning for work on the Greenland coast is the two- to three-week insect season, usually from mid-July through early August. During this short period, large, voracious Arctic mosquitoes abound. Those planning field work in July and August should include tents with mosquito nets and ample insect repellent as basic gear. If plans include extensive overland travel by foot, insect head nets are suggested.

Banking: *There are no banking facilities available at Kangerlussuaq.* Personal and payroll checks cannot be cashed. Traveler's checks, cash (Danish Kroner & U.S. Dollars) and major credit cards are accepted. Credit card cash advances are available from the SAS Hotel on the following cards: AmEx, Diners, MC, and VISA. Daily limits depend upon the particular card and the individual's credit limit. Maximum advances range from \$500 to \$1,200. All participants are encouraged to plan accordingly.

Berthing: Berthing facilities are considerably different than in previous years. If a forward operating location is established in Kangerlussuaq, transient scientific personnel will be berthed in a PICO supplied "bunk house" with communal bathrooms. We also plan to provide limited cooking facilities. Overflow berthing is limited to sleeping bags on the floor. Accommodations are also available from The Home Rule Government in the SAS Hotel and facilities previously run by Sondrestrom AB. Personnel can obtain rooms at their own expense. Rooms range from \$46 per bed (double occupancy) without bath to \$250 for a VIP suite.

If you enjoy Kangerlussuaq and wish to vacation there after a hard field season, bring your camping equipment: our limited facilities prohibit extended holidays. Please notify the PICO/Kangerlussuaq office prior to deploying for the field if you anticipate any "after season travel."

Dining: Dining facilities are very limited this year. The SAS Hotel restaurant and the Canteen are the primary choices. The PICO Greenland Field Office will issue identification cards that allow you to eat at the SAS Employee Canteen. Three meals in the Canteen cost approximately \$33 per day. Meals in the hotel are more. PICO will maintain a small cooking facility. A limited selection of food items can be purchased at the Butik retail shop. The Roklub at Lake Ferguson is a Danish run club offering informal dinners at reasonable prices.

Note: Individual projects are expected to cover the costs of participants' meals from grant funds.

Communication and Correspondence:

- **Mail Service.** All mail service will be via international mail through Denmark. Air Mail takes approximately one week from the US. All mail originating in Greenland will require Greenlandic postage. US stamps cannot be used. PICO's mailing address in Greenland is:

**PICO
Attn: Joe Smith
Postboks 1011
G-300 Kangerlussuaq
GREENLAND**

- **Telephone:** It is possible to contact the PICO/Kangerlussuaq Office via commercial overseas calling. Official, project related, calls can be made from Kangerlussuaq via PICO's commercial phone service. Because of the expense involved the purpose and length of calls are monitored carefully. Contact the PICO FOM for assistance in placing your calls. It is also possible to place commercial toll calls from virtually any base, town or village in Greenland. However, the cost is high, about \$4 per minute. Military DSN service is not available, no free personal calls will be allowed. PICO's phone numbers in Greenland are:

Phone 299-11153

Fax 299-11247

- **Telefax and Telex:** The PICO/Greenland Office is equipped with telefax and Telex for official business. Additionally, Telex and telefax services are available at most Danish Post Offices within Greenland.

Retail Stores: Two retail shops are available at Kangerlussuaq; the KNI Butik and the souvenir shop in the SAS terminal. The Butik offers Danish food, clothing, sporting goods, house wares, liquor, beer and wine.

Recreational Facilities: We anticipate having access to the old base gym. The gym includes basketball/volleyball/badminton courts, two racquetball courts, a weight room, sauna and small swimming pool. There will be a fee of approximately \$10 per visit.

Hiking and backpacking opportunities around Sondrestrom are limitless. There are numerous lakes and rivers in the area, and the Russell Glacier ice front is only 8-10 miles east of the base. The ice front is accessible both by foot and 4-wheel drive trail. Each person or group will complete a "check out/in" form that includes a sketch map before departing for personal trips including day trips.

Thule Air Base: Thule Air Base is a jointly operated by USAF and Danish authorities. Danish and American contractors maintain most of the support facilities. Because Thule has no established commercial air service at this time, it is more isolated in terms of commercial and Danish Governmental Services. Support at Thule Air Base is provided under a Inter-service Support Agreement. While on Thule we are guests of the USAF. Please carry a picture ID (passport) and military clearance message (provided by PICO) at all times. These items will be required to utilize any of the facilities.

Banking: There are no banking facilities on Thule AB. The Base Exchange will cash checks for up to \$150 per day with proper ID. The Top of the World

Club (TOW) will cash checks for members, up to \$100. Personal and travelers checks can be used for purchases at most facilities. The Base Exchange retail store accepts major bank cards.

Berthing: There are two types of quarters used at Thule. "Flattops" are \$6 per day and the North Star is \$8 per day. North Star rooms are newer with TV and phones in the room. The flattops have TV and phone service in a joint use lounge. Berthing is normally two to the room in both facilities and bathrooms are communal.

Dining: Thule AB has two excellent dining facilities. The Dundas Dining Hall serves meals four times daily: 0500-0800, 1100-1300, 1700-1900, and 2300-0100. Meals are buffet style with a short order sandwich line also available at lunch and dinner. Prices are \$3.25 for breakfast and \$6.45 for lunch and dinner. The TOW Club, an all ranks club, has lunch in the lounge 1130-1300 (M-F) and dinner in the dining room 1800-2100 every night. Membership in the club is \$5 per month.

Communications and Correspondence:

- **Mail Service:** U.S. Mail service is available through the APO system. An address will be provided later. U.S. postage is used on out-going letters. Mail time for first class to the CONUS is typically 7 to 10 days. Danish mail service is also available.
- **Telephone:** PICO's field office will have DSN and commercial phone service available for official business. Short infrequent "morale" calls of a personal nature can be made using the military DSN system. Commercial coin phone service is available in the Danish Post Office for outgoing calls.
- **Telefax and Telex:** PICO's field office will have both telefax and Telex service (send and receive) for official communications.
- **Military Messages:** PICO has authorization to send and receive messages world-wide over the U.S. military message system. Please contact PICO for routing indicators.

Retail Stores: The Thule Base Exchange carries a little bit of everything necessary to get by, including food, clothes, toiletries, and beverages. The Base Exchange is open Monday through Saturday. The Base Exchange is small and at the end of a long supply line. The selection is limited and stock outages do occur.

Recreation Facilities: Thule AB has a broad range of recreational facilities. The gymnasium has basketball, racquetball, weight room, nautilus, and various other types of equipment. The arts and crafts center offers ceramics, leather work, and photography. The recreation center has a library as well as pool tables and arcade games. The TOW Club has live entertainment several nights per week. Outdoor activities including hiking and skiing are offered in the late spring and summer.

GISP2: The GISP2 camp is located at the summit of the Greenland Ice Sheet (72°35' N by 38°28' W) at an elevation of 10,500 feet with an effective pressure altitude of 12,000 to 13,000 feet.

Weather: Weather conditions range from -55°C in the spring and fall to 0°C in the summer, with winds ranging up to 40 knots. Conditions at times can be unforgiving; proper clothing is a must. Due to the high altitude and lack of

pollution, the UV. is extremely intense, you must take care to protect your skin from sunburn and frostbite.

Structures: The camp consists of a variety of structures which include:

- **"Big House":** This is a 26' W x 56' L building that is perched above the snow and is the hub of the camp. It houses the cooking and dining areas, a complete bathroom, laundry facility and the main PICO office.
- **Bath House and Generator Modules:** The bath contains two washbasins, a shower, a stool and a washer and dryer. The generator module adjacent to the bath contains two 90 kW CAT generators and the main electrical panels for the camp, plus the snow melter for water production.
- **Drill Dome:** This 50' diameter geodesic dome houses the main drilling rig for the GISP2 project. This structure is connected by a service elevator to the trench network allowing the cores to be lowered for storage and processing.
- **Core Processing Line (CPL):** This sub surface tunnel complex is the main science trench area. It is comprised of six distinct sections. The main tunnel for core transport and research is 100' L X 10' W x 10' H. The first part of this tunnel includes the elevator shaft for receiving core from the drill dome. Next is the walk-in freezer and core relaxation side trench, 30' L x 12' W x 20' H. Along the length of this tunnel are six "side labs" which have been carved into the side wall. At the far end of tunnel is the core storage room, 60' L x 12' W x 14' H.
- **Lab Van:** A 36' L x 8' W laboratory beneath the snow surface. Chemistry is the main activity of this facility. There is a dumb waiter that connects the lab van with one of the side labs off the main trench allowing transfer of samples.
- **Science Weatherport and Jamesway:** These contain work stations and computer terminals for various science efforts and analysis.
- **Berthing:** This area consists of five heated WeatherPorts that provide open berthing for forty male and female personnel. These areas have limited but adequate room for storage, mainly under each cot. Berthing will become quite cramped during media and DV visits. About half the camp members choose to sleep in unheated tents which give them a bit more storage area and privacy. If you wish to bring your own tent, it must be a winter mountaineering tent or at a minimum a high quality four-seasons tent.
- **Flight Line:** 15,000' by 200' skiway. This is a prepared and regularly groomed landing area for ski equipped aircraft.

Medical Services: A qualified physician will be available at the GISP2 camp at all times. In addition, many of the camp staff have medical training beyond basic first aid. Medical supplies are on hand to treat day-to-day ailments as well as emergencies. Anyone with allergies, possible special medical needs, or taking regular medication is responsible for notifying PICO and the camp physician. People taking regular medication must bring an adequate supply for their entire stay.

Communications: Communications with GISP2 are extremely limited. The following modes can be used:

- **HF Radio:** Official business can be conducted via HF radio relay with the PICO Greenland Field Office. There is no voice communications between GISP2 and the U.S.

- **Telex:**

- ▶ **Outgoing Telex:** Outgoing Telexes for official business will be billed to your institution at the end of the season. Please insure you have the Telex address of your institution before you arrive in camp. The sending of personal Telexes from GISP2 will be allowed on a limited basis. However, all telex charges will be billed to the individual's university/institution for collection.

- ▶ **Incoming Telex:** Messages of a business or personal nature can be received by individuals at GISP2. Have your correspondents use the following procedure to send you a Telex:

- Prepare the message.

- The first line of the message should include the name of the person the message is for, e.g., "For John Jones"

- Call (800) 627-4728 for the Telex operator. The operator will want the following information:

- † Location message is going GISP2

- † Telex mobile ID number 493134010 Atlantic East Region.

The service is available 24 hours per day. The message will be transmitted within one hour. Delivery at GISP2 is dependent upon workload and other factors. Normally, messages should reach the addressee within 24 hours of transmittal. Rates are \$9 for the first half minute, plus 40 cents for each additional one tenth of a minute. The average message is approximately 90 words, takes 1.5 minutes and costs \$13. Credit cards (MC, Visa, AmEx) are accepted for payment.

- **Mail:** Only Greenlandic postage is honored in Greenland for mail going anywhere in the world. You should purchase the Greenlandic stamps you will need prior to coming to camp. Stamps are available at the Greenlandic post office in Kangerlussuaq.

Retail Facilities: "The Store" is an extremely small facility with a limited supply of toothpaste, feminine hygiene products, stamps, etc. It is only intended as an emergency source of essential items. Resupply of the store will be from the limited selection at the Butik in Kangerlussuaq. Each camp member will be responsible to bring whatever he or she feels is required for the duration of their stay. Do not rely on "The Store" or what may be available in Kangerlussuaq.

Food Services: Two great cooks will ensure that three meals a day, seven days a week are timely, tasty and well prepared. If you cook, we suggest you bring your favorite recipes and participate in the Sunday Brunch and/or Sunday evening meal. If you have special dietary needs (i.e., vegetarian, low sodium) notify PICO as early as possible and we will try to provide for your special need. It is advisable to bring some of your own food if you have very special requirements. We recommend that you bring your favorite treats such as gourmet coffee, teas, chocolates, etc.

What Is Provided: PICO will provide cold weather clothing and sleeping bags for PICO employees. This includes boots, long underwear, minimum of 8 pair of socks, mittens/gloves and other outer wear. Unless you have authorization for a specific item of clothing, PICO will not reimburse for clothing purchased. We suggest that you bring your own outer gear if you have something that is comfortable and that you have worked in previously. Exact sizes may not be

available from PICO supply. Each camp member should bring whatever toiletries he or she feels they will require for the duration of their stay. In addition, we would suggest bringing comfortable clothing for non-working hours. The camp does supply hand soap and laundry detergent. Examples of items you should consider would be toothpaste, feminine supplies, film, Greenlandic postage stamps, postcards/envelopes, shampoo, etc. There is a small retail shop in Kangerlussuaq but the selection is extremely limited and prices are high.

Camp Water: Water is made with a great deal of effort by melting snow. We request that only one load of wash is done per person per week with showers every 4 days. Accordingly, we would suggest that you bring ample clothing to get you through 8 days.

Recreation: The flight line can be used for cross country skiing in the evenings and weekends when aircraft are not flying. There is also a 3-kilometer track that is maintained for cross country skiing. Bring your cross country skis and use them. We encourage all camp members to get out and exercise. Stunt kites have been found to be a wonderful method of relaxation. The winds are consistent and there are no trees. Flying is great. The camp has about 10 kites for those who wish to use them. We encourage you to bring your own. If you have a slide show you would like to share with the camp, there is a projector and screen on site. We normally have one or two slide shows each week. There is a volleyball court available for use when time and weather allow.

Drugs and Alcohol: GISP2 will not tolerate alcohol abuse or illicit drug use. Alcohol is available in Kangerlussuaq. If you would like to take alcohol to GISP2, the Greenlandic tax will have to be paid. The tax can be substantial, for example the tax on a bottle of beer averages about \$1. Drug use at GISP2 is not tolerated and anyone using illegal drugs will leave the camp on the next flight.

Acclimatizing: As the GISP2 camp is at an altitude of over 10,000 feet and there will not be a chance to acclimatize prior to arriving; we suggest the following:

- Do not drink alcohol for a few days prior to coming to camp.
- Avoid fatty or greasy food and eat a great deal of carbohydrates for a few days before.
- The night before, and especially the morning prior to coming to camp, eat as much carbohydrate loaded food as you can; potatoes and bread are good examples. Load yourself with carbohydrates especially the morning of your flight.
- If you have a carbohydrate-load substitute, you should drink it the evening prior and the day of your flight as well as bring it along with you to drink the first few days at camp. Carbohydrate loading has been found to be one of the best methods to curtail altitude effects the first few days.
- Drink as much liquid as possible, starting a few days prior to flying out to GISP2.

Altitude Sickness: The high elevation of the GISP2 camp makes altitude sickness a serious concern. PICO will provide information on its symptoms and preventive measures upon arrival in Greenland. The camp physician will brief everyone upon arrival in camp. For additional information on altitude sickness

and preventive measures you can take, we recommend you contact your personal physician well before departure.

Note: If you need direction or would like suggestions on the type of clothing and/or equipment to bring to GISP2, please call the PICO/UAF Remote Camp Manager at (907) 474-5585 for assistance.