

Section 9.0 - Laboratory/Observatory

Laboratory/Observatory Space

Specify the types of laboratory/observatory space your project needs. For further assistance in completing this form, please refer to the Online Help.

- Do you have requirements for laboratory space at McMurdo Station? Yes No
- Do you have requirements for laboratory space at Palmer Station? Yes No
- Do you have requirements for observatory space at South Pole Station? Yes No
- Do you have requirements for laboratory space on the Nathaniel B. Palmer? Yes No
- Do you have requirements for laboratory space on the Laurence M. Gould? Yes No

Equipment and Materials

Major equipment you need that is likely to be useful again in the USAP is usually provided by the antarctic support contractor, not out of your grant. Please refer to the online help (or to the major systems and equipment table for the vessels) for lists of currently available major equipment. This worksheet helps NSF determine the operational budget to support your proposal and to identify items that require a long procurement lead time. Details will be solicited after a grant award is made.

- Do you have requirements for general-purpose science or laboratory equipment that would be provided by the USAP and not your grant? Yes No

Item	Cost
Autonomous profiling vehicles (2/year)	\$60,000.00
Penguin satellite tags (10/year)	\$20,000.00
Penguin VHF tags (30/year)	\$6,000.00
Autonomous nutrient sensors for profilers	\$25,000.00
Ultrafiltration manifold system	\$20,000.00
Total organic carbon analyzer	\$35,000.00
Mooring releases and other hardware (sed trap)	\$.00
Sediment trap mooring & instrumentation	\$.00
Turner Designs Fluorometer	\$8,000.00
BioSonics Digital Acoustic System	\$35,000.00
Plankton imaging Flow-Camera	\$70,000.00
Total:	\$279,000.00

If so, please list equipment if the research station or vessel does not currently have this equipment and if its cost exceeds \$5,000.

- Do you require the use of major systems and equipment on the Nathaniel B. Palmer? Yes No

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- Do you require the use of major systems and equipment on the Laurence M. Gould? Yes No

Specify the amount of Liquid Nitrogen required by your project (in Liters): 100

Specify the amount of Liquid Helium required by your project (in Liters): 0

- Will your project require consumable materials or supplies other than cryogenics, not normally stocked (e.g., chemicals, explosives, etc.)? Yes No

Item	Cost
Lab preservatives and other reagents to be speci	\$.00
Total:	\$.00

- Please discuss any additional laboratory equipment/materials requirements:

Re: major instrumentation purchase:

NB: I am still waiting for information on a few equipment listings provided above (e.g., costs). Also note that some items require continuing purchase over several years. Finally, not all items need to be purchased in the first grant year. They are not listed in priority order.

Top priorities (year 1):

1 profiling system
 penguin tags and transmitters
 sediment trap/mooring release
 ultrafiltration unit
 DOC analyzer

Technical Support

Technical support is available to funded researchers in several different areas including marine technicians, science technicians, and analytical chemists.

- If your project requires technical support, please indicate the type of support required and describe the tasks the personnel will perform.

Routine technical support from RPSC as in previous years aboard LMG for LTER cruises for assistance in hydrographic sampling and scientific lab support, hazardous materials handling and storage, electronics and computer support.

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2002 - 2003

9.2 - Lab Space - Palmer Station

❖ Do you have any specific space requirements for this season?

Yes No

Type of Space	Space Req'd	Unit of Measure	From Date	To Date	Use
Lab 1. General use lab. 38 ft. of bench space, 2 sinks, laminar flow hood. Supports up to 4 people.	20	linear feet	10/15/2002	04/01/2003	Dedicated
Lab 2. General use lab. 15 ft. of bench space, 1 sink. Supports up to 3 people.	15	linear feet	10/15/2002	04/01/2003	Dedicated
Lab 3. General use lab. 15 ft. of bench space, fume hood, 1 sink with fresh seawater. Supports up to 3 people.	15	linear feet	10/15/2002	04/01/2003	Occasional
Lab 4. Isotope lab. Liquid scintillation counter, HPLC, fume hood.	36	linear feet	10/15/2002	04/01/2003	Dedicated
Lab 5.* General use lab. 12 ft. of bench space, 1 sink. Supports up to 3 people.	12	linear feet	10/15/2002	04/01/2003	Dedicated
Lab 6.* Instrumental lab, shared use. 2 HPLCs, luminescence spectrometer, 3 spectrophotometers, and balances. Supports up to 3 people.	3	linear feet	10/15/2002	04/01/2003	Occasional
Lab 8.* Microscope lab. Epifluorescence or inverted microscope	3	linear feet	10/15/2002	04/01/2003	Occasional
Lab 9.* Common lab. Autoclave, 2 freeze dryers, dishwasher, microwave oven, and ice maker.	3	linear feet	10/15/2002	04/01/2003	Occasional
Lab 10. General use lab. 25 ft. of bench space, 1 deep sink, fume hood. Supports up to 5 people.	25	linear feet	10/15/2002	04/01/2003	Dedicated
Aquarium room counter space, 25 ft. of bench space, 1 sink	25	linear feet	10/15/2002	04/01/2003	Occasional
Aquarium tank space	2	tanks	10/15/2002	04/01/2003	Dedicated

❖ Please discuss any additional laboratory space requirements in the space below:

The space requirements specified for the 2002-2003 season are anticipated to remain relatively constant for the ensuing field seasons through 2008.

Lab requirements at Palmer Station are as in preceding years -- i.e., labs for the Smith (BP-032), Fraser (BP-013), Vernet (BP-016) and Ross/Quetin (BP-028) groups with 2 persons per lab throughout each season, in their customary labs. IN ADDITION, Ducklow (BP-045) will also be requiring lab space for a new program in the PAL-LTER. He requests the lab space he used for the 2001-2002 season. The total personnel requirements for each field season at PAL are ten persons.

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2002 - 2003

9.5 - Lab Space - Laurence M. Gould

- ❖ Do you have any specific space requirements for this season? Yes No
- ❖ Do you plan to bring equipment on board that will require mounting space in the vessel laboratory? Yes No
- ❖ Please discuss any additional laboratory space requirements in the space below:

PAL-LTER requires dedicated use of the LMG for 28 days (Palmer Station to Palmer Station) each January 2003 -- 2008. Needs are identical to previous LTER cruises.

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2002 - 2003

9.7 - Equipment - Laurence M. Gould

❖ Do you have any requirements for major systems and equipment for this season?

Yes No

Item
Acoustic Doppler Current Profiler (ADCP), RDI 150 kHz Narrow-Band
Aquaria (8 at 24 cu. ft.)
Bottles, 10 and 12 liter Go-Flo, 30 liter Niskin, General Oceanics
CTD System, Sea Bird 911Plus (maximum depth: 6800m)
Fluorometer, digital, Turner Designs model 10AU-005, installed in-line for underway measurements
Incubator, Deck
MOCNESS, 1 and 10 meter, with pinger and accessories
Net, Plankton, 1 m ring
PDR for pinger tracking, Raytheon 12 kHz
QFAX APT system infrared and visual imagery from polar orbiting NOAA satellites
Radiometer system, PUV/GUV, Biospherical Instruments
Sonar, Knudsen 320B/R, 8300 watts maximum, 12 kHz mode
Thermal Graphics Recorder, EPC model 1086, for pinger plotting
Thermosalinograph, SBE 21 with remote temperature sensor
Time Depth Recorder (TDR) for nets or trawls, 500 and 2500 meter
Transmissometer, WETLabs, installed in-line, analog data signal (voltage is included in data string for the TSG)
Winch, DUSH 5 hydrographic winch, Baltic Room, with 10,000m 0.322 3-conductor EMC wire
XBT Sippican MK 12 (use with XBT, XCTD, XSVTD)

❖ Please discuss any additional major systems and equipment requirements:

The requirements specified above for January 2003 will remain about the same for each season, January 2003 - 2008.