

# 2005-2006 USAP Field Season

## > Project Indexes

Find information about current USAP projects using the principal investigator, event number, station, and other indexes.



## > Project Websites

Link to current USAP project websites and find more detailed information about the research and the people involved.



## > 2005-2006 Field Season

Use the links below to find out more information about the 2005-2006 USAP Field Season.

- > Technical Events
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- > Field Camps
- > Scouting In Antarctica
- > Event Numbering System



## Event Numbering System: 2005-2006

Every project is assigned a unique event number.

The first letter indicates the USAP program funding a project:

Prefix	USAP Program
A	<a href="#">Aeronomy and Astrophysics</a>
B	<a href="#">Biology and Medicine</a>
G	<a href="#">Geology and Geophysics</a>
I	<a href="#">Glaciology</a>
O	<a href="#">Ocean and Climate Systems</a>
W	<a href="#">Artists and Writers</a>

The suffix represents the supporting station. If field work takes place at more than one location the event number carries more than one suffix separated by a slash.

Suffix	Supporting Station (link to index)
M	<a href="#">McMurdo Station</a>
P	<a href="#">Palmer Station</a>
S	<a href="#">Amundsen-Scott South Pole Station</a>
L	<a href="#">ARSV Laurence M. Gould</a>
N	<a href="#">RVIB Nathaniel B. Palmer</a>
E	<a href="#">Special Projects.</a> Examples include investigators working with other national Antarctic programs, or groups working on islands in the peninsula.



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## Scouting In Antarctica: 2005-2006

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Kim Silverman

**Phone:** 703.292.7414

**E-mail:** [ksilverm@nsf.gov](mailto:ksilverm@nsf.gov)

Cooperative programs between the National Science Foundation and America's two major scouting organizations, Girl Scouts of the USA and Boy Scouts of America, sponsor a national competition every two years to select a scout for participation in the United States Antarctic Program.

The goal is to acquaint the boy or girl scout with a variety of science disciplines and with career opportunities in polar research and operational support. The scout, through scouting publications and sites on their home pages, shares his or her Antarctic experience with the many other members of the two scouting groups. Inclusion of a scout in the USAP began when Paul Siple joined Richard E. Byrd's expedition 70 years ago.

For the 2005-2006 field season, Benjamin J. Pope of Newton, Massachusetts has been selected. Ben has completed the freshman year at MIT where he is majoring in Mechanical engineering and boasts a 4.9/5.0 GPA. Ben has played the trombone for 10 years, participates in varsity soccer at MIT, and has earned many awards including selection as a 2004 US Presidential Scholar, one of 12 selected for a 2-week study visit to China. He enjoys outdoor activities and traveling.

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## Staffed Field Camps: 2005-2006

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McMurdo Dry Valleys

77.30'S, 162.00'E

50 nm from McMurdo Station

Each year numerous groups conduct research throughout the Dry Valleys. Two resident staff will operate the main base camp at Lake Hoare and other groups will operate from small tent camps throughout the region.

Siple Dome

81.39'S, 149.04'W

507 nm from McMurdo Station

Siple Dome with two resident staff will support two science projects: Sridhar Anandakrishnan (I-205-M) will investigate the high frequency, fine scale motion of Bindschadler and MacAyeal Ice Streams to better understand the relationship between stream flow and tide height. Slawek Tulaczyk (I-345-M) will use Siple Dome as a staging area and travel to an independent, tent camp on the Kamb Icestream. The group will conduct geophysical research designed to test if the Icestream is restarting.

WAIS Divide Field Camp

79.46'S, 112.08'W

924 nm from McMurdo Station

The West Antarctic Ice Sheet (WAIS) Divide Field Camp with ten resident staff will support eight projects: Kendrick Taylor (I-477-M) and Todd Sowers (I-177-M) will focus on ice-core sampling. Pannirselvam Kanagaratnam (I-346-M), Charlie Raymond (I-163-M), and Prasad Gogineni (I-188-M) will conduct radar surveys. Eftyhia Zesta (A-357-M) will install a magnetometer. Ian Dalziel (G-087-M/S) will conduct his final year of work on the current WAGN (West Antarctic GPS Network) award. The AWS (automatic weather station) project team, (O-283-M Charles Stearns), will service stations from the camp.

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## Air Operations: 2005-2006

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### McMurdo Station

McMurdo-based aircraft (Helicopters, Twin Otter and LC-130 fixed-wing aircraft) will continue to support USAP researchers and program logistical functions.

### Petroleum Helicopters, Inc. (PHI)

Petroleum Helicopters, Inc. (PHI) will provide helicopter support with four helicopters (two AS-350-B2 "A-Stars" and two Bell 212s) based out of McMurdo Station. They will support researches in the McMurdo Dry Valleys, Royal Society Range and on Ross Island.

<http://www.phihelico.com/>

### New York Air National Guard (ANG)

New York Air National Guard will provide re-supply and research support to South Pole Station. They will support research activities at Siple Dome, Byrd Surface Camp, Thwaites Glacier Camp, Pine Island Camp, and Beardmore Glacier.

<http://www-105aw.ang.af.mil/>

### Kenn Borek Air

Twin Otter aircraft, operated by Kenn Borek Air will be used by a number of projects throughout the USAP area of operations.

<http://www.borekair.com/>



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## Station Schedules: 2005-2006

The United States Antarctic Program operates three permanent research stations on the continent and two research vessels. It also supports work that is not based at any of the stations or on the vessels. Below are the planned season dates and the estimated populations (which are subject to change) of each station and both research vessels.

### McMurdo Station

- 20 Aug 2005 **Winfly**
- 05 Oct 2005 **Mainbody**
- 23 Feb 2006 **Austral winter season begins**

### Amundsen-Scott South Pole Station

- 21 Oct 2005 **Operational opening**
- 28 Oct 2005 **Austral summer season begins**
- 15 Feb 2006 **Austral winter season begins**

### Palmer Station

- 22 Sep 2005 **Operational opening**
- 10 Oct 2005 **Austral summer season begins**
- 08 Apr 2006 **Austral winter season begins**

### Research Vessels

Vessels operate year-round. Vessel schedules on the portal:  
<http://www.usap.gov/vesselScienceAndOperations/>

### Estimated Population

#### McMurdo Station

900 **Summer weekly average**  
2,900 **Summer total**  
200 **Winter total**

#### Amundsen-Scott South Pole Station

245 to 258 **Summer weekly average**  
725 **Summer total**  
75 **Winter total**



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Palmer Station

31 to 45 **Seasonal range**

20 **Winter total**

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Research Vessels

**RV/IB Nathaniel B. Palmer:** 39 science and RPSC staff, 25 crew

**ARSV Laurence M. Gould:** 38 science and RPSC staff, 25 crew

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## Technical Event Index: 2005-2006

Every field season, the USAP sponsors a variety of technical events that are not scientific research projects but instead support one or more science projects.

T-008-M NASA GSFC NAILS, MTRS1, MTRS2, and STPR

**McMurdo Station** Michael Comberiate  
NASA Goddard Space Flight Center  
Code 422  
Building 16W, Room N066  
Greenbelt, MD 20771  
301.286.2165  
[mike.comberiate@gsfc.nasa.gov](mailto:mike.comberiate@gsfc.nasa.gov)  
<http://www.gsfc.nasa.gov/>

NASA researchers will be performing maintenance and upgrades to their systems during each Austral summer season:

### **NAILS two-meter satellite tracking station on Ross Island:**

- Perform system checkup, test and repair if necessary
- Examine spares, reorganize, and retrograde old equipment and equipment for Antarctic Museum display

### **MTRS1 and MTRS2 TDRS uplink station on Black Island:**

- Perform system checkup, repair if necessary

The project team will work with a staff communications technician for reconfigurations and repairs. Except for AC power, heat, and internet support to the project team's equipment, normal operations will require no support from McMurdo station contractor support personnel.

T-150-M/S Ice Core Drilling Services (ICDS)

**South Pole Station** Dr. Charles R. Bentley  
University of Wisconsin Madison  
Department of Geology and Geophysics  
1215 W. Dayton Street  
Madison, WI 53706  
608.262.0693  
[bentley@geology.wisc.edu](mailto:bentley@geology.wisc.edu)  
<http://www.ssec.wisc.edu/a3ri/icds>

Ice Coring and Drilling Services (ICDS) at the University of Wisconsin, Madison provides ice-coring and drilling services to NSF-sponsored researchers both in the polar regions and at high-altitude sites. ICDS maintains and operates a variety of drills, and develops new systems when needed, to provide the best possible ice cores, deploy instruments within the ice, and provide access to glacial beds. At the same time, they seek to minimize the environmental impact of drilling projects and employ methods that are in compliance with applicable



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environmental law.

This season, all ICDS participants are deploying as integrated members of science teams. ICDS will provide direct support to several groups, including Taylor I-477-M, Sowers I-177-M, Kreutz I-191-M, and Doran B-211-M.

T-312-M/N/P	Scripps AARC Arctic and Antarctic Research Center at Scripps Institution of Oceanography (AARC), TeraScan project
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**McMurdo Station** Dr. Dan Lubin  
**Palmer Station** Scripps Institution of Oceanography  
**RV/IB Nathaniel B. Palmer** Arctic and Antarctic Research Center  
California Space Institute  
9500 Gilman Drive, mail code 0214  
La Jolla, CA 92093-0221  
858.534.6369  
[dlubin@ucsd.edu](mailto:dlubin@ucsd.edu)  
<http://arcane.ucsd.edu>

The AARC is funded to archive and distribute all NOAA and DMSP (Defense Meteorological Satellite Program) data collected south of 60 degrees. The data from polar orbiting satellites are collected by support contractor personnel at ground stations at McMurdo and Palmer Stations and onboard the RV/IB Nathaniel B. Palmer. The data are checked and distributed by AARC to the scientific community and to support contractor meteorologists for forecasting. Data collection is scheduled for the maximum coverage and quantity for the McMurdo region on a year-round basis.

T-396-M	CTBT Installation, operation and maintenance of a Comprehensive Test Ban Treaty (CTBT) class infrasound array in Windless Bight, Antarctica
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**McMurdo Station** Mr. Daniel L. Osborne  
University of Alaska Fairbanks  
Geophysical Institute  
903 Koyukuk Avenue  
PO Box 757320  
Fairbanks, AK 99775-7320  
907.474.7107  
[dosborne@gi.alaska.edu](mailto:dosborne@gi.alaska.edu)  
<http://www.gi.alaska.edu/~jvo/>

This group operates and maintains a CTBT (Comprehensive Test Ban Treaty) infrasound array and Windless Bight, Ross Island. Project team members will refuel and service and power system at the Windless Bight installation. Team members will establish a camp at the site and spend about two weeks in the field. Data from the Windless Bight system is forwarded to the CTBT office in Vienna, as well as to the principal investigator's home institution where it will be made available for research into the natural infrasonic background.

T-927-M	MGS NASA/McMurdo Ground Station (MGS)
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**McMurdo Station**

Mr. Ken Griffin  
Honeywell Technical Solutions, Inc.  
NASA Wallops Flight Facility  
Building E-106, Room 209  
Wallops Island, VA 23337  
757.824.2478  
[Ken.Griffin@csconline.com](mailto:Ken.Griffin@csconline.com)  
<http://www.wff.nasa.gov/~code452/mcmurdo.html>

NASA's McMurdo Ground Station (MGS) performs critical support for countdown, liftoff and early-orbit phases of satellite launching operations. It also tracks a variety of in-orbit scientific (TRACE, FAST, WIRE, SWAS, GRACE 1 and 2, SAC-C, CHAMP, etc.) and mapping (Radarsat, Lansat-7, QuikScat, ERS-2, etc.) satellites. MGS supplies real time data (downlink) and commanding (uplink) support to a variety of projects via NASA's dedicated 128Kbit data line. Voice support is through a dedicated 16Kbit voice loop with Goddard Space Flight Center. Radarsat, ERS-2 SAR, and Taurus START 2 treaty compliance data will be shipped back to the U.S. for processing. If requested, MGS will uplink data through the MTRS-1 ground station located on Black Island, or MTRS-2 ground station located on Crater Hill through TDRSS (Telemetry and Data Relay Satellite System) to White Sands, New Mexico.

Each austral summer, project team members at McMurdo Station are responsible for the maintenance and operation of the ground station

## Science Program Indexes: 2005-2006

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- [USAP Program Indexes](#)
  - ➔ [Aeronomy and Astrophysics](#)  
Dr. Bernard Lettau, *program manager (acting)*
  - ➔ [Biology and Medicine](#)  
Dr. Roberta Marinelli, *program manager*
  - ➔ [Geology and Geophysics](#)  
Dr. Thomas Wagner, *program manager*
  - ➔ [Glaciology](#)  
Dr. Julie Palais, *program manager*
  - ➔ [Ocean and Climate Systems](#)  
Dr. Bernhard Lettau, *program manager*
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Ms. Kim Silverman, *program manager*
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<a href="#">Ainley, David G</a>	<a href="#">B-031-M</a>	Geographic structure of Adelie penguin populations: Demography of population expansion
<a href="#">Anandkrishnan, Sridhar</a>	<a href="#">I-205-M</a>	Tidal modulation of ice stream flow
<a href="#">Anderson, John B.</a>	<a href="#">G-083-N</a>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
<a href="#">Andrews, Sarah</a>	<a href="#">W-218-M</a>	In cold pursuit (working title): A mystery novel set in Antarctica
<a href="#">Besson, Dave</a>	<a href="#">A-123-S</a>	Radio Ice Cherenkov Experiment (RICE)
<a href="#">Bieber, John</a>	<a href="#">A-120-M/S</a>	Solar and heliospheric studies with antarctic cosmic rays
<a href="#">Blanchette, Robert A</a>	<a href="#">B-038-M</a>	Investigations on deterioration in the historic huts of Antarctica
<a href="#">Bowser, Samuel S</a>	<a href="#">B-015-M</a>	Remotely operable micro environmental observatory for antarctic marine biology research
<a href="#">Bowser, Samuel S</a>	<a href="#">B-043-M</a>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
<a href="#">Caldwell, Douglas A.</a>	<a href="#">A-103-S</a>	A search for extrasolar planets from the South Pole
<a href="#">Campbell, Alan</a>	<a href="#">W-219-M</a>	Images from a frozen continent
<a href="#">Charette, Matt</a>	<a href="#">B-276-N</a>	Plankton community structure and iron distribution in the southern Drake Passage
<a href="#">Chereskin,</a>	<a href="#">O-</a>	Shipboard Acoustic Doppler Current Profiling (ADCP)



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<b>Teresa K</b>	<b>317-L</b>	on R/V Laurence M. Gould
<b>Chin, Yu-Ping</b>	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
<b>Church, Sarah E</b>	<b>A-366-S</b>	Next generation CMB polarization measurements with the QUEST experiment on DASI
<b>Dempsey, John Patrick</b>	<b>O-316-M</b>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
<b>Domack, Eugene</b>	<b>G-096-L</b>	Paleohistory of the Larsen Ice Shelf System
<b>Doran, Peter T</b>	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
<b>Doran, Peter T</b>	<b>B-426-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
<b>Ducklow, Hugh W</b>	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
<b>Dunbar, Robert</b>	<b>B-258-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
<b>Eisele, Fred</b>	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
<b>Ejiri, Masaki</b>	<b>A-117-S</b>	All-sky imager at South Pole
<b>Engebretson, Mark J</b>	<b>A-102-M/S</b>	Conjugate studies of ULF waves and magnetospheric dynamics using ground-based induction magnetometers at four high-latitude manned sites
<b>Firing, Eric</b>	<b>O-315-N</b>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Nathaniel B. Palmer and R/V Laurence M. Gould
<b>Fountain, Andrew George</b>	<b>B-425-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
<b>Fraser, William</b>	<b>B-</b>	Palmer long-term ecological research project: Climate

R	013-L/P	migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Garrott, Robert Andrew	B-009-M	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Gast, Rebecca J	B-207-N	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Goes, Joaquim I	B-206-N	Ultraviolet radiation induced changes in the patterns of production and biochemical composition of Antarctic marine phytoplankton
Gogineni, S. Prasad	I-188-M	A mobile sensor web for polar ice sheet measurements
Gooseff, Michael N	B-268-M	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Hallet, Bernard	I-139-M	Mechanics of dry-land calving of ice cliffs
Halzen, Francis	A-333-S	ICECUBE
Hansen, Anthony D	I-414-S	Hyper-insulated instrumentation system to support year-round research in polar regions
Hansen, Anthony D	O-314-S	Solar / wind powered instrumentation module development for polar environmental research
Harvey, Ralph P	G-058-M	The Antarctic Search for Meteorites ANSMET -- collection team
Harwood, David Michael	G-049-M	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Heideman, Kathleen M	W-227-M	The scientific method: Poems of antarctic inquiry
Hernandez, Gonzalo	A-110-M/S	Austral high-latitude atmospheric dynamics
Hofmann, David	O-257-S	South Pole monitoring for climatic change

<b>Hofmann, David</b>	<b>O-264-P</b>	Collection of atmospheric air for the NOAA/CMDL worldwide flask sampling network
<b>Hofmann, Gretchen Eva</b>	<b>B-134-M</b>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
<b>Hollibaugh, James T</b>	<b>B-114-L</b>	Distribution and ecology of ammonia oxidizing bacteria in the Palmer LTER study area
<b>Holzapfel, William L</b>	<b>A-378-S</b>	High resolution observations of the CMB with ACBAR
<b>Hutchins, David</b>	<b>B-279-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
<b>Inan, Umran S</b>	<b>A-108-S</b>	A VLF beacon transmitter at South Pole
<b>Inan, Umran S</b>	<b>A-306-P</b>	ELF/VLF observations of lightning discharges, whistler-mode waves and electron precipitation at Palmer Station
<b>Jeffrey, Wade H</b>	<b>B-200-N</b>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
<b>Johns, Bjorn</b>	<b>G-295-M</b>	Unavco GPS Survey Support
<b>Kanagaratnam, Pannirselvam</b>	<b>I-346-M</b>	High resolution ice thickness and plan wave mapping of near-surface layers
<b>Kanatous, Shane B</b>	<b>B-018-M</b>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
<b>Keeling, Ralph</b>	<b>O-204-P/S</b>	Changes in atmospheric oxygen (O <sub>2</sub> ), carbon dioxide (CO <sub>2</sub> ), and argon (Ar) concentrations in relation to the carbon cycle and climate
<b>Kiene, Ronald P</b>	<b>B-002-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
<b>Kreutz, Karl J</b>	<b>I-191-M</b>	Dry Valleys Late Holocene Climate Variability
<b>Kyle, Philip R</b>	<b>G-081-</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)

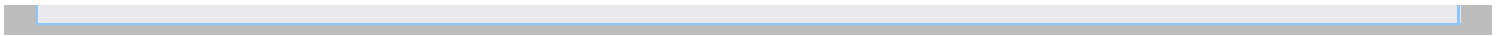
	M	
<b>LaBelle, James W</b>	A-128-S	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
<b>Lange, Andrew</b>	A-033-S	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
<b>Lee, Richard</b>	B-256-P	Physiological and molecular mechanisms of stress tolerance in a polar insect
<b>Lessard, Marc R</b>	A-136-S	A proposal for the measurement and analysis of Extremely Low Frequency (ELF) waves at South Pole Station
<b>Lessard, Marc R</b>	A-362-S	Development of an Autonomous Real-time Remote Observatory (ARRO)
<b>Lyons, W. Berry</b>	B-420-M	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
<b>MacAyeal, Douglas R</b>	I-190-M	Earth's largest icebergs
<b>Marsh, Adam G</b>	B-029-M	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
<b>Martinson, Douglas G</b>	B-021-L	Palmer Long Term Ecological Research Project (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
<b>McKnight, Diane M</b>	B-421-M	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
<b>McPhee, Miles</b>	O-325-N	Maud Rise Nonlinear Equation of State Study (MaudNESS)
<b>Mende, Stephen B</b>	A-104-S	Dayside auroral imaging at South Pole
<b>Mitchell, B. Greg</b>	B-228-N	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
<b>Mullins, Jerry L</b>	G-	Geodesy and geospatial data program



	052- M/P/S	
Neale, Patrick J	B- 203- N	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Palo, Scott Edward	A- 284- S	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Petzel, David Henry	B- 012- M	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Ponganis, Paul John	B- 197- M	Diving physiology and behavior of Emperor penguins
Priscu, John C	B- 195- M	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys
Priscu, John C	B- 422- M	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Quetin, Langdon B	B- 028- L/P	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Raymond, Charles F	I-163- M	Detection of crystal orientation fabrics near the Ross/Amundsen sea ice-flow divide and at the Siple Dome ice core site using polarimetric radar methods
Saito, Mak A	O- 398- N	Interactions between Cobalt, Cadmium, and Zinc Biogeochemistry and Phytoplankton Dynamics in the Ross Sea
Sanderson, Colin	O- 275- P/S	Remote atmospheric measurements program (RAMP) of the University of Miami/ U.S. Department fo Energy's Environmental Measurements Lab
Scambos, Theodore	I-186- E	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Seo, Eun-Suk	A- 137- M	Cosmic Ray Energetics And Mass (CREAM)
Siddoway, Christine S	G- 088- M	Gneiss dome architecture

<b>Sivjee, Gulamabas G</b>	<b>A-129-S</b>	The antarctic investigations of upper atmospheric disturbances over the South Pole Station
<b>Smith, Raymond C</b>	<b>B-032-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
<b>Smith, Walker O</b>	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
<b>Smith, Walker O</b>	<b>B-386-N</b>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
<b>Sowers, Todd</b>	<b>I-177-M</b>	Gases in firm air and shallow ice at the proposed WAIS Divide drilling site
<b>Sprintall, Janet</b>	<b>O-260-L</b>	The Drake Passage high density XBT/XCTD Program
<b>Stacey, Gordon J</b>	<b>A-377-S</b>	Wide-field imaging spectroscopy in the submillimeter: Deploying SPIFI on AST/RO
<b>Stark, Antony A</b>	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
<b>Stearns, Charles R</b>	<b>O-202-M/P/S</b>	Antarctic Meteorological Research Center (AMRC)
<b>Stearns, Charles R</b>	<b>O-283-M/P/S</b>	Antarctic Automatic Weather Station Program (AWS)
<b>Steinmetz, George</b>	<b>W-222-M</b>	Antarctica: The frozen desert
<b>Stock, Joann M</b>	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
<b>Sullivan, David W</b>	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
<b>Takahashi, Taro</b>	<b>O-214-L/N</b>	Processes driving spatial and temporal variability of surface pCO2 in the Drake Passage
<b>Tang, Kam Wing</b>	<b>B-</b>	Environmental and ecological regulation of

	230-M	differences and interactions between solitary and colonial forms of <i>Phaeocystis antarctica</i>
<b>Thompson, Linda D</b>	A-138-M	Wallops Flight Facility component of the CREAM balloon payload
<b>Tortell, Philippe</b>	B-282-N	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
<b>Vernet, Maria</b>	B-016-L/P	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
<b>Vial, Francois</b>	A-360-M	Strateole-Vorcore
<b>Virginia, Ross A</b>	B-423-M	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
<b>Wall, Diana H</b>	B-424-M	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
<b>Warren, Gabriel Penn</b>	W-217-M	Examination of crevasses and other iceforms as artistic sources
<b>Weatherwax, Allan T</b>	A-111-M/S	Studies of the polar ionosphere and magnetosphere from measurements in Antarctica and conjugate regions
<b>Weatherwax, Allan T</b>	A-112-M/S	Polar experiment network for geospace upper-atmosphere investigations: PENGUIn -A new vision for global studies
<b>Wefel, John P</b>	A-143-M	Advanced Thin Ionization Calorimeter (ATIC)
<b>Wilson, Terry J</b>	G-079-M	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
<b>Zesta, Eftyhia</b>	A-357-M/P	Extending the South American Meridional B-field Array (SAMBA) to auroral latitudes in Antarctica



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### USAP Program Index:

Aeronomy and Astrophysics

Principal Investigator	Event No.	Project Title
Besson, Dave	<a href="#">A-123-S</a>	Radio Ice Cherenkov Experiment (RICE)
Bieber, John	<a href="#">A-120-M/S</a>	Solar and heliospheric studies with antarctic cosmic rays
Caldwell, Douglas	<a href="#">A-103-S</a>	A search for extrasolar planets from the South Pole
Carlstrom, John	<a href="#">A-379-S</a>	South Pole observations to test cosmological models
Church, Sarah	<a href="#">A-366-S</a>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Deshler, Terry	<a href="#">A-131-M</a>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Ejiri, Masaki	<a href="#">A-117-S</a>	All-sky imager at South Pole
Engebretson, Mark	<a href="#">A-102-M/S</a>	Conjugate studies of ULF waves and magnetospheric dynamics using ground-based induction magnetometers at four high-latitude manned sites
Fraser-Smith, Antony	<a href="#">A-100-M</a>	The operation of an ELF/VLF radiometer at Arrival Heights
Halzen, Francis	<a href="#">A-333-S</a>	ICECUBE
Hernandez, Gonzalo	<a href="#">A-110-M/S</a>	Austral high-latitude atmospheric dynamics
Holzappel, William	<a href="#">A-378-S</a>	High resolution observations of the CMB with ACBAR
Inan, Umran	<a href="#">A-108-S</a>	A VLF beacon transmitter at South Pole
Inan, Umran	<a href="#">A-306-P</a>	ELF/VLF observations of lightning discharges, whistler-mode waves



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		and electron precipitation at Palmer Station
LaBelle, James	<a href="#">A-128-S</a>	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
Lange, Andrew	<a href="#">A-033-S</a>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Lessard, Marc	<a href="#">A-136-S</a>	A proposal for the measurement and analysis of Extremely Low Frequency (ELF) waves at South Pole Station
Lessard, Marc	<a href="#">A-362-S</a>	Development of an Autonomous Real-time Remote Observatory (ARRO)
Mende, Stephen	<a href="#">A-104-S</a>	Dayside auroral imaging at South Pole
Murcray, Frank	<a href="#">A-255-M/S</a>	Infrared measurements of atmospheric composition over Antarctica
Palo, Scott	<a href="#">A-284-S</a>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Seo, Eun-Suk	<a href="#">A-137-M</a>	Cosmic Ray Energetics And Mass (CREAM)
Sivjee, Gulamabas	<a href="#">A-129-S</a>	The antarctic investigations of upper atmospheric disturbances over the South Pole Station
Stacey, Gordon	<a href="#">A-377-S</a>	Wide-field imaging spectroscopy in the submillimeter: Deploying SPIFI on AST/RO
Stark, Antony	<a href="#">A-371-S</a>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Sullivan, David	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Thompson, Linda	<a href="#">A-138-M</a>	Wallops Flight Facility component of the CREAM balloon payload
Travouillon, Tony	<a href="#">A-442-E</a>	Measurements of the surface layer turbulence at Dome C
Vial, Francois	<a href="#">A-360-M</a>	Strateole-Vorcore

Weatherwax, Allan	<a href="#">A-111-M/S</a>	Studies of the polar ionosphere and magnetosphere from measurements in Antarctica and conjugate regions
Weatherwax, Allan	<a href="#">A-112-M/S</a>	Polar experiment network for geospace upper-atmosphere investigations: PENGUIn -A new vision for global studies
Wefel, John	<a href="#">A-143-M</a>	Advanced Thin Ionization Calorimeter (ATIC)
Zesta, Eftyhia	<a href="#">A-357-M/P</a>	Extending the South American Meridional B-field Array (SAMBA) to auroral latitudes in Antarctica

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Biology and Medicine

Principal Investigator	Event No.	Project Title
Ainley, David	<a href="#">B-031-M</a>	Geographic structure of Adelie penguin populations: Demography of population expansion
Asper, Vernon	<a href="#">B-390-P/N</a>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Blanchette, Robert	<a href="#">B-038-M</a>	Investigations on deterioration in the historic huts of Antarctica
Bowser, Samuel	<a href="#">B-015-M</a>	Remotely operable micro environmental observatory for antarctic marine biology research
Bowser, Samuel	<a href="#">B-043-M</a>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Charette, Matt	<a href="#">B-276-N</a>	Plankton community structure and iron distribution in the southern Drake Passage
Chin, Yu-Ping	<a href="#">B-300-M</a>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Day, Thomas	<a href="#">B-003-P</a>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
DiTullio, Giacomo	<a href="#">B-272-N</a>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Doran, Peter	<a href="#">B-211-M</a>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Doran, Peter	<a href="#">B-426-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem



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		processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Ducklow, Hugh	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Dunbar, Robert	<b>B-258-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Fountain, Andrew	<b>B-425-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Fraser, William	<b>B-013-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Fraser, William	<b>B-198-P</b>	Monitoring the effects of tourism and environmental variability on Adelie penguins at Palmer Station
Gargett, Ann	<b>B-208-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Garrott, Robert	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Gast, Rebecca	<b>B-207-N</b>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Goes, Joaquim	<b>B-206-N</b>	Ultraviolet radiation induced changes in the patterns of production and biochemical composition of Antarctic marine phytoplankton
Gooseff, Michael	<b>B-268-M</b>	Hydrologic controls over biogeochemistry and microbial community structure and function

		across terrestrial/aquatic interfaces in a polar desert
Hall, Brenda	<b>B-068-M</b>	Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean
Hofmann, Gretchen	<b>B-134-M</b>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
Hollibaugh, James	<b>B-114-L</b>	Distribution and ecology of ammonia oxidizing bacteria in the Palmer LTER study area
Hutchins, David	<b>B-279-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Jeffrey, Wade	<b>B-200-N</b>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Kanatous, Shane	<b>B-018-M</b>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
Kennicutt, Mahlon	<b>B-518-M</b>	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Kieber, David	<b>B-266-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Kiene, Ronald	<b>B-002-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Lee, Richard	<b>B-256-P</b>	Physiological and molecular mechanisms of stress tolerance in a polar insect
Lyons, W. Berry	<b>B-420-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem

		processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Madin, Laurence	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Manahan, Donal	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Marsh, Adam	<b>B-029-M</b>	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
Martinson, Douglas	<b>B-021-L</b>	Palmer Long Term Ecological Research Project (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Matrai, Patricia	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
McKnight, Diane	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Measures, Christopher	<b>B-225-N</b>	Plankton community structure and iron distribution in the southern Drake Passage
Mitchell, B. Greg	<b>B-228-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Naveen, Ron	<b>B-086-E</b>	Long-term data collection at select Antarctic Peninsula visitor sites
Neale, Patrick	<b>B-203-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Petzel, David	<b>B-012-M</b>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish

Pitman, Robert	<b>B-289-M</b>	Genetic and photogrammetric investigations of three ecotypes of killer whales in the southern Ross Sea
Ponganis, Paul	<b>B-197-M</b>	Diving physiology and behavior of Emperor penguins
Priscu, John	<b>B-195-M</b>	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys
Priscu, John	<b>B-422-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Quetin, Langdon	<b>B-028-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Sedwick, Peter	<b>B-267-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Smith, Kenneth	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Smith, Raymond	<b>B-032-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Smith, Walker	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Smith, Walker	<b>B-386-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Tang, Kam	<b>B-230-M</b>	Environmental and ecological regulation of differences and interactions between solitary and colonial forms of phaeocystis antarctica

Tortell, Philippe	<a href="#">B-282-N</a>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Trivelpiece, Wayne	<a href="#">B-040-E</a>	Foraging behavior and demography of <i>Pygoscelis</i> penguins
Vernet, Maria	<a href="#">B-016-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Virginia, Ross	<a href="#">B-423-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Wall, Diana	<a href="#">B-424-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Ward, Bess	<a href="#">B-310-M</a>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Warren, Joseph	<a href="#">B-320-E</a>	RUI: Improving acoustic estimates of Antarctic krill populations
Zhou, Meng	<a href="#">B-248-N</a>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea

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Geology and Geophysics

Principal Investigator	Event No.	Project Title
Anderson, John	<a href="#">G-083-N</a>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Anderson, John	<a href="#">G-435-N</a>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Butler, Rhett	<a href="#">G-090-P/S</a>	Global seismograph station at Palmer Station and the South Pole
Dalziel, Ian	<a href="#">G-087-M</a>	A GPS network to determine crustal motions in the bedrock of the West Antarctic Ice Sheet
Domack, Eugene	<a href="#">G-096-L</a>	Paleohistory of the Larsen Ice Shelf System
Dowling, Carolyn	<a href="#">G-060-M</a>	The timing of the holocene climate change in the McMurdo Dry Valleys
Harvey, Ralph	<a href="#">G-058-M</a>	The Antarctic Search for Meteorites ANSMET -- collection team
Harwood, David	<a href="#">G-049-M</a>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Johns, Bjorn	<a href="#">G-295-M</a>	Unavco GPS Survey Support
Kemerait, Robert	<a href="#">G-078-M</a>	Dry Valley seismic project
Kyle, Philip	<a href="#">G-081-M</a>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Licht, Kathy	<a href="#">G-084-M</a>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Marchant, David	<a href="#">G-063-M</a>	Deducing late neogene antarctica climate from fossil-rich lacustrine



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		sediments in the Dry Valleys
Miller, Molly	<b>G-093-M</b>	Reconstructing the high latitude permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land
Mullins, Jerry	<b>G-052-M/P/S</b>	Geodesy and geospatial data program
Putkonen, Jaakko	<b>G-076-M</b>	Stability of landscapes and ice sheets in Dry Valleys: A systematic study of exposure ages of soils and surface deposits
Siddoway, Christine	<b>G-088-M</b>	Gneiss dome architecture
Stock, Joann	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Wilson, Terry	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior

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Glaciology

Principal Investigator	Event No.	Project Title
Anandakrishnan, Sridhar	<a href="#">I-205-M</a>	Tidal modulation of ice stream flow
Fricker, Helen	<a href="#">I-277-E</a>	Monitoring an active rift system at the front of Amery Ice Shelf, East Antarctica/
Gogineni, S. Prasad	<a href="#">I-188-M</a>	A mobile sensor web for polar ice sheet measurements
Hallet, Bernard	<a href="#">I-139-M</a>	Mechanics of dry-land calving of ice cliffs
Hansen, Anthony	<a href="#">I-414-S</a>	Hyper-insulated instrumentation system to support year-round research in polar regions
Kanagaratnam, Pannirselvam	<a href="#">I-346-M</a>	High resolution ice thickness and plan wave mapping of near-surface layers
Kreutz, Karl	<a href="#">I-191-M</a>	Dry Valleys Late Holocene Climate Variability
MacAyeal, Douglas	<a href="#">I-190-M</a>	Earth's largest icebergs
Raymond, Charles	<a href="#">I-163-M</a>	Detection of crystal orientation fabrics near the Ross/Amundsen sea ice-flow divide and at the Siple Dome ice core site using polarimetric radar methods
Scambos, Theodore	<a href="#">I-186-E</a>	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Sowers, Todd	<a href="#">I-177-M</a>	Gases in firn air and shallow ice at the proposed WAIS Divide drilling site
Taylor, Kendrick	<a href="#">I-477-M</a>	Investigation of climate, ice dynamics, and biology, using a deep ice core from the West Antarctic Ice Sheet Ice Divide
Tulaczyk, Slawek	<a href="#">I-345-M</a>	Is Kamb Ice Stream restarting?



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Glaciological investigations of the  
bulge-trunk transition on Kamb Ice  
Stream

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Ocean and Climate Systems

Principal Investigator	Event No.	Project Title
Chereskin, Teresa	<a href="#">O-317-L</a>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Laurence M. Gould
Dempsey, John	<a href="#">O-316-M</a>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Eisele, Fred	<a href="#">O-176-M/S</a>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Firing, Eric	<a href="#">O-315-N</a>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Nathaniel B. Palmer and R/V Laurence M. Gould
Hansen, Anthony	<a href="#">O-314-S</a>	Solar / wind powered instrumentation module development for polar environmental research
Hofmann, David	<a href="#">O-257-S</a>	South Pole monitoring for climatic change
Hofmann, David	<a href="#">O-264-P</a>	Collection of atmospheric air for the NOAA/CMDL worldwide flask sampling network
Keeling, Ralph	<a href="#">O-204-P/S</a>	Changes in atmospheric oxygen (O <sub>2</sub> ), carbon dioxide (CO <sub>2</sub> ), and argon (Ar) concentrations in relation to the carbon cycle and climate
McPhee, Miles	<a href="#">O-325-N</a>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Saito, Mak	<a href="#">O-398-N</a>	Interactions between Cobalt, Cadmium, and Zinc Biogeochemistry and Phytoplankton Dynamics in the Ross Sea
Sanderson, Colin	<a href="#">O-275-P/S</a>	Remote atmospheric measurements program (RAMP)



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Department fo Energy's  
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Sprintall, Janet

[O-260-L](#)

The Drake Passage high density  
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Stearns, Charles

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Antarctic Meteorological Research  
Center (AMRC)

Stearns, Charles

[O-283-M/P/S](#)

Antarctic Automatic Weather  
Station Program (AWS)

Takahashi, Taro

[O-214-L/N](#)

Processes driving spatial and  
temporal variability of surface  
pCO<sub>2</sub> in the Drake Passage

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Artists and Writers

Principal Investigator	Event No.	Project Title
Andrews, Sarah	<a href="#">W-218-M</a>	In cold pursuit (working title): A mystery novel set in Antarctica
Campbell, Alan	<a href="#">W-219-M</a>	Images from a frozen continent
Conrad, Lawrence (Larry)	<a href="#">W-224-M</a>	Field guide to antarctic features: McMurdo Sound region
Heideman, Kathleen	<a href="#">W-227-M</a>	The scientific method: Poems of antarctic inquiry
Steinmetz, George	<a href="#">W-222-M</a>	Antarctica: The frozen desert
Warren, Gabriel	<a href="#">W-217-M</a>	Examination of crevasses and other iceforms as artistic sources

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## Science Program Indexes: 2005-2006

### USAP Station Index:

McMurdo Station

Principal Investigator	Event No.	Project Title
Ainley, David	<a href="#">B-031-M</a>	Geographic structure of Adelie penguin populations: Demography of population expansion
Anandakrishnan, Sridhar	<a href="#">I-205-M</a>	Tidal modulation of ice stream flow
Andrews, Sarah	<a href="#">W-218-M</a>	In cold pursuit (working title): A mystery novel set in Antarctica
Blanchette, Robert	<a href="#">B-038-M</a>	Investigations on deterioration in the historic huts of Antarctica
Bowser, Samuel	<a href="#">B-015-M</a>	Remotely operable micro environmental observatory for antarctic marine biology research
Bowser, Samuel	<a href="#">B-043-M</a>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Campbell, Alan	<a href="#">W-219-M</a>	Images from a frozen continent
Chin, Yu-Ping	<a href="#">B-300-M</a>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Conrad, Lawrence (Larry)	<a href="#">W-224-M</a>	Field guide to antarctic features: McMurdo Sound region
Dalziel, Ian	<a href="#">G-087-M</a>	A GPS network to determine crustal motions in the bedrock of the West Antarctic Ice Sheet
Dempsey, John	<a href="#">O-316-M</a>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Deshler, Terry	<a href="#">A-131-M</a>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Doran, Peter	<a href="#">B-211-M</a>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo



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		Dry Valleys using an ultrasonic gopher
Doran, Peter	<b>B-426-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Dowling, Carolyn	<b>G-060-M</b>	The timing of the holocene climate change in the McMurdo Dry Valleys
Fountain, Andrew	<b>B-425-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Fraser-Smith, Antony	<b>A-100-M</b>	The operation of an ELF/VLF radiometer at Arrival Heights
Garrott, Robert	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Gogineni, S. Prasad	<b>I-188-M</b>	A mobile sensor web for polar ice sheet measurements
Gooseff, Michael	<b>B-268-M</b>	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Hall, Brenda	<b>B-068-M</b>	Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean
Hallet, Bernard	<b>I-139-M</b>	Mechanics of dry-land calving of ice cliffs
Harvey, Ralph	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Harwood, David	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Heideman, Kathleen	<b>W-227-M</b>	The scientific method: Poems of

		antarctic inquiry
Hofmann, Gretchen	<b>B-134-M</b>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
Johns, Bjorn	<b>G-295-M</b>	Unavco GPS Survey Support
Kanagaratnam, Pannirselvam	<b>I-346-M</b>	High resolution ice thickness and plan wave mapping of near-surface layers
Kanatous, Shane	<b>B-018-M</b>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
Kemerait, Robert	<b>G-078-M</b>	Dry Valley seismic project
Kennicutt, Mahlon	<b>B-518-M</b>	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Kreutz, Karl	<b>I-191-M</b>	Dry Valleys Late Holocene Climate Variability
Kyle, Philip	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Licht, Kathy	<b>G-084-M</b>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Lyons, W. Berry	<b>B-420-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
MacAyeal, Douglas	<b>I-190-M</b>	Earth's largest icebergs
Manahan, Donal	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Marchant, David	<b>G-063-M</b>	Deducing late neogene antarctica climate from fossil-rich lacustrine sediments in the Dry Valleys
Marsh, Adam	<b>B-029-M</b>	CAREER: Genomic networks for

		cold-adaptation in embryos of polar marine invertebrates
McKnight, Diane	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Miller, Molly	<b>G-093-M</b>	Reconstructing the high latitude permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land
Petzel, David	<b>B-012-M</b>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Pitman, Robert	<b>B-289-M</b>	Genetic and photogrammetric investigations of three ecotypes of killer whales in the southern Ross Sea
Ponganis, Paul	<b>B-197-M</b>	Diving physiology and behavior of Emperor penguins
Priscu, John	<b>B-195-M</b>	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys
Priscu, John	<b>B-422-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Putkonen, Jaakko	<b>G-076-M</b>	Stability of landscapes and ice sheets in Dry Valleys: A systematic study of exposure ages of soils and surface deposits
Raymond, Charles	<b>I-163-M</b>	Detection of crystal orientation fabrics near the Ross/Amundsen sea ice-flow divide and at the Siple Dome ice core site using polarimetric radar methods
Seo, Eun-Suk	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Siddoway, Christine	<b>G-088-M</b>	Gneiss dome architecture
Sowers, Todd	<b>I-177-M</b>	Gases in firn air and shallow ice at



		the proposed WAIS Divide drilling site
Steinmetz, George	<a href="#">W-222-M</a>	Antarctica: The frozen desert
Sullivan, David	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Tang, Kam	<a href="#">B-230-M</a>	Environmental and ecological regulation of differences and interactions between solitary and colonial forms of phaeocystis antarctica
Taylor, Kendrick	<a href="#">I-477-M</a>	Investigation of climate, ice dynamics, and biology, using a deep ice core from the West Antarctic Ice Sheet Ice Divide
Thompson, Linda	<a href="#">A-138-M</a>	Wallops Flight Facility component of the CREAM balloon payload
Tulaczyk, Slawek	<a href="#">I-345-M</a>	Is Kamb Ice Stream restarting? Glaciological investigations of the bulge-trunk transition on Kamb Ice Stream
Vial, Francois	<a href="#">A-360-M</a>	Strateole-Vorcore
Virginia, Ross	<a href="#">B-423-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Wall, Diana	<a href="#">B-424-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Ward, Bess	<a href="#">B-310-M</a>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Warren, Gabriel	<a href="#">W-217-M</a>	Examination of crevasses and other iceforms as artistic sources
Wefel, John	<a href="#">A-143-M</a>	Advanced Thin Ionization Calorimeter (ATIC)
Wilson, Terry	<a href="#">G-079-M</a>	Transantarctic Mountains deformation network: GPS measurements of neotectonic

		motion in the antarctic interior
Bieber, John	<a href="#">A-120-M/S</a>	Solar and heliospheric studies with antarctic cosmic rays
Eisele, Fred	<a href="#">O-176-M/S</a>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Engebretson, Mark	<a href="#">A-102-M/S</a>	Conjugate studies of ULF waves and magnetospheric dynamics using ground-based induction magnetometers at four high-latitude manned sites
Hernandez, Gonzalo	<a href="#">A-110-M/S</a>	Austral high-latitude atmospheric dynamics
Murcray, Frank	<a href="#">A-255-M/S</a>	Infrared measurements of atmospheric composition over Antarctica
Weatherwax, Allan	<a href="#">A-111-M/S</a>	Studies of the polar ionosphere and magnetosphere from measurements in Antarctica and conjugate regions
Weatherwax, Allan	<a href="#">A-112-M/S</a>	Polar experiment network for geospace upper-atmosphere investigations: PENGUIn -A new vision for global studies
Zesta, Eftyhia	<a href="#">A-357-M/P</a>	Extending the South American Meridional B-field Array (SAMBA) to auroral latitudes in Antarctica
Mullins, Jerry	<a href="#">G-052-M/P/S</a>	Geodesy and geospatial data program
Stearns, Charles	<a href="#">O-202-M/P/S</a>	Antarctic Meteorological Research Center (AMRC)
Stearns, Charles	<a href="#">O-283-M/P/S</a>	Antarctic Automatic Weather Station Program (AWS)

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### USAP Station Index:

Palmer Station

Principal Investigator	Event No.	Project Title
Zesta, Eftyhia	<a href="#">A-357-M/P</a>	Extending the South American Meridional B-field Array (SAMBA) to auroral latitudes in Antarctica
Mullins, Jerry	<a href="#">G-052-M/P/S</a>	Geodesy and geospatial data program
Stearns, Charles	<a href="#">O-202-M/P/S</a>	Antarctic Meteorological Research Center (AMRC)
Stearns, Charles	<a href="#">O-283-M/P/S</a>	Antarctic Automatic Weather Station Program (AWS)
Day, Thomas	<a href="#">B-003-P</a>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
Fraser, William	<a href="#">B-198-P</a>	Monitoring the effects of tourism and environmental variability on Adelie penguins at Palmer Station
Hofmann, David	<a href="#">O-264-P</a>	Collection of atmospheric air for the NOAA/CMDL worldwide flask sampling network
Inan, Umran	<a href="#">A-306-P</a>	ELF/VLF observations of lightning discharges, whistler-mode waves and electron precipitation at Palmer Station
Lee, Richard	<a href="#">B-256-P</a>	Physiological and molecular mechanisms of stress tolerance in a polar insect
Matrai, Patricia	<a href="#">B-048-P</a>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Butler, Rhett	<a href="#">G-090-P/S</a>	Global seismograph station at Palmer Station and the South Pole
Keeling, Ralph	<a href="#">O-204-P/S</a>	Changes in atmospheric oxygen (O <sub>2</sub> ), carbon dioxide (CO <sub>2</sub> ), and argon (Ar) concentrations in relation to the carbon cycle and climate



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Sanderson, Colin	<a href="#">O-275-P/S</a>	Remote atmospheric measurements program (RAMP) of the University of Miami/ U.S. Department fo Energy's Environmental Measurements Lab
Asper, Vernon	<a href="#">B-390-P/N</a>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Ducklow, Hugh	<a href="#">B-045-L/P</a>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Fraser, William	<a href="#">B-013-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Quetin, Langdon	<a href="#">B-028-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Smith, Raymond	<a href="#">B-032-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Vernet, Maria	<a href="#">B-016-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)

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### USAP Station Index:

South Pole Station

Principal Investigator	Event No.	Project Title
Bieber, John	<a href="#">A-120-M/S</a>	Solar and heliospheric studies with antarctic cosmic rays
Eisele, Fred	<a href="#">O-176-M/S</a>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Engebretson, Mark	<a href="#">A-102-M/S</a>	Conjugate studies of ULF waves and magnetospheric dynamics using ground-based induction magnetometers at four high-latitude manned sites
Hernandez, Gonzalo	<a href="#">A-110-M/S</a>	Austral high-latitude atmospheric dynamics
Murcray, Frank	<a href="#">A-255-M/S</a>	Infrared measurements of atmospheric composition over Antarctica
Weatherwax, Allan	<a href="#">A-111-M/S</a>	Studies of the polar ionosphere and magnetosphere from measurements in Antarctica and conjugate regions
Weatherwax, Allan	<a href="#">A-112-M/S</a>	Polar experiment network for geospace upper-atmosphere investigations: PENGUIn -A new vision for global studies
Mullins, Jerry	<a href="#">G-052-M/P/S</a>	Geodesy and geospatial data program
Stearns, Charles	<a href="#">O-202-M/P/S</a>	Antarctic Meteorological Research Center (AMRC)
Stearns, Charles	<a href="#">O-283-M/P/S</a>	Antarctic Automatic Weather Station Program (AWS)
Besson, Dave	<a href="#">A-123-S</a>	Radio Ice Cherenkov Experiment (RICE)
Caldwell, Douglas	<a href="#">A-103-S</a>	A search for extrasolar planets from the South Pole
Carlstrom, John	<a href="#">A-379-S</a>	South Pole observations to test cosmological models



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Church, Sarah	<a href="#">A-366-S</a>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Ejiri, Masaki	<a href="#">A-117-S</a>	All-sky imager at South Pole
Halzen, Francis	<a href="#">A-333-S</a>	ICECUBE
Hansen, Anthony	<a href="#">I-414-S</a>	Hyper-insulated instrumentation system to support year-round research in polar regions
Hansen, Anthony	<a href="#">O-314-S</a>	Solar / wind powered instrumentation module development for polar environmental research
Hofmann, David	<a href="#">O-257-S</a>	South Pole monitoring for climatic change
Holzappel, William	<a href="#">A-378-S</a>	High resolution observations of the CMB with ACBAR
Inan, Umran	<a href="#">A-108-S</a>	A VLF beacon transmitter at South Pole
LaBelle, James	<a href="#">A-128-S</a>	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
Lange, Andrew	<a href="#">A-033-S</a>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Lessard, Marc	<a href="#">A-136-S</a>	A proposal for the measurement and analysis of Extremely Low Frequency (ELF) waves at South Pole Station
Lessard, Marc	<a href="#">A-362-S</a>	Development of an Autonomous Real-time Remote Observatory (ARRO)
Mende, Stephen	<a href="#">A-104-S</a>	Dayside auroral imaging at South Pole
Palo, Scott	<a href="#">A-284-S</a>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Sivjee, Gulamabas	<a href="#">A-129-S</a>	The antarctic investigations of upper atmospheric disturbances over the South Pole Station
Stacey, Gordon	<a href="#">A-377-S</a>	Wide-field imaging spectroscopy in the submillimeter: Deploying SPIFI on AST/RO

Stark, Antony

[A-371-S](#)

Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)

Butler, Rhett

[G-090-P/S](#)

Global seismograph station at Palmer Station and the South Pole

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ARSV Laurence M. Gould

Principal Investigator	Event No.	Project Title
Chereskin, Teresa	<a href="#">O-317-L</a>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Laurence M. Gould
Domack, Eugene	<a href="#">G-096-L</a>	Paleohistory of the Larsen Ice Shelf System
Hollibaugh, James	<a href="#">B-114-L</a>	Distribution and ecology of ammonia oxidizing bacteria in the Palmer LTER study area
Madin, Laurence	<a href="#">B-307-L</a>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Martinson, Douglas	<a href="#">B-021-L</a>	Palmer Long Term Ecological Research Project (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Smith, Kenneth	<a href="#">B-050-L</a>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Sprintall, Janet	<a href="#">O-260-L</a>	The Drake Passage high density XBT/XCTD Program
Ducklow, Hugh	<a href="#">B-045-L/P</a>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Fraser, William	<a href="#">B-013-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Quetin, Langdon	<a href="#">B-028-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and



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		teleconnections in an ice-dominated environment (Prey component)
Smith, Raymond	<a href="#">B-032-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Vernet, Maria	<a href="#">B-016-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Firing, Eric	<a href="#">O-315-N</a>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Nathaniel B. Palmer and R/V Laurence M. Gould

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### USAP Station Index:

RV/IB Nathaniel B. Palmer

Principal Investigator	Event No.	Project Title
Anderson, John	<a href="#">G-083-N</a>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Anderson, John	<a href="#">G-435-N</a>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Charette, Matt	<a href="#">B-276-N</a>	Plankton community structure and iron distribution in the southern Drake Passage
DiTullio, Giacomo	<a href="#">B-272-N</a>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Dunbar, Robert	<a href="#">B-258-N</a>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Firing, Eric	<a href="#">O-315-N</a>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Nathaniel B. Palmer and R/V Laurence M. Gould
Gargett, Ann	<a href="#">B-208-N</a>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Gast, Rebecca	<a href="#">B-207-N</a>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Goes, Joaquim	<a href="#">B-206-N</a>	Ultraviolet radiation induced changes in the patterns of production and biochemical composition of Antarctic marine phytoplankton
Hutchins, David	<a href="#">B-279-N</a>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea



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Jeffrey, Wade	<b>B-200-N</b>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Kieber, David	<b>B-266-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Kiene, Ronald	<b>B-002-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
McPhee, Miles	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Measures, Christopher	<b>B-225-N</b>	Plankton community structure and iron distribution in the southern Drake Passage
Mitchell, B. Greg	<b>B-228-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Neale, Patrick	<b>B-203-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Saito, Mak	<b>O-398-N</b>	Interactions between Cobalt, Cadmium, and Zinc Biogeochemistry and Phytoplankton Dynamics in the Ross Sea
Sedwick, Peter	<b>B-267-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Smith, Walker	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Smith, Walker	<b>B-386-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Stock, Joann	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Tortell, Philippe	<b>B-282-N</b>	Interaction of iron, light and CO <sub>2</sub>

on phytoplankton community  
dynamics in the Ross Sea

Zhou, Meng

**B-248-N**

Plankton community structure and  
iron distribution in the southern  
Drake Passage and Scotia Sea

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Special Project

Principal Investigator	Event No.	Project Title
Fricker, Helen	<a href="#">I-277-E</a>	Monitoring an active rift system at the front of Amery Ice Shelf, East Antarctica/
Naveen, Ron	<a href="#">B-086-E</a>	Long-term data collection at select Antarctic Peninsula visitor sites
Scambos, Theodore	<a href="#">I-186-E</a>	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Travouillon, Tony	<a href="#">A-442-E</a>	Measurements of the surface layer turbulence at Dome C
Trivelpiece, Wayne	<a href="#">B-040-E</a>	Foraging behavior and demography of <i>Pygoscelis</i> penguins
Warren, Joseph	<a href="#">B-320-E</a>	RUI: Improving acoustic estimates of Antarctic krill populations

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Ainley, David G	<a href="#">B-031-M</a>	Geographic structure of Adelie penguin populations: Demography of population expansion
Anandakrishnan, Sridhar	<a href="#">I-205-M</a>	Tidal modulation of ice stream flow
Anderson, John B.	<a href="#">G-083-N</a>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Anderson, John B.	<a href="#">G-435-N</a>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Andrews, Sarah	<a href="#">W-218-M</a>	In cold pursuit (working title): A mystery novel set in Antarctica
Asper, Vernon	<a href="#">B-390-P/N</a>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Besson, Dave	<a href="#">A-123-S</a>	Radio Ice Cherenkov Experiment (RICE)
Bieber, John	<a href="#">A-120-M/S</a>	Solar and heliospheric studies with antarctic cosmic rays
Blanchette, Robert A	<a href="#">B-038-M</a>	Investigations on deterioration in the historic huts of Antarctica
Bowser, Samuel S	<a href="#">B-015-M</a>	Remotely operable micro environmental observatory for antarctic marine biology research
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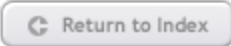
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University of Southern Mississippi	<b>B-390-P/N</b>	Asper, Vernon
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University of Washington	<b>G-076-M</b>	Putkonen, Jaakko
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Day, Thomas	<a href="#">B-003-P</a>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
Garrott, Robert	<a href="#">B-009-M</a>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Petzel, David	<a href="#">B-012-M</a>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Fraser, William	<a href="#">B-013-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Bowser, Samuel	<a href="#">B-015-M</a>	Remotely operable micro environmental observatory for antarctic marine biology research
Vernet, Maria	<a href="#">B-016-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Kanatous, Shane	<a href="#">B-018-M</a>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
Martinson, Douglas	<a href="#">B-021-L</a>	Palmer Long Term Ecological Research Project (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Quetin, Langdon	<a href="#">B-028-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey



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		component)
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Ainley, David	<b>B-031-M</b>	Geographic structure of Adelie penguin populations: Demography of population expansion
Smith, Raymond	<b>B-032-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Lange, Andrew	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Blanchette, Robert	<b>B-038-M</b>	Investigations on deterioration in the historic huts of Antarctica
Trivelpiece, Wayne	<b>B-040-E</b>	Foraging behavior and demography of Pygoscelis penguins
Bowser, Samuel	<b>B-043-M</b>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Ducklow, Hugh	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Smith, Walker	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Matrai, Patricia	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Harwood, David	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Smith, Kenneth	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Mullins, Jerry	<b>G-052-M/P/S</b>	Geodesy and geospatial data program
Harvey, Ralph	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Dowling, Carolyn	<b>G-060-M</b>	The timing of the holocene climate

		change in the McMurdo Dry Valleys
Marchant, David	<b>G-063-M</b>	Deducing late neogene antarctica climate from fossil-rich lacustrine sediments in the Dry Valleys
Hall, Brenda	<b>B-068-M</b>	Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean
Stock, Joann	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Putkonen, Jaakko	<b>G-076-M</b>	Stability of landscapes and ice sheets in Dry Valleys: A systematic study of exposure ages of soils and surface deposits
Kemerait, Robert	<b>G-078-M</b>	Dry Valley seismic project
Wilson, Terry	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Kyle, Philip	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Anderson, John	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Licht, Kathy	<b>G-084-M</b>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Naveen, Ron	<b>B-086-E</b>	Long-term data collection at select Antarctic Peninsula visitor sites
Dalziel, Ian	<b>G-087-M</b>	A GPS network to determine crustal motions in the bedrock of the West Antarctic Ice Sheet
Siddoway, Christine	<b>G-088-M</b>	Gneiss dome architecture
Butler, Rhett	<b>G-090-P/S</b>	Global seismograph station at Palmer Station and the South Pole
Miller, Molly	<b>G-093-M</b>	Reconstructing the high latitude permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land

Domack, Eugene	<a href="#">G-096-L</a>	Paleohistory of the Larsen Ice Shelf System
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Weatherwax, Allan	<a href="#">A-112-M/S</a>	Polar experiment network for geospace upper-atmosphere investigations: PENGUIn -A new vision for global studies
Hollibaugh, James	<a href="#">B-114-L</a>	Distribution and ecology of ammonia oxidizing bacteria in the Palmer LTER study area
Ejiri, Masaki	<a href="#">A-117-S</a>	All-sky imager at South Pole
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LaBelle, James	<a href="#">A-128-S</a>	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
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Deshler, Terry	<a href="#">A-131-M</a>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Hofmann, Gretchen	<a href="#">B-134-M</a>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish

Lessard, Marc	<a href="#">A-136-S</a>	A proposal for the measurement and analysis of Extremely Low Frequency (ELF) waves at South Pole Station
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Hallet, Bernard	<a href="#">I-139-M</a>	Mechanics of dry-land calving of ice cliffs
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Sullivan, David	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Raymond, Charles	<a href="#">I-163-M</a>	Detection of crystal orientation fabrics near the Ross/Amundsen sea ice-flow divide and at the Siple Dome ice core site using polarimetric radar methods
Eisele, Fred	<a href="#">O-176-M/S</a>	Antarctic Troposphere Chemistry Investigation (ANTCI)
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Scambos, Theodore	<a href="#">I-186-E</a>	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Gogineni, S. Prasad	<a href="#">I-188-M</a>	A mobile sensor web for polar ice sheet measurements
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Gargett, Ann	<b>B-208-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Doran, Peter	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Takahashi, Taro	<b>O-214-L/N</b>	Processes driving spatial and temporal variability of surface pCO <sub>2</sub> in the Drake Passage
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Heideman, Kathleen	<b>W-227-M</b>	The scientific method: Poems of antarctic inquiry

Mitchell, B. Greg	<b>B-228-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Tang, Kam	<b>B-230-M</b>	Environmental and ecological regulation of differences and interactions between solitary and colonial forms of phaeocystis antarctica
Zhou, Meng	<b>B-248-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Murcay, Frank	<b>A-255-M/S</b>	Infrared measurements of atmospheric composition over Antarctica
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Sprintall, Janet	<b>O-260-L</b>	The Drake Passage high density XBT/XCTD Program
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Sedwick, Peter	<b>B-267-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
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DiTullio, Giacomo	<b>B-272-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
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Charette, Matt	<b>B-276-N</b>	Plankton community structure and iron distribution in the southern Drake Passage
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Pitman, Robert	<b>B-289-M</b>	Genetic and photogrammetric investigations of three ecotypes of killer whales in the southern Ross Sea
Johns, Bjorn	<b>G-295-M</b>	Unavco GPS Survey Support
Chin, Yu-Ping	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Manahan, Donal	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
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		of warm antarctic sea ice: In-situ experiments and modeling
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Church, Sarah	<a href="#">A-366-S</a>	Next generation CMB polarization measurements with the QUEST experiment on DASI
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		Antarctic Peninsula
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Ahn, Hoseok	<a href="#">A-143-M</a>	Advanced Thin Ionization Calorimeter (ATIC)
Ainley, David G	<a href="#">B-031-M</a>	Geographic structure of Adelie penguin populations: Demography of population expansion
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Angelini, Federico	<b>A-131-M</b>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Applebaum, Sally	<b>B-518-M</b>	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Aragon-Arreola, Manuel de Jesus	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Arenz, Brett	<b>B-038-M</b>	Investigations on deterioration in the historic huts of Antarctica
Arnett, Kenneth Lee	<b>A-112-M/S</b>	Polar experiment network for geospace upper-atmosphere investigations: PENGUIn -A new vision for global studies
Ashworth, Allan	<b>G-063-M</b>	Deducing late neogene antarctica climate from fossil-rich lacustrine

		sediments in the Dry Valleys
Asper, Vernon L	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Asper, Vernon	<b>B-390-P/N</b>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Austen, Thomas	<b>B-032-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Avery, James Paul	<b>A-284-S</b>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Aydin, Murat	<b>I-177-M</b>	Gases in firn air and shallow ice at the proposed WAIS Divide drilling site
Aylward, Charles Patrick	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Ayres, Edward	<b>B-424-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Azeem, S. Irfan	<b>A-129-S</b>	The antarctic investigations of upper atmospheric disturbances over the South Pole Station
Badescu, Mircea	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Baeseman, Jenny	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Bagshaw, Elizabeth	<b>B-425-M</b>	The role of resource legacy on

		contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Bagshaw, Elizabeth Alice	<b>I-139-M</b>	Mechanics of dry-land calving of ice cliffs
Balco, Gregory A.	<b>G-076-M</b>	Stability of landscapes and ice sheets in Dry Valleys: A systematic study of exposure ages of soils and surface deposits
Baldwin, Amy J	<b>B-200-N</b>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Ballance, Lisa	<b>B-289-M</b>	Genetic and photogrammetric investigations of three ecotypes of killer whales in the southern Ross Sea
Ballard, Grant	<b>B-031-M</b>	Geographic structure of Adelie penguin populations: Demography of population expansion
Ballenger, Howard	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Bamberg, Audrey	<b>B-068-M</b>	Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean
Barkats, Denis	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Barlow, Stephen T	<b>A-110-M/S</b>	Austral high-latitude atmospheric dynamics
Barrett, John E	<b>B-268-M</b>	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Barth, Andrew	<b>G-084-M</b>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield

Basagic, Hassan IV	<b>B-425-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Basagic, Hassan IV	<b>I-139-M</b>	Mechanics of dry-land calving of ice cliffs
Bate, Douglas Bradley	<b>B-268-M</b>	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Battle, Mark	<b>I-177-M</b>	Gases in firn air and shallow ice at the proposed WAIS Divide drilling site
Bauer, Robert	<b>I-186-E</b>	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Bay, Ryan C.	<b>A-333-S</b>	ICECUBE
Beall, Benjamin	<b>B-310-M</b>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Behrens, Gerhard	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Behrens, Jim	<b>I-277-E</b>	Monitoring an active rift system at the front of Amery Ice Shelf, East Antarctica/
Bell, Mary Sue	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Bendixen, Quintin	<b>G-093-M</b>	Reconstructing the high latitude permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land
Benoit, Josh	<b>B-256-P</b>	Physiological and molecular mechanisms of stress tolerance in a polar insect
Bergeron, Beth	<b>I-177-M</b>	Gases in firn air and shallow ice at the proposed WAIS Divide drilling site



Bergeron, Beth	<b>I-477-M</b>	Investigation of climate, ice dynamics, and biology, using a deep ice core from the West Antarctic Ice Sheet Ice Divide
Berkoff, Tim	<b>O-257-S</b>	South Pole monitoring for climatic change
Besson, Dave	<b>A-123-S</b>	Radio Ice Cherenkov Experiment (RICE)
Betterly, Seth John	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Beyersdorf, Andreas	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Beynon, Claire Lynda	<b>B-043-M</b>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Blair, Jeffrey R	<b>B-015-M</b>	Remotely operable micro environmental observatory for antarctic marine biology research
Blair, Jeffrey R	<b>I-414-S</b>	Hyper-insulated instrumentation system to support year-round research in polar regions
Blake, Don Elvis	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Blanchette, Robert A	<b>B-038-M</b>	Investigations on deterioration in the historic huts of Antarctica
Bliss, Andrew	<b>G-078-M</b>	Dry Valley seismic project
Blum, Jennifer	<b>B-198-P</b>	Monitoring the effects of tourism and environmental variability on Adelie penguins at Palmer Station
Bobb, Michael	<b>B-268-M</b>	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Bock, Jamie	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Boesenberg, Joseph	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Bohaty, Steve	<b>G-083-N</b>	Shallow drilling along the Antarctic

		continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Bolsey, Robin J	<a href="#">A-333-S</a>	ICECUBE
Bordereau, Jerome	<a href="#">A-360-M</a>	Strateole-Vorcore
Bougamont, Marion H	<a href="#">I-345-M</a>	Is Kamb Ice Stream restarting? Glaciological investigations of the bulge-trunk transition on Kamb Ice Stream
Bowie, Andrew R	<a href="#">B-267-N</a>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Bowser, Samuel S	<a href="#">B-015-M</a>	Remotely operable micro environmental observatory for antarctic marine biology research
Bowser, Samuel S	<a href="#">B-043-M</a>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Braaten, David A	<a href="#">I-188-M</a>	A mobile sensor web for polar ice sheet measurements
Brachfeld, Stefanie	<a href="#">G-096-L</a>	Paleohistory of the Larsen Ice Shelf System
Braddock, Peter	<a href="#">G-084-M</a>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Braddock, Peter	<a href="#">I-163-M</a>	Detection of crystal orientation fabrics near the Ross/Amundsen sea ice-flow divide and at the Siple Dome ice core site using polarimetric radar methods
Bramall, Nathan E	<a href="#">B-211-M</a>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Brand-Buchanan, Michelle	<a href="#">G-049-M</a>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Brasfield, Paul	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Brauer, Philip Roger	<a href="#">B-012-M</a>	Drinking and Na/K-ATPase alpha-

		subunit isoform expression in antarctic fish
Braun, James Raymond	<a href="#">A-333-S</a>	ICECUBE
Braun, Jim	<a href="#">A-333-S</a>	ICECUBE
Brecke, Devon	<a href="#">G-084-M</a>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Brinkley, Jordan Colt	<a href="#">B-266-N</a>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Brioit, Bernard	<a href="#">A-360-M</a>	Strateole-Vorcore
Brooks, Steven B	<a href="#">O-176-M/S</a>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Brunt, Kelly	<a href="#">I-190-M</a>	Earth's largest icebergs
Bucholtz, Jesse	<a href="#">G-078-M</a>	Dry Valley seismic project
Buckley, Bradley Allen	<a href="#">B-134-M</a>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
Buhr, Martin P	<a href="#">O-176-M/S</a>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Bullock, Ian	<a href="#">B-086-E</a>	Long-term data collection at select Antarctic Peninsula visitor sites
Burdet, Tobias	<a href="#">I-191-M</a>	Dry Valleys Late Holocene Climate Variability
Burkemper, Andrew J	<a href="#">B-426-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Caldwell, Douglas A.	<a href="#">A-103-S</a>	A search for extrasolar planets from the South Pole
Calkins, Julie Ann	<a href="#">G-081-M</a>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Campbell, Alan	<a href="#">W-219-M</a>	Images from a frozen continent
Campbell, Colin	<a href="#">W-219-M</a>	Images from a frozen continent

Cande, Steven	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Candelaria, Frank	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Cardonne, Alain	<b>A-360-M</b>	Strateole-Vorcore
Carmichael, Joshua Daniel	<b>I-139-M</b>	Mechanics of dry-land calving of ice cliffs
Casassa, Gino	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Case, Gary	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Cawley, Kaelin	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Chang, Jeff	<b>A-306-P</b>	ELF/VLF observations of lightning discharges, whistler-mode waves and electron precipitation at Palmer Station
Charpentier, Paul James	<b>A-333-S</b>	ICECUBE
Cherwinka, Jeff	<b>A-333-S</b>	ICECUBE
Chiang, H. Cynthia	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Chin, Yu-Ping	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Chiuchiolo, Amy	<b>B-422-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Christl, Mark	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Christoffersen, Poul	<b>I-345-M</b>	Is Kamb Ice Stream restarting? Glaciological investigations of the bulge-trunk transition on Kamb Ice Stream
Church, Sarah E	<b>A-366-S</b>	Next generation CMB polarization measurements with the QUEST

		experiment on DASI
Clarke, Andrew D	<b>O-257-S</b>	South Pole monitoring for climatic change
Clendon, Penelope	<b>I-190-M</b>	Earth's largest icebergs
Cocquerez, Philippe	<b>A-360-M</b>	Strateole-Vorcore
Conner, Shane	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Copland, Luke	<b>I-190-M</b>	Earth's largest icebergs
Countway, Peter D	<b>B-207-N</b>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Cowart, Dominique	<b>B-029-M</b>	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
Cowen, Douglas Frederick	<b>A-333-S</b>	ICECUBE
Cox, Leonette O.	<b>G-060-M</b>	The timing of the holocene climate change in the McMurdo Dry Valleys
Cozzetto, Karen	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Crabill, Robbert	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Crawford, James Henry	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Croker, Rena L	<b>B-200-N</b>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Croon, Marcel	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Crotwell, Andrew Michael	<b>O-257-S</b>	South Pole monitoring for climatic change

Cully, Tim	<b>G-093-M</b>	Reconstructing the high latitude permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land
Curren, Matt	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Dacey, John W	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Dalziel, Ian W	<b>G-087-M</b>	A GPS network to determine crustal motions in the bedrock of the West Antarctic Ice Sheet
Dann, Jeremiah	<b>B-029-M</b>	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
Davies, Ashley	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Davis, Clinton	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Davis, Douglas D	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Day, Thomas A	<b>B-003-P</b>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
Dempsey, John Patrick	<b>O-316-M</b>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Demyanick, Elizabeth	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Dennett, Mark R	<b>B-207-N</b>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Denney, Andrew	<b>A-145-M</b>	Long Duration Balloon Program (LDB)

Denny, Mark	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Derry, Jeff	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Deshler, Terry	<b>A-131-M</b>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Detrick, Daniel L	<b>A-111-M/S</b>	Studies of the polar ionosphere and magnetosphere from measurements in Antarctica and conjugate regions
Devan, Caroline	<b>B-003-P</b>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
Dicks, Ethan R	<b>A-333-S</b>	ICECUBE
Dieser, Markus	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Dillman, Adler	<b>B-424-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
DiTullio, Giacomo R	<b>B-272-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Dolbey, Derek	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Domack, Eugene	<b>G-096-L</b>	Paleohistory of the Larsen Ice Shelf System
Dorland, Ryan D	<b>B-248-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Dowell, Charles Darren	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Dowling, Carolyn B	<b>G-060-M</b>	The timing of the holocene climate

		change in the McMurdo Dry Valleys
Dreier, Mark	I-177-M	Gases in firm air and shallow ice at the proposed WAIS Divide drilling site
Dreyer, Jennifer	B-047-N	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Dreyer, Jennifer	B-386-N	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Ducklow, Hugh	B-045-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Duer, Abel Constant IV	A-138-M	Wallops Flight Facility component of the CREAM balloon payload
Dugger, Katie	B-031-M	Geographic structure of Adelie penguin populations: Demography of population expansion
Dulaiova, Henrieta	B-276-N	Plankton community structure and iron distribution in the southern Drake Passage
Duling, Dennis	A-333-S	ICECUBE
Dunbar, Nelia W	G-081-M	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Dunbar, Robert B	B-258-N	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Duplantier, Adrian	B-045-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Dutton, Geoff	O-257-S	South Pole monitoring for climatic change
Dutton, Jessica Margot	B-134-M	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
Duvernois, Michael	A-137-M	Cosmic Ray Energetics And Mass



		(CREAM)
Dyhrman, Sonya	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Eam, Boreth	<b>B-016-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Ebihara, Yusuke	<b>A-117-S</b>	All-sky imager at South Pole
Eisele, Fred	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Egern, Lindsey	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Ellena, Jacob	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Ellison, Brad	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Elnitsky, Michael	<b>B-256-P</b>	Physiological and molecular mechanisms of stress tolerance in a polar insect
Ericksen, Matthew	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Erickson, Matthew	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Evenson, Paul	<b>A-333-S</b>	ICECUBE
Feng, Juanjuan	<b>B-279-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Ferguson, Cynthia K	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Fernandez, Rodrigo	<b>G-435-N</b>	Controls on sediment yields from

		tidewater glaciers from Patagonia to Antarctica
Feyzi, Farshid	<b>A-333-S</b>	ICECUBE
Fimmen, Ryan L.	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Finnegan, Colleen R	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Firing, Eric	<b>O-315-N</b>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Nathaniel B. Palmer and R/V Laurence M. Gould
Fleder, Anna	<b>B-423-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Ford, R. Glenn	<b>B-031-M</b>	Geographic structure of Adelie penguin populations: Demography of population expansion
Foreman, Christine M	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Fortner, Sarah	<b>B-420-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Francella, Jay	<b>B-272-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Fraser, William R	<b>B-013-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Frazier, Curtis	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Friedman, Robert Bryan	<b>A-366-S</b>	Next generation CMB polarization

		measurements with the QUEST experiment on DASI
Fritsen, Christian H	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Gacke, Terrance L	<b>I-177-M</b>	Gases in firn air and shallow ice at the proposed WAIS Divide drilling site
Gacke, Terrance L	<b>I-191-M</b>	Dry Valleys Late Holocene Climate Variability
Gaisser, Thomas K	<b>A-333-S</b>	ICECUBE
Gallager, Scott	<b>B-390-P/N</b>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Ganel, Opher	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Garangou, Eduard Costa	<b>B-258-N</b>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Garcia, Ronald	<b>A-333-S</b>	ICECUBE
Gargett, Ann E	<b>B-208-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Garner, Teresa	<b>B-208-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Garrott, Robert Andrew	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Gast, Rebecca J	<b>B-207-N</b>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Gear, Walter K	<b>A-366-S</b>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Gearinger, Kerra M	<b>B-206-N</b>	Ultraviolet radiation induced

		changes in the patterns of production and biochemical composition of Antarctic marine phytoplankton
Gerst, Alexander	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Gerstell, Marguerite	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Gilbert, Robert	<b>G-096-L</b>	Paleohistory of the Larsen Ice Shelf System
Ginsberg, David	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Glen, Andrew	<b>A-131-M</b>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Glenday, Peter J	<b>B-426-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Godfrey, Jeffrey	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Goes, Joaquim I	<b>B-206-N</b>	Ultraviolet radiation induced changes in the patterns of production and biochemical composition of Antarctic marine phytoplankton
Gogineni, S. Prasad	<b>I-188-M</b>	A mobile sensor web for polar ice sheet measurements
Goldberg, Dan	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Gomes, Maria	<b>B-206-N</b>	Ultraviolet radiation induced changes in the patterns of production and biochemical composition of Antarctic marine

		phytoplankton
Goodge, John William	<b>G-084-M</b>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Gooseff, Michael N	<b>B-268-M</b>	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Gordon, Hayden Herbert	<b>A-138-M</b>	Wallops Flight Facility component of the CREAM balloon payload
Gorman, Kristin	<b>B-013-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Gould, Randy Eugene	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Granger, Doug	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Green, Vince	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Greenler, Leland Stewart	<b>A-333-S</b>	ICECUBE
Gregg, Gerald	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Griffin, Gregory	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Grzymiski, Joe	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Gueguen, Celine	<b>B-282-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Guerard, Jennifer	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Guest, Peter S	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)

Guilbon, Rene	<b>A-360-M</b>	Strateole-Vorcore
Guzik, T. Gregory	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Hadley, Scott C	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Hall, Brenda L	<b>B-068-M</b>	Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean
Hallet, Bernard	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Ham, Tom	<b>A-333-S</b>	ICECUBE
Hamilton, Darrell Francis	<b>A-333-S</b>	ICECUBE
Handy, Sara M	<b>B-279-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Hannaford, Terry Blaine	<b>A-333-S</b>	ICECUBE
Hansen, Anthony D	<b>I-414-S</b>	Hyper-insulated instrumentation system to support year-round research in polar regions
Hanson, Kael Dylan	<b>A-333-S</b>	ICECUBE
Harbou, Lena von	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Harcourt, Ramsey	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Hare, Clinton E	<b>B-279-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Hart, Henry C	<b>A-138-M</b>	Wallops Flight Facility component of the CREAM balloon payload
Harvey, Ralph P	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Harwood, David Michael	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change

Hawke, Thomas J.	<b>B-018-M</b>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
Hawthorne, Ann Parks	<b>W-224-M</b>	Field guide to antarctic features: McMurdo Sound region
Haywood, Jennifer Crandall	<b>G-088-M</b>	Gneiss dome architecture
Hecobiannajjari, Arsineh	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Heideman, Kathleen M	<b>W-227-M</b>	The scientific method: Poems of antarctic inquiry
Helly, John	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Henderson, Paul	<b>B-276-N</b>	Plankton community structure and iron distribution in the southern Drake Passage
Hernandez, Gonzalo	<b>A-110-M/S</b>	Austral high-latitude atmospheric dynamics
Heroy, Dave	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Hertzog, Albert	<b>A-360-M</b>	Strateole-Vorcore
Hewes, Christopher D	<b>B-228-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Heydt, Keith van der	<b>B-390-P/N</b>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Hill, Gary C	<b>A-333-S</b>	ICECUBE
Hinke, Jefferson	<b>B-040-E</b>	Foraging behavior and demography of <i>Pygoscelis</i> penguins
Hiscock, Michael R	<b>O-214-L/N</b>	Processes driving spatial and temporal variability of surface pCO <sub>2</sub> in the Drake Passage

Hoaglund, Elizabeth Ann	<a href="#">B-134-M</a>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
Hochman, Gary Samuel	<a href="#">G-049-M</a>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Hoffman, Matthew James	<a href="#">I-139-M</a>	Mechanics of dry-land calving of ice cliffs
Hofmann, Gretchen Eva	<a href="#">B-134-M</a>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
Hollibaugh, James T	<a href="#">B-114-L</a>	Distribution and ecology of ammonia oxidizing bacteria in the Palmer LTER study area
Holvoet, Jennifer	<a href="#">I-188-M</a>	A mobile sensor web for polar ice sheet measurements
Holzappel, William L	<a href="#">A-378-S</a>	High resolution observations of the CMB with ACBAR
Horgan, Erich	<a href="#">B-307-L</a>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Horgan, Huw	<a href="#">I-205-M</a>	Tidal modulation of ice stream flow
Horn, Shannon	<a href="#">B-421-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Horne, Peter	<a href="#">B-013-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Hothem, Larry	<a href="#">G-052-M/P/S</a>	Geodesy and geospatial data program
Howard, Robert Seth	<a href="#">B-197-M</a>	Diving physiology and behavior of Emperor penguins
Huang, David	<a href="#">B-028-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-



		dominated environment (Prey component)
Hudson, Hilary	<b>B-012-M</b>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Hummon, Julia M	<b>O-315-N</b>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Nathaniel B. Palmer and R/V Laurence M. Gould
Humphrey, Jim	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Hutchins, David Allen	<b>B-279-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Ill, John Bisgrove	<b>B-266-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Iimura, Hiroyuki	<b>A-284-S</b>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Isbell, John L	<b>G-093-M</b>	Reconstructing the high latitude permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land
Isbert, Joachim	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Ishman, Scott	<b>G-096-L</b>	Paleohistory of the Larsen Ice Shelf System
Jackson, John	<b>O-316-M</b>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Jacobs, April	<b>B-420-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Jacobsen, John Eric	<b>A-333-S</b>	ICECUBE
James, Roland	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer

James, Thomas	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Jaros, Chris L	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Jayred, Michael	<b>A-333-S</b>	ICECUBE
Jeffrey, Wade H	<b>B-200-N</b>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Jezeq, Kenneth Charles	<b>I-188-M</b>	A mobile sensor web for polar ice sheet measurements
Johns, Bjorn	<b>G-295-M</b>	Unavco GPS Survey Support
Johnston, Mark Dorney	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Jones, Arthur Lawrence	<b>A-333-S</b>	ICECUBE
Jones, Kyle Richard	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Joseph, Pakulski,	<b>B-200-N</b>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Joughin, Ian R	<b>I-345-M</b>	Is Kamb Ice Stream restarting? Glaciological investigations of the bulge-trunk transition on Kamb Ice Stream
Jungenberg, Ronald Harland	<b>A-333-S</b>	ICECUBE
Jurgens, Joel A	<b>B-038-M</b>	Investigations on deterioration in the historic huts of Antarctica
Kaiser, Henry	<b>B-043-M</b>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Kalnajs, Lars E	<b>A-131-M</b>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and

		large polar stratospheric particles during austral winter and spring
Kanagaratnam, Pannirselvam	<b>I-346-M</b>	High resolution ice thickness and plan wave mapping of near-surface layers
Kanatous, Shane B	<b>B-018-M</b>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
Kappel, Nicholas	<b>G-078-M</b>	Dry Valley seismic project
Kaput, Marianne	<b>B-256-P</b>	Physiological and molecular mechanisms of stress tolerance in a polar insect
Karentz, Deneb	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Karle, Albrecht	<b>A-333-S</b>	ICECUBE
Kaufmann, Ronald	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Keating, Brian	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Keiding, Marie	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Keith, Stacey M	<b>B-206-N</b>	Ultraviolet radiation induced changes in the patterns of production and biochemical composition of Antarctic marine phytoplankton
Kelley, John L	<b>A-333-S</b>	ICECUBE
Kelly, Joann	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Kelly, Peter	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)

Kendrick, Erich	<b>G-087-M</b>	A GPS network to determine crustal motions in the bedrock of the West Antarctic Ice Sheet
Kenig, Fabien	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Kieber, David J	<b>B-266-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Kiene, Ronald P	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Kim, Hae-Chol	<b>B-203-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Kim, Sae Wung	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Kimball, Christine	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Kinsey, Joanna	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Kiss, Rachael	<b>B-422-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Klein, Andrew	<b>B-518-M</b>	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Knuth, Shelley L	<b>O-202-M/P/S</b>	Antarctic Meteorological Research Center (AMRC)
Knuth, Shelley L	<b>O-283-M/P/S</b>	Antarctic Automatic Weather Station Program (AWS)
Koch, Joshua	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem

		processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Koehler, Charles	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Koehler, James Michael	<b>A-333-S</b>	ICECUBE
Koes, Stephanie Ann	<b>O-257-S</b>	South Pole monitoring for climatic change
Koffman, Bess	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Konfal, Stephanie	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Kooi, Jacob	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Kooyman, Gerald	<b>B-197-M</b>	Diving physiology and behavior of Emperor penguins
Koppes, Michelle	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Kosciuch, Edward	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Kosters, John	<b>A-255-M/S</b>	Infrared measurements of atmospheric composition over Antarctica
Kouznetsov, Evgueni	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Kovac, John	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Kovac, John	<b>A-366-S</b>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Kozlowski, Wendy	<b>B-016-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and

		teleconnections in an ice-dominated environment (Phytoplankton component)
Krall, Sarah	<b>W-224-M</b>	Field guide to antarctic features: McMurdo Sound region
Krasberg, Mark	<b>A-333-S</b>	ICECUBE
Kravchenko, Ilya V	<b>A-123-S</b>	Radio Ice Cherenkov Experiment (RICE)
Kremer, Patricia	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Kreutz, Karl J	<b>I-191-M</b>	Dry Valleys Late Holocene Climate Variability
Krna, Matthew	<b>B-003-P</b>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
Kruckenber, Seth	<b>G-088-M</b>	Gneiss dome architecture
Kulesa, Craig	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Kuo, Chao-lin	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Kyle, Philip R	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Kyne, Jay D	<b>I-177-M</b>	Gases in firn air and shallow ice at the proposed WAIS Divide drilling site
Lacy, Laura L	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Landgraf, Victoria Grace	<b>A-333-S</b>	ICECUBE
Landsman, Yael Hagar	<b>A-333-S</b>	ICECUBE
Lange, Andrew	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Lange, Carina	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica

Lau, Elias Moises	<b>A-284-S</b>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Lauser, John	<b>G-078-M</b>	Dry Valley seismic project
Lawson, Jennifer L	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
League, Michael	<b>B-029-M</b>	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
Lee, Moo Hyun	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Lee, Peter A	<b>B-272-N</b>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Lee, Richard	<b>B-256-P</b>	Physiological and molecular mechanisms of stress tolerance in a polar insect
Lefer, Barry	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Lemein, Todd	<b>B-028-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Lenertz, James	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Lerner, Steve	<b>B-390-P/N</b>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Lessard, Marc R	<b>A-362-S</b>	Development of an Autonomous Real-time Remote Observatory (ARRO)
Leventer, Amy	<b>G-096-L</b>	Paleohistory of the Larsen Ice Shelf System
Levy, Richard Halford	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change

Leweling, Hank	<b>A-333-S</b>	ICECUBE
Lewis, Adam R	<b>G-063-M</b>	Deducing late neogene antarctica climate from fossil-rich lacustrine sediments in the Dry Valleys
Licht, Kathy J	<b>G-084-M</b>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Lidstrom, Sven	<b>A-333-S</b>	ICECUBE
Linnell, Geoff	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Lohan, Maeve	<b>B-267-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Long, Matt	<b>B-258-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Loomis, David	<b>B-040-E</b>	Foraging behavior and demography of Pygoscelis penguins
Lopez-Martinez, Giancarlo	<b>B-256-P</b>	Physiological and molecular mechanisms of stress tolerance in a polar insect
Lum, Kimberly	<b>B-028-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Luszczek, Elizabeth	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Lutz, Larry	<b>A-111-M/S</b>	Studies of the polar ionosphere and magnetosphere from measurements in Antarctica and conjugate regions
Lutz, Mathew	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Lyons, W. Berry	<b>B-420-M</b>	The role of resource legacy on contemporary linkages between



		biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
MacAyeal, Douglas R	<b>I-190-M</b>	Earth's largest icebergs
MacGregor, Joseph Andrew	<b>I-163-M</b>	Detection of crystal orientation fabrics near the Ross/Amundsen sea ice-flow divide and at the Siple Dome ice core site using polarimetric radar methods
Mackenzie, Cynthia L	<b>A-333-S</b>	ICECUBE
Madigan, Michael T	<b>B-195-M</b>	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys
Madin, Katherine	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Madin, Laurence P	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Maestro, Paolo	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Malinine, Alexandre	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Manahan, Donal	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Manley, Patricia	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Marsay, Christopher	<b>B-267-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Marsh, Adam G	<b>B-029-M</b>	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
Marshall, Greg	<b>B-197-M</b>	Diving physiology and behavior of Emperor penguins

Martel, David	<b>B-029-M</b>	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
Martin, Christopher L	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Martin, Kevin R.	<b>A-103-S</b>	A search for extrasolar planets from the South Pole
Martin, Kylara	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Marx, Jay Neil	<b>A-333-S</b>	ICECUBE
Mason, Pete	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Mastroianni, Joseph D	<b>B-015-M</b>	Remotely operable micro environmental observatory for antarctic marine biology research
Mastroianni, Joseph D	<b>O-314-S</b>	Solar / wind powered instrumentation module development for polar environmental research
Matrai, Patricia	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Matrajt, Graciela	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Matsuoka, Kenichi	<b>I-163-M</b>	Detection of crystal orientation fabrics near the Ross/Amundsen sea ice-flow divide and at the Siple Dome ice core site using polarimetric radar methods
Matt, Terry Dean	<b>A-333-S</b>	ICECUBE
Mauldin, Roy	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Mazzotti, Stephane	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
McCarthy, Michael P	<b>A-110-M/S</b>	Austral high-latitude atmospheric dynamics

McCulley, Yvette Karen	<b>B-012-M</b>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
McElroy, Kerry	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
McEwen, Donald	<b>A-129-S</b>	The antarctic investigations of upper atmospheric disturbances over the South Pole Station
McFadden, Rory	<b>G-088-M</b>	Gneiss dome architecture
McIntosh, William C	<b>G-081-M</b>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
McKibben, Melissa Lynn	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
McKnight, Diane M	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
McMullen, Katherine	<b>G-096-L</b>	Paleohistory of the Larsen Ice Shelf System
McParland, Charles Patrick	<b>A-333-S</b>	ICECUBE
McPhee, Miles	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Measures, Christopher	<b>B-225-N</b>	Plankton community structure and iron distribution in the southern Drake Passage
Meazell, Bobby	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Medved, Miroslav	<b>B-426-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Meeks, Jennifer	<b>B-002-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the

		Ross Sea
Meir, Jessica Ulrika	<b>B-197-M</b>	Diving physiology and behavior of Emperor penguins
members, No deploying team	<b>O-317-L</b>	Shipboard Acoustic Doppler Current Profiling (ADCP) on R/V Laurence M. Gould
Mendoza, Rodrigo Castro	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Mercer, Jennifer L	<b>A-131-M</b>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Middaugh, Nicole	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Miller, Elizabeth	<b>B-420-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Miller, Emily	<b>B-390-P/N</b>	Development of a polar remote interactive marine observatory (PRIMO) near Palmer Station on the Western Antarctic Peninsula
Miller, Kirk	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Miller, Molly B	<b>G-093-M</b>	Reconstructing the high latitude permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land
Miller, Penney Leigh	<b>B-300-M</b>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Milliken, Kristy	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A

		demonstration drilling cruise to the James Ross Basin
Milliken, Kristy	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Mitchell, B. Greg	<b>B-228-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Mognet, Samuel Adam Isaac	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Mohammad, Abdul	<b>I-188-M</b>	A mobile sensor web for polar ice sheet measurements
Moldwin, Mark B	<b>A-357-M/P</b>	Extending the South American Meridional B-field Array (SAMBA) to auroral latitudes in Antarctica
Montaigne, Fen	<b>B-198-P</b>	Monitoring the effects of tourism and environmental variability on Adelie penguins at Palmer Station
Moore, Joel G	<b>B-195-M</b>	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys
Moore, Kelly	<b>B-028-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Moorthi, Stefanie	<b>B-207-N</b>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Moran, Dawn M	<b>B-207-N</b>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Morgan, Daniel	<b>G-076-M</b>	Stability of landscapes and ice sheets in Dry Valleys: A systematic study of exposure ages of soils and surface deposits
Morgensen, Steen	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Morison, David	<b>O-325-N</b>	Maud Rise Nonlinear Equation of

		State Study (MaudNESS)
Morison, James H	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Morley, Geoffrey D	<b>O-316-M</b>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Morse, Bob	<b>A-333-S</b>	ICECUBE
Moslet, Per Olaf	<b>O-316-M</b>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Mucciarone, David A	<b>B-258-N</b>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Muench, Robin D	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Mulligan, Edward J	<b>A-110-M/S</b>	Austral high-latitude atmospheric dynamics
Murray, Alison	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Murray, Alison	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Nadin, Elisabeth	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Najjar, Raymond G	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Naveen, Ron	<b>B-086-E</b>	Long-term data collection at select Antarctic Peninsula visitor sites
Neale, Patrick J	<b>B-203-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Neeley, Aimee R	<b>B-272-N</b>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea

Neu, Andrea M	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Newberger, Timothy	<b>O-214-L/N</b>	Processes driving spatial and temporal variability of surface pCO <sub>2</sub> in the Drake Passage
Newsome, Seth	<b>B-068-M</b>	Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean
Nguyen, Hien Trong	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Nicholson, John	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Nikola, Thomas	<b>A-377-S</b>	Wide-field imaging spectroscopy in the submillimeter: Deploying SPIFI on AST/RO
Nishikawa, Jun	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Nkem, Johnson	<b>B-424-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Noble, Abigail	<b>O-398-N</b>	Interactions between Cobalt, Cadmium, and Zinc Biogeochemistry and Phytoplankton Dynamics in the Ross Sea
Noble, Kathryn	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Nomotobori, Takashi	<b>A-117-S</b>	All-sky imager at South Pole
Norman, Shaun	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Northcott, Melissa	<b>B-268-M</b>	Hydrologic controls over

		biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Notz, Dirk Philipp	<a href="#">O-325-N</a>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Nunn, Brook L	<a href="#">B-200-N</a>	Collaborative Research: Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Nutter, Scott	<a href="#">A-137-M</a>	Cosmic Ray Energetics And Mass (CREAM)
Nylen, Thomas	<a href="#">B-425-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Nylen, Thomas Henry	<a href="#">I-139-M</a>	Mechanics of dry-land calving of ice cliffs
O'Bannon, Allen	<a href="#">G-088-M</a>	Gneiss dome architecture
O'Brien, Tom	<a href="#">A-112-M/S</a>	Polar experiment network for geospace upper-atmosphere investigations: PENGUIn -A new vision for global studies
Oberst, Thomas E	<a href="#">A-377-S</a>	Wide-field imaging spectroscopy in the submillimeter: Deploying SPIFI on AST/RO
Ohmart, Michael	<a href="#">O-325-N</a>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Okal, Marianne H	<a href="#">I-190-M</a>	Earth's largest icebergs
Olson, John R.	<a href="#">A-255-M/S</a>	Infrared measurements of atmospheric composition over Antarctica
Oltmans, Samuel J.	<a href="#">O-257-S</a>	South Pole monitoring for climatic change
Oppenheimer, Clive Matthew Martin	<a href="#">G-081-M</a>	Mount Erebus Volcano Observatory and Laboratory (MEVOL)
Orlando, Angiola	<a href="#">A-366-S</a>	Next generation CMB polarization measurements with the QUEST



		experiment on DASI
Orr, Dwayne	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Osborn, Karen J	<a href="#">B-050-L</a>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Osinski, Gordon "Oz"	<a href="#">G-058-M</a>	The Antarctic Search for Meteorites ANSMET -- collection team
Osovitz, Christopher J	<a href="#">B-134-M</a>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
others",	<a href="#">G-096-L</a>	Paleohistory of the Larsen Ice Shelf System
others,	<a href="#">G-435-N</a>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Paden, John	<a href="#">I-188-M</a>	A mobile sensor web for polar ice sheet measurements
Padin, Stephen	<a href="#">A-379-S</a>	South Pole observations to test cosmological models
Padman, Laurence	<a href="#">O-325-N</a>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Palmer, Emerson Fowler	<a href="#">G-084-M</a>	Integrated study of east antarctic ice sheet tills (ISET): Tracers of ice flow and proxies of the ice-covered continental shield
Palmer, Terry	<a href="#">B-518-M</a>	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Palo, Scott Edward	<a href="#">A-284-S</a>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Park, Na Hee	<a href="#">A-137-M</a>	Cosmic Ray Energetics And Mass (CREAM)
Parra, Julie	<a href="#">G-071-N</a>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Paschal, Evans	<a href="#">A-108-S</a>	A VLF beacon transmitter at South Pole
Patil, Vijay	<a href="#">B-031-M</a>	Geographic structure of Adelie

		penguin populations: Demography of population expansion
Paulos, Robert	<a href="#">A-333-S</a>	ICECUBE
Payne, Christopher D	<a href="#">B-282-N</a>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Pedler, Byron	<a href="#">B-307-L</a>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Pekar, Stephen Fredrick	<a href="#">G-049-M</a>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Peloquin, Jill	<a href="#">B-386-N</a>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Pena, Santiago de la	<a href="#">A-284-S</a>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Pernic, Dave	<a href="#">A-333-S</a>	ICECUBE
Pernic, Robert J	<a href="#">A-371-S</a>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Peters, Leo	<a href="#">I-205-M</a>	Tidal modulation of ice stream flow
Peterson, Jeffrey B	<a href="#">A-378-S</a>	High resolution observations of the CMB with ACBAR
Pettersen, Claire	<a href="#">A-333-S</a>	ICECUBE
Pettersson, Rickard	<a href="#">I-345-M</a>	Is Kamb Ice Stream restarting? Glaciological investigations of the bulge-trunk transition on Kamb Ice Stream
Pettit, Erin	<a href="#">B-425-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Pettit, Erin Christine	<a href="#">I-139-M</a>	Mechanics of dry-land calving of ice cliffs
Petzel, Anne Davide	<a href="#">B-012-M</a>	Drinking and Na/K-ATPase alpha-

		subunit isoform expression in antarctic fish
Petzel, David Henry	<b>B-012-M</b>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Petzel, Jill Janis	<b>B-012-M</b>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Pezzoli, Glenn	<b>O-260-L</b>	The Drake Passage high density XBT/XCTD Program
Phillips, Brennan T	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Phillips-Kress, Jesse D	<b>B-203-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Pickering, Brett C	<b>B-013-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Pisano, William	<b>A-284-S</b>	Dynamics of the antarctic MLT region using ground-based radar and TIMED Instrumentation
Pitman, Robert L	<b>B-289-M</b>	Genetic and photogrammetric investigations of three ecotypes of killer whales in the southern Ross Sea
Plagge, Amanda	<b>A-362-S</b>	Development of an Autonomous Real-time Remote Observatory (ARRO)
Poage, Michael	<b>B-423-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Podrabsky, Jason	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms

Polish, Nathaniel	<b>B-031-M</b>	Geographic structure of Adelie penguin populations: Demography of population expansion
Polk, Scott M	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Pollard, Carol	<b>B-386-N</b>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Pollock, Neal W	<b>B-043-M</b>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Ponganis, Katherine Victoria	<b>B-197-M</b>	Diving physiology and behavior of Emperor penguins
Ponganis, Paul John	<b>B-197-M</b>	Diving physiology and behavior of Emperor penguins
Powell, Brian	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Powell, Christopher M	<b>B-208-N</b>	Interactive effects of UV and vertical mixing on phytoplankton and bacterioplankton in the Ross Sea
Powers, Meghan	<b>B-028-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Priscu, John C	<b>B-422-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Proffitt, Kelly Michelle	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Pryke, Clement	<b>A-366-S</b>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Przybylski, Gerald T	<b>A-333-S</b>	ICECUBE
Putkonen, Jaakko	<b>G-076-M</b>	Stability of landscapes and ice

		sheets in Dry Valleys: A systematic study of exposure ages of soils and surface deposits
Quesada, Antonio	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Quetin, Langdon	<b>B-028-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Radebaugh, Jani	<b>G-058-M</b>	The Antarctic Search for Meteorites ANSMET -- collection team
Rakow, Kelly	<b>B-307-L</b>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Ravissot, Alain	<b>A-360-M</b>	Strateole-Vorcore
Rawlinson, Mark	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Reddington, Allison	<b>B-423-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Redinger, Robert	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Reisenbichler, Kim	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Rellinger, Alison N.	<b>B-002-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Renbarger, Tom	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Rentmeesters, Charles Donald	<b>A-333-S</b>	ICECUBE

Richter, Kristin	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Rignot, Eric	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Riley, Paul	<b>A-102-M/S</b>	Conjugate studies of ULF waves and magnetospheric dynamics using ground-based induction magnetometers at four high-latitude manned sites
Riley, Paul	<b>A-362-S</b>	Development of an Autonomous Real-time Remote Observatory (ARRO)
Riseman, Sarah F	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Rivera, Andres	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Roach, Lydia	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Roberts, J.R.	<b>G-087-M</b>	A GPS network to determine crustal motions in the bedrock of the West Antarctic Ice Sheet
Roberts, Michael J	<b>G-088-M</b>	Gneiss dome architecture
Roberts, Stephen C	<b>G-090-P/S</b>	Global seismograph station at Palmer Station and the South Pole
Robertson, Mark	<b>G-090-P/S</b>	Global seismograph station at Palmer Station and the South Pole
Robison, Bruce	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Roche, Amber	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Rose, Julie	<b>B-207-N</b>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters

Rose, Julie	<a href="#">B-279-N</a>	Interaction of iron, light and CO2 on phytoplankton community dynamics in the Ross Sea
Rosenberger, Dena	<a href="#">B-300-M</a>	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
Ross, Robin	<a href="#">B-028-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Ross, Ronald	<a href="#">I-186-E</a>	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Ross, Ronald	<a href="#">I-190-M</a>	Earth's largest icebergs
Roth, James A	<a href="#">A-333-S</a>	ICECUBE
Roy, Eric George	<a href="#">B-310-M</a>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Ruhl, Henry	<a href="#">B-050-L</a>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Ruhland, Christopher T	<a href="#">B-003-P</a>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
Rusholme, Benjamin A	<a href="#">A-366-S</a>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Sabacka, Marie	<a href="#">B-422-M</a>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Sabo, Kathleen	<a href="#">B-028-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)

Saito, Mak A	<a href="#">O-398-N</a>	Interactions between Cobalt, Cadmium, and Zinc Biogeochemistry and Phytoplankton Dynamics in the Ross Sea
Salas, Louis	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Samarkin, Vladimir	<a href="#">B-195-M</a>	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys
Sanders, Robert W	<a href="#">B-207-N</a>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Sanders, Susan	<a href="#">B-031-M</a>	Geographic structure of Adelie penguin populations: Demography of population expansion
Sato, Katsufumi	<a href="#">B-197-M</a>	Diving physiology and behavior of Emperor penguins
Sattley, William M	<a href="#">B-195-M</a>	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys
Scambos, Ted	<a href="#">I-186-E</a>	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Schmitt, Eric	<a href="#">A-360-M</a>	Strateole-Vorcore
Schneider, Darryn	<a href="#">A-333-S</a>	ICECUBE
Schnetzer, Astrid	<a href="#">B-207-N</a>	Comparative and Quantitative Studies of Protistan Molecular Ecology and Physiology in Coastal Antarctic Waters
Schram, Julie	<a href="#">B-032-L/P</a>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Scofield, Margaret	<a href="#">B-012-M</a>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Scolardi, Kerri M	<a href="#">B-307-L</a>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population



		dynamics and biogeochemical impact
Sedwick, Peter	<b>B-267-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Seifferlein, Brian	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Selph, Karen E	<b>B-225-N</b>	Plankton community structure and iron distribution in the southern Drake Passage
Sener, Joseph Ward III	<b>B-009-M</b>	Patterns and processes: Dynamics of the Erebus Bay Weddell seal population
Seo, Eun-Suk	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Sessions, Thomas S.	<b>B-320-E</b>	RUI: Improving acoustic estimates of Antarctic krill populations
Shaw, Tim	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Shaw, William James	<b>O-325-N</b>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Sherlock, Robert E	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Sherrit, Stewart	<b>B-211-M</b>	NASA-ASTEP: Subsurface ice and brine sampling: Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
Shields, Amy R	<b>B-230-M</b>	Environmental and ecological regulation of differences and interactions between solitary and colonial forms of phaeocystis antarctica
Shulman, Leonard	<b>A-120-M/S</b>	Solar and heliospheric studies with antarctic cosmic rays
Shultz, Edward F	<b>A-333-S</b>	ICECUBE
Siddoway, Christine S	<b>G-088-M</b>	Gneiss dome architecture
Sidor, Christian A	<b>G-093-M</b>	Reconstructing the high latitude

		permian-triassic: Life, landscapes, and climate recorded in the Allan Hills, South Victoria Land
Simo, Rafel	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Sines, Karie A	<b>B-016-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Slezak, Dorothea	<b>B-002-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Smalley, Robert	<b>G-087-M</b>	A GPS network to determine crustal motions in the bedrock of the West Antarctic Ice Sheet
Smith, Douglas	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Smith, Ken L	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Smith, Kimberly Ann	<b>B-012-M</b>	Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish
Smith, Walker O	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Smith, Walker O	<b>B-386-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Snels, Marcel	<b>A-131-M</b>	Measurements addressing quantitative ozone loss, polar stratospheric cloud nucleation, and large polar stratospheric particles during austral winter and spring
Snyder, Glen Tritch	<b>G-060-M</b>	The timing of the holocene climate change in the McMurdo Dry Valleys
Sobrino, Cristina	<b>B-203-N</b>	Interactive effects of UV and vertical mixing on phytoplankton

		and bacterioplankton in the Ross Sea
Soderlund, Krista	<b>G-071-N</b>	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Solarz, Michael	<b>A-333-S</b>	ICECUBE
Somero, George	<b>B-301-M</b>	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Sowers, Todd	<b>I-177-M</b>	Gases in firn air and shallow ice at the proposed WAIS Divide drilling site
Speece, Marvin Andrew	<b>G-049-M</b>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Spinhirne, James	<b>O-257-S</b>	South Pole monitoring for climatic change
Sprague, Joshua	<b>B-028-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Stacey, Gordon J	<b>A-377-S</b>	Wide-field imaging spectroscopy in the submillimeter: Deploying SPIFI on AST/RO
Stansbury, Richard	<b>I-188-M</b>	A mobile sensor web for polar ice sheet measurements
Stapf, Frederick Charles	<b>A-138-M</b>	Wallops Flight Facility component of the CREAM balloon payload
Starbuck, Michael	<b>G-079-M</b>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Stark, Antony A	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Stark, Ellen Garber	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)

Staide, Jessica Ann	<a href="#">O-202-M/P/S</a>	Antarctic Meteorological Research Center (AMRC)
Steinmetz, George	<a href="#">W-222-M</a>	Antarctica: The frozen desert
Sterling, Karen Henrichs	<a href="#">B-043-M</a>	Evolution of morphology and trophic strategies in antarctic agglutinated foraminifera
Steur, Laura de	<a href="#">O-325-N</a>	Maud Rise Nonlinear Equation of State Study (MaudNESS)
Stewart, Michael	<a href="#">A-143-M</a>	Advanced Thin Ionization Calorimeter (ATIC)
Stezelberger, Thorsten	<a href="#">A-333-S</a>	ICECUBE
Stockard, Andrea Torrence Kowner	<a href="#">B-197-M</a>	Diving physiology and behavior of Emperor penguins
Stockard, Edward Raymond	<a href="#">B-197-M</a>	Diving physiology and behavior of Emperor penguins
Stokstad, Robert G	<a href="#">A-333-S</a>	ICECUBE
Strauss, Sarah L	<a href="#">B-003-P</a>	Response of terrestrial ecosystems along the Antarctic Peninsula to a changing climate
Sullivan, David W	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Sweeney, Colm	<a href="#">O-214-L/N</a>	Processes driving spatial and temporal variability of surface pCO <sub>2</sub> in the Drake Passage
Sweet, Stephen T	<a href="#">B-518-M</a>	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Swift, Hannah Katherine	<a href="#">A-123-S</a>	Radio Ice Cherenkov Experiment (RICE)
Szundy, Matthew Meszaros	<a href="#">I-139-M</a>	Mechanics of dry-land calving of ice cliffs
Takacs-Vesbach, Cristina	<a href="#">B-268-M</a>	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Takahashi, Yuki	<a href="#">A-033-S</a>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Tang, Kam Wing	<a href="#">B-230-M</a>	Environmental and ecological

		regulation of differences and interactions between solitary and colonial forms of phaeocystis antarctica
Tanner, David	<b>O-176-M/S</b>	Antarctic Troposphere Chemistry Investigation (ANTCI)
Taylor, Brian	<b>B-272-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Taylor, Kendrick C	<b>I-477-M</b>	Investigation of climate, ice dynamics, and biology, using a deep ice core from the West Antarctic Ice Sheet Ice Divide
Tewksbury, Dave	<b>G-096-L</b>	Paleohistory of the Larsen Ice Shelf System
Teyssier, Christian	<b>G-088-M</b>	Gneiss dome architecture
Thom, Jonathan	<b>I-186-E</b>	Investigating iceberg evolution during drift and break-up: A proxy for climate-related changes to antarctic ice shelves
Thom, Jonathan E	<b>I-190-M</b>	Earth's largest icebergs
Thom, Jonathan E	<b>O-283-M/P/S</b>	Antarctic Automatic Weather Station Program (AWS)
Thoma, Mark	<b>A-333-S</b>	ICECUBE
Thomas, Thomas	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Tilav, Serap	<b>A-333-S</b>	ICECUBE
Toniolo, Viola	<b>B-031-M</b>	Geographic structure of Adelie penguin populations: Demography of population expansion
Toole, Dierdre Alison	<b>B-266-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Tortell, Philippe	<b>B-282-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Tothill, Nicholas F. H.	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)

Tozzi, Sasha	<b>B-047-N</b>	Interannual variability in the Antarctic - Ross Sea (IVARS): Nutrients and seasonal production
Tozzi, Sasha	<b>B-386-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Tranter, Martyn	<b>B-425-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Travouillon, Tony	<b>A-442-E</b>	Measurements of the surface layer turbulence at Dome C
Tria, Juliette	<b>B-267-N</b>	Interaction of iron, light and CO <sub>2</sub> on phytoplankton community dynamics in the Ross Sea
Trick, Charles G	<b>B-310-M</b>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Trivelpiece, Susan	<b>B-040-E</b>	Foraging behavior and demography of Pygoscelis penguins
Trivelpiece, Wayne	<b>B-040-E</b>	Foraging behavior and demography of Pygoscelis penguins
Trumble, Steve	<b>B-018-M</b>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
Tuit, Caroline L	<b>B-310-M</b>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Tulaczyk, Slawek M.	<b>I-345-M</b>	Is Kamb Ice Stream restarting? Glaciological investigations of the bulge-trunk transition on Kamb Ice Stream
Tung, Hei Man	<b>I-345-M</b>	Is Kamb Ice Stream restarting? Glaciological investigations of the bulge-trunk transition on Kamb Ice Stream

Turner, Drew L.	<b>A-129-S</b>	The antarctic investigations of upper atmospheric disturbances over the South Pole Station
Twickler, Mark S	<b>I-477-M</b>	Investigation of climate, ice dynamics, and biology, using a deep ice core from the West Antarctic Ice Sheet Ice Divide
Ulrich, Paul	<b>B-029-M</b>	CAREER: Genomic networks for cold-adaptation in embryos of polar marine invertebrates
Valdivia, Jean	<b>A-360-M</b>	Strateole-Vorcore
Valle, Daniela del	<b>B-002-N</b>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
Vandover, Cindy	<b>B-045-L/P</b>	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Veloza, Adriana Judith	<b>B-230-M</b>	Environmental and ecological regulation of differences and interactions between solitary and colonial forms of phaeocystis antarctica
Venema, Bryan	<b>A-110-M/S</b>	Austral high-latitude atmospheric dynamics
Verdier, Nicolas	<b>A-360-M</b>	Strateole-Vorcore
Vernet, Maria	<b>B-016-L/P</b>	Palmer long-term ecological research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Vernet, Maria	<b>B-050-L</b>	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Vigil, Arturo A	<b>A-138-M</b>	Wallops Flight Facility component of the CREAM balloon payload
Vila, Maria	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Virginia, Ross A	<b>B-423-M</b>	The role of resource legacy on

		contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Voigt, Donald E	<b>I-205-M</b>	Tidal modulation of ice stream flow
Walker, Christopher K	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Wall, Diana H	<b>B-424-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Wang, Haili	<b>B-228-N</b>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Wang, Shen	<b>O-316-M</b>	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Ward, Bess B	<b>B-310-M</b>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Warren, Gabriel Penn	<b>W-217-M</b>	Examination of crevasses and other iceforms as artistic sources
Warren, Joseph	<b>B-320-E</b>	RUI: Improving acoustic estimates of Antarctic krill populations
Waszkiewicz, Michael	<b>I-191-M</b>	Dry Valleys Late Holocene Climate Variability
Watson, Rebecca R.	<b>B-018-M</b>	The molecular signals that regulate the ontogeny of aerobic capacity, lipid metabolism and elevated myoglobin concentrations in the skeletal muscles of Weddell seals
Weale, Jason	<b>A-362-S</b>	Development of an Autonomous Real-time Remote Observatory (ARRO)
Weatherwax, Allan T	<b>A-111-M/S</b>	Studies of the polar ionosphere and magnetosphere from measurements in Antarctica and



		conjugate regions
Weatherwax, Allan T	<b>A-128-S</b>	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
Weaver, Fred	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Wefel, John P	<b>A-143-M</b>	Advanced Thin Ionization Calorimeter (ATIC)
Wefel, Mark	<b>A-145-M</b>	Long Duration Balloon Program (LDB)
Weidner, George A	<b>O-283-M/P/S</b>	Antarctic Automatic Weather Station Program (AWS)
Weintraub, Lawrence	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Welch, Kathleen Ann	<b>B-420-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Wellner, Julia Smith	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Wellner, Julia Smith	<b>G-435-N</b>	Controls on sediment yields from tidewater glaciers from Patagonia to Antarctica
Wells, Mark L	<b>B-310-M</b>	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
Westby, George R Jr	<b>B-048-P</b>	Complex molecular to global interactions and feedbacks in the marine DMS cycle
Weygand, James	<b>A-357-M/P</b>	Extending the South American Meridional B-field Array (SAMBA) to auroral latitudes in Antarctica
White, Seth	<b>G-295-M</b>	Unavco GPS Survey Support
Whiteside, Robin	<b>A-145-M</b>	Long Duration Balloon Program (LDB)

Whitmer, Allison Coesett	<a href="#">B-134-M</a>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish
Whorton, Erin Nicole	<a href="#">I-139-M</a>	Mechanics of dry-land calving of ice cliffs
Wielgus, John	<a href="#">A-371-S</a>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Williams, Albert III J	<a href="#">B-307-L</a>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Williams, Cassandra	<a href="#">B-197-M</a>	Diving physiology and behavior of Emperor penguins
Williams, Isabelle P	<a href="#">B-307-L</a>	Salpa thompsoni in the Southern Ocean: Bioenergetics, population dynamics and biogeochemical impact
Williamson, Bruce	<a href="#">I-191-M</a>	Dry Valleys Late Holocene Climate Variability
Willis, Mike J	<a href="#">G-079-M</a>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Willmott, Veronica	<a href="#">G-096-L</a>	Paleohistory of the Larsen Ice Shelf System
Wilson, Terry J	<a href="#">G-079-M</a>	Transantarctic Mountains deformation network: GPS measurements of neotectonic motion in the antarctic interior
Winberry, Paul	<a href="#">I-205-M</a>	Tidal modulation of ice stream flow
Winter, Diane	<a href="#">G-049-M</a>	ANDRILL - Investigating Antarctica's role in Cenozoic global environmental change
Wise, Nathan	<a href="#">A-145-M</a>	Long Duration Balloon Program (LDB)
Wise, Sherwood	<a href="#">G-083-N</a>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Wohlford, Tristan	<a href="#">B-016-L/P</a>	Palmer long-term ecological

		research project: Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Woodruff, Ray	<b>B-421-M</b>	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Woods, Susan	<b>B-040-E</b>	Foraging behavior and demography of <i>Pygoscelis</i> penguins
Woschnagg, Kurt	<b>A-333-S</b>	ICECUBE
Wright, Gregory	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory (AST/RO)
Wu, Edward Yousen	<b>A-366-S</b>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Yam, Emily M	<b>B-230-M</b>	Environmental and ecological regulation of differences and interactions between solitary and colonial forms of phaeocystis antarctica
Yang, Jong Mann	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Yeck, James	<b>A-333-S</b>	ICECUBE
Yoon, Kiwon	<b>A-033-S</b>	Background Imaging of Cosmic Extragalactic Polarization (BICEP)
Yoon, Young Soo	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Young, Kim Jung	<b>A-137-M</b>	Cosmic Ray Energetics And Mass (CREAM)
Zachos, Jim	<b>G-083-N</b>	Shallow drilling along the Antarctic continental margin (SHALDRIL); A demonstration drilling cruise to the James Ross Basin
Zannoni, Ric	<b>A-371-S</b>	Continued operation of the Antarctic Submillimeter Telescope and Remote Observatory

(AST/RO)

Zeglin, Lydia	<a href="#">B-268-M</a>	Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert
Zemcov, Michael Boris	<a href="#">A-366-S</a>	Next generation CMB polarization measurements with the QUEST experiment on DASI
Zernick, Michael	<a href="#">A-333-S</a>	ICECUBE
Zhou, Meng	<a href="#">B-248-N</a>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Zhu, Yiwu	<a href="#">B-248-N</a>	Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea
Zinn, Shun-yong (Sonny)	<a href="#">A-137-M</a>	Cosmic Ray Energetics And Mass (CREAM)
Zippay, Mackenzie Lane	<a href="#">B-134-M</a>	Towards an understanding of protein homeostasis in cold-adapted antarctic fish

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## Science Project Details: 2005-2006

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### Geographic Structure Of Adelie Penguin Populations: Demography Of Population Expansion

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Geographic structure of Adelie Penguin populations: Demography of population expansion. Photo courtesy of David Ainley

**Dr. David G Ainley** (Principal Investigator)  
[dainley@penguinscience.com](mailto:dainley@penguinscience.com)  
<http://www.penguinscience.com>

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**H.T. Harvey & Associates**  
San Jose, California

**Supporting Stations:** McMurdo Station  
**Research Locations:** Cape Bird, Cape Crozier, Cape Royds

#### Project Description:

This project is an international collaborative investigation of geographic structuring, founding of new colonies, and population change of Adélie Penguins, *Pygoscelis adeliae*, nesting on Ross and Beaufort islands. The long-term changes occurring at these colonies are representative of changes throughout the Ross Sea, where 30% of all Adélie Penguins reside, and are in some way related to changing climate. The recent grounding of two very large icebergs against Ross and Beaufort islands, with associated increased variability in sea ice extent, has provided an unparalleled natural experiment affecting wild, interannual swings in colony productivity, foraging effort, philopatry and recruitment. Results of this experiment can provide insights into the demography and geographic population structuring of this species, having continent-wide relevance in understanding its future responses to climate change as well as interpreting its amazingly well-known Holocene history.

#### Deploying Team Members:

David G Ainley · Grant Ballard · Katie Dugger · R. Glenn Ford · Vijay Patil · Nathaniel Polish · Susan Sanders · Viola Toniolo



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## Science Project Details: 2005-2006

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### Tidal Modulation Of Ice Stream Flow

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Photo not available.

**Program Manager:**

Dr. Julie Palais

**Event Number:** I-205-M

NSF/OPP Award 02-29629

**ASC POC/Implementer:**

Charles Kaminski

**Dr. Sridhar Anandakrishnan** (Principal Investigator)

[sak@essc.psu.edu](mailto:sak@essc.psu.edu)

<http://www.geosc.psu.edu/~sak>

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**Pennsylvania State University**

Department of Geosciences and Environment Instit  
University Park, Pennsylvania

**Supporting Stations:** McMurdo Station

**Research Locations:** Siple Dome

**Project Description:**

Ice from the West Antarctic Ice Sheet (WAIS) flows to the sea through a number of ice streams; the factors controlling the flow of the ice streams are not well understood. Prior work demonstrated the surprisingly sensitive response of the Siple Coast ice streams' flow speed to tide height beneath the Ross Ice Shelf. Measuring the response of the ice streams to the rise and fall of the tide is an excellent natural experiment that can improve our understanding of controls on the ice streams, and improve our ability to model the WAIS.

**Deploying Team Members:**

Sridhar Anandakrishnan · Huw Horgan · Leo Peters · Donald E Voigt · Paul Winberry

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## Science Project Details: 2005-2006

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### Shallow Drilling Along The Antarctic Continental Margin (SHALDRIL); A Demonstration Drilling Cruise To The James Ross Basin

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Photo not available.

**Dr. John B. Anderson** (Principal Investigator)

[johna@rice.edu](mailto:johna@rice.edu)

<http://www.shaldril.rice.edu>

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#### Rice University

Department of Earth Sciences

Houston, Texas

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** James Ross Basin

#### Project Description:

Scientists exploring the shallow shelves along the margins of Antarctica have been consistently frustrated by their inability to penetrate through the over-compacted glacial diamictons encountered at shallow subbottom depths.

This is particularly frustrating because advanced seismic reflection techniques show the presence of older successions of Neogene and Paleogene sequences lying just beneath this thin veneer of diamictons. After four years of evaluation, a diamond coring system has been deemed suitable for use on the Nathaniel B. Palmer. A demonstration cruise will core offshore Seymour Island. Here, the well defined geologic section is estimated to range from Eocene to Quaternary in age, effectively spanning the "Greenhouse-Icehouse" transition in the evolution of the Antarctic/global climate. If successful, this mobile and flexible drilling system will then be available to the broader scientific community for further exploration of the present gap existing in our technical capability to explore the continental shelves.

#### Deploying Team Members:

John Anderson · Sherwood Wise · Patricia Manley · Jim Zachos · Julia Smith Wellner · Steve Bohaty · Kristy Milliken · Dave Heroy · Fred Weaver · Matt



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## Science Project Details: 2005-2006

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### In Cold Pursuit (Working Title): A Mystery Novel Set In Antarctica

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Researching "Murder is a Laughing Matter". Photo courtesy of Sarah Andrews.

**Ms. Sarah Andrews** (Principal Investigator)  
[canyonwren@aol.com](mailto:canyonwren@aol.com)  
<http://www.sarahandrews.net>

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Sebastopol, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Clark Glacier, Upper Victoria Glacier, Arena Valley

#### Project Description:

Research for In Cold Pursuit, Sarah Andrews' eleventh science-based mystery novel, will put fictional geologist-sleuth Em Hansen hot on the trail of murder in the coldest place on Earth.

#### Deploying Team Members:

Sarah Andrews

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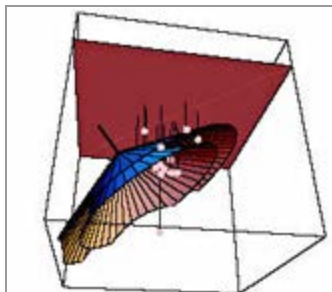
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## Science Project Details: 2005-2006

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### Radio Ice Cherenkov Experiment (RICE)

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Geometry of radio detection.

**Program Manager:**

Dr. Vladimir Papitashvili

**Event Number:** A-123-S

NSF/OPP Award 03-38219

**ASC POC/Implementer:**

Charles Kaminski

**Mr. Dave Besson** (Principal Investigator)

[dbesson@ku.edu](mailto:dbesson@ku.edu)

<http://kuhep4.phsx.ku.edu/~iceman>

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**University of Kansas Lawrence**

Physics (RICE)

Lawrence, Kansas

**Supporting Stations:** South Pole Station

**Research Locations:** MAPO (Martin A. Pomerantz Observatory)

**Project Description:**

Test the presence of propagation of electromagnetic waves along the surface of a dielectric medium (ice) as predicted in some models. Deploy prototypes of RICE-II modules, either in dedicated dry boreholes, or hot-water drilled holes. Be present for at least one IceCube hole drilling, in order to observe process and understand possibility of radio module deployment following main IceCube deployment. Deploy optical fiber in drill hole to observe effects of freeze-in on OF performance. Optical fiber will be attached to an RF transmitter, to test and compare received signal relative to other RICE channels. Drop passive aluminum reflector into ice-hole to measure transmission through firn, and also as preparation for possible deployment of surface antennas, in conjunction with buried RICE array.

**Deploying Team Members:**

Dave Besson · Ilya V Kravchenko · Hannah Katherine Swift

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## Science Project Details: 2005-2006

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### Solar And Heliospheric Studies With Antarctic Cosmic Rays

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Solar and heliospheric studies with antarctic cosmic rays.

**Dr. John Bieber** (Principal Investigator)

[john@bartol.udel.edu](mailto:john@bartol.udel.edu)

<http://www.bartol.udel.edu/~neutronm/>

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#### University of Delaware

Bartol Research Institute  
Newark, Delaware

**Supporting Stations:** McMurdo Station, South Pole Station

**Research Locations:** Cosray Building, B2 (South Pole Science Lab)

#### Project Description:

Neutron monitors in Antarctica provide a vital three-dimensional perspective on the anisotropic flux of cosmic rays that continuously bombards Earth. At McMurdo and South Pole stations, year-round observations of cosmic rays with energies upwards of one billion electron Volts will continue. These data will be used to advance understanding of a variety of fundamental plasma processes occurring on the Sun and in interplanetary space. Neutron monitor records, which begin in 1960 at McMurdo and 1964 at South Pole, will play a crucial role in efforts to understand the nature and causes of cosmic-ray and solar-terrestrial variations occurring over the 11-year sunspot cycle, the 22-year Hale cycle, and even longer time scales. At the other extreme, data from South Pole and McMurdo will be analyzed in concert with data from the "Spaceship Earth" neutron monitor network to understand variations associated with solar energetic particles which occur on time scales of minutes to hours.

#### Deploying Team Members:

Leonard Shulman



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## Science Project Details: 2005-2006

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### Investigations On Deterioration In The Historic Huts Of Antarctica

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Investigations on deterioration in the historic huts of Antarctica. Photo courtesy of Bob Blanchette.

**Dr. Robert A Blanchette** (Principal Investigator)

[robertb@umn.edu](mailto:robertb@umn.edu)

<http://forestpathology.coafes.umn.edu/antarctica.htm>

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#### University of Minnesota

St. Paul, Minnesota

**Supporting Stations:** McMurdo Station

**Research Locations:** Cape Hallett, Cape Evans, Cape Royds, Cape Adare

#### Project Description:

Continue investigations on the microbial diversity associated with the historic huts at Hut Point, Cape Evans and Cape Royds. Evaluate the unique fungi found attacking historic woods and evaluate the distribution and species diversity of microbes that have proliferated within and around the huts. Samples will provide cultures to better understand the biology and physiology of these unique organisms in the laboratory. Researchers will travel to Cape Adare to assess and study deterioration occurring in Antarctica's oldest historic structures, huts built in 1899 during the British Southern Cross Expedition. These wooden huts are experiencing severe degradation and project research will elucidate the causes of the decay and help formulate conservation plans to preserve the huts and other historic cultural properties at the site.

#### Deploying Team Members:

Brett Arenz · Robert A Blanchette · Joel A Jurgens

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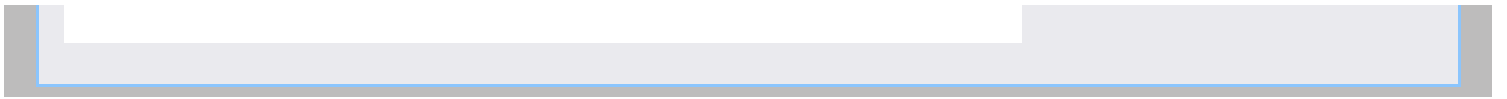
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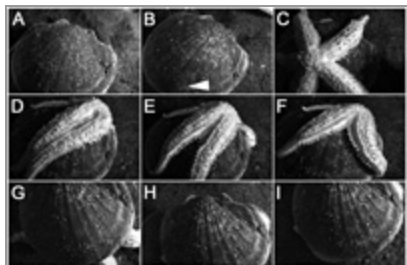
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## Science Project Details: 2005-2006

### Remotely Operable Micro Environmental Observatory For Antarctic Marine Biology Research



Sequence of images from the ROMEO camera, showing a tethered scallop (*Adamussium colbecki*) being consumed by a sea star. Photo courtesy of Sam Bowser.

**Dr. Samuel S Bowser** (Principal Investigator)

[bowser@wadsworth.org](mailto:bowser@wadsworth.org)

<http://www.bowserlab.org>

#### New York State Department of Health

Division of Molecular Medicine

Albany, New York

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Explorers Cove, Lake Hoare

#### Project Description:

Using a cabled, remotely operable underwater observatory, researchers will document year-round sea floor conditions at Explorers Cove and examine the motility and trophic dynamics of giant agglutinated foraminifera uniquely abundant at this site.

#### Deploying Team Members:

Jeffrey R Blair · Samuel S Bowser · Joseph D Mastroianni

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## Science Project Details: 2005-2006

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### Evolution Of Morphology And Trophic Strategies In Antarctic Agglutinated Foraminifera

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A "tree foram" (*Notodendrodes antarctikos*) on the seafloor at Explorers Cove. Photo courtesy of Sam Bowser.

**Dr. Samuel S Bowser** (Principal Investigator)

[bowser@wadsworth.org](mailto:bowser@wadsworth.org)

<http://www.bowserlab.org>

---

#### New York State Department of Health

Division of Molecular Medicine

Albany, New York

**Supporting Stations:** McMurdo Station

**Research Locations:** Explorers Cove, Gneiss Point, Spike Cape

#### Project Description:

Researchers will conduct a comprehensive analysis of the molecular phylogeny of early-evolving foraminiferan protists (allogromiids) in McMurdo Sound. They will also study a taxonomically definitive group of allogromiids, at both multi-gene molecular and structural levels of analysis, in order to generate a more robust and detailed phylogeny for the group. Researchers will use this new evolutionary framework as a springboard to test hypotheses regarding the biogeography of morphospecies that appear to be distributed in both arctic and antarctic waters. The ultimate goals are to further develop rapid molecular screening methods for future ecological studies, and to understand the driving forces that led to the early diversification of Foraminifera, whose origin stems from the Neoproterozoic and spans the dawn of skeletonization in multicellular organisms.

#### Deploying Team Members:

Claire Lynda Beynon · Samuel S Bowser · Henry Kaiser · Neal W Pollock · Karen Henrichs Sterling



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## Science Project Details: 2005-2006

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### A Search For Extrasolar Planets From The South Pole

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A search for extrasolar planets from the South Pole

**Dr. Douglas A. Caldwell** (Principal Investigator)

[dcaldwell@mail.arc.nasa.gov](mailto:dcaldwell@mail.arc.nasa.gov)

<http://www.polartransits.org>

---

#### SETI Institute

NASA Ames Research Center  
Mountain View, California

**Supporting Stations:** South Pole Station

**Research Locations:** AASTO (Astrophysical Site-Testing Observatory)

#### Project Description:

Continue operating an automated telescope at the South Pole in a search for giant planets orbiting distant stars. The system will detect the slight dimming (~1%) of a star as a planet "transits," or passes in front of the star during its orbit. The small fraction of stars with transiting giant planets and the need to see several of the periodic transits for a valid detection mean that researchers must look at a large number of stars as continuously as possible. The South Pole is ideal for such a search, the long winter night offer continuous observations for months.

#### Deploying Team Members:

Douglas A. Caldwell · Kevin R. Martin

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## Science Project Details: 2005-2006

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### Images From A Frozen Continent

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Alan and Colin Campbell. Photo courtesy of Alan Campbell.

**Mr. Alan Campbell** (Principal Investigator)

[acamp50@bellsouth.net](mailto:acamp50@bellsouth.net)

<http://www.alancampbellstudios.com>

---

Athens, Georgia

**Supporting Stations:** McMurdo Station

**Research Locations:** Dry Valleys, McMurdo region

#### Project Description:

Alan Campbell and his son and colleague, Colin Campbell, will paint and photograph during their field season. Alan's first trip to the ice was in 1987-88. In 1989 he went to Palmer Station and in 1994 was on a science cruise of the Nathaniel B. Palmer.

#### Deploying Team Members:

Alan Campbell · Colin Campbell

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## Science Project Details: 2005-2006

### Plankton Community Structure And Iron Distribution In The Southern Drake Passage



**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-276-N

NSF/OPP Award 04-44134

**ASC POC/Implementer:**

Stephanie Suhr Sliester

**Dr. Matt Charette** (Principal Investigator)

[mcharette@whoi.edu](mailto:mcharette@whoi.edu)

[http://www.whoi.edu/science/MCG/dept/personnel/scientist\\_charette.html](http://www.whoi.edu/science/MCG/dept/personnel/scientist_charette.html)

#### Woods Hole Oceanographic Institution

Marine Chemistry and Geochemistry

Woods Hole, Massachusetts

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Drake Passage

#### Project Description:

As the Antarctic Circumpolar Current passes through the southern Drake Passage, low surface chlorophyll concentrations develop into a bloom that spreads across the southern Scotia Sea to South Georgia. Researchers will examine biological, chemical, and physical characteristics of the water column during winter when photosynthetic processes are minimal and mixing in the upper mixed layer is deep to establish a baseline that can be compared to previous observations made in late summer. The goal is to understand how phyto- and zooplankton productivity, community structure and export production in the Southern Ocean are affected by the coupling between bathymetry, mesoscale circulation, and limiting nutrient distributions. This is a collaborative effort between Dr. Greg Mitchell (SIO), Dr. Chris Measures (U of Hawaii), Dr. Meng Zhou (U of Massachusetts) and Dr. Matt Charette (WHOI).

#### Deploying Team Members:

Henrieta Dulaiova · Paul Henderson

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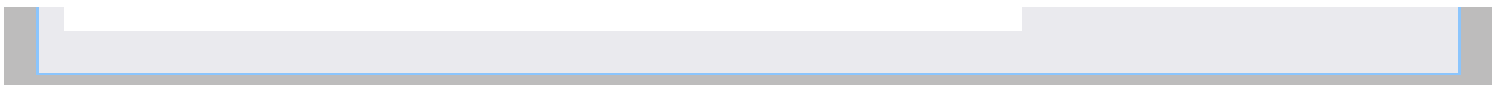
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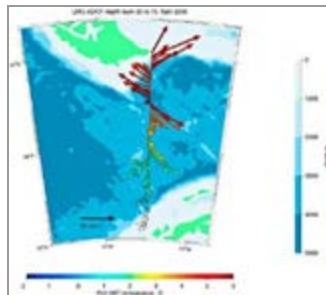
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## Science Project Details: 2005-2006

### Shipboard Acoustic Doppler Current Profiling (ADCP) On R/V Laurence M. Gould



Currents from an April 2000 crossing of Drake Passage. Velocity vectors are colored according to ocean temperature. Courtesy of Teresa Chereskin.

**Dr. Teresa K Chereskin** (Principal Investigator)

[tchereskin@ucsd.edu](mailto:tchereskin@ucsd.edu)

<http://tryfan.ucsd.edu/antarctic/>

#### University of California San Diego

Scripps Institution of Oceanography

**Supporting Stations:** ARSV Laurence M. Gould

**Research Locations:** Ongoing science of opportunity

#### Project Description:

Currents in the Southern Ocean have a profound influence on the world's oceans, and therefore upon global temperature and the planet's ecosystem. Yet some remote regions receive little scientific attention. Using Doppler technology (sound-wave transmission and reflection), this project is exploring upper ocean current velocities. Researchers are building a quality-controlled data set in one such sparsely sampled and remote region, which nonetheless appears to play a significant role in global ocean circulation. They will develop and maintain a shipboard acoustic Doppler current profiler (ADCP) program on board the USAP research vessel Laurence M. Gould (R/V LMG).

#### Deploying Team Members:

No deploying team members



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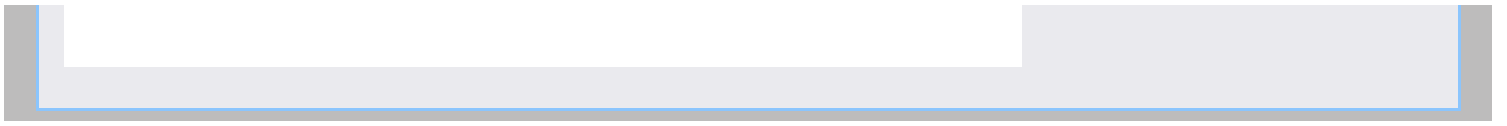
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## Science Project Details: 2005-2006

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### Biogeochemistry Of Dissolved Organic Material In Pony Lake, Ross Island

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Pony Lake at Cape Royds, with Shackleton's Nimrod hut on the left and the Adelie penguin rookery in the background. Photo by Christine Foreman.

**Dr. Yu-Ping Chin** (Principal Investigator)

[yo@geology.ohio-state.edu](mailto:yo@geology.ohio-state.edu)

<http://www.rose-hulman.edu/biogeochemponylake>

---

#### Ohio State University

Byrd Polar Research Center  
Columbus, Ohio

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Pony Lake

#### Project Description:

Researchers will: Examine how natural photolytic processes in the lake and laboratory irradiations of water samples and reconstituted dissolved organic matter (DOM) samples alter the composition of DOM. Determine changes in the redox state of DOM in the water column and in sediment interstitial water with increased oxygen input (from gas exchange and photosynthesis) as the season progresses. Examine how chemical properties of DOM (molecular weight, light absorption, etc.) change with microbial utilization of DOM as the season progresses from fully ice-covered to ice-free. Monitor the changes in microbial abundance as well as primary and secondary production that occur as a result of shifts in the DOM pool during the ice to open-water transition period. Track the concomitant changes in the microbial community that may occur as the energy source (i.e., DOM pool) changes. Examine if extracellular enzyme profiles of the water column vary in relation to the altered DOM. Examine the relationship between microbial diversity and biogeochemistry of DOM.

#### Deploying Team Members:

Kaelin Cawley · Yu-Ping Chin · Markus Dieser · Ryan L. Fimmen · Christine M Foreman · Jennifer Guerard · Chris L Jaros · Penney Leigh Miller · Dena



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Rosenberger

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## Science Project Details: 2005-2006

### Next Generation CMB Polarization Measurements With The QUEST Experiment On DASI



Photo not available.

**Dr. Sarah E Church** (Principal Investigator)

[schurch@stanford.edu](mailto:schurch@stanford.edu)

[http://www.stanford.edu/group/quest\\_telescope/](http://www.stanford.edu/group/quest_telescope/)

#### Stanford University

Stanford, California

**Supporting Stations:** South Pole Station

**Research Locations:** MAPO (Martin A. Pomerantz Observatory)

#### Project Description:

QUaD is a major upgrade to the DASI telescope in order to map the polarization structure of the cosmic microwave background (CMB), which was first detected by DASI. The CMB is the faint, relic heat from the Big Bang, and its appearance today is sensitive to both the formation and evolution of the Universe. The advantages of Antarctica to QUaD are (1) the high atmospheric transparency at the frequencies of interest (the altitude and cold leads to little overhead water vapor); (2) the atmospheric stability, allowing long observations; (3) the ability to perform identical observations of the same areas of sky throughout the year by being on the pole or axis of rotation; and (4) the absence or low elevation of the interfering Sun and Moon.

#### Deploying Team Members:

Sarah E Church · Robert Bryan Friedman · Walter K Gear · John Kovac · Angiola Orlando · Clement Pryke · Benjamin A Rusholme · Edward Yousen Wu · Michael Boris Zemcov

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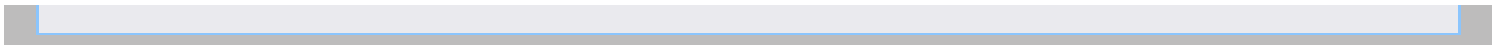
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## Science Project Details: 2005-2006

### Physics And Mechanics Of The Breakup Of Warm Antarctic Sea Ice: In-Situ Experiments And Modeling



Photo not available.

**Dr. John Patrick Dempsey** (Principal Investigator)

[jdempsey@clarkson.edu](mailto:jdempsey@clarkson.edu)

[http://www.clarkson.edu/~john/JPD\\_Docs/Award\\_Number\\_0338226.htm](http://www.clarkson.edu/~john/JPD_Docs/Award_Number_0338226.htm)

#### Clarkson University

Department of Civil and Environmental Engineering  
Potsdam, New York

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, McMurdo Sound

#### Project Description:

Located on newly-formed thin ice that has not been trashed or ridged and is not more than 1 meter thick, researchers will carry out a number of investigations: 1) Edge-notched square plates will be fractured in-situ to examine the influence of loading rate and test size on the fracture energy. 2) Edge-notched square plates with a 8" diameter hole cored at the crack tip will be fractured in-situ to examine the influence of loading rate on the tensile strength. 3) In-situ direct tension cyclic tests will be loaded in situ to examine the influence of both amplitude and frequency. 4) The roughness of the fracture surfaces will be measured. 5) diffusion of brine in the vicinity of the crack tip will be measured. In addition, a suite of tasks will be carried out at Crary Lab using ice harvested from the field site.

#### Deploying Team Members:

John Patrick Dempsey · Geoffrey D Morley · Shen Wang · John Jackson · Per Olaf Moslet

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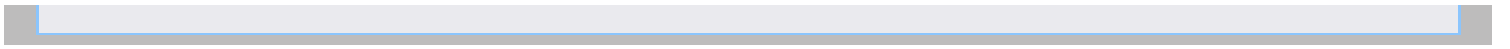


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## Science Project Details: 2005-2006

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### Paleohistory Of The Larsen Ice Shelf System

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The bay formerly occupied by the Larsen B iceshelf. The large iceberg is a fragment of the former shelf with Cape Fairweather in the background. Photo courtesy of Dave Tewksbury.

**Dr. Eugene Domack** (Principal Investigator)  
[edomack@hamilton.edu](mailto:edomack@hamilton.edu)  
<http://www.hamilton.edu/news/exp/antarctica/2005/>

#### Hamilton College

Geosciences Department  
Clinton, New York

**Supporting Stations:** ARSV Laurence M. Gould  
**Research Locations:** Larsen Ice Shelf, Weddell Sea

#### Project Description:

The work in the Larsen Ice Shelf builds upon previous work and intends to test the working hypothesis that the Larsen B Ice Shelf system has been a stable component of the cryosphere since it formed during rising sea levels 10,000 years BP. In the upcoming field season, we wish to investigate the longer-term history of the Larsen B and possibly C systems. We will attempt jumbo piston core recovery and investigate the higher resolution seismic stratigraphy of the post-glacial deposits in collaboration with Italian seismologists.

#### Deploying Team Members:

Eugene Domack · Stefanie Brachfeld · Robert Gilbert · Scott Ishman · Amy Leventer · Katherine McMullen · Dave Tewksbury · Veronica Willmott · others"

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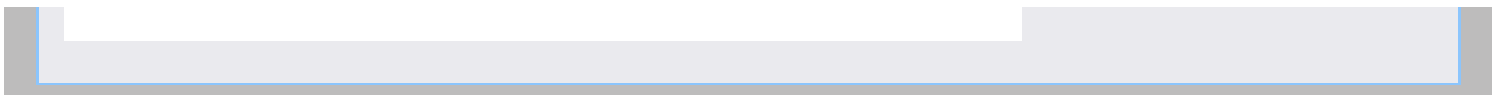


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## Science Project Details: 2005-2006

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### NASA-ASTEP: Subsurface Ice And Brine Sampling: Life Detection And Characterization In The McMurdo Dry Valleys Using An Ultrasonic Gopher

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Photo not available.

**Dr. Peter T Doran** (Principal Investigator)

[pdoran@uic.edu](mailto:pdoran@uic.edu)

[http://tigger.uic.edu/~pdoran/ice\\_gopher.html](http://tigger.uic.edu/~pdoran/ice_gopher.html)

---

#### University of Illinois, Chicago

Department of Earth and Environmental Sciences

Chicago, Illinois

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Lake Vida

#### Project Description:

Researchers will develop and test a novel ultrasonic corer in a Mars analog environment -- the Dry Valleys -- to detect and describe life in a previously unstudied extreme ecosystem. Two general hypotheses will be tested: 1) Microbial communities within the brine (including brine pockets in the deep ice) and benthic sediments are currently viable, active and affect the present-day geochemistry of the lake. 2) Ice, brine and benthos of Lake Vida contain geochemical signatures of past microbiological activity.

#### Deploying Team Members:

Mircea Badescu · Nathan E Bramall · Clinton Davis · Christian H Fritsen · Fabien Kenig · Jennifer L Lawson · Stewart Sherrit · Alison Murray

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## Science Project Details: 2005-2006

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### The Role Of Resource Legacy On Contemporary Linkages Between Biodiversity And Ecosystem Processes In A Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program

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Making holes in the lake ice on Lake Fryxell to collect samples. Photo by Peter Doran.

**Dr. Peter T Doran** (Principal Investigator)

[pdoran@uic.edu](mailto:pdoran@uic.edu)

<http://tigger.uic.edu/~pdoran/home.htm>

---

#### University of Illinois, Chicago

Department of Earth and Environmental Sciences  
Chicago, Illinois

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

This project will follow those of the main LTER project; that is, addressing the central hypothesis that "Biodiversity and ecosystem structure and function in the MCM are dictated by the interactions of climatic legacies with contemporary biotic and physical processes." Researchers will: Upgrade and maintain long-term automated lake monitoring equipment in the dry valleys (lake temperature, light, stage, etc.). Carry out manual lake hydrologic balance measurements (lake level and ablation). Collect data and reset a number of long-term environmental sensors in and on the lakes. Measure surface ice movements on dry valley lakes using GPS. Collect sediment samples in and around lakes to characterize sedimentation processes. Survey the bed contact between Lake Hoare and Canada Glacier to determine the role of glacier movement in Lake Hoare lake level history. Download data and routine maintenance of Garwood and Cape Bernacchi met stations.

#### Deploying Team Members:

Andrew J Burkemper · Peter J Glenday · Mirosljub Medved



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## Science Project Details: 2005-2006

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### Palmer Long Term Ecological Research (LTER): Climate Migration, Ecological Response And Teleconnections In An Ice-Dominated Environment

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Palmer Station, as seen from the Adelie penguin colony on Torgersen Island in Arthur Harbor, Anvers Island, Antarctica. Photo by Hugh Ducklow.

**Dr. Hugh W Ducklow** (Principal Investigator)

[duck@vims.edu](mailto:duck@vims.edu)

<http://www.ices.ucsb.edu/lter/lter.html>

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#### Virginia Institute of Marine Sciences

The College of William & Mary  
Gloucester Point, Virginia

**Supporting Stations:** ARSV Laurence M. Gould, Palmer Station

**Research Locations:** Palmer LTER Study Area

#### Project Description:

Conduct regular semiweekly sampling at Stations B and E in Arthur Harbor, in conjunction with other groups, especially M Vernet, B-016. Sample for lipid biomarkers of terrestrial vegetation, seabirds and marine bacterial, phytoplankton, zooplankton in dissolved and particulate organic matter in the nearshore marine environment. Sample terrestrial biomarker sources on islands in Arthur Harbor including Dream Island and Biscoe Point.

#### Deploying Team Members:

Hugh Ducklow · Matthew Erickson · Bess Koffman · Nicole Middaugh · Adrian Duplantier · Cindy Vandover · Joann Kelly · Matthew Ericksen

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## Science Project Details: 2005-2006

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### Interaction Of Iron, Light And CO2 On Phytoplankton Community Dynamics In The Ross Sea

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**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-258-N

NSF/OPP Award 03-38097

**ASC POC/Implementer:**

Stephanie Suhr Sliester

**Dr. Robert Dunbar** (Principal Investigator)[dunbar@stanford.edu](mailto:dunbar@stanford.edu)[http://pangea.stanford.edu/isotope/dunbar/dunbar\\_ges.html](http://pangea.stanford.edu/isotope/dunbar/dunbar_ges.html)**Stanford University**

Dept. of Geological and Environmental Sciences  
Stanford, California

**Supporting Stations:** RV/IB Nathaniel B. Palmer**Research Locations:** Ross Sea**Project Description:**

The Ross Sea is a region of intense biological productivity where phytoplankton biomass is dominated by two main taxonomic groups; diatoms and Phaeocystis. It is well known that these two phytoplankton groups have different impacts on biogeochemical cycles in the Ross Sea, but the factors which control their relative abundance. CORSACS (Controls on Ross Sea Algal Community Structure) will investigate the interactive effects of iron, carbon dioxide and light levels in the Ross Sea on phytoplankton community structure and biogeochemical cycling of various elements, especially, carbon, sulfur, iron and cobalt. The expedition will involve both transect work and onboard experimental work. The project is a collaborative effort between Dr. Giacomo DiTullio (University of South Carolina), Dr. Walker Smith (VIMS), Dr. Robert Dunbar (Stanford University), Dr. Pete Sedwick (Bermuda Station for Biological Research), Dr. David Hutchins (University of Delaware), and Dr. Philippe Tortell (University of British Columbia).

**Deploying Team Members:**

Robert B Dunbar · David A Mucciarone · Eduard Costa Garangou · Matt Long

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## Science Project Details: 2005-2006

### Antarctic Troposphere Chemistry Investigation (ANTCI)



Photo not available.

**Dr. Fred Eisele** (Principal Investigator)

[eisele@ucar.edu](mailto:eisele@ucar.edu)

[http://acd.ucar.edu/~mauldin/ANTCI\\_Web/ANTCI\\_Home.htm](http://acd.ucar.edu/~mauldin/ANTCI_Web/ANTCI_Home.htm)

#### Georgia Institute of Technology

School of Earth and Atmospheric sciences

Denver, Colorado

**Supporting Stations:** McMurdo Station, South Pole Station

**Research Locations:** Continent-wide flight lines, ARO (Atmospheric Research Observatory)

#### Project Description:

Characterize the atmospheric chemistry of nitrogen and sulfur species in Antarctica. These involves instrumenting a Twin Otter aircraft with research grade instruments and performing a variety of flight missions from McMurdo and South Pole stations. In support of the flight missions, ground based measurements of a few atmospheric species (e.g. NO) will be made from the ARO at South Pole Station.

#### Deploying Team Members:

Andreas Beyersdorf · Don Elvis Blake · Steven B Brooks · Martin P Buhr · James Henry Crawford · Douglas D Davis · Fred Eisele · Arsineh Hecobiannajari · Sae Wung Kim · Edward Kosciuch · Barry Lefer · Roy Mauldin · David Tanner

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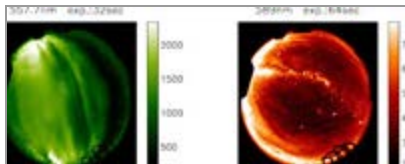


## Science Project Details: 2005-2006

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### All-Sky Imager At South Pole

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Air glow and green aurora taken by the All Sky Imager instrument near-simultaneously. Photo courtesy of National Institute of Polar Research, Japan.

**Dr. Masaki Ejiri** (Principal Investigator)

[ejiri@nipr.ac.jp](mailto:ejiri@nipr.ac.jp)

<http://polaris.nipr.ac.jp/~asi-dp/>

---

#### National Institute of Polar Research

Upper Atmosphere Physics

Tokyo,

**Supporting Stations:** South Pole Station

**Research Locations:** B2 (South Pole Science Lab)

#### Project Description:

Investigate the auroral phenomena associated with the magnetospheric storm/substorm activities and the solar wind conditions at the cusp/cleft region, the afternoon auroral region and the polar cap region. Investigate the gravity waves and tidal conditions acquired with multiwavelength airglow imaging over the South Pole.

#### Deploying Team Members:

Yusuke Ebihara · Takashi Nomotobori

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## Science Project Details: 2005-2006

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### Conjugate Studies Of ULF Waves And Magnetospheric Dynamics Using Ground-Based Induction Magnetometers At Four High-Latitude Manned Sites

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Photo not available.

**Dr. Mark J Engebretson** (Principal Investigator)

[engebret@augsborg.edu](mailto:engebret@augsborg.edu)

<http://www.augsburg.edu/physics/antindex.htm>

---

#### Augsburg College

Department of Physics

Minneapolis, Minnesota

**Supporting Stations:** McMurdo Station, South Pole Station

**Research Locations:** Arrival Heights, B2 (South Pole Science Lab)

#### Project Description:

This project is a continuation of current studies using search coil magnetometers already installed and operating at South Pole (part of the Cusp Lab) and at McMurdo (at Arrival Heights). We use time series data from magnetometers at these and other Antarctic sites, often in conjunction with data from other Arrival Heights instruments, to study the dynamics of the Earth's ionosphere and magnetosphere.

#### Deploying Team Members:

Paul Riley

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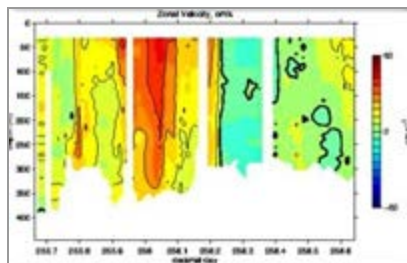
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## Science Project Details: 2005-2006

### Shipboard Acoustic Doppler Current Profiling (ADCP) On R/V Nathaniel B. Palmer And R/V Laurence M. Gould



Currents from an April 2000 crossing of Drake Passage. Velocity vectors are colored according to ocean temperature. Courtesy of Teresa Chereskin.

**Dr. Eric Firing** (Principal Investigator)

[efiring@hawaii.edu](mailto:efiring@hawaii.edu)

<http://currents.soest.hawaii.edu/antarctic/index.html>

#### University of Hawaii Manoa

Department of Oceanography

Honolulu, Hawaii

**Supporting Stations:** RV/IB Nathaniel B. Palmer/ARSV Laurence M. Gould

**Research Locations:** Ongoing science of opportunity

#### Project Description:

To continue to collect and disseminate quality-controlled ADCP data, primarily upper ocean current velocities and acoustic backscatter from the remote and sparsely sampled Southern Ocean. Long-term science objectives are to measure the seasonal and interannual variability of upper ocean currents within the Drake Passage, to combine this information with similar temperature observations to study the variability in the heat exchange, and to characterize the velocity and acoustic backscatter structure in the Southern Ocean on a variety of time and space scales. The collection, quality control, real-time processing and dissemination of this high quality data set provide a means for utilizing these observations in support of ongoing antarctic science programs, as well as making the data easily accessible for retrospective analyses, planning future observations and validating numerical models.

#### Deploying Team Members:

Eric Firing · Julia M Hummon



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## Science Project Details: 2005-2006

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### The Role Of Resource Legacy On Contemporary Linkages Between Biodiversity And Ecosystem Processes In A Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program

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The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program.

**Dr. Andrew George Fountain** (Principal Investigator)

[nylent@pdx.edu](mailto:nylent@pdx.edu)

<http://www.mcmlter.org/> , <http://huey.colorado.edu/diatoms/>

---

#### Portland State University

Department of Geology  
Portland, Oregon

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Researchers will conduct continued measurements of physical properties of dry valley glaciers and meteorology, with special emphasis on LTER core research areas.

#### Deploying Team Members:

Elizabeth Bagshaw · Hassan IV Basagic · Thomas Nylen · Erin Pettit · Martyn Tranter

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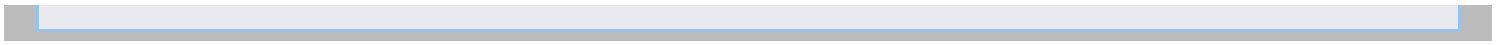


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## Science Project Details: 2005-2006

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### Palmer Long-Term Ecological Research Project: Climate Migration, Ecological Response And Teleconnections In An Ice-Dominated Environment (Seabird Component)

---



Seabird component of the Palmer Station LTER.

**Dr. William R Fraser** (Principal Investigator)

[bfraser@3rivers.net](mailto:bfraser@3rivers.net)

[http://iceflo.icess.ucsb.edu:8080/ice\\_hp.php](http://iceflo.icess.ucsb.edu:8080/ice_hp.php)

---

#### Polar Oceans Research Group

Sheridan, Montana

**Supporting Stations:** ARSV Laurence M. Gould, Palmer Station

**Research Locations:** Western Antarctic Peninsula, Palmer Station and local area

#### Project Description:

Continued studies of seabird communities within the LTER sampling grid with emphasis placed on species abundance and dietary components during summer. Specific objectives are to: 1) determine the at-sea abundance and distribution of seabirds and marine mammals; 2) examine aspects of the foraging ecology, breeding biology and abundance of seabirds on Renaud and Avian islands south of the Palmer region; and 3) maintain our Palmer vicinity time series on seabird population trends, demography, foraging ecology, breeding biology and behavior.

#### Deploying Team Members:

William R Fraser · Peter Horne · Brett C Pickering · Kristin Gorman

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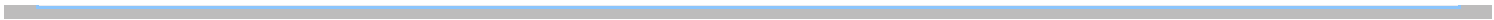
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## Science Project Details: 2005-2006

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### Patterns And Processes: Dynamics Of The Erebus Bay Weddell Seal Population

---



Jeff Warren records the tag numbers of a mother and her pup on the north side of the Erebus Glacier tongue. Photo by Darren Ireland.

**Dr. Robert Andrew Garrott** (Principal Investigator)

[rgarrott@montana.edu](mailto:rgarrott@montana.edu)

<http://www.homepage.montana.edu/~rgarrott/antarctica/index.htm>

---

#### Montana State University Bozeman

Ecology Department  
Bozeman, Montana

**Supporting Stations:** McMurdo Station

**Research Locations:** Big Razorback Island

#### Project Description:

Continue the long-term population studies of the local Weddell seal population to understand the role of climate, local colony, and individual characteristics on both mass and population dynamics. All pups born in the eight colonies that make up the Erebus Bay population will be tagged during Oct-Nov, with a smaller effort to tag adults encountered that have not been tagged previously. The entire population will be censused 7-8 times after the pupping season. A large sample of seals will be photographed throughout the field season to document body mass dynamics of pups and adult females, and a small sample of animals will be physically weighed. These data will be correlated with a variety of variables including sea ice condition, colony, age, time of year, survival, and reproduction to understand the role of climate, local colony, and individual characteristics on both mass and population dynamics.

#### Deploying Team Members:

Shane Conner · Robert Andrew Garrott · Vince Green · Mark Dorney  
Johnston · Melissa Lynn McKibben · Steen Morgensen · Kelly Michelle



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## Science Project Details: 2005-2006

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### Comparative And Quantitative Studies Of Protistan Molecular Ecology And Physiology In Coastal Antarctic Waters

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Photo not available.

**Dr. Rebecca J Gast** (Principal Investigator)

[rgast@whoi.edu](mailto:rgast@whoi.edu)

<http://www.whoi.edu/science/B/protists>

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#### Woods Hole Oceanographic Institution

Biology Department

Woods Hole, Massachusetts

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

Phototrophic and heterotrophic protists are ubiquitous in extreme cold-water environments where they are central to the production and utilization of energy and the cycling of elements. Understanding the structure and diversity of these communities, and the adaptations that allow these assemblages to flourish near the lower limit of temperature in the ocean, is of fundamental importance to biological oceanography. This project will contribute a new understanding of the biodiversity of protistan assemblages of coastal Antarctica, provide tools for ecological studies of these assemblages, and produce benchmark data on the basic physiological process of protistan species in this extreme cold-water environment. This is a collaborative effort between Dr. Rebecca Gast and Dr. Mark Dennett (WHOI) and Dr. David Caron (University of Southern California).

#### Deploying Team Members:

Rebecca J Gast · Peter D Countway · Mark R Dennett · Stefanie Moorthi · Dawn M Moran · Julie Rose · Robert W Sanders · Astrid Schnetzer



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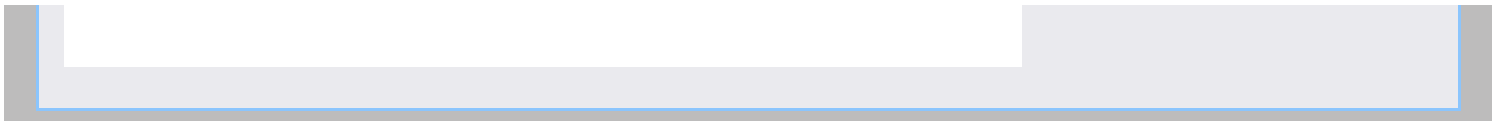
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## Science Project Details: 2005-2006

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### Ultraviolet Radiation Induced Changes In The Patterns Of Production And Biochemical Composition Of Antarctic Marine Phytoplankton

---



Joaquim Goes recovering floating sediment traps. Photo by Dr. Wade Jeffrey, Univ. of South Florida

**Dr. Joaquim I Goes** (Principal Investigator)

[jgoes@bigelow.org](mailto:jgoes@bigelow.org)

<http://www.bigelow.org/arctic/goes05/index.html>

---

#### Bigelow Marine Laboratory

Department of Ocean Sciences  
W. Boothbay Harbor, Maine

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

During the course of this project, the extent of changes in the rates of synthesis and composition of biochemical compounds in Antarctic marine phytoplankton during UV exposure and how these changes are impacted by the interplay between the different UV radiation wavelengths and visible light will be examined. The researchers will determine whether UV sensitivity varies across taxonomic groups of phytoplankton and whether this difference in sensitivity is responsible for the dominance of one species over the other and whether changes in the biochemical composition of phytoplankton resulting from exposure to UVBR are responsible for the decrease in the ability of the cells to take up nitrogenous nutrients. Observations will be made as to whether UVR induced changes in the biochemical composition of phytoplankton are large enough to influence the quality of material sinking out of the euphotic zone.

#### Deploying Team Members:

Joaquim I Goes · Kerra M Gearinger · Maria Gomes · Stacey M Keith



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## Science Project Details: 2005-2006

### A Mobile Sensor Web For Polar Ice Sheet Measurements



Photo not available.

**Dr. S. Prasad Gogineni** (Principal Investigator)

[gogineni@ittc.ku.edu](mailto:gogineni@ittc.ku.edu)

<http://www.ku-prism.org>

#### University of Kansas Lawrence

Information & Telecommunication Technology Center  
Lawrence, Kansas

**Supporting Stations:** McMurdo Station

**Research Locations:** WAIS Divide

#### Project Description:

Researchers will develop and demonstrate innovative radar sensors for imaging ice-bed interface, measuring ice thickness, and mapping internal layers in the ice. These sensors provide key glaciological measurements for studying the contribution of polar ice sheets to sea level rise. PRISM research objectives involve development of sensors (imaging and sounding radars), wireless communications, intelligent systems, robotics and ice sheet modeling. Researchers integrate and operate the radar sensors from an autonomous rover and a tracked vehicle equipped with communication and navigation systems. An intelligent system determines an optimum sensor configuration for imaging the ice-bed interface and determines the operational requirements for the rover.

#### Deploying Team Members:

Eric Akers · Torry Akins · David A Braaten · S. Prasad Gogineni · Jennifer Holvoet · Kenneth Charles Jezek · Abdul Mohammad · John Paden · Richard Stansbury

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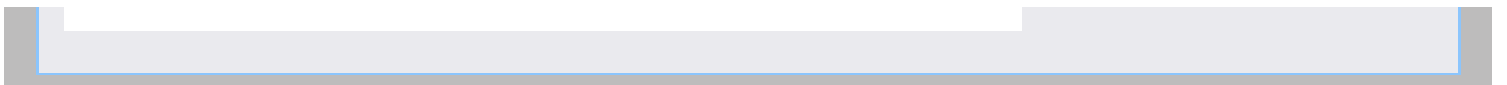


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## Science Project Details: 2005-2006

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### Hydrologic Controls Over Biogeochemistry And Microbial Community Structure And Function Across Terrestrial/Aquatic Interfaces In A Polar Desert

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Lake Joyce. Photo courtesy of Mike Gooseff.

**Dr. Michael N Gooseff** (Principal Investigator)

[mgooseff@mines.edu](mailto:mgooseff@mines.edu)

[http://www.mines.edu/~mgooseff/web\\_antarctica/antarctic\\_proj.html](http://www.mines.edu/~mgooseff/web_antarctica/antarctic_proj.html)

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#### Colorado School of Mines

Department of Geology & Geological Engineering  
Golden, Colorado

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Hydrological margins in aquatic-terrestrial transition zones (both lentic and lotic) will be studied in the Dry Valleys of Antarctica to answer two overarching questions: 1) What are the major controls over hydrologic and biogeochemical exchange across aquatic-terrestrial transition zones? 2) To what extent do trends in nutrient cycling (e.g. nitrogen cycling) across these transition zones reflect differences in microbial communities or function vs. differences in the physical and chemical environment (e.g. redox potential)?

#### Deploying Team Members:

John E Barrett · Douglas Bradley Bate · Michael Bobb · Michael N Gooseff · Melissa Northcott · Cristina Takacs-Vesbach · Lydia Zeglin

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## Science Project Details: 2005-2006

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### Mechanics Of Dry-Land Calving Of Ice Cliffs

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Photo not available.

**Program Manager:**

Dr. Julie Palais

**Event Number:** I-139-M  
NSF/OPP Award 02-30338

**ASC POC/Implementer:**

Jesse Doren

**Dr. Bernard Hallet** (Principal Investigator)

[hallet@u.washington.edu](mailto:hallet@u.washington.edu)

<http://faculty.washington.edu/IceCliffs.html>

---

#### University of Washington

Quaternary Research Center

Seattle, Washington

**Supporting Stations:** McMurdo Station

**Research Locations:** Blood Falls

#### Project Description:

Monitor the behavior of the ice cliff to determine the dominant processes involved in their evolution and study their similarities and differences with water-calving cliffs. The instruments will be left over the winter to identify the effect of the seasonal cycles of temperature and solar radiation. These data will be combined with time lapse photography to document ice cliff evolution. Ultimately, the field data will be used to test and validate a computer model which will then enable us to explore the sensitivity of ice cliff evolution to diverse glacier characteristics, including basal sliding rate, ice temperature, and angle of incident solar radiation.

#### Deploying Team Members:

Elizabeth Alice Bagshaw · Hassan IV Basagic · Joshua Daniel Carmichael · Matthew James Hoffman · Thomas Henry Nylén · Erin Christine Pettit · Matthew Meszaros Szundy · Erin Nicole Whorton

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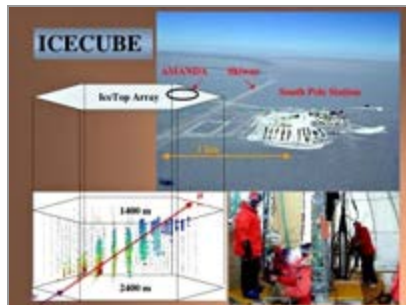
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## Science Project Details: 2005-2006

### ICECUBE



Occupying a volume of one cubic kilometer, the IceCube neutrino telescope uses the Antarctic ice sheet as its window to the cosmos.

**Dr. Francis Halzen** (Principal Investigator)

[Terryh@ssec.wisc.edu](mailto:Terryh@ssec.wisc.edu)

<http://icecube.wisc.edu>

#### University of Wisconsin Madison

Physics Department

Madison, Wisconsin

**Supporting Stations:** South Pole Station

**Research Locations:** MAPO, Counting House

#### Project Description:

The IceCube neutrino telescope is an international collaboration which will open unexplored wavelength bands for astronomy using neutrinos as cosmic messengers. IceCube occupies a unique place in research on the particle nature of dark matter, the quest to observe super symmetric particles, and the search for compactified dimensions.

#### Deploying Team Members:

Ryan C. Bay · Robin J Bolsey · James Raymond Braun · Jim Braun · Paul James Charpentier · Jeff Cherwinka · Douglas Frederick Cowen · Ethan R Dicks · Dennis Duling · Paul Evenson · Farshid Feyzi · Thomas K Gaisser · Ronald Garcia · Leland Stewart Greenler · Tom Ham · Darrell Francis Hamilton · Terry Blaine Hannaford · Kael Dylan Hanson · Gary C Hill · John Eric Jacobsen · Michael Jayred · Arthur Lawrence Jones · Ronald Harland Jungenberg · Albrecht Karle · John L Kelley · James Michael Koehler · Mark Krasberg · Victoria Grace Landgraf · Yael Hagar Landsman · Hank Leweling · Sven Lidstrom · Cynthia L Mackenzie · Jay Neil Marx · Terry Dean Matt · Charles Patrick McParland · Bob Morse · Robert Paulos · Dave Pernic · Claire Pettersen · Gerald T Przybylski · Charles Donald Rentmeesters ·



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James A Roth · Darryn Schneider · Edward F Shultz · Michael Solarz ·  
Thorsten Stezelberger · Robert G Stokstad · Mark Thoma · Serap Tilav · Kurt  
Woschnagg · James Yeck · Michael Zernick

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## Science Project Details: 2005-2006

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### Hyper-Insulated Instrumentation System To Support Year-Round Research In Polar Regions

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Photo not available.

**Dr. Anthony D Hansen** (Principal Investigator)

[tonyhansen@mageesci.com](mailto:tonyhansen@mageesci.com)

<http://www.mageesci.com/Antarctic>

---

#### Magee Scientific Company

Berkeley, California

**Supporting Stations:** South Pole Station

**Research Locations:** On Station

#### Project Description:

Researchers will develop an enclosure system capable of supporting generalized instrumentation payload with electrical power and 'warm' environment for extended periods (more than a year), despite very low ambient temperatures, including winter conditions on Polar plateau.

#### Deploying Team Members:

Jeffrey R Blair · Anthony D Hansen

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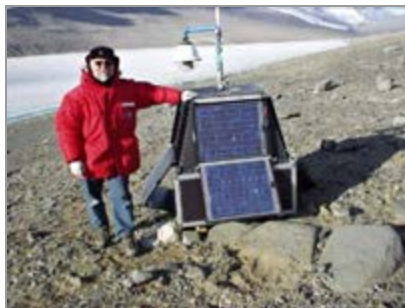
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## Science Project Details: 2005-2006

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### Solar / Wind Powered Instrumentation Module Development For Polar Environmental Research

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PI Tony Hansen stands beside one of two autonomous instrumentation modules this group installed in the Dry Valleys in the 2002-03 field season. In addition to a payload of scientific instrumentation, each installation is solar-powered and sends live webcam.

**Dr. Anthony D Hansen** (Principal Investigator)

[tonyhansen@mageesci.com](mailto:tonyhansen@mageesci.com)

<http://www.mageesci.com/Antarctic>

---

#### Magee Scientific Company

Berkeley, California

**Supporting Stations:** South Pole Station

**Research Locations:** Crary Lab, Siple Station, Lake Bonney

#### Project Description:

This project will test solar-powered self-contained instrumentation support platform. Unit is designed to accommodate generalized instrumentation for any purpose. For this season testing at Pole, unit will be deployed with air-pollution monitor to study possible aircraft exhaust emissions infiltration into South Pole Station building.

#### Deploying Team Members:

Joseph D Mastroianni

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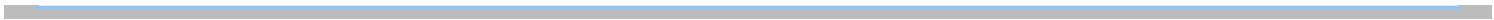
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## Science Project Details: 2005-2006

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### The Antarctic Search For Meteorites ANSMET -- Collection Team

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The Antarctic Search for Meteorites (ANSMET). Photo courtesy of Ralph Harvey.

**Dr. Ralph P Harvey** (Principal Investigator)

[rph@po.cwru.edu](mailto:rph@po.cwru.edu)

<http://geology.case.edu/~ansmet/>

---

#### Case Western Reserve University

Department of Geological Sciences  
Cleveland, Ohio

**Supporting Stations:** McMurdo Station

**Research Locations:** Miller Range, Upper Marsh Icefield

#### Project Description:

The goal of the Antarctic Search for Meteorites (ANSMET) main team is to begin full-scale systematic meteorite recovery from the Miller Range icefields. These icefields were first visited briefly by helicopter in 1985, when a single meteorite was found. A second more extensive visit (a few days) in 1999 discovered ~30 meteorites, and detailed reconnaissance in 2003 yielded more than 200 specimens, including a martian meteorite. That detailed reconnaissance demonstrated that systematic meteorite recovery at the Miller Range icefields would be valuable.

#### Deploying Team Members:

Mary Sue Bell · Joseph Boesenberg · Ralph P Harvey · Marie Keiding · Graciela Matrajt · Shaun Norman · Gordon "Oz" Osinski · Jani Radebaugh

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## Science Project Details: 2005-2006

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### ANDRILL - Investigating Antarctica's Role In Cenozoic Global Environmental Change

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Photo not available.

**Dr. David Michael Harwood** (Principal Investigator)

[dharwood1@unl.edu](mailto:dharwood1@unl.edu)

<http://andrill.org>

---

#### University of Nebraska Lincoln

Department of Geosciences

Lincoln, Nebraska

**Supporting Stations:** McMurdo Station

**Research Locations:** ANDRILL Southern McMurdo Sound site

#### Project Description:

Researchers will collect data to identify the exact location of the ANDRILL Southern McMurdo Sound drill sites. Field activities include an over-ice seismic survey to collect 20 km of new seismic data, a transect of sea-floor sediment samples using a grab sampler, and an over-ice gravity survey along the seismic survey line. Oceanographic measurements will be obtained using two Acoustic Doppler Current Profiling (ADCP) devices deployed at SMS-1 and 2. Current data obtained from this survey will be used to model sea-riser behavior at the probable drill sites. The research team will be accompanied by a film crew from Nebraska Educational Telecommunications who will document a variety of ANDRILL-related research on High Definition Video. The video documentation will serve as valuable educational outreach and as scientific archival records for researchers.

#### Deploying Team Members:

Seth John Betterly · Michelle Brand-Buchanan · David Michael Harwood · Laura L Lacy · Richard Halford Levy · Mathew Lutz · Stephen Fredrick Pekar · Marvin Andrew Speece · Diane Winter · Charles Patrick Aylward · Gary Samuel Hochman · James Lenertz · Brian Seifferlein



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## Science Project Details: 2005-2006

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### The Scientific Method: Poems Of Antarctic Inquiry

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**Program Manager:**

Ms. Kim Silverman

**Event Number:** W-227-M

NSF/OPP Award 04-40619

**ASC POC/Implementer:**

Patricia Jackson

"It is better to know some of the questions than all of the answers." --James Thurber.

Photo courtesy of Kathleen Heideman.

**Ms. Kathleen M Heideman** (Principal Investigator)

[miss\\_distance@orebody.com](mailto:miss_distance@orebody.com)

<http://www.orebody.com/ice>

---

Minneapolis, Minnesota

**Supporting Stations:** McMurdo Station

**Research Locations:** McMurdo region

**Project Description:**

This project will result in a body of rich, interdisciplinary poems about science celebrating, pondering, and explicating the questions posed by current antarctic research. Ms. Heideman will conduct poetic field research through conversations with scientists working in diverse disciplines and locations. Her poetry draws upon formal hypotheses, informal notes, factoids, concept maps, scientific texts, and modern aesthetics of fragmentation, collaboration, specialization and obfuscation. Ms. Heideman is keenly interested in the metaphor of Antarctica-as-database, database-as-poetic-form, and use of data visualization tools. She will log all location data gathered throughout her project; the coordinates will later be mapped with their source texts/media to form an interactive, database-driven poem.

**Deploying Team Members:**

Kathleen M Heideman

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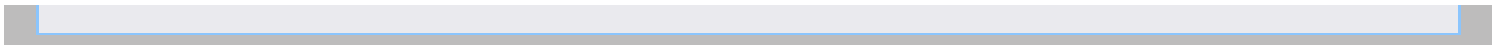
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## Science Project Details: 2005-2006

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### Austral High-Latitude Atmospheric Dynamics

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Photo not available.

**Program Manager:**  
Dr. Vladimir Papitashvili

**Event Number:** A-110-M/S  
NSF/OPP Award 02-29251

**ASC POC/Implementer:**  
Charles Kaminski

**Dr. Gonzalo Hernandez** (Principal Investigator)

[hernandez@u.washington.edu](mailto:hernandez@u.washington.edu)

<http://cedarweb.hao.ucar.edu/>

---

#### University of Washington

Earth and Space Sciences

Seattle, Washington

**Supporting Stations:** McMurdo Station, South Pole Station

**Research Locations:** ARO (Atmospheric Research Observatory)

#### Project Description:

Observation, characterization, and understanding of high-latitude atmospheric motions, in particular mesospheric motions and thermospheric persistent vertical winds near Arrival Heights and simultaneously with those at South Pole.

#### Deploying Team Members:

Stephen T Barlow · Gonzalo Hernandez · Michael P McCarthy · Edward J Mulligan · Bryan Venema

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## Science Project Details: 2005-2006

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### South Pole Monitoring For Climatic Change

---



**Program Manager:**

Dr. Bernhard Lettau

**Event Number:** O-257-S

NSF/NOAA MOU

**ASC POC/Implementer:**

Charles Kaminski

National Oceanic and Atmospheric Administration/Climate Monitoring and Diagnostics Laboratory staff Loreen Lock (right) and Brian Vasel (left) launch a plastic balloon on September 22, 2002 carrying an ozonesonde to study the 2002 antarctic ozone hole.

**Dr. David Hofmann** (Principal Investigator)

[david.j.hofmann@noaa.gov](mailto:david.j.hofmann@noaa.gov)

<http://www.cmdl.noaa.gov>

---

#### NOAA

Climate Monitoring and Diagnostic Laboratory  
Boulder, Colorado

**Supporting Stations:** South Pole Station

**Research Locations:** ARO (Atmospheric Research Observatory)

#### Project Description:

The National Oceanic and Atmospheric Administration (NOAA) Climate Monitoring and Diagnostics Laboratory (CMDL) team will continue long-term measurements of trace atmospheric constituents that influence climate change.

#### Deploying Team Members:

Tim Berkoff · Andrew D Clarke · Andrew Michael Croftwell · Geoff Dutton · Stephanie Ann Koes · Samuel J. Oltmans · James Spinhirne

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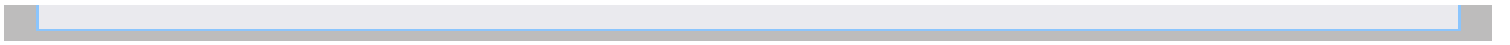
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## Science Project Details: 2005-2006

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### Collection Of Atmospheric Air For The NOAA/CMDL Worldwide Flask Sampling Network

---



Kristin Van Konyenburg, the Palmer Station physician in 2002, shown here operating the NOAA/Climate Monitoring and Diagnostic Laboratory, carbon cycle flask sampler. The sampler can be seen in the background with the sample inlet line extended.

**Dr. David Hofmann** (Principal Investigator)

[david.j.hofmann@noaa.gov](mailto:david.j.hofmann@noaa.gov)

<http://www.cmdl.noaa.gov>

---

#### National Oceanic and Atmospheric Administration

R/CMDL

Boulder, Colorado

**Supporting Stations:** Palmer Station

**Research Locations:** On station

#### Project Description:

The NOAA Climate Monitoring and Diagnostics Laboratory (CMDL) team will continue long-term measurements of trace atmospheric constituents that influence climate change. Scientists will measure carbon dioxide, water vapor, Surface and stratospheric ozone, solar and terrestrial radiation, meteorology, ozone-depleting compounds, and other trace constituents from the Atmospheric Research Observatory (ARO). The measurements will be used for time-series analysis of multi-year data records that focus on stratospheric ozone depletion, transantarctic transport and deposition, interplay of the trace gases and aerosols with solar and terrestrial radiation fluxes on the polar plateau, the magnitude of seasonal and temporal variations in greenhouse gases and the development of polar stratospheric clouds over Antarctica.



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**Deploying Team Members:**

No deploying participants

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## Science Project Details: 2005-2006

### Towards An Understanding Of Protein Homeostasis In Cold-Adapted Antarctic Fish



Photo not available.

**Dr. Gretchen Eva Hofmann** (Principal Investigator)

[hofmann@lifesci.ucsb.edu](mailto:hofmann@lifesci.ucsb.edu)

<http://www.lifesci.ucsb.edu/eemb/faculty/hofmann/research/research.html>

#### University of California Santa Barbara

Department of Ecology, Evolution, Marine Biology  
Santa Barbara, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, sea ice

#### Project Description:

Researchers will collect antarctic fishes in order to study the cold adaptation of protein synthesis in cells of these unusual fish. Three species will be collected via hook and line fishing in shallow water, and fish traps placed on the ocean floor at about 400-800 meter depths. After collection we will measure various aspects of protein synthesis to examine the efficiency of this important physiological process. It may be that Antarctic fish have a high percentage of their new synthesized proteins fold abnormally; we hope to understand the adaptations they have in order to produce normal, functional proteins. The techniques we will use include standard cell biology approaches such as the study of isolated cells, and more molecular approaches to study the patterns of expression of genes that are involved in maintaining a normal pool of proteins.

#### Deploying Team Members:

Bradley Allen Buckley · Jessica Margot Dutton · Elizabeth Ann Hoaglund · Gretchen Eva Hofmann · Christopher J Osovitz · Allison Coesett Whitmer · Mackenzie Lane Zippay



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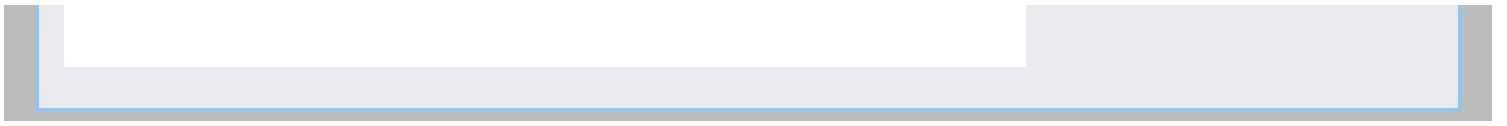


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## Science Project Details: 2005-2006

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### Distribution And Ecology Of Ammonia Oxidizing Bacteria In The Palmer LTER Study Area

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Photo not available.

**Dr. James T Hollibaugh** (Principal Investigator)

[aquadoc@uga.edu](mailto:aquadoc@uga.edu)

<http://www.marsci.uga.edu>

---

#### University of Georgia

Department of Marine Sciences

Athens, Georgia

**Supporting Stations:** ARSV Laurence M. Gould

**Research Locations:** Palmer LTER Study Area

#### Project Description:

Investigate the distribution, phylogenetic affinities and aspects of the ecology of ammonium-oxidizing bacteria in the Palmer LTER study area. The goals of this project are: 1) Obtain more conclusive information concerning composition of Antarctic ammonia oxidizers. 2) Begin characterizing their ecophysiology and ecology. 3) Obtain cultures of the organism for more detailed studies.

#### Deploying Team Members:

James T Hollibaugh

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## Science Project Details: 2005-2006

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### High Resolution Observations Of The CMB With ACBAR

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High-resolution observations of the cosmic microwave background (CMB) with ACBAR.

**Dr. William L Holzapfel** (Principal Investigator)

[swlh@cosmology.berkeley.edu](mailto:swlh@cosmology.berkeley.edu)

<http://cosmology.berkeley.edu/group/swlh/acbar/index.html>

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#### University of California Berkeley

Physics

Berkeley, California

**Supporting Stations:** South Pole Station

**Research Locations:** MAPO (Martin A. Pomerantz Observatory)

#### Project Description:

The Arcminute Cosmology Bolometer Array Receiver (ACBAR) is a 16 element 240 mK bolometer array designed for observations of small angular scale fluctuations in the Cosmic Microwave Background (CMB). Mounted on the Viper telescope at the South Pole, ACBAR produces high signal to noise images of the CMB with angular resolution of about 4 minutes. Due to the high sensitivity and resolution of the experiment, ACBAR provides a unique compliment to the large-scale CMB anisotropy maps and helps to improve constraints on models describing our Universe. ACBAR is currently making maps of the CMB with unprecedented resolution and sensitivity. These new observations will be used to improve constraints on the matter density in the Universe and spectral index of the primordial matter fluctuations.

Observations on the smallest angular scales are being used to search for the signature of evolving galaxy clusters and produce constraints on the normalization of matter density fluctuations.

#### Deploying Team Members:

William L Holzapfel · Jeffrey B Peterson



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## Science Project Details: 2005-2006

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### Interaction Of Iron, Light And CO2 On Phytoplankton Community Dynamics In The Ross Sea

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**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-279-N

NSF/OPP Award 03-38097

**ASC POC/Implementer:**

Stephanie Suhr Sliester

**Dr. David Hutchins** (Principal Investigator)

[dahutch@udel.edu](mailto:dahutch@udel.edu)

<http://www.ocean.udel.edu/cms/dhutchins/>

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**University of Delaware**

Graduate College of Marine Studies

Lewes, Delaware

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

**Project Description:**

The Ross Sea is a region of intense biological productivity where phytoplankton biomass is dominated by two main taxonomic groups; diatoms and Phaeocystis. It is well known that these two phytoplankton groups have different impacts on biogeochemical cycles in the Ross Sea, but the factors which control their relative abundance. CORSACS (Controls on Ross Sea Algal Community Structure) will investigate the interactive effects of iron, carbon dioxide and light levels in the Ross Sea on phytoplankton community structure and biogeochemical cycling of various elements, especially, carbon, sulfur, iron and cobalt. The expedition will involve both transect work and onboard experimental work. The project is a collaborative effort between Dr. Giacomo DiTullio (University of South Carolina), Dr. Walker Smith (VIMS), Dr. Robert Dunbar (Stanford University), Dr. Pete Sedwick (Bermuda Station for Biological Research), Dr. David Hutchins (University of Delaware), and Dr. Philippe Tortell (University of British Columbia).

**Deploying Team Members:**

David Allen Hutchins · Julie Rose · Juanjuan Feng · Sara M Handy · Clinton E Hare



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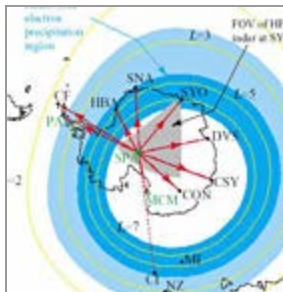
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## Science Project Details: 2005-2006

### A VLF Beacon Transmitter At South Pole



A VLF beacon transmitter at South Pole

**Dr. Umran S Inan** (Principal Investigator)

[inan@nova.stanford.edu](mailto:inan@nova.stanford.edu)

[http://www-star.stanford.edu/~vlf/south\\_pole/south%20pole.htm](http://www-star.stanford.edu/~vlf/south_pole/south%20pole.htm)

#### Stanford University

Department of Electrical Engineering  
Stanford, California

**Supporting Stations:** South Pole Station

**Research Locations:** B2 (South Pole Science Lab), VLF shack

#### Project Description:

A three year research effort to establish and operate a VLF Beacon Transmitter at South Pole for the purpose of continuous measurement of both steady and burst precipitation of relativistic (>300 keV) electrons from the Earth's magnetosphere. This project measures the extent of relativistic electron precipitation by means of associated amplitude and phase variations on various antarctic stations. The program also addresses science questions concerning upper atmospheric effects of Solar Proton Events and magnetosphere-ionosphere coupling. The availability of the South Pole VLF Beacon will synergistically enhance other Antarctic Upper Atmospheric research efforts, such as the Automatic Geophysical Observatory (AGO) programs.

#### Deploying Team Members:

Evans Paschal

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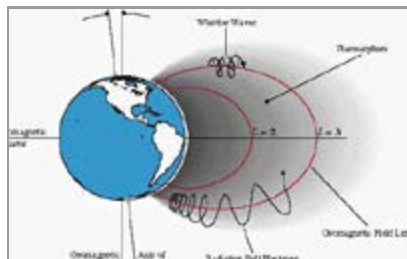
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## Science Project Details: 2005-2006

### ELF/VLF Observations Of Lightning Discharges, Whistler-Mode Waves And Electron Precipitation At Palmer Station



ELF/VLF observations of lightning discharges, whistler-mode waves and electron precipitation at Palmer Station

**Dr. Umran S Inan** (Principal Investigator)  
[inan@nova.stanford.edu](mailto:inan@nova.stanford.edu)  
<http://www-star.stanford.edu/~palmer>

#### Stanford University

Department of Electrical Engineering  
Stanford, California

**Supporting Stations:** Palmer Station

**Research Locations:** On station

#### Project Description:

Researchers will address scientific questions focused on the quantification of the global phenomenology and effects on the Earth's ionosphere and the radiation belts of tropospheric lightning activity, consisting of about 2,000 thunderstorms active at any given time and maintaining a global average lightning flash rate of about 100 per second. The primary tool for studying these effects is the monitoring of the extremely low frequency and very low frequency bands of the electromagnetic spectrum in Palmer Station's unique electromagnetically quiet environment. Stanford University built VLF receivers are also located in Upland, Indiana, and in the Negev desert of Israel. Data from Palmer Station will be used in conjunction with data from these other sites to study lightning activity in North and South America and Western Africa.

#### Deploying Team Members:

Jeff Chang



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## Science Project Details: 2005-2006

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### Collaborative Research: Interactive Effects Of UV And Vertical Mixing On Phytoplankton And Bacterioplankton In The Ross Sea

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Photo not available.

**Dr. Wade H Jeffrey** (Principal Investigator)

[wjeffrey@uwf.edu](mailto:wjeffrey@uwf.edu)

[http://www.serc.si.edu/labs/photobiology/effects\\_ross.jsp](http://www.serc.si.edu/labs/photobiology/effects_ross.jsp)

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#### University of West Florida

Center for Environmental Diagnostics and Bioremediation  
Pensacola, Florida

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

To better understand how UV affects planktonic processes in the Ross Sea polynya, researchers will perform measurements of UV effects on phytoplankton photosynthesis, bacterial production and DNA damage, and make physical measurements to characterize vertical mixing processes. Starting operations just north of the Ross Ice Shelf where there is a persistent ice-free area and working northward as the ice opens up later on during the cruise, researchers will follow the bloom of *Phaeocystis antarctica* in the Ross Sea to monitor the progression and responses of the phytoplankton to varying conditions of light, iron and bacterial growth rates. The project is a collaborative effort between Dr. Pat Neale (SERC), Dr. Wade Jeffrey (University of West Florida), Dr. Ann Gargett (Old Dominion University), Postdoctoral Fellow Brook Nunn.

#### Deploying Team Members:

Wade H Jeffrey · Brook L Nunn · Jocelyn R Aker · Amy J Baldwin · Rena L Croker · Pakulski, Joseph



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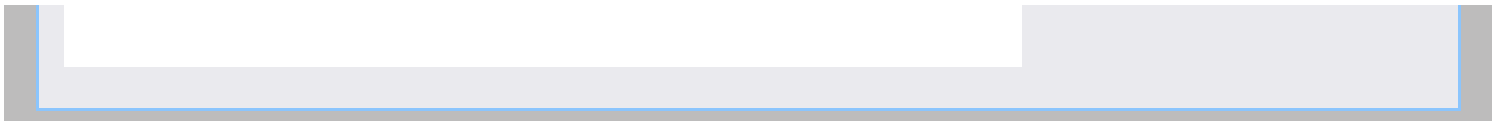


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## Science Project Details: 2005-2006

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### Unavco GPS Survey Support

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GPS survey of a geodetic control point at Cape Hallett. Photo by Chuck Kurnik.

**Mr. Bjorn Johns** (Principal Investigator)

[bjorn@unavco.org](mailto:bjorn@unavco.org)

<http://www.unavco.org>

---

#### UNAVCO

Boulder, Colorado

**Supporting Stations:** McMurdo Station

**Research Locations:** Field sites with science groups

#### Project Description:

Provide technical support and geodetic data quality GPS receivers for high precision campaign surveying and continuous data collection. Infrastructure for this support includes a real-time differential GPS broadcasting station covering McMurdo Sound and Taylor Valley, and a repeater on Mt Erebus for GPS data retrieval from the Transantarctic Mountains. Station maintenance is also provided as needed for the NASA International GPS Service (IGS) station, MCM4. The field project objectives are to ensure the successful execution of GPS projects by all science events that use UNAVCO equipment and support. The level of support is tailored to the experience of the field teams. Full GPS technical support is available, including training, field project planning, field support, DGPS support, continuous station equipment and maintenance, data management, data processing, data interpretation, equipment testing and maintenance.

#### Deploying Team Members:

Bjorn Johns · Seth White

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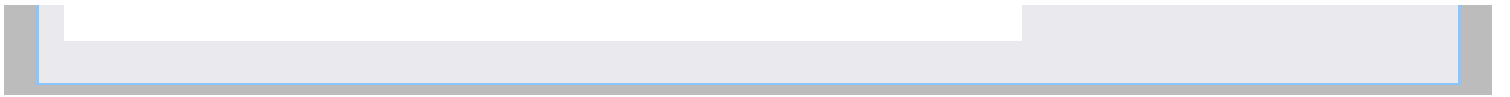
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## Science Project Details: 2005-2006

### High Resolution Ice Thickness And Plan Wave Mapping Of Near-Surface Layers



Photo not available.

**Dr. Pannirselvam Kanagaratnam** (Principal Investigator)

[panagar@ittc.ku.edu](mailto:panagar@ittc.ku.edu)

<http://tornado.rsl.ku.edu/planewave/>

#### University of Kansas Lawrence

Information & Telecommunication Technology Center  
Lawrence, Kansas

**Supporting Stations:** McMurdo Station

**Research Locations:** WAIS Divide

#### Project Description:

Researchers will be using a 12-18 GHz FM-CW radar system to map the near surface internal layers to a depth of about 10 meters with a resolution of better than 6 centimeters to estimate the accumulation rate. The system incorporates a plane wave antenna with a very narrow beamwidth, reducing the probability of off-angle clutter masking the return from some of the internal layers. The antenna has been successfully tested with a network analyzer during the 2004 field experiment in Summit, Greenland.

Researchers will test the complete radar system at Summit camp during the 2005 field season, and will conduct the first full-scale surveys at the Inland WAIS camp during the Antarctic 2005/06 field season. These data will allow researchers to map the natural spatial variability of snow accumulation, an understanding of which is critical in validating and interpreting the surface elevation measurements and mass balance estimates from CRYOSAT and ICESAT altimeters.

#### Deploying Team Members:

Pannirselvam Kanagaratnam



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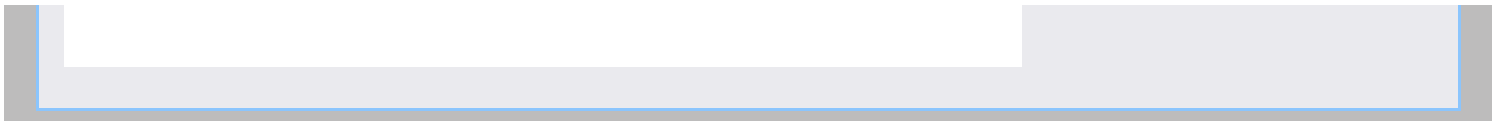


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## Science Project Details: 2005-2006

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### The Molecular Signals That Regulate The Ontogeny Of Aerobic Capacity, Lipid Metabolism And Elevated Myoglobin Concentrations In The Skeletal Muscles Of Weddell Seals

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Newborn Weddell seal pup. Photo courtesy of Shane Kanatous.

**Dr. Shane B Kanatous** (Principal Investigator)

[shane.kanatous@utsouthwestern.edu](mailto:shane.kanatous@utsouthwestern.edu)

<http://www.swmed.edu/stars/02antarcticexpedition/index.htm>

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#### University of Texas

Internal Medicine

Dallas, Texas

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, sea ice

#### Project Description:

This study builds on the results of a pilot study which characterized the physiological changes in the skeletal muscles of Weddell seals as they matured. The first objective is to further characterize the ontogenetic changes in muscle aerobic capacity, lipid metabolism and myoglobin concentration and distribution using enzymatic, immuno-histochemical and myoglobin assays in newly weaned, subadult, and adult seals. The second objective is to determine the molecular controls that regulate these changes in skeletal muscle physiology during maturation and development of diving capacity.

#### Deploying Team Members:

Thomas J. Hawke · Shane B Kanatous · Steve Trumble · Rebecca R. Watson



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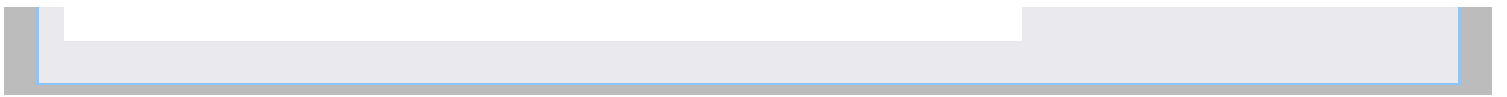
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## Science Project Details: 2005-2006

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### Changes In Atmospheric Oxygen (O<sub>2</sub>), Carbon Dioxide (CO<sub>2</sub>), And Argon (Ar) Concentrations In Relation To The Carbon Cycle And Climate

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Photo not available.

**Dr. Ralph Keeling** (Principal Investigator)

[rkelling@ucsd.edu](mailto:rkelling@ucsd.edu)

<http://bluemoon.ucsd.edu>

---

#### University of California San Diego

Scripps Institution of Oceanography

La Jolla, California

**Supporting Stations:** Palmer Station

**Research Locations:** On station at Palmer and South Pole

#### Project Description:

Records of changes in atmospheric oxygen along with carbon dioxide levels have been documented for nearly 15 years at a number of sites throughout the globe using flask sampling of air, which is continued by the present investigation. These data will be of great use in modeling studies to assess the understanding of various carbon related processes. In addition, there exists significant potential for unexpected global phenomena of societal relevance. Technology for making climate relevant observations will be advanced and made available to the scientific community through publications and the training of students.

#### Deploying Team Members:

No deploying participants

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## Science Project Details: 2005-2006

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### Impact Of Solar Radiation And Nutrients On Biogeochemical Cycling Of DMSP And DMS In The Ross Sea

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Principal investigator Ron Kiene secures quartz tubes for outside incubation. Photo courtesy of Ron Kiene.

**Dr. Ronald P Kiene** (Principal Investigator)

[rkiene@disl.org](mailto:rkiene@disl.org)

[http://www.southalabama.edu/marinesciences/fac\\_kiene.html](http://www.southalabama.edu/marinesciences/fac_kiene.html)

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#### University of South Alabama

Department of Marine Sciences  
Mobile, Alabama

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

The aim of this project is to investigate the biogeochemical cycling of dimethylsulfoniopropionate (DMSP) and its degradation product, dimethylsulfide (DMS) in the southern Ross Sea during the development of the seasonal phytoplankton bloom (Oct-Dec), to quantify how light and nutrients influence the production and loss of DMS, and to examine the role of DMSP in the carbon and sulfur cycles. Effects of solar radiation on phytoplankton and bacterioplankton processes related to the DMSP/DMS cycles, as well as photochemical processes such as DMS photooxidation to dimethylsulfoxide (DMSO), will be studied. The field work involves sampling at hydrographic stations and extensive deck-board and in situ incubations. Data collection will include concentration measurements of DMSO, DMSP and DMS and cycling rates using <sup>35</sup>S-labeled radiotracers. This project is a collaborative effort between Dr. David Kieber (NY State University) and Dr. Ron Kiene (University of South Alabama).

#### Deploying Team Members:

Daniela del Valle · Jennifer Meeks · Alison N. Rellinger · Dorothea Slezak



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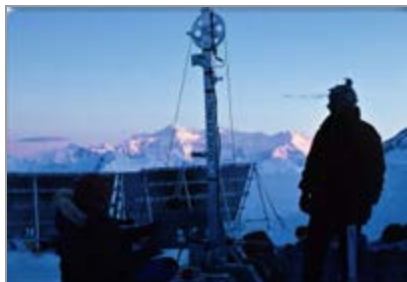
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## Science Project Details: 2005-2006

### Dry Valleys Late Holocene Climate Variability



Eclipse ice core drill in operation.  
Photo by Karl Kreutz.

**Dr. Karl J Kreutz** (Principal Investigator)

[karl.kreutz@maine.edu](mailto:karl.kreutz@maine.edu)

<http://climatechange.umaine.edu/Research/Expeditions/2005/DryValleys05.html>

#### The University of Maine

IQCS/ Department of Geological Sciences  
Orono, Maine

**Supporting Stations:** McMurdo Station

**Research Locations:** Clark Glacier, Victoria Upper Glacier

#### Project Description:

Collect and develop high-resolution ice core records from the Dry Valleys region, and provide interpretations of interannual to decadal-scale climate variability during the last 2,000 years (late Holocene). In particular, researchers seek to test hypotheses related to ocean/atmosphere teleconnections (e.g., El Nino Southern Oscillation, Antarctic Oscillation) that may be responsible for major late Holocene climate events such as the Little Ice Age in the Southern Hemisphere. Primary research objectives are to recover intermediate length (150-250 meter) ice cores from two sites in the Dry Valleys (Clark and Upper Victoria Glaciers), collect additional glaciological and meteorological data from drillsites visited last season (Commonwealth and Blue Glaciers), and conduct spatial glaciochemical sampling at several other sites in the Taylor/Wright Valley region.

#### Deploying Team Members:

Tobias Burdet · Terrance L Gacke · Karl J Kreutz · Michael Waszkiewicz · Bruce Williamson

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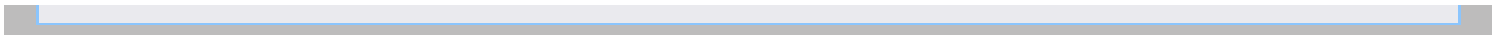
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## Science Project Details: 2005-2006

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### Mount Erebus Volcano Observatory And Laboratory (MEVOL)

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Scientist remotely measuring compositions of gases emitted from the lava lakes in the crater of the active volcano Mount Erebus by infrared spectrometer in December 2004. Photo by Richard Esser.

**Dr. Philip R Kyle** (Principal Investigator)

[kyle@nmt.edu](mailto:kyle@nmt.edu)

<http://www.ees.nmt.edu/Geop/Erebus/erebus.html>

---

#### New Mexico Institute of Mining and Technology

Department of Earth & Environmental Science

Socorro, New Mexico

**Supporting Stations:** McMurdo Station

**Research Locations:** Mt. Erebus

#### Project Description:

Mount Erebus, Ross Island is the most active volcano in Antarctica. It is unique in containing a persistent convecting lava lake of anorthoclase phonolite magma. Degassing of the lake and underlying magmatic system emits volcanic gases into the pristine Antarctic atmosphere. Because of the excellent access and the nature of the small strombolian eruptions, Erebus has become a model volcano for volcanological studies. This project is a continuation of work over the last four field seasons when the team installed five integrated geophysical/geodetic surveillance observatories and made measurements of gas emissions and continued with GPS measurements to observe deformation of the volcano. The existing short period and broadband seismic networks will allow an understanding of the eruptive behavior and dynamics of Mt. Erebus. Inversion of the seismic data will allow topographic imaging of the magma chamber and plumbing inside the volcano.

#### Deploying Team Members:



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Julie Ann Calkins · Ashley Davies · Nelia W Dunbar · Alexander Gerst · Kyle  
Richard Jones · Peter Kelly · Christine Kimball · Philip R Kyle · William C  
McIntosh · Clive Matthew Martin Oppenheimer

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## Science Project Details: 2005-2006

---

### Direction-Finding Measurements Of LF/MF/HF Auroral Radio Emissions At South Pole

---



Photo not available. Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole

**Dr. James W LaBelle** (Principal Investigator)

[jlabelle@einstein.dartmouth.edu](mailto:jlabelle@einstein.dartmouth.edu)

<http://www.dartmouth.edu/~spacephy/>

---

#### Dartmouth College

Department of Physics & Astronomy  
Hanover, New Hampshire

**Supporting Stations:** South Pole Station

**Research Locations:** B2 (South Pole Science Lab)

#### Project Description:

The LF/MF/HF receiver currently installed at South Pole measures radio emissions of auroral origin in the frequency range 50-5000 kHz, which includes the upper part of the whistler mode range and several critical ionospheric frequencies such as the plasma frequency, upper hybrid frequency, electron gyrofrequency and harmonics. As a result, several types of natural auroral radio emissions occur in this range. For several of these, the generation mechanism, and the cause of the observed wave structure, remains a mystery. The South Pole is an ideal location for observing these signals because of the low level of man-made background noise in Antarctica.

#### Deploying Team Members:

Allan T Weatherwax

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## Science Project Details: 2005-2006

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### Background Imaging Of Cosmic Extragalactic Polarization (BICEP)

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BICEP mount and environmental enclosure. The mount allows the receiver to continuously rotate about the optical axis and periodically toggle by 180 degrees in azimuth.

**Dr. Andrew Lange** (Principal Investigator)

[ael@astro.caltech.edu](mailto:ael@astro.caltech.edu)

[http://www.astro.caltech.edu/~lgg/bicep\\_front.htm](http://www.astro.caltech.edu/~lgg/bicep_front.htm)

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#### California Institute of Technology

Physics

Pasadena, California

**Supporting Stations:** South Pole Station

**Research Locations:** Dark Sector Lab

#### Project Description:

BICEP is an experiment designed to measure the polarization of the cosmic microwave background (CMB) to unprecedented precision, and in turn answer crucial questions about the beginnings of the Universe. It will operate at 100 GHz and 150 GHz at angular resolutions of 1.0° and 0.7°, respectively, with an array of 98 polarization-sensitive bolometers (PSBs), mapping a large region of the sky around the South Celestial Pole. Its design is optimized to provide exquisite sensitivity to CMB polarization on medium to large angular scales, allowing it to directly probe for the gravitational wave signature of inflation.

#### Deploying Team Members:

Denis Barkats · Jamie Bock · H. Cynthia Chiang · Charles Darren Dowell · Gregory Griffin · Brian Keating · John Kovac · Chao-lin Kuo · Andrew Lange · Pete Mason · Hien Trong Nguyen · Tom Renbarger · Yuki Takahashi · Lawrence Weintraub · Kiwon Yoon



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## Science Project Details: 2005-2006

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### Physiological And Molecular Mechanisms Of Stress Tolerance In A Polar Insect

---



Rick Lee, Luke Sandro, Dave Denlinger, Joe Rinehart, and Scott Hayward on the bow of the ARSV Laurence M. Gould, January 1, 2005. Photo courtesy of Rick Lee.

**Dr. Richard Lee** (Principal Investigator)

[leere@muohio.edu](mailto:leere@muohio.edu)

<http://www.units.muohio.edu/cryolab/education/antarctic.htm>

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#### Miami University

Department of Zoology  
Oxford, Ohio

**Supporting Stations:** Palmer Station

**Research Locations:** On station and local islands

#### Project Description:

During the austral summers of 1979 and 1980 researchers documented the ability of the Antarctic midge *Belgica antarctica* to tolerate a wide variety of stresses. This project will further characterize this ability, especially in an ecological context. During the three years of the project, team members will first fully characterize the microclimatic conditions experienced by *B. antarctica* both seasonally and among different microhabitats. They will then work to characterize the molecular mechanisms involved in surviving the documented fluctuations, and investigate how this midge may accumulate protective molecules from the macroalgae *Prasiola crispa*, a primary food plant of *Belgica* larvae.

#### Deploying Team Members:

Michael Elnitsky · Marianne Kaput · Richard Lee · Giancarlo Lopez-Martinez  
· Josh Benoit



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## Science Project Details: 2005-2006

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### A Proposal For The Measurement And Analysis Of Extremely Low Frequency (ELF) Waves At South Pole Station

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ELF magnetic sensor coil, receiver, and the data acquisition system. Inside the receiver (inset). Photo by Hyomin Kim.

**Dr. Marc R Lessard** (Principal Investigator)

[marc.lessard@unh.edu](mailto:marc.lessard@unh.edu)

<http://esp.sr.unh.edu/mir/>

---

#### University of New Hampshire

Space Science Center  
Durham, New Hampshire

**Supporting Stations:** South Pole Station

**Research Locations:** B2 (South Pole Science Lab)

#### Project Description:

This project measures Extremely Low Frequency (ELF) electromagnetic waves at South Pole station. Results from the first year of operation showed an unexpectedly wide range of interesting phenomena, including whistler-like waves, ELF hiss events, the low-frequency tails of sferics, etc. One of the original objectives of this project has been to detect auroral ion cyclotron waves, predicted to be associated with so called 'flickering aurora,' and researchers are in the process of analyzing the data to determine whether or not some of the candidate events identified are such waves. These waves are an integral part of the aurora and ground-based observations of their occurrences would provide new and important information related to discrete aurora.

#### Deploying Team Members:

No deploying participants



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## Science Project Details: 2005-2006

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### Development Of An Autonomous Real-Time Remote Observatory (ARRO)

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Photo not available.

**Dr. Marc R Lessard** (Principal Investigator)

[marc.lessard@unh.edu](mailto:marc.lessard@unh.edu)

<http://esp.sr.unh.edu/mir/>

---

#### University of New Hampshire

Space Science Center

Durham, New Hampshire

**Supporting Stations:** South Pole Station

**Research Locations:** AASTO (Astrophysical Site-Testing Observatory)

#### Project Description:

This project is part of the larger development of the Autonomous Real-Time Remote Observatory (ARRO). In support of ARRO, this group will install a wind generator and test it during the winter at the South Pole. The primary goal is to determine if a wind generator might be suitable as a power source for ARROs, which could ultimately reduce the initial costs for these observatories and reduce resources required for transportation and maintenance.

#### Deploying Team Members:

Marc R Lessard · Amanda Plagge · Paul Riley · Jason Weale

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## Science Project Details: 2005-2006

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### The Role Of Resource Legacy On Contemporary Linkages Between Biodiversity And Ecosystem Processes In A Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program

---



Team members collecting samples in the Dry Valleys. Photo courtesy of Kathy Welch.

**Dr. W. Berry Lyons** (Principal Investigator)

[lyons.142@osu.edu](mailto:lyons.142@osu.edu)

<http://www.mcmlter.org>

---

#### Ohio State University

Byrd Polar Research Center  
Columbus, Ohio

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Researchers will monitor the inorganic geochemistry of waters collected from the glaciers, streams, ponds and lakes of the Dry Valleys. Study the upland seeps and ponds to gain a better understanding of their hydrologic and geochemical controls. Continue to work with co-PI's involved with the LTER lake, stream and glacier sampling programs in the Dry Valleys.

#### Deploying Team Members:

Sarah Fortner · April Jacobs · W. Berry Lyons · Elizabeth Miller · Kathleen Ann Welch

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## Science Project Details: 2005-2006

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### Earth's Largest Icebergs

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RV Polar Sea "facing off" against iceberg B15A for the first time in January of 2001. This project flew off the deck of the Polar Sea and placed sensors and GPS receivers on the iceberg, allowing them to monitor it's position and weather conditions. Photo by Josh Landis.

**Dr. Douglas R MacAyeal** (Principal Investigator)

[drm7@midway.uchicago.edu](mailto:drm7@midway.uchicago.edu)

<http://ice.ssec.wisc.edu/iceberg.html>

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#### University of Chicago

Department of Geophysical Sciences  
Chicago, Illinois

**Supporting Stations:** McMurdo Station

**Research Locations:** Ross Ice Shelf, Ross Sea Icebergs

#### Project Description:

Researchers will investigate the basic principles governing the calving, drift, melting, break-up and environmental impact (including generation of seismic and acoustic signals that impact the background noise of the world ocean) of large icebergs. The last major calving from the Ross Ice Shelf was in the 1980's, thus the present conditions present a once-in-a-generation opportunity. Because the northward drift of large tabular icebergs represents a natural "climate change" experiment on an accelerated time-scale, the melting of the icebergs being studied over the next decade will foretell events that may occur in parts of Antarctica (e.g., the ice shelves) as global warming kicks in over the coming century. Understanding the natural drift patterns, and regions where icebergs accumulate near inhabited parts of the globe, may someday prove useful for supplying fresh water to populations in need, as far-fetched as that may be with current technology.

#### Deploying Team Members:



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Kelly Brunt · Penelope Clendon · Luke Copland · Douglas R MacAyeal ·  
Marianne H Okal · Ronald Ross · Jonathan E Thom

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## Science Project Details: 2005-2006

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### CAREER: Genomic Networks For Cold-Adaptation In Embryos Of Polar Marine Invertebrates

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Photo not available.

**Dr. Adam G Marsh** (Principal Investigator)

[amarsh@udel.edu](mailto:amarsh@udel.edu)

<http://marsh.cms.udel.edu/~amarsh>

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#### University of Delaware

College of Marine Studies

Lewes, Delaware

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, McMurdo Sound

#### Project Description:

Researchers will assess the pattern of gene expression coordination during development in marine invertebrate embryos and larvae.

#### Deploying Team Members:

Dominique Cowart · Jeremiah Dann · Michael League · Adam G Marsh ·

David Martel · Paul Ulrich

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## Science Project Details: 2005-2006

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### Palmer Long Term Ecological Research Project (LTER): Climate Migration, Ecological Response And Teleconnections In An Ice-Dominated Environment

---

**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-021-L

NSF/OPP Award 02-17282

**ASC POC/Implementer:**

Karl Newyear

**Dr. Douglas G Martinson** (Principal Investigator)

[dgm@ldeo.columbia.edu](mailto:dgm@ldeo.columbia.edu)

<http://www.lternet.edu/sites/pal/>

**Columbia University**

Lamont-Doherty Earth Observatory

Palisades, New York

**Supporting Stations:** ARSV Laurence M. Gould

**Research Locations:** Palmer LTER study area

**Project Description:**

The aim of this project is to sample the temperature and salinity of the water column at each standard station during the annual LTER cruise. Other locations relevant to LTER PI needs or in response to interesting scientific insights arising during the cruise may also be sampled.

**Deploying Team Members:**

No deploying participants

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## Science Project Details: 2005-2006

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### The Role Of Resource Legacy On Contemporary Linkages Between Biodiversity And Ecosystem Processes In A Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program

---



A team member taking field notes.  
Photo courtesy of Kathy Welch.

**Dr. Diane M McKnight** (Principal Investigator)  
[mcknight@snobear.colorado.edu](mailto:mcknight@snobear.colorado.edu)  
<http://huey.colorado.edu>

---

#### University of Colorado Boulder

Institute of Arctic and Alpine Research (INSTAAR)  
Boulder, Colorado

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Researchers will continue to operate a network of 18 stream flow gauges, collect water quality samples from 30 streams, and make necessary hydrologic measurements. Install temperature and specific conductance probes to several gages and upgrade equipment in order to minimize the loss of data collected during the season. Visit the Garwood, Marshall, and Miers Valleys once during the season. Conduct a three-day long tracer experiment in which we will inject sodium nitrate and lithium chloride into Lost Seal Stream, which is a stream with moderate nutrient concentrations and no algal mats. The main goal of the experiment is to determine the extent of nutrient uptake and retention in streams without algal mats, to complement our previous studies showing rapid and extensive nutrient uptake in streams with mats.

#### Deploying Team Members:

Jenny Baeseman · Karen Cozzetto · Shannon Horn · Joshua Koch · Diane M McKnight · Amber Roche · Kirk Miller · Ray Woodruff



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## Science Project Details: 2005-2006

### Maud Rise Nonlinear Equation Of State Study (MaudNESS)



Photo not available.

**Dr. Miles McPhee** (Principal Investigator)

[mmcphee@starband.net](mailto:mmcphee@starband.net)

<http://www.oc.nps.navy.mil/~stanton/thermo>

#### McPhee Research Company

Naches, Washington

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Maud Rise area, Southeast Wedell Sea

#### Project Description:

To measure, by a combination of techniques, how mixing in winter is enhanced by turbulent kinetic energy derived from the potential energy of the water column in this unique environment. Assess the role of regional circulation in the localization of these mixing processes using a combination of CTD, satellite and modeling studies.

#### Deploying Team Members:

Gerhard Behrens · Laura de Steur · Dan Goldberg · Peter S Guest · Ramsey Harcourt · Miles McPhee · David Morison · James H Morison · Robin D Muench · Dirk Philipp Notz · Michael Ohmart · Laurence Padman · Brian Powell · Kristin Richter · William James Shaw

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## Science Project Details: 2005-2006

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### Dayside Auroral Imaging At South Pole

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Dayside auroral imaging at South Pole. Photo by Charles Kaminski.

**Dr. Stephen B Mende** (Principal Investigator)

[mende@ssl.berkeley.edu](mailto:mende@ssl.berkeley.edu)

<http://sprg.ssl.berkeley.edu:80/atmos/>

---

#### University of California Berkeley

Space Sciences Laboratory  
Berkeley, California

**Supporting Stations:** South Pole Station

**Research Locations:** B2 (South Pole Science Lab), ARO (Atmospheric Research Observatory)

#### Project Description:

Operate two ground-based imagers at South Pole station and combine their observations with simultaneous global auroral observations by the IMAGE spacecraft to investigate the temporal and spatial details and ionospheric effects of reconnection processes at the magnetopause. Global observations of proton auroras from the IMAGE spacecraft provided direct images of the footprint of the reconnection region showing that reconnection occurs continuously and that the spatial distribution of the precipitation follows the theoretically predicted behavior as a function of the interplanetary field (IMF). It will be possible to obtain simultaneous global images of the aurora by IMAGE and of the high latitude dayside region by two ground-based imagers (electron and protons auroras) at South Pole Station. This project will capitalize on this unique opportunity and use the IMAGE satellite as the "telescope" and the ground-based imagers as the "microscope" for these observations.

#### Deploying Team Members:

No deploying participants



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## Science Project Details: 2005-2006

### Plankton Community Structure And Iron Distribution In The Southern Drake Passage And Scotia Sea



Photo not available.

**Dr. B. Greg Mitchell** (Principal Investigator)

[gmitchell@ucsd.edu](mailto:gmitchell@ucsd.edu)

<http://www.spg.ucsd.edu/antarcticareu/index.htm>

#### University of California San Diego

Scripps Institution of Oceanography

San Diego, California

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Drake Passage, Scotia Sea

#### Project Description:

As the Antarctic Circumpolar Current passes through the southern Drake Passage, low surface chlorophyll concentrations develop into a bloom that spreads across the southern Scotia Sea to South Georgia. Researchers will examine biological, chemical, and physical characteristics of the water column during winter when photosynthetic processes are minimal and mixing in the upper mixed layer is deep to establish a baseline that can be compared to previous observations made in late summer. The goal is to understand how phyto- and zooplankton productivity, community structure and export production in the Southern Ocean are affected by the coupling between bathymetry, mesoscale circulation, and limiting nutrient distributions. This is a collaborative effort between Dr. Greg Mitchell (SIO), Dr. Chris Measures (U of Hawaii), Dr. Meng Zhou (U of Massachusetts) and Dr. Matt Charette (WHOI).

#### Deploying Team Members:

B. Greg Mitchell · Christopher D Hewes · Haili Wang

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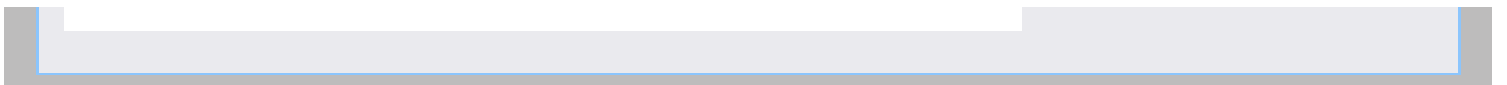
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## Science Project Details: 2005-2006

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### Geodesy And Geospatial Data Program

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Photo not available.

**Program Manager:**

Dr. Thomas Wagner

**Event Number:** G-052-M/P/S

NSF/OPP Award 02-33246

**ASC POC/Implementer:**

Jessie Crain

**Mr. Jerry L Mullins** (Principal Investigator)

[jmullins@usgs.gov](mailto:jmullins@usgs.gov)

[http://usarc.usgs.gov/antarctic\\_atlas/](http://usarc.usgs.gov/antarctic_atlas/)

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**United States Geological Survey**

Reston, Virginia

**Supporting Stations:** McMurdo Station, Palmer Station, South Pole Station

**Research Locations:** Arrival Heights, Cape Roberts, Mount Fleming, Fishtail Point, South Pole Station, Palmer Station

**Project Description:**

The USGS services and collects data from several instruments installed on the continent: Continuously operating Antarctic Remote GNSS Observatories, tide gauge instruments (in collaboration with Land Information New Zealand), and GPS/GLONASS dual frequency receiver/antenna system at Cray Lab. The Atlas of Antarctic Research on-line viewer will be deployed on the McMurdo Intranet. Observations on signals from satellites of the GNSS (Global Navigation Satellite Systems) is a SCAR-endorsed project of the Geodetic Infrastructure for Antarctica (GIANT) program. Each year, USGS personnel conduct a geodetic survey to establish the location of Mean Pole Axis for January 1. At Palmer Station, research associates maintain the continuous operating geodetic/GPS observatory established in May 1997. This station is included in the global network of permanent operating stations of the International GPS Service (IGS) of the International Association of Geodesy (IAG).

**Deploying Team Members:**

Larry Hothem



[Project Indexes](#)

Find information about current USAP projects using the principal investigator, event number station, and other indexes.



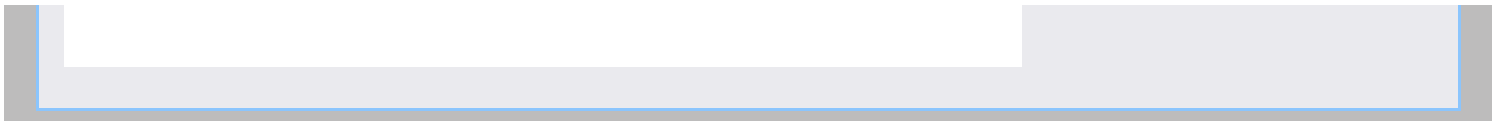
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## Science Project Details: 2005-2006

### Interactive Effects Of UV And Vertical Mixing On Phytoplankton And Bacterioplankton In The Ross Sea



Photo not available.

**Dr. Patrick J Neale** (Principal Investigator)

[neale@serc.si.edu](mailto:neale@serc.si.edu)

[http://www.serc.si.edu/labs/photobiology/effects\\_ross.jsp](http://www.serc.si.edu/labs/photobiology/effects_ross.jsp)

#### Smithsonian Environmental Research Center

Photobiology and Solar Radiation Lab  
Edgewater, Maryland

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

To better understand how UV affects planktonic processes in the Ross Sea polynya, researchers will perform measurements of UV effects on phytoplankton photosynthesis, bacterial production and DNA damage, and make physical measurements to characterize vertical mixing processes.

Starting operations just north of the Ross Ice Shelf where there is a persistent ice-free area and working northward as the ice opens up later on during the cruise, researchers will follow the bloom of *Phaeocystis antarctica* in the Ross Sea to monitor the progression and responses of the phytoplankton to varying conditions of light, iron and bacterial growth rates. The project is a collaborative effort between Dr. Pat Neale (SERC), Dr. Wade Jeffrey (University of West Florida), Dr. Ann Gargett (Old Dominion University), Postdoctoral Fellow Brook Nunn.

#### Deploying Team Members:

Patrick J Neale · Hae-Chol Kim · Jesse D Phillips-Kress · Cristina Sobrino

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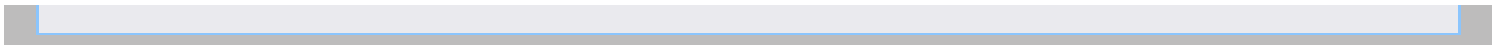


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## Science Project Details: 2005-2006

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### Dynamics Of The Antarctic MLT Region Using Ground-Based Radar And TIMED Instrumentation

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Photo not available.

**Dr. Scott Edward Palo** (Principal Investigator)

[scott.palo@colorado.edu](mailto:scott.palo@colorado.edu)

<http://grison.colorado.edu>

---

#### University of Colorado Boulder

Department of Aerospace Engineering Sciences  
Boulder, Colorado

**Supporting Stations:** South Pole Station

**Research Locations:** Radar Shack

#### Project Description:

Measure the winds in the lower thermosphere in an effort to understand the processes that control the neutral dynamics of the Antarctic region.

#### Deploying Team Members:

James Paul Avery · Santiago de la Pena · Hiroyuki Imura · Elias Moises Lau  
· Scott Edward Palo · William Pisano

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## Science Project Details: 2005-2006

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### Drinking And Na/K-ATPase Alpha-Subunit Isoform Expression In Antarctic Fish

---



Drinking and Na/K-ATPase alpha-subunit isoform expression in antarctic fish.

**Dr. David Henry Petzel** (Principal Investigator)

[dpetzel@creighton.edu](mailto:dpetzel@creighton.edu)

<http://www.biomedsci.creighton.edu/~prbrauer/>

---

#### Creighton University

School of Medicine  
Hallowell, Maine

**Supporting Stations:** McMurdo Station

**Research Locations:** Sea ice, Crary Lab

#### Project Description:

Determine the role of the gill and intestine in maintaining water and ion balance in fishes that are found in the waters adjacent to McMurdo Station. These fishes maintain a high blood salt concentration which is twice that of temperate fish. Measure a number of parameters in cold (-1.5C) and warm (+4C) acclimated fish to determine the underlying osmoregulatory mechanisms that allow the fish to maintain high blood salt concentrations.

#### Deploying Team Members:

Philip Roger Brauer · Hilary Hudson · Yvette Karen McCulley · Anne Davide Petzel · David Henry Petzel · Jill Janis Petzel · Margaret Scofield · Kimberly Ann Smith

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## Science Project Details: 2005-2006

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### Diving Physiology And Behavior Of Emperor Penguins

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Diving physiology and behavior of Emperor penguins.

**Dr. Paul John Ponganis** (Principal Investigator)

[pponganis@ucsd.edu](mailto:pponganis@ucsd.edu)

<http://antarctic.ucsd.edu>

---

#### Scripps Institution of Oceanography

La Jolla, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Cape Crozier, Cape Washington

#### Project Description:

Investigate several aspects of the diving physiology and behavior of emperor penguins. Research will be conducted in two locations, at a sea ice camp (Penguin Ranch) on the McMurdo sea ice, and at a remote camp at the Cape Washington emperor colony. At the isolated dive hole at the McMurdo camp, various microprocessor based instruments will be attached to birds to allow determination of feeding behavior, stroke frequency, diving air volume, oxygen depletion rates, and nitrogen profiles during diving. At Cape Washington, various recorders (accelerometers, 3-D dive recorders, cameras) will be deployed on emperor penguins making foraging trips from the colony. These will assess swimming behavior, foraging strategy, and prey capture. The use of a remote web camera for monitoring the emperor penguin colony will also be evaluated with the deployment of such a camera during the season at Cape Washington.

#### Deploying Team Members:

Robert Seth Howard · Andrea Torrence Kowner Stockard · Gerald Kooyman · Greg Marshall · Jessica Ulrika Meir · Katherine Victoria Ponganis · Paul John Ponganis · Katsufumi Sato · Edward Raymond Stockard · Cassandra Williams



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## Science Project Details: 2005-2006

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### Microbial Diversity And Function In The Permanently Ice-Covered Lakes Of The McMurdo Dry Valleys

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Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys.

**Dr. John C Priscu** (Principal Investigator)  
[jpriscu@montana.edu](mailto:jpriscu@montana.edu)  
<http://www.mcm-dvlakesmo.montana.edu>

---

**Montana State University Bozeman**  
Land Resources and Environmental Sciences  
Bozeman, Montana

**Supporting Stations:** McMurdo Station  
**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Researchers will use molecular tools in concert with conventional and high throughput culturing techniques to define representative prokaryotic groups responsible for the contemporary redox couples and geochemical gradients that now exist in Lakes Fryxell and Bonney. These data will be integrated with prokaryotic based exoenzyme signatures and physiological traits to link prokaryotic diversity with ecosystem function. By working closely with the McMurdo LTER this project will form a very diverse group representing fields that have not often worked together in the past (glaciologists, geochemists, hydrologists, meteorologists, microbial ecologists, molecular biologists, traditional microbiologists, modelers). Given the sensitive and relatively simple systems in the Dry Valleys, this integrated approach will point the way towards a broader integration of the biogeosciences.

#### Deploying Team Members:

Michael T Madigan · Joel G Moore · Vladimir Samarkin · William M Sattley



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## Science Project Details: 2005-2006

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### The Role Of Resource Legacy On Contemporary Linkages Between Biodiversity And Ecosystem Processes In A Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program

---



Helicopter putting in the field team at Lake Vida when the temperature was -48 C.

**Dr. John C Priscu** (Principal Investigator)

[jpriscu@montana.edu](mailto:jpriscu@montana.edu)

<http://www.homepage.montana.edu/~lkbonney/> ,

<http://huey.colorado.edu/LTER/>

---

#### Montana State University Bozeman

Land Resources and Environmental Sciences  
Bozeman, Montana

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Continued measurements of biological, chemical, and physical limnological properties of dry valley lakes and lake ice, with special emphasis on LTER core research areas.

#### Deploying Team Members:

Ed Adams · Nickolas Andrew · Amy Chiuchiolo · Rachael Kiss · John C Priscu · Marie Sabacka

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## Science Project Details: 2005-2006

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### Palmer Long-Term Ecological Research Project: Climate Migration, Ecological Response And Teleconnections In An Ice-Dominated Environment (Prey Component)

---



Prey component of the Palmer Station LTER.

**Dr. Langdon B Quetin** (Principal Investigator)

[langdon@icess.ucsb.edu](mailto:langdon@icess.ucsb.edu)

<http://pal.lternet.edu>

---

#### University of California Santa Barbara

Marine Science Institute

Santa Barbara, California

**Supporting Stations:** ARSV Laurence M. Gould, Palmer Station

**Research Locations:** Western Antarctic Peninsula, Palmer Station and local area

#### Project Description:

Continued studies to characterize the distribution and abundance of the zooplankton and micronekton community in the LTER summer study region. Measure and categorize random samples of Antarctic krill and salps to document demographic parameters. Determine secondary production of antarctic krill by conducting growth and spawning and egg production experiments with live animals. Document feeding activity on the phytoplankton community by both antarctic krill and samples at selected stations and at all three process stations. At Palmer Station the research focuses on the effects of physical processes, particularly interannual differences in the extent of pack ice, on macrozooplankton.

#### Deploying Team Members:

Langdon Quetin · Robin Ross · David Huang · Joshua Sprague · Kelly Moore · Todd Lemein · Meghan Powers · Kathleen Sabo · Kimberly Lum



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## Science Project Details: 2005-2006

### Detection Of Crystal Orientation Fabrics Near The Ross/Amundsen Sea Ice-Flow Divide And At The Siple Dome Ice Core Site Using Polarimetric Radar Methods



Photo not available.

**Dr. Charles F Raymond** (Principal Investigator)

[charlie@geophys.washington.edu](mailto:charlie@geophys.washington.edu)

<http://www.ess.washington.edu/Surface/Glaciology/PROJECTS/WAISpolarimetry/>

#### University of Washington

Geophysics Program

Seattle, Washington

**Supporting Stations:** McMurdo Station

**Research Locations:** WAIS Divide

#### Project Description:

Researchers will use an ice-penetrating radar that detects spatial variations of ice crystal alignments over a wide area near the West Antarctica inland divide that separates ice flow towards Ross and Amundsen Seas. This area is of particular interest because the US Antarctic Program will drill an ice core there and past ice flow history in this region is poorly known. Researchers use the fact that ice crystal alignments are caused by strain and thereby provide information about history of ice flow. Crystal alignments are detected using polarimetric radar methods.

#### Deploying Team Members:

Peter Braddock · Joseph Andrew MacGregor · Kenichi Matsuoka

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## Science Project Details: 2005-2006

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### Interactions Between Cobalt, Cadmium, And Zinc Biogeochemistry And Phytoplankton Dynamics In The Ross Sea

---



Photo not available.

**Dr. Mak A Saito** (Principal Investigator)

[msaito@whoi.edu](mailto:msaito@whoi.edu)

<http://www.whoi.edu/people/msaito>

---

#### Woods Hole Oceanographic Institution

Marine Chemistry and Geochemistry

Woods Hole, Massachusetts

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

The aim of this project is to collect and analyze seawater samples for trace metal analysis (Co, Cd, Zn, etc.). Cobalt and cadmium speciation will be analyzed using cathodic and anodic stripping voltammetry. Collect phytoplankton biomass for ferric reductase analysis. The effort is part of the collaborative CORSACS (Controls on Ross Sea Algal Community Structure) project.

#### Deploying Team Members:

Abigail Noble · Mak A Saito

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## Science Project Details: 2005-2006

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### Remote Atmospheric Measurements Program (RAMP) Of The University Of Miami/ U.S. Department Fo Energy's Environmental Measurements Lab

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Remote atmospheric measurements program (RAMP) of the University of Miami/ U.S. Department fo Energy's Environmental Measurements Lab

**Dr. Colin Sanderson** (Principal Investigator)

[colin.sanderson@eml.doe.gov](mailto:colin.sanderson@eml.doe.gov)

<http://www.eml.doe.gov>

---

#### U.S. Department of Energy

Environmental Measurements Lab

New York, New York

**Supporting Stations:** Palmer Station

**Research Locations:** On station at Palmer and South Pole

#### Project Description:

The remote atmospheric monitoring program monitors natural and anthropogenic radionuclides in surface air. At South Pole Station, NOAA staff maintain the equipment and collect samples. At Palmer Station the science tech maintains the equipment, collects samples, and sends data to the PI. The Palmer program will be closing down in March 2006 and equipment retrograded to DOE.

#### Deploying Team Members:

No deploying participants

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## Science Project Details: 2005-2006

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### Investigating Iceberg Evolution During Drift And Break-Up: A Proxy For Climate-Related Changes To Antarctic Ice Shelves

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A tabular iceberg typical of those in Antarctica. Photo courtesy of Ted Scambos.

**Dr. Theodore Scambos** (Principal Investigator)

[teds@icehouse.colorado.edu](mailto:teds@icehouse.colorado.edu)

<http://www.nsidc.org/icetrek>

---

#### University of Colorado Boulder

National Snow & Ice Data Center  
Boulder, Colorado

**Supporting Stations:** Special Project

**Research Locations:** Weddell Sea

#### Project Description:

In contrast to icebergs elsewhere in Antarctica, icebergs in the northwestern Weddell Sea drift northward along a relatively predictable path, and reach climate and ocean conditions that lead to break-up within a few years. During northward drift, rapid changes occur in surface temperature, surface melt, firn density, and basal melt rate. As surface melting increases, firn densification can lead to surface melt ponding which induces rapid fracturing. The end stages of iceberg break-up can imitate the rapid disintegrations observed for the Larsen A and B Ice Shelves. Researchers will place automated observing instruments upon one of two large icebergs currently off the east coast of the Antarctic Peninsula. Logistical support will be provided by the Instituto Antártico Argentino, and field work will be conducted by a joint U.S.-Argentina team. The instrumentation will include AWS, a digital camera, a firn thermistor string, GPS, a tiltmeter, and an ice thickness radio-echo-sounder.

#### Deploying Team Members:

Robert Bauer · Ronald Ross · Ted Scambos · Jonathan Thom



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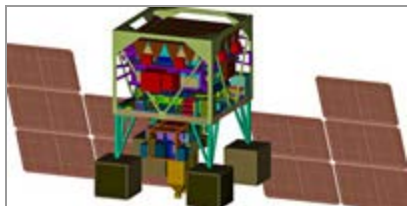
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## Science Project Details: 2005-2006

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### Cosmic Ray Energetics And Mass (CREAM)

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Schematic of CREAM flight configuration. Photo courtesy of NASA.

**Program Manager:**  
Dr. Vladimir Papitashvili

**Event Number:** A-137-M  
NSF/NASA MOU

**ASC POC/Implementer:**  
Patricia Jackson

**Dr. Eun-Suk Seo** (Principal Investigator)  
[seo@umd.edu](mailto:seo@umd.edu)  
<http://cosmicray.umd.edu/cream/cream.html>

---

#### University of Maryland

Institute for Physical Science and Technology  
College Park, Maryland

**Supporting Stations:** McMurdo Station

**Research Locations:** Williams Field

#### Project Description:

The CREAM instrument is configured with state-of-the-art particle detectors to measure cosmic ray composition from protons to iron nuclei over the energy range  $1-10^3$  TeV in a series of balloon flights. The goal is to observe cosmic ray spectral features and/or abundance changes that might signify a limit to supernova acceleration. Particle charge ( $Z$ ) measurements will be made with a timing-based detector and a pixelated silicon matrix to minimize the effect of backscatter from the calorimeter. Particle energy measurements will be made with a transition radiation detector for  $Z > 3$  and a sampling tungsten/scintillator calorimeter for  $Z > 1$ . The instrument has been tested and calibrated with a series of beam tests at CERN. The science instrument will be integrated with a flight command data module (CDM) support system developed for by the NASA Wallops Flight Facility.

#### Deploying Team Members:

Michael Duvernois · Opher Ganel · Moo Hyun Lee · Elizabeth Lusczek · Paolo Maestro · Alexandre Malinine · Samuel Adam Isaac Mognet · Scott Nutter · Na Hee Park · Eun-Suk Seo · Jong Mann Yang · Young Soo Yoon · Kim Jung Young · Shun-yong (Sonny) Zinn

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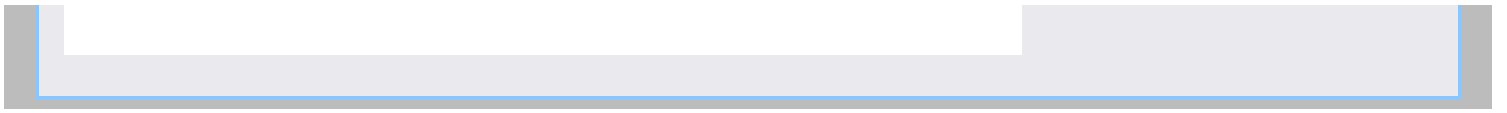


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## Science Project Details: 2005-2006

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### Gneiss Dome Architecture

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Photo not available.

**Program Manager:**

Dr. Thomas Wagner

**Event Number:** G-088-M

NSF/OPP Award 03-38279

**ASC POC/Implementer:**

Rob Edwards

**Dr. Christine S Siddoway** (Principal Investigator)

[csiddoway@coloradocollege.edu](mailto:csiddoway@coloradocollege.edu)

<http://www.stamp-antarctica.org>

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**Colorado College**

Department of Geology

Colorado Springs, Colorado

**Supporting Stations:** McMurdo Station

**Research Locations:** Fosdick Mountains

**Project Description:**

Researchers will conduct remote field work in the Fosdick Mountains for geological investigation of the three dimensional architecture of a magnificent gneiss dome using traditional geological field practices as well as GPS, digital and stereoscopic mapping tools. The Fosdick Mountains are located in the northern Ford Ranges on the east margin of the Ross Sea, just about due east of McMurdo Station. Careful documentation of spatial relationships and textural relationships will be accompanied by sampling for petrology, geochronology, and isotope analysis. These geological field studies focus on the behavior of partially molten rock, particularly the processes of and causes for flow in the Earth's middle crust.

**Deploying Team Members:**

Jennifer Crandall Haywood · Seth Kruckenberg · Rory McFadden · Allen O'Bannon · Michael J Roberts · Christine S Siddoway · Christian Teyssier

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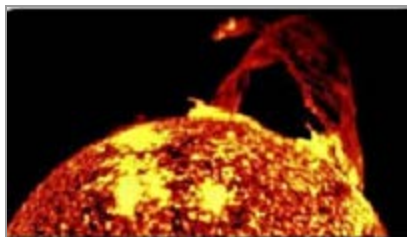
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## Science Project Details: 2005-2006

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### The Antarctic Investigations Of Upper Atmospheric Disturbances Over The South Pole Station

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Effects of enhanced solar disturbances during the 2000-2002 solar-max period on the antarctic Mesosphere-Lower-Thermosphere (MLT) and F regions composition, thermodynamics and dynamics

**Dr. Gulamabas G Sivjee** (Principal Investigator)

[sivjee@sprl.db.erau.edu](mailto:sivjee@sprl.db.erau.edu)

<http://www.sprl.db.erau.edu/>

---

#### Embry Riddle Aeronautical University

Space Physics Research Laboratory  
Daytona Beach, Florida

**Supporting Stations:** South Pole Station

**Research Locations:** ARO (Atmospheric Research Observatory)

#### Project Description:

Investigations of the solar-terrestrial interactions involving atomic, molecular, and plasma processes in the upper atmosphere over the South Pole Station in Antarctica. Effects of Solar disturbances on the composition, dynamics and thermodynamics of Antarctic thermosphere, mesosphere and stratosphere region. The core scientific questions that will be addressed are: 1) Source(s) and propagation of Antarctic F-region patches 2) Variations in the Antarctic E-region O/N<sub>2</sub> ratio 3) Antarctic middle atmosphere disturbances generated by Stratospheric Warming Events (SWE) 4) Antarctic thermospheric response to Solar Magnetic Cloud/Coronal Mass Ejection (SMC/CME) events 5) Effects of Joule heating on the thermodynamics of the Antarctic F-region.

#### Deploying Team Members:

S. Irfan Azeem · Donald McEwen · Drew L. Turner



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## Science Project Details: 2005-2006

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### Palmer Long-Term Ecological Research Project: Climate Migration, Ecological Response And Teleconnections In An Ice-Dominated Environment (Bio-Optical Component)

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Photo not available.

**Dr. Raymond C Smith** (Principal Investigator)

[ray@icess.ucsb.edu](mailto:ray@icess.ucsb.edu)

<http://pal.lternet.edu>

---

#### University of California Santa Barbara

Institute for Computational Earth System Science (ICESS)

Santa Barbara, California

**Supporting Stations:** ARSV Laurence M. Gould, Palmer Station

**Research Locations:** Western Antarctic Peninsula, Palmer Station and local area

#### Project Description:

Continued studies of marine optics within the LTER sampling grid. Working with Maria Vernet, B-016, deploy a Biospherical Instruments Profiling Reflectance Radiometer and Sea-Bird CTD at inshore stations in the vicinity of Palmer Station and off the back deck at every primary station along the grid sampled by the ARSV Laurence M. Gould.

#### Deploying Team Members:

Thomas Austen · Julie Schram

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## Science Project Details: 2005-2006

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### Interannual Variability In The Antarctic - Ross Sea (IVARS): Nutrients And Seasonal Production

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Photo not available.

**Dr. Walker O Smith** (Principal Investigator)

[wos@vims.edu](mailto:wos@vims.edu)

<http://www.vims.edu/bio/ivars/>

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#### Virginia Institute of Marine Sciences

Biological Sciences Department

Gloucester Pt., Virginia

**Supporting Stations:** RV/IB Nathaniel B. Palmer, USCG Polar Star

**Research Locations:** Ross Sea

#### Project Description:

IVARS is designed to assess the changes among years in nutrient concentrations in the surface layer, which are a proxy for net community production. It has two phases: a mooring deployment/recovery phase, and the water column phase. Both will provide insights into the controlling mechanisms of primary production in the Ross Sea, as well as the influence of surface layer assemblage composition on vertical flux and export.

#### Deploying Team Members:

Walker O Smith · Vernon L Asper · Howard Ballenger · Jennifer Dreyer · Colleen R Finnegan · Scott M Polk · Sasha Tozzi · Andrea M Neu · Mark Rawlinson

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## Science Project Details: 2005-2006

### Interaction Of Iron, Light And CO2 On Phytoplankton Community Dynamics In The Ross Sea



Photo not available

**Dr. Walker O Smith** (Principal Investigator)

[wos@vims.edu](mailto:wos@vims.edu)

[http://www.vims.edu/bio/faculty/smith\\_wo.html](http://www.vims.edu/bio/faculty/smith_wo.html)

#### Virginia Institute of Marine Science

Biological Sciences Department

Gloucester Point, Virginia

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

The Ross Sea is a region of intense biological productivity where phytoplankton biomass is dominated by two main taxonomic groups; diatoms and Phaeocystis. It is well known that these two phytoplankton groups have different impacts on biogeochemical cycles in the Ross Sea, but the factors which control their relative abundance. CORSACS (Controls on Ross Sea Algal Community Structure) will investigate the interactive effects of iron, carbon dioxide and light levels in the Ross Sea on phytoplankton community structure and biogeochemical cycling of various elements, especially, carbon, sulfur, iron and cobalt. The expedition will involve both transect work and onboard experimental work. The project is a collaborative effort between Dr. Giacomo DiTullio (University of South Carolina), Dr. Walker Smith (VIMS), Dr. Robert Dunbar (Stanford University), Dr. Pete Sedwick (Bermuda Station for Biological Research), Dr. David Hutchins (University of Delaware), and Dr. Philippe Tortell (University of British Columbia).

#### Deploying Team Members:

Walker O Smith · Jennifer Dreyer · Jill Peloquin · Carol Pollard · Sasha Tozzi



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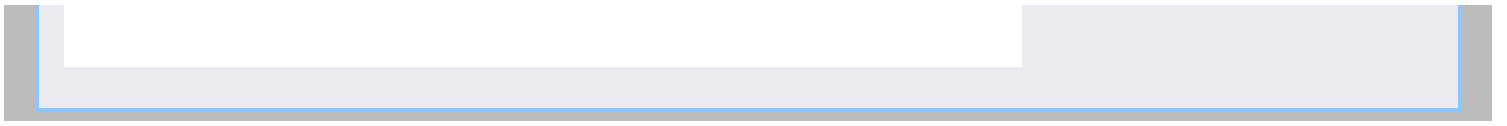
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## Science Project Details: 2005-2006

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### Gases In Firn Air And Shallow Ice At The Proposed WAIS Divide Drilling Site

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A fun-loving I-177 field team. Photo courtesy of Todd Sowers.

**Dr. Todd Sowers** (Principal Investigator)

[sowers@geosc.psu.edu](mailto:sowers@geosc.psu.edu)

<http://www.geosc.psu.edu/~sowers/index.html>

---

#### Pennsylvania State University

Environment Institute / Department of Geosciences  
University Park, Pennsylvania

**Supporting Stations:** McMurdo Station

**Research Locations:** WAIS Divide Core Site

#### Project Description:

Researchers will drill two shallow holes (300m and 85m) approximately 1 kilometer upwind from the main WAIS coring site. Sample the firn air in each hole to provide the means of connecting the atmospheric compositional changes with those recorded in the bubbles. Continue to drill one of the holes to 300m to provide a record of atmospheric compositional changes extending back about 1,000 years. This record will provide important historical information on the anthropogenic perturbation.

#### Deploying Team Members:

Lou Albershardt · Murat Aydin · Mark Battle · Beth Bergeron · Mark Dreier · Terrance L Gacke · Jay D Kyne · Todd Sowers

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## Science Project Details: 2005-2006

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### The Drake Passage High Density XBT/XCTD Program

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Photo not available.

**Dr. Janet Sprintall** (Principal Investigator)

[jsprintall@ucsd.edu](mailto:jsprintall@ucsd.edu)

<http://www-hrx.ucsd.edu>

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#### Scripps Institution of Oceanography

Physical Oceanography Research Division

La Jolla, California

**Supporting Stations:** ARSV Laurence M. Gould

**Research Locations:** Ongoing science of opportunity

#### Project Description:

To measure the seasonal to interannual variability of upper ocean temperature and geostrophic transport through Drake Passage. Closely spaced XBT (temperature) and XCTD (salinity) measurements are collected underway on six to eight ARSV Laurence M. Gould crossings per year. The project has been ongoing since 1996. With the multi-year time series they have observed substantial variability in circulation, transport and water properties on time scales from seasonal to interannual, and spatial scales from mesoscale eddies to the Antarctic Circumpolar Current cores.

#### Deploying Team Members:

Glenn Pezzoli

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## Science Project Details: 2005-2006

### Wide-Field Imaging Spectroscopy In The Submillimeter: Deploying SPIFI On AST/RO



Photo not available.

**Dr. Gordon J Stacey** (Principal Investigator)

[stacey@astrosun.tn.cornell.edu](mailto:stacey@astrosun.tn.cornell.edu)

<http://astro.cornell.edu/~spifiweb/spifi/>

#### Cornell University

Astronomy

Ithaca, New York

**Supporting Stations:** South Pole Station

**Research Locations:** AST/RO (Antarctic Submillimeter Telescope and Remote Observatory)

#### Project Description:

Finish observing with the South Pole Imaging Fabry-Perot Interferometer (SPIFI) on the AST/RO telescope. SPIFI will provide the first wide-field images of the Galactic Center and nearby galaxies (e.g. the LMC, SMC, and M83) in the mid, and high-J rotational lines of CO, and the fine structure lines of [CI] and [NII] observable through the submillimeter (200 and 350  $\mu\text{m}$ ) and far-IR windows at the South Pole. These spectral lines characterize the physical conditions, and provide much of the cooling for the interstellar clouds within the Galactic Center "central molecular zone", and within external star forming galaxies. November observations will complete the SPIFI-AST/RO program that we are pursuing during the 2005 austral winter. Upon completion of the program researchers will begin removing SPIFI from AST/RO in preparation for shipping it back to Cornell for upgrading to TES bolometer arrays.

#### Deploying Team Members:

Thomas Nikola · Thomas E Oberst · Gordon J Stacey



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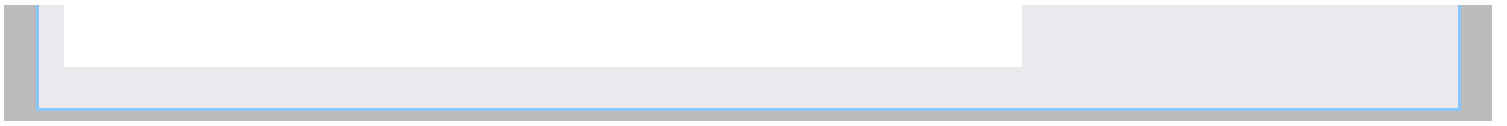
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## Science Project Details: 2005-2006

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### Continued Operation Of The Antarctic Submillimeter Telescope And Remote Observatory (AST/RO)

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Antarctic Submillimeter Telescope and Remote Observatory (AST/RO).

**Dr. Antony A Stark** (Principal Investigator)

[aas@cfa.harvard.edu](mailto:aas@cfa.harvard.edu)

<http://cfa-www.harvard.edu/ASTRO>

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#### Smithsonian Institution

Smithsonian Astrophysical Observatory  
Cambridge, Massachusetts

**Supporting Stations:** South Pole Station

**Research Locations:** AST/RO (Antarctic Submillimeter Telescope and Remote Observatory)

#### Project Description:

AST/RO is a 1.7 m diameter submillimeter-wave telescope for astronomy and aeronomy studies at wavelengths between 200 and 2000 microns. It is located in the Dark Sector at South Pole Station. The telescope has operated continuously throughout the Austral winter for the last decade and is in its final year of operations in 2005. The telescope has been used primarily for spectroscopic studies of neutral atomic carbon and carbon monoxide in the interstellar medium of the Milky Way and Magellanic Clouds. Observations at Terahertz frequencies are being made with the TREND receiver, a 1.4 THz hot electron bolometer detector system, and with SPIFI, the South Pole Imaging Fabry-Perot Interferometer. The telescope conducts large-scale survey observations of the Galactic Center, the fourth quadrant of the Galaxy, and the Magellanic Clouds.

#### Deploying Team Members:

Jacob Kooi · Craig Kulesa · Christopher L Martin · John Nicholson · Robert J Pernic · Antony A Stark · Ellen Garber Stark · Nicholas F. H. Tothill · Christopher K Walker · John Wielgus · Gregory Wright · Ric Zannoni



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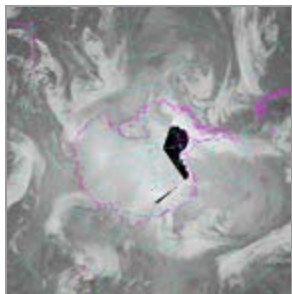


## Science Project Details: 2005-2006

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### Antarctic Meteorological Research Center (AMRC)

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Infrared composite image from several satellites including GOES, Meteosat, NOAA and DMSP. The image is black where no satellite coverage was available when the composite was made. Photo courtesy of the Antarctic Meteorological Research Center, Space Science and Engineering Center, University of Wisconsin-Madison. Image courtesy of Matthew Lazzara.

**Dr. Charles R Stearns** (Principal Investigator)

[chucks@ssec.wisc.edu](mailto:chucks@ssec.wisc.edu)

<http://amrc.ssec.wisc.edu>

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#### University of Wisconsin Madison

Space Science and Engineering Center/AMRC  
Madison, Wisconsin

**Supporting Stations:** McMurdo Station, Palmer Station, South Pole Station

**Research Locations:** On station, Crary Lab

#### Project Description:

The Antarctic Meteorological Research Center (AMRC) mission is: Research in observational meteorology and the stewardship of meteorological data along with the ability to provide such data and expert assistance to the Antarctic community in support of research, education and operations. AMRC creates, collects and provides a variety of Antarctic and Southern Hemisphere meteorological data (some of which are unique). At McMurdo Station, researchers meet with users and sources of this data (Grantees, ATS, SPAWAR, Mac Weather, RPSC, etc.) as well as to continue to evolve weather processing software. At Palmer and South Pole stations, continue to



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collect meteorological and climatological data for archival, distribution, research and education. A system is being used to better capture Automatic Weather Station data, and acquire key satellite imagery for inclusion in AMRC's Antarctic composite imagery.

**Deploying Team Members:**

Shelley L Knuth · Jessica Ann Staude

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## Science Project Details: 2005-2006

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### Antarctic Automatic Weather Station Program (AWS)

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Two US Coast Guard technicians approach the Sutton AWS at 67.08 degrees South 141.37 degrees East at an elevation of 871 meters near the Adelie Coast of East Antarctica. Photo courtesy of AWS Project/Gerd Wendler/Steve Blake/USCG.

**Dr. Charles R Stearns** (Principal Investigator)

[chucks@ssec.wisc.edu](mailto:chucks@ssec.wisc.edu)

<http://amrc.ssec.wisc.edu/aws>

---

#### University of Wisconsin Madison

Space Science and Engineering Center/AMRC  
Madison, Wisconsin

**Supporting Stations:** McMurdo Station, Palmer Station, South Pole Station

**Research Locations:** AWS locations throughout the continent

#### Project Description:

A network of automatic weather stations (AWS) has been established on the antarctic continent and several surrounding islands. These facilities measure surface wind, pressure, temperature, and humidity. Some of them also track other atmospheric variables, such as snow accumulation and incident solar radiation. The data are transmitted via satellite to a number of ground stations and put to several uses, including operational weather forecasting, accumulation of climatological records, general research purposes, and specific support of the U.S. Antarctic Program, especially the LTER (Long Term Ecological Research) program at McMurdo and Palmer stations. The AWS network has grown from a small-scale program in 1980 into a significant data retrieval system that is now extremely reliable, and has proven indispensable for both forecasting and research purposes.

#### Deploying Team Members:

Shelley L Knuth · Jonathan E Thom · George A Weidner



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## Science Project Details: 2005-2006

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### Antarctica: The Frozen Desert

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The photographer after landing his ultralight on the edge of the Gobi Desert during a photo expedition in China. Photo courtesy of George Steinmetz.

**Mr. George Steinmetz** (Principal Investigator)

[george@georgesteinmetz.com](mailto:george@georgesteinmetz.com)

<http://GeorgeSteinmetz.com>

---

Glen Ridge, New Jersey

**Supporting Stations:** McMurdo Station

**Research Locations:** Dry Valleys, McMurdo region

#### Project Description:

Most people have no idea that Antarctica is a desert. By photographing the most unusual aspects of its dry landscape, Mr. Steinmetz hopes to bring a new visual perspective of the arid beauty of Antarctica, and the significance of its changing climate, to the general public. In particular, the great variety of arid features in the Dry Valleys and some unique sites on Ross Island would illustrate Antarctica's similarity to other great deserts. At least half the trip will include working with scientists to illustrate their work and take advantage of their expertise in understanding desert processes. Mr. Steinmetz has spent the past seven years of his career photographing hyper arid deserts for National Geographic Magazine and GEO Magazine. Mr. Steinmetz's work in Antarctica will be published next year by GEO Magazine in Germany and France, Smithsonian Magazine, and the WashingtonPost.com.

#### Deploying Team Members:

George Steinmetz · Lars Abromeit

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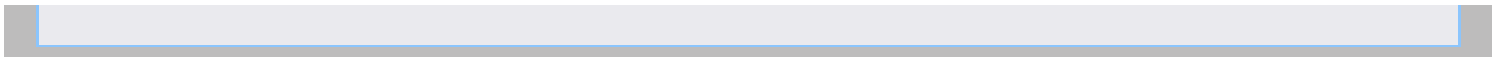
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## Science Project Details: 2005-2006

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### Collection Of Marine Geophysical Data On Transits Of The Nathaniel B. Palmer

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Photo not available.

**Dr. Joann M Stock** (Principal Investigator)

[jstock@gps.caltech.edu](mailto:jstock@gps.caltech.edu)

<http://www.gps.caltech.edu/~jstock/Palmerres.html>

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#### California Institute of Technology

Geological and Planetary Sciences

Pasadena, California

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Science of opportunity on transits between NZ and Chile

#### Project Description:

Well-constrained plate reconstructions of the circum-antarctic region are critical for examining a number of problems of global geophysical importance. This project seeks to improve reconstructions of the Antarctic and surrounding plates by surveying gravity, magnetics, and swath bathymetry on Nathaniel B. Palmer transit cruises covering areas where data are lacking. On transit cruise NBP05-07 the team will survey major tectonic features of the Antarctic and Pacific plates between Chile and New Zealand. In particular they will collect more data on a flow line near the Menard Fracture Zone and survey Cenozoic magnetic anomalies formed by Pacific-Antarctic spreading. On transit cruise NBP06-02 scientists will take advantage of the planned track from McMurdo Station to Punta Arenas to survey fracture zones, the fossil spreading system in the Adare Basin, and Cenozoic magnetic anomalies formed by the spreading of the Australia plate away from West Antarctica.

#### Deploying Team Members:

Steven Cande · Marcel Croon · Marguerite Gerstell · Roland James · Julie Parra · Lydia Roach · Manuel de Jesus Aragon-Arreola · Kylara Martin · Elisabeth Nadin · Krista Soderlund



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## Science Project Details: 2005-2006

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### Long Duration Balloon Program (LDB)

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Long Duration Balloon (LDB) facility under construction. Photo by Diamond Western.

**Mr. David W Sullivan** (Principal Investigator)

[David.Sullivan@nsbf.nasa.gov](mailto:David.Sullivan@nsbf.nasa.gov)

<http://www.nsbf.nasa.gov>

---

### National Scientific Balloon Facility (NSBF)

Palestine, Texas

**Supporting Stations:** McMurdo Station

**Research Locations:** Williams Field

### Project Description:

The National Scientific Balloon Facility will be returning to the Antarctic to launch two stratospheric balloons. The balloons have a volume of 40 million cubic feet and will ascend at a rate of approximately 900 feet per minute to a float altitude of 125kft. Both the launches will take place at the LDB site near Williams Field, reach float altitude, circumnavigate the continent between 70 degrees south latitude and 80 degrees south latitude. The launch window is between 10-December and 10-January. Balloons are terminated and recovered on the Ross Ice Shelf or on the Polar Plateau. For termination an aircraft flies within line-of-sight of the balloon and a radio command is sent to the payload. At the point of release the payload descends with a parachute to a predicted impact site. Using air or ground support depending on the location, the payload instruments are recovered and returned to the home institutions to be refurbished and float another day.

### Deploying Team Members:

Paul Brasfield · Frank Candelaria · Robbert Crabill · Andrew Denney · Derek Dolbey · Curtis Frazier · Gerald Gregg · Scott C Hadley · Jim Humphrey · Bobby Meazell · Dwayne Orr · Robert Redinger · David W Sullivan · Louis Salas · Thomas Thomas · Mark Wefel · Robin Whiteside · Nathan Wise



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## Science Project Details: 2005-2006

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### Processes Driving Spatial And Temporal Variability Of Surface PCO2 In The Drake Passage

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Photo not available.

**Dr. Taro Takahashi** (Principal Investigator)

[taka@ldeo.columbia.edu](mailto:taka@ldeo.columbia.edu)

<http://www.ldeo.columbia.edu/res/pi/CO2>

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#### Columbia University

Lamont-Doherty Earth Observatory  
Palisades, New York

**Supporting Stations:** ARSV LMG, RV/IB NBP

**Research Locations:** Ongoing science of opportunity

#### Project Description:

To broaden and extend the existing time series of the hydrography of the Drake Passage from surface to bottom. This expansion will include the addition of an oxygen probe to the underway pCO<sub>2</sub> system and will include adding discrete surface nutrient and C-13 measurements to the 8-10 XBT tracks. Two short cruises (4-5 days in length) will be dedicated to making carbon, nutrient, oxygen and C-13 measurements throughout the water column in the Drake passage.

#### Deploying Team Members:

Colm Sweeney · Michael R Hiscock · Timothy Newberger

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## Science Project Details: 2005-2006

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### Environmental And Ecological Regulation Of Differences And Interactions Between Solitary And Colonial Forms Of *Phaeocystis Antarctica*

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*Phaeocystis antarctica* solitary cell  
(Unpubl. photo by A. Shields)

**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-230-M

NSF/OPP Award 04-40478

**ASC POC/Implementer:**

Michael McClanahan

*Phaeocystis antarctica* solitary cell.

Photo by Amy Shields.

**Dr. Kam Wing Tang** (Principal Investigator)

[kamtang@vims.edu](mailto:kamtang@vims.edu)

<http://www.vims.edu/phae/>

---

#### Virginia Institute of Marine Sciences

Gloucester Point, Virginia

**Supporting Stations:** McMurdo Station

**Research Locations:** On station

#### Project Description:

Researchers will conduct experiments with natural *Phaeocystis antarctica* (Prymnesiophyceae) assemblages and co-occurring grazers. Laboratory experiments will be conducted to study size-specific growth and photosynthetic rates of *P. antarctica*, size-specific grazing mortality due to microzooplankton and mesozooplankton, the effects of macronutrients and micronutrients on the relative dominance of solitary cells and colonies, and the effects of grazing-related chemical signals on *P. antarctica* colony development.

#### Deploying Team Members:

Amy R Shields · Kam Wing Tang · Adriana Judith Veloza · Emily M Yam

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## Science Project Details: 2005-2006

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### Wallops Flight Facility Component Of The CREAM Balloon Payload

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The CREAM payload at Williams Field in 2004-05. Photo courtesy of Linda Thompson, NASA.

**Ms. Linda D Thompson** (Principal Investigator)

[Linda.D.Thompson@nasa.gov](mailto:Linda.D.Thompson@nasa.gov)

<http://www.wff.nasa.gov/BPO/cdm2/> ,

<http://cosmicray.umd.edu/cream/cream.html>

---

#### NASA

Wallops Flight Facility

Wallops Island, Virginia

**Supporting Stations:** McMurdo Station

**Research Locations:** Williams Field

#### Project Description:

NASA/Wallops Flight Facility developed the command data module (CDM) and its external systems in support of science instruments. These support systems provide the instrument with power, telecommunications, command and data handling, mechanical structures, thermal management, and attitude control. The power system provides 800 watts of 28VDC + 4 V unregulated and 5 and 12 volt regulated power to support systems and science. Communication interface between the science instrument and the CDM is via Ethernet using the Universal Datagram Protocol (UDP). The ballooncraft is instrumented to provide relay switch status, current, voltage, and temperature for telemetry health and status. TDRSS is the prime over the horizon (OTH) communications system with a 100 Kb/s down-link capability. All data and system monitoring is downlinked plus stored on board hard drives. Attitude control points solar panels toward sun with a +/-2° typical capability.

#### Deploying Team Members:

Brian Scott Abresch · Abel Constant IV Duer · Hayden Herbert Gordon ·



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## Science Project Details: 2005-2006

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### Interaction Of Iron, Light And CO2 On Phytoplankton Community Dynamics In The Ross Sea

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**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-282-N

NSF/OPP Award 03-38097

**ASC POC/Implementer:**

Stephanie Suhr Sliester

**Dr. Philippe Tortell** (Principal Investigator)

[ptortell@eos.ubc.ca](mailto:ptortell@eos.ubc.ca)

<http://www.eos.ubc.ca/public/people/faculty/P.Tortell.html>

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**University of British Columbia**

Earth and Ocean Sciences

Vancouver, British Columbia

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

**Project Description:**

The Ross Sea is a region of intense biological productivity where phytoplankton biomass is dominated by two main taxonomic groups; diatoms and Phaeocystis. It is well known that these two phytoplankton groups have different impacts on biogeochemical cycles in the Ross Sea, but the factors which control their relative abundance. CORSACS (Controls on Ross Sea Algal Community Structure) will investigate the interactive effects of iron, carbon dioxide and light levels in the Ross Sea on phytoplankton community structure and biogeochemical cycling of various elements, especially, carbon, sulfur, iron and cobalt. The expedition will involve both transect work and onboard experimental work. The project is a collaborative effort between Dr. Giacomo DiTullio (University of South Carolina), Dr. Walker Smith (VIMS), Dr. Robert Dunbar (Stanford University), Dr. Pete Sedwick (Bermuda Station for Biological Research), Dr. David Hutchins (University of Delaware), and Dr. Philippe Tortell (University of British Columbia).

**Deploying Team Members:**

Philippe Tortell · Celine Gueguen · Christopher D Payne

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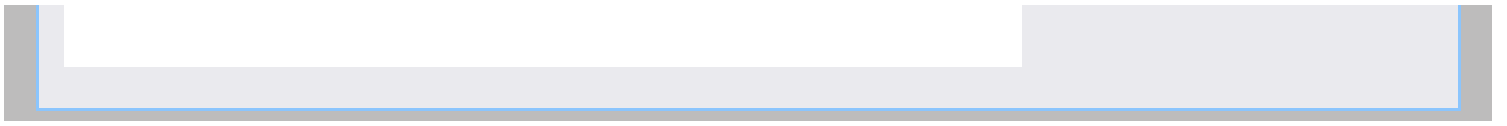
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## Science Project Details: 2005-2006

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### Palmer Long-Term Ecological Research Project: Climate Migration, Ecological Response And Teleconnections In An Ice-Dominated Environment (Phytoplankton Component)

---



The LTER Phytoplankton Ecology group takes measurements and collects water samples from a zodiac with a custom-built platform off Palmer Station. Photo by Cara Sucher.

**Dr. Maria Vernet** (Principal Investigator)

[mvernet@ucsd.edu](mailto:mvernet@ucsd.edu)

<http://pal.lternet.edu/>

---

### Scripps Institution of Oceanography

Marine Research Division

La Jolla, California

**Supporting Stations:** ARSV Laurence M. Gould, Palmer Station

**Research Locations:** Western Antarctic Peninsula, Palmer Station and local area

### Project Description:

Continued studies of marine optics and phytoplankton within the LTER sampling grid. Focus on rates of primary production and phytoplankton community structure, and their relationship to physical forcing. Collect water samples to estimate biochemical properties of phytoplankton and carry out experiments to estimate rates of primary production both at Palmer Station and on a large scale area while on the ARSV Laurence M. Gould.

### Deploying Team Members:

Karie A Sines · Boreth Eam · Tristan Wohlford · Maria Vernet · Wendy Kozlowski



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## Science Project Details: 2005-2006

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### Strateole-Vorcore

---



Photo not available.

**Dr. Francois Vial** (Principal Investigator)

[VIAL@lmd.polytechnique.fr](mailto:VIAL@lmd.polytechnique.fr)

<http://www.lmd.ens.fr/STRATEOLE/>

---

#### Laboratoire de Météorologie Dynamique

Ecole Polytechnique  
Palaiseau,

**Supporting Stations:** McMurdo Station

**Research Locations:** Sea ice

#### Project Description:

Launch a series of super-pressure, long-duration balloon launches from McMurdo Station. The primary objective is to provide an unprecedented documentation of wind and temperature horizontal fields inside the vortex core. This will permit, among other things, the study of the dynamical structure of the polar vortex and its evolution up to its final breakdown, the influence of tropospheric forcing on the stratospheric circulation at high latitudes, the role of small scale movements (gravity waves and turbulence) on the horizontal diffusion processes, the different regimes of horizontal transport around the 400K isentropic layer (below which the exchange with mid-latitudes should be relatively free), and the temperature history of air masses that is a key parameter to understand the formation of Polar Stratospheric Clouds.

#### Deploying Team Members:

Jerome Bordereau · Bernard Brioit · Alain Cardonne · Philippe Cocquerez · Rene Guilbon · Albert Hertzog · Alain Ravissot · Eric Schmitt · Jean Valdivia · Nicolas Verdier

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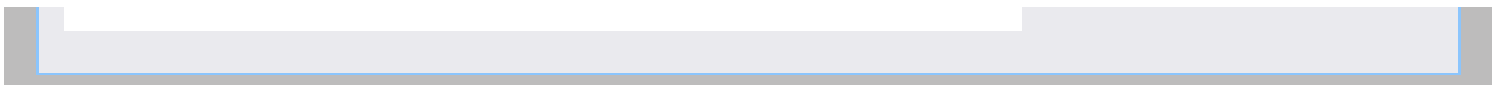
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## Science Project Details: 2005-2006

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### The Role Of Resource Legacy On Contemporary Linkages Between Biodiversity And Ecosystem Processes In A Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program

---



The Role of Natural Legacy on Ecosystem Structure and Function in a Polar Desert: The McMurdo Dry Valley Long Term Ecological Research Program

**Dr. Ross A Virginia** (Principal Investigator)

[ross.a.virginia@dartmouth.edu](mailto:ross.a.virginia@dartmouth.edu)

<http://huey.Colorado.edu/LTER/> ,

<http://www.dartmouth.edu/~jebbar/research.htm>

---

#### Dartmouth College

Environmental Studies Program

Hanover, New Hampshire

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Researchers will sample and maintain core LTER soil experiments (in cooperation with Diana Wall's research group, B-424-M) investigating response of soil biota to climate change and substrate additions. Study relationships between soil biodiversity and ecosystem function by measuring in situ CO<sub>2</sub>, N and P flux through a combination of gas flux, buried bag and resin exchange membrane techniques.

#### Deploying Team Members:

Michael Poage · Anna Fleder · Ross A Virginia · Allison Reddington



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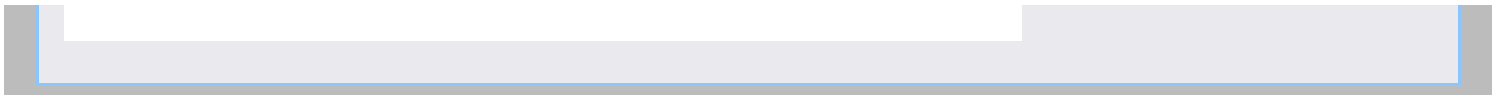
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## Science Project Details: 2005-2006

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### The Role Of Resource Legacy On Contemporary Linkages Between Biodiversity And Ecosystem Processes In A Cold Desert Ecosystem: The McMurdo Dry Valley LTER Program

---



McMurdo Dry Valleys Long Term Ecological Research (LTER): The role of natural legacy on ecosystem structure and function in a polar desert

**Dr. Diana H Wall** (Principal Investigator)

[diana@nrel.colostate.edu](mailto:diana@nrel.colostate.edu)

<http://www.nrel.colostate.edu/projects/soil/MCM/index.html>

---

#### Colorado State University

Natural Resource Ecology Laboratory  
Fort Collins, Colorado

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Researchers will maintain (through application of water and nutrients), monitor (soil moisture and temperature) and sample (soils) in our various long-term experimental plots near Lakes Fryxell, Hoare and Bonney in order to determine the impacts of natural factors and those associated with potential climate change on the abundance, distribution and diversity of soil biota. These continuing studies will monitor and assess soil biota and soil chemical properties.

#### Deploying Team Members:

Byron J Adams · Edward Ayres · Adler Dillman · Johnson Nkem · Diana H Wall



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## Science Project Details: 2005-2006

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### Examination Of Crevasses And Other Iceforms As Artistic Sources

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The artist on an iceberg in the high Arctic in 2001. Photo courtesy of Gabriel Warren

**Mr. Gabriel Penn Warren** (Principal Investigator)

[gabriel@art-farm.net](mailto:gabriel@art-farm.net)  
<http://www.art-farm.net>

---

Wood River Junction, Rhode Island

**Supporting Stations:** McMurdo Station

**Research Locations:** McMurdo region

#### Project Description:

In 1999 Gabriel Warren became the first sculptor from any country to be sent to the ice. This deployment will represent a continuation of previous investigations. Ice is the primary source in the natural world for Warren's sculpture, which is always positioned at the human-nature interface. The pivotal role of both polar regions in global climate regulation, the threats posed to them from human activity, and the stunning beauty of ice forms amply qualify them for a demanding metaphorical role in art. A main focus of this deployment is crevasses. He will fly to the South Pole to observe the crevasse fields and chaos zones in and around the Transantarctics, fly over other such areas in McMurdo-launched helos at lower altitudes, and enter crevasses on Hut Point and other Ross Is sites. Photography from all events will be used as research material, and will also be used in slide talks and lectures, as well as components of exhibitions and articles.

#### Deploying Team Members:

Gabriel Penn Warren



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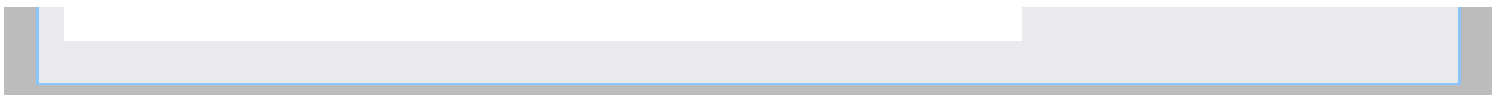


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## Science Project Details: 2005-2006

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### Studies Of The Polar Ionosphere And Magnetosphere From Measurements In Antarctica And Conjugate Regions

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The University of Maryland's Imaging Riometer antenna at Arrival Heights in McMurdo, January 1998.

**Dr. Allan T Weatherwax** (Principal Investigator)

[awetherwax@siena.edu](mailto:awetherwax@siena.edu)

<http://www.antarcticdata.net>

---

#### Siena College

Physics Department

Loudonville, New York

**Supporting Stations:** McMurdo Station, South Pole Station

**Research Locations:** Arrival Heights, Skylab

#### Project Description:

Continued studies of the polar ionosphere and magnetosphere from Antarctica and nominally conjugate regions in the Arctic. This group maintains magnetometers at South Pole and McMurdo stations, as well as imaging and broadbeam riometers and 2-wavelength zenith photometers at South Pole and McMurdo in Antarctica, and imaging riometers at Iqaluit (nominally conjugate to South Pole) and Sondrestrom in the Arctic. The project provides the data acquisition systems at South Pole and McMurdo for the common recording of other geophysical data and the provision of these data to collaborating investigators.

#### Deploying Team Members:

Daniel L Detrick · Larry Lutz · Allan T Weatherwax

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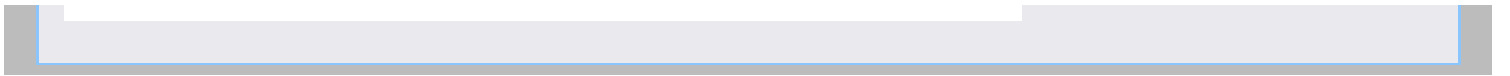
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## Science Project Details: 2005-2006

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### Polar Experiment Network For Geospace Upper-Atmosphere Investigations: PENGUIn -A New Vision For Global Studies

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AGO P1 (Automatic Geophysical Observatory site P1) in December 2003. Photo by Rick Sterling.

**Dr. Allan T Weatherwax** (Principal Investigator)

[aweatherwax@siena.edu](mailto:aweatherwax@siena.edu)

<http://www.sprl.umich.edu/SPRL/>

---

#### Siena College

Physics Department  
Loudonville, New York

**Supporting Stations:** McMurdo Station, South Pole Station

**Research Locations:** AGO2, AGO1, AGO5

#### Project Description:

The Automatic Geophysical Observatory (AGO) network is a suite of nearly identical instruments (optical and radio wave auroral imagers, magnetometers, and narrow and wide band radio receivers) at remote locations on the polar plateau. The project studies the coupling of the solar wind to ionospheric and magnetospheric processes, emphasizing polar cap dynamics, substorm phenomena, and space weather. Understanding the Sun's influence on the structure and dynamics of the Earth's upper atmosphere depends upon increasing knowledge of the electrodynamics of the polar cap region and the key role that this region plays in coupling the solar wind with the Earth's magnetosphere, ionosphere and thermosphere. These measurements are central to understanding include the electric field convection pattern across the polar cap and knowledge of the response of the atmosphere to the many forms of high-latitude wave and particle energy inputs during both geomagnetically quiet and disturbed situations.

#### Deploying Team Members:

Kenneth Lee Arnett · Tom O'Brien



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## Science Project Details: 2005-2006

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### Advanced Thin Ionization Calorimeter (ATIC)

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Advanced Thin Ionization Calorimeter (ATIC).

**Dr. John P Wefel** (Principal Investigator)

[wefel@phunds.phys.lsu.edu](mailto:wefel@phunds.phys.lsu.edu)

<http://atic.phys.lsu.edu/aticweb/>

---

#### Louisiana State University Baton Rouge

Department of Physics and Astronomy

Baton Rouge, Louisiana

**Supporting Stations:** McMurdo Station

**Research Locations:** Williams Field

#### Project Description:

The ATIC balloon experiment investigates the composition and energy spectra of Galactic cosmic rays (GCR) at the highest energies accessible from balloon platforms, the regions up to  $\sim 10^{14}$  eV. It is in this high energy region that researchers anticipate observing effects from the acceleration process, if supernovae remnants are, as widely believed, the "cosmic accelerators" for the GCR. The ATIC experiment weighs about 1,660 kilograms, consumes about 400 watts of power, and consists of three major detector systems. ATIC had its test flight from McMurdo in 2000, had its first science flight from Antarctica in 2002 and is now anticipating a second science flight.

#### Deploying Team Members:

Hoseok Ahn · Gary Case · Mark Christl · Brad Ellison · Cynthia K Ferguson · Randy Eugene Gould · Doug Granger · T. Gregory Guzik · Joachim Isbert · Evgueni Kouznetsov · Douglas Smith · Michael Stewart · John P Wefel

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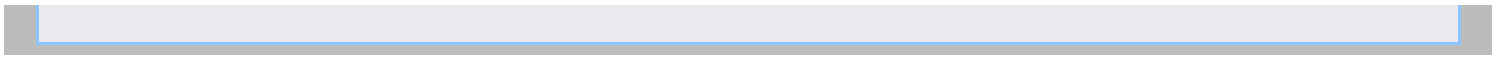
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## Science Project Details: 2005-2006

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### Transantarctic Mountains Deformation Network: GPS Measurements Of Neotectonic Motion In The Antarctic Interior

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Setting up a continuously-operating GPS station at Fishtail Point. Photo courtesy of USGS team.

**Dr. Terry J Wilson** (Principal Investigator)

[twilson@mps.ohio-state.edu](mailto:twilson@mps.ohio-state.edu)

<http://www.geology.ohio-state.edu/TAMDEF>

---

#### Ohio State University

Geological Sciences and Byrd Polar  
Columbus, Ohio

**Supporting Stations:** McMurdo Station

**Research Locations:** Transantarctic Mountains

#### Project Description:

The TAMDEF-II program will extend the GPS time series by repeat surveying of key sites in the existing TAMDEF network. The team will implement new strategies to discriminate glacio-isostatic from tectonic motions and thus increase the significance of results for modeling ice sheet behavior.

#### Deploying Team Members:

Elizabeth Demyanick · Thomas James · Stephanie Konfal · Geoff Linnell ·  
Stephane Mazzotti · Michael Starbuck · Mike J Willis · Terry J Wilson

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## Science Project Details: 2005-2006

### Extending The South American Meridional B-Field Array (SAMBA) To Auroral Latitudes In Antarctica



Photo not available.

**Dr. Eftyhia Zesta** (Principal Investigator)

[ezesta@atmos.ucla.edu](mailto:ezesta@atmos.ucla.edu)

<http://samba.atmos.ucla.edu>

#### University of California Los Angeles

Department of Atmospheric Sciences

Los Angeles, California

**Supporting Stations:** McMurdo Station, Palmer Station

**Research Locations:** On station at Palmer, WAIS Divide

#### Project Description:

The main scientific goals are the study of ULF waves and the remote sensing of mass density in the inner magnetosphere during geomagnetically active periods. The installation of a magnetometer at Palmer Station extended the SAMBA chain to mid-latitudes, geomagnetically. A magnetometer system at the West Antarctic Divide site (WAIS-D) near the old Byrd station will extend the SAMBA chain to auroral latitudes for the further study of substorms. In addition, the WAIS-D site is near conjugate (geomagnetically) to the magnetometer station at Poste de la Balaine, in Canada. The installation at WAIS-D will not only offer conjugate observations during substorms on a routine basis, but it is particularly timely with the upcoming launch of the THEMIS spacecraft mission.

#### Deploying Team Members:

Mark B Moldwin · James Weygand

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## Science Project Details: 2005-2006

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### South Pole Observations To Test Cosmological Models

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Photo not available.

**Program Manager:**  
Dr. Vladimir Papitashvili

**Event Number:** A-379-S  
NSF/OPP Award 01-30612

**ASC POC/Implementer:**  
Charles Kaminski

**Dr. John E Carlstrom** (Principal Investigator)  
[jc@hyde.uchicago.edu](mailto:jc@hyde.uchicago.edu)

---

**University of Chicago**  
Astronomy and Astrophysics  
Chicago, Illinois

**Supporting Stations:** South Pole Station

**Research Locations:** Dark Sector Lab

#### Project Description:

The University of Chicago leads a consortium of 5 institutions to design and use a 10 meter off axis telescope at the Amundson Scott South Pole Station to survey galaxy clusters and make fine angular scale measurements of the cosmic microwave background radiation. The galaxy cluster survey will allow us to study integrated cluster abundance and its red shift evolution and will give us precise cosmological constraints that are completely independent of those from supernova distance and the cosmic microwave background anisotropy measurements..

#### Deploying Team Members:

Stephen Padin

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## Science Project Details: 2005-2006

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### Measurements Addressing Quantitative Ozone Loss, Polar Stratospheric Cloud Nucleation, And Large Polar Stratospheric Particles During Austral Winter And Spring

---



Launching a stratospheric balloon. Photo courtesy of the PI.

**Dr. Terry Deshler** (Principal Investigator)  
[deshler@uwyo.edu](mailto:deshler@uwyo.edu)

---

#### University of Wyoming

Department of Atmospheric Science  
Laramie, Wyoming

**Supporting Stations:** McMurdo Station

**Research Locations:** On station, Crary Lab

#### Project Description:

Polar stratospheric clouds (PSC's) play a pivotal role in polar ozone depletion. Heterogeneous chemistry occurs on the surface of the particles in these clouds releasing active chlorine that destroys ozone. This project will continue to focus on the development of the Antarctic ozone hole and the characteristics of polar stratospheric clouds (PSCs) with measurements by two methods. The first method will involve balloonborne instruments launched from McMurdo Station between WINFLY 2005 and 1 November, 2005, extending measurements that began in 1986. Approximately 25 ozonesondes and eight aerosol counters will provide concentration profiles of ozone and aerosol from the surface to 30-35 kilometers. Up to 15 tether sondes may be flown near McMurdo during surface ozone depletion events. The second method will involve LIDAR measurements during the dark periods of WINFLY to early October and February to WINFLY, extending measurements that began in 1990.

#### Deploying Team Members:

Federico Angelini · Terry Deshler · Andrew Glen · Lars E Kalnajs · Jennifer L



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## Science Project Details: 2005-2006

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### The Operation Of An ELF/VLF Radiometer At Arrival Heights

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View from the ELF/VLF radio antenna on the "Second Crater" at Arrival Heights. Mt. Discovery provides a backdrop for the New Zealand communications satellite installation on top of the "First Crater." US (white) and New Zealand (green) huts are also visible.

**Dr. Antony C. Fraser-Smith** (Principal Investigator)  
[acfs@alpha.stanford.edu](mailto:acfs@alpha.stanford.edu)

---

#### Stanford University

STAR Laboratory  
Stanford, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Arrival Heights

#### Project Description:

The radiometers at McMurdo operate in both the extremely-low-frequency and very-low-frequency (ELF/VLF) ranges of radio waves, monitoring radio noise from natural sources such as thunderstorms. Since thunderstorms generate telltale radio signals, tracking variations in global noise reflects thunderstorm activity, which can provide information on changes in global climate. The ELF/VLF record of data collected by this project at Arrival Heights now extends unbroken for almost 20 years. This remarkably long period of data enables one to look for weak effects such as those that might be associated with global warming. This site is one of a network of 8 such radiometers operated by Stanford University for the Office of Naval Research.

#### Deploying Team Members:



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No deploying participants

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## Science Project Details: 2005-2006

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### Infrared Measurements Of Atmospheric Composition Over Antarctica

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Photo not available.

**Dr. Frank J Murcray** (Principal Investigator)

[fmurcray@du.edu](mailto:fmurcray@du.edu)

---

#### University of Denver

Department of Physics & Astronomy  
Denver, Colorado

**Supporting Stations:** McMurdo Station, South Pole Station

**Research Locations:** Arrival Heights, ARO (Atmospheric Research Observatory)

#### Project Description:

Measure amounts of several gases related to ozone hole photochemistry and climate change using the infrared emission from the atmosphere. Measure the spectral transmission of the atmosphere, which provides more detailed information about more molecules. Observe denitrification and dehydration from both sites with the emission spectrometers. The solar spectrometers will be primarily studying the breakup of the polar vortex and photochemical recovery. These data will be used for modeling studies of the future of the ozone hole.

#### Deploying Team Members:

John Kosters · John R. Olson · Renate Van Allen

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## Science Project Details: 2005-2006

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### Measurements Of The Surface Layer Turbulence At Dome C

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Photo not available.

**Dr. Tony Travouillon** (Principal Investigator)

[tonyt@caltech.edu](mailto:tonyt@caltech.edu)

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#### California Institute of Technology

Department of Astronomy  
Pasadena, California

**Supporting Stations:** Special Project

**Research Locations:** Dome C

#### Project Description:

Researchers will measure the behaviour of the ground layer turbulence at Dome C. This will be accomplished by installing a series of sonic-anemometers along a 30-meter tower already present on site. The anemometers, to be installed this summer, will measure the turbulence during two winters.

#### Deploying Team Members:

Tony Travouillon

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## Science Project Details: 2005-2006

### Development Of A Polar Remote Interactive Marine Observatory (PRIMO) Near Palmer Station On The Western Antarctic Peninsula



Photo not available.

**Dr. Vernon Asper** (Principal Investigator)  
[vernon.asper@usm.edu](mailto:vernon.asper@usm.edu)

#### University of Southern Mississippi

Department of Marine Science  
Stennis Space Center, Mississippi

**Supporting Stations:** Palmer Station

**Research Locations:** On station and local Palmer area

#### Project Description:

This project will develop a remote underwater observatory near Palmer Station to allow scientists to make internet-based virtual visits to the sub-ice ocean environment. The observatory will consist of an instrument package on the seafloor ~2-3 km from Palmer Station in 50 to 100 m of water. The package will be connected by electro-optical cable to shore providing the capability for internet-based teleoperation by scientists, educators, and students from any where in the world. The observatory will consist of a vertical profiler with CTD, Video Plankton Recorder, hydrophone, current meter, sensors for chlorophyll and CDOM fluorescence, oxygen, nitrate, a bio-optical package, and an under ice video observation surveillance system. The profiler will rise to the surface multiple times per day from a seafloor-mounted platform consisting of a winch, ADCP and a remote video camera.

#### Deploying Team Members:

Vernon Asper · Scott Gallagher · Keith van der Heydt · Emily Miller · Steve Lerner

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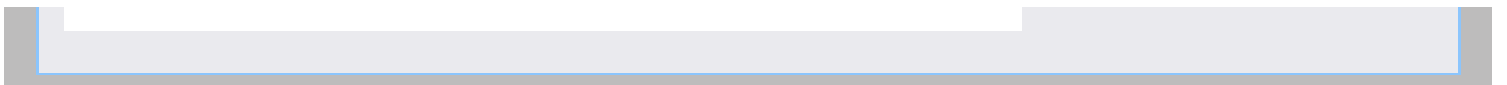


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## Science Project Details: 2005-2006

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### Response Of Terrestrial Ecosystems Along The Antarctic Peninsula To A Changing Climate

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A graduate student measures the photosynthesis of Antarctic hairgrass near Palmer Station. Photo by Thomas A. Day.

**Dr. Thomas A Day** (Principal Investigator)  
[tadday@asu.edu](mailto:tadday@asu.edu)

---

#### Arizona State University Tempe

Department of Plant Biology  
Tempe, Arizona

**Supporting Stations:** Palmer Station

**Research Locations:** Palmer Station and local islands

#### Project Description:

This project will predict long-term climate change impacts on terrestrial ecosystem productivity and carbon storage. Researchers will examine how climate change alters plant production, and nutrient pools and cycling among plants, litter and soils in vascular-plant dominated communities, as well as the influence of snowpack and snowmelt on plant survival, since winter snowpack may be increasing along the Peninsula. Early in the season, researchers will transplant plants under snowbanks along a gradient in snowpack depth and snowmelt date and monitor plant survival, carbon storage status, and photosynthesis as they melt out from the snowbank over the growing season. They will continue surveys of young populations of vascular plant at several recently deglaciated sites near Palmer Station, and examine how soil properties, microbial populations and plant nutritional status change along plant colonization successional gradients.

#### Deploying Team Members:

Thomas A Day · Christopher T Ruhland · Sarah L Strauss · Matthew Krna · Caroline Devan



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## Science Project Details: 2005-2006

### Interaction Of Iron, Light And CO2 On Phytoplankton Community Dynamics In The Ross Sea



Photo not available.

#### Program Manager:

Dr. Roberta Marinelli

**Event Number:** B-272-N

NSF/OPP Award 03-38097

#### ASC POC/Implementer:

Stephanie Suhr Sliester

**Dr. Giacomo R DiTullio** (Principal Investigator)

[ditullioj@cofc.edu](mailto:ditullioj@cofc.edu)

#### University of Charleston

Grice Marine Lab

Charleston, South Carolina

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

The Ross Sea is a region of intense biological productivity where phytoplankton biomass is dominated by two main taxonomic groups; diatoms and Phaeocystis. It is well known that these two phytoplankton groups have different impacts on biogeochemical cycles in the Ross Sea, but the factors which control their relative abundance. CORSACS (Controls on Ross Sea Algal Community Structure) will investigate the interactive effects of iron, carbon dioxide and light levels in the Ross Sea on phytoplankton community structure and biogeochemical cycling of various elements, especially, carbon, sulfur, iron and cobalt. The expedition will involve both transect work and onboard experimental work. The project is a collaborative effort between Dr. Giacomo DiTullio (University of South Carolina), Dr. Walker Smith (VIMS), Dr. Robert Dunbar (Stanford University), Dr. Pete Sedwick (Bermuda Station for Biological Research), Dr. David Hutchins (University of Delaware), and Dr. Philippe Tortell (University of British Columbia).

#### Deploying Team Members:

Giacomo R DiTullio · Peter A Lee · Aimee R Neeley · Brian Taylor · Jay Francella · Carolyn Abbott



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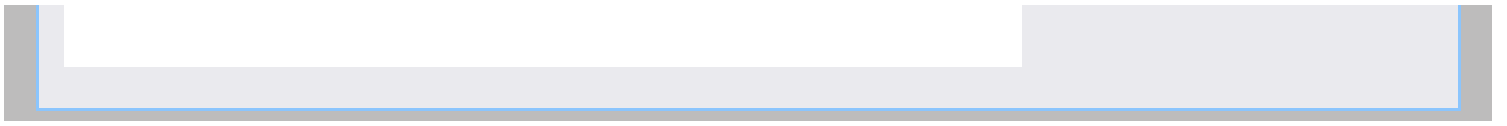
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## Science Project Details: 2005-2006

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### Monitoring The Effects Of Tourism And Environmental Variability On Adelie Penguins At Palmer Station

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Tourists on Torgorsen Island. Photo courtesy of Donna Patterson-Fraser.

**Dr. William R Fraser** (Principal Investigator)  
[bfraser@3rivers.net](mailto:bfraser@3rivers.net)

---

#### **Polar Oceans Research Group**

Sheridan, Montana

**Supporting Stations:** Palmer Station

**Research Locations:** On station and local islands

#### **Project Description:**

This group will continue a tourist monitoring program underway at Palmer Station as part of a large ecosystem-scale study. Palmer Station mirrors current patterns in tourism and tourist-wildlife interactions in the western Antarctic Peninsula. It also provides unique opportunities for research on human impacts. This includes the presence of long-term databases that document environmental variability over time and space scales in both marine and terrestrial habitats, as well as the ability to examine potential tourist impacts as part of controlled experiments. These findings will have important implications for understanding interactions between climate change and ecosystem response, and for detecting, mitigating and managing the consequences of human activities such as tourism.

#### **Deploying Team Members:**

Jennifer Blum · Fen Montaigne

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## Science Project Details: 2005-2006

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### Interactive Effects Of UV And Vertical Mixing On Phytoplankton And Bacterioplankton In The Ross Sea

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**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-208-N

NSF/OPP Award 01-25818

**ASC POC/Implementer:**

Stephanie Suhr Sliester

**Dr. Ann E Gargett** (Principal Investigator)

[gargett@ccpo.odu.edu](mailto:gargett@ccpo.odu.edu)

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**Old Dominion University**

Center for Coastal Physical Oceanography

Norfolk, Virginia

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

**Project Description:**

To better understand how UV affects planktonic processes in the Ross Sea polynya, researchers will perform measurements of UV effects on phytoplankton photosynthesis, bacterial production and DNA damage, and make physical measurements to characterize vertical mixing processes.

Starting operations just north of the Ross Ice Shelf where there is a persistent ice-free area and working northward as the ice opens up later on during the cruise, researchers will follow the bloom of *Phaeocystis antarctica* in the Ross Sea to monitor the progression and responses of the phytoplankton to varying conditions of light, iron and bacterial growth rates. The project is a collaborative effort between Dr. Pat Neale (SERC), Dr. Wade Jeffrey (University of West Florida), Dr. Ann Gargett (Old Dominion University), Postdoctoral Fellow Brook Nunn.

**Deploying Team Members:**

Ann E Gargett · Teresa Garner · Christopher M Powell

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## Science Project Details: 2005-2006

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### Former Elephant Seal Colonies In The Antarctic: Implications For Holocene Climate Change And Genetic Diversity In The Southern Ocean

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Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean

**Dr. Brenda L Hall** (Principal Investigator)  
[brendah@maine.edu](mailto:brendah@maine.edu)

---

#### The University of Maine

Institute for Quaternary/Climate Studies and Department of Geological Science  
Orono, Maine

**Supporting Stations:** McMurdo Station

**Research Locations:** Scott Coast

#### Project Description:

During past seasons, this group discovered southern elephant seal skin and hair at many sites along the Scott Coast. This discovery will allow them to reconstruct the former spatial and temporal distribution of this species through time in the Ross Sea -- an area where it no longer hauls out. By using data from a combination of elephant seal and penguin rookeries, researchers will reconstruct sea ice and climate variations over time. They also will examine genetic diversity and foraging ecology for the seals over that same time period.

#### Deploying Team Members:

Audrey Bamberg · Brenda L Hall · Seth Newsome

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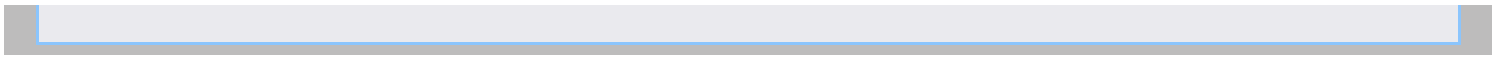


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## Science Project Details: 2005-2006

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### Temporal Variability In Natural And Anthropogenic Disturbance Of McMurdo Station

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With Scott Hut in the background, Chuck Kennicutt records data for monitoring spatial and temporal scales of human disturbance. Photo by Dianna Gielstra.

**Dr. Mahlon Kennicutt** (Principal Investigator)  
[mck2@gerg.tamu.edu](mailto:mck2@gerg.tamu.edu)

---

#### Texas A & M University

Geochemical and Environmental Research Group  
College Station, Texas

**Supporting Stations:** McMurdo Station

**Research Locations:** On station

#### Project Description:

Continue collecting a system of observations that should enable scientists to be more aware of anthropogenic impacts on marine and terrestrial habitats in and around McMurdo Station, locating them precisely and tracking them over time. Based on a three-year pilot program of sampling and data analysis, an environmental monitoring program is continuing the sample collection. The feasibility of this design will be further evaluated in the current season. Point-data sampling grids at various spatial scales measuring a series of attributes indicative of change will be established.

#### Deploying Team Members:

Sally Applebaum · Andrew Klein · Terry Palmer · Stephen T Sweet

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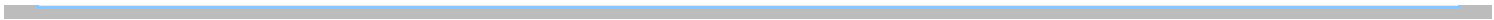
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## Science Project Details: 2005-2006

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### Impact Of Solar Radiation And Nutrients On Biogeochemical Cycling Of DMSP And DMS In The Ross Sea

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Photo not available.

**Dr. David J Kieber** (Principal Investigator)  
[djkieber@syr.edu](mailto:djkieber@syr.edu)

---

#### State University of New York Syracuse

Chemistry Department  
Syracuse, New York

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

#### Project Description:

The aim of this project is to investigate the biogeochemical cycling of dimethylsulfoniopropionate (DMSP) and its degradation product, dimethylsulfide (DMS) in the southern Ross Sea during the development of the seasonal phytoplankton bloom (Oct-Dec), to quantify how light and nutrients influence the production and loss of DMS, and to examine the role of DMSP in the carbon and sulfur cycles. Effects of solar radiation on phytoplankton and bacterioplankton processes related to the DMSP/DMS cycles, as well as photochemical processes such as DMS photooxidation to dimethylsulfoxide (DMSO), will be studied. The field work involves sampling at hydrographic stations and extensive deck-board and in situ incubations. Data collection will include concentration measurements of DMSO, DMSP and DMS and cycling rates using <sup>35</sup>S-labeled radiotracers. This project is a collaborative effort between Dr. David Kieber (NY State University) and Dr. Ron Kiene (University of South Alabama).

#### Deploying Team Members:

David J Kieber · John Bisgrove III · Jordan Colt Brinkley · Dierdre Alison Toole



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## Science Project Details: 2005-2006

### Salpa Thompsoni In The Southern Ocean: Bioenergetics, Population Dynamics And Biogeochemical Impact



Photo not available.

**Dr. Laurence P Madin** (Principal Investigator)

[lmadin@whoi.edu](mailto:lmadin@whoi.edu)

#### Woods Hole Oceanographic Institution

Department of Biology

Woods Hole, Massachusetts

**Supporting Stations:** ARSV Laurence M. Gould

**Research Locations:** Drake Passage and Antarctic Peninsula

#### Project Description:

This study represents an intensive investigation of the target species, *Salpa thompsoni*. The results from this species (endemic to the Southern Ocean) can be compared with existing data for congeneric species *S. aspera* and *S. fusiformis* that also occur in high densities in many locations. The combined results should yield insights into the environmental factors, energetics and population dynamics associated with the formation of salp blooms. The results of this study should enable scientists to better evaluate the importance of salps in biogeochemical cycles and in structuring the pelagic environment of the Southern Ocean.

#### Deploying Team Members:

Laurence P Madin · Patricia Kremer · Jeffrey Godfrey · Erich Horgan · Katherine Madin · Jun Nishikawa · Byron Pedler · Brennan T Phillips · Kelly Rakow · Kerri M Scolardi · Lena von Harbou · Albert III J Williams · Isabelle P Williams

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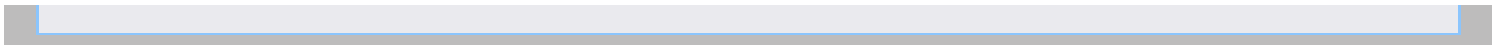
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## Science Project Details: 2005-2006

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### A Graduate Training Program In Antarctica: Integrative Biology And Adaptation Of Antarctic Marine Organisms

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Photo not available.

**Dr. Donal Manahan** (Principal Investigator)

[manahan@usc.edu](mailto:manahan@usc.edu)

---

#### University of Southern California

Department of Biology  
Los Angeles, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, McMurdo Sound, Bratina Island, Cape Evans, Dry Valleys, Ross Ice Shelf

#### Project Description:

This project is an international, advanced level, graduate training course that will be taught at McMurdo Station for one month during the period of austral summer. The goals for the course are to introduce students to the diversity of biological organisms in Antarctic polar regions, to study unique aspects of biology that permit life in such extreme environments and to provide the opportunity for scientists new to the Antarctic to learn about and appreciate the logistical possibilities and constraints of working in this extreme environment. Long standing questions in evolution and ecology (such as cold adaptation and food limitation) concerning the biology of Antarctic organisms will be examined through physiological experiments with organisms, studies of isolated cells and tissues, experiments on protein structure and function, and molecular analysis of genetics systems.

#### Deploying Team Members:

Donal Manahan · Mark Denny · Joe Grzymiski · Deneb Karentz · Alison Murray · George Somero · Jason Podrabsky · Antonio Quesada · David Ginsberg · Sonya Dyhrman

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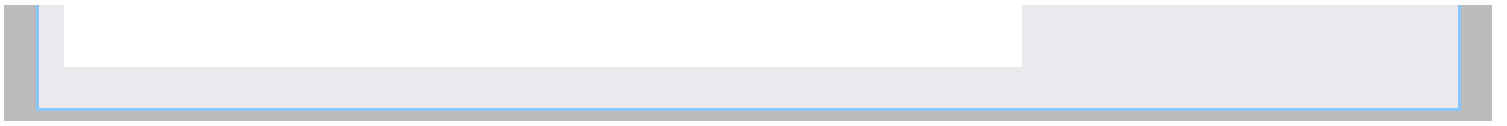


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## Science Project Details: 2005-2006

### Complex Molecular To Global Interactions And Feedbacks In The Marine DMS Cycle



Photo not available.

**Dr. Patricia Matrai** (Principal Investigator)  
[pmatrai@bigelow.org](mailto:pmatrai@bigelow.org)

#### Bigelow Marine Laboratory

West Boothbay Harbor, Maine

**Supporting Stations:** Palmer Station

**Research Locations:** On station and local area

#### Project Description:

This project will make comprehensive assessments of the complex interactions within the marine food web that control the net ecosystem production of the volatile sulfur compound dimethylsulfide (DMS) in different biogeographical provinces (subtropical gyre and polar sea). Elucidate the biogeochemical- and community-level controls on the production and degradation of DMSP, and to identify the strong and weak linkages in the web that supports DMS production and ultimately its flux to the atmosphere. Determine how geophysical phenomena (climate variability, upper ocean mixing, atmospheric nutrient delivery, solar irradiance, winds) and chemical factors influence those aspects of the ecosystem that regulate the biogeochemical cycles of DMS and DMSP. Assess how the air-sea flux of DMS impacts Earth's climate system in the present day and to predict how it will do so in the future under different anthropogenic CO<sub>2</sub> and sulfur emission scenarios.

#### Deploying Team Members:

John W Dacey · Ronald P Kiene · Patricia Matrai · Raymond G Najjar · Sarah F Riseman · Rafel Simo · Kerry McElroy · Maria Vila · George R Jr Westby

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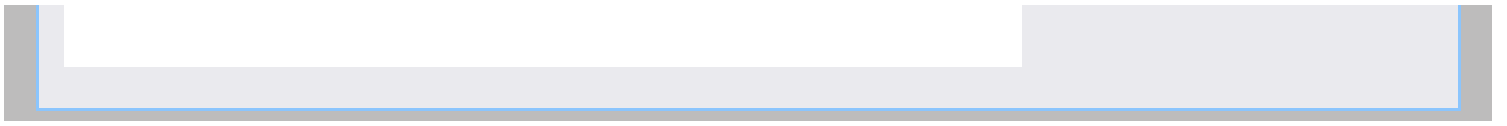
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## Science Project Details: 2005-2006

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### Plankton Community Structure And Iron Distribution In The Southern Drake Passage

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**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-225-N

NSF/OPP Award 04-44134

**ASC POC/Implementer:**

Stephanie Suhr Sliester

**Dr. Christopher Measures** (Principal Investigator)

[measures@hawaii.edu](mailto:measures@hawaii.edu)

---

**University of Hawai'i at Manoa**

Oceanography Department

Honolulu, Hawaii

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Drake Passage

**Project Description:**

As the Antarctic Circumpolar Current passes through the southern Drake Passage, low surface chlorophyll concentrations develop into a bloom that spreads across the southern Scotia Sea to South Georgia. Researchers will examine biological, chemical, and physical characteristics of the water column during winter when photosynthetic processes are minimal and mixing in the upper mixed layer is deep to establish a baseline that can be compared to previous observations made in late summer. The goal is to understand how phyto- and zooplankton productivity, community structure and export production in the Southern Ocean are affected by the coupling between bathymetry, mesoscale circulation, and limiting nutrient distributions. This is a collaborative effort between Dr. Greg Mitchell (SIO), Dr. Chris Measures (U of Hawaii), Dr. Meng Zhou (U of Massachusetts) and Dr. Matt Charette (WHOI).

**Deploying Team Members:**

Christopher Measures · Karen E Selph

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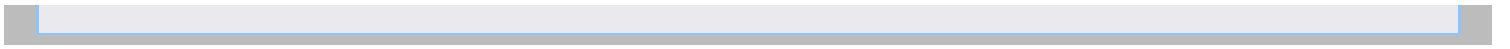
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## Science Project Details: 2005-2006

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### Long-Term Data Collection At Select Antarctic Peninsula Visitor Sites

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Gentoo penguins at Petermann Island. Photo (c)2004 by Ron Naveen/Oceanites, Inc.

**Mr. Ron Naveen** (Principal Investigator)  
[oceanites.mail@verizon.net](mailto:oceanites.mail@verizon.net)

---

**Oceanites, Inc.**  
Chevy Chase, Maryland

**Supporting Stations:** Special Project  
**Research Locations:** Petermann Island

#### Project Description:

Continue data collection at Petermann Island as part of an international program referred to as the Antarctic Site Inventory. The project has been collecting baseline data and information on an opportunistic basis at Antarctic Peninsula visitor sites since November 1994. These data sets will allow direct and cumulative impacts at these sites to be detected precisely, ensure that the best scientific data and descriptive information are available should antarctic treaty parties determine that site management is necessary and appropriate in the future, contribute to a better understanding of biological processes in the entire Antarctic Peninsula region. Collected data and information will be made publicly and routinely available, thus assisting visitors in determining how best to minimize, or potentially avoid, environmental impacts at these sites.

#### Deploying Team Members:

Ian Bullock · Ron Naveen

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## Science Project Details: 2005-2006

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### Genetic And Photogrammetric Investigations Of Three Ecotypes Of Killer Whales In The Southern Ross Sea

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Mother-calf pair of "Type C" killer whales in the Ross Sea. Type C killer whales are smaller and occur in larger groups than killer whales found throughout the rest of the world. They prefer fast ice, are known to eat fish, including Antarctic toothfish, and may be a separate species. Photo by Robert Pitman.

**Mr. Robert L Pitman** (Principal Investigator)  
[Robert.Pitman@noaa.gov](mailto:Robert.Pitman@noaa.gov)

---

#### National Oceanic and Atmospheric Administration

Protected Resources Division  
La Jolla, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Sea Ice

#### Project Description:

Researchers will learn more about the Type C killer whales that occur in the McMurdo area each season. Three main objectives are: 1) Attach satellite transmitters to killer whales to monitor their movements. 2) Continue collecting projectile biopsy samples for genetic analyses. 3) Photogrammetric analysis of morphometrics. Last season researchers determined that the McMurdo whales are in fact a "dwarf" form of killer whale, 1-2 meters smaller than regular killer whales. This season researchers will use a laser rangefinder coupled with a digital camera to accurately measure dorsal fin heights. This will determine if the relative size of the dorsal fin is different in the McMurdo form, and if this form is less sexually dimorphic (as it appears to be) than regular killer whales.



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## Deploying Team Members:

Lisa Ballance · Robert L Pitman

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## Science Project Details: 2005-2006

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### Interaction Of Iron, Light And CO2 On Phytoplankton Community Dynamics In The Ross Sea

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**Program Manager:**

Dr. Roberta Marinelli

**Event Number:** B-267-N

NSF/OPP Award 03-38097

**ASC POC/Implementer:**

Stephanie Suhr Sliester

**Dr. Peter Sedwick** (Principal Investigator)

[psedwick@bbsr.edu](mailto:psedwick@bbsr.edu)

---

**Bermuda Biological Station for Research**

St Georges GE 01, Bermuda

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Ross Sea

**Project Description:**

The Ross Sea is a region of intense biological productivity where phytoplankton biomass is dominated by two main taxonomic groups; diatoms and Phaeocystis. It is well known that these two phytoplankton groups have different impacts on biogeochemical cycles in the Ross Sea, but the factors which control their relative abundance. CORSACS (Controls on Ross Sea Algal Community Structure) will investigate the interactive effects of iron, carbon dioxide and light levels in the Ross Sea on phytoplankton community structure and biogeochemical cycling of various elements, especially, carbon, sulfur, iron and cobalt. The expedition will involve both transect work and onboard experimental work. The project is a collaborative effort between Dr. Giacomo DiTullio (University of South Carolina), Dr. Walker Smith (VIMS), Dr. Robert Dunbar (Stanford University), Dr. Pete Sedwick (Bermuda Station for Biological Research), Dr. David Hutchins (University of Delaware), and Dr. Philippe Tortell (University of British Columbia).

**Deploying Team Members:**

Peter Sedwick · Andrew R Bowie · Maeve Lohan · Christopher Marsay · Juliette Tria

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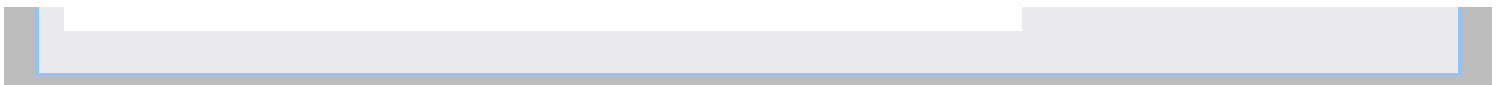
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## Science Project Details: 2005-2006

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### Free Drifting Icebergs: Influence Of Floating Islands On Pelagic Ecosystems In The Weddell Sea

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Photo not available.

**Dr. Kenneth L Smith** (Principal Investigator)

[ksmith@ucsd.edu](mailto:ksmith@ucsd.edu)

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#### Scripps Institution of Oceanography

Marine Biology Research Division  
La Jolla, California

**Supporting Stations:** ARSV Laurence M. Gould

**Research Locations:** Weddell Sea

#### Project Description:

The aim of this project is to quantitatively establish the influence (island effects) of free-drifting icebergs on the surrounding pelagic environment and communities in the NW Weddell Sea. We will study the size, abundance and spatial distribution of the icebergs on temporal scales of days to months, based on the correlation of field measurements with imagery derived from satellite sensors, examine the relationship between their size and the structure of the associated pelagic communities and estimate the combined impact of free-drifting icebergs on the biological characteristics of the pelagic zone in this area.

#### Deploying Team Members:

Ken L Smith · Jeff Derry · Lindsey Ekern · Jacob Ellena · John Helly · Ronald Kaufmann · Joanna Kinsey · Charles Koehler · Kathryn Noble · Karen J Osborn · Kim Reisenbichler · Bruce Robison · Henry Ruhl · Tim Shaw · Robert E Sherlock · Maria Vernet

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## Science Project Details: 2005-2006

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### Foraging Behavior And Demography Of Pygoscelis Penguins

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COPA Field Hut. Photo courtesy of Wayne Trivelpiece.

**Dr. Wayne Z Trivelpiece** (Principal Investigator)  
[wayne.trivelpiece@noaa.gov](mailto:wayne.trivelpiece@noaa.gov)

---

#### NOAA

Antarctic Ecosystem Research Division (AMLR)  
La Jolla, California

**Supporting Stations:** Special Project

**Research Locations:** Copacabana Field Station, King George Island

#### Project Description:

Continue the long-term study of the breeding biology and demography of Adelie, chinstrap, and gentoo penguins at Admiralty Bay, King George Island in the South Shetland Islands. The primary objectives are 1) Determine and compare the relationships of sex, age, and breeding experience to reproductive success and survival, thereby elucidating how these demographic variables interact to affect changes in animal populations. 2) Investigate the relationships among population dynamics, prey availability, and environmental variability to elucidate the mechanisms whereby environmental variation may influence predator dynamics via the prey field.

#### Deploying Team Members:

Stephen Agius · Jefferson Hinke · David Loomis · Susan Trivelpiece · Wayne Trivelpiece · Susan Woods

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## Science Project Details: 2005-2006

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### What Limits Denitrification And Bacterial Growth In Lake Bonney, Taylor Valley?

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What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?

**Dr. Bess B Ward** (Principal Investigator)  
[bbw@princeton.edu](mailto:bbw@princeton.edu)

---

#### Princeton University

Department of Geosciences  
Princeton, New Jersey

**Supporting Stations:** McMurdo Station

**Research Locations:** Lake Bonney, Cray Lab

#### Project Description:

Undertake new experiments to assess the viability and metabolic capabilities of the bacteria in Lake Bonney. Ag toxicity, general metal toxicity and oxygen concentration will be investigated for their effect on denitrification in Lake Bonney by using a suite of "sentinel" strains of denitrifying bacteria (isolated from the lake) incubated in Lake Bonney water and subjected to various treatments. The physiological responses of these strains to changes in metal and oxygen concentration will be quantified by flow cytometric detection of single cell probes whose sensitivity and interpretation has been optimized for the sentinel strains.

#### Deploying Team Members:

Benjamin Beall · Eric George Roy · Charles G Trick · Caroline L Tuit · Bess B Ward · Mark L Wells

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## Science Project Details: 2005-2006

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### RUI: Improving Acoustic Estimates Of Antarctic Krill Populations

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RV Ernest and AUV support zodiac anchored in cove at Livingston Island. Photo by Derek Needham.

**Dr. Joseph Warren** (Principal Investigator)

[joe.warren@liu.edu](mailto:joe.warren@liu.edu)

---

#### Southampton College

Natural Science Division  
Southampton, New York

**Supporting Stations:** Special Project

**Research Locations:** R/V Yuzhmogeologiya (NOAA Vessel)

#### Project Description:

Measure the distribution of krill in the near-shore waters of Livingston Island and determine what role the submarine canyons in the area play in the transport of nutrient-rich water to the shallow regions. The temporal and spatial variability of krill abundance in these waters will be measured on annual and shorter time scales. This information will provide more accurate estimates of krill abundance and distribution which will be of use to those responsible for the management of the Southern Ocean krill fishery and studying the antarctic ecosystem.

#### Deploying Team Members:

Thomas S. Sessions · Joseph Warren

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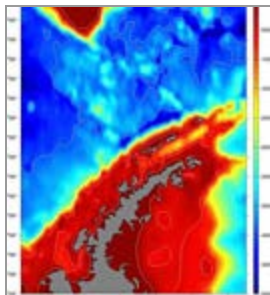
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## Science Project Details: 2005-2006

### Plankton Community Structure And Iron Distribution In The Southern Drake Passage And Scotia Sea



Plankton community structure and iron distribution in the southern Drake Passage and Scotia Sea

**Dr. Meng Zhou** (Principal Investigator)  
[meng.zhou@umb.edu](mailto:meng.zhou@umb.edu)

#### University of Massachusetts

ECOS

Boston, Massachusetts

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Drake Passage, Scotia Sea

#### Project Description:

As the Antarctic Circumpolar Current passes through the southern Drake Passage, low surface chlorophyll concentrations develop into a bloom that spreads across the southern Scotia Sea to South Georgia. Researchers will examine biological, chemical, and physical characteristics of the water column during winter when photosynthetic processes are minimal and mixing in the upper mixed layer is deep to establish a baseline that can be compared to previous observations made in late summer. The goal is to understand how phyto- and zooplankton productivity, community structure and export production in the Southern Ocean are affected by the coupling between bathymetry, mesoscale circulation, and limiting nutrient distributions. This is a collaborative effort between Dr. Greg Mitchell (SIO), Dr. Chris Measures (U of Hawaii), Dr. Meng Zhou (U of Massachusetts) and Dr. Matt Charette (WHOI).

#### Deploying Team Members:

Meng Zhou · Ryan D Dorland · Yiwu Zhu



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## Science Project Details: 2005-2006

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### Controls On Sediment Yields From Tidewater Glaciers From Patagonia To Antarctica

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Photo not available.

**Dr. John B. Anderson** (Principal Investigator)

[johna@rice.edu](mailto:johna@rice.edu)

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#### Rice University

Department of Earth Sciences  
Houston, Texas

**Supporting Stations:** RV/IB Nathaniel B. Palmer

**Research Locations:** Chilean Fjords and Antarctic Peninsula

#### Project Description:

This project will examine explicitly the role of glacier dynamics in determining glacial sediment yields through a combination of techniques from glaciology and marine geology. The examination is based on the hypothesis that rates of glacial erosion are a function of sliding speed, and are therefore expected to diminish sharply as basal temperatures drop below the melting point. The project will measure both sediment accumulation rates from seismic studies in fjord sediments and dynamic characteristic of the glaciers producing the sediments for six tidewater glaciers ranging from fast-moving temperate glaciers in Patagonia to slow-moving polar glaciers on the Antarctic Peninsula. For each system, the following will be assessed: 1) sediment yields and, by inference, erosion rates and 2) dynamic properties and basin characteristics of each glacier, which have distinctly different ice fluxes and basal thermal regimes. The scientists will define an empirical relationship between glacial erosion rates and ice dynamics.

#### Deploying Team Members:

Bernard Hallet · Julia Smith Wellner · Michelle Koppes · Kristy Milliken · Carina Lange · Rodrigo Castro Mendoza · Rodrigo Fernandez · Andres Rivera · Gino Casassa · Eric Rignot · others



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## Science Project Details: 2005-2006

### Global Seismograph Station At Palmer Station And The South Pole



Photo not available.

**Dr. Rhett G Butler** (Principal Investigator)

[rhett@iris.edu](mailto:rhett@iris.edu)

#### Incorporated Research Institutions for Seismology

Global Seismograph Network Program Manager

Washington, District of Columbia

**Supporting Stations:** Palmer Station, South Pole Station

**Research Locations:** B2 (South Pole Science Lab), SPRESSO (South Pole Remote Earth Science and Seismological Observatory)

#### Project Description:

This project is a long term study of seismicity at Palmer Station and the South Pole and is part of the Incorporated Research Institutions for Seismology's Global Seismographic Network (GSN). The station QSPA at the SPRESSO (South Pole Remote Earth Science and Seismological Observatory) is part of a 120+ station global network to global seismicity. Recently, the South Pole seismic stations was moved from the V1 vault (near the dome) to the SPRESSO to reduce station related "cultural" noise. The results of this move have created the most quiet seismic station in the entire GSN. Lower background noise levels will allow researchers to see smaller events from further away as well as help us identify and characterize Antarctic seismicity. Last season, the field team installed a different type of sensor to help further characterize the noise at the SPRESSO and found that noise levels are even lower than previously identified due to limitations in the electronic noise floors of the previous instrumentation.

#### Deploying Team Members:

Kent Anderson · Stephen C Roberts · Mark Robertson



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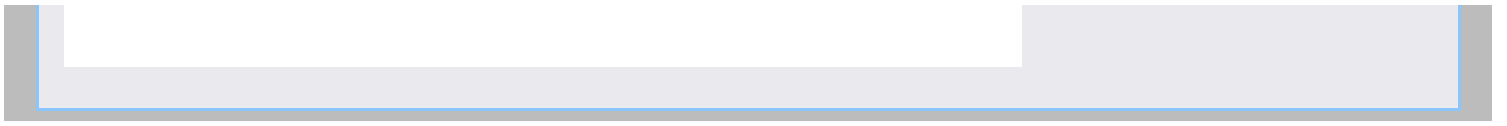
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## Science Project Details: 2005-2006

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### A GPS Network To Determine Crustal Motions In The Bedrock Of The West Antarctic Ice Sheet

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Solar-powered GPS receiver collecting data in West Antarctica. Photo by Ian Dalziel.

**Dr. Ian W Dalziel** (Principal Investigator)  
[ian@ig.utexas.edu](mailto:ian@ig.utexas.edu)

---

#### University of Texas Austin

Institute for Geophysics  
Austin, Texas

**Supporting Stations:** McMurdo Station

**Research Locations:** Patriot Hills, WAIS Divide

#### Project Description:

In the final season of the funded Phase I of the 'WAGN' project, the field team will complete the installation and initial measurements of a GPS network deployed on remote nunataks through the heart of West Antarctica. The network measures motion in the bedrock of the West Antarctic Ice Sheet, thereby contributing to understanding of its dynamics. It also tests models of ice sheet history by measuring rebound of the bedrock since the last glacial maximum. The team also plans to reoccupy selected monuments installed in previous years. Processing of the data obtained in these second occupations will provide an initial assessment of rates of motion of the sites. This will permit researchers to develop a strategy to realize through more complete remeasurement, the potential of this uniquely located geodetic network for understanding the neotectonics of Antarctica and its glacial history.

#### Deploying Team Members:

Ian W Dalziel · Erich Kendrick · J.R. Roberts · Robert Smalley



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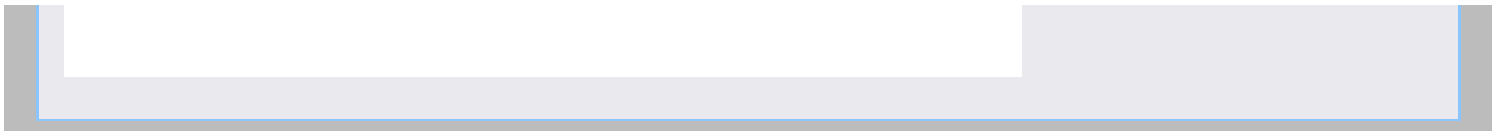


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## Science Project Details: 2005-2006

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### The Timing Of The Holocene Climate Change In The McMurdo Dry Valleys

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Photo not available.

**Dr. Carolyn B Dowling** (Principal Investigator)  
[cdowling@astate.edu](mailto:cdowling@astate.edu)

---

**Arkansas State University**  
Department of Chemistry and Physics  
State University, Arkansas

**Supporting Stations:** McMurdo Station  
**Research Locations:** Crary Lab, Lake Hoare

#### Project Description:

**Deploying Team Members:**  
Leonette O. Cox · Carolyn B Dowling · Glen Tritch Snyder

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## Science Project Details: 2005-2006

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### Dry Valley Seismic Project

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lay Himmelsbach, Kevin Filiatrault and Will Burk installing a new seismic data digitizing system in a borehole close to Bull Pass in the Wright Valley. Photo by Jimmy Jackson.

**Dr. Robert C Kemerait** (Principal Investigator)  
[kemerait@tt.aftac.gov](mailto:kemerait@tt.aftac.gov)

---

#### United States Air Force

AFTAC  
Patrick AFB, Florida

**Supporting Stations:** McMurdo Station

**Research Locations:** Bull Pass, Mt Newall, Lake Vanda

#### Project Description:

The Dry Valleys Seismic Project monitors regional and global seismicity. This station is an element in the Air Force Technical Applications Center (AFTAC) Southern Network (ASN). The network provides near real time data from nine locations within the southern hemisphere. The data is telemetered to the National Data Center in Florida and is available to the international scientific community.

#### Deploying Team Members:

Andrew Bliss · Jesse Bucholtz · Nicholas Kappel · John Lauser

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## Science Project Details: 2005-2006

### Integrated Study Of East Antarctic Ice Sheet Till (ISET): Tracers Of Ice Flow And Proxies Of The Ice-Covered Continental Shield



Photo not available.

**Dr. Kathy J Licht** (Principal Investigator)  
[klicht@iupui.edu](mailto:klicht@iupui.edu)

#### Indiana University - Purdue University Indianapolis

Department of Geology  
Indianapolis, Indiana

**Supporting Stations:** McMurdo Station

**Research Locations:** Byrd Glacier

#### Project Description:

This project is an integrated study that will help to constrain Antarctica's Late Quaternary (~18,000 yrs ago) glacial history and improve our knowledge of the rocks that underlie the massive East Antarctic ice sheet. The goals are to use till provenance to evaluate paleo-ice flow models for the Ross Embayment and characterize rocks eroded from the East Antarctic craton while constraining physical changes to till during transport in a polar setting. Results from this study will provide direct inputs of ice fluxes to numeric ice sheet models, which will improve predictions of Antarctica's response to increasing atmospheric and ocean temperatures, as well as its contribution to global sea level rise. This study will also help to characterize the petrology, geochemistry and age of subglacial basement terrains underlying a large segment of the polar ice cap.

#### Deploying Team Members:

Andrew Barth · Peter Braddock · Devon Brecke · John William Godge ·  
Kathy J Licht · Emerson Fowler Palmer

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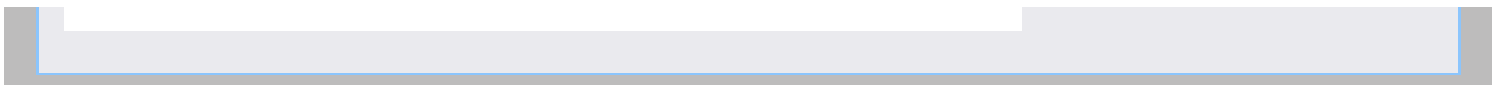


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## Science Project Details: 2005-2006

### Deducing Late Neogene Antarctica Climate From Fossil-Rich Lacustrine Sediments In The Dry Valleys



Photo not available.

**Dr. David R Marchant** (Principal Investigator)

[marchant@bu.edu](mailto:marchant@bu.edu)

#### **Boston University**

Department of Earth Sciences  
Boston, Massachusetts

**Supporting Stations:** McMurdo Station

**Research Locations:** Olympus Range, Taylor Valley

#### **Project Description:**

Researchers will assess the degree to which variations in the diversity and assemblage of fossil pollen, plants, diatoms, and insects in these late Neogene lake sediments can be used to reconstruct paleoclimate and ecological conditions. This study has several possible benefits for allied research in the Ross Sea region. First, anticipated results could help place modern lakes of the Dry Valleys region into a long-term evolutionary framework. Second, dated micro and macrofossils from the Dry Valleys could help facilitate correlation and dating among glacial and non-glacial deposits across the Transantarctic Mountains. Third, dated pollen assemblages from lacustrine sediments in the Dry Valleys could be used to help provide age control for pollen-rich layers in offshore cores.

#### **Deploying Team Members:**

Allan Ashworth · Adam R Lewis

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## Science Project Details: 2005-2006

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### Reconstructing The High Latitude Permian-Triassic: Life, Landscapes, And Climate Recorded In The Allan Hills, South Victoria Land

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Photo not available.

**Dr. Molly B Miller** (Principal Investigator)

[Molly.F.Miller@Vanderbilt.edu](mailto:Molly.F.Miller@Vanderbilt.edu)

---

#### Vanderbilt University

Department of Geology  
Nashville, Tennessee

**Supporting Stations:** McMurdo Station

**Research Locations:** Allan Hills, Mt Bastion

#### Project Description:

Researchers will test and refine the evolving climate model and investigate the effects of climate change on Permian to Triassic (Pm-Tr) landscapes and ecosystems. Superbly exposed rocks in the Allan Hills will be searched for fossil forests, vertebrate tracks and burrows, arthropod trackways, and subaqueously produced biogenic structures; finds will be integrated with previous paleobiologic studies to reconstruct ecosystems and to interpret ecosystem changes. This work will contribute to the understanding of (1) evolution of terrestrial and freshwater ecosystems and how they were affected by the end-Permian extinction, (2) abundance and diversity of terrestrial and aquatic arthropods at high latitudes, (3) paleogeographic distribution and evolution of vertebrates and invertebrates as recorded by trace and body fossils; and (4) response of landscapes to changes in climate.

#### Deploying Team Members:

Quintin Bendixen · Tim Cully · John L Isbell · Molly B Miller · Christian A Sidor



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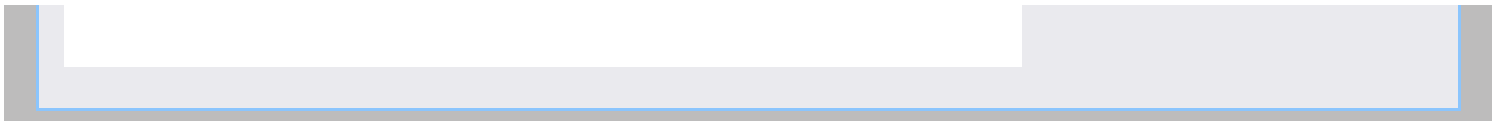
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## Science Project Details: 2005-2006

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### Stability Of Landscapes And Ice Sheets In Dry Valleys: A Systematic Study Of Exposure Ages Of Soils And Surface Deposits

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The G-076 field team in 2004-05.  
Photo courtesy of Jaakko Putkonen

**Dr. Jaakko Putkonen** (Principal Investigator)  
[putkonen@u.washington.edu](mailto:putkonen@u.washington.edu)

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#### University of Washington

Earth and Space Sciences  
Seattle, Washington

**Supporting Stations:** McMurdo Station

**Research Locations:** Crary Lab, Dry Valleys

#### Project Description:

Researchers will: Measure the accumulation of cosmogenic isotopes in the rocks at or near soil surface to determine the minimum sediment exposure ages, soil stability or mixing, and shielding history of surfaces by cold based ice. Directly verify the extreme preservation of soils and assign absolute minimum ages to key deposits.

#### Deploying Team Members:

Gregory A. Balco · Daniel Morgan · Jaakko Putkonen

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## Science Project Details: 2005-2006

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### Monitoring An Active Rift System At The Front Of Amery Ice Shelf, East Antarctica/

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Photo not available.

**Dr. Helen A Fricker** (Principal Investigator)

[hafricker@ucsd.edu](mailto:hafricker@ucsd.edu)

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#### Scripps Institution of Oceanography

Institute for Geophysics and Planetary Physics

La Jolla, California

**Supporting Stations:** Special Project

**Research Locations:** Amery Ice Shelf Rift, Davis Station (Australia)

#### Project Description:

Measure simultaneously the propagation and widening of two transverse-to-flow ice shelf rifts that make up the active part of a rift system at the front of the Amery Ice Shelf (AIS) using a combination of satellite and in situ measurements. Investigate the apparent relationship between the behavior of these two rifts. Study the stresses controlling the initiation of rifts at the front of the ice shelf and the propagation of the rift system. Investigate the effect the calving event will have on the stress field in the ice shelf and on the currently inactive rifts, e.g. will calving precipitate propagation of another rift?

#### Deploying Team Members:

Jim Behrens

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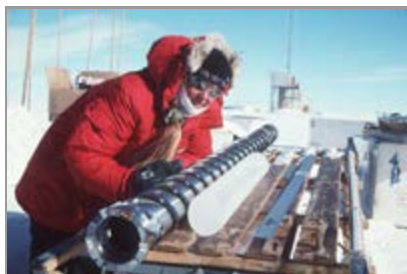


## Science Project Details: 2005-2006

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### Investigation Of Climate, Ice Dynamics, And Biology, Using A Deep Ice Core From The West Antarctic Ice Sheet Ice Divide

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Investigation of climate, ice dynamics, and biology, using a deep ice core from the West Antarctic Ice Sheet Ice Divide

**Dr. Kendrick C Taylor** (Principal Investigator)  
[kendrick@dri.edu](mailto:kendrick@dri.edu)

---

**Desert Research Institute**  
Division of Hydrological Science  
Reno, Nevada

**Supporting Stations:** McMurdo Station  
**Research Locations:** WAIS Divide

#### Project Description:

This project will collect a 3,400 meter deep ice core in West Antarctica. This is a five-year field program that involves about a dozen research teams. The main objectives of this project are: 1) Develop the most detailed record of Greenhouse gases possible for the last 100,000 years. 2) Determine if the climate changes that occurred during the last 100,000 years were initiated by changes in the northern or southern hemisphere. 3) Investigate the past and future stability of the West Antarctic Ice sheet. 4) Investigate the biology of deep ice.

#### Deploying Team Members:

Lou Albershardt · Beth Bergeron · Kendrick C Taylor · Mark S Twickler

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## Science Project Details: 2005-2006

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### Is Kamb Ice Stream Restarting? Glaciological Investigations Of The Bulge-Trunk Transition On Kamb Ice Stream

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Photo not available.

**Dr. Slawek M. Tulaczyk** (Principal Investigator)  
[tulaczyk@pmc.ucsc.edu](mailto:tulaczyk@pmc.ucsc.edu)

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#### University of California Santa Cruz

Earth Sciences  
Santa Cruz, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Kamb Ice Stream, Siple Dome

#### Project Description:

Test whether Kamb Ice Stream (formerly Ice Stream C) may be in the process of restarting. The field component consists of observations of bed properties and ice internal layers from ground penetrating radar together with measurements of surface topography and strain rates using differential GPS. The fieldwork will focus on the transition between the lower trunk of Kamb Ice Stream where ice motion has ceased and the bulge that has been forming just upstream -very near the former "Upstream C Camp" most recently occupied by Cal Tech and others. Primary activities are to install strain grids [760 poles] and survey with differential GPS, acquire ground-based radar profiles in the local area and one location about 80 kilometers upstream.

#### Deploying Team Members:

Marion H Bougamont · Poul Christoffersen · Ian R Joughin · Rickard Petterson · Slawek M. Tulaczyk · Hei Man Tung

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## Science Project Details: 2005-2006

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### Field Guide To Antarctic Features: McMurdo Sound Region

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Ann Hawthorne at Barne Glacier. Photo courtesy of Ann Hawthorne.

**Mr. Lawrence (Larry) J Conrad** (Principal Investigator)  
[ljconrad@ix.netcom.com](mailto:ljconrad@ix.netcom.com)

---

San Diego, California

**Supporting Stations:** McMurdo Station

**Research Locations:** Dry Valleys, McMurdo Sound region, Barwick Valley

#### Project Description:

Currents in the Southern Ocean have a profound influence on the world's oceans, and therefore upon global temperature and the planet's ecosystem. Yet some remote regions receive little scientific attention. Using Doppler technology (sound-wave transmission and reflection), this project is exploring upper ocean current velocities. Researchers are building a quality-controlled data set in one such sparsely sampled and remote region, which nonetheless appears to play a significant role in global ocean circulation. They will develop and maintain a shipboard acoustic Doppler current profiler (ADCP) program on board the USAP research vessel Laurence M. Gould (R/V LMG).

#### Deploying Team Members:

Ann Parks Hawthorne · Sarah Krall

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