2007-2008 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 information about the research and the people involved.

› 2007-2008 Field Season

Use the links below to find out more information about the 2007-2008 USAP Field Season.

- Technical Events
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

NSF

Event Numbering System: 2007-2008

Every project is assigned a unique event number.
The first letter indicates the USAP program funding a project:

Prefix	USAP Program
A	Aeronomy & Astrophysics
B	Organisms and Ecosystems
G	Earth Sciences
I	Glaciology
O	Ocean and Atmospheric Sciences
W	Artists and Writers
Y	International Polar Year (IPY) Education and Outreach
C	Integrated and System Sciences

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	McMurdo Station
P	Palmer Station
S	South Pole Station
L	ARSV Laurence M. Gould
N	RVIB Nathaniel B. Palmer
E	Special projects supported by the USAP. Examples include investigators working with other national Antarctic programs, and groups working on islands in the peninsula.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Staffed Field Camps: 2007-2008

McMurdo Dry Valleys — 77.30 S, 162.00 E
50 nautical miles 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 nautical miles from McMurdo Station

Siple Dome with three resident staff will support three science projects: Ginny Catania (I-159-M), Slawek Tulaczyk (I-345-M), and Brenda Hall (I-196-M) will use Siple Dome as a staging area and travel to independent, tent camps. Dr. Catania's group will conduct radar and Global Positioning System (GPS) experiments at three remote locations. Dr. Tulaczyk will obtain GPS time series and geophysical data, while Dr. Hall will sample moraines along the Scott Glacier.

WAIS Divide Field Camp — 79.46 S, 112.08 W
924 nautical miles from McMurdo Station

The West Antarctic Ice Sheet (WAIS) Divide Field Camp with 11 resident staff will support 12 projects:

- Kendrick Taylor (I-477-M) will begin to collect a 3,400 meter-deep ice core in West Antarctica. This is the first year the project will collect core using the Deep Ice Sheet Core (DISC) drill.
- The National Ice Core Laboratory (I-478-M) will provide quality assurance and oversight for the DISC operations.
- Richard Alley (I-168-M) will provide records of visible stratigraphy, depth evolution of ice grain size and orientation, bubble sizes, size distributions and characteristics of the Deep Ice Sheet Core.
- Charles Bentley-Ice Core Drilling Services (T-350-M) will complete the setup and operate the DISC Drill System at WAIS Divide.
- Prasad Gogineni-Center for Remote Sensing of Ice Sheets (I-189-M) and Sridhar Anandakrishnan (I-205-M) will survey along and across flow in three regions of interest of Thwaites Glacier.
- Robert Bindschadler (C-407-M) will measure the interaction of ocean water with the underside of the floating ice shelf at the end of the Pine Island Glacier.
- The Automatic Weather Station (AWS) project team, O-283-M (Charles Stearns), will service stations from the camp.
- Eftyhia Zesta's team (A-357-M) will inspect their magnetometer.
- Wendy Kaye Warnick-PolarTREC (Y-606-M) will add one teacher to Prasad Gogineni's (I-189-M) project.

Project Indexes

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Project Web Sites

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2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Geoffrey Haines-Stiles-POLAR-PALOOZA (Y-328-M) is an International Polar Year (IPY) education and outreach project supported by the National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA).
- John Michael Farrell (Y-601-M) is a science education project that will provide the general public with greater understanding and knowledge of scientific research being conducted in Antarctica.

Air Operations: 2007-2008

McMurdo Station

McMurdo-based aircraft (Helicopters, Twin Otter, Basler 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 resupply 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/

Project Indexes

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Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Station Schedules: 2007-2008

The United States Antarctic Program operates three permanent research stations on the continent and two research vessels.

Station	Austral Summer Season Openings		Austral Winter Season Openings
	Operational	Science	
McMurdo	August 20, 2007 (WinFly)	October 2, 2007 (Mainbody)	February 23, 2008
South Pole	October 17, 2007	October 29, 2007	February 15, 2008
Palmer	September 17, 2007	October 11, 2007	April 15, 2008
Research Vessels	Year-round Operating Schedules: http://www.usap.gov/vesselScienceAndOperations/		

*A limited number of science projects deploy at Winfly

Estimated Population		
	Austral Summer	Austral Winter
McMurdo	890 (weekly average) 2,900 (total)	139 (total)
South Pole	250 (weekly average) 820 (total)	64 (total)
Palmer	30-40 (weekly average) 98 (total)	30-40 (weekly average) 53 (total)
RVIB NBP	39 science & staff / 25 crew	
ARSV LMG	38 science & staff / 25 crew	

*RV/IB, Research Vessel/Icebreaker

**ARSV, Antarctic Research Support Vessel

Project Indexes

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Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Program Indexes: 2007-2008

Technical Event Index

Return to Index

Principal Investigator	Event No.	Project Title
Griffin, Ken	T-927-M	NASA/McMurdo Ground Station (MG1)
Johns, Bjorn	T-295-M	UNAVCO GPS survey support
Szuberla, Curt	T-396-M	Operation and maintenance of a CTBT class infrasound array at Windless Bight

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Program Indexes: 2007-2008

- Project Web Sites
- Principal Investigator Index
- USAP Program Indexes
  - Aeronomy and Astrophysics
    Dr. Vladimir Papitashvili, program manager>
  - Organisms and Ecosystems
    Dr. Roberta Marinelli, program manager
  - Earth Sciences
    Dr. Thomas Wagner, program manager
  - Glaciology
    Dr. Julie Palais, program manager
  - Ocean and Atmospheric Sciences
    Dr. Kelly Falkner, program manager (acting)
  - Artists and Writers
    Ms. Kim Silverman, program manager
  - International Polar Year (IPY) Education and Outreach
    Renee D. Crain, program manager
    Valentine Kass, program manager
    Sandra Welch, program manager
  - Integrated and System Sciences
    Dr. Kelly Falkner, program manager
- Institution Index
- USAP Station and Ship Indexes
  - Amundsen-Scott South Pole Station
  - McMurdo Station
  - Palmer Station
  - RVIB Nathaniel B. Palmer
  - ARSV Laurence M. Gould
  - Special Projects
- Event Number Index
- Technical Event Index
- Deploying Team Members Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Project Web Sites: 2007-2008

Return to Index

Principal Investigator	Event No.	Project Title
Ackley, Stephen	O-270-N	SIMBA drift station (sea ice mass balance in the antarctic)
Ainley, David	B-031-M	Adelie Penguin response to climate change at the individual, colony and metapopulation levels
Albert, Mary	I-155-M	Norwegian-United States IPY Scientific Traverse: Climate variability and glaciology in East Antarctica
Amsler, Charles	B-022-P	The chemical ecology of shallow water marine macroalgae and invertebrates on the Antarctic Peninsula
Baranowski, Kim	W-486-P	Frozen field
Bieber, John	A-120-M	Solar and heliospheric studies with antarctic cosmic ray observations
Bindschadler, Robert	C-407-M	IPY: Collaborative Research: Ocean-Ice Sheet Interaction in the Amundsen Sea: The Keystone of West Antarctic Stability
Blanchette, Bob	B-038-M	Studies of antarctic fungi: Adaptive stratigies for survival and protecting Antarctica's historic structures
Butler, James	O-257-S	South Pole monitoring for climatic change
Carlstrom, John	A-379-S	Cosmological Research with the 10-meter South Pole Telescope
Carlstrom, John	A-370-S	Science Coordination Office for Astrophysical Research in Antarctica (SCOARA)
Catania, Ginny	I-159-M	Grounding line forensics: The history of grounding line retreat in the Kamb Ice Stream outlet

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

		region
Church, Sarah	A-366-S	Next generation CMB polarization measurements with the QUEST experiment on DASI
Dalziel, Ian	G-087-N	Central Scotia Sea floor and the Drake Passage deep ocean current gateway
Dempsey, John	O-316-M	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
Doran, Peter	B-426-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Evenson, Paul	A-333-S	IceCube operations and maintenance
Fountain, Andrew	B-425-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
Fraser, Bill	B-013-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Garrott, Robert	B-009-M	The demographic consequences of environmental variability and individual heterogeneity in life-history tactics of a long-lived Antarctic marine predator
Gogineni, Prasad	I-189-M	Center for Remote Sensing of Ice Sheets (CReSIS) - Basler airborne radar survey
Griffin, Ken	T-927-M	NASA/McMurdo Ground Station

		(MG1)
Haines-Stiles, Geoff	Y-328-E/M/N/S	POLAR-PALOOZA
Harwood, David	G-091-M	ANDRILL
Harwood, David	G-049-M	ANDRILL: Investigating Antarctica's role in Cenozoic global environmental change
Hernandez, Gonzalo	A-110-M/S	Austral high-latitude atmospheric dynamics
Hofmann, David	O-264-P	Collection of atmospheric air for the NOAA/GMD worldwide flask-sampling network
Hofmann, David	O-257-S	South Pole monitoring for climatic change
Horning, Markus	B-041-M	Collaborative Research: Aging in Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.
Inan, Umran	A-327-N	ELF/VLF observation in the southern Pacific Ocean
Inan, Umran	A-336-P	ELF/VLF observation of whistler-mode waves, lightning discharge, and gamma-ray events from Palmer Station
Johns, Bjorn	T-295-M	UNAVCO GPS survey support
Kannen, Christopher	W-488-M	Parhelion pemmican pack-ice pancake: Antarctica compressed on canvas
Karentz, Deneb	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Kemerait, Robert	G-078-M	Dry Valley seismic project
Kennicutt, Mahlon	B-518-M	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Kim, Stacy	B-174-M	Development of a remotely operated vehicle for under-ice research in polar environments

Kyle, Phillip	G-081-M	Mount Erebus Volcano Observatory II (MEVO II): Surveillance, models, impacts and outreach
LaBelle, James	A-128-S	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
Lange, Andrew	A-033-S	BICEP1 third season continuation - A search for inflation with degree-scale polarimetry from the South Pole
Linder, Chris	Y-603-M	IPY: Live from the Poles: A multimedia educational experience
Lyons, W. Berry	B-420-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
Manahan, Donal	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Marsh, Bruce	G-056-M	3-D dynamics of the Ferrar Magmatic Mush Column, Dry Valleys
Martinson, Doug	B-021-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Mayewski, Paul	I-153-M/S	A Science Management Office for the United States Component of the International Trans Antarctic Expedition (US ITASE SMO): A collaborative program of research from Taylor Dome to South Pole
Mellish, Jo-Ann	B-041-M	Collaborative Research: Aging in Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.

Mende, Stephen	A-104-S	Antarctic auroral imaging
Mitchell, John	A-140-M	Balloon-borne Experiment with a Superconducting Spectrometer (BESS)
Moran, Amy	B-004-M	Collaborative Research: Effects of oxygen and temperature on egg mass function of Southern Ocean marine invertebrates
Murray, Alison	B-229-P	Bacterioplankton genomic adaptations to Antarctic winter
Nyblade, Andy	G-055-M	Collaborative Research: A broadband seismic experiment to image the lithosphere beneath the Gamburtsev Mountains, East Antarctica
Oftedal, Olav	B-024-M	Capital expenditure, lactation energetics, and the importance of foraging to Weddell seals and their pups
Prentice, Michael	I-133-M	Fluctuations of the West Antarctic Ice-Sheet in relation to lake history in Taylor Valley since the Last Glacial Maximum
Priscu, John	B-234-M	Collaborative Research: IPY-plankton dynamics in the McMurdo Dry Valley Lakes during the transition to polar night
Pryke, Clement	A-379-S	Cosmological Research with the 10-meter South Pole Telescope
Ross, Robin	B-028-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Seo, Eun-Suk	A-137-M	Cosmic Ray Energetics And Mass (CREAM)
Sivjee, Gulamabas	A-129-S	Observation of upper-atmospheric energetics, dynamics, and long-term variations over South Pole Station
Sletten, Ronald	G-121-M	Ground ice dynamics in

		hyperarid soils of the McMurdo Dry Valleys, Antarctica
Smith, Raymond	B-032-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Sprintall, Janet	O-260-L	The Drake Passage high-density XBT/XCTD program
Stearns, Charles	O-202-M/P	Antarctic Meteorological Research Center (AMRC)
Stepp, Bill	A-145-M	NASA Long Duration Balloon (LDB) support program
Stock, Joann	G-071-N	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Szuberla, Curt	T-396-M	Operation and maintenance of a CTBT class infrasound array at Windless Bight
Taylor, Kendrick	I-477-M	Investigation of climate, ice dynamics, and biology using a deep ice core from the West Antarctic Ice Sheet
Thompson, Linda	A-138-M	Wallops Flight Facility component of the CREAM balloon payload
Vernet, Maria	B-016-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Virginia, Ross	B-423-M	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	B-424-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program

Wefel, John	A-143-M	Advanced Thin Ionization Calorimeter (ATIC)
Zesta, Eftyhia	A-357-M/P	South American Meridional B-Field Array (SAMBA): An American-Chilean chain

Return to Index

Science Program Indexes: 2007-2008

USAP Program Index:

Astrophysics and Geospace Sciences

Return to Index

Principal Investigator	Event No.	Project Title
Bieber, John	A-120-M	Solar and heliospheric studies with antarctic cosmic ray observations
Carlstrom, John	A-379-S	Cosmological Research with the 10-meter South Pole Telescope
Carlstrom, John	A-370-S	Science Coordination Office for Astrophysical Research in Antarctica (SCOARA)
Church, Sarah	A-366-S	Next generation CMB polarization measurements with the QUEST experiment on DASI
Deshler, Terry	A-131-M	Measurements addressing the initial stages of ozone recovery, the nucleation of, index of refraction of, and existence of large PSC particles
Evenson, Paul	A-333-S	IceCube operations and maintenance
Fraser-Smith, Antony	A-100-M	Operation of an ELF/VLF radiometer at Arrival Heights
Hernandez, Gonzalo	A-110-M/S	Austral high-latitude atmospheric dynamics
Inan, Umran	A-327-N	ELF/VLF observation in the southern Pacific Ocean
Inan, Umran	A-336-P	ELF/VLF observation of whistler-mode waves, lightning discharge, and gamma-ray events from Palmer Station
Jefferies, Stuart	A-115-S	Tomographic imaging of the velocity and magnetic fields in the sun's atmosphere
LaBelle, James	A-128-S	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
Lange, Andrew	A-033-S	BICEP1 third season continuation - A

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

		search for inflation with degree-scale polarimetry from the South Pole
Lessard, Marc	A-105-M/S	Collaborative Research: Polar Experiment Network for Geospace Upper atmosphere Investigations (PENGUIn) - Advancing the vision for global studies
Mende, Stephen	A-104-S	Antarctic auroral imaging
Mitchell, John	A-140-M	Balloon-borne Experiment with a Superconducting Spectrometer (BESS)
Palo, Scott	A-284-S	Collaborative study of the Antarctic mesosphere and lower thermosphere
Pryke, Clement	A-379-S	Cosmological Research with the 10-meter South Pole Telescope
Seo, Eun-Suk	A-137-M	Cosmic Ray Energetics And Mass (CREAM)
Sivjee, Gulamabas	A-129-S	Observation of upper-atmospheric energetics, dynamics, and long-term variations over South Pole Station
Stepp, Bill	A-145-M	NASA Long Duration Balloon (LDB) support program
Thompson, Linda	A-138-M	Wallops Flight Facility component of the CREAM balloon payload
Wefel, John	A-143-M	Advanced Thin Ionization Calorimeter (ATIC)
Zesta, Eftyhia	A-357-M/P	South American Meridional B-Field Array (SAMBA): An American-Chilean chain

Return to Index

Science Program Indexes: 2007-2008

USAP Program Index:

Organisms and Ecosystems

Return to Index

Principal Investigator	Event No.	Project Title
Ainley, David	B-031-M	Adelie Penguin response to climate change at the individual, colony and metapopulation levels
Amsler, Charles	B-022-P	The chemical ecology of shallow water marine macroalgae and invertebrates on the Antarctic Peninsula
Blanchette, Bob	B-038-M	Studies of antarctic fungi: Adaptive stratigies for survival and protecting Antarctica's historic structures
Caron, David	B-245-N	Collaborative research: Do crustacean zooplankton play a pivotal role in structuring heterotrophic plankton communities?
Costa, Daniel	B-232-E	Habitat utilization of Southern Ocean seals: Foraging behavior of Crabeater and Elephant seals using novel methods of oceanographic data collection
DeMaster, David	B-237-L	Collaborative research: Benthic faunal feeding dynamics on the Antarctic shelf and the effects of global climate change on bentho-pelagic coupling
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
DeVries, Art	B-005-M	Environmental, organismal and evolutionary physiology of freeze avoidance in antarctic Notothenoid

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

		fishes
Doran, Peter	B-426-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Fabry, Victoria	B-069-M	Impacts of elevated pCO2 on a dominant aragonitic pteropod (Thecosomata) and its specialist predator (Gymnosomata) in the Ross Sea
Fountain, Andrew	B-425-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
Fraser, Bill	B-013-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Garrott, Robert	B-009-M	The demographic consequences of environmental variability and individual heterogeneity in life-history tactics of a long-lived Antarctic marine predator
Horning, Markus	B-041-M	Collaborative Research: Aging in Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.
Johnson, Bruce	B-179-M/S	Altitude symptoms at the South Pole
Karentz, Deneb	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Kennicutt, Mahlon	B-518-M	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Kim, Stacy	B-174-M	Development of a remotely operated vehicle for under-ice research in polar environments

Lyons, W. Berry	B-420-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
Manahan, Donal	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Martinson, Doug	B-021-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Mellish, Jo-Ann	B-041-M	Collaborative Research: Aging in Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.
Moran, Amy	B-004-M	Collaborative Research: Effects of oxygen and temperature on egg mass function of Southern Ocean marine invertebrates
Murray, Alison	B-229-P	Bacterioplankton genomic adaptations to Antarctic winter
Oftedal, Olav	B-024-M	Capital expenditure, lactation energetics, and the importance of foraging to Weddell seals and their pups
Priscu, John	B-234-M	Collaborative Research: IPY-plankton dynamics in the McMurdo Dry Valley Lakes during the transition to polar night
Ross, Robin	B-028-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Skidmore, Mark	B-236-M	Biogeochemistry and geomicrobiology of Taylor Glacier basal ice
Smith, Craig	B-212-L	Collaborative research: Benthic faunal feeding dynamics on the Antarctic shelf and the effects of

		global climate change on bentho-pelagic coupling
Smith, Kenneth	B-050-N	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Smith, Raymond	B-032-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Trivelpiece, Wayne	B-040-E	Penguins as monitors of the krill-centric Southern Ocean marine ecosystem
Vernet, Maria	B-016-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Virginia, Ross	B-423-M	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	B-424-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program

Return to Index

Science Program Indexes: 2007-2008

USAP Program Index:

Earth Sciences

Return to Index

Principal Investigator	Event No.	Project Title
Bart, Philip	G-154-N	Ross-Sea outer continental shelf morphology and near-surface stratigraphy: Quaternary ice-sheet grounding-zone migrations and the LGM dilemma
Dalziel, Ian	G-087-N	Central Scotia Sea floor and the Drake Passage deep ocean current gateway
Gillies, John	G-167-M	Dynamics of aeolian processes in the McMurdo Dry Valleys, Antarctica
Harpp, Karen	G-412-M	Collaborative Research: The transition from subduction to extensional magmatism in the Dry Valleys of Antarctica
Harwood, David	G-091-M	ANDRILL
Harwood, David	G-049-M	ANDRILL: Investigating Antarctica's role in Cenozoic global environmental change
Ishman, Scott	G-183-L	Collaborative Research: Testing the impact of seasonality on benthic foraminifers as paleoenvironmental proxies.
Kemerait, Robert	G-078-M	Dry Valley seismic project
Kurz, Mark	G-152-M	Periglacial landscape evolution in Antarctic lava flows and glacial tills
Kyle, Phillip	G-081-M	Mount Erebus Volcano Observatory II (MEVO II): Surveillance, models, impacts and outreach
MacPhee, Ross	G-170-E	Vertebrate paleontology of Livingston Island, South Shetlands, Antarctica
Marsh, Bruce	G-056-M	3-D dynamics of the Ferrar Magmatic Mush Column, Dry Valleys
Nyblade, Andy	G-055-M	Collaborative Research: A

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

		broadband seismic experiment to image the lithosphere beneath the Gamburtsev Mountains, East Antarctica
Robinson, Laura	G-290-N	Glacial radiocarbon constraints from Drake Passage deep-sea corals
Saltzman, Matthew	G-051-M	The Permian-Triassic transition in Antarctica: Rate, timing, and pattern of climate change in high latitude Gondwana
Sletten, Ronald	G-121-M	Ground ice dynamics in hyperarid soils of the McMurdo Dry Valleys, Antarctica
Stock, Joann	G-071-N	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Wilch, Thomas	G-062-M	Late Cenozoic volcanism and glaciation at Minna Bluff: Implications for antarctic cryosphere history

Return to Index

Science Program Indexes: 2007-2008

USAP Program Index:

Glaciology

Return to Index

Principal Investigator	Event No.	Project Title
Albert, Mary	I-155-M	Norwegian-United States IPY Scientific Traverse: Climate variability and glaciology in East Antarctica
Alley, Richard	I-168-M	Collaborative research: Physical properties of the WAIS Divide deep core
Anandakrishnan, Sridhar	I-205-M	IPY, Flow dynamics of two Amundsen Sea glaciers: Thwaites and Pine Island
Catania, Ginny	I-159-M	Grounding line forensics: The history of grounding line retreat in the Kamb Ice Stream outlet region
Conway, Howard	I-196-M	Grounding-line retreat in the southern Ross Sea and constraints from Scott Glacier
Gogineni, Prasad	I-189-M	Center for Remote Sensing of Ice Sheets (CReSIS) - Basler airborne radar survey
Hall, Brenda	I-196-M	Grounding-line retreat in the southern Ross Sea and constraints from Scott Glacier
Hansen, Tony	I-414-S	Hyper-insulated instrumentation system to support year-round research in polar regions
Hargreaves, Geoffrey	I-478-M	National Ice Core Laboratory (NICL) core-handling and data recording
Hinkley , Todd	I-478-M	National Ice Core Laboratory (NICL) core-handling and data recording
Mayewski, Paul	I-153-M/S	A Science Management Office for the United States Component of the International Trans Antarctic Expedition (US ITASE SMO): A collaborative program of research

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

		from Taylor Dome to South Pole
Prentice, Michael	I-133-M	Fluctuations of the West Antarctic Ice-Sheet in relation to lake history in Taylor Valley since the Last Glacial Maximum
Taylor, Kendrick	I-477-M	Investigation of climate, ice dynamics, and biology using a deep ice core from the West Antarctic Ice Sheet

Return to Index

Science Program Indexes: 2007-2008

USAP Program Index:

Ocean and Atmospheric Sciences

Return to Index

Principal Investigator	Event No.	Project Title
Ackley, Stephen	O-270-N	SIMBA drift station (sea ice mass balance in the antarctic)
Butler, James	O-257-S	South Pole monitoring for climatic change
Dempsey, John	O-316-M	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Hofmann, David	O-264-P	Collection of atmospheric air for the NOAA/GMD worldwide flask-sampling network
Hofmann, David	O-257-S	South Pole monitoring for climatic change
Huber, Bruce	O-399-N	Cape Adare Long-term Mooring (CALM)
Martinson, Doug	O-241-L	SASSI Mooring Array in the Western Antarctic Peninsula
Sprintall, Janet	O-260-L	The Drake Passage high-density XBT/XCTD program
Stearns, Charles	O-202-M/P	Antarctic Meteorological Research Center (AMRC)

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Program Indexes: 2007-2008

USAP Program Index:

Artists and Writers

Return to Index

Principal Investigator	Event No.	Project Title
Ananthaswamy, Anil	W-487-M/S	To the edge of reason: Pilgrimages to the holy sites of cosmology
Baranowski, Kim	W-486-P	Frozen field
Kannen, Christopher	W-488-M	Parhelion pemmican pack-ice pancake: Antarctica compressed on canvas
Keeley, Kate	W-489-P	Integrating science and creative writing
Polli, Andrea	W-490-M	90ºS
Powell, Anthony	W-491-M/S	A time-lapse study of Antarctica

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Program Indexes: 2007-2008

USAP Program Index:

(IPY) Education and Outreach

Return to Index

Principal Investigator	Event No.	Project Title
Farrell, Mike	Y-601-M	IPY: Engaging Antarctica
Haines-Stiles, Geoff	Y-328-E/M/N/S	POLAR-PALOOZA
Linder, Chris	Y-603-M	IPY: Live from the Poles: A multimedia educational experience
Rankin, Moira	Y-604-M	IPY: Pole to Pole
Warnick, Wendy	Y-606-M	IPY: PolarTREC - Teachers and Researchers Exploring and Collaborating

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Program Indexes: 2007-2008

USAP Program Index:

Integrated System Science

Return to Index

Principal Investigator	Event No.	Project Title
Bindschadler, Robert	C-407-M	IPY: Collaborative Research: Ocean-Ice Sheet Interaction in the Amundsen Sea: The Keystone of West Antarctic Stability

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Program Indexes: 2007-2008

USAP Station Index:

McMurdo Station

Return to Index

Principal Investigator	Event No.	Project Title
Ainley, David	B-031-M	Adelie Penguin response to climate change at the individual, colony and metapopulation levels
Albert, Mary	I-155-M	Norwegian-United States IPY Scientific Traverse: Climate variability and glaciology in East Antarctica
Alley, Richard	I-168-M	Collaborative research: Physical properties of the WAIS Divide deep core
Anandakrishnan, Sridhar	I-205-M	IPY, Flow dynamics of two Amundsen Sea glaciers: Thwaites and Pine Island
Ananthaswamy, Anil	W-487-M/S	To the edge of reason: Pilgrimages to the holy sites of cosmology
Bieber, John	A-120-M	Solar and heliospheric studies with antarctic cosmic ray observations
Bindschadler, Robert	C-407-M	IPY: Collaborative Research: Ocean-Ice Sheet Interaction in the Amundsen Sea: The Keystone of West Antarctic Stability
Blanchette, Bob	B-038-M	Studies of antarctic fungi: Adaptive stratigies for survival and protecting Antarctica's historic structures
Catania, Ginny	I-159-M	Grounding line forensics: The history of grounding line retreat in the Kamb Ice Stream outlet region
Conway, Howard	I-196-M	Grounding-line retreat in the southern Ross Sea and constraints from Scott Glacier
Dempsey, John	O-316-M	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Deshler, Terry	A-131-M	Measurements addressing the initial

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

		stages of ozone recovery, the nucleation of, index of refraction of, and existence of large PSC particles
DeVries, Art	B-005-M	Environmental, organismal and evolutionary physiology of freeze avoidance in antarctic Notothenoid fishes
Doran, Peter	B-426-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Fabry, Victoria	B-069-M	Impacts of elevated pCO2 on a dominant aragonitic pteropod (Thecosomata) and its specialist predator (Gymnosomata) in the Ross Sea
Farrell, Mike	Y-601-M	IPY: Engaging Antarctica
Fountain, Andrew	B-425-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
Fraser-Smith, Antony	A-100-M	Operation of an ELF/VLF radiometer at Arrival Heights
Garrott, Robert	B-009-M	The demographic consequences of environmental variability and individual heterogeneity in life-history tactics of a long-lived Antarctic marine predator
Gillies, John	G-167-M	Dynamics of aeolian processes in the McMurdo Dry Valleys, Antarctica
Gogineni, Prasad	I-189-M	Center for Remote Sensing of Ice Sheets (CReSIS) - Basler airborne radar survey
Griffin, Ken	T-927-M	NASA/McMurdo Ground Station (MG1)
Haines-Stiles, Geoff	Y-328-E/M/N/S	POLAR-PALOOZA
Hall, Brenda	I-196-M	Grounding-line retreat in the southern Ross Sea and constraints from Scott

		Glacier
Hargreaves, Geoffrey	I-478-M	National Ice Core Laboratory (NICL) core-handling and data recording
Harpp, Karen	G-412-M	Collaborative Research: The transition from subduction to extensional magmatism in the Dry Valleys of Antarctica
Harwood, David	G-091-M	ANDRILL
Harwood, David	G-049-M	ANDRILL: Investigating Antarctica's role in Cenozoic global environmental change
Hernandez, Gonzalo	A-110-M/S	Austral high-latitude atmospheric dynamics
Hinkley , Todd	I-478-M	National Ice Core Laboratory (NICL) core-handling and data recording
Horning, Markus	B-041-M	Collaborative Research: Aging in Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.
Johns, Bjorn	T-295-M	UNAVCO GPS survey support
Johnson, Bruce	B-179-M/S	Altitude symptoms at the South Pole
Kannen, Christopher	W-488-M	Parhelion pemmican pack-ice pancake: Antarctica compressed on canvas
Karentz, Deneb	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Kemerait, Robert	G-078-M	Dry Valley seismic project
Kennicutt, Mahlon	B-518-M	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Kim, Stacy	B-174-M	Development of a remotely operated vehicle for under-ice research in polar environments
Kurz, Mark	G-152-M	Periglacial landscape evolution in Antarctic lava flows and glacial tills
Kyle, Phillip	G-081-M	Mount Erebus Volcano Observatory II (MEVO II): Surveillance, models, impacts and outreach

Lessard, Marc	A-105-M/S	Collaborative Research: Polar Experiment Network for Geospace Upper atmosphere Investigations (PENGUIn) - Advancing the vision for global studies
Linder, Chris	Y-603-M	IPY: Live from the Poles: A multimedia educational experience
Lyons, W. Berry	B-420-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
Manahan, Donal	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Marsh, Bruce	G-056-M	3-D dynamics of the Ferrar Magmatic Mush Column, Dry Valleys
Mayewski, Paul	I-153-M/S	A Science Management Office for the United States Component of the International Trans Antarctic Expedition (US ITASE SMO): A collaborative program of research from Taylor Dome to South Pole
Mellish, Jo-Ann	B-041-M	Collaborative Research: Aging in Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.
Mitchell, John	A-140-M	Balloon-borne Experiment with a Superconducting Spectrometer (BESS)
Moran, Amy	B-004-M	Collaborative Research: Effects of oxygen and temperature on egg mass function of Southern Ocean marine invertebrates
Nyblade, Andy	G-055-M	Collaborative Research: A broadband seismic experiment to image the lithosphere beneath the Gamburtsev Mountains, East Antarctica
Oftedal, Olav	B-024-M	Capital expenditure, lactation energetics, and the importance of foraging to Weddell seals and their

		pups
Polli, Andrea	W-490-M	90ºS
Powell, Anthony	W-491-M/S	A time-lapse study of Antarctica
Prentice, Michael	I-133-M	Fluctuations of the West Antarctic Ice-Sheet in relation to lake history in Taylor Valley since the Last Glacial Maximum
Priscu, John	B-234-M	Collaborative Research: IPY-plankton dynamics in the McMurdo Dry Valley Lakes during the transition to polar night
Rankin, Moira	Y-604-M	IPY: Pole to Pole
Saltzman, Matthew	G-051-M	The Permian-Triassic transition in Antarctica: Rate, timing, and pattern of climate change in high latitude Gondwana
Seo, Eun-Suk	A-137-M	Cosmic Ray Energetics And Mass (CREAM)
Skidmore, Mark	B-236-M	Biogeochemistry and geomicrobiology of Taylor Glacier basal ice
Sletten, Ronald	G-121-M	Ground ice dynamics in hyperarid soils of the McMurdo Dry Valleys, Antarctica
Stearns, Charles	O-202-M/P	Antarctic Meteorological Research Center (AMRC)
Stepp, Bill	A-145-M	NASA Long Duration Balloon (LDB) support program
Szuberla, Curt	T-396-M	Operation and maintenance of a CTBT class infrasound array at Windless Bight
Taylor, Kendrick	I-477-M	Investigation of climate, ice dynamics, and biology using a deep ice core from the West Antarctic Ice Sheet
Thompson, Linda	A-138-M	Wallops Flight Facility component of the CREAM balloon payload
Virginia, Ross	B-423-M	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	B-424-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Warnick, Wendy	Y-606-M	IPY: PolarTREC - Teachers and Researchers Exploring and Collaborating
Wefel, John	A-143-M	Advanced Thin Ionization Calorimeter (ATIC)
Wilch, Thomas	G-062-M	Late Cenozoic volcanism and glaciation at Minna Bluff: Implications for antarctic cryosphere history
Zesta, Eftyhia	A-357-M/P	South American Meridional B-Field Array (SAMBA): An American-Chilean chain

Return to Index

Science Program Indexes: 2007-2008

USAP Station Index:

Palmer Station

Return to Index

Principal Investigator	Event No.	Project Title
Amsler, Charles	B-022-P	The chemical ecology of shallow water marine macroalgae and invertebrates on the Antarctic Peninsula
Baranowski, Kim	W-486-P	Frozen field
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
Fraser, Bill	B-013-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Hofmann, David	O-264-P	Collection of atmospheric air for the NOAA/GMD worldwide flask-sampling network
Inan, Umran	A-336-P	ELF/VLF observation of whistler-mode waves, lightning discharge, and gamma-ray events from Palmer Station
Keeley, Kate	W-489-P	Integrating science and creative writing
Murray, Alison	B-229-P	Bacterioplankton genomic adaptations to Antarctic winter
Ross, Robin	B-028-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Stearns, Charles	O-202-M/P	Antarctic Meteorological Research Center (AMRC)
Zesta, Eftyhia	A-357-M/P	South American Meridional B-Field Array (SAMBA): An American-Chilean chain

Return to Index

Science Program Indexes: 2007-2008

USAP Station Index:

Amundsen-Scott South Pole Station

Return to Index

Principal Investigator	Event No.	Project Title
Ananthaswamy, Anil	W-487-M/S	To the edge of reason: Pilgrimages to the holy sites of cosmology
Butler, James	O-257-S	South Pole monitoring for climatic change
Carlstrom, John	A-379-S	Cosmological Research with the 10-meter South Pole Telescope
Carlstrom, John	A-370-S	Science Coordination Office for Astrophysical Research in Antarctica (SCOARA)
Church, Sarah	A-366-S	Next generation CMB polarization measurements with the QUEST experiment on DASI
Evenson, Paul	A-333-S	IceCube operations and maintenance
Haines-Stiles, Geoff	Y-328-E/M/N/S	POLAR-PALOOZA
Hansen, Tony	I-414-S	Hyper-insulated instrumentation system to support year-round research in polar regions
Hernandez, Gonzalo	A-110-M/S	Austral high-latitude atmospheric dynamics
Hofmann, David	O-257-S	South Pole monitoring for climatic change
Jefferies, Stuart	A-115-S	Tomographic imaging of the velocity and magnetic fields in the sun's atmosphere
Johnson, Bruce	B-179-M/S	Altitude symptoms at the South Pole
LaBelle, James	A-128-S	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
Lange, Andrew	A-033-S	BICEP1 third season continuation - A search for inflation with degree-scale polarimetry from the South Pole

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Lessard, Marc	A-105-M/S	Collaborative Research: Polar Experiment Network for Geospace Upper atmosphere Investigations (PENGUIn) - Advancing the vision for global studies
Mayewski, Paul	I-153-M/S	A Science Management Office for the United States Component of the International Trans Antarctic Expedition (US ITASE SMO): A collaborative program of research from Taylor Dome to South Pole
Mende, Stephen	A-104-S	Antarctic auroral imaging
Palo, Scott	A-284-S	Collaborative study of the Antarctic mesosphere and lower thermosphere
Powell, Anthony	W-491-M/S	A time-lapse study of Antarctica
Pryke, Clement	A-379-S	Cosmological Research with the 10-meter South Pole Telescope
Sivjee, Gulamabas	A-129-S	Observation of upper-atmospheric energetics, dynamics, and long-term variations over South Pole Station

Return to Index

Science Program Indexes: 2007-2008

USAP Station Index:

ARSV Laurence M. Gould

Return to Index

Principal Investigator	Event No.	Project Title
DeMaster, David	B-237-L	Collaborative research: Benthic faunal feeding dynamics on the Antarctic shelf and the effects of global climate change on bentho-pelagic coupling
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
Fraser, Bill	B-013-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Ishman, Scott	G-183-L	Collaborative Research: Testing the impact of seasonality on benthic foraminifers as paleoenvironmental proxies.
Martinson, Doug	B-021-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Martinson, Doug	O-241-L	SASSI Mooring Array in the Western Antarctic Peninsula
Ross, Robin	B-028-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Smith, Craig	B-212-L	Collaborative research: Benthic faunal feeding dynamics on the Antarctic

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

		shelf and the effects of global climate change on bentho-pelagic coupling
Smith, Raymond	B-032-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Sprintall, Janet	O-260-L	The Drake Passage high-density XBT/XCTD program
Vernet, Maria	B-016-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)

Return to Index

Science Program Indexes: 2007-2008

USAP Station Index:

RVIB Nathaniel B. Palmer

Return to Index

Principal Investigator	Event No.	Project Title
Ackley, Stephen	O-270-N	SIMBA drift station (sea ice mass balance in the antarctic)
Bart, Philip	G-154-N	Ross-Sea outer continental shelf morphology and near-surface stratigraphy: Quaternary ice-sheet grounding-zone migrations and the LGM dilemma
Caron, David	B-245-N	Collaborative research: Do crustacean zooplankton play a pivotal role in structuring heterotrophic plankton communities?
Dalziel, Ian	G-087-N	Central Scotia Sea floor and the Drake Passage deep ocean current gateway
Haines-Stiles, Geoff	Y-328-E/M/N/S	POLAR-PALOOZA
Huber, Bruce	O-399-N	Cape Adare Long-term Mooring (CALM)
Inan, Umran	A-327-N	ELF/VLF observation in the southern Pacific Ocean
Robinson, Laura	G-290-N	Glacial radiocarbon constraints from Drake Passage deep-sea corals
Smith, Kenneth	B-050-N	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Stock, Joann	G-071-N	Collection of marine geophysical data on transits of the Nathaniel B. Palmer

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Program Indexes: 2007-2008

USAP Station Index:

Special Projects

Return to Index

Principal Investigator	Event No.	Project Title
Costa, Daniel	B-232-E	Habitat utilization of Southern Ocean seals: Foraging behavior of Crabeater and Elephant seals using novel methods of oceanographic data collection
Haines-Stiles, Geoff	Y-328-E/M/N/S	POLAR-PALOOZA
MacPhee, Ross	G-170-E	Vertebrate paleontology of Livingston Island, South Shetlands, Antarctica
Trivelpiece, Wayne	B-040-E	Penguins as monitors of the krill-centric Southern Ocean marine ecosystem

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

NASA/McMurdo Ground Station (MG1)

Radarsat building and dome with Ob Hill in the background. Photo courtesy of Mark Harris.

Program Manager:
Mr. Pat Smith

Event Number: T-927-M
NASA/NSF Agreement

ASC POC/Implementer:
Douglas Miller

Mr. Ken Griffin (Principal Investigator)
Kenneth.R.Griffin@nasa.gov
http://scp.gsfc.nasa.gov/gn/

National Aeronautics and Space Administration
Wallops Flight Facility
Wallops Island, Virginia

Supporting Stations: McMurdo Station
Research Locations: On station

Project Description:

NASA's McMurdo Ground Station (MG1) is a 10-meter antenna housed in a white radome visible on the hill above McMurdo Station. It is used primarily for data recovery from polar orbiting science satellites, both of NASA and of foreign entities (esp. where NASA has a hosted instrument on-board a foreign satellite). MG1 provides launch and early operations phase (LEOP) support for launches from Vandenberg AFB for satellite missions that require downrange telemetry support from McMurdo. MG1 also provides telemetry and command for satellite housekeeping and recovery from satellite operational emergencies. MG1 provides data recovery for the EUMETSAT MetOp polar weather satellite constellation, in collaboration with NOAA National Environmental Satellite and Data Information Service, which reduces by a factor of 2 the time latency for data ingest into U.S. and European weather forecasting models, improving forecasting accuracies.

Field Season Overview:

Members of the field team will begin deploying to McMurdo Station in mid October with additional members arriving in January, and February. The technicians will track a variety of satellites, monitor launches, and collect/forward data. Two members of the team will work at McMurdo through

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

the austral winter. Data will be recorded on site and shipped to NASA facilities for processing. Some data will be transmitted to NASA facilities over dedicated internet links.

Deploying Team Members:

- Charles Bradford
- Michael Condon
- Alexander Dunnigan
- James Hendrickson
- William Kambarn
- Nickolas Sinkola (Co-PI)

Return to Index

Science Project Details: 2007-2008

UNAVCO GPS Survey Support

UNAVCO engineer Seth White upgrades the power system at the Cape Roberts continuous GPS site. Photo courtesy of UNAVCO.

Program Manager:
Dr. Alexandra Isern

Event Number: T-295-M
NSF/EAR Award 1261833

ASC POC/Implementer:
Patricia Jackson

Mr. Bjorn Johns (Principal Investigator)
johns@unavco.org
http://facility.unavco.org/project_support/polar/

UNAVCO
Wellington, Undefined

Supporting Stations: McMurdo Station
Research Locations: GPS sites

Project Description:

UNAVCO provides technical support and equipment for precision geodetic observations using GPS and terrestrial LiDAR technologies. Survey grade GPS receivers, terrestrial laser scanners and supporting power and communications systems for both high-precision campaign surveying and continuous data collection are available to project researchers. Infrastructure for this support includes a Real Time Kinematic (RTK) differential GPS broadcasting station covering McMurdo Sound, a repeater on Mt Erebus for GPS data retrieval from the Transantarctic Mountains and an Iridium satellite communications hub in Colorado. Technical support is provided for the Palmer Station GPS surveying system. Operation and maintenance is provided as needed for the NASA IGS stations MCM4 and PALM, the POLENET (ANET) remote GPS stations and GPS reference stations at WAIS Divide and South Pole Station.

Field Season Overview:

The field team will work out of the Crary Lab to provide sub-centimeter GPS support to science projects. Field team members will occasionally travel to field locations as support requirements dictate. They are also planning a brief visit to the MRI site at South Pole Station to perform maintenance on the

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Continuous GPS (CGPS) testbed site.

Deploying Team Members:

- Thomas Nylen
- Joe Pettit

Return to Index

Science Project Details: 2007-2008

Operation And Maintenance Of A CTBT Class Infrasound Array At Windless Bight

Program Manager:
Mr. Pat Smith

Event Number: T-396-M

ASC POC/Implementer:
Douglas Miller

Dr. Curt Szuberla (Principal Investigator)
cas@gi.alaska.edu
http://www.gi.alaska.edu/infrasound/

University of Alaska Fairbanks
Geophysical Institute
Fairbanks, Alaska

Supporting Stations: McMurdo Station
Research Locations: Windless Bight

Project Description:

This project operates, maintains, upgrades, calibrates, and services the joint U.S. Comprehensive Nuclear Test Ban Treaty (CTBT) station at Windless Bight. Windless Bight's location on the Ross Ice Shelf is unique for its very low wind levels, which makes infrasound detection possible. Infrasound can detect volcano eruptions, winds over distant mountain ranges, large storms at sea, auroral and meteor events, earthquakes, avalanches, and human-caused events, such as very large explosions.

Field Season Overview:

Our cargo requirements for the coming season will be about the same as last year. Our group of six will be equipped with standard remote field equipment (including snow machines, Pisten Buly and Mattrack) to stay at Windless Bight. We will not remain continuously in the field and one or two may be left behind in McMurdo to coordinate data acquisition in the CTBT Hub room. We will require Science Construction to setup two heated tents and an outhouse. As usual we will need 550 gallons of JP8 to refuel the power supply for the array. We will continue to use the mini-milvan provided for us for storage of supplies and cargo. A dedicated MatTrack and snowmachines are required. The winter over RA should come to Fairbanks for Infrasound training before deployment. Two of the TBA personnel may be northern

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

power systems sub-contract employees.

Deploying Team Members:

- Kathleen Lawson

Return to Index

Science Program Indexes: 2007-2008

Principal Investigator Index

Return to Index

Principal Investigator	Event No.	Project Title
Ackley, Stephen	O-270-N	SIMBA drift station (sea ice mass balance in the antarctic)
Ainley, David	B-031-M	Adelie Penguin response to climate change at the individual, colony and metapopulation levels
Albert, Mary	I-155-M	Norwegian-United States IPY Scientific Traverse: Climate variability and glaciology in East Antarctica
Alley, Richard	I-168-M	Collaborative research: Physical properties of the WAIS Divide deep core
Amsler, Charles	B-022-P	The chemical ecology of shallow water marine macroalgae and invertebrates on the Antarctic Peninsula
Anandakrishnan, Sridhar	I-205-M	IPY, Flow dynamics of two Amundsen Sea glaciers: Thwaites and Pine Island
Ananthaswamy, Anil	W-487-M/S	To the edge of reason: Pilgrimages to the holy sites of cosmology
Baranowski, Kim	W-486-P	Frozen field
Bart, Philip	G-154-N	Ross-Sea outer continental shelf morphology and near-surface stratigraphy: Quaternary ice-sheet grounding-zone migrations and the LGM dilemma
Bieber, John	A-120-M	Solar and heliospheric studies with antarctic cosmic ray observations
Bindschadler, Robert	C-407-M	IPY: Collaborative Research: Ocean-Ice Sheet Interaction in the Amundsen Sea: The Keystone of West Antarctic Stability

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Blanchette, Bob	B-038-M	Studies of antarctic fungi: Adaptive stratigies for survival and protecting Antarctica's historic structures
Butler, James	O-257-S	South Pole monitoring for climatic change
Carlstrom, John	A-379-S	Cosmological Research with the 10-meter South Pole Telescope
Carlstrom, John	A-370-S	Science Coordination Office for Astrophysical Research in Antarctica (SCOARA)
Caron, David	B-245-N	Collaborative research: Do crustacean zooplankton play a pivotal role in structuring heterotrophic plankton communities?
Catania, Ginny	I-159-M	Grounding line forensics: The history of grounding line retreat in the Kamb Ice Stream outlet region
Church, Sarah	A-366-S	Next generation CMB polarization measurements with the QUEST experiment on DASI
Conway, Howard	I-196-M	Grounding-line retreat in the southern Ross Sea and constraints from Scott Glacier
Costa, Daniel	B-232-E	Habitat utilization of Southern Ocean seals: Foraging behavior of Crabeater and Elephant seals using novel methods of oceanographic data collection
Dalziel, Ian	G-087-N	Central Scotia Sea floor and the Drake Passage deep ocean current gateway
DeMaster, David	B-237-L	Collaborative research: Benthic faunal feeding dynamics on the Antarctic shelf and the effects of global climate change on bentho-pelagic coupling
Dempsey, John	O-316-M	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Deshler, Terry	A-131-M	Measurements addressing the initial stages of ozone recovery, the nucleation of, index of refraction of,

		and existence of large PSC particles
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
Detrich, Bill	B-037-L/P	Protein folding and function at cold temperature: Co-evolution of the chaperonin CCT and tubulins from antarctic fishes
DeVries, Art	B-005-M	Environmental, organismal and evolutionary physiology of freeze avoidance in antarctic Notothenoid fishes
Doran, Peter	B-426-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Evenson, Paul	A-333-S	IceCube operations and maintenance
Fabry, Victoria	B-069-M	Impacts of elevated pCO2 on a dominant aragonitic pteropod (Thecosomata) and its specialist predator (Gymnosomata) in the Ross Sea
Farrell, Mike	Y-601-M	IPY: Engaging Antarctica
Fountain, Andrew	B-425-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
Fraser, Bill	B-013-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Seabird component)
Fraser-Smith, Antony	A-100-M	Operation of an ELF/VLF radiometer at Arrival Heights
Garrott, Robert	B-009-M	The demographic consequences of environmental variability and

		individual heterogeneity in life-history tactics of a long-lived Antarctic marine predator
Gillies, John	G-167-M	Dynamics of aeolian processes in the McMurdo Dry Valleys, Antarctica
Gogineni, Prasad	I-189-M	Center for Remote Sensing of Ice Sheets (CReSIS) - Basler airborne radar survey
Griffin, Ken	T-927-M	NASA/McMurdo Ground Station (MG1)
Haines-Stiles, Geoff	Y-328-E/M/N/S	POLAR-PALOOZA
Hall, Brenda	I-196-M	Grounding-line retreat in the southern Ross Sea and constraints from Scott Glacier
Hansen, Tony	I-414-S	Hyper-insulated instrumentation system to support year-round research in polar regions
Hargreaves, Geoffrey	I-478-M	National Ice Core Laboratory (NICL) core-handling and data recording
Harpp, Karen	G-412-M	Collaborative Research: The transition from subduction to extensional magmatism in the Dry Valleys of Antarctica
Harwood, David	G-091-M	ANDRILL
Harwood, David	G-049-M	ANDRILL: Investigating Antarctica's role in Cenozoic global environmental change
Hernandez, Gonzalo	A-110-M/S	Austral high-latitude atmospheric dynamics
Hinkley , Todd	I-478-M	National Ice Core Laboratory (NICL) core-handling and data recording
Hofmann, David	O-264-P	Collection of atmospheric air for the NOAA/GMD worldwide flask-sampling network
Hofmann, David	O-257-S	South Pole monitoring for climatic change
Horning, Markus	B-041-M	Collaborative Research: Aging in

		Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.
Huber, Bruce	O-399-N	Cape Adare Long-term Mooring (CALM)
Inan, Umran	A-327-N	ELF/VLF observation in the southern Pacific Ocean
Inan, Umran	A-336-P	ELF/VLF observation of whistler-mode waves, lightning discharge, and gamma-ray events from Palmer Station
Ishman, Scott	G-183-L	Collaborative Research: Testing the impact of seasonality on benthic foraminifers as paleoenvironmental proxies.
Jefferies, Stuart	A-115-S	Tomographic imaging of the velocity and magnetic fields in the sun's atmosphere
Johns, Bjorn	T-295-M	UNAVCO GPS survey support
Johnson, Bruce	B-179-M/S	Altitude symptoms at the South Pole
Kannen, Christopher	W-488-M	Parhelion pemmican pack-ice pancake: Antarctica compressed on canvas
Karentz, Deneb	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Keeley, Kate	W-489-P	Integrating science and creative writing
Kemerait, Robert	G-078-M	Dry Valley seismic project
Kennicutt, Mahlon	B-518-M	Temporal variability in natural and anthropogenic disturbance of McMurdo Station
Kim, Stacy	B-174-M	Development of a remotely operated vehicle for under-ice research in polar environments
Kurz, Mark	G-152-M	Periglacial landscape evolution in Antarctic lava flows and glacial tills

Kyle, Phillip	G-081-M	Mount Erebus Volcano Observatory II (MEVO II): Surveillance, models, impacts and outreach
LaBelle, James	A-128-S	Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole
Lange, Andrew	A-033-S	BICEP1 third season continuation - A search for inflation with degree-scale polarimetry from the South Pole
Lessard, Marc	A-105-M/S	Collaborative Research: Polar Experiment Network for Geospace Upper atmosphere Investigations (PENGUIn) - Advancing the vision for global studies
Linder, Chris	Y-603-M	IPY: Live from the Poles: A multimedia educational experience
Lyons, W. Berry	B-420-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valleys LTER program
MacPhee, Ross	G-170-E	Vertebrate paleontology of Livingston Island, South Shetlands, Antarctica
Manahan, Donal	B-301-M	A graduate training program in Antarctica: Integrative biology and adaptation of antarctic marine organisms
Marsh, Bruce	G-056-M	3-D dynamics of the Ferrar Magmatic Mush Column, Dry Valleys
Martinson, Doug	B-021-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment
Martinson, Doug	O-241-L	SASSI Mooring Array in the Western Antarctic Peninsula
Mayewski, Paul	I-153-M/S	A Science Management Office for the United States Component of the International Trans Antarctic Expedition (US ITASE SMO): A

		collaborative program of research from Taylor Dome to South Pole
Mellish, Jo-Ann	B-041-M	Collaborative Research: Aging in Weddell Seals: Proximate mechanisms of age-related changes in adaptations to breath-hold hunting in an extreme environment.
Mende, Stephen	A-104-S	Antarctic auroral imaging
Mitchell, John	A-140-M	Balloon-borne Experiment with a Superconducting Spectrometer (BESS)
Moran, Amy	B-004-M	Collaborative Research: Effects of oxygen and temperature on egg mass function of Southern Ocean marine invertebrates
Murray, Alison	B-229-P	Bacterioplankton genomic adaptations to Antarctic winter
Nyblade, Andy	G-055-M	Collaborative Research: A broadband seismic experiment to image the lithosphere beneath the Gamburtsev Mountains, East Antarctica
Oftedal, Olav	B-024-M	Capital expenditure, lactation energetics, and the importance of foraging to Weddell seals and their pups
Palo, Scott	A-284-S	Collaborative study of the Antarctic mesosphere and lower thermosphere
Polli, Andrea	W-490-M	90ºS
Powell, Anthony	W-491-M/S	A time-lapse study of Antarctica
Prentice, Michael	I-133-M	Fluctuations of the West Antarctic Ice-Sheet in relation to lake history in Taylor Valley since the Last Glacial Maximum
Priscu, John	B-234-M	Collaborative Research: IPY-plankton dynamics in the McMurdo Dry Valley Lakes during the transition to polar night
Pryke, Clement	A-379-S	Cosmological Research with the 10-meter South Pole Telescope

Rankin, Moira	Y-604-M	IPY: Pole to Pole
Robinson, Laura	G-290-N	Glacial radiocarbon constraints from Drake Passage deep-sea corals
Ross, Robin	B-028-L/P	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Prey component)
Saltzman, Matthew	G-051-M	The Permian-Triassic transition in Antarctica: Rate, timing, and pattern of climate change in high latitude Gondwana
Seo, Eun-Suk	A-137-M	Cosmic Ray Energetics And Mass (CREAM)
Sivjee, Gulamabas	A-129-S	Observation of upper-atmospheric energetics, dynamics, and long-term variations over South Pole Station
Skidmore, Mark	B-236-M	Biogeochemistry and geomicrobiology of Taylor Glacier basal ice
Sletten, Ronald	G-121-M	Ground ice dynamics in hyperarid soils of the McMurdo Dry Valleys, Antarctica
Smith, Craig	B-212-L	Collaborative research: Benthic faunal feeding dynamics on the Antarctic shelf and the effects of global climate change on bentho-pelagic coupling
Smith, Kenneth	B-050-N	Free drifting icebergs: Influence of floating islands on pelagic ecosystems in the Weddell Sea
Smith, Raymond	B-032-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Bio-optical component)
Sprintall, Janet	O-260-L	The Drake Passage high-density XBT/XCTD program
Stearns, Charles	O-202-M/P	Antarctic Meteorological Research Center (AMRC)

Stepp, Bill	A-145-M	NASA Long Duration Balloon (LDB) support program
Stock, Joann	G-071-N	Collection of marine geophysical data on transits of the Nathaniel B. Palmer
Szuberla, Curt	T-396-M	Operation and maintenance of a CTBT class infrasound array at Windless Bight
Taylor, Kendrick	I-477-M	Investigation of climate, ice dynamics, and biology using a deep ice core from the West Antarctic Ice Sheet
Thompson, Linda	A-138-M	Wallops Flight Facility component of the CREAM balloon payload
Trivelpiece, Wayne	B-040-E	Penguins as monitors of the krill-centric Southern Ocean marine ecosystem
Vernet, Maria	B-016-L	Palmer Long Term Ecological Research (LTER): Climate migration, ecological response and teleconnections in an ice-dominated environment (Phytoplankton component)
Virginia, Ross	B-423-M	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	B-424-M	Role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
Warnick, Wendy	Y-606-M	IPY: PolarTREC - Teachers and Researchers Exploring and Collaborating
Wefel, John	A-143-M	Advanced Thin Ionization Calorimeter (ATIC)
Wilch, Thomas	G-062-M	Late Cenozoic volcanism and glaciation at Minna Bluff: Implications for antarctic cryosphere history

Zesta, Eftyhia	A-357-M/P	South American Meridional B-Field Array (SAMBA): An American-Chilean chain

Return to Index

Science Program Indexes: 2007-2008

Institution Index

Return to Index

Institution	Event No.	Principal Investigator
Alabama Birmingham, University of	B-022-P	Amsler, Charles
Alaska Fairbanks, University of	B-041-M	Mellish, Jo-Ann
Alaska Fairbanks, University of	T-396-M	Szuberla, Curt
Albion College	G-062-M	Wilch, Thomas
Arctic Research Consortium	Y-606-M	Warnick, Wendy
California Berkeley, University of	A-104-S	Mende, Stephen
California Institute of Technology	A-033-S	Lange, Andrew
California Institute of Technology	G-071-N	Stock, Joann
California Los Angeles, University of	A-357-M/P	Zesta, Eftyhia
California Santa Barbara, University of	B-028-L/P	Ross, Robin
California Santa Barbara, University of	B-032-L	Smith, Raymond
California Santa Cruz, University of	B-232-E	Costa, Daniel
California State University San Marcos	B-069-M	Fabry, Victoria
Chicago, University of	A-370-S	Carlstrom, John
Chicago, University of	A-379-S	Carlstrom, John
Chicago, University of	A-379-S	Pryke, Clement
City University of New York / Hunter College	W-490-M	Polli, Andrea
Clarkson University	O-316-M	Dempsey, John
Clemson University	B-004-M	Moran, Amy
Colgate University	G-412-M	Harpp, Karen
Colorado Boulder, University of	A-284-S	Palo, Scott
Colorado State University	B-424-M	Wall, Diana

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Columbia Scientific Balloon Facility	A-145-M	Stepp, Bill
Columbia University	B-021-L	Martinson, Doug
Columbia University	O-399-N	Huber, Bruce
Columbia University	O-241-L	Martinson, Doug
Dartmouth College	I-155-M	Albert, Mary
Dartmouth College	B-423-M	Virginia, Ross
Dartmouth College	A-128-S	LaBelle, James
Delaware, University of	A-120-M	Bieber, John
Delaware, University of	A-333-S	Evenson, Paul
Desert Research Institute	G-167-M	Gillies, John
Desert Research Institute	B-229-P	Murray, Alison
Desert Research Institute	I-477-M	Taylor, Kendrick
Embry Riddle Aeronautical University	A-129-S	Sivjee, Gulamabas
H.T. Harvey & Associates	B-031-M	Ainley, David
Hawaii Manoa, University of	B-212-L	Smith, Craig
Hawaii, University of	A-115-S	Jefferies, Stuart
Illinois Chicago, University of	B-426-M	Doran, Peter
Illinois Urbana, University of	B-005-M	DeVries, Art
Johns Hopkins University	G-056-M	Marsh, Bruce
Kansas Lawrence, University of	I-189-M	Gogineni, Prasad
Louisiana State University Baton Rouge	A-143-M	Wefel, John
Louisiana State University Baton Rouge	G-154-N	Bart, Philip
Magee Scientific Company	I-414-S	Hansen, Tony
Maine, University of	I-153-M/S	Mayewski, Paul
Maryland, University of	A-137-M	Seo, Eun-Suk
Mayo Clinic	B-179-M/S	Johnson, Bruce
Minnesota, University of	B-038-M	Blanchette, Bob
Montana State University Bozeman	B-009-M	Garrott, Robert
Montana State University Bozeman	B-234-M	Priscu, John

Montana State University Bozeman	B-236-M	Skidmore, Mark
Monterey Bay Aquarium Research Institute	B-050-N	Smith, Kenneth
National Aeronautics and Space Administration	A-138-M	Thompson, Linda
National Aeronautics and Space Administration	T-927-M	Griffin, Ken
National Aeronautics and Space Administration	C-407-M	Bindschadler, Robert
National Aeronautics and Space Administration	A-140-M	Mitchell, John
National Oceanic and Atmospheric Administration	B-040-E	Trivelpiece, Wayne
National Oceanic and Atmospheric Administration	O-257-S	Butler, James
National Oceanic and Atmospheric Administration	O-257-S	Hofmann, David
National Oceanic and Atmospheric Administration	O-264-P	Hofmann, David
Nebraska Lincoln, University of	G-049-M	Harwood, David
Nebraska Lincoln, University of	G-091-M	Harwood, David
Nebraska Lincoln, University of	Y-601-M	Farrell, Mike
New Hampshire, University of	A-105-M/S	Lessard, Marc
New Mexico Institute of Mining and Technology	G-081-M	Kyle, Phillip
North Carolina State University	B-237-L	DeMaster, David
Northeastern University	B-037-L/P	Detrich, Bill
Northeastern University	B-037-L/P	Detrich, Bill
Ohio State University	G-051-M	Saltzman, Matthew
Ohio State University	B-420-M	Lyons, W. Berry
Oregon State University	B-041-M	Horning, Markus
Pennsylvania State University	I-168-M	Alley, Richard
Pennsylvania State University	I-205-M	Anandakrishnan, Sridhar
Pennsylvania State University	G-055-M	Nyblade, Andy
Polar Oceans Research Group	B-013-L/P	Fraser, Bill

Portland State University	B-425-M	Fountain, Andrew
San Francisco, University of	B-301-M	Karentz, Deneb
San Jose State University	B-174-M	Kim, Stacy
Scripps Institution of Oceanography	O-260-L	Sprintall, Janet
Scripps Institution of Oceanography	B-016-L	Vernet, Maria
Smithsonian Institution	B-024-M	Oftedal, Olav
Southern California, University of	B-301-M	Manahan, Donal
Southern California, University of	B-245-N	Caron, David
Southern Illinois University	G-183-L	Ishman, Scott
Stanford University	A-336-P	Inan, Umran
Stanford University	A-327-N	Inan, Umran
Stanford University	A-100-M	Fraser-Smith, Antony
Stanford University	A-366-S	Church, Sarah
Texas A & M University	B-518-M	Kennicutt, Mahlon
Texas Austin, University of	I-159-M	Catania, Ginny
Texas Austin, University of	G-087-N	Dalziel, Ian
Texas, University of	O-270-N	Ackley, Stephen
The University of Maine	I-196-M	Hall, Brenda
UNAVCO	T-295-M	Johns, Bjorn
United States Air Force	G-078-M	Kemerait, Robert
United States Geological Survey	I-478-M	Hargreaves, Geoffrey
United States Geological Survey	I-478-M	Hinkley , Todd
Washington, University of	A-110-M/S	Hernandez, Gonzalo
Washington, University of	I-196-M	Conway, Howard
Washington, University of	G-121-M	Sletten, Ronald
Wisconsin Madison, University of	O-202-M/P	Stearns, Charles
Woods Hole Oceanographic Institution	G-152-M	Kurz, Mark
Woods Hole Oceanographic Institution	G-290-N	Robinson, Laura
Wyoming, University of	A-131-M	Deshler, Terry

Return to Index

Science Program Indexes: 2007-2008

Event Number Index

Return to Index

Root No. ▼	Event No.	Principal Investigator
004	B-004-M	Moran, Amy
005	B-005-M	DeVries, Art
009	B-009-M	Garrott, Robert
013	B-013-L/P	Fraser, Bill
016	B-016-L	Vernet, Maria
021	B-021-L	Martinson, Doug
022	B-022-P	Amsler, Charles
024	B-024-M	Oftedal, Olav
028	B-028-L/P	Ross, Robin
031	B-031-M	Ainley, David
032	B-032-L	Smith, Raymond
033	A-033-S	Lange, Andrew
037	B-037-L/P	Detrich, Bill
037	B-037-L/P	Detrich, Bill
038	B-038-M	Blanchette, Bob
040	B-040-E	Trivelpiece, Wayne
041	B-041-M	Horning, Markus
041	B-041-M	Mellish, Jo-Ann
049	G-049-M	Harwood, David
050	B-050-N	Smith, Kenneth
051	G-051-M	Saltzman, Matthew
055	G-055-M	Nyblade, Andy
056	G-056-M	Marsh, Bruce
062	G-062-M	Wilch, Thomas

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

069	B-069-M	Fabry, Victoria
071	G-071-N	Stock, Joann
078	G-078-M	Kemerait, Robert
081	G-081-M	Kyle, Phillip
087	G-087-N	Dalziel, Ian
091	G-091-M	Harwood, David
100	A-100-M	Fraser-Smith, Antony
104	A-104-S	Mende, Stephen
105	A-105-M/S	Lessard, Marc
110	A-110-M/S	Hernandez, Gonzalo
115	A-115-S	Jefferies, Stuart
120	A-120-M	Bieber, John
121	G-121-M	Sletten, Ronald
128	A-128-S	LaBelle, James
129	A-129-S	Sivjee, Gulamabas
131	A-131-M	Deshler, Terry
133	I-133-M	Prentice, Michael
137	A-137-M	Seo, Eun-Suk
138	A-138-M	Thompson, Linda
140	A-140-M	Mitchell, John
143	A-143-M	Wefel, John
145	A-145-M	Stepp, Bill
152	G-152-M	Kurz, Mark
153	I-153-M/S	Mayewski, Paul
154	G-154-N	Bart, Philip
155	I-155-M	Albert, Mary
159	I-159-M	Catania, Ginny
167	G-167-M	Gillies, John
168	I-168-M	Alley, Richard
170	G-170-E	MacPhee, Ross
174	B-174-M	Kim, Stacy

179	B-179-M/S	Johnson, Bruce
183	G-183-L	Ishman, Scott
189	I-189-M	Gogineni, Prasad
196	I-196-M	Conway, Howard
196	I-196-M	Hall, Brenda
202	O-202-M/P	Stearns, Charles
205	I-205-M	Anandakrishnan, Sridhar
212	B-212-L	Smith, Craig
229	B-229-P	Murray, Alison
232	B-232-E	Costa, Daniel
234	B-234-M	Priscu, John
236	B-236-M	Skidmore, Mark
237	B-237-L	DeMaster, David
241	O-241-L	Martinson, Doug
245	B-245-N	Caron, David
257	O-257-S	Butler, James
257	O-257-S	Hofmann, David
260	O-260-L	Sprintall, Janet
264	O-264-P	Hofmann, David
270	O-270-N	Ackley, Stephen
284	A-284-S	Palo, Scott
290	G-290-N	Robinson, Laura
295	T-295-M	Johns, Bjorn
301	B-301-M	Karentz, Deneb
301	B-301-M	Manahan, Donal
316	O-316-M	Dempsey, John
327	A-327-N	Inan, Umran
328	Y-328-E/M/N/S	Haines-Stiles, Geoff
333	A-333-S	Evenson, Paul
336	A-336-P	Inan, Umran
357	A-357-M/P	Zesta, Eftyhia

366	A-366-S	Church, Sarah
370	A-370-S	Carlstrom, John
379	A-379-S	Carlstrom, John
379	A-379-S	Pryke, Clement
396	T-396-M	Szuberla, Curt
399	O-399-N	Huber, Bruce
407	C-407-M	Bindschadler, Robert
412	G-412-M	Harpp, Karen
414	I-414-S	Hansen, Tony
420	B-420-M	Lyons, W. Berry
423	B-423-M	Virginia, Ross
424	B-424-M	Wall, Diana
425	B-425-M	Fountain, Andrew
426	B-426-M	Doran, Peter
477	I-477-M	Taylor, Kendrick
478	I-478-M	Hargreaves, Geoffrey
478	I-478-M	Hinkley , Todd
486	W-486-P	Baranowski, Kim
487	W-487-M/S	Ananthaswamy, Anil
488	W-488-M	Kannen, Christopher
489	W-489-P	Keeley, Kate
490	W-490-M	Polli, Andrea
491	W-491-M/S	Powell, Anthony
518	B-518-M	Kennicutt, Mahlon
601	Y-601-M	Farrell, Mike
603	Y-603-M	Linder, Chris
604	Y-604-M	Rankin, Moira
606	Y-606-M	Warnick, Wendy
927	T-927-M	Griffin, Ken

Return to Index

Science Program Indexes: 2007-2008

Deploying Team Members Index

Return to Index

Team Members	Event No.	Principal Investigator
Abresch, Brian	A-138-M	Linda Thompson
Ackley, Stephen	O-270-N	Stephen Ackley
Acton, Gary	G-091-M	David Harwood
Adams, Byron	B-424-M	Diana Wall
Adams, James	A-143-M	John Wefel
Adams, Vincent	G-154-N	Philip Bart
Ahn, Hoseok	A-143-M	John Wefel
Aird, Ken	A-379-S	John Carlstrom
Akuginow, Erna	Y-328-E/M/N/S	Geoff Haines-Stiles
Albershardt, Lou	I-155-M	Mary Albert
Albert, Mary	I-155-M	Mary Albert
Amato, Pierre	B-236-M	Mark Skidmore
Amsler, Margaret	B-022-P	Charles Amsler
Ananthaswamy, Anil	W-487-M/S	Anil Ananthaswamy
Anderson, Paul	B-179-M/S	Bruce Johnson
Anderson, Rebecca	I-477-M	Kendrick Taylor
Anderson, Sarah	O-270-N	Stephen Ackley
Arbuckle, Andrew	A-333-S	Paul Evenson
Arcone, Steven	I-153-M/S	Paul Mayewski
Arenz, Brett	B-038-M	Bob Blanchette
Arnett, Kenneth	A-105-M/S	Marc Lessard
Aster, Rick	G-081-M	Phillip Kyle
Asuma, Jonas	O-202-M/P	Charles Stearns
Atkins, Clifford	G-091-M	David Harwood

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Aumack, Craig	B-022-P	Charles Amsler
Avery, James	A-284-S	Scott Palo
Ayres, Edward	B-424-M	Diana Wall
Azeem, S.	A-129-S	Gulamabas Sivjee
Bagshaw, Elizabeth	B-425-M	Andrew Fountain
Baker, Bill	B-022-P	Charles Amsler
Ball, Rebecca	B-423-M	Ross Virginia
Banks, Forest	A-333-S	Paul Evenson
Baranowski, Kim	W-486-P	Kim Baranowski
Barkats, Denis	A-033-S	Andrew Lange
Barlow, Stephen	A-110-M/S	Gonzalo Hernandez
Bart, Philip	G-154-N	Philip Bart
Basagic, Hassan	B-425-M	Andrew Fountain
Bassett, Kari	G-091-M	David Harwood
Bay, Ryan	A-333-S	Paul Evenson
Bechtel, Jeff	B-024-M	Olav Oftedal
Beck, John	Y-328-E/M/N/S	Geoff Haines-Stiles
Beckendorf, Kirk	Y-606-M	Wendy Warnick
Bell, Melinda	Y-606-M	Wendy Warnick
Bencivengo, Brian	I-478-M	Todd Hinkley
Benson, Bradford	A-379-S	John Carlstrom
Benson, Terry	A-333-S	Paul Evenson
Berger, Michael	B-301-M	Donal Manahan
Bergholz-Nelson, Elke	O-257-S	David Hofmann
Bernardino, Angelo	B-212-L	Craig Smith
Bernardino, Angelo	B-237-L	David DeMaster
Besson, David	A-333-S	Paul Evenson
Bibby, Theodore	G-091-M	David Harwood
Bierman, Evan	A-033-S	Andrew Lange
Bilyk, Kevin	B-005-M	Art DeVries

Blair, Jeff	I-414-S	Tony Hansen
Blair, Stacie	G-091-M	David Harwood
Bleem, Lindsey	A-379-S	John Carlstrom
Bliss, Andrew	G-078-M	Robert Kemerait
Blum, Jennifer	B-013-L/P	Bill Fraser
Bock, Jamie	A-033-S	Andrew Lange
Bogen, David	A-333-S	Paul Evenson
Bordelon, Laura	G-183-L	Scott Ishman
Borochin, Roman	B-426-M	Peter Doran
Bosket, Meagan	G-062-M	Thomas Wilch
Bozard, James	B-050-N	Kenneth Smith
Brabant, Frederic	O-270-N	Stephen Ackley
Braddock, Peter	Y-601-M	Mike Farrell
Bradford, Charles	T-927-M	Ken Griffin
Bramucci, Anna	B-234-M	John Priscu
Brandt, Theresa	A-137-M	Eun-Suk Seo
Brasfield, Paul	A-145-M	Bill Stepp
Brenner, Timothy	A-333-S	Paul Evenson
Breton, Daniel	I-153-M/S	Paul Mayewski
Bromley, Gordon	I-196-M	Brenda Hall
Brown, Holly	G-056-M	Bruce Marsh
Browne, Greg	G-091-M	David Harwood
Brunette, Joseph	Y-601-M	Mike Farrell
Buchinger, Nicholas	A-333-S	Paul Evenson
Buck, Samantha	G-412-M	Karen Harpp
Buenerd, Michel	A-137-M	Eun-Suk Seo
Bunch, Nicholas	A-128-S	James LaBelle
Bunt, Don	A-145-M	Bill Stepp
Burton, Timothy	G-081-M	Phillip Kyle
Burton, Timothy	G-062-M	Thomas Wilch
Carnat, Gauthier	O-270-N	Stephen Ackley

Carnes, Jake	G-049-M	David Harwood
Caron, David	B-245-N	David Caron
Carpenter, Chad	A-333-S	Paul Evenson
Catania, Ginny	I-159-M	Ginny Catania
Cerrato, Robert	B-245-N	David Caron
Chambers, Reid	A-145-M	Bill Stepp
Chang, Clarence	A-379-S	John Carlstrom
Chang, Jeff	A-105-M/S	Marc Lessard
Chaput, Julien	G-081-M	Phillip Kyle
Charpentier, Paul	A-333-S	Paul Evenson
Cheng-DeVries, Chris	B-005-M	Art DeVries
Chiang, Cynthia	A-033-S	Andrew Lange
Chow, Juan	G-154-N	Philip Bart
Christner, Brent	B-236-M	Mark Skidmore
Cohen, Jonathan	B-301-M	Donal Manahan
Colao, Francesco	A-131-M	Terry Deshler
Condon, Michael	T-927-M	Ken Griffin
Conway, Maurice	I-196-M	Brenda Hall
Coplin, Eric	A-333-S	Paul Evenson
Cowen, Douglas	A-333-S	Paul Evenson
Cox, Amy	O-257-S	David Hofmann
Crabill, Marty	A-145-M	Bill Stepp
Craig, Preston	B-050-N	Kenneth Smith
Crawford, Thomas	A-379-S	John Carlstrom
Croon, Marcel	G-071-N	Joann Stock
Cruikshank, Ken	I-159-M	Ginny Catania
Culverhouse, Thomas	A-366-S	Sarah Church
D'Agostino, Michelangelo	A-333-S	Paul Evenson
Davis, Evan	A-333-S	Paul Evenson
De Leo, Fabio	B-212-L	Craig Smith
De Leo, Fabio	B-237-L	David DeMaster

DeJong, Johannes	O-270-N	Stephen Ackley
Del Carlo, Paola	G-091-M	David Harwood
Delaney, Allan	I-133-M	Michael Prentice
DeLille, Bruno	O-270-N	Stephen Ackley
DeMaster, David	B-237-L	David DeMaster
Dempsey, John	O-316-M	John Dempsey
Descamps, Freija	A-333-S	Paul Evenson
Detrich, Bill	B-037-L/P	Bill Detrich
DeVries, Art	B-005-M	Art DeVries
DeYoung, Tyce	A-333-S	Paul Evenson
di Clemente, Graziano	G-091-M	David Harwood
Dicks, Ethan	A-333-S	Paul Evenson
Dieser, Markus	B-234-M	John Priscu
Dixon, Daniel	I-153-M/S	Paul Mayewski
Dooley, Julia	G-049-M	David Harwood
Doren, Jesse	G-049-M	David Harwood
Dreyfus, Gabrielle	I-477-M	Kendrick Taylor
Duer, Abel	A-138-M	Linda Thompson
Dugger, Katie	B-031-M	David Ainley
Duling, Dennis	A-333-S	Paul Evenson
Dumont, Isabelle	O-270-N	Stephen Ackley
Dunbar, Gavin	G-091-M	David Harwood
Dunbar, Nelia	G-062-M	Thomas Wilch
Dunnigan, Alexander	T-927-M	Ken Griffin
Edwards, Jeanne	A-333-S	Paul Evenson
Eisert, Regina	B-024-M	Olav Oftedal
Elcheikh, Alan	A-333-S	Paul Evenson
Ellena, Jacob	B-050-N	Kenneth Smith
Ellison, Brad	A-143-M	John Wefel
Engdegård, Olof	A-333-S	Paul Evenson

Englund, Sylvia	I-477-M	Kendrick Taylor
Erdmann, Eric	B-013-L/P	Bill Fraser
Estep, Robby	A-138-M	Linda Thompson
Etchemendy, Steve	B-050-N	Kenneth Smith
Evans, Clive	B-005-M	Art DeVries
Fabry, Victoria	B-069-M	Victoria Fabry
Fairey, William	B-174-M	Stacy Kim
Ferguson, Cynthia	A-143-M	John Wefel
Ferris, David	I-477-M	Kendrick Taylor
Festian , Nicole	I-168-M	Richard Alley
Field, Brad	G-091-M	David Harwood
Fielding, Christopher	G-091-M	David Harwood
Flemming, Clare	G-170-E	Ross MacPhee
Florindo, Fabio	G-091-M	David Harwood
Fornari, Daniel	G-290-N	Laura Robinson
Frank, Tracy	G-091-M	David Harwood
Fraser, Bill	B-013-L/P	Bill Fraser
Frazier, Curtis	A-145-M	Bill Stepp
Frey, Harald	A-104-S	Stephen Mende
Friedman, Robert	A-366-S	Sarah Church
Frisch-Gleason, Robin	G-049-M	David Harwood
Fritsen, Christian	O-270-N	Stephen Ackley
Gaisser, Thomas	A-333-S	Paul Evenson
Galley, Elizabeth	B-212-L	Craig Smith
Galley, Elizabeth	B-237-L	David DeMaster
Galvan, David	A-357-M/P	Eftyhia Zesta
Ganel, Opher	A-137-M	Eun-Suk Seo
Garay, Delores	Y-606-M	Wendy Warnick
Garcia, Michael	G-412-M	Karen Harpp
Gardner, Christopher	B-420-M	W. Berry Lyons
Geilfus, Nicolas-Xavier	O-270-N	Stephen Ackley

Geist, Dennis	G-412-M	Karen Harpp
Gerst, Alex	G-081-M	Phillip Kyle
Gibson, Dar	A-333-S	Paul Evenson
Giebink, Cindy	A-115-S	Stuart Jefferies
Giebink, William	A-115-S	Stuart Jefferies
Gillette, Brandon	Y-606-M	Wendy Warnick
Gillies, John	G-167-M	John Gillies
Goossen, Randy	G-071-N	Joann Stock
Gorman, Kristin	B-013-L/P	Bill Fraser
Gossmann, April	B-518-M	Mahlon Kennicutt
Gould, Randy	A-143-M	John Wefel
Granger, Doug	A-143-M	John Wefel
Green, Adam	B-009-M	Robert Garrott
Greenbaum, Jamin	I-159-M	Ginny Catania
Grelle, Thomas	G-091-M	David Harwood
Griesel, Timo	A-333-S	Paul Evenson
Griffin, Kenneth	T-927-M	Ken Griffin
Grullon, Sean	A-333-S	Paul Evenson
Guzik, Greg	A-143-M	John Wefel
Hagedorn, Birgit	G-121-M	Ronald Sletten
Haines-Stiles, Geoff	Y-328-E/M/N/S	Geoff Haines-Stiles
Hall, Tansey	B-069-M	Victoria Fabry
Hallet, Bernard	G-121-M	Ronald Sletten
Hallgren, Allan	A-333-S	Paul Evenson
Halverson, Nils	A-379-S	John Carlstrom
Ham, Tom	A-333-S	Paul Evenson
Hamilton, Darrell	A-333-S	Paul Evenson
Hamilton, Gordon	I-153-M/S	Paul Mayewski
Hams, Thomas	A-140-M	John Mitchell
Handwerger, David	G-091-M	David Harwood

Hannaford, Terry	A-333-S	Paul Evenson
Hannah, Michael	G-091-M	David Harwood
Hansen, Tony	I-414-S	Tony Hansen
Harpp, Karen	G-412-M	Karen Harpp
Hart, Henry	A-138-M	Linda Thompson
Harwood, David	G-091-M	David Harwood
Hasegawa, Masaya	A-140-M	John Mitchell
Haugen, James	A-333-S	Paul Evenson
Hays, Jack	A-145-M	Bill Stepp
Heeszel, David	G-055-M	Andy Nyblade
Helly, John	B-050-N	Kenneth Smith
Hendrickson, James	T-927-M	Ken Griffin
Henry, Hiram	I-159-M	Ginny Catania
Hernandez, Gonzalo	A-110-M/S	Gonzalo Hernandez
Hess, Katherine	I-477-M	Kendrick Taylor
Hexel, Cole	B-050-N	Kenneth Smith
Higson, Jacqueline	B-234-M	John Priscu
Hill, Gary	A-333-S	Paul Evenson
Hill, Roger	B-041-M	Markus Horning
Hill, Suzanne	B-041-M	Markus Horning
Hinderks, James	A-366-S	Sarah Church
Hindle, Allyson	B-041-M	Markus Horning
Hinke, Jefferson	B-040-E	Wayne Trivelpiece
Hobson, Brett	B-050-N	Kenneth Smith
Hochman, Gary	Y-601-M	Mike Farrell
Hockersmith, Lyndell	A-105-M/S	Marc Lessard
Hoffman, Matthew	B-425-M	Andrew Fountain
Hoffman, Stefan	G-091-M	David Harwood
Hofmann, David	O-257-S	David Hofmann
Holzapfel, Bill	A-379-S	John Carlstrom
Hooker, Jeremy	G-170-E	Ross MacPhee

Hopkins, Alyssa	B-237-L	David DeMaster
Horgan, Huw	I-189-M	Prasad Gogineni
Horgan, Huw	I-205-M	Sridhar Anandakrishnan
Horikoshi, Atsushi	A-140-M	John Mitchell
Horning, Markus	B-041-M	Markus Horning
Howard, Art	Y-328-E/M/N/S	Geoff Haines-Stiles
Hrenchuck, Lee	B-234-M	John Priscu
Hubbard, Joanna	G-091-M	David Harwood
Huber, Kathryn	G-154-N	Philip Bart
Huerta, Nicholas	B-174-M	Stacy Kim
Huffman, Louise	G-091-M	David Harwood
Hulbe, Christina	I-159-M	Ginny Catania
Humphrey, Jim	A-145-M	Bill Stepp
Hunt, Henry	B-420-M	W. Berry Lyons
Huntley, Peter	A-379-S	John Carlstrom
Hutchings, Thomas	A-333-S	Paul Evenson
Isbert, Joachim	A-143-M	John Wefel
Ishman, Scott	G-091-M	David Harwood
Ishman, Scott	G-183-L	Scott Ishman
Jacobs, Louis	G-170-E	Ross MacPhee
Jacobsen, John	A-333-S	Paul Evenson
Jacobson, Samuel	G-078-M	Robert Kemerait
Janches, Diego	A-284-S	Scott Palo
Jefferies, Stuart	A-115-S	Stuart Jefferies
Jeffers, Sascha	B-009-M	Robert Garrott
Jeon, Jin-A	A-137-M	Eun-Suk Seo
Johannson, Henrik	A-333-S	Paul Evenson
Johnson, Bruce	B-179-M/S	Bruce Johnson
Johnson, Bryan Jay	O-257-S	David Hofmann
Johnson, Katherine	G-091-M	David Harwood

Johnson, Kyle	A-284-S	Scott Palo
Johnson, William Keith	O-270-N	Stephen Ackley
Jones, Adriane	B-245-N	David Caron
Jones, Kyle	G-081-M	Phillip Kyle
Joss, Rich	B-024-M	Olav Oftedal
Jovane, Luigi	G-091-M	David Harwood
Jurgens, Joel	B-038-M	Bob Blanchette
Kalin, Jonas	A-333-S	Paul Evenson
Kalnajs, Lars	A-131-M	Terry Deshler
Kambarn, William	T-927-M	Ken Griffin
Kannen, Chris	W-488-M	Christopher Kannen
Kappes, Alexander	A-333-S	Paul Evenson
Karle, Albrecht	A-333-S	Paul Evenson
Kaufman, Angela	B-040-E	Wayne Trivelpiece
Kaufman, Jonathan	A-033-S	Andrew Lange
Kaufmann, Ronald	B-050-N	Kenneth Smith
Keating, Brian	A-033-S	Andrew Lange
Keeley, Kate	W-489-P	Kate Keeley
Keisler, Ryan	A-379-S	John Carlstrom
Kettunen, Anne	B-005-M	Art DeVries
Kim, Diane	B-245-N	David Caron
Kim, Stacy	B-174-M	Stacy Kim
Klein, Andrew	B-518-M	Mahlon Kennicutt
Kleist, Michael	A-333-S	Paul Evenson
Klepser, Stefan	A-333-S	Paul Evenson
Knuth, Shelly	O-202-M/P	Charles Stearns
Kolb, Marcus	B-174-M	Stacy Kim
Konfirst, Matthew	G-091-M	David Harwood
Koplovitz, Gil	B-022-P	Charles Amsler
Korczak, Malgorzata	B-040-E	Wayne Trivelpiece
Korotkikh, Elena	I-153-M/S	Paul Mayewski

Kouznetsov, Evgueni	A-143-M	John Wefel
Kovac, John	A-033-S	Andrew Lange
Kozlowski, Wendy	B-016-L	Maria Vernet
Krall, Sarah	G-081-M	Phillip Kyle
Krasberg, Mark	A-333-S	Paul Evenson
Krissek, Lawrence	G-091-M	David Harwood
Kropidlowski, Stefan	B-040-E	Wayne Trivelpiece
Kueltz, Dietmar	B-301-M	Donal Manahan
Kuhn, Gerhard	G-091-M	David Harwood
Kurz, Mark	G-152-M	Mark Kurz
Kusumoto, Akira	A-140-M	John Mitchell
la Pena, Santiago de	A-284-S	Scott Palo
Lacy, Laura	G-091-M	David Harwood
Laihem, Karim	A-333-S	Paul Evenson
Lange, Andrew	A-033-S	Andrew Lange
Latshaw, James	A-333-S	Paul Evenson
Lau, Elias	A-284-S	Scott Palo
Laundrie, Andrew	A-333-S	Paul Evenson
Lawson, Kathleen	T-396-M	Curt Szuberla
Lee, Adrian	A-379-S	John Carlstrom
Lehmann, Rainer	G-091-M	David Harwood
Leight, Cliff	Y-328-E/M/N/S	Geoff Haines-Stiles
Leitch, Erik	A-379-S	John Carlstrom
Lenertz, Jim	Y-601-M	Mike Farrell
Lenky, Crystal	B-024-M	Olav Oftedal
Leonard, Katherine	O-270-N	Stephen Ackley
Levy, Richard	G-091-M	David Harwood
Lewis , Michael	O-270-N	Stephen Ackley
Lidstrom, Sven	A-333-S	Paul Evenson
Linder, Chris	Y-603-M	Chris Linder

Lindquist, Kirsten	B-031-M	David Ainley
Linsley, Ann	B-518-M	Mahlon Kennicutt
Linsley, Ann	Y-606-M	Wendy Warnick
Liston, Glen	I-155-M	Mary Albert
Lizotte, Michael	B-234-M	John Priscu
Lonsdale, Darcy	B-245-N	David Caron
Lucas, Hannah	B-013-L/P	Bill Fraser
Lueker, Martin	A-379-S	John Carlstrom
Lynch, Warren	B-024-M	Olav Oftedal
Lyons, Timothy	A-333-S	Paul Evenson
Magens, Diana	G-091-M	David Harwood
Malinine, Alexandre	A-137-M	Eun-Suk Seo
Manahan, Donal	B-301-M	Donal Manahan
Mannas, Jen	B-009-M	Robert Garrott
Marchant, Gary	A-145-M	Bill Stepp
Marsh, Bruce	G-056-M	Bruce Marsh
Marshall, Robert	A-336-P	Umran Inan
Martin, Jonathan	G-183-L	Scott Ishman
Maschek, John	B-022-P	Charles Amsler
Masson, Florence	O-270-N	Stephen Ackley
Masters, Otto	A-145-M	Bill Stepp
Mathiason, Matthew	A-333-S	Paul Evenson
Matsuda, Shinya	A-140-M	John Mitchell
Matsukawa, Yosuke	A-140-M	John Mitchell
Matt, Terry	A-333-S	Paul Evenson
Matulaitis, Ilona	G-412-M	Karen Harpp
Mayewski, Paul	I-153-M/S	Paul Mayewski
McBrien, Alexander	O-316-M	John Dempsey
McCabe, Nathan	A-145-M	Bill Stepp
McCarthy, Michael	A-110-M/S	Gonzalo Hernandez
McDonald, Birgitte	B-232-E	Daniel Costa

McGill, Paul	B-050-N	Kenneth Smith
McGuire, Paul	A-333-S	Paul Evenson
McIntosh, Bill	G-062-M	Thomas Wilch
Mclain, Ryan	G-078-M	Robert Kemerait
McMahon, Jeffrey	A-379-S	John Carlstrom
McNamara, Marianne	B-245-N	David Caron
Meagher, Kevin	A-333-S	Paul Evenson
Medved, Miroljub	B-426-M	Peter Doran
Melville, Bob	A-105-M/S	Marc Lessard
Merck, Martin	A-333-S	Paul Evenson
Meyer, Stephan	A-379-S	John Carlstrom
Miknaitis, Kathryn	A-379-S	John Carlstrom
Mikucki, Jill	B-234-M	John Priscu
Millan-Martinez, Cristina	G-091-M	David Harwood
Miller, Andrew	B-179-M/S	Bruce Johnson
Miller, Bruce	B-004-M	Amy Moran
Miller, Elizabeth	G-056-M	Bruce Marsh
Miller, Pnina	G-081-M	Phillip Kyle
Miller, Ryan	Y-328-E/M/N/S	Geoff Haines-Stiles
Mincks, Sarah	B-237-L	David DeMaster
Mincks, Sarah	B-212-L	Craig Smith
Mischler, John	I-477-M	Kendrick Taylor
Mitchell, John	A-140-M	John Mitchell
Moldwin, Mark	A-357-M/P	Eftyhia Zesta
Mommer, Bret	B-005-M	Art DeVries
Montaruli, Teresa	A-333-S	Paul Evenson
Montes Hugo, Martin	B-016-L	Maria Vernet
Moorthi, Stefanie	B-245-N	David Caron
Moran, Amy	B-004-M	Amy Moran
Morgan-Kiss, Rachael	B-234-M	John Priscu

Morgensen, Steen	B-009-M	Robert Garrott
Morley, Geoffrey	O-316-M	John Dempsey
Movit, Steven	A-333-S	Paul Evenson
Munk, Lee Ann	B-420-M	W. Berry Lyons
Murphy, Neil	A-115-S	Stuart Jefferies
Murray, Alison	B-050-N	Kenneth Smith
Murray, Alison	B-301-M	Donal Manahan
Murray, Alison	B-229-P	Alison Murray
Murray, Timothy	A-333-S	Paul Evenson
Mutiso, Charles	A-129-S	Gulamabas Sivjee
Muto, Atsuhiro	I-155-M	Mary Albert
Neumann, Tom	I-155-M	Mary Albert
Newbold, Bryan	B-174-M	Stacy Kim
Newcomb, Matthew	A-333-S	Paul Evenson
Nguyen, Hien	A-033-S	Andrew Lange
Nickling, William	G-167-M	John Gillies
Nielsen, Edgar	A-333-S	Paul Evenson
Nielsen, Simon	G-091-M	David Harwood
Nienaber, Jeanette	B-041-M	Markus Horning
Nilsson, Anders	A-333-S	Paul Evenson
Null, Kimberly	B-237-L	David DeMaster
Nutter, Scott	A-137-M	Eun-Suk Seo
Nylen, Thomas	T-295-M	Bjorn Johns
O'Malley, Kathy	B-179-M/S	Bruce Johnson
Oftedal, Olav	B-024-M	Olav Oftedal
Olney, Matthew	G-091-M	David Harwood
Oppenheimer, Clive	G-081-M	Phillip Kyle
Orito, Reiko	A-140-M	John Mitchell
Orlando, Angiola	A-366-S	Sarah Church
Orsi, Anais	I-477-M	Kendrick Taylor

Ortega Culaciati, Francisco	G-071-N	Joann Stock
Osborn, Karen	B-050-N	Kenneth Smith
Padin, Stephen	A-379-S	John Carlstrom
Palmer, Terence	B-518-M	Mahlon Kennicutt
Palozzi, Roberto	B-024-M	Olav Oftedal
Pan, Jeronimo	B-245-N	David Caron
Pandolfi, Luci	I-153-M/S	Paul Mayewski
Panowicz, Caryn	O-270-N	Stephen Ackley
Panter, Kurt	G-062-M	Thomas Wilch
Panter, Kurt	G-091-M	David Harwood
Parcheta, Carolyn	G-412-M	Karen Harpp
Park, Yongcheol	G-055-M	Andy Nyblade
Passchier, Sandra	G-091-M	David Harwood
Patterson, Taylor	G-049-M	David Harwood
Paulsen, Timothy	G-091-M	David Harwood
Pekar, Steve	G-091-M	David Harwood
Pena, John	O-270-N	Stephen Ackley
Pennycook, Jean	B-031-M	David Ainley
Perez Lara, Juan	A-145-M	Bill Stepp
Persico, Davide	G-091-M	David Harwood
Peters, Leo	I-189-M	Prasad Gogineni
Peters, Leo	I-205-M	Sridhar Anandakrishnan
Peterson, Dean	G-056-M	Bruce Marsh
Petrushak, Steven	G-091-M	David Harwood
Pettit, Joe	T-295-M	Bjorn Johns
Pierdominici, Simona	G-091-M	David Harwood
Pirtle-Levy, Rebecca	B-237-L	David DeMaster
Piwowarski, Thomas	A-333-S	Paul Evenson
Plagge, Tom	A-379-S	John Carlstrom
Plauche, Alec	A-105-M/S	Marc Lessard
Pointer, Brian	B-237-L	David DeMaster

Polcyn, Michael	G-170-E	Ross MacPhee
Polli, Andrea	W-490-M	Andrea Polli
Popp, Trevor	I-477-M	Kendrick Taylor
Pound, Katherine	G-091-M	David Harwood
Powell, Anthony (Ants)	W-491-M/S	Anthony Powell
Powell, Christine	W-491-M/S	Anthony Powell
Powell, Ross	G-049-M	David Harwood
Praebel, Kim	B-005-M	Art DeVries
Prentice, Michael	I-133-M	Michael Prentice
Proffitt, Kelly	B-009-M	Robert Garrott
Purdy, Chris	A-138-M	Linda Thompson
Quetin, Langdon	B-028-L/P	Robin Ross
Rankin, Moira	Y-604-M	Moira Rankin
Rathburn, Anthoni	G-183-L	Scott Ishman
Reed, Josh	G-091-M	David Harwood
Reichelt, Lucia	G-091-M	David Harwood
Reisenbichler, Kim	B-050-N	Kenneth Smith
Reynolds, Jessica	Y-328-E/M/N/S	Geoff Haines-Stiles
Richter, Steffen	A-033-S	Andrew Lange
Rick, Ursula	I-477-M	Kendrick Taylor
Riesselman, Christina	G-091-M	David Harwood
Rizzo, Alfio	A-333-S	Paul Evenson
Roberts, Don	A-145-M	Bill Stepp
Robinson, Laura	G-290-N	Laura Robinson
Robinson, Rhonika	G-154-N	Philip Bart
Robison, Bruce	B-050-N	Kenneth Smith
Rock, Steve	B-050-N	Kenneth Smith
Ross, Jake	G-062-M	Thomas Wilch
Ross, Robin	B-028-L/P	Robin Ross
Roth, James	A-333-S	Paul Evenson

Rothmaier, Florian	A-333-S	Paul Evenson
Rott, Carsten	A-333-S	Paul Evenson
Ruhl, Henry	B-050-N	Kenneth Smith
Ruhl, John	A-379-S	John Carlstrom
Rusholme, Benjamin	A-366-S	Sarah Church
Sakai, Kenichi	A-140-M	John Mitchell
Sallaz-Damaz, Yoann	A-137-M	Eun-Suk Seo
Saltzman, Matthew	G-051-M	Matthew Saltzman
San Sebastian, Frank	A-140-M	John Mitchell
Sandroni, Sonia	G-091-M	David Harwood
Sandstrom, Perry	A-333-S	Paul Evenson
Sasaki, Makoto	A-140-M	John Mitchell
Sasian, Jose	A-115-S	Stuart Jefferies
Saunders, Beverly	O-270-N	Stephen Ackley
Scanlon, Kathryn	G-290-N	Laura Robinson
Schilla, Annalisa	I-477-M	Kendrick Taylor
Schmitt, Douglas	G-091-M	David Harwood
Schneider, Darryn	A-333-S	Paul Evenson
Schnetzer, Astrid	B-245-N	David Caron
Schulz, Olaf	A-333-S	Paul Evenson
Sears, James	A-379-S	John Carlstrom
Seibel, Brad	B-069-M	Victoria Fabry
Seierstad, Inger	I-477-M	Kendrick Taylor
Seifferlein, Brian	Y-601-M	Mike Farrell
Semburg, Benjamin	A-333-S	Paul Evenson
Seo, Eun-Suk	A-137-M	Eun-Suk Seo
Shaw, Tim	B-050-N	Kenneth Smith
Sheridan, Patrick John	O-257-S	David Hofmann
Sherlock, Robert	B-050-N	Kenneth Smith
Sherman, Alana	B-050-N	Kenneth Smith
Shields, Christopher	B-004-M	Amy Moran

Shinoda, Ryohko	A-140-M	John Mitchell
Shirokoff, Erik	A-379-S	John Carlstrom
Shulman, Leonard	A-333-S	Paul Evenson
Simmons, Breana	B-424-M	Diana Wall
Sines, Karie	B-016-L	Maria Vernet
Sinkola, Nickolas	T-927-M	Ken Griffin
Sjunneskog, Charlotte	G-154-N	Philip Bart
Skidmore, Mark	B-236-M	Mark Skidmore
Skiles, Jason	G-078-M	Robert Kemerait
Smith, Craig	B-212-L	Craig Smith
Smith, Craig	B-237-L	David DeMaster
Smith, David	I-477-M	Kendrick Taylor
Smith, Douglas	A-143-M	John Wefel
Smith, Ken	B-050-N	Kenneth Smith
Smith, Scott	A-333-S	Paul Evenson
Smith, Stanley	A-131-M	Terry Deshler
Sneed, Sharon	I-153-M/S	Paul Mayewski
Söderberg, Johan	A-333-S	Paul Evenson
Somero, George	B-301-M	Donal Manahan
Soni, Jacob	A-333-S	Paul Evenson
Sörqvist, Fredrik	A-333-S	Paul Evenson
Soule, Samuel	G-152-M	Mark Kurz
Souter, Barbara	G-056-M	Bruce Marsh
Spaulding, Nicole	I-153-M/S	Paul Mayewski
Speece, Marvin	G-049-M	David Harwood
Spieler, Helmuth	A-379-S	John Carlstrom
Sprague, Jonathan	B-004-M	Amy Moran
Srsen, Pavica	B-212-L	Craig Smith
Srsen, Pavica	B-237-L	David DeMaster
Stammerjohn, Sharon	O-270-N	Stephen Ackley

Stapf, Fritz	A-138-M	Linda Thompson
Stauffer, Beth	B-245-N	David Caron
Stepp, Bill	A-145-M	Bill Stepp
Stewart, Brent	O-270-N	Stephen Ackley
Stewart, Michael	A-143-M	John Wefel
Stewart, Sebastian	O-257-S	David Hofmann
Stezelberger, Thorsten	A-333-S	Paul Evenson
Stilwell, Bryan	A-145-M	Bill Stepp
Stoyanov, Stoyan	A-333-S	Paul Evenson
Stracener, Bill	A-145-M	Bill Stepp
Strada, Eleonora	G-091-M	David Harwood
Strahler, Erik	A-333-S	Paul Evenson
Strganac, Christopher	G-170-E	Ross MacPhee
Swanson, Joshua	I-153-M/S	Paul Mayewski
Swartz, Marshall	G-290-N	Laura Robinson
Sweet, Stephen	B-518-M	Mahlon Kennicutt
Sweetman, Andrew	B-212-L	Craig Smith
Sweetman, Andrew	B-237-L	David DeMaster
Szymcek, Phillip	G-091-M	David Harwood
Takahashi, Yuki	A-033-S	Andrew Lange
Talarico, Franco	G-091-M	David Harwood
Taviani, Marco	G-091-M	David Harwood
Tepe, Andreas	A-333-S	Paul Evenson
Thakur, Neeharika	A-140-M	John Mitchell
Thoma, Mark	A-333-S	Paul Evenson
Thomas, Carrie	B-237-L	David DeMaster
Thomas, Thomas	A-145-M	Bill Stepp
Thompson, Derek	B-009-M	Robert Garrott
Thurman, Jill	B-234-M	John Priscu
Tilav, Serap	A-333-S	Paul Evenson
Tilbury, Graham	A-333-S	Paul Evenson

Tison, Jean-Louis	O-270-N	Stephen Ackley
Tomkin, Jonathan	G-154-N	Philip Bart
Toner, Jonathan	I-133-M	Michael Prentice
Toniolo, Viola	B-031-M	David Ainley
Tosi, Delia	A-333-S	Paul Evenson
Traver, Elizabeth	B-423-M	Ross Virginia
Trivelpiece, Susan	B-040-E	Wayne Trivelpiece
Trivelpiece, Wayne	B-040-E	Wayne Trivelpiece
Trusel, Luke	G-049-M	David Harwood
Tuomi, Pamela	B-041-M	Markus Horning
Turner, Sara	G-167-M	John Gillies
Tuzzi, Eva	G-091-M	David Harwood
Twining, Benjamin	B-050-N	Kenneth Smith
Van de Fleirdt, Christina	G-290-N	Laura Robinson
Vancoppenolle, Martin	O-270-N	Stephen Ackley
Vandenbroucke, Justin	A-333-S	Paul Evenson
Vardaro, Michael	B-050-N	Kenneth Smith
Venema, Bryan	A-110-M/S	Gonzalo Hernandez
Vernet, Maria	B-016-L	Maria Vernet
Vernet, Maria	B-050-N	Kenneth Smith
Vick, Trista	B-234-M	John Priscu
Vieira, Joaquin	A-379-S	John Carlstrom
Vinbladh, Jimmy	A-333-S	Paul Evenson
Wagner, Andrew	A-333-S	Paul Evenson
Wagner, Luke	I-153-M/S	Paul Mayewski
Wagner, Penelope	O-270-N	Stephen Ackley
Wahl, Daniel	A-333-S	Paul Evenson
Waller, Rhian	B-212-L	Craig Smith
Waller, Rhian	G-290-N	Laura Robinson
Waller, Rhian	B-237-L	David DeMaster
Ware, Lisa	B-024-M	Olav Oftedal

Warnock, Jonathan	B-426-M	Peter Doran
Waszkiewicz, Michael	I-153-M/S	Paul Mayewski
Webb, Peter	Y-601-M	Mike Farrell
Weissling, Blake	O-270-N	Stephen Ackley
Weissman, Jonathan	B-005-M	Art DeVries
Welch, Brian	I-153-M/S	Paul Mayewski
Welch, Kathy	B-420-M	W. Berry Lyons
Wharton, Daniel	A-333-S	Paul Evenson
Whiteside, Robin	A-145-M	Bill Stepp
Wiens, Doug	G-055-M	Andy Nyblade
Wilch, Thomas	G-062-M	Thomas Wilch
William, Robert	G-091-M	David Harwood
Williams, Dawn	A-333-S	Paul Evenson
Williams, Robert	B-174-M	Stacy Kim
Winslow, Nathan	G-056-M	Bruce Marsh
Winter, Teresa Thomas	O-257-S	David Hofmann
Wisniewski, Paul	A-333-S	Paul Evenson
Wolf, Aaron	G-071-N	Joann Stock
Wolfinger, Kirk	Y-601-M	Mike Farrell
Wonik, Thomas	G-091-M	David Harwood
Woods, Arthur	B-004-M	Amy Moran
Woods, Susan	B-040-E	Wayne Trivelpiece
Wray, Donald	A-333-S	Paul Evenson
Wu, Edward	A-366-S	Sarah Church
Yamamoto, Akira	A-140-M	John Mitchell
Yarbrough, Hunter	G-081-M	Phillip Kyle
Yeck, James	A-333-S	Paul Evenson
Yiming, Hu	A-143-M	John Wefel
Yoon, Kiwon	A-033-S	Andrew Lange
Yoon, Young Soo	A-137-M	Eun-Suk Seo

Yoshimura, Koji	A-140-M	John Mitchell
Zamzow, Jill	B-022-P	Charles Amsler
Zandomeneghi, Daria	G-081-M	Phillip Kyle
Zernick, Michael	A-333-S	Paul Evenson
Zesta, Eftyhia	A-357-M/P	Eftyhia Zesta
Zieg, Michael	G-056-M	Bruce Marsh
Zimmerer, Matthew	G-062-M	Thomas Wilch
Zimmerman, Melany	A-333-S	Paul Evenson
Zook, Bob	B-174-M	Stacy Kim

Return to Index

Science Program Indexes: 2007-2008

USAP Program Index:

Ocean and Atmospheric Sciences

Return to Index

Principal Investigator	Event No.	Project Title
Ackley, Stephen	O-270-N	SIMBA drift station (sea ice mass balance in the antarctic)
Butler, James	O-257-S	South Pole monitoring for climatic change
Dempsey, John	O-316-M	Physics and mechanics of the breakup of warm antarctic sea ice: In-situ experiments and modeling
Hofmann, David	O-264-P	Collection of atmospheric air for the NOAA/GMD worldwide flask-sampling network
Hofmann, David	O-257-S	South Pole monitoring for climatic change
Huber, Bruce	O-399-N	Cape Adare Long-term Mooring (CALM)
Martinson, Doug	O-241-L	SASSI Mooring Array in the Western Antarctic Peninsula
Sprintall, Janet	O-260-L	The Drake Passage high-density XBT/XCTD program
Stearns, Charles	O-202-M/P	Antarctic Meteorological Research Center (AMRC)

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

SIMBA Drift Station (Sea Ice Mass Balance In The Antarctic)

Ice observations from the Swedish icebreaker ODEN. Quantifiable estimates of concentration, type, thickness, floe size, and snow type and thicknesses are made every half hour. Photo courtesy of the PI.

Program Manager:
Dr. Kelly Falker (acting)

Event Number: O-270-N

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. Stephen Ackley (Principal Investigator)
stephen.ackley@utsa.edu
http://www.utsa.edu/lrsg/Antarctica/SIMBA

University of Texas
San Antonio, Texas

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Bellingshausen Sea, Amundsen Sea

Project Description:

As part of the Antarctic Sea Ice research program, this project seeks to investigate the evolution of the sea ice cover in the Bellingshausen-Amundsen-Ross Seas during the late winter-spring-summer transition periods. A ship-based study will focus on the first half of the period (September-October) when the net radiation balance is still negative. The remaining evolution of the summer ice cover will be studied by means of autonomous mass balance buoys, high temporal motion buoys, and complementary satellite measurements.

Field Season Overview:

The field team plans to conduct a wide spectrum of oceanographic studies. Team members will survey snow and ice by measuring snow depth, ice thickness, and the underlying flooded area. Conductivity and resistivity studies will be performed to map ice thickness and flooded area, and these measurements will be correlated with satellite remote sensing taken at the same time. In addition to geophysical investigations, field team members

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

plan to perform nutrient, biogeochemical, and microbial analyses on sea water and ice core samples, and they will measure incident and transmitted radiation. The researchers will also deploy 14 drift buoys (three mass-balance buoys and 11 position buoys) to continue geophysical measurements throughout the year. Seasonal and regional variability in sea ice processes will be determined by comparing new data with satellite information, previous data, and model simulations.

Deploying Team Members:

- Sarah Anderson
- Frederic Brabant
- Gauthier Carnat
- Johannes DeJong
- Bruno DeLille
- Isabelle Dumont
- Christian Fritsen
- Nicolas-Xavier Geilfus
- William Keith Johnson
- Katherine Leonard
- Michael Lewis
- Florence Masson
- Caryn Panowicz
- John Pena
- Beverly Saunders
- Sharon Stammerjohn
- Brent Stewart (Co-PI)
- Jean-Louis Tison (Co-PI)
- Martin Vancoppenolle
- Penelope Wagner
- Blake Weissling

Return to Index

Science Project Details: 2007-2008

Adelie Penguin Response To Climate Change At The Individual, Colony And Metapopulation Levels

David Ainley and his field team.
Photo courtesy of the PI.

Program Manager:
Dr. Charles Amsler

Event Number: B-031-M

ASC POC/Implementer:
Stephen Alexander

Dr. David Ainley (Principal Investigator)
dainley@penguinscience.com
http://www.penguinscience.com

H.T. Harvey & Associates
Los Gatos, California

Supporting Stations: McMurdo Station
Research Locations: Beaufort Island, Cape Bird, Cape Crozier, Cape Royds, Franklin Island, Inexpressible Island

Project Description:

Since 1996, this study has involved novel technology and experimentation including natural experiments and long hours finding banded birds at three colonies of widely disparate sizes occurring in a metapopulation. While changes in populations typically are tracked to gauge response to climate or habitat change, the process actually involves the response of individuals as each copes with an altered environment. During this study spanning 15 breeding seasons, researchers have found that 20 percent of individuals within a colony successfully raise offspring, and that they do so because of exemplary foraging proficiency. Moreover, foraging requires more effort at the largest colony, where intra-specific competition is higher than at small colonies, and requires more proficiency during periods of environmental stress (e.g., anomalous sea-ice conditions). Not only is breeding success and eventual recruitment involved in this species' response to environmental change, but, when conditions are particularly daunting, so is emigration as it dramatically increases, countering the long-standing assumption that Adélie penguins are highly philopatric. This project is a collaboration of six co-PIs from the US, New Zealand and France and will continue the outreach and education program, including webisodes and PenguinScience.com.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Field Season Overview:

Team members will travel via helicopter and tracked vehicle to establish field camps near penguin breeding colonies at Capes Crozier, Bird, and Royds. If ice conditions and logistics permit, they will travel via icebreaker to visit the penguin colony on Beaufort Island. At each camp, the scientists will search for previously banded penguins and log their breeding status. They will investigate foraging effort by attaching time-depth recorders, satellite tags, and GLS tags to the birds. The researchers will also continue their operation of computerized weighbridges to track the arrival and departure from the nesting area of tagged birds and log their weight. The researchers also plan to continue work on an educational web site and DVD based on their field work. At the close of the Adélie penguin nesting season, the researchers will pull out their camps and return to McMurdo via helicopter or tracked vehicle.

Deploying Team Members:

- Katie Dugger (Co-PI)
- Kirsten Lindquist
- Jean Pennycook
- Viola Toniolo

Return to Index

Science Project Details: 2007-2008

Norwegian-United States IPY Scientific Traverse: Climate Variability And Glaciology In East Antarctica

Program Manager:
Dr. Julie Palais

Event Number: I-155-M

ASC POC/Implementer:
Melissa Rider

Dr. Mary Albert (Principal Investigator)
mary.r.albert@dartmouth.edu
http://traverse.npolar.no

Dartmouth College
Thayer School of Engineering
Hanover, New Hampshire

Supporting Stations: McMurdo Station
Research Locations: Traverse from Troll Station (Norwegian Polar Institue) to South Pole Station

Project Description:

This international, collaborative project involving the United States and Norway includes an overland traverse to the Norwegian Troll Station from Amundsen-Scott South Pole Station. The project seeks to investigate climate variability in Queen Maude Land on time scales of years to centuries; establish spatial and temporal variability in snow accumulation over this area of Antarctica to understand its impact on sea level; investigate the impact of atmospheric and oceanic variability on the chemical composition of firn and ice in this region; and revisit areas and sites first explored during 1960s-era traverses to look for changes and establish benchmark data sets.

Field Season Overview:

U.S. members of the field team plan to travel via fixed-wing aircraft from Cape Town, South Africa to the Norwegian Troll Station in Queen Maud Land. After two weeks of preparation, the field team will embark on an overland traverse to South Pole Station via Plateau Station and the Pole of Inaccessibility. En route, traverse participants will drill ice cores, collect surface snow samples, make radar surveys of shallow and deep conditions, and install temperature strings and AWS stations. Two U.S. participants will return via Norwegian aircraft to Troll Station in mid-traverse, and from there

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

to Cape Town. The remaining U.S. contingent will continue on to South Pole, where Norwegian mechanics will prepare the traverse vehicles for winter. All traverse participants and their samples will be flown via LC-130 aircraft to McMurdo Station. Some samples will be processed in McMurdo. The remainder will be returned to the National Ice Core Laboratory or to the home institution for processing and analysis.

Deploying Team Members:

- Lou Albershardt
- Glen Liston (Co-PI)
- Atsuhiro Muto
- Tom Neumann (Co-PI)

Return to Index

Science Project Details: 2007-2008

The Chemical Ecology Of Shallow Water Marine Macroalgae And Invertebrates On The Antarctic Peninsula

The B-022 dive team working from a Zodiac in Hero Inlet. Photo by Jim McClintock.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-022-P

ASC POC/Implementer:
Stephen Alexander

Dr. Charles Amsler (Principal Investigator)
camsler@nsf.gov
http://www.uab.edu/uabbio/s022/

University of Alabama Birmingham
Department of Biology
Birmingham, Alabama

Supporting Stations: Palmer Station
Research Locations: On station, Palmer Station boating area

Project Description:

This project conducts chemical studies to gain a more thorough understanding of the chemical defenses that Antarctic Peninsula sponges direct towards crustacean mesograzers. Researchers will test the hypothesis that mesoherbivory is particularly heavy in western Antarctic Peninsula marine communities and has an important influence on algal community structure. They will examine the broad hypothesis that mesograzers in general, and amphipods in particular, interact with and prey upon sponges to a greater extent than heretofore recognized in Antarctic communities. They will test the hypotheses that: 1) Antarctic algae and invertebrates biosynthesize secondary metabolites that deter feeding by amphipod predators; and 2) pigments found in three antarctic sponges are tryptophan catabolites produced as defenses against crustacean predators.

Field Season Overview:

The researchers plan to make SCUBA dives from shore and from Zodiac inflatable boats to collect four species of macroalgae and their associated amphipod grazers. Team SCUBA divers will also collect sponges, sponge-

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

associated mesograzers, and other invertebrates from a variety of sites within the Palmer Station boating area. Algal endophytes and epiphytes will be cultured and used in a variety of experiments, and macroalgae and invertebrates will be extracted in organic solvents for bioassays in the Palmer laboratory. Sponges will be maintained in the aquarium and fed stable-isotope labeled precursors. Natural products derived from these experiments will be isolated using column- and high-pressure liquid chromatography. Researchers will also collect fish from macroalgal communities for behavioral experiments and prey analysis. Samples will be returned to the home institution for further experiments and structural determinations.

Deploying Team Members:

- Margaret Amsler
- Craig Aumack
- Bill Baker (Co-PI)
- Gil Koplovitz
- John Maschek
- Jill Zamzow

Return to Index

Science Project Details: 2007-2008

Frozen Field

Kim Baranowski. Photo courtesy of the PI.

Program Manager:
Ms. Kim Silverman

Event Number: W-486-P

ASC POC/Implementer:
Patricia Jackson

Ms. Kim Baranowski (Principal Investigator)
kimbaranowski@gmail.com
http://www.kimbaranowski.com

Brooklyn, New York

Supporting Stations: Palmer Station
Research Locations: On station, Palmer boating area

Project Description:

For the past fifty years, access to Antarctic research stations has been largely restricted to scientists, limiting cultural representations of Antarctica to popular and iconic images. The artist with this project will conduct research for a "Frozen Field" project side by side with polar scientists. The collaborations are expected to stimulate the development of new perspectives on the Antarctic and illuminate the inherent curiosity found in both the scientific and artistic fields. The artist will also create new multi-media artwork that focuses on the contemporary environmental issues facing Antarctica and on popular culture's sometimes erroneous representations of the continent. The resulting sculptures, drawings, and prints will not only contain a message of conservation, but they will also capture the audience's imagination through the creative depiction of Antarctica's life. In celebration of the International Polar Year, this project will also reproduce unfamiliar Antarctic phenomena, reminding gallery audiences that, for most people, the continent is still very much a terra incognita.

Field Season Overview:

The artist plans to travel via Zodiac inflatable boat to islands in the Palmer boating area, where she will accompany researchers, observe field research activities, and photograph and draw the local fauna and flora. The artist also plans to sketch and photograph animals held in the Palmer Station aquarium, and she will observe and record research activities in the laboratory. She will

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

travel on foot or via snowmobile or all-terrain vehicle to sites in the Palmer Station vicinity to draw and photograph moss and lichen. Drawings and other recordings will be returned to the home studio, where the artist will use them to produce the final work, the Frozen Field.

Return to Index

Science Project Details: 2007-2008

Solar And Heliospheric Studies With Antarctic Cosmic Ray Observations

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-120-M

ASC POC/Implementer:
Charles Kaminski

Solar and heliospheric studies with antarctic cosmic rays.

Dr. John Bieber (Principal Investigator)
jwbieber@bartol.udel.edu
http://www.bartol.udel.edu/~neutronm/

University of Delaware
Bartol Research Institute
Newark, Delaware

Supporting Stations: McMurdo Station
Research Locations: Neutron Monitor Observatory (CosRay)

Project Description:

Neutron monitors in Antarctica provide a vital three-dimensional perspective on the anisotropic flux of cosmic rays that continuously bombard Earth. At McMurdo station, 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 also 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 McMurdo Station will be analyzed in concert with data from the "Spaceship Earth" neutron monitor network to understand variations associated with solar energetic particles that occur on time scales of minutes to hours. In a new application made possible by real-time data availability, the observations will also be used for space weather forecasting.

Field Season Overview:

No project personnel will deploy. The RPSC research associate will maintain the Neutron Monitor Observatory in building 84 (“Cosray”), replace UPS system batteries, and transmit data to the home institution for analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Return to Index

Science Project Details: 2007-2008

IPY: Collaborative Research: Ocean-Ice Sheet Interaction In The Amundsen Sea: The Keystone Of West Antarctic Stability

Program Manager:
Dr. Kelly Falkner

Event Number: C-407-M

ASC POC/Implementer:
Michael McClanahan

Dr. Robert Bindschadler (Principal Investigator)
Robert.A.Bindschadler@nasa.gov
http://pigiceshelf.nasa.gov

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland

Supporting Stations: McMurdo Station
Research Locations: Pine Island Glacier

Project Description:

The Pine Island Glacier is thinning and accelerating, and the hypothesized cause is a forcing of ocean heat delivered to the glacier's lower surface. This project seeks to directly measure the interaction between ocean water and the underside of the floating ice shelf at the end of the glacier. It is hoped that by monitoring the evolution of various water masses beneath this ice shelf and by simultaneously measuring atmospheric conditions and ice motion, a more detailed cause-and-effect analysis of the observed glacial degradation can be developed.

Field Season Overview:

The researchers will travel by LC-130 aircraft to the WAIS Divide camp. Using Twin Otter support, they will reconnoiter Pine Island Glacier to determine if they can land safely and identify a safe operating area for a ground party. Pending those results, the field team will establish a temporary field camp on the glacier close to the junction of the grounded and floating ice. From there, the researchers will establish GPS and weather observing sites, take measurements of ice thickness and sub-shelf water depth, and use ice-penetrating radar to detect basal melting rates. Team members will also conduct limited snowmobile traverses to extend seismic and radar

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

measurements over as large an area as possible. At the end of the field season, the team will return to WAIS Divide onboard Twin Otter and to McMurdo on LC-130.

Return to Index

Science Project Details: 2007-2008

Studies Of Antarctic Fungi: Adaptive Stratigies For Survival And Protecting Antarctica's Historic Structures

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

Program Manager:
Dr. Roberta Marinelli

Event Number: B-038-M

ASC POC/Implementer:
Melissa Rider

Dr. Bob Blanchette (Principal Investigator)
robertb@umn.edu
http://forestpathology.coafes.umn.edu/antarctica.htm

University of Minnesota
St. Paul, Minnesota

Supporting Stations: McMurdo Station
Research Locations: On station, Cape Evans, Cape Royds

Project Description:

This project will continue investigating the microbes associated with historic huts in the Ross Sea and along the Antarctic Peninsula. Researchers will evaluate the unique fungi that attack the wood of these historic sites and study the distribution and species diversity of microbes that have proliferated within and around the huts. Samples will be taken and cultures generated to better understand the biology and physiology of these organisms.

Field Season Overview:

Field team members will travel on foot to the Discovery Hut on Hut Point and via tracked vehicle and helicopter to the huts at Cape Evans and Cape Royds. Team members will retrieve bait experiment samples from all three locations, collect environmental monitoring data, and retrieve wood panels from test racks. Samples will be returned to the home institution for analysis.

Deploying Team Members:

- Brett Arenz
- Joel Jurgens

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Return to Index

Science Project Details: 2007-2008

South Pole Monitoring For Climatic Change

National Oceanic and Atmospheric Administration (NOAA)/Global Monitoring Division (GMD) winter staff member Loreen Lock "commutes" to the Atmospheric Research Observatory (ARO) at sunrise September 2003.

Program Manager:
Dr. Peter Milne

Event Number: O-257-S
NOAA/NSF Agreement

ASC POC/Implementer:
Charles Kaminski

Dr. David Hofmann (Principal Investigator)
david.j.hofmann@noaa.gov
http://www.esrl.noaa.gov/gmd/

National Oceanic and Atmospheric Administration
Global Monitoring Division (GMD)
Boulder, Colorado

Supporting Stations: South Pole Station
Research Locations: Atmospheric Research Observatory

Project Description:

At the South Pole, NOAA's Global Monitoring Division (GMD) collects year-round long-term measurements of trace atmospheric constituents that influence climate change. These measurements are part of NOAA's effort to determine and assess the long-term build-up of global pollutants in the atmosphere. The measurements are used for time-series analysis of multi-year data records that focus on stratospheric ozone depletion, trans-Antarctic 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. Other objectives of the research are to determine the rate at which concentrations of these atmospheric constituents change and to examine the sources, sinks, distributions, budgets and trends. The data help climate modelers and diagnosticians determine how the rate of change of these parameters affect climate, particularly when the data are included in climate-model studies.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Field Season Overview:

A minimum of two field team members will staff the Atmospheric Research Observatory (ARO) throughout the austral summer and continuing through the winter, while other researchers will deploy for shorter periods. Team members will record meteorological variables and measure carbon dioxide, water vapor, surface and stratospheric ozone, solar and terrestrial radiation, and ozone-depleting compounds and other trace constituents in the atmosphere over South Pole. Field personnel will also perform routine maintenance and upgrades on the instruments. Data will be returned to the home institution for analysis.

Deploying Team Members:

- Elke Bergholz-Nelson
- Amy Cox
- Bryan Johnson
- Patrick Sheridan
- Sebastian Stewart
- Teresa Winter

Return to Index

Science Project Details: 2007-2008

Cosmological Research With The 10-Meter South Pole Telescope

South Pole Telescope during winter observations. Photo credit by Steve Padin.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-379-S
NSF/PLR Award 1248097

ASC POC/Implementer:
Charles Kaminski

Dr. John Carlstrom (Principal Investigator)
jc@kicp.uchicago.edu
http://pole.uchicago.edu

University of Chicago
Astronomy and Astrophysics
Chicago, Illinois

Supporting Stations: South Pole Station
Research Locations: Dark Sector

Project Description:

The South Pole Telescope (SPT) project conducts cosmological research by measuring the intensity and polarization anisotropy of the Cosmic Microwave Background (CMB). By surveying 4,000 square degrees of the sky with high sensitivity in three wavelength bands, the telescope can detect galaxy clusters through the spectral distortion they impart on the CMB. Researchers will use the resulting catalog of galaxy clusters to set constraints on the mysterious dark energy that dominates the mass-energy density of the universe and is causing the expansion of the universe to accelerate.

Field Season Overview:

Project researchers will: 1) Precisely measure and set the 10-meter primary telescope using holography techniques; 2) Improve the thermal insulation and stability of the receiver cabin; 3) Upgrade the bolometer receiver; 4) Upgrade the large optics cryostat and secondary mirror mount; 5) Service and maintain the telescope components and computer systems; and 5) Finish Vertex work on the telescope, including software control, temperature monitoring, and precision metrology. Additional tasks will be completed by the RPSC support crew, including: 1) Installing the SPT ground shield; 2)

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Replacing or improving the weather seals in the sliding door roof; and 3) Improving the insulation and thermal stability of the SPT equipment room. Several members of the project field team will remain to operate the telescope during the winter.

Deploying Team Members:

- Ken Aird
- Bradford Benson
- Lindsey Bleem
- Clarence Chang
- Thomas Crawford
- Nils Halverson
- Bill Holzapfel (Co-PI)
- Peter Huntley
- Ryan Keisler
- Adrian Lee
- Erik Leitch
- Martin Lueker
- Jeffrey McMahon
- Stephan Meyer (Co-PI)
- Kathryn Miknaitis
- Stephen Padin (Co-PI)
- Tom Plagge
- John Ruhl (Co-PI)
- James Sears
- Erik Shirokoff
- Helmuth Spieler
- Joaquin Vieira

Return to Index

Science Project Details: 2007-2008

Science Coordination Office For Astrophysical Research In Antarctica (SCOARA)

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-370-S

ASC POC/Implementer:
Charles Kaminski

Dr. John Carlstrom (Principal Investigator)
jc@kicp.uchicago.edu
http://astro.uchicago.edu/scoara/

University of Chicago
Astronomy and Astrophysics
Chicago, Illinois

Supporting Stations: South Pole Station
Research Locations: Dark Sector

Project Description:

Antarctica's tremendous potential for cosmology and astrophysics can be realized best if the scientists involved understand and participate in the management, planning, and oversight of the shared resources and logistical support necessary to conduct research. The Science Coordination Office for Astrophysical Research in Antarctica (SCOARA) is an intellectual partnership composed of and directed by these scientists to ensure that the highest quality astrophysical research is conducted at the South Pole.

Field Season Overview:

Project team members plan to continue their operational support of astrophysical research at South Pole Station. This will include technical support of the South Pole Telescope (SPT) ground shield construction and other SPT improvements, technical support for the BICEP summer test and rebuild, and general support of AMANDA and ICECUBE operations. Team members will also assist with the QUaD telescope decommissioning/retrograde and the mothballing of the Degree Angular Scale Interferometer mount. Two team members will remain during the winter to support Dark Sector projects and station operations as required.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Return to Index

Science Project Details: 2007-2008

Grounding Line Forensics: The History Of Grounding Line Retreat In The Kamb Ice Stream Outlet Region

Ginny Catania of driving the radar sled on Siple Dome. Photo by Amie Lamb.

Program Manager:
Dr. Julie Palais

Event Number: I-159-M

ASC POC/Implementer:
Michael McClanahan

Dr. Ginny Catania (Principal Investigator)
gcatania@utig.ig.utexas.edu
http://www.ig.utexas.edu/research/projects/glf/

University of Texas Austin
Insitiute for Geophysics
Austin, Texas

Supporting Stations: McMurdo Station
Research Locations: Siple Coast, Siple Dome

Project Description:

This project will address key questions concerning the mechanisms governing changes in ice streams by studying the dynamics of ice stream interaction and shutdown, in particular ice stream outlet dynamics (i.e. grounding line migration). Researchers will investigate several key features in the Kamb/Whillans ice stream area that will provide additional details to the evolving description of ice flow history in the region. The research effort is targeted at sites that can be used to test scenarios implied by satellite image analysis, modeling studies, and prior field work. The information obtained will contribute to a fundamental understanding of ice sheet dynamics and the effects of global warming and sea level rise on ice sheets.

Field Season Overview:

The field team will travel by LC-130 aircraft to the Siple Dome camp. They will conduct the initial research in the Siple Dome vicinity then traverse on snowmobiles towing sleds to a second camp at the grounding line of the Kamb Ice stream, where they will continue their work. Travel to their third camp will be onboard Twin Otter or Basler aircraft. At each camp, the team members will travel the immediate vicinity on snowmobiles, moving 50 to 100

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

kilometers per day, to conduct ice-penetrating radar and GPS experiments. At the end of the season, the team and all equipment will return to McMurdo Station onboard LC-130 aircraft.

Deploying Team Members:

- Ken Cruikshank
- Jamin Greenbaum
- Hiram Henry
- Christina Hulbe (Co-PI)

Return to Index

Science Project Details: 2007-2008

Next Generation CMB Polarization Measurements With The QUEST Experiment On DASI

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-366-S

ASC POC/Implementer:
Charles Kaminski

Dr. Sarah Church (Principal Investigator)
schurch@stanford.edu
http://www.stanford.edu/~schurch/quad_instrument.html

Stanford University
Stanford, California

Supporting Stations: South Pole Station
Research Locations: Martin A. Pomerantz Observatory, Dark Sector

Project Description:

The cosmic microwave background (CMB) is the faint, relic heat from the Big Bang, and its properties encode information on the formation, structure, and development of the universe. QUaD, an upgrade to the DASI telescope at South Pole Station, is designed to map the polarization structure of the CMB. The advantages of Antarctica to QUaD are: 1) high atmospheric transparency at the frequencies of interest; (2) atmospheric stability, allowing long observations; (3) the ability to perform identical observations of the same areas of sky throughout the year by being on axis of rotation; and (4) the absence or low elevation of the interfering sun and moon.

Field Season Overview:

The 2007 Austral Winter will be the last season of observation with the QUAD telescope. A small field team will deploy at the beginning of the season to perform final instrument calibrations and tests. A second team will deploy a short time later to remove and package the optical system, receiver, and electronics. These components will be returned to the home institution. The telescope mount will be secured for future use.

Deploying Team Members:

- Thomas Culverhouse

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Robert Friedman
- James Hinderks
- Angiola Orlando
- Benjamin Rusholme
- Edward Wu

Return to Index

Science Project Details: 2007-2008

Central Scotia Sea Floor And The Drake Passage Deep Ocean Current Gateway

Program Manager:
Dr. Thomas Wagner

Event Number: G-087-N

ASC POC/Implementer:
Jesse Doren

Dr. Ian Dalziel (Principal Investigator)
ian@utig.ig.utexas.edu
http://www.ig.utexas.edu/research/projects/central_scotia/
http://platesgates.geo.su.se/

University of Texas Austin
Institute for Geophysics
Austin, Texas

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Central Scotia Sea

Project Description:

The opening of the Drake Passage allowed the development of the Antarctic Circumpolar Current, one of the largest deep currents on Earth. This event is widely associated with a major, abrupt drop in global temperatures and the rapid expansion of the Antarctic ice sheets. Despite its importance to oceanic circulation, global climate, and biological evolution, the sequence of events leading to the formation of the Drake Passage is poorly known. The key to this problem is the enigmatic central Scotia Sea floor between South Georgia and the South Orkney Islands. Although scientists have collected a large database of marine magnetic anomalies in this area, it has proved impossible to produce a convincing age for the underlying crust. This project seeks to determine the age of the crust in the Central Scotia Sea by identifying marine magnetic anomalies, taking gravity measurements, and dredging for basaltic rock samples. Samples will be analyzed to determine if they are products of a Pacific or Atlantic mantle source.

Field Season Overview:

The field team will travel to the central Scotia Sea on board RVIB Nathaniel B. Palmer (NBP08-05). Surveying will be carried out with multi-beam swath bathymetry and shallow-penetration seismic reflection. Team members will

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

examine potential bottom sample collection sites with underwater photography before conducting dredging operations. Samples will be returned to the home institution for geochemical analysis. The results will be integrated with magnetic anomaly data to determine the geological history of the central Scotia Sea floor.

Return to Index

Science Project Details: 2007-2008

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

Ice saw being used to prepare in-situ fracture test on McMurdo Sound. Photo by Geoff Morley.

Program Manager:
Dr. Kelly Falker (acting)

Event Number: O-316-M

ASC POC/Implementer:
Stephen Alexander

Dr. John Dempsey (Principal Investigator)
jdempsey@clarkson.edu
http://people.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: McMurdo Sound sea ice

Project Description:

In an effort to better understand the mechanics of antarctic sea ice breakup, this project investigates how the sea ice responds to stresses applied by wind and ocean waves. Using in-situ experiments, the researchers measure the tensile strength, fracture energy, and other physical properties of the ice. Additional experiments are performed in a laboratory with ice harvested from the field site.

Field Season Overview:

Field team members will set up an operations-and-testing center in the Crary Laboratory, where they will calibrate their equipment and otherwise prepare for field work. Afterward, the team will make day trips by helicopter to a test site on first-year sea ice north of McMurdo. A temporary, day-use, tent camp will be established, with one tent used to house computers and other electronic equipment and the other used for shelter. Team members will cut holes and squares in the sea ice with augers, chain saws, and special ice saws. They will fracture the squares to measure load stresses, fracture

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

energy, and tensile strength. They will also conduct cyclic tests to examine the influence of amplitude and frequency on fracturing, and they will measure brine diffusion in the vicinity of crack tips. Sea-ice cores and beams will be returned to the Crary Laboratory for additional testing and crack surface profiling. Some ice samples will be returned to the home institution and the Cold Regions Research and Engineering Laboratory for further tests.

Deploying Team Members:

- Alexander McBrien
- Geoffrey Morley

Return to Index

Science Project Details: 2007-2008

Protein Folding And Function At Cold Temperature: Co-Evolution Of The Chaperonin CCT And Tubulins From Antarctic Fishes

Program Manager:
Dr. Roberta Marinelli

Event Number: B-037-L/P

ASC POC/Implementer:
Rob Edwards / Stephanie Suhr Sliester

Dr. Bill Detrich (Principal Investigator)
w.detrich@neu.edu

Northeastern University
Boston, Massachusetts

Supporting Stations: ARSV Laurence M. Gould, Palmer Station
Research Locations: Palmer local area, Dallman Bay, King George Island, Low Island

Project Description:

Because they live at very low and stable temperatures, antarctic fishes of the suborder Notothenioidei are useful as models for understanding the mechanisms of cold adaptation, including the restructuring of biochemical and physiological systems to preserve biological function. Two interrelated systems, the tubulins that form microtubules and the CCT chaperonin complex that assists the folding of tubulins, provide an unparalleled opportunity to elucidate these mechanisms. This project will determine the contributions to microtubule assembly of five amino acid substitutions found in Antarctic fish beta-tubulins. Using site-directed mutagenesis and genetically or biochemically tractable model systems, researchers will test these beta-chain residues individually and in combination for their ability to confer the cold-assembling phenotype on tubulins from temperate or homeothermic organisms.

Field Season Overview:

For two to three days every two weeks, the researchers will conduct bottom trawling and trap fishing from the Antarctic Research/Supply Vessel Laurence M Gould in the western Antarctic Peninsula. At other times, team members will use Zodiac inflatable boats to conduct line-fishing in the local area. Captured fish will be transported to the aquarium for study. Some

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

samples will be returned to the home institution for further analysis.

Return to Index

Science Project Details: 2007-2008

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

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

Program Manager:
Dr. Roberta Marinelli

Event Number: B-426-M

ASC POC/Implementer:
Rob Edwards

Dr. Peter Doran (Principal Investigator)
pdoran@uic.edu
http://tigger.uic.edu/~pdoran/home.htm

University of Illinois Chicago
Dept of Earth and Environmental Sciences
Chicago, Illinois

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

This project addresses the central hypothesis that biodiversity and ecosystem structure and function in the McMurdo Dry Valleys 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; carry out manual hydrologic balance measurements; collect data from a number of long-term environmental sensors in and on the lakes; measure lake-ice movements; collect sediment samples; and survey the bed contact between Lake Hoare and the Canada Glacier to determine the role of glacier movement in Lake Hoare lake-level history.

Field Season Overview:

The field team members will travel via helicopter to the established field camps at Lake Fryxell, Lake Hoare, and Lake Bonney in Taylor Valley, where they will be based. At each camp, team members will survey ablation stakes with the assistance of UNAVCO and use SCUBA diving to carry out benthic studies and collect samples. The researchers will also make day

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

trips via helicopter to Wright Valley and Victoria Valley, where they will carry out further hydrologic balance measurements, and to Garwood Valley and Cape Bernacchi, where they will service the meteorological stations and download data. Samples will be processed and analyzed at field camps and at the Crary Laboratory. Some samples will be shipped to the home institution for further analysis.

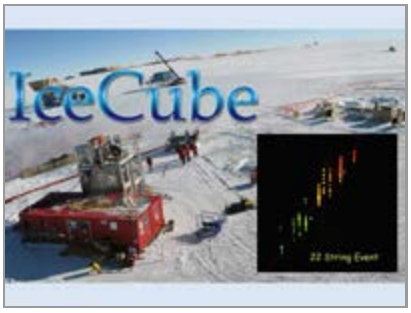
Deploying Team Members:

- Roman Borochin
- Miroljub Medved (Team Leader)
- Jonathan Warnock

Return to Index

Science Project Details: 2007-2008

IceCube Operations And Maintenance



The IceCube drill tower with inset showing an IceCube event captured with the 22 strings that made up the array at the end of the 2006-2007 season. Photo by Mark Krasberg.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-333-S

ASC POC/Implementer:
Charles Kaminski

Dr. Paul Evenson (Principal Investigator)
evenson@udel.edu
http://icecube.wisc.edu

University of Delaware
Physics and Astronomy
Newark, Delaware

Supporting Stations: South Pole Station
Research Locations: Dark Sector, IceCube Project

Project Description:

The IceCube neutrino telescope transforms a cubic kilometer of ice into a Cherenkov detector. This long-term project is an international collaboration and the University of Wisconsin-Madison serves as the host institution, providing oversight and staffing. IceCube opens unexplored wavelength bands for astronomy using neutrinos as cosmic messengers.

Field Season Overview:

Field team members will install 14 to 18 detector strings and 14 IceTop stations this season. Project personnel will continue inspecting and modifying the MDS units and performing tests on electrical and plumbing systems.

Deploying Team Members:

- Andrew Arbuckle
- Forest Banks
- Ryan Bay

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Terry Benson
- David Besson
- David Bogen
- Timothy Brenner
- Nicholas Buchinger
- Chad Carpenter
- Paul Charpentier
- Eric Coplin
- Douglas Cowen
- Michelangelo D'Agostino
- Evan Davis
- Freija Descamps
- Tyce DeYoung
- Ethan Dicks
- Dennis Duling
- Jeanne Edwards
- Alan Elcheikh
- Olof Engdegård
- Thomas Gaisser (Co-PI)
- Dar Gibson
- Timo Griesel
- Sean Grullon
- Allan Hallgren
- Tom Ham
- Darrell Hamilton
- Terry Hannaford
- James Haugen
- Gary Hill
- Thomas Hutchings
- John Jacobsen
- Henrik Johannson
- Jonas Kalin
- Alexander Kappes
- Albrecht Karle (Co-PI)
- Michael Kleist
- Stefan Klepser
- Mark Krasberg
- Karim Laihem

- James Latshaw
- Andrew Laundrie
- Sven Lidstrom
- Timothy Lyons

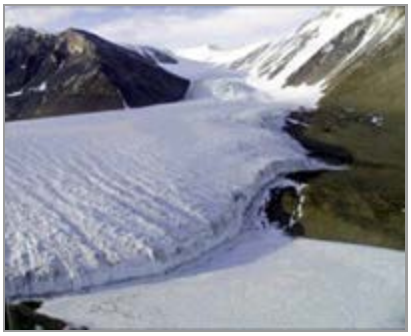
- Matthew Mathiason
- Terry Matt
- Paul McGuire
- Kevin Meagher
- Martin Merck
- Teresa Montaruli
- Steven Movit
- Timothy Murray
- Matthew Newcomb
- Edgar Nielsen
- Anders Nilsson
- Thomas Piwowarski
- Alfio Rizzo
- James Roth
- Florian Rothmaier
- Carsten Rott
- Perry Sandstrom
- Darryn Schneider
- Olaf Schulz
- Benjamin Semburg
- Leonard Shulman
- Scott Smith
- Johan Söderberg
- Jacob Soni
- Fredrik Sörqvist
- Thorsten Stezelberger
- Stoyan Stoyanov
- Erik Strahler
- Andreas Tepe
- Mark Thoma
- Serap Tilav
- Graham Tilbury
- Delia Tosi

- Justin Vandenbroucke
- Jimmy Vinbladh
- Andrew Wagner
- Daniel Wahl
- Daniel Wharton
- Dawn Williams
- Paul Wisniewski
- Donald Wray
- James Yeck
- Michael Zernick
- Melany Zimmerman

Return to Index

Science Project Details: 2007-2008

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



Program Manager:
Dr. Roberta Marinelli

Event Number: B-425-M

ASC POC/Implementer:
Rob Edwards

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 Fountain (Principal Investigator)
andrew@pdx.edu
http://www.mcmlter.org/

Portland State University
Geology
Portland, Oregon

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

The McMurdo Long Term Ecological Research (LTER) projects will continue to investigate the McMurdo Dry Valleys as an end-member ecosystem and focus on the relative roles of legacy and extant processes on current biodiversity and ecosystem structure and function. This project measures Dry Valley meteorological parameters and the physical properties of Dry Valley glaciers, with special emphasis on LTER core research areas.

Field Season Overview:

The field team will travel via helicopter to the established field camp at Lake Hoare, which team members will use as their base of operations for the season. The researchers will make day trips via helicopter to the Commonwealth, Howard, Canada, Taylor, and Hughes glaciers to make

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

mass balance measurements and study ice structure. Ice, water, and sediment samples will be collected on the Commonwealth, Canada, and Taylor glaciers. Team members will also make day trips to various meteorological stations in the Taylor, Beacon, Wright, and Victoria Valleys, where they will replace sensors and dataloggers. Radio telemetry will be added to two meteorological stations in the Taylor Valley. In addition, field team members plan to establish a monitoring site for snow ablation to quantify loss to atmosphere and soil.

Deploying Team Members:

- Elizabeth Bagshaw
- Hassan Basagic (Team Leader)
- Matthew Hoffman

Return to Index

Science Project Details: 2007-2008

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

Seabird component of the Palmer Station LTER.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-013-L/P

ASC POC/Implementer:
Rob Edwards / Stephanie Suhr Sliester

Dr. Bill Fraser (Principal Investigator)
bfraser@3rivers.net
http://pal.lternet.edu/

Polar Oceans Research Group
Sheridan, Montana

Supporting Stations: ARSV Laurence M. Gould, Palmer Station
Research Locations: Palmer Area Islands, Renaud Island, Avian Island, other islands between Anvers Island and Margeurite Bay

Project Description:

This project continues long-term studies of seabird communities within the LTER sampling grid, with an 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 as a function of oceanographic conditions, including sea ice and prey availability; 2) examine aspects of the foraging ecology, breeding biology, and abundance of seabirds on Renaud and Avian islands; and 3) maintain the Palmer-vicinity time series on seabird population trends, demography, foraging ecology, breeding biology, and behavior.

Field Season Overview:

The season will consist of a Palmer Station program and the annual LTER summer cruise aboard the R/V Laurence M. Gould (LMG08-01). Aboard the vessel, personnel will focus on seabird and marine mammal censuses. Part of this effort will involve day excursions via Zodiac inflatable boat from the vessel to Renaud and nearby islands to census penguins and other seabirds and sample their diets. Where possible, team members will disembark the LMG at stops between Anvers Island and Marguerite Bay (including

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Armstrong Reef and Fish Islands) to deploy satellite tranmitters and sample penguin diets. Team researchers will also establish a field camp for several days on Avian Island to census and map Adélie Penguin colonies, obtain diet samples, and outfit birds with satellite transmitters and dive-depth recorders.

During the Palmer Station program, team members will travel daily via Zodiac inflatable boats to local islands to monitor seabird colonies. Multi-day field camps will also be established at more remote locations. Team members will concentrate on censusing and mapping seabird colonies, obtaining indices of reproductive success, determining diets and foraging ranges, and examining chick growth and energetics. Palmer Station's laboratory facilities will be used to house and process GIS and telemetry data and to analyze diet samples. Samples will be returned to the home institution for further analysis.

Deploying Team Members:

- Jennifer Blum
- Eric Erdmann
- Kristin Gorman
- Hannah Lucas

Return to Index

Science Project Details: 2007-2008

The Demographic Consequences Of Environmental Variability And Individual Heterogeneity In Life-History Tactics Of A Long-Lived Antarctic Marine Predator

Weddell seal mother and pup at the Big Razorback colony. Photo courtesy of Kelly Proffitt.

Program Manager:
Dr. Diana Nemergut

Event Number: B-009-M

ASC POC/Implementer:
Patricia Jackson

Dr. Robert Garrott (Principal Investigator)
rgarrott@montana.edu
http://www.montana.edu/rgarrott/antarctica/index.htm

Montana State University Bozeman
Ecology
Bozeman, Montana

Supporting Stations: McMurdo Station
Research Locations: Big Razorback Island, McMurdo Sound

Project Description:

Since 1968 this group of researchers has studied a breeding population of Weddell seals (a prominent Antarctic apex predator associated with fast ice) in Erebus Bay. Using data synthesis and modeling techniques researchers can evaluate a variety of hypotheses regarding effects of environmental variation on life-history evolution and population dynamics. Researchers are also interested in the influence of physical drivers on ecosystem dynamics from the bottom-up, so their field studies include collecting data on seal body mass – a surrogate for annual variation in marine food resources. The study's broad objective is to evaluate how temporal variation in the marine environment affects a long-lived mammal's population dynamics.

Field Season Overview:

Field team members will travel by tracked vehicle and snowmobile to their field camp at Big Razorback Island. Teams of researchers will make day trips from camp to tag new pups and census the seals of Erebus Bay. Team members will also photograph and weigh a number of seals. Once the pupping season is over, the researchers will travel by helicopter to survey the

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

study area and search for tagged seals farther afield.

Deploying Team Members:

- Adam Green
- Sascha Jeffers
- Jen Mannas
- Steen Morgensen
- Kelly Proffitt (Team Leader)
- Derek Thompson

Return to Index

Science Project Details: 2007-2008

Center For Remote Sensing Of Ice Sheets (CReSIS) - Basler Airborne Radar Survey

Program Manager:
Dr. Julie Palais

Event Number: I-189-M

ASC POC/Implementer:
Michael McClanahan

Dr. Prasad Gogineni (Principal Investigator)
gogineni@cresis.ku.edu
https://www.cresis.ku.edu/

University of Kansas Lawrence
Lawrence, Kansas

Supporting Stations: McMurdo Station
Research Locations: WAIS Divide, Thwaites Glacier, Pine Island Glacier

Project Description:

The Center for Remote Sensing of Ice Sheets (CReSIS) will focus the 2013-14 airborne-radar survey mission on Whillans (B) and Bindschadler (D) ice streams on the Siple Coast of West Antarctica. By flying new lines that cross historical survey lines, the reliability of the historical data can be improved and the effective survey area can therefore be expanded by combining both datasets. Researchers also plan to collect survey data over ice-core drilling sites and sites sounded by their surface-based accumulation radar being used this season by the I-188-M (Gogineni) team, so that internal layers mapped by the different radars can be cross-correlated and validated.

Field Season Overview:

The field team will travel via LC-130 aircraft to the WAIS Divide camp. From there, they will travel via Basler aircraft to the Thwaites Glacier, where they will establish a temporary field camp in collaboration with I-205. Team members will also make day trips via Basler from WAIS camp to Thwaites Glacier and from Thwaites to Pine Island Glacier to conduct research. The researchers will travel overland via snowmobile, drill 20-meter shot holes using a hot water drill, and use small explosive charges to obtain seismic profiles of the ice and underlying substrate. The field team members will also use radio-echo-sounding techniques to study englacial structure and bed

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

properties. At the end of the field season, the team will return to McMurdo Station via LC-130.

Deploying Team Members:

- Huw Horgan
- Leo Peters

Return to Index

Science Project Details: 2007-2008

POLAR-PALOOZA

Program Manager:
Ms. Sandra H. Welch

Event Number: Y-328-E/M/N/S

ASC POC/Implementer:
Patricia Jackson / Jesse Doren

Mr. Geoff Haines-Stiles (Principal Investigator)
ghs@passporttoknowledge.com
http://passporttoknowledge.com/polar-palooza

Morristown, New Jersey

Supporting Stations: Special Project, McMurdo Station, RV/IB Nathaniel B. Palmer, South Pole Station

Research Locations: On station, sea ice camps, West Antarctica, Siple Dome, Ross Sea (onboard the NBP)

Project Description:

POLAR-PALOOZA is an International Polar Year (IPY) project supported by the Informal Science Education (ISE) program of NSF's Directorate for Education & Human Resources. Its goals are to "connect the poles to the planet" through three complementary strategies: Organizing and hosting public presentations of polar research by the researchers at science centers and natural history museums across America; videotaping and conducting interviews in the Arctic and the Antarctic; and publishing a series of podcasts and video on the Internet.

Field Season Overview:

The field team will travel by tracked vehicle, helicopter and fixed wing aircraft to a variety of field camps to conduct interviews and film science parties. Footage will be taken of the antarctic environment including its landscapes and wildlife. Live audio and video broadcasts will be attemped where possible. Podcast and video files will be uploaded to the PPZA website. The resulting material will be used in the production of educational and broadcast media.

Deploying Team Members:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Erna Akuginow (Co-PI)
- John Beck
- Art Howard
- Cliff Leight
- Ryan Miller
- Jessica Reynolds

Return to Index

Science Project Details: 2007-2008

ANDRILL

Godzilla vs. ANDRILLA. Graphic by Henry Kaiser.

Program Manager:
Dr. Thomas Wagner

Event Number: G-091-M

ASC POC/Implementer:
Jessie Crain

Dr. David Harwood (Principal Investigator)
dharwood1@unl.edu
http://www.andrill.org

University of Nebraska Lincoln
Department of Geosciences
Lincoln, Nebraska

Supporting Stations: McMurdo Station
Research Locations: Southern McMurdo Sound Drill Site

Project Description:

The ANDRILL project is a collaborative effort between the national Antarctic programs of Italy, New Zealand, and the United States that seeks to recover important geological records from beneath Antarctica's icy blanket. The project's primary objectives are to investigate Antarctica's role in global environmental change over the past 65 million years and to better understand Antarctica's future response to global changes. Using a state-of-the-art drilling system, ANDRILL will obtain long sections of core from beneath thick ice shelves and land-fast sea ice, in water up to one kilometer deep.

Field Season Overview:

The researchers plan to travel via tracked vehicle to re-occupy the ANDRILL field camp, where they will drill and recover sediment core from beneath the sea ice. They will also conduct seismic profiling at this location. Core samples will be processed at the Crary Laboratory. Field team members also plan to travel via tracked vehicle and helicopter to various sites of geologic interest in the McMurdo Dry Valleys and McMurdo Sound area to ground-truth core data. Samples will be returned to the home institutions for further analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Gary Acton
- Clifford Atkins
- Kari Bassett
- Theodore Bibby
- Stacie Blair
- Greg Browne
- Paola Del Carlo
- Graziano di Clemente
- Gavin Dunbar
- Brad Field
- Christopher Fielding
- Fabio Florindo
- Tracy Frank
- Thomas Grelle
- David Handwerger
- Michael Hannah
- Stefan Hoffman
- Joanna Hubbard
- Louise Huffman
- Scott Ishman
- Katherine Johnson
- Luigi Jovane
- Matthew Konfirst
- Lawrence Krissek
- Gerhard Kuhn
- Laura Lacy
- Rainer Lehmann
- Richard Levy (Co-PI)
- Diana Magens
- Cristina Millan-Martinez
- Simon Nielsen
- Matthew Olney
- Kurt Panter
- Sandra Passchier
- Timothy Paulsen
- Steve Pekar

- Davide Persico
- Steven Petrushak
- Simona Pierdominici
- Katherine Pound
- Josh Reed
- Lucia Reichelt
- Christina Riesselman
- Sonia Sandroni
- Douglas Schmitt

- Eleonora Strada
- Phillip Szymcek
- Franco Talarico
- Marco Taviani
- Eva Tuzzi
- Robert William
- Thomas Wonik

Return to Index

Science Project Details: 2007-2008

ANDRILL: Investigating Antarctica's Role In Cenozoic Global Environmental Change

Program Manager:
Dr. Thomas Wagner

Event Number: G-049-M

ASC POC/Implementer:
Jessie Crain

Dr. David Harwood (Principal Investigator)
dharwood1@unl.edu
http://qcpages.qc.cuny.edu/offshore_new_harbor/offshore.htm

University of Nebraska Lincoln
Department of Geosciences
Lincoln, Nebraska

Supporting Stations: McMurdo Station
Research Locations: McMurdo Sound sea ice over the Mackay Sea Valley

Project Description:

The Offshore New Harbor (ONH) Project aims to study sediments deposited in Antarctica during the transition from the Greenhouse World (34-100 Ma) to Icehouse World (<34 Ma). The goal of the Project is to address two widely recognized but unresolved issues regarding Antarctica's history: 1) the initiation of cryospheric (>34 million years ago) development in Antarctica; and 2) the abrupt climate shift at circa 34 million years ago.

Field Season Overview:

The field team will travel via tracked vehicle to the study site on the sea ice over the MacKay Sea Valley. Once there, the team members will drill 12-13 inch diameter holes in the sea ice and deploy the generator-injector air gun to conduct a seismic survey. To collect and record the seismic reflection data, the field team members will use a 60-channel land cable (streamer) and a geometrics recording system, contained in a hut mounted on a sled. Using a tracked vehicel, the researchers will tow this entire system to each seismic study site. After data has been collected, the sytem will be towed to the next site. Team members will also use snowmobiles to monitor the streamer and ensure quality geophone coupling. The field team expects to collect 20 kilometers of new seismic data.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Jake Carnes
- Julia Dooley
- Jesse Doren
- Robin Frisch-Gleason
- Taylor Patterson
- Ross Powell (Co-PI)
- Marvin Speece
- Luke Trusel

Return to Index

Science Project Details: 2007-2008

Austral High-Latitude Atmospheric Dynamics

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-110-M/S

ASC POC/Implementer:
Charles Kaminski

Dr. Gonzalo Hernandez (Principal Investigator)
hernandez@uw.edu
http://cedarweb.hao.ucar.edu/

University of Washington
Earth and Space Sciences
Seattle, Washington

Supporting Stations: McMurdo Station, South Pole Station
Research Locations: Arrival Heights, Atmospheric Research Observatory

Project Description:

This project continues long-term 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 and Mount John, NZ. Wintertime mesospheric kinetic temperature observations have shown the presence of dynamical coupling between the stratosphere and the upper regions of the atmosphere in the Southern Hemisphere. Results indicate that the dynamical processes leading to the stratospheric warming or cooling are already in place during the austral winter and the early mesospheric signals lead to the potential capability to estimate the springtime ozone hole.

Field Season Overview:

The researchers plan to perform maintenance, repairs, and calibration on project instruments. The team will first service the experimental apparatus at Arrival Heights near McMurdo Station, then deploy to South Pole Station to service instruments there. If necessary, they will complete their calibration of the Arrival Heights instruments when they return to McMurdo. If no further work is necessary, the entire field team will redeploy shortly after returning to McMurdo from South Pole. The instruments are maintained during the rest of

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

the year by the RPSC research associate. Data are transmitted to the home institution for analysis.

Deploying Team Members:

- Stephen Barlow
- Michael McCarthy (Team Leader)
- Bryan Venema

Return to Index

Science Project Details: 2007-2008

Collection Of Atmospheric Air For The NOAA/GMD Worldwide Flask-Sampling Network

Kristin Van Konyenburg, the Palmer Station physician in 2002, shown here operating the NOAA/Global Monitoring Division (GMD), carbon cycle flask sampler. The sampler can be seen in the background with the sample inlet line extended.

Program Manager:
Dr. Peter Milne

Event Number: O-264-P
NOAA/NSF Agreement

ASC POC/Implementer:
Rob Edwards

Dr. David Hofmann (Principal Investigator)
david.j.hofmann@noaa.gov
http://www.esrl.noaa.gov/gmd/

National Oceanic and Atmospheric Administration
Global Monitoring Division (GMD)
Boulder, Colorado

Supporting Stations: Palmer Station
Research Locations: Atmospheric Research Observatory (South Pole), Terra Lab (Palmer)

Project Description:

NOAA'S Global Monitoring Division (GMD) team will continue long-term measurements of trace constituents that influence climate and the ozone layer. The work done at Palmer and South Pole stations is in conjunction with the ongoing worldwide measurements of carbon dioxide, methane, carbon monoxide, aerosols, water vapor, surface and stratospheric ozone, chlorofluorocarbons and the ozone layer. The work is part of NOAA's effort to determine and assess the long-term buildup of global pollutants in the atmosphere. The measurements will be used for time-series analysis of multi-year data records that focus on stratospheric ozone depletion, trans-Antarctic transport and deposition, interplay of the trace-gases aerosols with the 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. Other objectives

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

of this research are to determine the rate at which concentrations of these atmospheric constituents change and to examine the sources, sinks and budgets. Working with the climate modelers and diagnosticians, researchers will use the data to determine how the rate of change of these parameters affects climate, particularly when the data are included in climate model studies in support of this project.

Field Season Overview:

Instruments at South Pole Station operate automatically. At Palmer Station, the physician will collect weekly air samples year-round from behind the T-5 building using a portable flushing and pressurizing apparatus. One or two samples will be collected each week, and environmental conditions at the time of sampling will be logged. Sampling will occasionally be deferred until certain meteorological criteria are met. All samples will be returned to NOAA/GMD in Boulder, Colorado on a regular schedule for analysis of carbon dioxide and other trace constituents.

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Aging In Weddell Seals: Proximate Mechanisms Of Age-Related Changes In Adaptations To Breath-Hold Hunting In An Extreme Environment.

Near Turtle Rock, a sleeping adult Weddell seal is drifted in by blowing snow. Photo by Markus Horning.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-041-M

ASC POC/Implementer:
Stephen Alexander

Dr. Markus Horning (Principal Investigator)
markus.horning@oregonstate.edu
http://mmi.oregonstate.edu/pearl/antarctica

Oregon State University
Marine Mammal Program
Newport, Oregon

Supporting Stations: McMurdo Station
Research Locations: Crary Lab, McMurdo Sound sea ice

Project Description:

This study seeks to determine if aging within the reproductive range of Weddell seals is associated with a reduced ability to produce external work (e.g., successful diving and foraging) and reduced functionality (i.e., decline in swimming muscle function). To address these objectives, researchers will outfit seals with transmitters, ECG monitors, time-depth recorders, dataloggers, flipper accelerometers, and stomach temperature transmitters. Project scientists will also collect muscle biopsy and blood samples. These samples will be used for a variety of assays designed to determine age related changes in enzyme activities, hemoglobin concentrations, and other factors. The combination of telemetry data and tissue assays will allow researchers to asses the manifestation of the dive response and the plasticity of foraging capacity with aging.

Field Season Overview:

Feld team members will make day trips via snowmobile and tracked vehicle from McMurdo Station to the area around the Erebus Glacier Tongue and

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

the Delbridge islands, where they will sedate seals, take tissue and blood samples, and attach telemetry instruments and transmitters. Samples will be processed in the field and transported to the Crary Laboratory for analysis. The instruments will be retrieved after a few days or weeks and their data downloaded. Some samples will be returned to the home institution for further analysis.

Deploying Team Members:

- Roger Hill
- Suzanne Hill
- Allyson Hindle
- Jeanette Nienaber
- Pamela Tuomi

Return to Index

Science Project Details: 2007-2008

ELF/VLF Observation In The Southern Pacific Ocean

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-327-N

ASC POC/Implementer:
Andrew Nunn / Bruce Felix

Dr. Umran Inan (Principal Investigator)
inan@nova.stanford.edu
http://www-star.stanford.edu/~vlf/pars/pars.htm

Stanford University
Department of Electrical Engineering
Stanford, California

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Southern Ocean

Project Description:

This research program addresses the need for very-low frequency (VLF) measurements at the geomagnetic conjugate point of the High-Frequency Active Auroral Research Program (HAARP) HF heating facility in Gakona, AK. Observations on the NBP contribute to current on-going studies of magnetospheric wave-injection, wave growth and amplification, and particle-loss mechanisms in the Earth's radiation belts. More specifically, the VLF receiver allows researchers to observe conjugate, ducted, whistler mode signals excited by HAARP and related triggered emissions and particle precipitation. In addition, the regularly scheduled cruises of the NBP provide access to the geomagnetic conjugate point for the central United States, a region of intense lightning activity and lightning-related phenomena.

Field Season Overview:

The researchers plan to continue collecting data while the RVIB Nathaniel B Palmer is underway. RPSC technicians will schedule regular data acquisitions and archive the data onto external hard drives. The hard drives will be shipped to the home institution at the end of the cruise.

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

ELF/VLF Observation Of Whistler-Mode Waves, Lightning Discharge, And Gamma-Ray Events From Palmer Station

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

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-336-P

ASC POC/Implementer:
Rob Edwards

Dr. Umran Inan (Principal Investigator)
inan@nova.stanford.edu
http://vlf.stanford.edu/research/whistler-mode-wave-studies-palmer-station-antarctica

Stanford University
Department of Electrical Engineering
Stanford, California

Supporting Stations: Palmer Station
Research Locations: Terra Lab, Glacier antenna

Project Description:
Whistler-mode waves play a major role in controlling the dynamic evolution of relativistic electron populations in the Earth's radiation belts. They regularly penetrate the ionosphere and can be detected at ground-based stations. Because of its remoteness from anthropogenic electromagnetic noise sources, Palmer Station remains one of the most electromagnetically quiet ELF/VLF receiving sites in the world, allowing researchers to take full advantage of this extremely sensitive receiver system. The system records broadband data (full waveform data sampled at 100 kHz) as well as narrowband data (the demodulated amplitude and phase of narrowband VLF transmitter signals) 24 hours a day, 365 days a year. The scientific investigations involving these data are focused on magnetospherically generated whistler-mode waves; global lightning and thunderstorm activity; the characteristics of lightning discharges associated with terrestrial gamma ray flashes; and the ionospheric effects of gamma ray

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Field Season Overview:

The researchers will perform annual maintenance and calibration and prepare the instrument and antenna for winter operation. The field team member will also install a radio link to acquire data from Vernadsky Station. The data collection equipment operates throughout the year and is maintained by the RPSC research associate.

Deploying Team Members:

- Robert Marshall

Return to Index

Science Project Details: 2007-2008

Parhelion Pemmican Pack-Ice Pancake: Antarctica Compressed On Canvas

Chris Kannen with one of his pieces.
Photo courtesy of Chris Kannen.

Program Manager:
Ms. Kim Silverman

Event Number: W-488-M

ASC POC/Implementer:
Patricia Jackson

Mr. Christopher Kannen (Principal Investigator)
cmkannen@gmail.com
http://www.chriskannen.com

Brooklyn, New York

Supporting Stations: McMurdo Station
Research Locations: Taylor Valley

Project Description:

The artist with this project will observe and record the daily activity of the Long Term Ecological Research team in Taylor Valley as the season changes from 24-hours of sunlight to near total darkness. This project seeks to describe the experience of being in such a time and place. The artist will use drawings, photos, and video as source material for a series of paintings that depict the experience in more physical terms. The source material will also stand alone as a comprehensive visual record of the first extended field season in the McMurdo Dry Valleys, contributing to the global interest in polar research generated by the International Polar Year.

Field Season Overview:

The artist plans to travel via helicopter to the established camp at Lake Hoare in Taylor Valley. Once there, the artist will draw, photograph, and film researchers as they go about their work, both in the camp and in the field. The artist will also record images of Taylor Valley landscapes, documenting the transition to polar night. All collected images will be returned to the home studio and used as source material for a series of paintings depicting the Antarctic Dry Valley experience.

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

A Graduate Training Program In Antarctica: Integrative Biology And Adaptation Of Antarctic Marine Organisms

A class picture of The Antarctic Biology Course. Photo courtesy of the PI.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-301-M

ASC POC/Implementer:
Stephen Alexander

Dr. Deneb Karentz (Principal Investigator)
karentzd@usfca.edu
http://antarctica.usc.edu/

University of San Francisco
Department of Biology
San Francisco, California

Supporting Stations: McMurdo Station
Research Locations: Crary Lab, Bratina Island, Cape Evans, Dry Valleys, Ice Shelf, sea ice

Project Description:

This project is an international, advanced level, graduate training course that will be taught at McMurdo Station for one month during the austral summer. The goals of the course are to introduce students to the diversity of biological organisms in Antarctica, to study unique aspects of biology that permit life in extreme environments, and to provide the opportunitiy for scientists new to Antarctica to learn about and appreciate the logistical possibilities and constraints of working there.

Field Season Overview:

In addition to the field team members, 35 students will deploy to participate in an advanced graduate level course in polar biology. Classes will be held in the Crary lab. Students and teachers will travel by tracked vehicle and helicopter to the sea ice and to other field sites to collect water samples and organisms. Some organisms will be maintained in the Crary aquaria until needed for study.

Deploying Team Members:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Michael Berger
- Jonathan Cohen
- Dietmar Kueltz
- Alison Murray
- George Somero

Return to Index

Science Project Details: 2007-2008

Dry Valley Seismic Project

Ray 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.

Program Manager:
Dr. Mark Kurz

Event Number: G-078-M
NSF/PLR-DoD MOA

ASC POC/Implementer:
Douglas Miller

Dr. Robert Kemerait (Principal Investigator)
kemerait@tt.aftac.gov
http://www.afisr.af.mil/units/aftac/index.asp

United States Air Force
AFTAC
Patrick AFB, Florida

Supporting Stations: McMurdo Station
Research Locations: Bull Pass, Mount Newall

Project Description:

The Dry Valleys seismic project monitors regional and global seismicity. The Dry Valleys stations are part of the Air Force Technical Applications Center's (AFTAC) southern network, which accumulates near-real-time data from nine locations in the southern hemisphere. The data is telemetered to the National Data Center in Florida and made available to the international scientific community.

Field Season Overview:

The field team initially will make a day trip via helicopter to Bull Pass and Mount Newall to check the seismic stations. Afterward, the team members will travel again via helicopter to establish temporary field camps at each station, where they will refuel the diesel generators and perform battery checks and general maintenance. When the work is finished, the team members will strike camp and return to McMurdo via helicopter.

Deploying Team Members:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Andrew Bliss
- Samuel Jacobson
- Ryan Mclain
- Jason Skiles

Return to Index

Science Project Details: 2007-2008

Temporal Variability In Natural And Anthropogenic Disturbance Of McMurdo Station

Dr. Kennicutt's B-518 field team.
Photo by Sally Morehead.

Program Manager:
Dr. Polly Penhale

Event Number: B-518-M

ASC POC/Implementer:
Stephen Alexander

Dr. Mahlon Kennicutt (Principal Investigator)
m-kennicutt@tamu.edu
http://antarctica.geog.tamu.edu

Texas A & M University
Oceanography
College Station, Texas

Supporting Stations: McMurdo Station
Research Locations: On station

Project Description:

Antarctica represents perhaps one of the most carefully tended and strictly monitored habitats on Earth. Aside from the manifest desire to protect the flora, fauna and the atmosphere of a relatively pristine environment, there is the value the extreme southern latitudes provide as a virtual baseline barometer of global pollution. The Antarctic Treaty's Protocol on Environmental Protection, supplemented by the policies and practices of the nations who work and do science there, have combined to focus scrutiny on any anthropogenic impacts that can be foreseen or detected. This project collects a system of observations that should enable scientists to be more aware of any such impacts on both marine and terrestrial habitats in and around McMurdo Station. The observations are located precisely and tracked over time. Researchers use geographic information systems (GIS) techniques and geostatistical methods to organize these diverse data sets into a coherent, coordinated framework. The results should provide additional fundamental scientific information for developing a long-term strategy to document and minimize the impacts of future science and support operations on Antarctic resources and values.

Field Season Overview:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Project team members plan to continue their environmental monitoring program. McMurdo Station will serve as their base of operations for the season. Team members will use SCUBA diving to collect marine sediment samples in the contaminated zone, and they will travel by pickup truck to collect terrestrial samples in the McMurdo Station vicinity. The field team will also make a day trip by helicopter to Bratina Island to SCUBA dive and collect sediment samples. Samples will be processed and analyzed in the Crary Laboratory, and some samples may be shipped to the home institution for further analysis.

Deploying Team Members:

- April Gossmann
- Andrew Klein (Co-PI)
- Ann Linsley
- Terence Palmer
- Stephen Sweet

Return to Index

Science Project Details: 2007-2008

Development Of A Remotely Operated Vehicle For Under-Ice Research In Polar Environments

Bob Zook deploys the pre-prototype of the remotely operated vehicle SCINI (Submersible Capable of under Ice Navigation and Imaging). Photo by Jesse Huff-Christiansen.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-174-M

ASC POC/Implementer:
Douglas Miller

Dr. Stacy Kim (Principal Investigator)
skim@mlml.calstate.edu
http://scini.mlml.calstate.edu/

San Jose State University
Moss Landing Marine Laboratories
Moss Landing, California

Supporting Stations: McMurdo Station
Research Locations: Cape Armitage, Hut Point, Cinder Cones, Turtle Rock, Explorers Cove

Project Description:

In marine habitats worldwide, the zone between scuba-diving depths (to 40 meters) and surge-free depths (below 200 meters) is poorly studied. Remotely Operated Vehicles (ROVs) are often limited to deeper depths by wave surge that hampers the ability to maintain a fixed station. Under ice-covered seas, wave motion ranges from minimal to nonexistent. Sea ice also provides a stable platform from which to deploy and operate the ROV. ROVs previously needed a one-meter-diameter ice hole, requiring substantial logistical support. This project will deploy a ROV that fits through a 15-centimeter hole drilled with a hand-held power head, providing access to sites previously inaccessible to divers or standard ROVs. Using the ROV, researchers hope to map and measure historical, submerged structures; survey and photograph two deep, benthic communities; and to conduct general sonar mapping.

Field Season Overview:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

The field team members plan to travel via tracked vehicle to several sites on the sea ice near McMurdo Station, where they will deploy a ROV to locate historical experimental structures on the sea floor, document their positions with GPS, and photograph the associated ecological communities with still and video cameras equipped with laser scalers. The researchers also plan to travel via tracked vehicle and helicopter to sites further afield, where they will survey benthic habitats beyond scuba-diving depths (at 40-170 m) and create high-resolution images of the seafloor. Some samples will be collected. Sonar mapping tests will be conducted. At times, field team members will use SCUBA and surface-supply diving to test and observe ROV performance. Samples will be processed in the Crary Laboratory.

Deploying Team Members:

- William Fairey
- Nicholas Huerta
- Marcus Kolb
- Bryan Newbold
- Robert Williams
- Bob Zook (Co-PI)

Return to Index

Science Project Details: 2007-2008

Mount Erebus Volcano Observatory II (MEVO II): Surveillance, Models, Impacts And Outreach

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.

Program Manager:
Dr. Thomas Wagner

Event Number: G-081-M

ASC POC/Implementer:
Patricia Jackson

Dr. Phillip Kyle (Principal Investigator)
kyle@nmt.edu
http://erebus.nmt.edu/

New Mexico Institute of Mining and Technology
Department of Earth & Environmental Science
Socorro, New Mexico

Supporting Stations: McMurdo Station
Research Locations: Mount Erebus

Project Description:

Mount Erebus on Ross Island is the most active volcano in Antarctica. Its persistent convecting lava lake of anorthoclase phonolite magma is unique among volcanos. The lake and underlying magmatic system emit volcanic gases into the pristine Antarctic atmosphere. Because of the access researchers have to the mountain and the nature of its small strombolian eruptions, Mount Erebus has become a model volcano for study. This project is a continuation of research conducted over the past seven field seasons, during which the team installed six integrated geophysical/geodetic surveillance observatories, monitored other seismometers, made measurements of gas emissions, and took GPS measurements to observe deformation of the volcano. The seismic networks allow an understanding of the eruptive behavior and dynamics of Mount Erebus, and inversion of the seismic data will allow topographic imaging of the magma chamber and plumbing inside the volcano.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Field Season Overview:

Team members will be transported by helicopter to an acclimitization camp at Fang Glacier. A few days later they will travel by snowmobile or helicopter to occupy their base of operations at the Lower Erebus Hut. Their research activities include: 1) deploying 25 broadband seismometers around the flanks and summit area of the volcano; 2) inspecting, repairing, and maintaining 12 permanent seismic stations and two permanent GPS stations; 3) maintaining the integrated surveillance instrumentation systems; 4) making GPS measurements on the flanks and summit; 5) collecting volcanic rock samples; 6) measuring emission rates and collecting gas samples; 7) re-visiting a GPS network to check for deformation; and 8) continuing video surveillance of volcanic activity as part of the Mount Erebus Volcano Observatory. This year field team members will also conduct active seismic experiments to better understand the plumbing inside the volcano.

The researchers will use snowmobiles to travel to study sites and seismometer locations in the summit region, and they will make day trips by helicopter to study sites and instrument stations elsewhere on the mountain. Gas plume profiles will be made from helicopters and Twin Otter aircraft using onboard gas analyzers. Rock and gas samples will be shipped to the home institution for analysis.

Deploying Team Members:

- Rick Aster (Co-PI)
- Timothy Burton
- Julien Chaput
- Alex Gerst
- Kyle Jones
- Sarah Krall
- Pnina Miller
- Clive Oppenheimer
- Hunter Yarbrough
- Daria Zandomeneghi

Return to Index

Science Project Details: 2007-2008

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

Direction-finding measurements of LF/MF/HF auroral radio emissions at South Pole.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-128-S

ASC POC/Implementer:
Charles Kaminski

Dr. James LaBelle (Principal Investigator)
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: Antenna Field

Project Description:

The LF/MF/HF receiver installed at South Pole measures radio emissions of auroral origin in the frequency range of 50 to 5000 kHz. This 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. Several types of natural auroral radio emissions occur in this range. For many of these, the generation mechanism and the cause of the observed wave structure remain mysteries. The South Pole is an ideal location for observing these signals because of the low level of man-made background noise.

Field Season Overview:

The researchers plan to perform standard maintenance of the experimental equipment at South Pole Station, which will involve raising one or more antennas. The field team members will also attempt to mitigate the severe radio frequency interference that appeared after the experiment was reconfigured and moved to the B2 science lab. The instruments will continue to operate year-round, and data will be sent to the home institution for analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

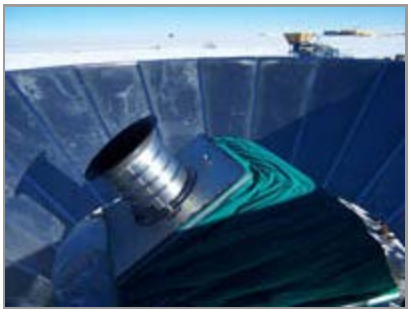
Deploying Team Members:

- Nicholas Bunch

Return to Index

Science Project Details: 2007-2008

BICEP1 Third Season Continuation - A Search For Inflation With Degree-Scale Polarimetry From The South Pole



The BICEP telescope has been operating continuously since early 2006 and has acquired over 400 good-weather days of CMB polarization data. Most of the telescope is below the insulated enclosure visible here. The MAPO facility and new South Pole Station can be seen in the background. Photo courtesy of John Kovac.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-033-S

ASC POC/Implementer:
Charles Kaminski

Dr. Andrew Lange (Principal Investigator)
ael@astro.caltech.edu
http://bicep.caltech.edu/

California Institute of Technology
Physics
Pasadena, California

Supporting Stations: South Pole Station
Research Locations: Dark Sector Lab

Project Description:

The Background Imaging of Cosmic Extragalactic Polarization (BICEP) experiment is 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 operates 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 near 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.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Field Season Overview:

The summer field team plans to relieve the winter-over staff in early November. If adequate LHe remains, team members will continue calibrations and observations for ten days and then begin warming the BICEP instrument. In mid-November, the researchers will lower the BICEP receiver from the telescope mount into the dedicated BICEP Dark Sector Lab space. Over the subsequent four weeks, the receiver will be opened and refurbished and the focal plane insert upgraded with new detectors. The receiver will be cooled and tested by mid-December and by late December reinstalled on the BICEP telescope mount, where it will be tested for mechanical, cryogenic, and electronic noise performance. From early January through early February, the instrument will be calibrated. Team members will then place the telescope in winter operations mode. Data will be transmitted to the home institution for analysis.

Deploying Team Members:

- Denis Barkats
- Evan Bierman
- Jamie Bock (Co-PI)
- Chiang
- Jonathan Kaufman
- Brian Keating
- John Kovac (Co-PI)
- Hien Nguyen
- Steffen Richter
- Yuki Takahashi
- Kiwon Yoon

Return to Index

Science Project Details: 2007-2008

IPY: Live From The Poles: A Multimedia Educational Experience

PI Chris Linder on location in Resolute Bay, Canada in April 2007. Photo by Mike Carlowicz, WHOI.

Program Manager:
Mr. Alphonse T. DeSena

Event Number: Y-603-M

ASC POC/Implementer:
Douglas Miller

Mr. Chris Linder (Principal Investigator)
chris@chrislinder.com
http://polardiscovery.whoi.edu

Seattle, Washington

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys, Cape Royds, Cape Crozier, Big Razorback Island

Project Description:

Live from the Poles (LFTP) is an International Polar Year (IPY) project supported by the informal Science Education program of NSF's Directorate for Education and Human Resources. The project, will heighten public awareness during the International Polar Year (IPY) by bringing cutting-edge science to diverse, worldwide audiences. The program is designed to share the excitement of polar exploration, communicate the importance of the poles, and invigorate the next generation of scientists and engineers. Project team members will use an interactive Polar Discovery website to convey the research goals, methods, and findings of four major polar expeditions. The team will also facilitate satellite phone calls from polar field sites to natural history and science museums across the United States, where audience members will be able to converse with scientists in real time. Photographs and video footage produced by the project will be archived on the Woods Hole Oceanographic Institution (WHOI) online ImageSource database.

Field Season Overview:

Team members will travel via helicopter to accompany science events B-031-M and G-152-M and via tracked vehicle to accompany event B-009-M into the field. Once there, they will document research activities and report

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

them daily, with photos and video clips, to an interactive web site. Team members will also arrange and facilitate interactive, satellite-phone, question-and-answer sessions between scientists in the field and members of the public at eight science and natural history museums across the United States. These sessions will be broadcast by NPR and CBS. Materials generated by this project will be used to create polar research exhibits at the Museum of Science in Boston and the WHOI Ocean Science Exhibit Center.

Return to Index

Science Project Details: 2007-2008

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

Joel Barker and Becki Witherow sampling a snow pit on the Commonwealth Glacier in the Dry Valleys. They were sampling the snow for chemical analysis so clean suits were worn and ultra-clean techniques were used. Photo courtesy of Becki Witherow.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-420-M

ASC POC/Implementer:
Rob Edwards

Dr. W. Berry Lyons (Principal Investigator)
lyons.142@osu.edu
http://www.mcmlter.org

Ohio State University
Byrd Polar Research Center
Columbus, Ohio

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:
The McMurdo Long Term Ecological Research (LTER) project will continue to investigate the McMurdo Dry Valleys as an end-member ecosystem and focus on the relative roles of legacy and extant processes on current biodiversity and ecosystem structure and function. Researchers from this project will monitor the inorganic geochemistry of waters collected from the glaciers, streams, ponds, and lakes of the Dry Valleys; study upland seeps and ponds to gain a better understanding of their hydrologic and geochemical controls; and continue to work with co-PIs conducting lake, stream, and glacier sampling programs.

Field Season Overview:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

The researchers will travel via helicopter from McMurdo Station to established field camps in Taylor Valley. They will work out of these camps for several days at a time, and they will make day trips via helicopter from the camps to other sampling sites, including upland pond sites in the Dry Valleys. The team may also make day trips by helicopter from McMurdo to Dry Valley study sites. The field team will collect water, snow, and sediment samples from these sites and return the samples to the Crary Laboratory for chemical analyses. Samples will be shipped to the home institution for further analysis.

Deploying Team Members:

- Christopher Gardner
- Henry Hunt (Co-PI)
- Lee Munk
- Kathy Welch (Team Leader)

Return to Index

Science Project Details: 2007-2008

3-D Dynamics Of The Ferrar Magmatic Mush Column, Dry Valleys

Program Manager:
Dr. Thomas Wagner

Event Number: G-056-M

ASC POC/Implementer:
Jessie Crain

Dr. Bruce Marsh (Principal Investigator)
bmarsh@jhu.edu
http://silvermagma.eps.jhu.edu

Johns Hopkins University
Morton K. Blaustein Dept of Earth & Planetary Sci
Baltimore, Maryland

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

Planetary magmatism is a richly integrated process. The most challenging aspect of understanding it is that so little of the integrated nature of the full magmatic life cycle can be examined in any reliably realistic context. In active volcanic systems, all the evidence of the deeper workings can only be loosely inferred from the composition, sequence, and volumes of magmatic wreckage. In contrast, the Ferrar dolerites of the McMurdo Dry Valleys represent an excellent example, perhaps the best on Earth, of a fully integrated magmatic system that can be studied in great detail due to its excellent exposure and pristine condition of the rocks. By collecting samples and by mapping the spatial relations of the rocks of the Ferrar magmatic system, researchers with this project seek to establish the fundamental operational principles of the process of planetary magmatism.

Field Season Overview:

The field team members plan to travel via helicopter to the southern end of Bull Pass, where they will set up a tent base camp. From there, they will make day trips via helicopter to various nearby sites, where they will travel on foot to collect samples and map geologic relations among the various magmatic rocks. Team members will also perform aerial surveys. Rock samples will be returned to the home institution for cataloguing and analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Holly Brown
- Elizabeth Miller
- Dean Peterson
- Barbara Souter
- Nathan Winslow
- Michael Zieg

Return to Index

Science Project Details: 2007-2008

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

Program Manager:
Dr. Roberta Marinelli

Event Number: B-021-L

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. Doug Martinson (Principal Investigator)
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 sampling grid

Project Description:

The overall objectives of the Palmer-LTER projects are to document and understand the seasonal cycles of primary production, krill recruitment, Adelie penguin breeding, and microbial biogeochemical processes in the near-shore regime of the coastal antarctic ecosystem. This project continues a long-term sampling program of the water column at each standard station during the annual Palmer LTER cruise. Using samples collected by ARSV Laurence M. Gould staff, project researchers measure the physical, biogeochemical, ecological, and oceanographic properties of the seawater at these and other locations relevant to LTER Principal Investigator needs.

Field Season Overview:

Aboard the annual LTER cruise (LMG08-01), ARSV Laurence M. Gould staff members and team members from other LTER events will deploy nets, trawls, acoustic samplers, and hydrographic gear, including XBTs, XCTDs, and current drifters to collect samples and data for this project. Samples and data will be returned to the home institution for analysis.

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

A Science Management Office For The United States Component Of The International Trans Antarctic Expedition (US ITASE SMO): A Collaborative Program Of Research From Taylor Dome To South Pole

Traverse train US ITASE. Photo courtesy of US ITASE Science Management Office.

Program Manager:
Dr. Julie Palais

Event Number: I-153-M/S

ASC POC/Implementer:
Cara Ferrier

Dr. Paul Mayewski (Principal Investigator)
paul.mayewski@maine.edu
http://www2.umaine.edu/USITASE

University of Maine
Climate Change Institute
Orono, Maine

Supporting Stations: McMurdo Station, South Pole Station
Research Locations: Traverse from Byrd Glacier to South Pole Station

Project Description:

Researchers will continue studying the last 200 years of East Antarctica's environmental history by taking ice cores and collecting other data along a traverse route from Byrd Glacier to South Pole Station. The data will be used to make regional comparisons of the interannual variability of several factors associated with the Antarctic Circumpolar Wave. These regional comparisons can be extended from the last two decades of satellite and field observations to the last 200 years through the interpretation of ice core-derived climate and environmental proxies. These proxy climate histories will also help parse out anthropogenic influence on air temperature, atmospheric circulation, and atmospheric chemistry.

Field Season Overview:

Management of the U.S. component of the International Trans-Antarctic Scientific Expedition (ITASE) includes coordinating logistics and sample collection, assisting in sample collection, and maintaining a science management office. Field team members will travel by Basler aircraft to the

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

previous season's over-winter site. After de-wintering their vehicles, the crew will continue their overland traverse, using ice-penetrating radar to search for crevasses. During the traverse, team members will collect snow samples and take ice cores. During the traverse, one resupply flight will will also replace some of the team members with fresh crew. The traverse will terminate at South Pole Station, where the vehicles will be wintered. All participants will return to McMurdo by LC-130. Samples and cores will be returned to the home institutions for processing and analysis.

Deploying Team Members:

- Steven Arcone (Co-PI)
- Daniel Breton
- Daniel Dixon
- Gordon Hamilton (Co-PI)
- Elena Korotkikh
- Luci Pandolfi
- Sharon Sneed
- Nicole Spaulding
- Joshua Swanson
- Luke Wagner
- Michael Waszkiewicz
- Brian Welch (Co-PI)

Return to Index

Science Project Details: 2007-2008

Antarctic Auroral Imaging

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

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-104-S

ASC POC/Implementer:
Charles Kaminski

Dr. Stephen Mende (Principal Investigator)
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: Atmospheric Research Observatory

Project Description:

More information about the electrodynamics of the polar cap region and the region's role in coupling the solar wind with the Earth's magnetosphere, ionosphere, and thermosphere is necessary to understand the Sun's influence on the structure and dynamics of Earth's upper atmosphere. The following measurements are central to this understanding: electric field convection pattern across the polar cap; and knowledge of the atmospheric response to high-latitude wave and particle energy inputs during both geomagnetically quiet and disturbed situations. To study the coupling of the solar wind to ionospheric and magnetospheric processes, the Automatic Geophysical Observatory (AGO) network uses instruments at six polar-plateau locations as well as optical and radio-wave auroral imagers, magnetometers, and narrow- and wide-band radio receivers.

Field Season Overview:

The researchers plan to have the South Pole AGO returned to the home institution at the beginning of the austral summer. The instrument will be upgraded and returned to South Pole, where one field team member will assist with reinstallation. The RPSC research associate will monitor and maintain the instrument during the winter. Data are transmitted to the home institution for analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Harald Frey

Return to Index

Science Project Details: 2007-2008

Balloon-Borne Experiment With A Superconducting Spectrometer (BESS)

Shrouded in solar panels, the BESS payload dangles from the "Boss" launch vehicle. The balloon is being filled in the background. Photo courtesy of the PI.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-140-M

ASC POC/Implementer:
Patricia Jackson

Dr. John Mitchell (Principal Investigator)
john.w.mitchell@nasa.gov
http://lheawww.gsfc.nasa.gov/docs/gamcosray/hecr/BESS/BESS.html

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland

Supporting Stations: McMurdo Station
Research Locations: Long Duration Balloon Facility, Williams Field

Project Description:

BESS is a joint Japanese-U.S. project to search for antimatter in cosmic radiation. BESS measures the energy spectra of cosmic-ray antiprotons, searches for anti-nuclei, and provides fundamental data on light cosmic-ray elements and isotopes. The antimatter search may provide answers to questions of cosmological significance regarding the nature of the Universe. BESS-Polar I flew for 8.5 days in 2004. BESS-Polar II flew for 30 days in 2007-08 and returned its primary science data for 24.5 days with the superconducting magnet energized. Cosmic-ray antiprotons will be measured more precisely than during the previous solar minimum, and the search for cosmic antimatter will be three times more sensitive.

Field Season Overview:

Working at Nasa's Long Duration Balloon facility at Williams field, all LDB personnel lodge at McMurdo Station and commute to the facility. Upon arrival they begin assembling and testing their payloads. The launch window usually opens by the fifth of December. During the float, some team

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

members return to the US while their McMurdo colleagues monitor instrument status and data telemetry. Upon termination, the recovery teams use fixed-wing or helicopter support to retrieve the instrument and its parachute. Data drives are duplicated and sent home along with the instrument packages retrieved from the field.

Deploying Team Members:

- Thomas Hams
- Masaya Hasegawa
- Atsushi Horikoshi
- Akira Kusumoto
- Shinya Matsuda
- Yosuke Matsukawa
- Reiko Orito
- Kenichi Sakai
- Frank San Sebastian
- Makoto Sasaki
- Ryohko Shinoda
- Neeharika Thakur
- Akira Yamamoto (Co-PI)
- Koji Yoshimura (Co-PI)

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Effects Of Oxygen And Temperature On Egg Mass Function Of Southern Ocean Marine Invertebrates

Program Manager:
Dr. Roberta Marinelli

Event Number: B-004-M

ASC POC/Implementer:
Stephen Alexander

Dr. Amy Moran (Principal Investigator)
moran@clemson.edu
http://www.clemson.edu/~moran

Clemson University
Department of Biological Sciences
Clemson, South Carolina

Supporting Stations: McMurdo Station
Research Locations: Crary Lab, McMurdo Sound, Delbridge Islands, New Harbor, Granite Harbor

Project Description:

Antarctic marine organisms exist under constant, low-temperature conditions that fundamentally affect oxygen availability and metabolism. This project uses both natural and artificial egg masses of Antarctic invertebrates as a model system to explore the relationship between oxygen availability, metabolic rate, and the size and shape of organisms. Project researchers will construct artificial egg masses of known size, shape, and embryo density, then measure oxygen gradients and embryonic developmental rates. The morphology and oxygen gradients in natural egg masses of Antarctic nudibranchs will also be examined and compared to related temperate nudibranchs to determine whether egg mass design has evolved in Antarctica in response to a release from the oxygen-based constraints that exist in warmer environments.

Field Season Overview:

Field team members will travel via tracked vehicle to the Delbridge Islands, Cape Evans, and other locations in McMurdo Sound, and via helicopter to New Harbor and Granite Harbor, where they will use SCUBA diving to collect adult nudibranchs and nudibranch egg masses. Divers will also perform in-

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

situ measurements of oxygen gradients in egg masses. Collected samples will be transported back to the Crary Laboratory, where adult animals will be spawned and the egg masses and embryos incubated and studied. Some samples will be returned to the home institution for further analysis.

Deploying Team Members:

- Bruce Miller
- Christopher Shields
- Jonathan Sprague
- Arthur Woods (Co-PI)

Return to Index

Science Project Details: 2007-2008

Bacterioplankton Genomic Adaptations To Antarctic Winter

Program Manager:
Dr. Roberta Marinelli

Event Number: B-229-P

ASC POC/Implementer:
Rob Edwards

Dr. Alison Murray (Principal Investigator)

http://genex2.dri.edu

Desert Research Institute
Earth and Ecosystem Sciences
Reno, Nevada

Supporting Stations: Palmer Station
Research Locations: On station, Palmer boating area

Project Description:

Despite a general paucity of food, increased cold, sea-ice formation, and limited light, Antarctic marine bacteria are able to survive through the winter. Planktonic marine crenarchaeota are even able to increase in abundance and become a dominant part of the picoplankton community. This project seeks to describe the differences between the austral summer and winter bacterioplankton communities, and to investigate the adaptations that allow winter survival. Experiments and genomic analyses will be performed regarding bacterioplankton diversity, functional capacity, and season-independent polar adaptations. Additional experiments will test the hypothesis that some bacteria respond to the onset of winter by transitioning into a starvation-survival mode, and that the crenarchaeota possess adaptations for enhanced growth and survival in winter's harsh conditions.

Field Season Overview:

The researchers plan to collect seawater samples from the Palmer Station pump house and from the local Palmer area, either from Zodiac inflatable boats or through the sea ice. Field team members will collect bacteria from the seawater and perform experiments in the Palmer Station laboratory. Some samples will be returned to the home institution for further analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Return to Index

Science Project Details: 2007-2008

Collaborative Research: A Broadband Seismic Experiment To Image The Lithosphere Beneath The Gamburtsev Mountains, East Antarctica

Program Manager:
Dr. Vladimir Papitashvili

Event Number: G-055-M

ASC POC/Implementer:
Douglas Miller

Dr. Andy Nyblade (Principal Investigator)
andy@geosc.psu.edu
http://epsc.wustl.edu/seismology/GAMSEIS/index.html

Pennsylvania State University
Dept. of Geosciences
University Park, Pennsylvania

Supporting Stations: McMurdo Station
Research Locations: Gamburtsev Mountains

Project Description:

This project seeks to collect detailed, passive seismic data on the Gamburtsev Mountains. Analysis of the data is expected to clarify the seismic constraints on crustal and upper mantle structure beneath and surrounding these mountains, processes that support the high elevation of this region, regional distribution of heat flow, and the tectonic framework of the interior of the East Antarctic shield. The information will help address four, fundamental geophysical questions regarding this region: 1) How have the Gamburtsev Mountains formed at an intraplate location, without a straightforward plate-tectonic mechanism? 2) What is the role of topography and heat flow in the formation of continental ice sheets in East Antarctica? 3) What is the geologic and tectonic history of the East Antarctic craton? 4) How do tectonics and regional heat flow control the formation, distribution, and stability of subglacial lakes in East Antarctica?

Field Season Overview:

The researchers plan to travel via LC-130 to the AGO-1 site, where they plan establish a temporary field camp from which they will conduct Basler aircraft operations. Team members will make day trips from AGO-1 via Basler aircraft to install 10 seismic stations at widely separated locations in the

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Gamburtsev Mountains region. At the end of the field season, the field team will return to McMurdo via LC-130.

Deploying Team Members:

- David Heeszel
- Yongcheol Park
- Doug Wiens (Co-PI)

Return to Index

Science Project Details: 2007-2008

Capital Expenditure, Lactation Energetics, And The Importanc Foraging To Weddell Seals And Their Pups

A mother Weddell seal and her pup at Hutton Cliffs. Photo by Regina Eisert, co-PI on the project.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-024-M

ASC POC/Implementer:
Stephen Alexander

Dr. Olav Oftedal (Principal Investigator)
oftedalo@si.edu
http://nationalzoo.si.edu/ConservationAndScience/AquaticEcosystems/Antarctica/default.cfm

Smithsonian Institution
National Zoological Park
Washington, District of Columbia

Supporting Stations: McMurdo Station
Research Locations: Crary Lab, Hutton Cliffs

Project Description:

This project seeks to investigate the relationship between capital expenditure, food intake, and lactation energetics in Weddell seals. Body composition, milk output, and weaning will be estimated from body water content and water turnover, as determined by two isotopes (deuterium, tritium). Maternal energy expenditure will be determined in a subset of study animals using double-labeled water (tritium and Oxygen-18). The combination of deuterium, tritium, and Oxygen-18 will allow the measurement of total maternal energy expenditure, as well as the contribution of food energy to the energy budget of lactating Weddell seals. Feeding by mothers or pups will be detected from the appearance of seal-prey biomarkers in the seals' blood. Diving behavior and haul-out patterns of lactating Weddell seals and their pups will be monitored with radio transmitters and time-depth recorders attached to the animals.

Field Season Overview:

The researchers will establish a sea-ice field camp at the Hutton Cliffs Weddell seal colony. Mother and pup seal pairs will be captured, weighed, and held in enclosures for isotope administration and blood and milk sample collection. Samples will be processed on-site for later analysis in the Crary Laboratory. Prey specimens (fish) will be collected for biomarker analysis. Seals will also be outfitted with transmitters and time/depth recorders to collect data on diving patterns and haul-out behavior. After ice conditions force the closure of the sea-ice camp, the researchers will travel via snowmobile and use Scott tents for overnight stays at the study site.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Samples will be returned to the home institution for further analysis.

Deploying Team Members:

- Jeff Bechtel
- Regina Eisert (Co-PI)
- Rich Joss
- Crystal Lenky
- Warren Lynch
- Roberto Palozzi
- Lisa Ware

Return to Index

Science Project Details: 2007-2008

Fluctuations Of The West Antarctic Ice-Sheet In Relation To Lake History In Taylor Valley Since The Last Glacial Maximum

Program Manager:
Dr. Julie Palais

Event Number: I-133-M

ASC POC/Implementer:
Charles Kaminski

Dr. Michael Prentice (Principal Investigator)
mlprenti@indiana.edu
http://mypage.iu.edu/~mlprenti

Department of Geology
Bloomington, Indiana

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

This project seeks to reconstruct how the West Antarctic Ice Sheet (WAIS) withdrew from Taylor Valley since it last achieved its maximum extent. Researchers will also test hypotheses for the co-evolution of the WAIS margin and the former glacial lake that was dammed against it. One objective is to study high-elevation sediment bodies by means of surface geology and ground penetrating radar (GPR) to determine whether they are deltas or formed by other processes. Another objective is to constrain the former height of the glacial lake by measuring the salt content of sediments along elevation transects to determine whether they were submerged. A third objective is to use GPR and sediment coring to determine whether controversial sediments on the valley floor are direct glacial deposits or were deposited in a lake.

Field Season Overview:

The researchers plan to split into two separate field teams for the season. Both teams will travel via helicopter to Taylor Valley. Team A will establish a field camp at the Hjorth Hill moraine complex, and Team B will establish a separate camp across the valley along Wales Stream. In the second half of the season, both teams will relocate via helicopter to establish new camps, Team A at High Delta Stream near Lake Fryxell and Team B at “Bent

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Stream" in the Fryxell Basin. At both sets of camps, Team A members will drill sediment cores to 80 meters, utilize ground-penetrating radar, and collect other geophysical data, while members of Team B will collect soil samples along elevation transects. All team members will return via helicopter to McMurdo at the end of the field season. Samples will be processed at the Crary Laboratory and returned to the home institution for analysis.

Deploying Team Members:

- Allan Delaney
- Jonathan Toner

Return to Index

Science Project Details: 2007-2008

Collaborative Research: IPY- Plankton Dynamics In The McMurdo Dry Valley Lakes During The Transition To Polar Night

Dry Valleys during this groups early season work. Photo courtesy of Amy Chiuchiolo.

Program Manager:
Dr. Marie Bundy

Event Number: B-234-M

ASC POC/Implementer:
Rob Edwards

Dr. John Priscu (Principal Investigator)
jpriscu@montana.edu
http://www.homepage.montana.edu/~lkbonney/

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

Supporting Stations: McMurdo Station
Research Locations: Crary Lab, Taylor Valley lakes (Bonney, Fryxell, Hoare)

Project Description:

This project will study lakes in Taylor Valley during the transition to polar night to test the hypothesis that the onset of darkness induces a cascade of physiological changes that alters the functional role of autotrophic and heterotrophic microplankton. Researchers will focus on selected components of the plankton in the lakes with the objective of elucidating those aspects of their genetics, biochemistry, and metabolism that are critical to understanding their transition to the permanently cold and prolonged darkness of polar winter.

Field Season Overview:

Field team members will travel via helicopter from McMurdo Station to established camps in Taylor Valley. They will also move between camps via helicopter, opening and closing the camps and making day trips as required. The team members will collect physical data and chemical and biological samples on the Taylor Valley lakes. Samples will be returned to McMurdo Station for processing and analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Anna Bramucci
- Markus Dieser
- Jacqueline Higson
- Lee Hrenchuck
- Michael Lizotte (Co-PI)
- Jill Mikucki (Co-PI)
- Rachael Morgan-Kiss (Co-PI)
- Jill Thurman
- Trista Vick

Return to Index

Science Project Details: 2007-2008

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

Prey component of the Palmer Station LTER.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-028-L/P

ASC POC/Implementer:
Rob Edwards / Stephanie Suhr Sliester

Dr. Robin Ross (Principal Investigator)
robin@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: Palmer boating area, Palmer LTER sampling grid

Project Description:

The overall objectives of the Palmer-LTER projects are to document and understand the seasonal cycles of primary production, krill recruitment, Adelie penguin breeding, and microbial biogeochemical processes in the near-shore regime of the coastal antarctic ecosystem. This project continues a long-term effort to characterize the distribution and abundance of zooplankton and micronekton in the LTER summer study region. Field team members will study the effects of physical processes, particularly interannual differences in the extent and dynamics of pack ice, on macrozooplankton. The emphasis is on recruitment and production in Antarctic krill and interactions between the krill, its food sources, and its predators.

Field Season Overview:

The season will consist of a Palmer Station program and the annual LTER summer cruise aboard the R/V Laurence M. Gould (LMG08-01). During the research cruise, project team members will make net trawls from a Zodiac inflatable boat, and they will use SCUBA diving to collect krill and conduct underwater video surveys of krill schools and their food. LMG nets tows will

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

also be used to collect zooplankton, krill, and fish larvae for on-board experiments. Team members will conduct bioacoustic surveys to locate and map krill schools.

At Palmer Station, the team members plan to use a specially equipped Zodiac inflatable boat to conduct acoustic surveys and locate krill schools. Researchers will use the acoustic survey data to estimate krill biomass, school distribution, and size. Researchers will also conduct CTD/Fluorometer vertical profiles within the krill schools and collect water from within the schools for analysis of chlorophyll a and particulate carbon. Field team members will use SCUBA diving to collect krill and establish a time series of seasonal progression in availability, demography, physiological condition, phytoplankton ingestion, and growth. Captured animals will be used in growth experiments in the Palmer Station aquarium. Antarctic phytoplankton cultures will also be incubated in the laboratory and aquarium. Frozen krill specimens will be shipped to the home institution for future analyses.

Deploying Team Members:

- Langdon Quetin (Co-PI)

Return to Index

Science Project Details: 2007-2008

Cosmic Ray Energetics And Mass (CREAM)

The CREAM payload in transit to the flight line on launch day in the 2005-2006 campaign. Photo courtesy Robby Estep.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-137-M

ASC POC/Implementer:
Patricia Jackson

Dr. Eun-Suk Seo (Principal Investigator)
seo@umd.edu
http://cosmicray.umd.edu/cream/

University of Maryland
Institute for Physical Science and Technology
College Park, Maryland

Supporting Stations: McMurdo Station
Research Locations: Long Duration Balloon Facility, Williams Field

Project Description:

CREAM (Cosmic Ray Energetics and Mass) is a balloon-borne science payload designed to study the origins of cosmic rays. The instrument is configured with state-of-the-art particle detectors to measure cosmic-ray composition from protons to iron nuclei over the energy range of approximately 10 Teraelectronvolts (TeV) to 10 Petaelectronvolts (PeV). The goal is to observe cosmic-ray spectral features and/or abundance changes as a function of energy that might signify a limit to supernova acceleration. A command data module developed by the NASA/Wallops Flight Facility accompanies the science payload.

Field Season Overview:

All Long Duration Balloon (LDB) personnel lodge at McMurdo Station and commute to the facility at Williams field, where they assemble and test their payloads. The launch window usually opens by the fifth of December. During the float, some team members return to the U.S. while their McMurdo colleagues monitor instrument status and data telemetry. Upon termination, the recovery teams use fixed-wing or helicopter support to retrieve the instrument and its parachute. Data drives are duplicated and sent to the

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

home institution, along with the instrument packages retrieved from the field.

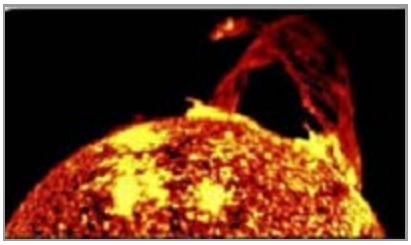
Deploying Team Members:

- Theresa Brandt
- Michel Buenerd
- Opher Ganel
- Jin-A Jeon
- Alexandre Malinine
- Scott Nutter
- Yoann Sallaz-Damaz
- Young Yoon

Return to Index

Science Project Details: 2007-2008

Observation Of Upper-Atmospheric Energetics, Dynamics, And Long-Term Variations Over South Pole Station



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.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-129-S

ASC POC/Implementer:
Charles Kaminski

Dr. Gulamabas Sivjee (Principal Investigator)
sivjee@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: Atmospheric Research Observatory

Project Description:

This project investigates solar-terrestrial interactions involving atomic, molecular, and plasma processes in the upper atmosphere over South Pole Station. The work involves measuring the effects of solar disturbances on the composition, dynamics, and thermodynamics of the Antarctic thermosphere, mesosphere, and stratosphere. In particular, the researchers seek to understand these five processes: 1) The source(s) and propagation of Antarctic F-region patches; 2) Variations in the Antarctic E-region O/N2 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; and 5) Antarctic upper-atmosphere response to solar variability.

Field Season Overview:

The researchers plan to modify and realign their instruments. During the year, the RPSC research associate will operate and maintain the equipment. The instruments will operate continuously through the austral winter, from

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

April through September, and data will be archived and transmitted to the home institution for analysis.

Deploying Team Members:

- S. Azeem
- Charles Mutiso

Return to Index

Science Project Details: 2007-2008

Ground Ice Dynamics In Hyperarid Soils Of The McMurdo Dry Valleys, Antarctica

Program Manager:
Dr. Alexandra Isern

Event Number: G-121-M

ASC POC/Implementer:
Rob Edwards

Dr. Ronald Sletten (Principal Investigator)
sletten@uw.edu
http://depts.washington.edu/icylands/

University of Washington
Department of Earth and Space Sciences
Seattle, Washington

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

This project seeks to elucidate the formation, stability, and evolution of ground ice in the hyper-arid climate of the McMurdo Dry Valleys by integrating automated microclimate measurements of air and soil parameters, collection and analysis of ground ice samples, and numerical modeling of ground ice stability and formation. Researchers will focus on the condensation, sublimation, and transport of water. These processes are influenced greatly by salts, which are abundant in Antarctic soils and which influence ionic diffusion and weathering processes by lowering the melting point of ice and increasing the amount of unfrozen water at subzero temperatures. Thus, the study will also investigate the dynamics of salts and subsurface ice and their interactions at sites of varying age, ice content, and microclimate.

Field Season Overview:

The researchers plan to travel via helicopter to the Hobbs Glacier, where they will establish a field camp. The field team members will make day trips via helicopter from this field camp to other nearby sites of interest. After about a week, the field team will move camp via helicopter to Victoria Valley, from there to Beacon Valley, and finally to a site in the Asgard Range. Each camp will be occupied for approximately one week, and in each case the

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

team members will make day trips via helicopter to nearby study sites. At each site, the researchers will collect soil and subsurface ice samples. In Beacon Valley, GPS studies will be conducted. Samples will be processed and stored in freezers at the Crary Laboratory and shipped to the home institutions for analysis.

Deploying Team Members:

- Birgit Hagedorn (Co-PI)
- Bernard Hallet (Co-PI)

Return to Index

Science Project Details: 2007-2008

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

Program Manager:
Dr. Roberta Marinelli

Event Number: B-032-L

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. Raymond Smith (Principal Investigator)
ray@icess.ucsb.edu
http://pal.lternet.edu

University of California Santa Barbara
ICESS (Institute for Computational Earth System Science)
Santa Barbara, California

Supporting Stations: ARSV Laurence M. Gould
Research Locations: Palmer LTER sampling grid

Project Description:

The overall objectives of the Palmer-LTER projects are to document and understand the seasonal cycles of primary production, krill recruitment, Adelie penguin breeding, and microbial biogeochemical processes in the near-shore regime of the coastal antarctic ecosystem. This project continues a long-term study of marine optics within the LTER sampling grid, specifically investigating the processes controlling the space/time variability of phytoplankton productivity and biomass.

Field Season Overview:

There are no deploying field team members for event B-032. Tasking will be covered by group B-016 on the annual LTER summer cruise aboard the R/V Laurence M. Gould (LMG08-01), during which they will make sea ice observations and collect ice cores and water samples. B-016 team members will process and analyze these samples in on-board laboratories. They will also measure the bio-optical properties of water and ice, and they will collect depth, weather, and satellite data for use in system modeling. The project team will return to Punta Arenas aboard the LMG at the end of the cruise.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Return to Index

Science Project Details: 2007-2008

The Drake Passage High-Density XBT/XCTD Program

Marine projects coordinator Skip Owen replaces an XBT probe on the back of the ARSV Laurence M Gould while crossing the Drake Passage. Photo by Kristan Hutchison, USAP Photo Library.

Program Manager:
Dr. Peter Milne

Event Number: O-260-L

ASC POC/Implementer:
Karl Newyear

Dr. Janet Sprintall (Principal Investigator)
jsprintall@ucsd.edu
http://www-hrx.ucsd.edu

Scripps Institution of Oceanography
Physical Oceanography Research Division
La Jolla, California

Supporting Stations: ARSV Laurence M. Gould
Research Locations: Drake Passage

Project Description:

The objective of the XBT/XCTD program is 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 L.M. Gould crossings per year. The project has been ongoing since 1996. With the multi-year time series we 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.

Field Season Overview:

Contractor (RPSC) marine support personnel will deploy approximately 70 XBTs (expendable bathythermographs) and 11 XCTDs (expendable conductivity-temperature-depth probes) on selected southbound cruise of the R/V Laurence M Gould. The XBTs are loaded and launched using an automatic launcher and associated software that automatically collects the

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

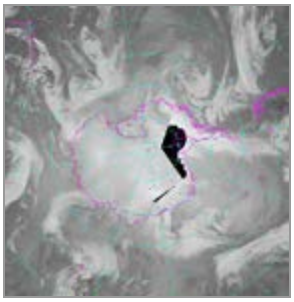
- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

profile data. The system drops an XBT probe at pre-specified locations, as prompted by the GPS location. RPSC personnel will also collect salinity samples for each XCTD deployment. At the end of each cruise, XBT and XCTD data, salinity samples, meteorological information, and data from the underway thermosalinograph will be sent to the principal investigator for processing and analysis.

Return to Index

Science Project Details: 2007-2008

Antarctic Meteorological Research Center (AMRC)



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 AMRC, Space Science and Engineering Center, University of Wisconsin-Madison.

Program Manager:
Dr. Peter Milne

Event Number: O-202-M/P

ASC POC/Implementer:
Patricia Jackson

Dr. Charles Stearns (Principal Investigator)
mattl@ssec.wisc.edu
http://amrc.ssec.wisc.edu

University of Wisconsin Madison
Space Science and Engineering Center
Madison, Wisconsin

Supporting Stations: McMurdo Station, Palmer Station
Research Locations: On station

Project Description:

The Antarctic Meteorological Research Center (AMRC) collects a variety of Antarctic and southern hemisphere meteorological data and provides it to the Antarctic community in support of research, education, and operations. At McMurdo Station, AMRC researchers meet with sources and users of this data in a continual effort to refine the process. AMRC receives meteorological and climatological data from Palmer and South Pole stations for distribution on its Internet site. Project team members have developed a system to better capture data from Antarctic automatic weather stations (O-283) and acquire key satellite imagery for inclusion in AMRC's Antarctic composite imagery. The goal is to improve the availability and flow of meteorological data for the benefit of researchers everywhere.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Field Season Overview:

At Palmer Station, the RPSC research associate will continue to collect data and monitor project computers. Field team members will deploy to McMurdo Station where they will upgrade their data collection and display computers. They will work with RPSC and other agencies to further the acquisition of weather and climatological data from a variety of sources and locations, and they will train the RPSC research associate in the operation and maintenance of AMRC equipment. Data will be forwarded to the AMRC at the University of Wisconsin Madison for processing and dissemination.

Deploying Team Members:

- Jonas Asuma
- Shelly Knuth

Return to Index

Science Project Details: 2007-2008

NASA Long Duration Balloon (LDB) Support Program

CSBF crew launches a long duration balloon.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-145-M
NSF/NASA Agreement

ASC POC/Implementer:
Patricia Jackson

Mr. Bill Stepp (Principal Investigator)
Bill.Stepp@csbf.nasa.gov
http://www.csbf.nasa.gov

Columbia Scientific Balloon Facility
Palestine, Texas

Supporting Stations: McMurdo Station
Research Locations: Long Duration Balloon Facility, Williams Field

Project Description:
This austral summer, the Columbia Scientific Balloon Facility (CSBF) will launch three stratospheric balloons as part of NASA's Long Duration Balloon (LDB) program. The balloons measure 400 feet in diameter, expand to a volume of 40 million cubic feet, and ascend at a rate of about 900 feet per minute to a float altitude of 125,000 feet. The payloads are composed of scientific instruments, command and control systems, and solar and/or battery-powered units. The bulk of the data collected is stored on onboard hard drives, with a small amount sent by radio telemetry to the United States. Because of the Antarctic wind pattern that starts in early December, the balloons will circumnavigate Antarctica between 70 and 80 degrees south latitude.

Field Season Overview:
Working at Nasa's Long Duration Balloon facility at Williams field, all LDB personnel (science teams and CSBF) lodge at McMurdo Station and commute to the facility. Upon arrival, CSBF personnel set up an extensive network of electronic equipment and tracking antennas, rig the balloons and payloads, and prepare the building interiors for occupation by the science teams. The launch window usually opens by the fifth of December. During the float, some team members return to the U.S. while their McMurdo colleagues monitor instrument status and data telemetry. Upon termination,

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

the recovery teams use fixed-wing or helicopter support to retrieve the instrument and its parachute. An RPSC camp manager, equipment operator, cook and GA are assigned to the facility. Each year, RPSC's facility maintenance division sets up and takes down the camp buildings. The operations division prepares the launch pad, maintains the roads, and services the generators.

Deploying Team Members:

- Paul Brasfield
- Don Bunt
- Reid Chambers
- Marty Crabill
- Curtis Frazier
- Jack Hays
- Jim Humphrey
- Gary Marchant
- Otto Masters
- Nathan McCabe
- Juan Perez Lara
- Don Roberts
- Bryan Stilwell
- Bill Stracener
- Thomas Thomas
- Robin Whiteside

Return to Index

Science Project Details: 2007-2008

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

Program Manager:
Dr. Thomas Wagner

Event Number: G-071-N

ASC POC/Implementer:
Jesse Doren

Dr. Joann Stock (Principal Investigator)
jstock@gps.caltech.edu
http://www.gps.caltech.edu/~jstock/Palmerres.html

California Institute of Technology
Geological and Planetary Sciences
Pasadena, California

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Southern Ocean

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 RVIB Nathaniel B Palmer transit cruises in areas where data are lacking. Researchers will survey several major features of the Antarctic and Pacific plates, including Pacific-Antarctic fracture zones; the Cenozoic magnetic anomalies formed by the spreading of the Pacific plate away from Antarctica; and the southern end of an enigmatic bathymetric feature known as the Wishbone Scarp.

Field Season Overview:

The field team will travel aboard the RVIB Nathaniel B Palmer (NBP07-11) as the vessel transits from Punta Arenas, Chile to Lyttelton, New Zealand. Team members will tow a magnetometer and collect swath bathymetry, Bathy2000 sub-bottom data, and gravity data. They will also launch expendable bathythermographs or expendable sound velocity probes about once per day for water-column temperature profile control. The team will disembark at Lyttelton, NZ, and data will be returned to the home institution for analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Marcel Croon
- Randy Goossen
- Francisco Ortega Culaciati
- Aaron Wolf

Return to Index

Science Project Details: 2007-2008

Investigation Of Climate, Ice Dynamics, And Biology Using A Deep Ice Core From The West Antarctic Ice Sheet

These arches shelter the drilling and core handling operations that recover the deep ice core. Photo courtesy of Kendrick Taylor.

Program Manager:
Dr. Julie Palais

Event Number: I-477-M

ASC POC/Implementer:
Michael McClanahan

Dr. Kendrick Taylor (Principal Investigator)
kendrick@dri.edu
http://www.waisdivide.unh.edu

Desert Research Institute
Division of Hydrological Science
Reno, Nevada

Supporting Stations: McMurdo Station
Research Locations: WAIS Divide

Project Description:

This project, part of a five-year collaborative effort of several research teams, will collect a 3,400-meter-deep ice core in West Antarctica. The main objectives are to: 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; and 4) investigate the biology of deep ice.

Field Season Overview:

The field team will travel by LC-130 aircraft to the WAIS Divide camp where they will commence deep ice-core drilling operations with the deep ice sheet coring drill. The team members expect to recover 800-1,500 meters of ice core during the course of the season. Approximately every three days, cores will be returned on a cold deck LC-130 flight to McMurdo for storage until shipped north on the resupply vessel. At the end of the field season, the field team will return to McMurdo onboard LC-130 aircraft.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Rebecca Anderson
- Gabrielle Dreyfus
- Sylvia Englund
- David Ferris
- Katherine Hess
- John Mischler
- Anais Orsi
- Trevor Popp (Team Leader)
- Ursula Rick
- Annalisa Schilla
- Inger Seierstad
- David Smith

Return to Index

Science Project Details: 2007-2008

Wallops Flight Facility Component Of The CREAM Balloon Payload

CREAM balloon craft at the launch site while the balloon is being inflated. Photo courtesy of the CREAM project.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-138-M

ASC POC/Implementer:
Patricia Jackson

Ms. Linda Thompson (Principal Investigator)
Linda.D.Thompson@nasa.gov
http://cosmicray.umd.edu/cream/cream.html

National Aeronautics and Space Administration
Wallops Flight Facility
Wallops Island, Virginia

Supporting Stations: McMurdo Station
Research Locations: Long Duration Balloon Facility, Williams Field

Project Description:

NASA/Wallops Flight Facility has developed a command data module (CDM) to support science instruments onboard long duration balloons. These support systems provide the instrument with power, telecommunications, command and data handling, mechanical structures, thermal management, and attitude control. The balloon craft is instrumented to provide relay-switch status, current, voltage, and temperature for telemetry health and status. Attitude control points solar panels toward the sun with a +/-2° capability. A TDRSS antenna is the prime over-the-horizon communications system with a 100 Kb/s down-link capability. All data and system monitoring is both downlinked and stored on onboard hard drives.

Field Season Overview:

All Long Duration Balloon (LDB) personnel lodge at McMurdo Station and commute to the facility at Williams field, where they assemble and test their payloads. The launch window usually opens by the fifth of December. During the float, some team members return to the U.S. while their McMurdo colleagues monitor instrument status and data telemetry. Upon termination,

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

the recovery teams use fixed-wing or helicopter support to retrieve the instrument and its parachute. Data drives are duplicated and sent to the home institution, along with the instrument packages retrieved from the field.

Deploying Team Members:

- Brian Abresch
- Abel Duer
- Robby Estep
- Henry Hart
- Chris Purdy
- Fritz Stapf

Return to Index

Science Project Details: 2007-2008

Palmer Long Term Ecological Research (LTER): 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.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-016-L

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. Maria Vernet (Principal Investigator)
mvernet@ucsd.edu
http://pal.lternet.edu

Scripps Institution of Oceanography
La Jolla, California

Supporting Stations: ARSV Laurence M. Gould
Research Locations: Palmer boating area, Palmer LTER sampling grid

Project Description:

The overall objectives of the Palmer-LTER projects are to document and understand the seasonal cycles of primary production, krill recruitment, Adelie penguin breeding, and microbial biogeochemical processes in the near-shore regime of the coastal antarctic ecosystem. This project continues long-term studies of marine optics and phytoplankton within the LTER sampling grid. Researchers will focus on primary production rates and phytoplankton community structures and their relationship to physical forcing. At Palmer Station and aboard the ARSV Laurence M. Gould, water samples will be collected to determine the biochemical properties of phytoplankton and experiments will be carried out to estimate primary production rates.

Field Season Overview:

The season will consist of a Palmer Station program and the annual LTER summer cruise aboard the R/V Laurence M. Gould (LMG08-01). While at

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Palmer Station, project team members will collect water and plankton samples using Zodiac inflatable boats, carry out incubations and other experiments to estimate rate processes in the laboratory, and conduct other biological and chemical analyses. Team members will also conduct underwater irradiance measurements. During the cruise, team members will collect similar samples from the vessel, using standard hydrographic, net, trawl, and acoustic sampling gear, and conduct similar analyses. Other cruise activities will include:

1. Recovering and redeploying a long-term sediment trap array. 2. Sampling deep water properties on the LTER grid and at several far-field (off-grid) stations in the Antarctic Circumpolar Current. 3. Visiting Rothera Station (UK) on Adelaide Island to allow British colleagues to use the LMG for one day of local hydrographic sampling. 4. Deploying a suite of surface ARGOS floats to diagnose the current velocity field in the sampling gradient during the January period never studied by GLOBEC. 5. Conducting process studies at locations to be determined, including a possible CTD survey in the southern Gerlache Strait and Anvers Island vicinity.

Deploying Team Members:

- Wendy Kozlowski
- Martin Montes Hugo
- Karie Sines

Return to Index

Science Project Details: 2007-2008

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.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-423-M

ASC POC/Implementer:
Rob Edwards

Dr. Ross Virginia (Principal Investigator)
ross.a.virginia@dartmouth.edu
http://mcmlter.org

Dartmouth College
Environmental Studies Program
Hanover, New Hampshire

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

The McMurdo Long Term Ecological Research (LTER) projects will continue to investigate the McMurdo Dry Valleys as an end-member ecosystem and focus on the relative roles of legacy and extant processes on current biodiversity and ecosystem structure and function. This project samples and maintains core LTER soil experiments, in conjunction with the B-424-M group, that measure the response of soil biota to substrate additions and climate change. Researchers will study relationships between soil biodiversity and ecosystem function by measuring in-situ carbon dioxide, nitrogen, and phosphorus flux through a combination of gas-flux, buried-bag, and resin-exchange-membrane techniques.

Field Season Overview:

In close collaboration with science event B-424, the field team will make one- to seven-day trips via helicopter to study sites in the Taylor, Wright,

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Victoria, and Beacon Valleys to monitor long-term experiments and collect soil samples. Samples will be returned to the Crary Laboratory for processing, incubation, and analysis. Some samples will be shipped to the home institution for further analysis.

Deploying Team Members:

- Rebecca Ball
- Elizabeth Traver

Return to Index

Science Project Details: 2007-2008

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.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-424-M

ASC POC/Implementer:
Rob Edwards

Dr. Diana Wall (Principal Investigator)
diana.wall@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: McMurdo Dry Valleys

Project Description:

The McMurdo Long Term Ecological Research (LTER) projects will continue to investigate the McMurdo Dry Valleys as an end-member ecosystem and focus on the relative roles of legacy and extant processes on current biodiversity and ecosystem structure and function. This project continues a long-term study of the impact of climate and other global changes on the abundance, distribution, and diversity of soil biota in the McMurdo Dry Valleys. Researchers maintain, monitor, and sample soils in various long-term experimental plots throughout Taylor Valley, in collaboration with the B-423-M research group. These experiments reveal relationships between biodiversity and Dry Valley carbon, nitrogen, and hydrologic cycles.

Field Season Overview:

The field team will set up operations in the Crary Laboratory. Working in

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

close collaboration with science event B-423, field team members will make day trips via helicopter to study sites in the Taylor, Wright and Victoria Valleys. Team members may also make multi-day trips to established field camps in Taylor Valley. The researchers will monitor long-term experimental plots and collect soil samples to look for relationships between biodiversity and carbon, nitrogen, and hydrological cycles, and they will study the phylogeny of soil fauna (nematodes, tardigrades, and rotifers). Samples will be returned to the Crary Laboratory for processing and analysis. Some samples will be shipped to the home institution for further analysis.

Deploying Team Members:

- Byron Adams
- Edward Ayres
- Breana Simmons

Return to Index

Science Project Details: 2007-2008

Advanced Thin Ionization Calorimeter (ATIC)

Advanced Thin Ionization Calorimeter (ATIC).

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-143-M

ASC POC/Implementer:
Patricia Jackson

Dr. John Wefel (Principal Investigator)
wefel@phunds.phys.lsu.edu
http://atic.phys.lsu.edu/aticweb/

Louisiana State University Baton Rouge
Physics and Astronomy
Baton Rouge, Louisiana

Supporting Stations: McMurdo Station
Research Locations: Long Duration Balloon Facility, 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 ~10^14 eV. Scientists anticipate that this high energy region will show effects from the acceleration process, if supernovae remnants are indeed "cosmic accelerators" for the GCR. ATIC applies new experimental techniques to the study of these very high energy particles in an effort to verify previous data and search for evidence of the supernovae remnant acceleration process.

Field Season Overview:

Working at Nasa's Long Duration Balloon facility at Williams field, all LDB personnel lodge at McMurdo Station and commute to the facility. Upon arrival they begin assembling and testing their payloads. The launch window usually opens by the fifth of December. During the float, some team members return to the US while their McMurdo colleagues monitor instrument status and data telemetry. Upon termination, the recovery teams use fixed-wing or helicopter support to retrieve the instrument and its parachute. Data drives are duplicated and sent home along with the instrument packages retrieved from the field.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- James Adams
- Hoseok Ahn
- Brad Ellison
- Cynthia Ferguson
- Randy Gould
- Doug Granger
- Guzik (Co-PI)
- Joachim Isbert
- Evgueni Kouznetsov
- Douglas Smith
- Michael Stewart
- Hu Yiming

Return to Index

Science Project Details: 2007-2008

South American Meridional B-Field Array (SAMBA): An American-Chilean Chain

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-357-M/P

ASC POC/Implementer:
Rob Edwards

Dr. Eftyhia Zesta (Principal Investigator)
Eftyhia.Zesta@hanscom.af.mil
http://samba.atmos.ucla.edu

University of California Los Angeles
Los Angeles, California

Supporting Stations: McMurdo Station, Palmer Station
Research Locations: WAIS Divide, On station

Project Description:

Through remote sensing, the South American Meridional B-field Array (SAMBA) studies ultra-low frequency (ULF) waves and mass density in the inner magnetosphere during geomagnetically active periods. Science objectives for SAMBA are: 1. Determining the effect solar wind dynamic pressure enhancements have on the asymmetric ring current; 2. Determining field-line resonances (FLR); 3. Investigating constraints on models used to derive equatorial mass density from FLRs; 4. Monitoring inner magnetospheric mass density during storms, in conjunction with the Time History of Events and Macroscale Interactions during Substorms (THEMIS) satellite mission; and 5. Making auroral conjugate observations of substorms, also in conjunction with THEMIS.

Field Season Overview:

At McMurdo Station, the researchers plan to repair their WAIS Divide automated magnetometer and recover stored data. The electronics box and magnetometer will be transported to McMurdo from WAIS Divide at the beginning of the season by RPSC personnel. The field team member will perform repair and data recovery work in McMurdo then travel via LC-130 aircraft to WAIS Divide to reinstall the instrument. If the instrument cannot be repaired in McMurdo, it will be returned to the home institution for overhaul.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

At Palmer Station, field team members will replace the existing automated magnetometer with a new one. The cable and GPS antenna will also be replaced. The RPSC research associate will perform weekly checks of the instrument to confirm that data are being collected.

Deploying Team Members:

- David Galvan
- Mark Moldwin (Co-PI)

Return to Index

Science Project Details: 2007-2008

Measurements Addressing The Initial Stages Of Ozone Recovery, The Nucleation Of, Index Of Refraction Of, And Existence Of Large PSC Particles

A-131 team members launching an aerosol particle counter. Photo by Philippe Cocquerez of the Centre National d'Etudes Spatiales France.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-131-M

ASC POC/Implementer:
Charles Kaminski

Dr. Terry Deshler (Principal Investigator)
deshler@uwyo.edu

University of Wyoming
Department of Atmospheric Science
Laramie, Wyoming

Supporting Stations: McMurdo Station
Research Locations: On station, balloon recovery sites

Project Description:

Polar stratospheric clouds (PSCs) play a pivotal role in polar ozone depletion. Heterogeneous chemistry occurs on the surface of the particles in the clouds, releasing active chlorine that destroys ozone. This project continues to focus on the development of the Antarctic ozone hole and the characteristics of PSCs by making balloon-borne, in-situ measurements of ozone and PSC profiles in the atmosphere above McMurdo Station, from the surface to about 35 kilometers. Project scientists will also make ground-based LIDAR measurements of atmospheric aerosols and compare them to the balloon-borne measurements.

Field Season Overview:

The researchers plan to continue their long-term measurements of stratospheric ozone, polar stratospheric clouds (PSCs), and aerosols. Immediately upon arrival at McMurdo Station, the field team members will begin launching balloons carrying ozone- and PSC-measuring instruments. During Winfly, they will also make lidar measurements from the Crary Laboratory. Balloon-borne measurements will be coordinated with the LIDAR

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

measurements and the two compared. One team member will make ground-level measurements of ozone and bromine on the sea ice near McMurdo Station. Once balloon launches terminate in early October, the field team members will travel via helicopter to retrieve balloon payloads on the McMurdo and Ross Ice Shelves. One member of the team will deploy in late season to train the RPSC research associate in lidar operation. The research associate will make lidar measurements throughout the austral winter and launch approximately 20 ozone-measuring balloons. Data will be transmitted to the home institutions for analysis.

Deploying Team Members:

- Francesco Colao
- Lars Kalnajs
- Stanley Smith

Return to Index

Science Project Details: 2007-2008

Operation Of An ELF/VLF Radiometer At Arrival Heights

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.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-100-M

ASC POC/Implementer:
Charles Kaminski

Dr. Antony Fraser-Smith (Principal Investigator)
acfs@alpha.stanford.edu

Stanford University
STAR Laboratory
Stanford, California

Supporting Stations: McMurdo Station
Research Locations: Arrival Heights

Project Description:

The radiometers at McMurdo Station operate in both the extremely-low-frequency and very-low-frequency (ELF/VLF) ranges, monitoring radio noise from natural sources. Because thunderstorms generate telltale radio signals, tracking variations in global radio noise reflects thunderstorm activity, which can provide information on global climate change. The ELF/VLF record collected by this project at Arrival Heights is unbroken for nearly 20 years. Such a long period of data collection allows researchers to look for weak effects, such as those that might be associated with global warming. The McMurdo Station site is part of a network of eight radiometers operated by Stanford University for the Office of Naval Research.

Field Season Overview:

The RPSC research associate will maintain the instruments and transfer collected data to disks. The data will be returned to the home institution for

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

analysis and dissemination.

Return to Index

Science Project Details: 2007-2008

Tomographic Imaging Of The Velocity And Magnetic Fields In The Sun's Atmosphere

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-115-S

ASC POC/Implementer:
Charles Kaminski

Dr. Stuart Jefferies (Principal Investigator)
stuartj@ifa.hawaii.edu

University of Hawaii
Pukalani, Hawaii

Supporting Stations: South Pole Station
Research Locations: Dark Sector

Project Description:

This project studies the morphology and dynamics of the solar atmosphere. Researchers will develop and test a new, remotely-operated instrument designed to simultaneously measure the velocity and line-of-sight magnetic field strength at four heights in the Sun's atmosphere. The resulting data will be used to perform an initial seismic probing of the solar atmosphere, from the photosphere to the high chromosphere.

Field Season Overview:

The researchers plan to re-activate the Jefferies Solar Observatory (JSO), a remote observing site in the dark sector near the clean air sector boundary, 10 kilometers from South Pole Station. Field team members will travel via snowmobile from South Pole Station to the site, where they will supervise construction. The observation/instrument building will be buried beneath snow and ice and the solar tracking platforms will be installed on top of artificially constructed ice hills. Data collected during the season will be returned to the home institution for analysis.

Deploying Team Members:

- Cindy Giebink
- William Giebink

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Neil Murphy
- Jose Sasian

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Polar Experiment Network For Geospace Upper Atmosphere Investigations (PENGUIn) - Advancing The Vision For Global Studies

AGO P1 (Automatic Geophysical Observatory site P1) in December 2003. Photo by Rick Sterling.

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-105-M/S

ASC POC/Implementer:
Douglas Miller

Dr. Marc Lessard (Principal Investigator)
marc.lessard@unh.edu

University of New Hampshire
Space Science Center
Durham, New Hampshire

Supporting Stations: McMurdo Station, South Pole Station
Research Locations: Automatic Geophysical Observatories 1, 2, 3, 5, Gamburtsev Province (South)

Project Description:

The Polar Experiment Network for Geospace Upper-atmosphere Investigations (PENGUIn) uses Automatic Geophysical Observatories (AGOs) to study upper-atmospheric phenomena, including substorms, polar cap physics, cusp phenomena, and radiation belt particle precipitation. The project seeks to increase ground-based observations in Antarctica to coincide with a number of important satellite missions. Researchers also maximize scientific return by placing observatories in the auroral zone, extending to the outer radiation belt regions, as well as along the magnetic meridian that maps to the west coast of Greenland, where a conjugate chain already exists.

Field Season Overview:

The researchers plan to travel by Twin Otter aircraft from McMurdo Station to upgrade and service AGOs P1, P2, P3, and P5. At each site, the team will set up a field camp and remain for several days. Other team members will travel to South Pole Station, where they will remove the autonomous magnetometer originally deployed for testing. The team members will deploy

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

the instrument to a new site on the Polar Plateau via Twin Otter. The researchers will also install an autonomous magnetometer at McMurdo Station. Other members of the field team will travel via LC-130 to WAIS Divide, where they will install an Autonomous Remote Real-time Observatory. Data are transmitted to the home institution for analysis.

Deploying Team Members:

- Kenneth Arnett
- Jeff Chang
- Lyndell Hockersmith
- Bob Melville
- Alec Plauche

Return to Index

Science Project Details: 2007-2008

Collaborative Study Of The Antarctic Mesosphere And Lower Thermosphere

Program Manager:
Dr. Vladimir Papitashvili

Event Number: A-284-S

ASC POC/Implementer:
Charles Kaminski

Dr. Scott Palo (Principal Investigator)
scott.palo@colorado.edu

University of Colorado Boulder
Department of Aerospace Engineering Sciences
Boulder, Colorado

Supporting Stations: South Pole Station
Research Locations: Meteor Radar Building

Project Description:

Using a meteor radar (a very-high frequency VHF system capable of measuring the spatial structure and temporal evolution of the horizontal wind field), researchers will measure winds in the mesosphere and lower thermosphere (MLT) atmospheric region to understand the processes controlling the neutral dynamics and chemistry of the Antarctic MLT. They specifically seek to understand: 1. The space-time decomposition of wave motions; 2. Delineation of the spatial climatology over Antarctica with emphasis on the structure of the polar vortex; 3. Dynamical response to energetic events; and 4. Inter-annual variability.

Field Season Overview:

A field team will deploy to South Pole Station for a short period early in the season to service and calibrate the equipment and recover data. Team members will also conduct antenna experiments and identify and order newly required hardware or software, if any. A field team will return to South Pole Station for a short period late in the season to install new hardware or software and prepare the instrument for winter operations.

Deploying Team Members:

- James Avery (Co-PI)

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Diego Janches
- Kyle Johnson
- Santiago la Pena
- Elias Lau

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Do Crustacean Zooplankton Play A Pivotal Role In Structuring Heterotrophic Plankton Communities?

Program Manager:
Dr. Roberta Marinelli

Event Number: B-245-N

ASC POC/Implementer:
Karl Newyear

Dr. David Caron (Principal Investigator)
dcaron@usc.edu

University of Southern California
Department of Biological Sciences & the Wringley
Los Angeles, California

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Ross Sea polynya, Terra Nova Bay

Project Description:

This project seeks to determine the contribution of heterotrophic prey to copepod diet in regions characterized by different phytoplankton assemblages. Shipboard experiments will be conducted in the southern central Ross Sea polynya (diatom-dominated) and the Terra Nova Bay area (Phaeocystis antarctica-dominated) in which changes in the abundance of phototrophic and heterotrophic protistan plankton due to the presence of metazoan grazers will be quantified and the coupling between nano-and micro-zooplankton and mesozooplankton determined.

Field Season Overview:

The field team will travel aboard two consecutive cruises of the RVIB Nathaniel B Palmer (NBP08-01 and NBP08-02) to the Ross Sea. Using Zodiac inflatable boats launched from the vessel, the team members will collect surface seawater and make plankton tows to collect mesozooplankton. The samples will be processed and analyzed aboard the vessel, and experiments will be performed. Some samples will be returned to the home institution for further analysis.

Deploying Team Members:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Robert Cerrato
- Adriane Jones
- Diane Kim
- Darcy Lonsdale (Co-PI)
- Marianne McNamara
- Stefanie Moorthi
- Jeronimo Pan
- Astrid Schnetzer (Co-PI)
- Beth Stauffer

Return to Index

Science Project Details: 2007-2008

Habitat Utilization Of Southern Ocean Seals: Foraging Behavior Of Crabeater And Elephant Seals Using Novel Methods Of Oceanographic Data Collection

A group of southern elephant seals. The seal on the left was recently instrumented with a CTD satellite linked data logger (Sea Mammal Research Unit) that is collecting behavioral and environmental data. Photo by Birgitte McDonald.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-232-E

ASC POC/Implementer:
Melissa Rider

Dr. Daniel Costa (Principal Investigator)
costa@biology.ucsc.edu

University of California Santa Cruz
Long Marine Lab
Santa Cruz, California

Supporting Stations: Special Project
Research Locations: Cape Shirreff, Livingston Island

Project Description:

This project will examine the foraging behavior and habitat utilization of crabeater seals in the Western Antarctic Peninsula--a region of strong environmental gradients--using satellite data loggers that transmit data on location, diving activity, temperature, and salinity. The researchers will determine the relationship of specific foraging behaviors and animal movement patterns to oceanographic and bathymetric features, develop and test models of the importance of these features in defining habitat use and foraging success, and compare how individuals respond to annual variability in the marine environment. instrumentation on seals will collect data on temperature and salinity in regions and at times that are difficult to access with any other data collection system.

Field Season Overview:

This project is a collaboration between USAP and AMLR (Antarctic Marine

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Living Resources). Two researchers will deploy to Cape Shirreff on Livingston Island from Punta Arenas, Chile. The first researcher will be transported from Punta Arenas to Cape Shirreff aboard the ARSV Laurence M. Gould (LMG) in early November in coordination with the AMLR crew also stationed at Cape Shirreff. This researcher will return to Punta Arenas in late December also via the LMG. The second team member will be transported to and from Cape Shirreff aboard the R/V Yuzhmorgelogiya, the NOAA (National Oceanic and Atmospheric Administration) chartered vessel in early January and mid-March respectively. Frozen biological samples will be shipped back to the US at the conclusion of the field season.

Deploying Team Members:

- Birgitte McDonald

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Benthic Faunal Feeding Dynamics On The Antarctic Shelf And The Effects Of Global Climate Change On Bentho-Pelagic Coupling

Project scientists processing material from a trawl sample taken on the Antarctic Peninsula shelf. Photo by Dave DeMaster.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-237-L

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. David DeMaster (Principal Investigator)
dave_demaster@ncsu.edu

North Carolina State University
Department of MEAS
Raleigh, North Carolina

Supporting Stations: ARSV Laurence M. Gould
Research Locations: West Antarctic Peninsula shelf

Project Description:

Climate warming along the Antarctic Peninsula will reduce the duration of winter sea-ice cover, altering both the pelagic ecosystem and pelagic-benthic coupling. This project will test the hypothesis that benthic shelf ecosystems are highly suitable for tracking climate change because they act as “low-pass” filters, removing high-frequency seasonal noise and responding to longer-term trends in pelagic ecosystem structure and export production. Researchers will study bentho-pelagic coupling along a latitudinal climate gradient on the Antarctic Peninsula to explore the impacts of climate change and sea-ice reduction on Antarctic shelf ecosystems.

Field Season Overview:

The researchers plan to travel via the ARSV Laurence M Gould to occupy five 500-600 meter deep stations along the Antarctic Peninsula. Field team members will deploy deep sediment traps and seafloor time-lapse cameras at two stations. At all stations they will collect samples and data using megacores, box cores, kasten cores, otter trawls, epibenthic sleds, Tucker trawls, and a towed video camera system. Team members will also collect

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

conductivity-temperature-depth data, and they will use Zodiac inflatable boats as platforms from which to collect sea-ice samples. Samples will be processed in the shipboard laboratory and returned to the home institution for analysis.

Deploying Team Members:

- Angelo Bernardino
- Fabio De Leo
- Elizabeth Galley
- Alyssa Hopkins
- Sarah Mincks
- Kimberly Null
- Rebecca Pirtle-Levy
- Brian Pointer
- Craig Smith (Co-PI)
- Pavica Srsen
- Andrew Sweetman
- Carrie Thomas (Co-PI)
- Rhian Waller

Return to Index

Science Project Details: 2007-2008

Environmental, Organismal And Evolutionary Physiology Of Freeze Avoidance In Antarctic Notothenoid Fishes

Program Manager:
Dr. Roberta Marinelli

Event Number: B-005-M

ASC POC/Implementer:
Rob Edwards / Stephanie Suhr Sliester

Environmental, organismal and evolutionary physiology of freeze avoidance in Antarctic Notothenoid fishes

Dr. Art DeVries (Principal Investigator)
adevries@life.illinois.edu

University of Illinois Urbana
Dept of Molecular and Integrative Physiology
Urbana, Illinois

Supporting Stations: McMurdo Station
Research Locations: Crary Lab, McMurdo Sound, Bratina Island, New Harbor, Cape Chocolate

Project Description:

This project studies the physiology of fish and larvae to see how ice grows in biological tissues and how antifreeze glycoproteins (AFGP) inhibit it. Project researchers will: 1) investigate the relationship between the severity of different antarctic marine environments and notothenoid fish antifreeze capacity and function; 2) characterize the antifreeze capacity at both the gene and protein levels of representative species from the five Antarctic families of notothenoid fish; 3) characterize the evolution of AFGP gene families and the suborder Notothenoidei using molecular and cytogenetics techniques; and 4) determine the tempo and tissue sites of antifreeze expression during embryogenesis and in the larval stages and juveniles of notothenoid fishes.

Field Season Overview:

The field team members will establish fishing site on the sea ice of McMurdo Sound by drilling holes through the ice and setting heated huts over them. Fish will be captured by SCUBA diving through these holes as well as by setting fish traps. Live specimens will be transported via tracked vehicle to

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

the aquaria at McMurdo Station, where their freezing avoidance will be studied. Team SCUBA divers will sample fertilized fish eggs in shallow water and collect fish larvae and juveniles. Team members will also travel via helicopter to sites further afield, where they will take CTD casts and set traps to capture fish through natural openings in the sea ice.

Deploying Team Members:

- Kevin Bilyk
- Chris Cheng-DeVries (Co-PI)
- Clive Evans
- Anne Kettunen
- Bret Mommer
- Kim Praebel
- Jonathan Weissman

Return to Index

Science Project Details: 2007-2008

Impacts Of Elevated PCO2 On A Dominant Aragonitic Pteropod (Thecosomata) And Its Specialist Predator (Gymnosomata) In The Ross Sea

Program Manager:
Dr. Roberta Marinelli

Event Number: B-069-M

ASC POC/Implementer:
Stephen Alexander

Dr. Victoria Fabry (Principal Investigator)
fabry@csusm.edu

California State University San Marcos
Dept of Biological Sciences
San Marcos, California

Supporting Stations: McMurdo Station
Research Locations: Crary Lab, Cape Bird, Cape Royds, McMurdo Sound sea ice

Project Description:

As global carbon dioxide levels rise, more of the gas dissolves in the world's oceans, increasing their acidity. Among other metabolic effects, excessive acidity in the marine environment can negatively affect the ability of marine organisms to precipitate calcium to form shells. This project seeks to evaluate the impact of elevated carbon dioxide on calcification, metabolic physiology, and organismal performance in Antarctic pteropods, small gastropod molluscs that are abundant members of the Ross Sea zooplankton. Researchers will study both shelled (euthecosomatous) and carnivorous (gymnosomatous) pteropods collected from holes in the sea ice near Cape Bird, Cape Royds, McMurdo Station, and at the ice shelf transition zone.

Field Season Overview:

The field team will base operations out of the Crary Laboratory. Team members will travel via snowmobile to collect pterpods through holes in the sea ice near McMurdo Station and near the McMurdo Ice Shelf transition zone. They will also travel via helicopter to collect animals from the ocean near Cape Bird and Cape Royds, and they will take one-day water column samples near the ice edge from the USCG icebreaker. Collected pteropods

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

will be maintained at the Crary Laboratory, where they will be observed, filmed, incubated, and used for experiments. Some samples will be shipped to the home institution for further analysis.

Deploying Team Members:

- Tansey Hall
- Brad Seibel (Co-PI)

Return to Index

Science Project Details: 2007-2008

Altitude Symptoms At The South Pole

Program Manager:
Dr. Roberta Marinelli

Event Number: B-179-M/S

ASC POC/Implementer:
Stephen Alexander

Dr. Bruce Johnson (Principal Investigator)
johnson.bruce@mayo.edu

Mayo Clinic
Rochester, Minnesota

Supporting Stations: McMurdo Station, South Pole Station
Research Locations: On stations

Project Description:

The goal of this project is to develop an algorithm for predicting mild to moderate altitude symptoms in the general population working at South Pole. This will include demographic, physiological, and genetic measures as well as biochemical markers. Breathing patterns during sleep and activity levels at altitude will also be examined.

Field Season Overview:

Researchers with this project will continue the study begun in 2006-2007. Field team members will arrive in McMurdo early in the season and deploy to South Pole on the opening flight. Volunteer USAP participants initially recruited in McMurdo will fill out a consent form and questionnaire, have a blood sample drawn, and submit to minor physiological testing (e.g., resting heart rate, blood pressure, oxygen saturation). These same subjects will then be followed with similar testing while at South Pole. Some subjects may wear an activity monitor.

Deploying Team Members:

- Paul Anderson
- Andrew Miller
- Kathy O'Malley

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

Biogeochemistry And Geomicrobiology Of Taylor Glacier Basal Ice

The Taylor Glacier margin on the north side of the glacier where team members will tunnel into the base of the glacier. Photo courtesy of Brent Christner.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-236-M

ASC POC/Implementer:
Stephen Alexander

Dr. Mark Skidmore (Principal Investigator)
skidmore@montana.edu

Montana State University Bozeman
Bozeman, Montana

Supporting Stations: McMurdo Station
Research Locations: Taylor Glacier

Project Description:

This project seeks to conduct a detailed geomicrobiological study of Taylor Glacier basal ice. Gas analysis of this ice has revealed elevated carbon dioxide and depleted oxygen concentrations. These anomalous values are concurrent with measurements of elevated biomass and heterotrophic activity. The simplest explanation for these data is that microbial respiration is occurring in the ice at -17 degrees C, a temperature not generally considered conducive to biologic activity. Project scientists will measure gas concentrations (N2, O2, CO2, Ar) and isotopic composition of carbon dioxide in a five-meter profile of the Taylor Glacier basal ice. Experiments will be undertaken in parallel to determine the viability and physiology of the entrapped microbial assemblages.

Field Season Overview:

The field team members will travel via helicopter from McMurdo Station to establish a camp near the Taylor Glacier. They will excavate a tunnel into the glacier 1.4 kilometers upstream from the glacier snout and collect ice samples from inside. Ice samples will be returned to McMurdo Station for processing and for analysis of various chemical and biological parameters.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Some samples may be returned to the home institution for further analysis.

Deploying Team Members:

- Pierre Amato
- Brent Christner (Co-PI)

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Benthic Faunal Feeding Dynamics On The Antarctic Shelf And The Effects Of Global Climate Change On Bentho-Pelagic Coupling

Program Manager:
Dr. Roberta Marinelli

Event Number: B-212-L

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. Craig Smith (Principal Investigator)
craigsmi@hawaii.edu

University of Hawaii Manoa
Department of Oceanography
Honolulu, Hawaii

Supporting Stations: ARSV Laurence M. Gould
Research Locations: Western Antarctic Peninsula

Project Description:

Climate warming along the Antarctic Peninsula will reduce the duration of winter sea-ice cover, altering both the pelagic ecosystem and pelagic-benthic coupling. This project will test the hypothesis that benthic shelf ecosystems are highly suitable for tracking climate change because they act as “low-pass” filters, removing high-frequency seasonal noise and responding to longer-term trends in pelagic ecosystem structure and export production. Researchers will study bentho-pelagic coupling along a latitudinal climate gradient on the Antarctic Peninsula to explore the impacts of climate change and sea-ice reduction on Antarctic shelf ecosystems.

Field Season Overview:

The researchers plan to travel via the ARSV Laurence M Gould to occupy five 500-600 meter deep stations along the Antarctic Peninsula. Field team members will deploy deep sediment traps and seafloor time-lapse cameras at two stations. At all stations they will collect samples and data using megacores, box cores, kasten cores, otter trawls, epibenthic sleds, Tucker trawls, and a towed video camera system. Team members will also collect conductivity-temperature-depth data, and they will use Zodiac inflatable boats as platforms from which to collect sea-ice samples. Samples will be processed in the shipboard laboratory and returned to the home institution

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

for analysis.

Deploying Team Members:

- Angelo Bernardino
- Fabio De Leo
- Elizabeth Galley
- Sarah Mincks
- Pavica Srsen
- Andrew Sweetman
- Rhian Waller

Return to Index

Science Project Details: 2007-2008

Free Drifting Icebergs: Influence Of Floating Islands On Pelagic Ecosystems In The Weddell Sea

Ken Smith's team observed that several types of open-ocean birds, including these Cape Petrels, were more abundant around drifting icebergs than in the open waters of the Weddell Sea. The waterfall behind the birds is meltwater from the iceberg, which appears to act as a fertilizer to the waters surrounding the ice. Photo (c) 2005 Rob Sherlock.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-050-N

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. Kenneth Smith (Principal Investigator)
ksmith@mbari.org

Monterey Bay Aquarium Research Institute
Moss Landing, California

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Weddell Sea

Project Description:

As drifting islands, icebergs impart unique physical, chemical, and biological characteristics to the surrounding water. The dimensions of this iceberg "sphere of influence" are related to the size and physical configuration of the iceberg. However, the precise impacts of icebergs on natural fertilization, organic carbon export, and the Antarctic pelagic community are not well understood. This project will attempt to determine 1) the physical dynamics of drifting icebergs; 2) the relationship between physical dynamics and the iron and nutrient distributions of the surrounding water; 3) the relationship between iron and nutrient distributions and the organic carbon production of ice-attached and surrounding pelagic communities; 4) the relationship between this organic carbon production and the export flux of particulate organic carbon from the surrounding mixed layer; and 5) the combined

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

impact of all drifting icebergs on the enrichment, carbon production, and mixed-layer particulate export in the Weddell Sea.

Field Season Overview:

Traveling aboard the RVIB Nathaniel B Palmer (NBP08-06), the field team members plan to survey selected icebergs with a remotely operated vehicle (ROV), side-scan sonar, laser ranger, and microwave satellite imagery. Water samples will be collected with the ROV for physical, chemical and biological analysis, and the researchers will take conductivity-temperature-depth profiles in the water around the icebergs. ADCP data will be analyzed in real time, and team members will conduct trawls to collect zooplankton, micronekton, and other fauna. Water samples will be analyzed in the shipboard laboratory for trace metals, radionuclides, and particulate carbon. Some samples will be returned to the home institution for further analysis.

Deploying Team Members:

- James Bozard
- Preston Craig
- Jacob Ellena
- Steve Etchemendy
- John Helly (Co-PI)
- Cole Hexel
- Brett Hobson
- Ronald Kaufmann (Co-PI)
- Paul McGill
- Alison Murray (Co-PI)
- Karen Osborn
- Kim Reisenbichler
- Bruce Robison (Co-PI)
- Steve Rock
- Henry Ruhl
- Tim Shaw (Co-PI)
- Robert Sherlock
- Alana Sherman
- Benjamin Twining (Co-PI)
- Michael Vardaro
- Maria Vernet (Co-PI)

Return to Index

Science Project Details: 2007-2008

Penguins As Monitors Of The Krill-Centric Southern Ocean Marine Ecosystem

COPA Field Hut. Photo courtesy of Wayne Trivelpiece.

Program Manager:
Dr. Roberta Marinelli

Event Number: B-040-E

ASC POC/Implementer:
John Evans

Dr. Wayne Trivelpiece (Principal Investigator)
wayne.trivelpiece@noaa.gov

National Oceanic and Atmospheric Administration
AMLR - Antarctic Ecosystem Research Division (SW Fisheries Sci Ctr)
La Jolla, California

Supporting Stations: Special Project
Research Locations: Copacabana Field Camp on King George Island in the South Shetlands

Project Description:

This project continues a 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 to: 1) determine and compare the relationships of sex, age, and breeding experience to reproductive success and survival, clarifying how the demographic variables interact to affect changes in animal populations; and 2) investigate the relationships between population dynamics, prey availability, and environmental variability to clarify the mechanisms whereby environmental variation may influence predator dynamics via the prey field.

Field Season Overview:

Logistical support for Copa is shared betw the NSF, OPP and the Southwest Fisheries Science Center (SWFSC) which is part of the National Marine Fisheries Service (NMFS) of the National Oceanographic and Atmospheric Administration (NOAA).

Five field team members and all supplies for the field season will be transported to the Copacabana Field Station on King George Island in early October aboard the R/V Laurence M Gould (LMG07-13). Once there, the researchers will make scientific observations of the resident penguins, take

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

measurements, and collect samples. Some field team members will cycle in and out during the season via tour ships or the LMG (LMG07-15), with all members departing the field camp in mid-March aboard a tour ship or the AMLR (U.S. Antarctic Marine Living Resources) vessel R/V Yuzhmorgeologiya (a NOAA-chartered vessel).

Deploying Team Members:

- Jefferson Hinke
- Angela Kaufman
- Malgorzata Korczak
- Stefan Kropidlowski
- Susan Trivelpiece (Co-PI)
- Susan Woods

Return to Index

Science Project Details: 2007-2008

Ross-Sea Outer Continental Shelf Morphology And Near-Surface Stratigraphy: Quaternary Ice-Sheet Grounding-Zone Migrations And The LGM Dilemma

Program Manager:
Dr. Thomas Wagner

Event Number: G-154-N

ASC POC/Implementer:
Karl Newyear

Dr. Philip Bart (Principal Investigator)
pbart@lsu.edu

Louisiana State University Baton Rouge
Department of Geology and Geophysics
Baton Rouge, Louisiana

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

Project Description:

In the Eastern Basin of the Ross Sea, bathymetric ridges may have formed as erosional ridges between distinct ice streams, as depositional ridges of sub-glacial accreted till, or as submarine terminal moraines associated with east-west migrations of the Antarctic Ice Sheet. This project seeks to determine how and when these bathymetric ridges formed. Researchers will conduct seismic sampling, make sonar scans, and collect piston cores to establish the diatom biostratigraphy.

Field Season Overview:

The field team will travel aboard the RVIB Nathaniel B Palmer (NBP08-02 and NBP08-03) to collect seismic data in the Eastern Basin of the Ross Sea. The team members will use generator-injector airguns, single channel streamers, and multibeam and sidescan sonar. Piston coring will be performed at selected sites. Samples will be processed aboard the vessel and returned to the home institution for analysis.

Deploying Team Members:

- Vincent Adams
- Juan Chow

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Kathryn Huber
- Rhonika Robinson
- Charlotte Sjunneskog
- Jonathan Tomkin (Co-PI)

Return to Index

Science Project Details: 2007-2008

Dynamics Of Aeolian Processes In The McMurdo Dry Valleys, Antarctica

Program Manager:
Dr. Alexandra Isern

Event Number: G-167-M

ASC POC/Implementer:
Charles Kaminski

Dr. John Gillies (Principal Investigator)
jackg@dri.edu

Desert Research Institute
Reno, Nevada

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

The spatial and temporal patterns of aeolian transport in the McMurdo Dry Valleys are not well understood. In particular, the magnitude and frequency of sediment transport events, the differences between the summer and winter transport regimes, and the flux rates of wind-blown sand are not established. In addition, it is unknown whether the aeolian gravel ripple bedforms in the Dry Valleys are current or relict forms. This project will conduct two, process-based experiments and accompanying morphometric analyses to answer these questions. Researchers will establish sediment-transport measurement systems at four locations in the Victoria, Taylor, and Wright valleys to quantify sediment transport frequency and magnitude. The research team will begin a study designed to quantify the movement rate and form change of very coarse gravel megaripples in the Wright Valley.

Field Season Overview:

The researchers plan to travel via helicopter to Lake Fryxell, where they will establish a field camp and set up a sediment transport measurement system. From this camp, field team members will make day trips via helicopter to Victoria Valley to establish two additional sediment transport measurement systems. Team members will also make day trips to Wright Valley, and twice during the season team members will set up a temporary camp in Wright Valley to establish and service a sediment transport measurement system there. In Wright Valley, they will also begin a tracer study to evaluate present

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

activity levels of very coarse gravel megaripples. In addition, at each site field team members will install a small meteorological data-collection tower. All camps will be pulled out via helicopter at the end of the field season.

Deploying Team Members:

- William Nickling (Co-PI)
- Sara Turner

Return to Index

Science Project Details: 2007-2008

Collaborative Research: The Transition From Subduction To Extensional Magmatism In The Dry Valleys Of Antarctica

A team member measures one of the dikes with a tape measure. Photo courtesy of the PI.

Program Manager:
Dr. Thomas Wagner

Event Number: G-412-M

ASC POC/Implementer:
Stephen Alexander

Dr. Karen Harpp (Principal Investigator)
kharpp@mail.colgate.edu

Colgate University
Department of Geology
Hamilton, New York

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

This project will conduct a detailed petrologic study of the Vanda Dikes in the McMurdo Dry Valleys, primarily in Wright Valley, Bull Pass, and Victoria Valley. The Vanda dike swarm offers an opportunity to investigate how uplift and cessation of orogeny affect the geochemistry of the associated magmatism, particularly during the Ross Orogeny. The Vanda Dikes also provide an opportunity to examine the petrologic and structural processes involved in the emplacement of an extensive hypabyssal dike swarm. Once elucidated, these processes will be placed in the context of Paleozoic Antarctic tectonics.

Field Season Overview:

Field team members will travel via helicopter to the east end of Lake Vanda, where they will establish a field camp. From there, they will travel on foot and make day trips via helicopter to various study sites to document the dike swarms and collect rock samples. Some samples will be returned to the home institution for analysis.

Deploying Team Members:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Samantha Buck
- Michael Garcia (Co-PI)
- Dennis Geist (Co-PI)
- Ilona Matulaitis
- Carolyn Parcheta

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Testing The Impact Of Seasonality On Benthic Foraminifers As Paleoenvironmental Proxies.

Program Manager:
Dr. Thomas Wagner

Event Number: G-183-L

ASC POC/Implementer:
Jesse Doren

Dr. Scott Ishman (Principal Investigator)
sishman@siu.edu

Southern Illinois University
Geology
Carbondale, Illinois

Supporting Stations: ARSV Laurence M. Gould
Research Locations: Northern Gerlache Strait to outer Bransfield Strait

Project Description:

It is hypothesized that strong seasonal productivity on the western Antarctic Peninsula margin significantly impacts the vertical and spatial distribution and geochemical characteristics of benthic foraminifera, and thus their utility in paleoenvironmental reconstructions. Working in the northern Gerlache Strait to southern Bransfield Strait region, this project will test this hypothesis by characterizing spatial and vertical distribution patterns in benthic foraminiferal species, both living and dead, and correlating assemblage abundances with seasonal and spatial variability in primary productivity, oceanographic conditions, and pore water compositions. Researchers will also compare the stable isotopic compositions and Mg/Ca values of common, paleo-oceanographically important, living benthic foraminiferal species with ambient environmental conditions and pore-water chemical and isotopic compositions and calibrate these proxies for use in the Antarctic.

Field Season Overview:

The field team will travel to the Antarctic aboard the ARSV Laurence M. Gould (LMG08-04 and LMG08-08) and collect samples along a productivity gradient in the northern Gerlache and southern Bransfield Straits. Team members will take short sediment cores and water samples. The cores will be processed and analyzed for foraminiferal assemblages, foraminiferal

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

geochemistry, and pore-water geochemistry. Samples will be returned to the home institution for further analysis.

Deploying Team Members:

- Laura Bordelon
- Jonathan Martin (Co-PI)
- Anthoni Rathburn (Co-PI)

Return to Index

Science Project Details: 2007-2008

Periglacial Landscape Evolution In Antarctic Lava Flows And Glacial Tills

Program Manager:
Dr. Thomas Wagner

Event Number: G-152-M

ASC POC/Implementer:
Douglas Miller

Dr. Mark Kurz (Principal Investigator)
mkurz@whoi.edu

Woods Hole Oceanographic Institution
Marine Chemistry & Geochemistry
Woods Hole, Massachusetts

Supporting Stations: McMurdo Station
Research Locations: Mount Morning, Arena Valley

Project Description:

The landscapes of the Antarctic Dry Valleys are among the oldest on earth, possibly dating back to the Miocene, which has important implications for the stability of the East Antarctic Ice Sheet. However, the rates and specific mechanisms of landscape modification are not well understood. In particular, there is some controversy over the rate that cryoturbation (weathering processes produced by freeze-thaw cycling) disturbs the landscape. This project seeks to directly determine cryoturbation rates using a combination of geochronology, field observations, and Lidar measurements. Field work will be conducted at Mount Morning and in Arena Valley, where surfaces are well dated and where comparisons can be made between reference surfaces and adjacent cryoturbated landscapes.

Field Season Overview:

The field team plans to travel via helicopter to Mount Morning and to Arena Valley, where the team members will establish field tent camps. There will be one camp at Mount Morning and two in Beacon Valley. Each camp will be used for at least two weeks. At the Mount Morning site, the field team will travel via snowmobile to access rock outcrops and collect samples. In Arena Valley, the researchers will travel on foot to conduct studies and collect samples. After documenting each site by observation, aerial photography (via helicopter), and ground-based lidar, the team members will collect surface

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

rock samples and excavate one-meter-deep pits to construct depth profiles. The team will also install four weather stations to record environmental conditions over the length of the field season. Samples will be returned to the home institution for analysis.

Deploying Team Members:

- Samuel Soule (Co-PI)

Return to Index

Science Project Details: 2007-2008

Vertebrate Paleontology Of Livingston Island, South Shetlands, Antarctica

Program Manager:
Dr. Vladimir Papitashvili (acting)

Event Number: G-170-E

ASC POC/Implementer:
John Evans

Dr. Ross MacPhee (Principal Investigator)
macphee@amnh.org

American Museum of Natural History
New York, New York

Supporting Stations: Special Project
Research Locations: Livingston Island

Project Description:

The Antarctic Peninsula and islands in the Scotia Arc are tectonically related. Until about 40 million years ago (Ma), these terranes formed a closely-packed array, joining West Antarctica with southernmost South America. An intriguing possibility is that this array of terranes may have acted as a land bridge over which land vertebrates dispersed. If so, one would expect to see their fossils in appropriately aged deposits on the islands. Project researchers will search for late Mesozoic vertebrate fossils on Livingston Island in the South Shetland group, in deposits ranging in age from 112 Ma to about 84 Ma. Anticipated discoveries include reptiles (dinosaurs, mosasaurs, plesiosaurs), birds, and possibly mammals. The team will collect rock samples to analyze for stable isotopes of oxygen, carbon, and hydrogen to shed light on late Mesozoic climatic conditions in the South Shetlands area and to improve correlations with other areas.

Field Season Overview:

The field team members will be transported via the ARSV Laurence M. Gould (LMG07-17) to Livingston Island, where they will establish a temporary field camp. From there, the researchers will travel on foot to collect rock samples and search for late Mesozoic vertebrate fossils. The field team will be retrieved by the LMG. Fossils and other samples will be returned to the home institution for classification and analysis.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Clare Flemming
- Jeremy Hooker
- Louis Jacobs
- Michael Polcyn
- Christopher Strganac

Return to Index

Science Project Details: 2007-2008

Glacial Radiocarbon Constraints From Drake Passage Deep-Sea Corals

Program Manager:
Dr. Lisa Clough

Event Number: G-290-N

ASC POC/Implementer:
Jesse Doren

Dr. Laura Robinson (Principal Investigator)
lrobinson@whoi.edu

Woods Hole Oceanographic Institution
Marine Chemistry and Geochemistry
Woods Hole, Massachusetts

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Drake Passage, Scotia Sea

Project Description:

The Southern Ocean is an important part of the climate system, but knowledge of its history is limited by a scarcity of well dated records. The skeletons of deep-sea corals record vital information on past climate, and they are found both living and as fossils in Antarctic waters. This project aims to collect deep-sea corals across the Drake Passage, including on the Chilean and Antarctic shelves. Researchers will make paired U-series ages and conduct radiocarbon analyses on these corals to reconstruct water column radiocarbon, thereby establishing direct constraints on polar ocean stratification and the extent of carbon exchange in the last glacial period.

Field Season Overview:

The researchers will travel on the RVIB Nathaniel B Palmer (NBP08-05) to conduct studies and collect samples in the Drake Passage and Scotia Sea. In particular, the team will focus on the Chilean and Antarctic shelves and bathymetric highs at seamounts and fracture zones. At each study site, the field team members will conduct multi-beam bathymetry, image the seafloor with a towed camera system, and dredge for fossil corals. Fossil coral samples will be processed in the shipboard laboratory and returned to the home institution for analysis.

Deploying Team Members:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Daniel Fornari
- Kathryn Scanlon (Co-PI)
- Marshall Swartz
- Christina Van de Fleirdt
- Rhian Waller (Co-PI)

Return to Index

Science Project Details: 2007-2008

The Permian-Triassic Transition In Antarctica: Rate, Timing, And Pattern Of Climate Change In High Latitude Gondwana

Program Manager:
Dr. Thomas Wagner

Event Number: G-051-M

ASC POC/Implementer:
Charles Kaminski

Dr. Matthew Saltzman (Principal Investigator)
saltzman.11@osu.edu

Ohio State University
Dept. of Geological Sciences
Columbus, Ohio

Supporting Stations: McMurdo Station
Research Locations: Shackleton Glacier region

Project Description:

This project seeks to examine the proposed hypotheses for the cause(s) of the Permian-Triassic extinction, which is generally recognized as the largest biotic extinction of the past 550 million years. Researchers will examine changes in terrestrial carbon cycling in the Permian-Triassic successions of the Cumulus Hills region of the Transantarctic Mountains. By generating high-resolution carbon isotope records of terrestrial organic matter and isolating plant components, this study will address the relative importance of changes in the ocean-atmosphere system versus differences in the type of organic matter preserved in the terrestrial ecosystem. The long term coupling of marine and terrestrial carbon cycles via atmospheric and riverine input will be examined by high-precision U/Pb geochronology that constrains the timing and duration of terrestrial carbon isotope excursions.

Field Season Overview:

The field team will travel via LC-130 aircraft to the Shackleton Glacier region to set up a field camp. From there, the team members will travel on foot and via snowmobile to outcrops to collect samples. The researchers will also travel from the field camp on day trips via Twin Otter aircraft to examine and collect samples from outcops that are not accessible by surface transport. The field team members will return via LC-130 to McMurdo. Samples will be

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

returned to the home institution for analysis.

Return to Index

Science Project Details: 2007-2008

Late Cenozoic Volcanism And Glaciation At Minna Bluff: Implications For Antarctic Cryosphere History

Program Manager:
Dr. Thomas Wagner

Event Number: G-062-M

ASC POC/Implementer:
Michael McClanahan

Dr. Thomas Wilch (Principal Investigator)
twilch@albion.edu

Albion College
Deptartment of Geological Sciences
Albion, Michigan

Supporting Stations: McMurdo Station
Research Locations: Minna Bluff

Project Description:

This project investigates volcanic and glacial records at Minna Bluff in the western Ross Embayment to interpret West Antarctic Ice Sheet history. The primary objectives are to document the growth of the 50-kilometer long peninsula and reconstruct past glacial events as recorded in the volcanic sequences. Researchers will interpret ice sheet history in the intertwined volcanic and glacial records at Minna Bluff by 1) mapping the volcanic and glacial lithofacies of Minna Bluff; 2) establishing a chronology based on the 40Ar/39Ar method; 3) describing the major and trace element geochemistry; 4) measuring the stable isotopes of authigenic alteration phases in hyaloclastites; and 5) measuring chlorine-36 exposure ages in glacial erratics.

Field Season Overview:

The field team will travel by helicopter to the south side of central Minna Bluff. From this base camp, they will travel on snowmobiles and by helicopter day-trips to map volcanic and glacial structures and collect samples. Research areas include outcrops on Minna Saddle where Minna Bluff meets Mount Discovery, and along the south, top, and north sides of the bluff. In mid-season, team members will move by helicopter to establish a second camp on the north-facing slope of Minna Bluff, from where they will access outcrops on foot or by helicopter. At the end of the season, the team will

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

return to McMurdo Station by helicopter and samples will be returned to the home institution for analysis.

Deploying Team Members:

- Meagan Bosket
- Timothy Burton
- Nelia Dunbar
- Bill McIntosh (Co-PI)
- Kurt Panter (Co-PI)
- Jake Ross
- Matthew Zimmerer

Return to Index

Science Project Details: 2007-2008

Collaborative Research: Physical Properties Of The WAIS Divide Deep Core

Program Manager:
Dr. Julie Palais

Event Number: I-168-M

ASC POC/Implementer:
Michael McClanahan

Dr. Richard Alley (Principal Investigator)
ralley@essc.psu.edu

Pennsylvania State University
Dept. of Geosciences & Earth System Science Center
University Park, Pennsylvania

Supporting Stations: McMurdo Station
Research Locations: WAIS Divide

Project Description:

As part of the West Antarctic Ice Sheet (WAIS) Divide deep ice-coring program, this project seeks to acquire a high-resolution climate record from WAIS that will be commensurate in scope to the record provided from the Greenland Ice Sheet Project 2 (GISP2) ice core. Researchers will catalog ice core visible stratigraphy, the depth evolution of ice grain size and orientation, bubble sizes, and the size distributions and characteristics of specific, verified event depths such as the onset of enclathratization and the climate transition from the end of the last glacial period into the Holocene.

Field Season Overview:

One field team member will travel by LC-130 aircraft to the WAIS Divide camp, where she will process ice cores and conduct ice core analyses, in collaboration with other related science events. Team member will return to McMurdo Station by LC-130. Samples will be returned to the National Ice Core Laboratory and the home institution for further analysis.

Deploying Team Members:

- Nicole Festian (Team Leader)

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Return to Index

Science Project Details: 2007-2008

IPY, Flow Dynamics Of Two Amundsen Sea Glaciers: Thwaites And Pine Island

Program Manager:
Dr. Julie Palais

Event Number: I-205-M

ASC POC/Implementer:
Michael McClanahan

Dr. Sridhar Anandakrishnan (Principal Investigator)
sak@essc.psu.edu

Pennsylvania State University
Department of Geosciences and Environment Instit
University Park, Pennsylvania

Supporting Stations: McMurdo Station
Research Locations: WAIS Divide, Thwaites Glacier, Pine Island Glacier

Project Description:

This project will study the flow dynamics of the Thwaites Glacier. This glacier is buttressed by only a small ice shelf and is therefore especially susceptible to rapid changes. Combined, the Thwaites and Pine Island glaciers account for approximately 5% of the ice discharge of the entire Antarctic ice sheet. There is increasing evidence for rapid and recent changes in their flow behavior. Researchers will conduct a reflection seismic experiment over the grounding zone ridge of Thwaites Glacier to better understand controlling characteristics, such as whether the ridge is sedimentary or crystalline in nature and whether there are deep-water channels. Researchers will measure the flow speed of the glacier using GPS. This work will result in the best, most recent flow-velocity determinations for Thwaites Glacier that can then be compared with satellite-based data.

Field Season Overview:

The field team will travel by LC-130 aircraft to the WAIS Divide camp. From there, they will travel by Basler aircraft to the Thwaites Glacier where they will establish a temporary field camp in collaboration with Prasad Gogineni (I-189). Team members will also make day trips by Basler from WAIS camp to Thwaites Glacier and from Thwaites to Pine Island Glacier. The reseachers will travel overland on snowmobiles, drill 20-meter shot holes

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

using a hot water drill, and use small explosive charges to obtain seismic profiles of the ice and underlying substrate. The field team members will also use radio-echo-sounding techniques to study englacial structure and bed properties, and they will deploy approximately 30 GPS receivers to study glacier flow dynamics. At the end of the field season, the team will return to McMurdo Station onboard LC-130 aircraft.

Deploying Team Members:

- Huw Horgan
- Leo Peters

Return to Index

Science Project Details: 2007-2008

Grounding-Line Retreat In The Southern Ross Sea And Constraints From Scott Glacier

Former elephant seal colonies in the Antarctic: Implications for holocene climate change and genetic diversity in the Southern Ocean.

Program Manager:
Dr. Julie Palais

Event Number: I-196-M

ASC POC/Implementer:
Charles Kaminski

Dr. Howard Conway (Principal Investigator)
conway@ess.washington.edu

University of Washington
Earth and Space Sciences
Seattle, Washington

Supporting Stations: McMurdo Station
Research Locations: Scott Glacier

Project Description:

A key unresolved question in Antarctic glaciology concerns the stability of the West Antarctic Ice Sheet (WAIS). The WAIS is marine-based, meaning that its substratum is a series of archipelagoes in the northwestern Ross Sea Embayment off the northern Scott Coast. As deglaciation began after the last glacial maximum, the WAIS became unmoored. Learning how, when and in what sequence this occurred is a critical step toward isolating the mechanisms that control WAIS dynamics. The northern Scott Coast is of particular interest to researchers looking for mechanisms that may have triggered the key stages of deglaciation. This project seeks to reconstruct the glacial history of the Scott Glacier, concentrating on its evolution from the last glacial maximum to the present day. Establishing constraints on Scott Glacier thinning since the last glacial maximum will allow researchers to bracket the timing of grounding-line retreat past the glacier mouth, which will help establish whether the Holocene retreat of the West Antarctic Ice Sheet is ongoing, or if it has ended.

Field Season Overview:

The field team will travel via Twin Otter or Basler aircraft to Siple Dome,

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

where the members will establish the first of several temporary field camps. Over the course of the field season, the team members will move camp several times via Twin Otter or Basler aircraft to different sites along the length of the Scott Glacier. At each camp, they will travel on foot and via snowmobile to map, sample, and correlate glacial moraines. Where possible, they will use ice-penetrating radar to construct thickness profiles across the glacier. At the end of the field season, the team will return via Twin Otter or Basler aircraft to McMurdo Station.

Deploying Team Members:

- Gordon Bromley
- Maurice Conway

Return to Index

Science Project Details: 2007-2008

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

Program Manager:
Dr. Julie Palais

Event Number: I-414-S

ASC POC/Implementer:
Charles Kaminski

Dr. Tony Hansen (Principal Investigator)
tonyhansen@mageesci.com

Magee Scientific Company
Berkeley, California

Supporting Stations: South Pole Station
Research Locations: Atmospheric Research Observatory

Project Description:

This project is developing an enclosure system capable of supporting a variety of instruments with electrical power and a 'warm' environment for extended periods (more than a year), despite very low ambient temperatures, such as those prevalent during winter on the Polar Plateau.

Field Season Overview:

The field team members plan to extract their instrument enclosures from the snow where they were buried last season. The instrument packages will be removed from the enclosures and hand-carried to the home institution. The enclosures will be packed for over-winter storage and returned to the home institution the following year.

Deploying Team Members:

- Jeff Blair

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

National Ice Core Laboratory (NICL) Core-Handling And Data Recording

Program Manager:
Dr. Julie Palais

Event Number: I-478-M

ASC POC/Implementer:
Michael McClanahan

Dr. Todd Hinkley (Principal Investigator)
jfitz@usgs.gov

United States Geological Survey
National Ice Core Laboratory
Denver, Colorado

Supporting Stations: McMurdo Station
Research Locations: WAIS Divide

Project Description:

Project personnel from the US National Ice Core Laboratory (NICL) will deploy to Antarctica in collaboration with the WAIS Divide drilling program. The overall program objective is to reconstruct a paleoclimate record from a deep ice core recovered from this site. NICL personnel will provide a core-handling and data-recording system, quality assurance and oversight, assistance with core-processing operations and will ensure safe transit for the core from Antarctica to the NICL laboratory in Denver, Colorado.

Field Season Overview:

The field team will travel by LC-130 to the WAIS Divide camp where members will assemble and test the ice core processing equipment, provide training and quality assurance for the core handling team, and assist with core processing operations. The team members plan to recover 800 to 1200 meters of ice core over the course of the season. Approximately every three days, cores will be returned to McMurdo on a cold deck LC-130 flight where they will be stored until shipped on the resupply vessel to the US for processing and analysis. At the end of the field season, the field team will return to McMurdo by LC-130 airlift.

Deploying Team Members:

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

- Brian Bencivengo

Return to Index

Science Project Details: 2007-2008

Cape Adare Long-Term Mooring (CALM)

Program Manager:
Dr. Peter Milne

Event Number: O-399-N

ASC POC/Implementer:
Karl Newyear

Mr. Bruce Huber (Principal Investigator)
bhuber@ldeo.columbia.edu

Columbia University
Lamont-Doherty Earth Observatory
Palisades, New York

Supporting Stations: RV/IB Nathaniel B. Palmer
Research Locations: Northwestern Ross Sea

Project Description:

Antarctic Bottom Water (AABW) is the densest of the major water masses filling the deepest parts of the world's oceans. Because it obtains many of its characteristics during its contact with other seawater, glacial ice, and atmosphere along the continental margins of Antarctica, researchers expect that changes in newly formed AABW may represent an effective indicator for abrupt climate change. The two most important source regions for AABW are within the Weddell and the Ross Seas, with the Ross Sea arguably the second largest source. However, no systematic effort has been undertaken to make long-term measurements of its outflow. To fill this data gap, this project deployed and maintained an array of moorings east of Cape Adare to observe the properties of AABW exiting the northwest corner of the Ross Sea.

Field Season Overview:

The field team will travel via the RVIB Nathaniel B Palmer (NBP08-01) to the northwestern Ross Sea near Cape Adare, where team members will rocover two previously deployed moorings and deploy two more in the same vicinity. Team members will also make conductivity-temperature-depth (CTD) measurements at the mooring stations and at nearby sites, as time and conditions permit. The recovered moorings will be shipped to the home institution for data download and refurbishing.

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Return to Index

Science Project Details: 2007-2008

SASSI Mooring Array In The Western Antarctic Peninsula

Program Manager:
Dr. Peter Milne

Event Number: O-241-L

ASC POC/Implementer:
Stephanie Suhr Sliester

Dr. Doug Martinson (Principal Investigator)
dgm@ldeo.columbia.edu

Columbia University
Lamont-Doherty Earth Observatory
Palisades, New York

Supporting Stations: ARSV Laurence M. Gould
Research Locations: West Antarctic Peninsula

Project Description:

The overall objective of this International Polar Year (IPY) project is to deploy a mooring array (four moorings) on standard Long Term Ecological Research (LTER) summer cruise stations. The purpose is to monitor flooding of the West Antarctic Peninsula (WAP) continental shelf by the Antarctic Circumpolar Current in order to determine the role of the ocean heat flux on WAP climate change.

Field Season Overview:

Four moorings will be deployed by RPSC technicians aboard the annual LTER cruise in January 2008 with the assistance of LTER science personel. A CTD cast will be performed at each station, which will coincide with regular LTER sampling.

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

To The Edge Of Reason: Pilgrimages To The Holy Sites Of Cosmology

Program Manager:
Ms. Kim Silverman

Event Number: W-487-M/S

ASC POC/Implementer:
Patricia Jackson

Mr. Anil Ananthaswamy (Principal Investigator)
anil@nasw.org

Belmont, California

Supporting Stations: McMurdo Station, South Pole Station
Research Locations: On station, Long Duration Balloon facility

Project Description:

The author is writing a book that tells the story of cutting-edge research in cosmology. Most of the high-tech instruments involved in this research are located in some of Earth's most inhospitable places, such as the Atacama Desert in Chile and the South Pole. The story behind three unique neutrino detecting experiments located in Antarctica -- AMANDA, ICECUBE, and ANITA -- comprises a key part of the book. The writer will visit the site of these projects and report on the work being done. Relevant chapters in the finished book will also focus on Antarctica itself and on the people who make the experiments possible.

Field Season Overview:

The author plans to travel to South Pole Station to observe the neutrino detectors AMANDA and IceCube and interview the researchers and technicians associated with each project. The author will also observe a long-duration balloon launch at Williams Field, and he will interview scientists associated with the ANITA balloon project. Information gleaned from these encounters will be included in the author's book about cutting-edge cosmological research, written from the perspective of experimental physicists.

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

Integrating Science And Creative Writing

Kate Keeley diving off the coast of Mexico while researching a novel for young adults. Photo by Christina Smith.

Program Manager:
Ms. Kim Silverman

Event Number: W-489-P

ASC POC/Implementer:
Patricia Jackson

Ms. Kate Keeley (Principal Investigator)
katekeeley@comcast.net

Colorado Springs, Colorado

Supporting Stations: Palmer Station
Research Locations: On station, Palmer boating area

Project Description:

This project seeks to provide an integrated approach to mastering science concepts through creative writing. In order to accomplish this goal, the writer will observe Antarctic scientists as they conduct research in order to understand how they detect and describe new and known life forms and geologic formations. The writer will also observe the scientific process in general, study the behaviors of indigenous life forms, and seek to gain a better understand of the nature of sea ice.

Field Season Overview:

The writer will travel via the ARSV Laurence M Gould to Palmer Station. During the transit, the writer will interview scientists and observe research activities. At Palmer Station she will also observe and interview researchers. The writer will accompany scientists when they travel via Zodiac inflatable boat to research sites on islands in the Palmer vicinity. Information from these encounters will be used in the writing of a book and to develop teaching materials that integrate science and creative writing.

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

90ºS

Andrea Polli doing some field recording in Japan. Photo by Chuck Varga.

Program Manager:
Ms. Kim Silverman

Event Number: W-490-M

ASC POC/Implementer:
Patricia Jackson

Ms. Andrea Polli (Principal Investigator)
andrea@andreapolli.com

City University of New York / Hunter College
Film and Media Department
Long Island City, New York

Supporting Stations: McMurdo Station
Research Locations: McMurdo Dry Valleys

Project Description:

The artist will work with scientists who are gathering and modeling environmental data, particularly McMurdo Dry Valleys Long Term Ecological Research (LTER) data, Automatic Weather Station (AWS)data, satellite composite images, and possibly auroral data and images. The artist will also record video interviews with scientists and capture sound and digital images of the Antarctic environment. After experimenting with the collected data to determine how best to use it in a sound and visual installation, the artist will produce a multi-channel sound and visual installation, using projected images of Antarctica combined with data sonification. The project will also produce a website describing the data collection and sonification process, a series of lectures/presentations, and various audio recordings and journal articles. The ultimate goal is to communicate both the aesthetic beauty of Antarctica and the scientific importance of Antarctica to global climate.

Field Season Overview:

The artist plans to travel via helicopter to established camps in the McMurdo Dry Valleys, where she will record video interviews with the scientists and capture sound and digital images of the environment. The artist plans to acquire copies of climate and meteorological data collected by scientists in the Dry Valleys, by researchers on other parts of the continent, and through

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

a variety of automatic methods, such as Automatic Weather Stations and satellites. The artist may also visit historical sites in the McMurdo area to record digital and sound images. All images and data will be returned to the home studio for incorporation into the final artistic work.

Return to Index

Science Project Details: 2007-2008

A Time-Lapse Study Of Antarctica

Program Manager:
Ms. Kim Silverman

Event Number: W-491-M/S

ASC POC/Implementer:
Patricia Jackson

Mr. Anthony Powell (Principal Investigator)
antzkiwi@gmail.com

San Juan Capistrano, California

Supporting Stations: McMurdo Station, South Pole Station
Research Locations: On station, Cape Bird, Cape Evans, Lake Vanda

Project Description:

This project will conduct hi-definition, time-lapse photography at several sites in an effort to capture unique images of Antarctica. Photographic subjects will include landscapes, close-up features, weather patterns, icebergs, sea ice, wildlife behavior patterns, and researchers and support staff at work. The project's intent is to create a dynamic library of video shots and use them to produce a comprehensive "Year on Ice" film. The images will also be available for other film and television work about Antarctica.

Field Season Overview:

The photographer plans to make day trips via tracked vehicle to Cape Evans. He will also travel via helicopter to Cape Bird and to Lake Vanda, where he will set up temporary field camps. If conditions permit, he will make a visit to South Pole Station. At each location, he plans to conduct time-lapse photography. Photographic subjects will include landscapes, close-up features, weather patterns, ice bergs, sea ice, wildlife behavior patterns, and researchers and support staff at work. All footage will be returned to the home studio for final production.

Deploying Team Members:

- Christine Powell

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

IPY: Engaging Antarctica

Program Manager:
Ms. Valentine Kass

Event Number: Y-601-M

ASC POC/Implementer:
Douglas Miller

Mr. Mike Farrell (Principal Investigator)
mfarrell@netnebraska.org

University of Nebraska Lincoln
NET Television
Lincoln, Nebraska

Supporting Stations: McMurdo Station
Research Locations: On station, ANDRILL site, Cape Royds, Mount Discovery, Mount Erebus, Dry Valleys, Beardmore Glacier, WAIS Divide

Project Description:

IPY: ENGAGING ANTARCTICA is an International Polar Year (IPY) project supported by the Informal Science Education program of NSF's Directorate for Education and Human Resources. It provides the general public with a greater understanding of the scientific research currently conducted in Antarctica. The project will focus particularly on the multi-national Antarctic Drilling Program (ANDRILL) but will also tape interviews with other geoscience researchers. Using High Definition TV equipment, project team members will record research activities in the McMurdo Dry Valleys, at Mount Discovery, on Mount Erebus, on the Ross Ice Shelf, on McMurdo Sound sea ice, at Cape Royds, at WAIS Divide, and at locations in the Transantarctic Mountains. A key result of this project's activities will be a PBS (NOVA) documentary entitled "Antarctica's Icy Secrets."

Field Season Overview:

The field team plans to document on high-definition video a variety of laboratory and field research activities, as well as Antarctic landscapes and scenics. Team members will travel via tracked vehicle and helicopter to the ANDRILL site, where they will document drilling activities and research. The team also plans to travel via Twin Otter aircraft to the Beardmore Glacier area, where they will document paleontological and glaciological investigations, and via LC-130 to the WAIS Divide camp to document

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

activities there. Additionally, team members will travel via helicopter to film on Mount Erebus, at Cape Royds, at the sea ice edge, and in the McMurdo Dry Valleys.

Deploying Team Members:

- Peter Braddock
- Joseph Brunette
- Gary Hochman
- Jim Lenertz
- Brian Seifferlein
- Peter Webb
- Kirk Wolfinger

Return to Index

Science Project Details: 2007-2008

IPY: Pole To Pole

Program Manager:
Ms. Sandra H. Welch

Event Number: Y-604-M

ASC POC/Implementer:
Jessie Crain

Ms. Moira Rankin (Principal Investigator)
moira@soundprint.org

Laurel, Maryland

Supporting Stations: McMurdo Station
Research Locations: ANDRILL

Project Description:

Pole to Pole is an International Polar Year (IPY) project supported by the Informal Science Education (ISE) program of NSF's Directorate for Education & Human Resources. As part of a series produced in collaboration with international radio broadcasters to mark the IPY, this project proposes to tell the story of the ANDRILL project. This two-part, radio-broadcast coverage will be produced with Radio New Zealand (RNZ), which covered the work of the ANDRILL scientists in their first season. The current project team from Soundprint Media Center, Inc. will cover ANDRILL's second season.

Field Season Overview:

The field team members plan to interview ANDRILL researchers in the Crary Laboratory. They will also travel via snowmobile or helicopter to the ANDRILL site to conduct on-site interviews and to make other field recordings. The recordings will be returned to New Zealand for production collaboration with RNZ.

Return to Index

Project Indexes

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

Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Science Project Details: 2007-2008

IPY: PolarTREC - Teachers And Researchers Exploring And Collaborating

Program Manager:
Ms. Valentine Kass

Event Number: Y-606-M

ASC POC/Implementer:
Douglas Miller

Ms. Wendy Warnick (Principal Investigator)
warnick@arcus.org

Arctic Research Consortium
Fairbanks, Alaska

Supporting Stations: McMurdo Station
Research Locations: On station, McMurdo Sound sea ice, WAIS Divide, Southern Ocean (onboard the NBP)

Project Description:

PolarTREC is an International Polar Year (IPY) project supported by the Informal Science Education (ISE) program of NSF's Directorate for Education & Human Resources. When teachers and educators accompany scientists into the field, it provides numerous avenues for outreach and education. Students are provided with an immediate, direct, and first-hand experience into the nuts-and-bolts of science, as well as an intimate introduction to scientists that can both demystify and generate interest in that profession. Future students also benefit, as the teachers continue to draw from their experiences in their future teaching activities. This project seeks to promote these benefits by arranging for working teachers to accompany a variety of Antarctic science projects.

Field Season Overview:

Each participating project teacher will deploy and work with a different science event. Host events will be: Development of a Remotely Operated Vehicle for Undersea Ice Research (B-174-M), Sea Ice Mass Balance in the Antarctic (SIMBA)(O-270-N), Antarctica Automatic Weather Stations (O-283-M/S), Center for Remote Sensing of Ice Sheets (CReSIS)(I-189-M), Long Term Environmental Monitoring at McMurdo Station (B-518-M), and Atmospheric Change at the South Pole (O-257-S).

Project Indexes

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Project Web Sites

Find more information about USAP projects by viewing individual project web sites.

2007-2008 Field Season

Other Information:

- Home Page
- Station Schedules
- Air Operations
- Staffed Field Camps
- Event Numbering System

Deploying Team Members:

- Kirk Beckendorf
- Melinda Bell
- Delores Garay
- Brandon Gillette
- Ann Linsley

Return to Index