Research Support Plan
I-164-S, Kamil Murat Aydin

Collaborative Research: A 1500-m ice core from South Pole

Award Number: PLR – 1142517

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2015-16 South Pole Station-Based Project

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On-Ice Point of Contact: Leah Street or Paul Sullivan

Change Management and Tracking

This table documents and tracks major changes that develop following RSP distribution.

Date	Description
09/11/2015	RSP issued to PI for concurrence
09/28/2015	Final concurred RSP distributed

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COMPREHENSIVE RESEARCH SUPPORT INFORMATION

Purpose

This document summarizes and provides information about the resources allocated to the subject NSF-PLR award for the upcoming field season.

The support details have been developed in consultation with the Principal Investigator (PI), National Science Foundation (NSF), and Antarctic Support Contractor (ASC), and are based on the support levels approved in the Operational Notice for the award, and the specific seasonal needs as indicated in the 2015-16 season Support Information Package (SIP).

This document should be reviewed with all field team members. Any discrepancies should be presented to the ASC project point of contact (POC) prior to deployment to Antarctica.

Field Project Overview

This is the second field season for I-164-S. The main activities of the 2015-16 season are a continuation of ice coring activities, shipping of ice cores (including cold-deck LC-130 flights from NPX to MCM), and winterizing the camp for the following season.

Outstanding Issues

Weather delays can delay the arrival of cargo and the availability of heavy equipment. Camp preparation activities and thus the start of drilling operations may be delayed. Flight tempo can also be delayed by weather and the availability of aircraft causing delays in personnel and ice core movements.

Deployment Dates

The table below shows the approved deployment plan for your group. The dates have been set by the PI, ASC and the NSF and cannot be changed without coordination and approval from your ASC Implementer. Any changes must be made no later than four weeks before scheduled deployment.

Last	First	Conus-CHC	CHC-MCM	MCM-NPX	NPX-MCM	MCM-CHC	Self Ticket
Aydin	Kamil	11/16/15	11/20/15	11/21/15	1/6/16	1/7/16	N
Boeckmann	Grant	11/16/15	11/20/15	11/21/15	2/2/16	2/10/16	N
Fegyveresi	John	12/7/15	12/11/15	12/12/15	2/2/16	2/3/16	N
Johnson	Jay	11/16/15	11/20/15	11/21/15	2/2/16	2/13/16	N
Kahle	Emma	11/16/15	11/20/15	11/21/15	2/2/16	2/3/16	N
Meulemans	Zachary	11/16/15	11/20/15	11/21/15	2/2/16	2/10/16	N
Morton	Elizabeth	11/16/15	11/20/15	11/21/15	2/2/16	2/3/16	N
Nicewonger	Melinda	11/16/15	11/20/15	11/21/15	12/12/15	12/14/15	N
Stapleton	Shawntel	11/16/15	11/20/15	11/21/15	2/2/16	2/3/16	N
Steig	Eric	1/1/16	1/5/16	1/6/16	2/2/16	2/3/16	N
Winski	Dominic	11/16/15	11/20/15	11/21/15	2/2/16	2/3/16	N
Wipperfurth	Nicholas	11/16/15	11/20/15	11/21/15	2/2/16	2/3/16	N

(Dates are current as of 08/24/15)

All dates are subject to change. The table below explains each column.

Column	Description
Conus-CHC	Dates participant is scheduled to leave the U.S (four days before Ice flight, with two nights in Christchurch).
CHC-McM	Date participant is scheduled to depart Christchurch for McMurdo Station.
McM-NPX	Date participant is scheduled to depart McMurdo for South Pole
NPX-McM	Date participant is scheduled to depart South Pole for McMurdo
McM-CHC	Date participant is scheduled to redeploy from McMurdo Station to Christchurch.
Self-Ticket	"Y" indicates the participant will purchase commercial airline tickets without support *or reimbursement from* ASC Travel. Self-ticketers must provide their itinerary to ASC Travel (deploy@usap.gov or fax 303-705-0742). ASC Travel will make hotel reservations in Christchurch upon request.

Permits

The Principal Investigator is responsible for ensuring that all applicable permits have been obtained prior to deployment.

See appendix for more information.

Environmental Documentation

To comply with the Antarctic Conservation Act, each Principal Investigator (PI) is required to to track and report geographic locations of disturbances that result from the project's field work (e.g., field camp locations, equipment remaining in the field or at sea, and materials released to the environment, as planned or unintentional) to the South Pole S&TPS Manager at the end of the season to meet ACA reporting requirements.

Note Each Principal Investigator needs to submit a completed Environmental End-of-Season (EOS) Report to the South Pole S&TPS Manager to meet ACA reporting requirements. EOS information and instructions will be provided by the South PoleS&TPS Manager.

The PI or project's Environmental POC is required to track and report planned or accidental environmental This information will be compiled by the South Pole S&TPS Manager and transmitted to ASC Environmental bi-annually. The Principal Investigator is responsible for ensuring that all required environmental documentation has been completed before deployment or redeployment.

Please contact your POC for more information, or in the event your POC cannot be reached, contact ASC's Environmental Manager, telephone 1-800-688-8606.

Environmental Impact Analysis

It is anticipated that this project will require no further environmental review (Jacket ROER). The basis for this evaluation is that this on-going project would result in less than minor or transitory impacts. The activities are covered under the project-specific EIA document:

- Collaborative Research: A 1500−m ice core from South Pole (SPICE) Prior ROER (SPST1500.R01)

Cargo

	Weight (lbs)	ROS	Comments
Southbound	4560	5315	KD,DNF,FG
COMAIR Retrograde	4200	6107	

	Weight (lbs)	ROS	Comments
Vessel Retrograde	60	6072	
Vessel Retrograde	32,640	6023	Ice Cores
TOTAL	41,460		

Keep in mind the following cargo-related information:

- Baggage and hand-carried items are not "cargo" and are not listed.
- Items purchased and shipped by ASC for grantees are also not listed here.
- ROS (Required On Site) is the Saturday closing the week that cargo will be delivered at the research station (McMurdo or South Pole Stations).
- Unapproved northbound COMAIR cargo will require approval from the NSF representative on station.

Science Construction

Construction activities will mainly be focused on setting up the drill camp and supporting ice core shipments. The temporary storage arch surface will be excavated and the road groomed to the skiway prior to core transport.

Computers and Communications

The following support will be provided:

- 10MB/day of data transfers (SFTP) over the station's broadband satellite links will be supported on a best-level-of-effort basis.
- Four Land Mobile Radios with lapel mics, chargers, and spare batteries.
- A wireless network link between the South Pole LAN and the drill camp.
- A satellite phone will be provided from McMurdo

Microsoft support for the Windows XP operating system ended on April 8, 2014. Computers running Windows XP will not pass computer screening and will not be permitted to connect to the USAP network.

Macintosh computers must also be running a supported version. As of the writing of this RSP, Mac OS X 10.8 is the minimum supported version, although users running 10.8 should confirm that it is still supported prior to deployment.

Additional IT security guidelines are provided in the Appendix of this RSP.

Observatory/Laboratory Space

No laboratory/observatory space is requested. Portable structures will be supplied: the MECC and Graceland.

Laboratory Instruments and Equipment

No laboratory instruments or equipment has been requested.

Laboratory Chemicals, Gases, Cryogens, Dry Ice, Blue Ice

The following will be provided:

- 2 five-gallon drums Ethanol
- Estisol 140 drilling fluid
- Isopar K drilling fluid

Laboratory Materials and Supplies

No laboratory materials have been requested.

Radioactive Materials

No radioactive materials have been requested.

Vehicles

There is no shuttle service available at the South Pole.

Science Support snowmobiles and light tracked vehicles will be available only to members of the science community who undergo the vehicle operation instruction and licensing process.

A dedicated light vehicle will be provided for transporation to and from the drill site.

Spatial Analysis, Remote Sensing, and GIS Support

GIS Support is provided by the Polar Geospatial Center (PGC). Please direct all support requests to:

Cole Kelleher
Cartographer and Support Coordinator
email: kell1026@umn.edu

Geodetic Support

UNAVCO will work with grantees to provide support as requested within the guidelines of the NSF/UNAVCO agreement. Please contact UNAVCO with any support related questions:

Joe Pettit
UNAVCO Antarctic Support Project Manager
email: pettit@unavco.org
phone: (303) 381-7615

Seismological Support

Seismological equipment and support is provided by IRIS/PASSCAL. Please contact IRIS/PASSCAL with any support related questions:

Paul Carpenter
PASSCAL Polar Manager
email: pcarpenter@passcal.nmt.edu
phone: (575) 835-6783

Ultraviolet Data Services

UV monitoring data is provided by NOAA. Please contact them with any support related questions:

Patrick Disterhoft
NOAA Antarctic UV Monitoring Program, NOAA-EPA Brewer UV-ozone Monitoring Network (NUEBrew) Central UV Calibration Facility NOAA GMD
email: patrick.disterhoft@noaa.gov
phone: (303) 497-6355

Ice Core Drilling Support

ICDS-IDDO will work with grantees to provide support as requested within the guidelines of the NSF. Please contact ICDS-IDDO with any support related questions:

Tony Wendricks
ICDS-IDDO Project Coordinator
e-mail: tonyw@ssec.wisc.edu
phone: (608) 263-6755
http://www.ssec.wisc.edu/icds/

National Ice Core Laboratory (NICL) Ice Core Support Service

NICL will work with grantees to provide support as requested within the guidelines of the NSF. Please contact NICL with any support related questions:

Geoffrey Hargreaves
Curator, National Ice Core Laboratory
e-mail: nicl@usgs.gov
phone: (303) 202-4830
http://nicl.usgs.gov/

Meteorology Services

Access to data and meteorology reports including surface observations, upper air data and monthly climatological summaries for all Antarctic locations is available upon request. For questions or concerns regarding custom products, format changes or any other meteorological issues, please contact the Meteorology Operations Manager, Michael Carmody, at 720-568-2310 or Michael.Carmody.Contractor@usap.gov.

Research Associate Services

No Research Associates services have been requested.

Field Support & Training

Field Equipment

FIELD CAMP SUPPLIES NEEDED:

- bung wrench, for 55 gal drum: qty 2
- funnel, plastic or metal (generic use): qty 1
- hand fuel pump, hurdy gurdy: qty 1, for Isopar K
- jerry can, 5 gal: qty 1
- tables, allulite, 20"x72": qty 1
- whisk broom: qty 1
- 5 gallon plastic buckets: qty 4 (no lids)
- 32 gallon plastic garbage cans: qty 2, for core handler clean snow

- Herc cargo straps: qty 10
- banana sled 2'x7': qty 1
- sleeping cot: qty 1
- sleeping comforter/sleeping bag: qty 2
- short square shovels: qty 2
- shovels plastic: qty 2
- 5−gallon carboy: qty 1, for water transport
- pair hand warmers: qty 300
- pair toe warmers: qty 300
- waterless hand sanitizers: qty 4
- packages paper towels: qty 4
- tubs wet wipes: qty 6
- medium steel grain scoop: qty 2
- plastic shovels: qty 2
- handwash station for MECC: qty 1
- handsoap: qty 1
- microwave: qty 1, borrowed from James Brown last season
- toaster oven: qty 1, borrowed from MAPO last season
- hot plate: qty 1, borrowed from MAPO last season

Field Training and Assistance (formerly FSTP)

No field training will be provided.

Field Medical Kit

A first aid kit will be provided and will be in the MECC.

Mechanical Equipment

No mechainal equipment has been requested.

Heavy Equipment and Explosives

A fork−equipped track loader will be at the drill site to:

1. pick up wood skids of 8 ISC boxes and place on 463L Master Pallet (Air Force Pallet; AFP);
2. pick up AFP of ISC boxes and load onto ASC−provided sled;
3. transport sled−mounted AFP to skiway apron (or storage arch) for subsequent cold−deck LC−130 retrograde to MCM.