

PROJECT INFORMATION

Lead Principal Investigator	Vladimir Romanovsky
Institute	University of Alaska, Fairbanks, Geophysical Institute
Project Title / Grant #	Recent and future permafrost variability, retreat and degradation in Greenland and Alaska: An integrated approach (0612533)
NSF Program and Manager	NSF/OPP ANS, Dr. William Wiseman
PFS Project Manager	Susan Zager

Note: This season plan covers support for field work in Greenland only.

LOGISTICS SUMMARY

This project, led by the University of Alaska, with expert contributions from Danish Meteorological Institute (DMI), ARTEK (Arctic Technology Center) and ASIAQ (Greenland Survey), hopes to bridge the gap between permafrost studies and climate modeling in order to provide accurate and precise information about permafrost activity in climate models. The results are expected to help planners and others predict where the impacts may be felt most strongly as permafrost responds to continued warming. The work will focus on two distinct regional areas with various kinds of permafrost and different climate influences: a region in western Greenland under heavy marine influence, and one in northern Alaska, an area largely shielded from marine influences.

To acquire permafrost measurements needed for the high-resolution permafrost-climate model, project personnel will establish above- and below-ground permafrost sensors at existing ASIAQ meteorological stations in Greenland in or near Kangerlussuaq and the settlements of Nuuk, Sisimiut, Ilulissat, Qaanaaq, Qaarsut. The same sensors will also be installed at four Alaskan permafrost sites (Gakona, Fairbanks, Toolik, and Barrow). The University of Alaska, Fairbanks, will operate these four sites.

During late 2006 and spring/summer of 2007, a team of 2 researchers from University of Alaska joined 3 personnel from ASIAQ to drill and install above- and below-ground sensors at the sites in Greenland and Alaska. In 2008, the researchers worked in Alaska in April and August and in Greenland in July, August and September. In 2009 the team revisited Greenland sites in Ilulissat, Qaanaaq, Sisimiut and Kangerlussuaq to retrieve data and maintain the instruments. Alaskan trips included visits throughout the season in conjunction with field work for the PI's "snapshot" grant (0632400).

In 2010, CPS will support a July/August trip to Kangerlussuaq and Ilulissat for a team of two. Researchers will download data from dataloggers, inspect/update installations, revisit erosional permafrost sites for sampling, and map the extent of saline permafrost and variation with elevation. CPS will provide commair tickets, lodging, vehicles, and field equipment support for the team within Greenland. All other support will be paid with grant funds.

For the complete CPS online project record for this grant, including science objectives, go to:
http://www.polar.ch2m.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=0612533

For up-to-date information on the project's schedule, please view the online Greenland calendar (<http://www.polar.ch2m.com> > Greenland > Calendars/Schedules).

OUTSTANDING ACTIONS AND NOTES

Issue	Responsibility	Date Due	Notes / Date Completed
Review support plan for accuracy and distribute to all field team members	PI	25 Jul 10	
Obtain all necessary permits for fieldwork	PI	25 Jul 10	Bureau of Minerals samples permit
Visit all hyperlinks and review all documents referred to in this plan	Entire Field Team	25 Jul 10	

Keep all receipts for reimbursement and turn them in to your project manager as soon as your fieldwork is complete.	Entire field team	End of fieldwork	Commair, car rental
Complete Critical Success Factors	PI	22 Jul 10	Completed

ALLOCATIONS AND SERVICES

Allocations from Inventory for KANGERLUSSUAQ field work. Coordinate with CPS staff in SFJ.

Quant/Unit	Item
1	Satphone, optional
2	Shovels
1	Pick axe
NOTE	THE FOLLOWING will be used only if the lake this project studies has drained.
1	2 kW generator
1	110V electric drill with 16mm drill bits
2	12V batteries
1	Battery charger

Allocations from Inventory for ILULISSAT field work. Pick up in CPS containers at JAV airport.

Quant/Unit	Item
1	Engine drive for Kovacs ice auger, clockwise. Researcher will bring flights and bits.
1	Jerry can, premix
1	2 kW generator
1	110V electric drill with 16mm drill bits
2	12V batteries
1	Battery charger
1	Core box
1 box	Blue ice, -32C if possible
2	Shovels
assorted	Hand tools from the JAV container

Other Services

Service	Comments
Auto rental, SFJ	Researcher coordinating, Bjarke Tinghuus
Auto rental, JAV	CPS, Ilulissat Toyota
Lodging, SFJ	CPS coordinating KISS
Lodging, JAV	CPS coordinating Hotel Hvide Falk
Commair tickets, SFJ > JAV > SFJ	CPS and researcher coordinating, AirGreenland
Commair cargo, SFJ, JAV, JHS	CPS and researcher coordinating, AirGreenland

LOCATION INFORMATION

Please visit <http://www.polar.ch2m.com/> and navigate to the Greenland menu for en route and location-specific Greenland information. Prior to deployment, your entire field team should be familiar with the content of the *Greenland Guide*, available electronically via our Web site's Greenland menu.

CARGO

The following is our current understanding of your overall cargo requirements:

Items	Weight/Cube	Comment
Science equipment, JHS > SFJ > JHS	75kg	Researcher coordinating both shipments on AirGreenland, done.
Science equipment, JHS > JAV > JHS	250kg	

SUPPORT SCHEDULE

Date	Location	Activity
29 Jul	CPH > SFJ	Nielsen arrives in SFJ via commair. Flight: GL781, Dep 09.10 Arr 09:40 Lodging: KISS
30 Jul	SFJ	Nielsen conducts fieldwork within Kangerlussuaq, renting own vehicle.
31 Jul	SFJ > JAV	Nielsen departs SFJ via commair to JAV for ~12 days fieldwork. Auto Rental: Toyota Hilux GR34422, waiting at airport Flight: GL580, Dep 11.10 Arr 11.55 Lodging: Hotel Hvide Falk
NOTE	SFJ	Note: Bollwerk will be working on a non-NSF project before the Romanovsky work and will already be in SFJ staying at the KISS.
02 Aug	SFJ	Bollwerk departs SFJ via commair to JAV to join Nielsen in Ilulissat for ~10 days of fieldwork. Flight: GL580, Dep 11.10 Arr 11.55 Lodging: Hotel Hvide Falk
12 Aug	JAV > JHS	Bollwerk departs JAV via commair to JHS. End of her work on Romanovsky project.
13 Aug	JAV > CPH	Nielsen departs JAV via commair for SFJ. Flight: GL199, JAV > > QAR > AAS, SFJ. Dep 08.15, Arr 11.15 Flight: GL782, SFJ > PH. Dep 12.50 Arr 21.10

For the most up-to-date information on the project's schedule, please view the online Greenland calendar (<http://www.polar.ch2m.com/> > Greenland > Calendars/Schedules).

FIELD TEAM INFORMATION

Name	Email
Thomas Ingeman-Nielsen	tin at byg.dtu.dk
Sandra Bollwerk	sabol at byg.dtu.dk

PROJECT CONTACT INFORMATION

Research Team

Role	Name	Email	Phone / Fax
Collaborator	Jens Christensen	jhc at dmi.dk	(45) 244 14540 /
Collaborator	Niels Foged	nf at byg.dtu.dk	(45) 452 55087 /
Principal Investigator	Vladimir Romanovsky	veromanovsky at alaska.edu	907 474.7459 /907 474.7290
Collaborator	Keld Svendsen	khs at asiag.gl	(299) 34.8800 /34.8801
Co-PI	John Walsh	walsh at atmos.uiuc.edu	217 333.7521 /217 244.4393

CPS Team Members

Contact for	Name	Email	Primary Phone
Greenland science planning & support	Susan Zager	Susan at polarfield.com	Denver: 720.320.6159
Greenland science planning & support	Robin Abbott	Robin at polarfield.com	Denver: 303.748.8507
Kangerlussuaq base operations	Kathy Young	Kathy at polarfield.com	SFJ: 011.299.524218

CPS Offices

Denver	Kangerlussuaq
Polar Field Services 8110 Shaffer Parkway Suite 150 Littleton, CO 80127 Tel: 303.984.1450/1439 Fax: 303.984.1445	CH2M HILL Polar Services Postboks 1015 DK-3910 Kangerlussuaq, Greenland Tel: 011.299.841598 Fax: 011.299.841599

SAFETY, ENVIRONMENT, HEALTH and PERMITS

Effective January 1, 2010 the Government of Greenland assumed responsibility for the permitting process for research in Greenland. All science teams planning to conduct research in Greenland must complete an **annual application** in order to obtain approval from the Government of Greenland. The application forms are available from the Department of Domestic Affairs, Nature and Environment at <http://www.nanoq.gl/expeditions> or by sending an email to ekspeditioner@gh.gl. Applications are submitted directly through the Department of Domestic Affairs, Nature and Environment. Be advised that a new fee of 4000 DKK has been put in place for permits. For assistance with the application process, contact:

Martin Schiøtz, Section of Nature Head
Department of Domestic Affairs
Nature and Environment
P.O. Box 1614, 3900 Nuuk, Greenland
e-mail: ekspeditioner@gh.gl

RISK ASSESSMENT

See Appendix for Risk Factors and Mitigation.

CRITICAL SUCCESS FACTORS

Factors
Availability of field tools
Lodging
Transportation, AirGreenland tickets and truck in JAV

GOVERNMENT AND PERFORMANCE REPORTING ACT OF 1993 (GPRA)

NSF/OPP requires your help in complying with the Government Performance and Reporting Act of 1993 (GPRA). One measure of CPS' performance is a "facility-performance metric" which counts the number of productive days your project has in the field while relying on CPS facilities or support. Please keep track of any "lost days" and report these to us at the end of the season.

APPENDIX

RISK FACTORS and MITIGATION

Factor	Mitigation and Control
Communications	-Carry the appropriate communications system (cell or satellite phone) -Assure your phone and/or radio is fully charged before going out and carry a spare battery.
Drills/augers	Participate in drill/auger training
Emergency Plan	-Compile a list of emergency contacts for your field team and share it with critical participants including your home institution and CPS. -Share your satellite phone number as a means for others to contact you.
Fuel Handling	-Participate in fuel handling training -Review current AHA (Activity Hazard Analysis) -Have a plan for fuel spills
Generator	-Attend generator training -Review current AHA (Activity Hazard Analysis)
Heavy lifting/body strains and sprains	-Use proper lifting techniques
Power Tools	-Participate in a power tools training -Review current AHA (Activity Hazard Analysis)