

PROJECT INFORMATION

Lead Principal Investigator	Alberto Behar
Institute	National Aeronautical and Space Administration, Jet Propulsion Laboratory
Project Title / Grant #	Monitoring Moulin Depth and Pathways in the Pakisoq Region, West-Greenland Ice Sheet (NASAMoulin*)
NSF Program and Manager	Other Agency - NASA, Tom Wagner
PFS Project Manager	Susan Zager

*This tracking identifier may change, TBD

LOGISTICS SUMMARY

<p>The PI for this NASA project studies moulins and associated meltwater lakes.</p> <p>In 2010, he plans a one-week field campaign to test a new instrument meant to provide lake depth data.</p> <p>Two researchers will travel to Greenland via the ANG in mid-June. They will base in Ilulissat and, using a Bell 212 helicopter, visit melt lakes to deploy cameras over three day trips.</p> <p>The PI also plans to conduct a test flight involving a new instrument. He says this “is a sub-element of the Greenland Lake Monitoring Project. The goal of the lake monitoring project is to measure the depths of the summer melt lakes on the surface of Greenland's ice sheet. A helicopter-borne hyperspectral imager will be deployed in order to passively measure the reflectance properties of these lakes. These spectral data will allow the determination of the lake depths, from which volumes of the lakes can be determined by incorporating area measurements from satellite imagery.”</p> <p>CPS will provide helicopter support; food and lodging in Kangerlussuaq; commercial air travel to/from Ilulissat and lodging while there; cargo shipment; communications and safety gear. NSF will recoup these costs via interagency funds transfer with NASA. The researchers will make/pay for all other logistics.</p>

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=NASAMoulin

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	Date Completed
Review support plan for accuracy and distribute to all field team members	PI	16 Jun 10	
Obtain all necessary permits for fieldwork	PI		
Visit all hyperlinks and review all documents referred to in the support plan	Entire Field Team	16 Jun 10	
Provide cost estimate for interagency transfer	CPS		
Provide end of season actual costs			
Note: Passports are required for Air National Guard and international travel. Also, please bring TWO copies of your passport to Greenland with you.	Entire field team		
Complete Critical Success Factors	PI	11 Jun 10	
Describe more fully the relationship and linkages of this project (if any) to other NASA projects	PI		

Update NSF project database (ARLSS) with PI's additional project description	CPS		
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ALLOCATIONS AND SERVICES

Allocations from Inventory

Quant/Unit	Item
1	Satellite phone

For more information on satellite phones, radios, manuals and other field communications support, please visit the CPS communications Web site at <http://www.polar.ch2m.com/>.

Other Services

Service	Comments
Lodging, JAV	Pending
Air charter, AirGreenland Bell 212	Pending
Lodging, KISS	Done
Air National Guard Arrangements NY><Kanger	No cost
Commercial air SFJ><JAV	

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 AND CUSTOMS

All cargo required for your project should arrive in Scotia, NY, **no later than 2 weeks prior** to the desired northbound Air National Guard (ANG) flight, must be entered into our online Cargo Tracking System, and must be properly registered with Customs.

For the most current ANG flight schedule go to <http://www.polar.ch2m.com/> and navigate to Greenland > Calendars/Schedules.

If you are a **new user** requiring access to the Cargo Tracking System, contact [Jason Buening](#).

(If you need **technical support** with the Cargo Tracking System, contact [Mike Dover](#) .

Customs instructions are available on our Web site at <http://www.polar.ch2m.com/> (go to Greenland > Customs). More information is available via the *Greenland Guide*, under Greenland on the CPS site.

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

Cargo List

Items	Weight/Cube
Personal hand-carry only	

SUPPORT SCHEDULE

Approx Date	Location	Activity
21 Jun	NY > SFJ	Behar, Adler: 109th to SFJ
22 Jun	SFJ > JAV	Behar, Adler: AirGL to JAV
24, 25, 28 Jun	JAV	Heli charters to melt lakes 68°45'2.77"N 49°31'20.53"W. Coordinates represent a general area: Researchers will scout the exact location of melt lakes from these coordinates.
29 Jun	JAV > SFJ	Behar, Adler: AirGL to SFJ
01 Jul	SFJ > NY	Behar, Adler: 109th to NY

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
Alberto Behar	alberto.e.behar at jpl.nasa.gov
John Adler	John.Adler at noaa.gov

PROJECT CONTACT INFORMATION

Research Team

Role	Name	Email	Phone / Fax
Principal Investigator	Alberto Behar	alberto.behar at jpl.nasa.gov	818 687.8627 /818 354.8172
Co-PI	Konrad Steffen	konrad.steffen at colorado.edu	303 492.4524 /303 492.1149

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	Denver: 720.320.6160 Greenland: 011.299.524218
Scotia (Stratton Air Base) operations & customs	Earl Vaughn	Earl Vaughn at gmail.com	Scotia cell: 518.605.0979
Remote Medical (kits & service) and Medical/Dental Clearance (PQ)	Robbie Score	Robbie at polarfield.com	Denver: 303.906.0093

CPS Offices

Denver	Kangerlussuaq	Scotia
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	Earl Vaughn C/O 109 th Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Tel: 518.344.2635 Cell: 518.605.0979 Fax: 518.344.2537

Other

Organization	Internet	Phone
Medical Advisory Service (MAS) (see below for Remote Telemed #)	http://www.medaire.com/corp_medlink.html	Office: 480.333.3771

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.nanog.gl/expeditions> or by sending an email to [ekspeditioner at gh.gl](mailto: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
 Head of Section
 Section of Nature
 Department of Domestic Affairs, Nature and Environment P.O. Box 1614
 3900 Nuuk
 Greenland
 e-mail: [ekspeditioner at gh.gl](mailto:ekspeditioner@gh.gl)

Medical Advisory Service (MAS) Support

If you need medical advice/assistance, do not hesitate to contact Medical Advisory Service (MAS) using the card included with the medical kit or the information below. Be sure that each team member knows where the kit is located and understands how to use the MAS service in the field. For further information on MAS, please visit our Web site <http://www.polar.ch2m.com/> and navigate to Medical>Remote Medical Services/Kits.

MAS 24/7 Telemed Service

Worldwide Phone: 1.480.333.3876
 Fax: 1.480.333.3821
 Member ID: CH2M HILL Polar Services

RISK ASSESSMENT

See Appendix for Risk Factors and Mitigation.

CRITICAL SUCCESS FACTORS

Please list the factors that are most important for the success of your science. We track these factors in order to measure the success of CPS' support. Examples might be the availability of the helicopter or camp gear.

Factors
Helicopter charter in place for fieldwork
Arrangements made for transportation with the 109 th to/from the US

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

RISK FACTORS and MITIGATION

Factor	Mitigation and Control
Cold Weather	<ul style="list-style-type: none"> -Team members attend a cold weather injury training course such as Wilderness First Aid or Wilderness First Responder -Proper clothing -Appropriate camping gear, insure sleeping bags are adequately rated -Check forecast before going out of camp/town.
Helicopter Travel	and working around <ul style="list-style-type: none"> -Participate in helicopter training -Have a SAR plan in place -AHA working around aircraft -Carry survival bags on the aircraft if doing day trips, or if multiple put in flights insure people travel with survival items from camp supplies
Remote Camp	<ul style="list-style-type: none"> -Have a remote medical call in service -Have a SAR plan in place -Have a First Aid kit available -Participate in First Aid training- be sure that someone or all field personnel have Basic First Aid training at a minimum -Have a communication/ check-out/check-in plan in place -Develop a list of current camp member's training levels and certifications -Maintian an emergency contact list, include all applicable agencies, field team members, provide camp location and description to local SAR groups -Develop a plan for general camp operations including camp hygiene and handling human waste -Participate in PLB training -Participate in GPS training
Water – Availability, Potability	<ul style="list-style-type: none"> -Filtration system -Carry in