

## PROJECT INFORMATION

<b>Lead Principal Investigator</b>	Ginny Catania
<b>Institute</b>	University of Texas, Austin, Institute for Geophysics
<b>Project Title / Grant #</b>	Collaborative Research: Subglacial Controls on Greenland Ice Sheet Marginal Acceleration (0909454)
<b>NSF Program and Manager</b>	NSFOD\OPPV\ARC\ANS, Dr. William Wiseman
<b>PFS Project Manager</b>	Robin Abbott

## LOGISTICS SUMMARY

The PIs on this collaborative project--0909454 (Catania, UTexas) and 0908156 (Hawley, Dartmouth)—will carry out a 2-year field program to collect information on short-term ice sheet velocity changes. Project researchers will visit the study area to conduct hot water drilling and deploy GPS stations at different locations within a 50km radius of Swiss Camp in Greenland, as well as to conduct maintenance on and download data from instruments in the field. The work involves two field visits per year in 2011 and 2012, with a smaller season in 2010.

In July/August of 2010, a group of 3 people will conduct a reconnaissance of potential field sites for the 2011 and 2012 seasons. After travelling via commercial air to Kangerlussuaq, the team will fly commercially to Ilulissat where they will base for helicopter-supported site reconnoiters. This work will involve 3 day trips to visit 4 different sites. At each location, the field team will install GPS stations that will remain in the field over winter. When this work is done, two of the the researchers will return to Kangerlussuaq and travel homeward via commercial air. The other researcher will depart Ilulissat via Iceland.

In June/July of 2011, an international team of ~ 8 scientists will meet in Kangerlussuaq. Those from the US will travel with the 109<sup>th</sup> ANG to Greenland, while the Swiss team members will fly commercially via Copenhagen. All team members will then travel commercially to Ilulissat, prior to putting in to the field site on the ice sheet. They will then set up a tent camp and spend about 5-6 weeks establishing 10 GPS field installations (7 of which use UNAVCO instruments) and drilling/instrumenting two boreholes. They will move the camp several times during that time. In September, two researchers will return via commercial air to/from Ilulissat. They will spend about two weeks in the field revisiting the sites; the UNAVCO GPS installations will be removed, and the remaining three will be prepared for winter.

In June/July of 2012, the group of 8 will return to the Swiss Camp area to conduct maintenance on boreholes and the three remaining GPS installations. They also will reinstall the 7 UNAVCO GPS units, and drill/instrument a third borehole. In late September, two researchers will return (again flying commercially to/from Ilulissat) to remove the instruments.

Helicopters will support put-in, camp moves and pull-out.

UNAVCO will provide GPS instruments and technical support as needed. The Swiss National Science Foundation will provide the drill, including costs of shipment to/from Ilulissat. CPS will provide ANG arrangements, travel within Greenland, user days in Kangerlussuaq, freight from Ilulissat to/from the field and storage in Ilulissat, lodging in Ilulissat, and camping equipment. The PIs will arrange and pay for all other expenses--including costs for commercial tickets from the US to Kangerlussuaq for the fall work--through the grant.

For the complete CPS online project record for this grant, including science objectives, go to:  
[http://www.polar.ch2m.com/ar/ls\\_reports/ar/ls\\_projectsdetail.asp?cbPropNum=0909454](http://www.polar.ch2m.com/ar/ls_reports/ar/ls_projectsdetail.asp?cbPropNum=0909454)

## OUTSTANDING ACTIONS AND NOTES

Issue	Responsibility	Date Completed
Review support plan for accuracy and distribute to all field team members	PI	
Obtain all necessary permits for fieldwork	PI	22 July, 2010 – Area Allotment was issued
Visit all hyperlinks and review all documents referred to in the support plan	Entire Field Team	

## ALLOCATIONS AND SERVICES

### Allocations from Inventory

Quant/Unit	Item
1 ea	3-person Survival bag
1 ea	Iridium Phones – given to team member Martin Luthi on 20 July on his way to Ilulissat
1 ea	PLB – given to team member Martin Luthi on 20 July on his way to Ilulissat
1 ea	Garmin GPS – given to team member Martin Luthi on 20 July on his way to Ilulissat
1 ea	Med Kit – shipped to Ilulissat

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
Cargo shipped to Ilulissat	Located at Air GL freight terminal
Helicopter charter with Air Greenland arranged	04, 05, & 07 August
Lodging in Ilulissat booked	Hotel Hvide Falk
Commercial flight booked to Ilulissat	AirGL# 580 departing SFJ at 11:10, arriving JAV at 11:55
Lodging for 1 night at KISS in Kangerlussuaq	30 July
Storage for 10 empty crates	To be placed in CPS storage container located at the airport in Ilulissat

## 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.

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
15 packages science gear and equipment	2498 lbs
Batteries and equipment sent by UNAVCO	1200 lbs
Total weight:	3698 lbs
Note: All cargo will remain in the field in 2010 except 2 boxes @ ~150lbs.	

**SUPPORT SCHEDULE**

Approx Date	Location	Activity
20 July	SFJ	Field team members Martin Luthi and Claudia Ryser arrive from Copenhagen enroute to Ilulissat. Iridium phone, PLB, GPS, med kit passed to them from CPS staff.
30 July	SFJ	Matt Hoffman arrives in Kangerlussuaq from Copenhagen on AirGL781 at 9:20
31 July	SFJ > JAV	Matt Hoffman flies to Ilulissat on AirGL580 @ 11:10.
2 Aug	JAV	Martin Luthi and Claudia Ryser arrive from their field site to meet up with Matt Hoffman
04, 05, 07 Aug	JAV><sites	Helicopter Operations – day trips with ground time at 4 sites
09 Aug	JAV >SFJ> CPH	Martin Luthi and Claudia Ryser depart Ilulissat via Air Greenland
09-12 Aug	JAV	Matt Hoffman vacation in Ilulissat
12 Aug	JAV > Reykjavik	Matt Hoffman departs via Air Iceland flight

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	Location	Date In	Date Out	Email
Hoffman, Matt	Kangerlussuaq	07/30/10	08/09/10	<a href="mailto:matthew.hoffman@nasa.gov">matthew.hoffman@nasa.gov</a>
	Ilulissat	07/31/10	08/09/10	
Martin Luthi	Kangerlussuaq	07/20/10	08/09/10	<a href="mailto:luethi@vaw.baug.ethz.ch">luethi@vaw.baug.ethz.ch</a>
	Ilulissat	07/20/10	08/09/10	
Claudia Ryser	Kangerlussuaq	07/20/10	08/09/10	
	Ilulissat	07/20/10	08/09/10	

**PROJECT CONTACT INFORMATION**
**Research Team**

Role	Name	Email	Phone / Fax
Principal Investigator	Ginny Catania	<a href="mailto:gcatania@utig.utexas.edu">gcatania@utig.utexas.edu</a>	512 471.6156 /512 471.8844
Collaborator	Robert Hawley	<a href="mailto:robert.hawley@dartmouth.edu">robert.hawley@dartmouth.edu</a>	
GPS & analysis	Thomas Neumann	<a href="mailto:thomas.neumann@nasa.gov">thomas.neumann@nasa.gov</a>	

**CPS Team Members**

Contact for	Name	Email	Primary Phone
Greenland science planning & support	Robin Abbott	<a href="mailto:Robin@polarfield.com">Robin@polarfield.com</a>	Denver: 303.748.8507
Kangerlussuaq base operations	Kathy Young	<a href="mailto:Kathy@polarfield.com">Kathy@polarfield.com</a>	Denver: 720.320.6160 Greenland: 011.299.524218
Scotia (Stratton Air Base) operations & customs	Earl Vaughn	<a href="mailto:EarlVaughn@gmail.com">Earl Vaughn@gmail.com</a>	Scotia cell: 518.605.0979
Remote Medica(kits & service)	Robbie Score	<a href="mailto:Robbie@polarfield.com">Robbie@polarfield.com</a>	Denver: 303.906.0093

## CPS Offices

<b>Denver</b>	<b>Kangerlussuaq</b>	<b>Scotia</b>
Polar Field Services 8110 Shaffer Parkway Suite 150 Littleton, CO 80127 Tel: 303.984.1450/1439 Fax: 303.984.1445	CH2M HILL Polar Services Attn: Name of Employee/Researcher Postboks 1015 DK-3910 Kangerlussuaq, Greenland Tel: 011.299.841598 Fax: 011.299.841599	Earl Vaughn C/O 109 <sup>th</sup> Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Tel: 518.344.2635 Cell: 518.605.0979 Fax: 518.344.2537

## Other

<b>Organization</b>	<b>Internet</b>	<b>Phone</b>
Medical Advisory Service (MAS) <b>(see below for Remote Telemed #)</b>	<a href="http://www.medaire.com/corp_medlink.html">http://www.medaire.com/corp_medlink.html</a>	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.nanoq.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.

<b>Factors</b>
Helicopter support to field sites takes place on time or in case of bad weather, rescheduled soon after
All cargo shipped and waiting in Ilullissat at the time the team arrives

## 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**

<b>Factor</b>	<b>Mitigation and Control</b>
Cold Weather	<ul style="list-style-type: none"> <li>-Team members attend a cold weather injury training course such as Wilderness First Aid or Wilderness First Responder</li> <li>-Proper clothing</li> <li>-Appropriate camping gear, insure sleeping bags are adequately rated</li> <li>-Check forecast before going out of camp/town.</li> </ul>
Drills/augers	Drill/auger training/AHA
Foot/ski travel	<ul style="list-style-type: none"> <li>-Have a communication plan in place (carry a radio)</li> <li>-Have a check out policy in place</li> </ul>
Heavy lifting/body strains and sprains	-Use proper lifting techniques
Helicopter Travel and working around	<ul style="list-style-type: none"> <li>-Participate in helicopter training</li> <li>-Have a SAR plan in place</li> <li>-AHA working around aircraft</li> <li>-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</li> </ul>