

PROJECT INFORMATION

Lead Principal Investigator	Aaron Doering
Institute	University of Minnesota, Curriculum and Instruction
Project Title / Grant #	What's Climate Change to You?: Students Doing Science in a Global Network (0806428)
NSF Program and Manager	NSF\OD\OPP\ARC\ARE, Ms. Renee Crain
PFS Project Manager	Kim Derry

LOGISTICS SUMMARY

This grant funds the arctic community K-12 education program "WCCY" via three years of "adventure learning" expeditions aboard dog sled traverses through Arctic Canada, Greenland and Fennoscandia during 2009, 2010, and 2011. The project aims to engage K-12 students in the natural sciences in the classroom and via an interactive Web site, science observations, and live events from the field broadcast via the Internet. Previous expeditions covered remote regions of northeast Alaska and Chukotka in Russia.

In 2009, the team traversed Baffin Island, Nunavut, in eastern Canada. The 1200-mile journey began near Pangnirtung in March and ended in June near the community of Clyde River. The team visited communities along the way, working with students in the "What's Climate Change to You?" (WCCY) program at local schools.

In 2010, the team will take WCCY to Greenland. Researchers have received permission from Greenlandic Homerule to travel with the Polar Husky sled dogs in Greenland from Thule Air Base to Summit Station. The field team will begin in late March, conduct WCCY in nearby villages with local (not GoNorth!) dogs, and then begin the Polar Husky traverse to Summit.

To deliver WCCY working with students and youth in communities, several days after arriving at Thule, one member of the team will fly via Air Greenland fixed-wing plane to local villages north of the airbase. In addition to WCCY outreach, the team will take samples and make observations for a variety of science experiments. They will participate in live chats and update the GoNorth! Web site with weekly trail updates. (Science experiments and Web-enabled efforts will continue throughout the Greenland trip as able.) When the WCCY outreach work is completed in the northern communities, the two will return to Thule, then fly via Air Greenland to Kangerlussuaq, stopping en route to conduct WCCY outreach in Uummannaq and Ilulissat before flying to Scotia via ANG.

The dog-sled traverse to Summit Station will commence in mid-April from Thule. To access the ice sheet safely, the GoNorth! team will follow the Greenland Inland Traverse project through the transition zone. Once safely up on the ice sheet, the GoNorth! team will continue on, arriving at NEEM around mid-May. NEEM will be the site of a two-person crew change, with personnel departing the WCCY GoNorth! expedition via ANG. The group will rest at NEEM overnight before departing for Summit, arriving there about the third week in June. The GoNorth! team will camp at Summit for about a week before being taken out via ANG flight in late-June to Kangerlussuaq, and then immediately onward to Scotia.

2011 will see the GoNorth! Polar Husky traverse in Fennoscandia, likely beginning Finland. Details are TBD.

CPS will provide communications equipment and some field/safety gear during all three years of work. In Greenland only, CPS also will provide ANG and AMC coordination, commercial air charters, freight costs, Kangerlussuaq user days, lodging in Greenland communities and Thule, and fuel. The PI will manage all other requirements—including special permits from the Government of Greenland to introduce the Polar Huskies to Greenland—and will pay any other costs via the grant.

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=0806428

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 Completed/Comments
Review Season Plan for accuracy and distribute to all field team members	PI	Completed review April 15, 2010
Obtain all necessary permits for fieldwork	PI	Completed April 15, 2010
Visit all hyperlinks and review all documents referred to in the support plan	Entire Field Team	Completed April 15, 2010
Contact the GEOSummit Science Coordination Office (SCO) sco at summitcamp.org regarding your project's plans for the season	PI	
Complete medical clearance process 6-8 weeks before desired deployment date	Entire field team	Completed
Keep all receipts. For speedier reimbursement, turn them in to your project manager as soon as your fieldwork is complete.	PI	Equipment purchased in MN
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	Completed April 15, 2010

ALLOCATIONS AND SERVICES

Allocations from Inventory

Quant/Unit	Item
1	EU1000iA Honda Generator, purchased new for this project/ SFJ warehouse
2	Coleman 2 burner stoves, purchased new for this project/ SFJ warehouse
1	Coleman single burner lanterns in protective casing, purchased new for this project/ SFJ warehouse
36 Fuel Bottles	18 30oz, 18 20oz. , purchased new for this project/ SFJ warehouse
2 Medic kits	To be returned in SFJ
1	BGAN, to be returned to SRI
3	Iridium phones, to be returned to SRI
1	Open Port
5	SIM cards, to be returned to SRI

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
Air Greenland tickets	CPS pays
Remote Medical call-in service	CPS pays
Local dog teams out of Qaanaaq	CPS pays
Lodging in Thule, Qaanaaq, Siorapuluk, Uummannaq, Ilulissat	CPS pays
KISS user days	Allocated
Freight	Via ANG for dog crates to SUM Via GrIT for resupply dog food

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* and, if traveling to Summit, with the guidelines provided in the *Summit Users' Guide*. Both are 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 Buenning](#).

(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
Assorted cargo to Greenland	15,000 #
Assorted cargo from Greenland	6,000 #

FIELD TEAM INFORMATION

Name	Location	Date In	Date Out	Email
Doering, Aaron	In Thule	4/14/2010	4/17/2010	adoering@umn.edu
	NEEM	5/12/2010	5/13/2010	
	Kangerlussuaq	5/13/2010	5/16/2010	
Christine Germano	Thule	3/25/2010	3/26/2010	
	Siorapuluk	3/26/2010	4/6/2010	
	Qaanaaq	4/7/2010	4/14/2010	
	Thule	4/14/2010	4/16/2010	
	Qaanaaq	4/16/2010	5/5/2010	
	Illulissat	5/5/2010	5/21/2010	
	Uummannaq	5/21/2010	6/8/2010	
	Kangerlussuaq	6/8/2010	6/9/2010	
	Scotia, NY	6/9/2010	6/9/2010	
Mille Porsild	Thule	4/14/2010	4/17/2010	mporsild@polarhusky.com
	NEEM	5/12/2010	5/19/2010	
	Summit	6/21/2010	6/29/2010	
	Kangerlussuaq	6/29/2010	6/29/2010	
	Scotia, NY	6/29/2010	6/29/2010	
Timothy Robinson	Thule	4/16/2010	4/23/2010	
	Baltimore (BWI)	4/23/2010	4/23/2010	
Andrea Verdegan	Thule	4/16/2010	4/17/2010	
	NEEM	5/12/2010	5/19/2010	
	Summit	6/21/2010	6/29/2010	

	Kangerlussuaq	6/29/2010	6/29/2010	
	Scotia, NY	6/29/2010	6/29/2010	
Brant Miller	In Thule	4/16/2010	4/17/2010	
	NEEM	5/12/2010	5/13/2010	
	Kangerlussuaq	5/13/2010	5/16/2010	

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).

PROJECT CONTACT INFORMATION

Research Team

Role	Name	Email	Phone
Principal Investigator	Aaron Doering	adoering@umn.edu	612 625.1073
Field Coordinator	Mille Porsild	mporsild@polarhusky.com	218.370.0307

Gear Shipping Address

Mille Porsild GoNorth! - University of Minnesota 1313 5th St SE Suite 215A Minneapolis, MN 55414
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CPS Team Members

Contact for	Name	Email	Primary Phone
Greenland science planning & support	Susan Zager	Susan@polarfield.com	Denver: 720.320.6159
Greenland science planning & support	Robin Abbott	Robin@polarfield.com	Denver: 303.748.8507
Summit science planning & support	Katrine Gorham	Katrine@polarfield.com	Denver: 360.888.5594
Thule science planning & support	Kim Derry	Kim@polarfield.com	Denver: 970.231.6595
Kangerlussuaq base operations	Kathy Young	Kathy@polarfield.com	Denver: 720.320.6160 Greenland: 011.299.524218
Scotia (Stratton Air Base) operations & customs	Earl Vaughn	Earl.Vaughn@gmail.com	Scotia cell: 303.552.6072
Sat phones & comms	Roy Stehle	Roy.Stehle@sri.com	Menlo Park: 650.859.2552
Remote Medical (kits & service)	Kyli Olson	Kyli@polarfield.com	Denver: 303.489.2151
Medical/Dental Clearance (PQ)	Robbie Score	Robbie@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 Attn: Name of Employee/Researcher 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: 518.331.3103 Fax: 518.344.2537

Summit Station

Winter	Summer
Polar Field Services Attn: Name of Employee/Researcher 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 - Summit Station C/O Earl Vaughn 109 th Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Tel: 518.344.2635 Fax: 518.344.2537

Other

Organization	Internet	Phone
Medical Advisory Services (MAS)	http://www.medaire.com/	+1.480.333.3876
Summit Science Coordination Office (SCO)	http://www.geosummit.org sco at summitcamp.org	John Burkhart +47 96 82 5011

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 Clearance

Arctic Program participants traveling into the Greenland field generally must pass a National Science Foundation-mandated physical and dental exam. All field team members should plan to complete their Physical Qualification (medical and dental clearance) process 6-8 weeks prior to travelling to Greenland. For more information, refer to CPS' *Greenland Guide*, available at <http://www.polar.ch2m.com/> under Greenland.

Medical Advisory Services (MAS)

If you need medical advice/assistance, do not hesitate to contact Medical Advisory Services (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

Please see appendix.

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
Availability of gear and equipment including technology for testing prior to departure
Air transport of cargo and team members (dogs, gear, supplies, and people) to TAB
Military and country clearances to enter Thule Air Base
Transport of team member(s) between communities for program delivery in local schools
Timely resupply delivery for dogsled team in field at NEEM and SUM
ANG transport of dogs SUM>SFJ>NY in one day
Availability of technology for communication from the field to enable delivery of program from the field.

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 Assessment

	2010 Risk Assessment	GoNorth!
	Factor	Prevention / Mitigation
Environ	Sea/Lake Ice Travel	Work with locals
	Glacier Travel	Work with locals
	Bears	Firearm
	Cold Weather	-Cold Weather injury training (WFR) -Proper clothing -Appropriate camping gear -Check forecast before going out of camp/town.
	Fixed Wing Travel	-SAR plan in place -Pilot briefing
	Helicopter Travel	-Helicopter training -SAR plan in place
	Chainsaw	Chainsaw training/AHA
	Firearm	Firearm training
	Fuel Handling	-Fuel handling training/AHA -Have a plan for fuel spills/first aid
	Remote Camp	-MAS available -SAR plan in place -First Aid kit available -Communication/ check-in plan in place -Maintain a list of current camp member's training levels and certifications -Maintain back-up equipment and supplies in case of emergency (comms, generators, tents, food)
	Water – Availability, Potability	-Filtration system -Carry in
Summit	Location of dogs	Sat camp
Summit	Dog / Human waste	Hermie Hole at Sat Camp
Summit	Future Reference of Location	Map the area
Summit	UAV	Plan launch areas in the other direction
Other	Boat Travel (including raft, kayak, etc.)	-Boat training -Rescue plan
	Confined Space Work	Confined spaces AHA
	Drills/augers	Drill/auger training/AHA
	Foot/ski travel	-Communication plan in place (carry a radio) -Check out policy in place
	Power Tools	Power Tools training/AHA
	Hazardous Materials	Haz Comm SMS & AHA
	High Altitude	-Training -MAS available -SAR plan in place -Oxygen available in high altitude camps
	ATV Travel	ATV training
	Heavy lifting/body strains and sprains	Team lifting/coordination
	Government	Home Rule concerns about travel onto ice