

## SECTION ONE: PROJECT INFORMATION

<b>Lead Principal Investigator</b>	Jim Butler
<b>Institute</b>	National Oceanic & Atmospheric Administration, Global Monitoring Division
<b>Project Title / Grant #</b>	NOAA Summit Clean Air and Ozonsonde Program (NOAASummit)
<b>NSF Program and Manager</b>	Other Agency - NOAA, Ms. Renee Crain
<b>PFS Project Manager</b>	Sandra Starkweather

### Logistics Summary

For this NOAA program, on-site Summit science technicians complete a suite of year-round measurements on behalf of NOAA researchers. These measurements began in the mid 1990s and are ongoing. NOAA representatives visit Summit annually to install/maintain instruments, train science technicians, and conduct measurements. Starting in 2005, NOAA corps members began serving rotations as Summit science technicians during the summer and mid-late winter phases. When NOAA Corps officers are not available, NOAA will staff Summit with another qualified technician.

In 2007, in addition to yearly science technician training and maintenance/calibration tasks, NOAA staff added another instrument, a gas chromatograph (James W. Elkins, PI). The Halocarbons and other Atmospheric Trace Species Group of the Global Monitoring Division installed the instrument around/in the Temporary Atmospheric Watch Observatory. The chromatograph measures greenhouse gases once every hour.

In 2008 in addition to ongoing work, researchers will extend the ozonesonde experiment by launching about 20 balloons in April and again in July. NOAA will augment their staff on station for the July mission to accomplish this work. Effective this fall, NOAA will provide one science technician for each of the three winter phases; the additional staffing means NOAA personnel will be present at Summit Station nine months per year.

CPS (formerly VPR) support includes coordination of personnel / cargo transport to and from Summit, access to the station's infrastructure, purchase of ozone sondes, and science technician support when NOAA researchers are not on-site.

For the complete CPS online project record for this grant, including science objectives, go to: [http://www.vecopolar.com/arlss\\_reports/arlss\\_projectsdetail.asp?cbPropNum=NOAASummit](http://www.vecopolar.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=NOAASummit)

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

## SECTION TWO: SEASON FIELD PLANS

### Outstanding Actions and Notes

<b>Issue</b>	<b>Responsibility</b>	<b>Date Completed</b>
Review support plan for accuracy and distribute to all field team members	PI	May 5, 2008
Obtain all necessary permits for fieldwork	PI	Included in general Summit permit
Visit all hyperlinks and review all documents referred to in the support plan	Field Team Members	

Contact the GEOSummit Science Coordination Office (SCO) <a href="mailto:sco@summitcamp.org">mailto:sco@summitcamp.org</a> regarding your project's plans for the season	PI	GEOSummit 2008
Medical Clearance completed 6-8 weeks before desired deployment date	Field Team Members	In process: Adam Maerz Cleared: all others
Passports are required for ANG and international travel. It's a good idea to bring two IDs and to pack a copy of your passport in case the original is lost.	Field Team Members	
Complete Critical Success Factors	PI	May 5, 2008

## Allocations and Services

### Allocations from Inventory

Quant/Unit	Item
2 ea	Arctic Oven Sleep Tents
4 ea	Sleep Pads
2 ea	ECW issue gear
2 ea	Sleep Kits

### Other Services

Project Allocations	Comments
Bench, Rack, Roof, Tower space in/around Temporary Atmospheric Watch Observatory (TAWO)	
Special electrical service	Uninterruptible power supply (UPS) in TAWO
Special shipping considerations: Flasks should return from Scotia to Boulder via commercial air carrier cargo (or via NOAA FedEx acct.).	Occasional flask crates needed during turnover flights. Fragile and Do Not Freeze... box specific.
Gas Cylinders: Nitrogen, Helium, P5, N2O, R-23	<u>Gas cylinders will be ordered and paid for by NOAA. NOAA will provide all regulators for the cylinders.</u> CPS will stage cylinders at TAWO or in BLF as appropriate. Helium shipment should be two pallets of 20 cylinders each once per summer. All 40 empty should depart Summit together bound for Kelly Air Force Base, shipping paid by NOAA. Other cylinders should be stored on deck at TAWO.
Ozone sondes	CPS will purchase a one-year supply of ozone sondes for this project.
Balloon Launch Facility	Need space to fill and launch balloons. Also will need area to store Helium cylinders (~3-4) to use for filling (remainder can be on berm).
Daily CPS Science Technician Tasking (summer only).	~1 hour per day of instrument checks.
Storage space: for white flask crates	Indoor heated storage area needed to store sampled CCGG and HATS flasks. ~20sq ft.

## 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 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 ([jason@polarfield.com](mailto:jason@polarfield.com)).

Customs instructions are available on our website at <http://www.polar.ch2m.com> (go to Greenland > Customs)

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

### Cargo List

Items	Weight/Cube
Northbound - CCGG flasks supply (7 White plastic crates per year) (Conway/Heller)	~420 lbs / 42 cube Already at Summit.
Northbound - Cylinders: Nitrogen (x12), P5 (x6), N2O (x1) for GC	~2589 lbs / 61 cube
Northbound - HATS flasks supply (3 White plastic crates per year) (Montzka/Siso)	~180 lbs / 18 cube Already at Summit.
Northbound - Helium re-supply (40 cylinders) - Expected in Scotia mid July '07	~5440 lbs / 128 cube
Northbound- Cylinder: Freon (x1) for balloons	~131 lbs / 3 cube
Southbound - CCGG flasks supply (7 White plastic crates per year) (Conway/Heller)	~420 lbs / 42 cube
Southbound - Cylinders: Nitrogen (x12), P5 (x6) for GC	~2458 lbs / 58 cube
Southbound - HATS flasks supply (3 White plastic crates per year) (Montzka/Siso)	~180 lbs / 18 cube
Southbound - Helium empties (40 cylinders) - (Return all 40 together)	~5440 lbs / 128 cube
Southbound- Cylinder: Freon (x1) for balloons	~66 lbs / 3 cube

### Field Team Information

Name	Location	Date In	Date Out	Email
Brian Vasel	Kangerlussuaq	6/23/2008	6/28/2008	<a href="mailto:brian.vasel@noaa.gov">brian.vasel@noaa.gov</a>
Brian Vasel	Summit	6/24/2008	6/26/2008	<a href="mailto:brian.vasel@noaa.gov">brian.vasel@noaa.gov</a>
Ryan Neely	Kangerlussuaq	6/23/2008	6/28/2008	
Ryan Neely	Summit	6/24/2008	6/26/2008	
Adam Maerz	Kangerlussuaq	6/23/2008	7/27/2008	
Adam Maerz	Summit	6/24/2008	7/25/2008	

### Project Contact Information

#### Research Team

Role	Name	Email	Phone / Fax
Principal Investigator	James Butler	<a href="mailto:James.H.Butler@noaa.gov">James.H.Butler@noaa.gov</a>	303.497.6898 / 303.497.6290
Co-PI	Thomas Conway	<a href="mailto:Thomas.J.Conway@noaa.gov">Thomas.J.Conway@noaa.gov</a>	303.497.6681 /303.497.6290
Co-PI	Bryan Johnson	<a href="mailto:bryan.johnson@noaa.gov">bryan.johnson@noaa.gov</a>	303.497.6842 /
Co-PI	Samuel Oltmans	<a href="mailto:Samuel.J.Oltmans@noaa.gov">Samuel.J.Oltmans@noaa.gov</a>	303.497.6676 /303.497.5590

Co-PI	Russell Schnell	<a href="mailto:russell.c.schnell@noaa.gov">russell.c.schnell@noaa.gov</a>	303.497.6733 / 303.497.6290
Field Coordinator	Brian Vasel	<a href="mailto:brian.vasel@noaa.gov">brian.vasel@noaa.gov</a>	303.497.6823 /303.497.6290

### SECTION THREE: CPS CONTACT INFORMATION

#### CPS Team Members

Contact for	Name	Email	Primary Phone(s)
Summit operations	Sandy Starkweather	<a href="mailto:sandy@polarfield.com">sandy@polarfield.com</a>	Denver: 303.518.8714
Greenland operations (project support)	Jason Buenning	<a href="mailto:jason@polarfield.com">jason@polarfield.com</a>	Denver: 303.638.6669 Greenland: 011.299.524218
Greenland operations (On-island support)	Mark Begnaud	<a href="mailto:mark@polarfield.com">mark@polarfield.com</a>	Denver: 720.320.6160 Greenland: 011.299.524281
Greenland operations (project support)	Robin Abbott	<a href="mailto:robin@polarfield.com">robin@polarfield.com</a>	Denver: 303.748.8507
Medical & MAS	Kyli Olson	<a href="mailto:kyli@polarfield.com">kyli@polarfield.com</a>	Denver: 303.489.2151
Scotia operations & customs	Earl Vaughn	<a href="mailto:earl.vaughn@gmail.com">earl.vaughn@gmail.com</a> <a href="mailto:vprscotia@hughes.net">vprscotia@hughes.net</a>	Scotia: 518.331.3103

#### CPS Offices

Denver	Kangerlussuaq	Scotia
CH2M HILL Polar Services Western Office 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: 518.331.3103 Fax: 518.334.2537

#### Summit Station

Winter	Summer
CH2M HILL Polar Services Western Office 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 <sup>th</sup> Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Tel: 518.331.3103 Fax: 518.334.2537

#### Other

Organization	Internet	Phone
Summit Science Coordination Office	<a href="http://www.geosummit.org">http://www.geosummit.org</a> <a href="mailto:sco@summitcamp.org">sco@summitcamp.org</a>	John Burkhart 209.658.7142

## SECTION FOUR: SAFETY, ENVIRONMENT, HEALTH and PERMITS

### Medical Clearance

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

### 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>
Preservation of clean air sector through observing Summit clean air protocols.
Availability of power to TAWO.
Temperature regulation at TAWO (16-24 C)

### 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.