

Breakout Session #1 - A Shared Vision of Future Logistics
Monday a.m., 7 October 2013
Group 1

Summary – We want to do “science without boundaries” (Geographic, temporal, political, administrative, technological, cyber and disciplinary)

1. We want improved spatial and temporal access to observational technology, platforms – Fostered through a). more dedicated platforms, b). more autonomous/less fossil fuel intensive technology, c). access to more platforms of opportunity (e.g. USCG or industry ship support facilitated through e.g. IARPC), d). fewer restrictions on how these platforms are used (e.g. launching UAV's off the Healy).
2. We want improved international access and fewer administrative hurdles. Fostered through a). transnational governance examples (e.g. SIOS or INTERACT); b). more extensively facilitated through Arctic Council agreements; c). improved inter-governmental partnering at all levels, (e.g. IARPC; CHARS; consultation with indigenous or local entities); d). transfer of the burden of permitting from the scientist to the logistics contractor.
3. We want improved interdisciplinary integration, fostered through many mechanisms including improved a). interdisciplinary common conceptual models (recognized as not limited to a logistics problem, but common in research 'hot spots'); b). cyber-infrastructure (e.g. free and open exchange of interoperable data and metadata, where possible e.g. human subject data is protected – case by case).
4. We want improved capacity for researcher-community integration, involvement and partnership of Arctic residents, coordinated community-based observing, education & outreach exchange with communities. This could be fostered through a more centralized clearinghouse for community engagement, mutual researcher-community education and education/outreach training requirements attached to logistics support (e.g. similar to permitting and safety training).
5. We want a balance between long-term and process study science.

Discussion Notes:

Transnational Access:

If we don't see many new icebreakers in U.S. fleet there has to be a better transnational access to other national icebreakers. We have a lot to offer, but the mechanisms to take advantage is very difficult. If I had a way to pay for 2 days extra shiptime (on the Oden), I could do so much more. Much better coordination of platforms internationally. (Marine perspective)

What's the answer? An international scheduling process? US proposal goes to “Healy” and that's it.

More than just scheduling, its economic. U.S. doesn't want to spend dollars on foreign vessels. Foreign entities want to do their own national science. You can coordinate, but primarily they are trying to build up their own science orgs.

In some fields they are keen to collaborate to gain access to U.S. expertise.

In an ideal world, we would have international coordination on the science questions. We are all working on the same questions.

Use the arctic to recognize the universality of the science questions – no national boundaries. Arctic is also an opportunity to realized sustainable governance/stewardship.

Arctic Council is a great avenue for developing agreements.

Other examples: SIOS, INTERACT on the access side. ESFRI examples are important to look at in the EU context. How can we internationalize? Rome meeting was an avenue for US-EU-CA. Established international data centers (CLIVAR, GEOTRACES) that are good international data sharing. Not access.

Russian sector issue. So much science, so many geopolitical constraints. How will UNCOLS impact these types of permitting issues. Russian EEZ, deny 46% of requests.

What do we want to look like? We don't want international boundaries to get in the way. Permitting issues to be solved. Russians are active in Arctic Council. WMO, GCW, GAW and other international organizations. Working through these organizations can open doors.

Some data is more sensitive than others.

We want it to look like there are no boundaries – evolving Ny-Alesund (SIOS) example. Treaty of Svalbard sets up that type of agreement. Natural place.

What role could UNCOLS play for ocean access? What about land and air? What role can Arctic Council play?

Platforms/Technology:

Future might look more like aircraft than icebreakers. More quick trips, short camps, in and out. More aircraft logistics to support this and autonomous vehicles. Winter operations capabilities for aircraft logistics.

T/O's are very limited. Can we extend aircraft technology to extend into winter? They are making new T/O's.

Getting into a corner that the # of airplanes, experienced pilots, limitations of aircraft operations are more restrictive. Impression that ice conditions have changed and air support capabilities have become more restrictive (example of ice camp support). E.g. last helicopter in Chukotka just pooped out.

Trying to get small UAV to fly off the Healy (no more helos). Only just getting permission from USCG. Security issues. We want to be able to fly UAV's in technically, politically restricted areas. Canadians did support use, but U.S. wouldn't. Healy wouldn't let them land on the ship, they had to land on the ice.

Can surplus military drones be deployed for science purposes?

Project takes advantage of USCG arctic domain awareness flights. Dropping CDTs and current probes on flights on opportunity. What platforms of opportunity like this are not being utilized. The Navy is spinning up and will hopefully be making more platforms of opportunities. IARPC could play a role to identify these. SCICEX is spinning up again, for example. Military capabilities in particular are very impressive (in-air refueling) – enable deep deployment of buoys, for examples.

Coordinating with industry. Platforms and exploration, additional science is “in the noise” of logistics costs (example, MOU with Shell and NOAA).

One of the biggest hidden cost in the NSF presentation “bars” was the reliance on fossil fuels. If the program can become less dependent on fossil fuels, the program will have more funds for science and less vulnerability to price fluctuations.

Community based observers as an underutilized “Platform”:

Canadian rangers (community militia), drill ice and do CDT scans out of communities.

Through BSAC and CSD, community based observing as an underutilized logistics “platform”.

Improved integration with communities:

Communication with the communities and empowering community-based observation is a strong enabler, beyond ethical and strategic reasons. Very efficient. Presenting science intentions to communities is important. Currently it is very adhoc. Could be more formal and systematic. Downside is if you tick off the community, you could really limit the future science access potential.

Centralized effort to provide education and outreach supported formally through the logistics support. Almost like the safety training. Educational training for researchers to establish collaborative relationships.

NASA did this with a project in Brazil (LBA), outreach and education aspect was very successful. Part of the Yukon and NW CA govt. permitting process gets into

these community-based questions. Lead you to the right groups. Interesting model. It is “beginning to work”, very strong mandate at CHARS to work with communities and train. Enhance employment of locals on the monitoring side. Marine coastal program will be done out of communities – provide boats, training, tools. Slow, time-consuming. Not to underestimate.

Clearinghouse so that it is not individual dependent. Improves access for early career and small projects. Takes sophistication and networking to do well. It is a large burden for a scientist to do this well and you don’t want to do this wrong – make mistakes. CHARS and SIOS both have these types of capacity centralized through a clearinghouse model. Community burnout on engagement is problematic.

Interdisciplinary:

We want it to look highly interdisciplinary, with overlapping and inter-operable observational datasets from diverse disciplines, supported with excellent cyberinfrastructure.

Remote sensing data can cross disciplines well.