

Breakout Session #5 – Synthesis and Prioritization
Wednesday a.m., 9 October 2013
Group 3

Elevator

Many things we have said before are still valid. Also need to continue to support logistic needs for big ideas

- Autonomous and unmanned approaches are more realistic so need to develop logistics framework to deploy these. Support interdisciplinary research

-Transition to using robots and drones needs to be done rationally. Need to continue to communicate with communities and to bring next generation into science. Keep feet grounded in both spheres of the approach. Maintain expertise in both types of research.

- Dream that NSF is going to go green. No generators in Arctic. Be at forefront of development of autonomous vehicles, miniaturization of sensors. NSF is still cautious, won't gamble. IF NSF invests in green technology for the science infrastructure, it will benefit the villages

- Retain capacity to think big. For example, SHEBA is an example of a large project that doesn't seem to have been conducted since. Have we lost the ability to think big? Is it a logistic problem? Or were the results of SHEBA oversold so that the perception was that we don't need to do it anymore? Are we logistically thinking our selves into too small of a box?

- Improvements of sensor technology on three fronts – energy efficiency, miniaturization, type. Retain capability for two types of fieldwork – autonomous and people in the field. Increase opportunity to use new instrumentation and assets through Centers

- RSL to nurture development of sensors by leveraging to other parts of the NSF (or communicating other parts of the NSF).

-Increase access during winter. An excellent example driven by science questions is the Eurasian side of the basin during winter. The Buoys have all drifted way in the transpolar drift and by winter there are none of the there. It would be good to be able to deploy some in the winter.

-International collaboration with Russia as a means to collect data in the Russian side. The US is not the only Arctic country and we need to develop means to effectively collaborate.

-Development of readily deployable packages that can be easily deployed by non-specialists and could be sent to remote locations. An example is buoys/drifters that presently are deployed for scientists by other people on cruises of opportunity. These also could be deployed by people in other countries, international partners.

Recommendation: Affordable SAR/radarsat and increased availability to scientists. US SAR satellite? Explore options for what is out there presently?

Recommendation: Need to improve access to international data.

International logistics coordination needs to be much stronger. E.g., Greenland: US and Danish logistics activities.

Summarized as:

Go green – decrease environmental footprint

Go big - don't lose logistic capacity to do big projects

Go small –miniaturization, low energy

Maintain capacity and increase access/"Keep boots on the ground" – Together with increased use of autonomous platforms, maintain capacity for deployment of people into the field. Increase access to new technology (Centers).

Go everywhere anywhere anytime– increased international collaboration to increase access and data coverage, develop self-contained, easily deployed packages that can be deployed by the non-specialist (e.g., buoys/drifters)

Decrease littering (go green).

Crowd-sourcing

Recommend: Improve and facilitate the access to small boats

Table of Contents

Go Green –

- Decrease environmental footprint at field sites

- Decrease littering/greater consideration of environmental

- Increase efficiency

Go Green

Renewable energy, efficiency, "littering", decrease environmental footprint

Go Big/ Go Broad

Icebreaker
Big, interdisciplinary science
International
Logistically difficult
Ambitious
Pan-Arctic
Bandwidth

Go Small

Miniaturization
Simplicity
Efficiency
Deployability
Expendable
Low Impact
Small boats too
Autonomy

Keep boots on the ground/deck/ice

Maintain capacity
Infrastructure/Access
Expeditionary/hands on
Pan Arctic/Year Round
Pooled Access/ Resources

But they don't have to be your boots