

Breakout Session #2 - Logistics Needs for Arctic Domains  
Monday p.m., 7 October 2013  
Terrestrial Group

What's needed in the next 20 years to do the science?

Are there logistics limitations now?

How can we foster IDC and system level understanding through logistics and research support?

Needs and recommendations phrased as concrete, specific, and actionable

EarthScope as a model

Horizontal vs vertical integration: Ameriflux, Earthscope with observations all done in the same way; vertical means lots of different kinds of measurements made at the same time and place using compatible methods. easier if measurements are made in a coordinated fashion, not working in different watersheds. Flagship observatories but also a need for distributed observations.

Barrow and Toolik are flagship observatories.

Trade space for time: develop infrastructure across a latitudinal gradient to encourage use

Canadian network of northern network operators facing political challenge of sampling across wide geographic range; then linking internationally.

Science needs to drive this

Much greater need for international collaboration e.g. CALM harder than it should be. Restrictions on funding across international borders

At Toolik there are problems getting multiple investigators to work together due to permitting

Easy to work in Barrow if you're working in BEO but not otherwise

Bewildering array of agencies and responsibilities

Might be easier in Canadian territories each of which have a permitting group in AK it's hard to get people to even work in the same watershed

Technical challenge: low power high bandwidth communication

Collaboration of logistics and sharing of logistics: power supplies, walkways fiber optic cable from Japan to Europe will cross arctic coastline how much

of Iridium bandwidth is in use? satellites shut down over pole "power plants" at some field sites

Transnational funding: methods standardized within countries not across countries; global programs needed. EU, Canadian, Russian, US scientists with access to ships, observations

Satellite data: only NASA has an open data policy

Ground data: US has a data sharing policy, but Canada doesn't; however CHARS is moving in that direction

Year-round access is limiting. We lack instrumentation that can operate through the winter. Limited places where people can go year round. CHARS will be a 12 month facility. Barrow is ready for people but not instruments.

Transportation can be 80% of an arctic field campaign budget. Train locals to run stations. Canadian rangers are local militia who can be trained to do CTD and snow parameters.

Research stations play an important role in getting people together and thinking of interdisciplinary collaborations

Sharing helicopter time difficult. Requires planning far ahead. Planning horizons getting longer and longer.

Expect more autonomous equipment AND more personnel access

What do we do to avoid stepping on each other's experiments? UNAVCO style differential GPS feeding a well-maintained database. BAID has gaps. Even Toolik has this problem. NEON is finding problems in avoiding people's plots.

Responsibility of decommissioning: miles of boardwalks, hardware, hazardous rebar, towers, etc. Post a bond; have a user fee; to fund decommissioning. What's best for the science? Maybe a logistic provider has a longer time horizon. Who is responsible for hazardous waste?