Breakout Session #3 - Platforms
Tuesday a.m., 8 October 2013
Autonomous Systems
What’s needed in the long term (10-20 years) to do the best science?

• Comms/Data Transfer: Something other than Iridium (>75N)? NSF driving something to replace Iridium.
  – NSF needs to centralize large block of comms from Iridium to guarantee communications. Centralize communications logistics at DoD rates. Point of contact is through Antarctic Program (Todd Valentic).
    • Need to advertise and make clear to PIs how the entire comms situation works.
    • Need to make information more readily available for acquiring comms through Arctic logistics and implementation of comms for your system.

• Exponential Increase in comms needs expected. Can Iridium handle it?
• Current generation may not be able to handle bandwidth. Next gen (IridiumNext) will most likely be able to handle it.
  • Arctic users are drop in the bucket compared to bandwidth used by others.

• Communications between instruments
What’s needed in the long term (10-20 years) to do the best science?

– Unmanned aerial and marine systems will become more prevalent.
– More disposable systems. (Cost of recovery versus new instrument)
– Cheaper unmanned systems still require bases.
– Cheaper UAS solutions do not solve boots on the ground logistics issues
  • Will still need bases
  • UAS needs high level of expertise. Logistics is intensive.
What’s needed in the long term (10-20 years) to do the best science?

– Technology development
– Logistics meetings provide place to “talk shop” to leverage cross cutting technology ideas. Continue capacity to meet and discuss technology issues.
– Need to support engineering to make logistics easier
– Recommend: Create mechanism to optimize field deployment of distributed systems such as buoys. (Currently handled by PI level). Similar to IRIS.
Needs for interdisciplinary and system-level science should be considered.

- Need better communications within community to optimize logistics for distributed systems
  - Recommend logistics webpage to create cross cutting contacts to help new PIs find expertise on existing platforms and permitting
  - Continue to support technological exchange. (i.e. APOS workshop ...add logistic planning, optimize current efforts)
  - Extend existing workshops to add logistics planning for next years activities using current logistics capacity.
  - Need to tie ARMAP to informational center
Questions still to be addressed

• How do we take autonomous beyond “simple” measurements (i.e. chemical oceanographers)?
• How do we incorporate calibration needs?
• How do we fill in current gaps using this type of technology in a logistically effective way?
Themes: Communications

• A easily accessible comms backbone will be essential

• Better communication of logistics will be needed to provide optimization of resources to make distributed networks possible.

• Reinforce opportunity for leveraging existing opportunities for deployment and co-location

• Centralize current logistic information
  – Already huge effort invested