

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**