

UNOLS Brief

Status on the IWG-FI

Interagency Working Group on Facilities and Infrastructure



25 October 2011
Bob Winokur



15 July 2011 IWG-FI Meeting

RDML Devany is the new co-chair of the IWG-FI

New Business

- Ice Capable Ships – Lease vs. Buy
 - Presentation by T. McGovern, Ocean Projects Manager at the Office of Polar Programs - NSF
- Way Forward for IWG-FI
 - SAP 9 Actions 1 and 2
 - Bi-monthly meetings

Updates

- IWG-FI Task Force on Unmanned Systems (TFUS)
- Agency ship activities

SAP 9 – Ocean, Coastal, and Great Lakes Observations, Mapping, and Infrastructure

ACTIONS

1. Examine the status of the Federal Oceanographic Fleet
2. Improve unmanned and satellite remote sensing systems
3. Advance observation and sampling technologies for exploring the complexities of land, ocean, atmosphere, ice, biological, and social interactions on a global scale
4. Provide local and regional observation systems to support maritime commerce, safety at sea, weather and climate forecasts and effects, national and homeland security, sustainable living marine resources, and monitoring ecosystem health
5. Coordinate and leverage ocean and coastal mapping efforts to improve access to existing data and efficiently collect future data
6. Improve mapping capabilities and mapping products
7. Develop an integrated ocean and coastal data collection, processing, and management system to support real-time observations

SAP 9 Action 1: Identify and improve the status of the Federal Oceanographic Fleet

Outcomes:

- Assessment of the Fleet for future planning
- Identification of gaps in technology or capacity that will improve the capacity for planning to support the priority objectives of the National Ocean Policy
- Increased efficiency and effectiveness of operations



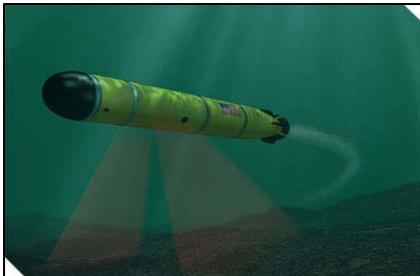
Milestones:

- Report on National Ocean Policy at-sea survey (oceanographic and living marine resource) and research missions priorities (IWG-FI; 2013)
- Update the *Federal Oceanographic Fleet Status Report* (IWG-FI; 2013)
- Complete analysis and selection of Fleet utilization performance measurements (IWG-FI; 2013)
- Complete evaluation of a prototype Fleet schedule portal (IWG-FI; 2013)
- Assess the capabilities for oceanographic ships to support multi-mission agency activities in the Arctic (IWG-FI; 2013)

SAP 9 Action 2: Improve unmanned and satellite remote sensing systems

Outcomes:

- Fully coordinated Federal and non-Federal pool of unmanned assets designed for multiple users within 10 years
- Reduction of expenditures in the acquisition, life-cycle management, and operations of these systems
- Improved and cost-effective data collection



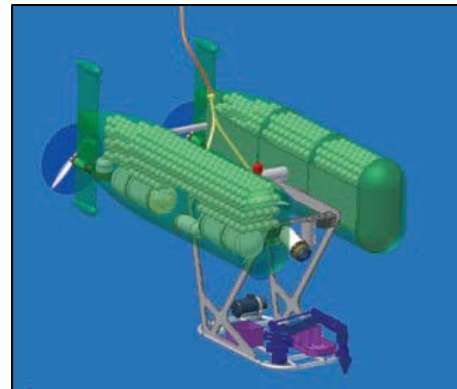
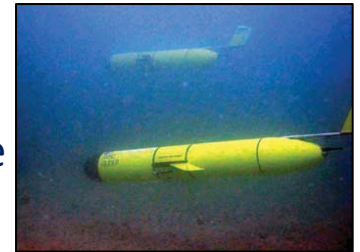
Milestones:

- Identify priority objective observation requirements suitable for accomplishment with unmanned and/or satellite remote sensing systems (IWG-FI; 2012)
- Complete an inventory of available Federal and non-Federal unmanned and satellite remote sensing systems (IWG-FI/TFUS; 2013)
- Complete and analysis and selection of performance measurements for unmanned and satellite remote sensing system utilization (DOD/Navy, NASA, NOAA, NSF; 2014)

SAP 9 Action 2: Improve unmanned and satellite remote sensing systems

Milestones (cont.):

- Complete evaluation of a prototype unmanned system inventory and allocation planning tool (IWG-FI/TFUS; 2014)
- Report on regulatory restrictions to the use of Federal and non-Federal unmanned systems and identify ways to enable better use of these systems to achieve NOP priorities (IWG-FI/TFUS; 2014)
- Assess the potential of developing unmanned undersea vehicles with sub-ice data collection capability (DOD/Navy, NOAA, NSF; 2015)
- Demonstrate the capability for fully coordinated unmanned and satellite remote sensor sampling in a limited region of environmental interest (DOD/Navy, NASA, NOAA, NSF; 2017)
- Demonstrate full capability for coordinated unmanned and satellite remote



UNMANNED SYSTEMS

Lessons

Learned

- Unmanned Systems are not Unmanned
- The same Common Lifecycle Infrastructure is needed for 1-2 systems as is for 10-100
- Outside of DoD, Utilization Rates are Low
- FAA Policies / Processes Limit UAS Usage

Limited Environmental Perspective Drives Uncertainty in Science and Decision Making. Unmanned Systems Can Greatly Reduce this Uncertainty, HOWEVER.....

Challenges

- Seen as Threat to “Traditional Methods”
- Aversion to Unknown
- Need Standards: vehicle classes, parts, command, control, sensors, data streams
- Avoiding Duplication of Facilities / Capabilities
- Adopting DoD Practices
- FAA Certifications, Sense and Avoid, Safety

Common Lifecycle Infrastructure is not a trifling matter, e.g.,



- Ultimately, want to “Buy Data” to allow more focus on Science and Decision-Making
- A Service Entity, UNOLS, Commercial, or Cross-Sector Partnership is a viable option
- A Ripe Opportunity for New Industries, Jobs and Future Work Force Development

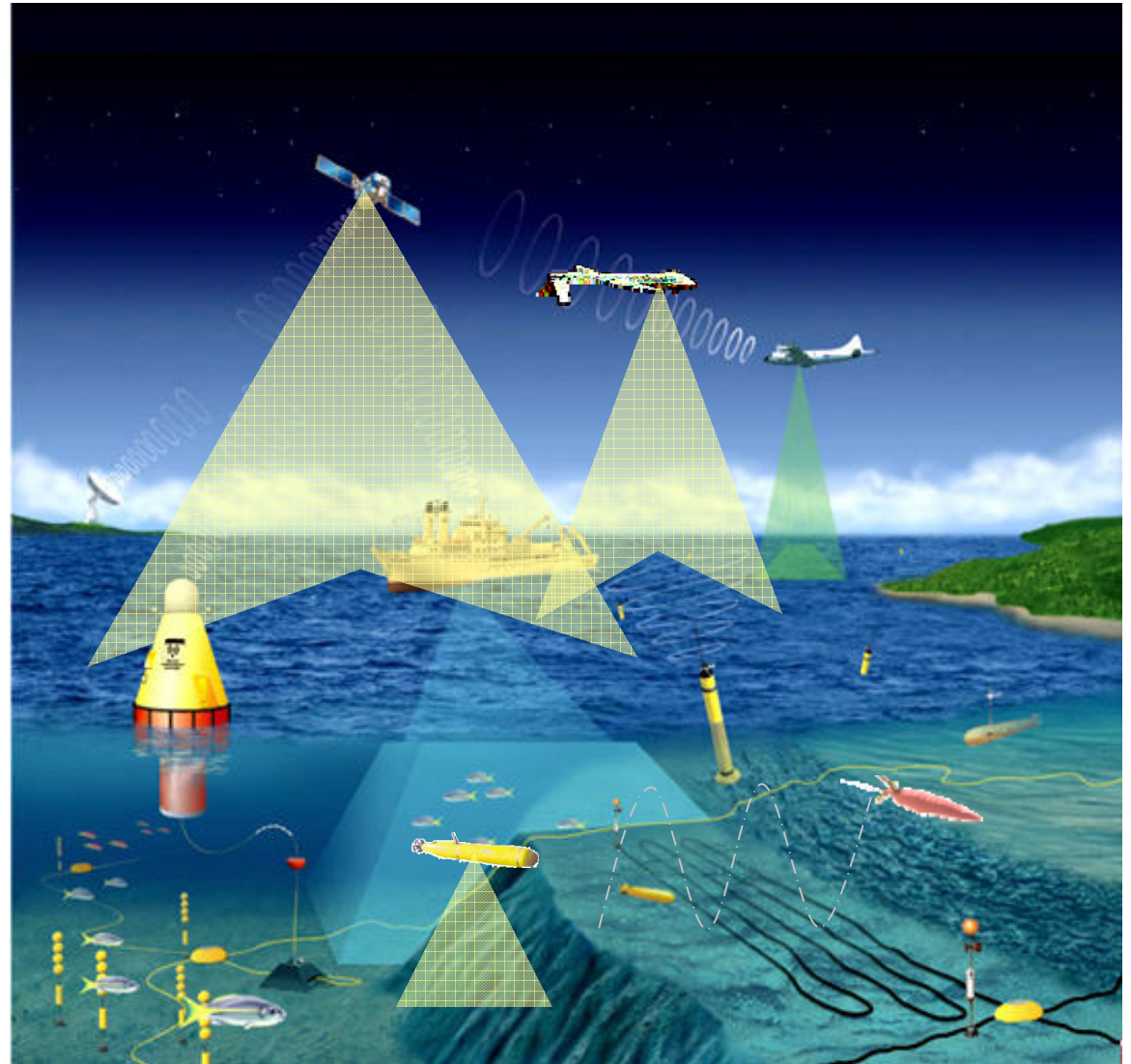
Unmanned and Manned Observing Systems Complement Each Other

Manned Systems

- Are the standard
- Have large payload capacity
- Have autonomy built in (i.e., pilots on board)

Unmanned Systems

- Have long endurance, can reach distant, deep, and hazardous areas
- Can scale to challenges
- Cost less to acquire, and use less fuel,
- “Pools” create economic efficiencies



National Ocean Council Deputy-level Committee Arctic Subgroup – Action C

Compilation of interagency assets and platforms into a ‘tool’ for access to the Arctic, and application of the tool for identification of synergistic opportunities for use and support of activities in the Arctic



Deliverables/Timing:

- 1) Asset and platform tool delivered to the NOC 4 months from initiation
- 2) Draft document outlining synergies and gaps going forward for discussion, vetting, prioritizing, and further actions by NOC ~2-4 months later

Recommended that IWG-FI stand up a subcommittee with appropriate expertise to accomplish this task within a 4-month window

Subcommittee should design the ‘tool’ and a system to shepherd it so that it can and will be readily and continuously updated