

IOOC and IOOS Advisory Committee: Integration Challenges

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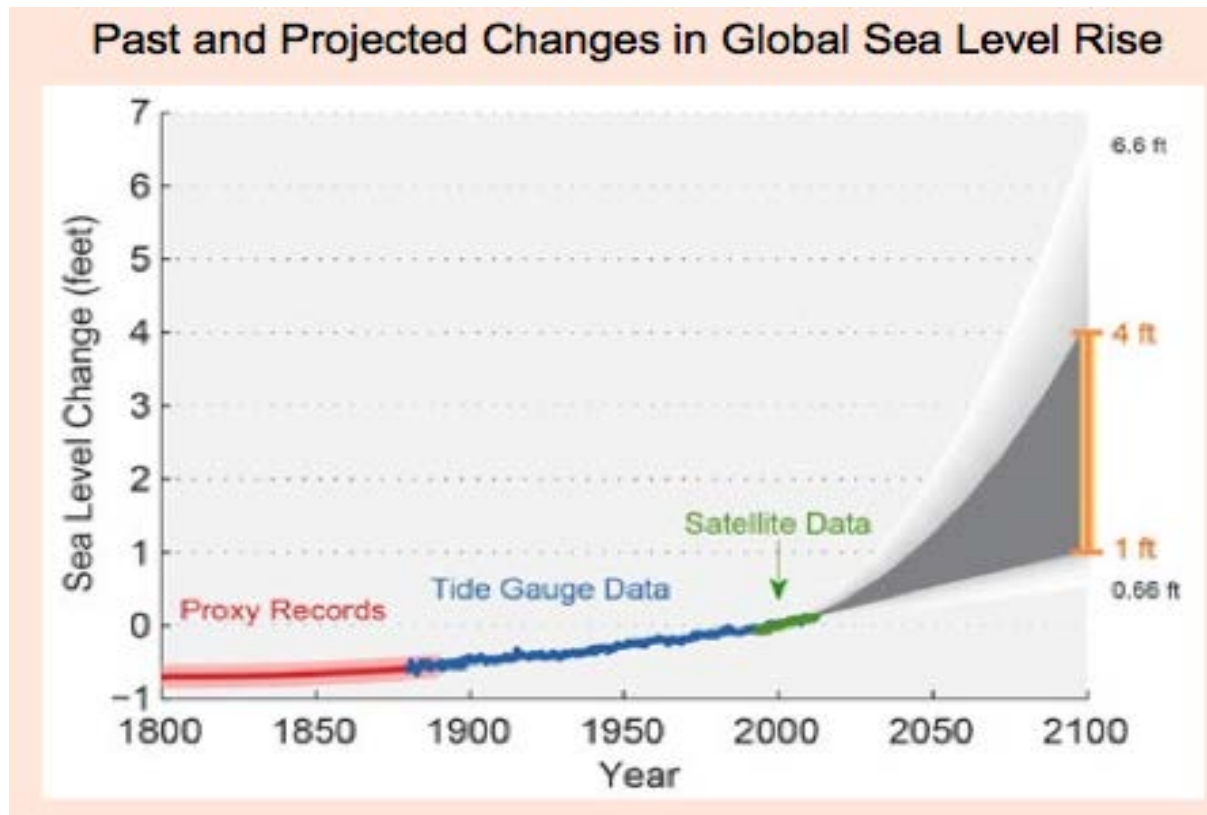
IOOC and IOOS AC Integration

Summary from previous IOOC/IAC engagement

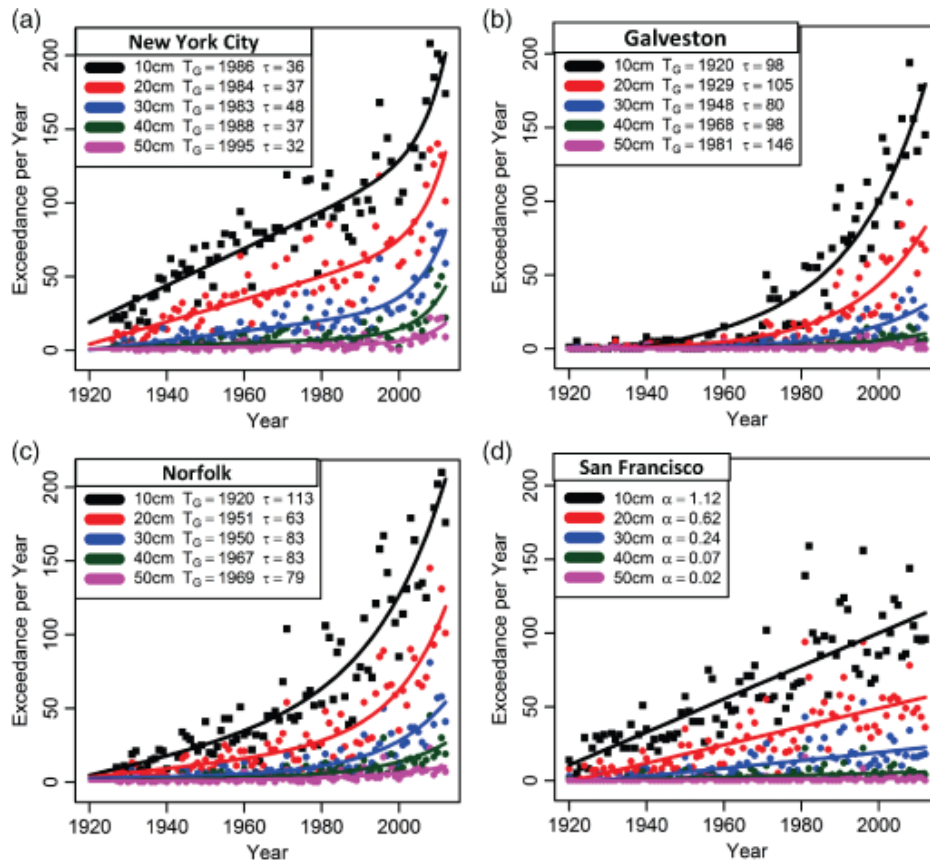
- GOOS: Framework for Ocean Observing (FOO)
- GOOS: Essential Ocean Variables (EOV)
- IOOC Integration: around themes of Societal and Scientific Challenges, e.g.
 - *Addressing sea level changes*
 - *Regional ocean variability and relationship to ecological changes (building off Pacific Warm Anomaly workshops)*
 - *Others...*

Sea Level Rise

How can IOOC address sea level rise and its impacts?



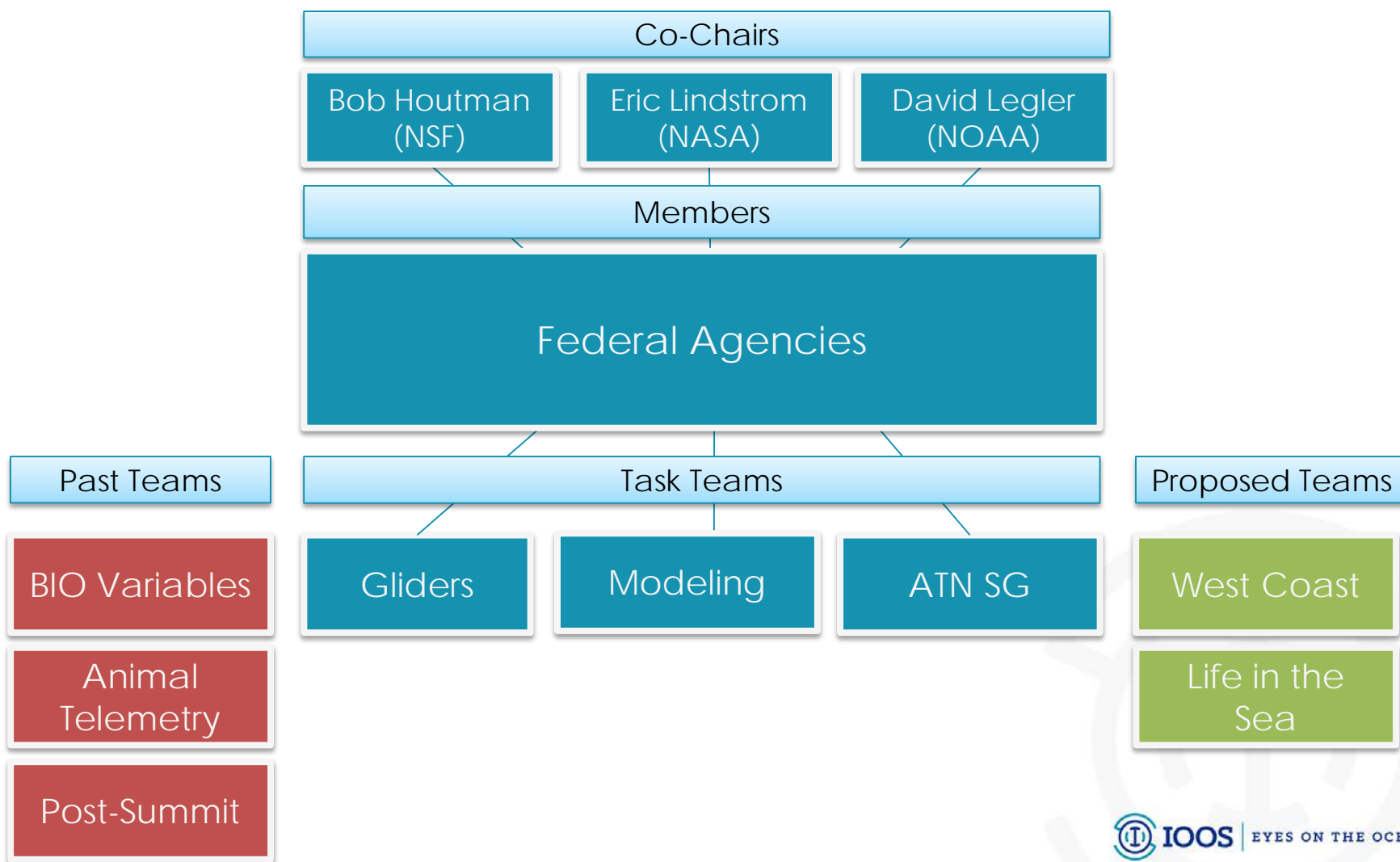
Emerging Areas – Sea Level Rise



- Sea level exceedance of thresholds increasing over time.
- Impacts are real.
- Ocean observing critical for global, regional, and local drivers, prediction systems, and impacts
- Next steps to improve integration and provision of required information- TBD

IOOC Overview

Mission: Enhance the efficiency of and motivation for multiple-agency contributions to the U.S. Integrated Ocean Observing System (IOOS®), for the purposes of societal applications, education, stewardship, and scientific understanding.



Key Components of Task Team Success

Integration across agencies

Scientific and societal relevance

Designed to make an impact for IOOS Enterprise

Appropriate scope within obs domain

Limited lifetime, focused on specific and achievable deliverables

Small resources from IOOC leveraging **EXISTING** agency investments/interests

Modeling Task Team

Goal:

Develop a national modeling strategy to determine how regional-scale models supported by IOOS regions can be integrated into Federal efforts

MTT Activities:

- Inventoried IOOS modeling activities
- Identify specific executable projects
- Identified specific common model development challenges
- Recommended approaches to address these challenges and promote synergy
- Identified and prioritized short- and long-term activities
- Identified opportunities to coordinate regional modeling activities

OUTCOMES:

- Promote synergy and efficiencies amongst Federal and regional IOOS modeling communities over next 5-8 years

*Modeling Coordination Task Team
IOOS Coastal Ocean Modelers Caucus (RAs)*

Recommendations

Model Coupling

Data Assimilation

Nearshore Processes

Cyberinfrastructure

Observing System Design

Ensemble Prediction

Fast Predictors

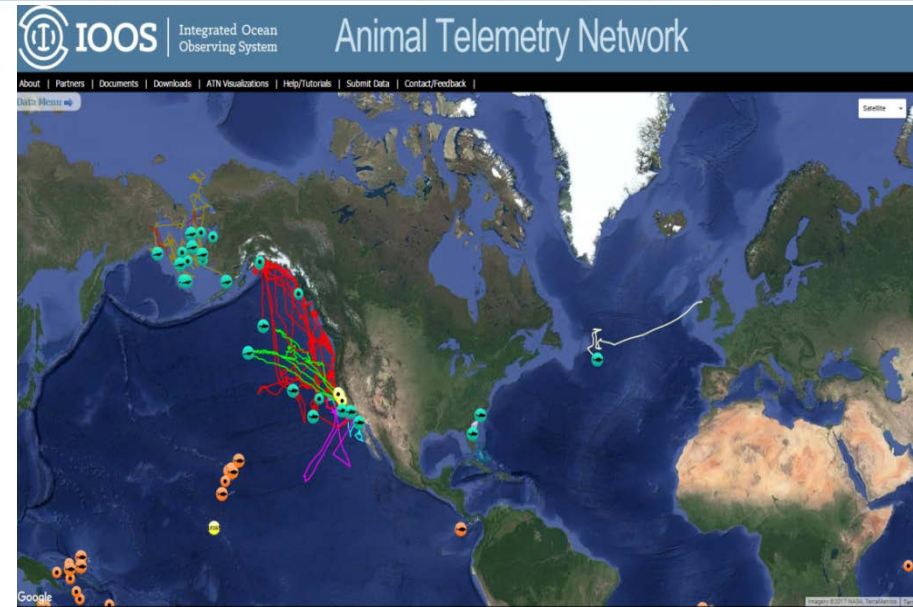
Animal Telemetry Task Team

Goal:

Support transition of the ATN from the planning phase to operational phase and become an integrated component of the IOOS Enterprise

ATN Updates:

1. Phase I (2016/17)
 - Coordination, support, and enhance planned and funded animal telemetry efforts
 - Data Management System/ Data Assembly Center (Operational Jan 2017)
 - Governance Structure established
2. Phase II (2017/18/19)
 - Workshops to ID and prioritize baseline observations and required infrastructure



OUTCOMES: Developed ATN as an operational component of the IOOS Enterprise including data management and permanent staff

Glider Task Team

Goal:

Enable increased engagement with the glider community and to advance the coordinated use of glider observing systems to meet global, national and regional sub-surface observing requirements.



Glider TT Updates:

1. US Underwater Glider Workshop (Jan 2017)
2. Report and Recommendations to IOOC
3. Underwater Glider User Group (UG)²

OUTCOME: Catalyzing an enthusiastic U.S. glider community to share resources and best practices – including stronger interagency engagement

Underwater Glider User Group (UG)²

Overarching goals:

- **Share experiences** related to glider and sensor technology
- **Communicate** the most recent scientific and operational **accomplishments**
- Share approaches to **logistical** and **operational challenges**
- **Improve glider data system** (access, standards, quality control, formats, distribution, etc.)
- Disseminate news about opportunities and needs for gliders

Potential activities:

- Establish a forum for question and answers about gliders
- Create a “hotline” or POCs to help in glider *emergencies*
- Host a software exchange for glider operations and data
- Be a nexus for standards in data services
- Foster communication between glider groups and users, including modelers
- Set up a mechanism for sharing of glider resources
- Create a site for glider news, including the areas of ongoing operations

West Coast/California Current Task Team Proposal (draft)

Drivers:

- Desire to develop integrated (from physics to biology) coastal ocean observing systems that link operational global open ocean systems (i.e. satellites, Argo, BioArgo, etc.)
- Sustained observing assets (e.g. CalCOFI, moorings, glider transects) and capacity/capabilities to provide the spatial reach/platforms
- New emerging technologies (acoustics, genomics, optics) and programs (ATN, MBON) are revolutionizing biological sensing so they can now be integrated with physics and biogeochemistry

Activities:

- Review current observations and model solutions for the US West Coast
- Develop a concept/blueprint for an interdisciplinary backbone system for the US West Coast, and eastern boundary systems in general, that connects seamlessly to the open ocean
- Produce white papers for OceanObs19 and other events

Life in the Sea Task Team Proposal (draft)

Drivers:

- Desire to develop a sustained U.S. IOOS capability for integrated biological observations in the ocean
- Desire to cultivate increased engagement among the MBON, ATN, IOOS Regional Associations, and other communities interested in fostering sustained collection of biology and biodiversity data
- Capability to integrate biological observations with environmental data to support ecosystem-scale management for multiple sectors

Activities:

- Implement an interagency initiative for integrated stewardship and protection of ocean and coastal health through a national observing network of marine biodiversity and animal movement
- Develop an implementation plan for a sustained, interagency U.S. IOOS role in biological observing at the regional, national, and global levels through a series of community workshops
- Produce white papers for OceanObs19 and other events

Summary and discussion

- IOOS Advisory Committee recommendation: integrate more around societal and topical scientific challenges
- IOOC Task Teams highly successful; an approach for building interagency cooperation and making permanent impacts with limited resources
- Sea Level: will take more time....
- West Coast/California Current Task Team (*proposed*)
 - Feedback welcomed
- Life in the Seas Task Team (*proposed*)
 - Feedback welcomed