

Topics of Interest by SAB Working Group - April 2023

1. Climate Working Group

- a. Carbon budgets and verification
- b. Science communication to all audiences/climate literacy (in collaboration with other Working Groups?)
- c. Sea-level rise
- d. NOAA's observing system readiness for near-term climate prediction (ships, satellites, workforce, HPC)

2. Data Archive and Access Requirements Working Group

- a. DAARWG is currently working to review and update its Terms of Reference and work plan

3. Ecosystem Sciences and Management Working Group

- a. Coastal Resilience
 - i. Aquaculture (potential collaboration with MAFAC - Marine Fisheries Advisory Committee, and UN Decade North Pacific Collaborative Center) - multiple activities - how are they coordinated? What are pending issues and science requirements? What is the future?
 - ii. Harmful Algal Blooms (HABs): in the context of stressors that are stove-piped, as well as future of Congress-initiated National Harmful Algal Bloom Observing Network (NHABON)
 - iii. Offshore wind – what are science requirements?
 - iv. Land-sea interface: impacts on ecosystems and local/state water management
 - v. Effective ecosystem/habitat restoration – science requirements
 - vi. Coupling infrastructure with ability to understand ecological consequences of extreme flooding, precipitation, etc (what happens when our coasts become unusable?)
- b. Disruptive technologies: Artificial Intelligence (AI) and machine learning, 'Omics for real-time data, other?
- c. Follow-up to Rapidly Changing Marine Ecosystems report
 - i. Modular modeling
 - ii. Further development of methods and approaches
 - iii. Needed evolution of management approaches
 - iv. Ecological forecasting – expand upon how it could actually be implemented. What are the societal changes that are going to result?
 - v. Advancing co-production
- d. NOS recommendations:
 - i. authoritative assessment and (e)valuation methods for products, services, and programs designed to conserve and restore coastal and estuarine ecosystems

- ii. assess and evaluate to what extent NOAA, and specifically NOS in our case, works to leverage agency capacity and expertise to support and meet Agency requirements
- e. NMFS ideas:
 - i. Potential collaboration on an upcoming external review, "Science Enterprise-plus", focused on investigating whether NOAA is set up to handle recent disruptors to the execution of science
 - ii. Social science/environmental justice – while there are current efforts to characterize these using vulnerability assessments and social indicators, how do we more formally/rigorously approach these impending questions?
 - iii. Needed evolution of management approaches (perhaps building on ESMWG's past Decision Making Under Deep Uncertainty report) and how to communicate new science to managers/decision-makers and in turn how managers evolve decision-making – using social sciences
 - iv. Need for sustained national surveys of marine mammals and sea turtles - jointly with Marine Mammal Commission
 - v. The 3-5 year time-horizon – continues to be significant challenge to sampling, forecasting, providing workable uncertainties, providing management advice, and planning and increasing resilience
- f. Other
 - i. Seek guidance and potential collaboration with NOAA's internal Ocean, Coasts, and Great Lakes Team (briefing set up for May 4)
 - ii. Write a similar report to the PWR report, for example, Priorities for Marine Ecosystem Research

4. Environmental Information Services Working Group

- a. Systematic errors
- b. Radar gaps
- c. Radio Occultation
- d. Water/drought
- e. Heat and Human Health
- f. Fire Weather

5. Tsunami Science and Technology Advisory Panel

- a. Review NOAA response to the TSTAP Quadrennial Report. The TSTAP expects a response from NOAA sometime in April 2023.
- b. National Tsunami Hazard data including assessing people and infrastructure at risk. There is no national dataset for tsunami hazard areas. Additionally, there is not a complete understanding of the people and infrastructure at risk. Other entities such as FEMA are trying to develop this ad hoc and without an official map or product they are making some assumptions that underestimate risk and can have negative implications for mitigation funding.
- c. Social Science for tsunami alerting. The NWS has stated that it will eliminate all Advisory alerts, including the Tsunami Advisory, in 2024. The TSTAP is aware

that five large coastal state emergency management directors as well as the National Tsunami Hazard Mitigation Program have written letters to NWS Director Ken Graham requesting to keep the current Tsunami Advisory until such time as tsunami-specific social science for alerts can be completed and socialized with stakeholders.

- d. NWS TsunamiReady Program evaluation. Currently there are no metrics for communities or the NWS to use to accurately assess how well a community recognized as TsunamiReady is truly prepared for a tsunami. This discussion may lead to requesting an update to the NWS TsunamiReady Guidelines.
- e. UN International Decade for Ocean Science “International Tsunami Ready Programme”. The TSTAP will discuss the potential impact this international programme may have on the U.S. TsunamiReady Program.