



NOAA
SCIENCE
ADVISORY
BOARD

LEADERSHIP IN COASTAL RESILIENCE REPORT

28 April 2022

The Subcommittee



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Report Background

- Project Proposed at October 2020 Science Advisory Board Meeting
- Joint venture between the SAB, Ecosystem Sciences and Management Working Group, and Climate Working Group
- Coastal Resilience was identified by the SAB as a Long-Term Priority
- Development of Resilient Coastal Communities is named as Goal 5 of the [Decadal Visions for America's Oceans](#).
- Coastal Resilience is a pillar of NOAA's Blue Economy

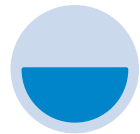


Report Process



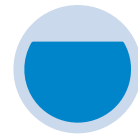
March/April 2021:

The subcommittee worked with Mark Osler and Staff to produce a matrix of what is being done within NOAA in the Coastal Resilience space.



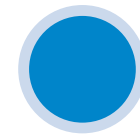
June/July 2021:

Hosted a total of 13 different focus group sessions. Held broadly solicited focus group meetings and more targeted meetings with NOAA partners.



November 2021:

In-reach meeting with ~10 NOAA representatives to discuss the outcomes of the focus groups and present some preliminary recommendations.



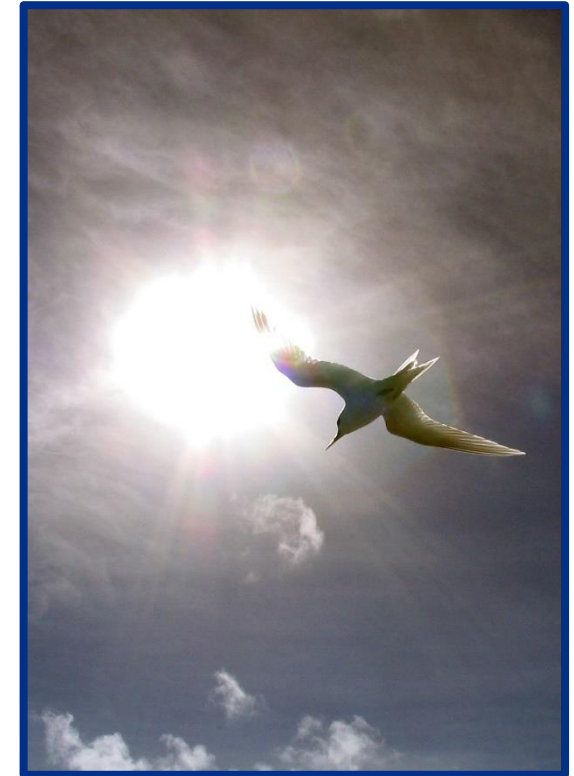
November 2021- April 2022:

Information synthesized and Leadership in Coastal Resilience Report written. Final report delivered to SAB at April 2022 meeting.



Vision for the Future

- NOAA as a central driving force for understanding, integrating and progressing engagement on general and regionally specific information on the underlying basis of coastal resilience.
- NOAA has within its broad mandate the latitude and intellectual capacity to continue to integrate research, insight, monitoring systems with people and place.
- NOAA's leadership role can be leveraged to ensure natural and social science advances make a difference on the ground in ensuring coastal resilience.
- Emphasize and reinforce is NOAA's ability to convene diverse audiences and to learn from those audiences.



RECOMMENDATIONS

Continued Discovery

1. Nature-Based Approaches to Risk Reduction

2. Supporting Adaptation of Important Coastal Species

3. Socio-economic Inquiry

Networks of Knowledge Delivery

4. Enhance Observing Systems

5. Integrated Coastal Resilience Modeling

6. Predicting Human-Natural System Feedbacks

Making a Difference on the Ground

7. From Stakeholder Engagement to Co-production and Co-design

8. Facilitating Social Learning

9. Support for Implementation



Continued Discovery

1. Nature-Based Approaches to Risk Reduction:

Conduct research to increase the understanding of tradeoffs between the performance of natural coastal habitats in mitigating current and future flood risk and the provision of other ecological functions.

2. Supporting Adaptation of Important Coastal Species:

Identify and address gaps in scientific understanding that limit the ability to anticipate and effectively respond to climatologically induced threats to important coastal fisheries and other marine species.

3. Socio-economic Inquiry:

Conduct and support social science research to increase the understanding of how people (individually and collectively) understand, react to, and are affected by changing coastal conditions (both chronic and acute).



Networks of Knowledge Delivery

4. Enhance Observing Systems:

Further refine the development and deployment of land/water and space-based observing networks that are directly useful to local entities to track and forecast a variety of coastal ocean conditions over time.

5. Integrated Coastal Resilience Modeling:

Establish an Integrated Coastal Resilience Modeling framework to provide coastal decision makers with key insights into the cumulative effects of future physical, chemical, and ecological change at subseasonal, seasonal, and multidecadal time scales.

6. Predicting Human-Natural System Feedbacks:

Conduct and support social science research to increase the understanding of how people (individually and collectively) understand, react to, and are affected by changing coastal conditions (both chronic and acute).



Making a Difference on the Ground

7. From Stakeholder Engagement to Co-production and Co-design:

Build new partnerships to engage in the co-production and co-design of knowledge and action to generate new knowledge, capacities, networks, and actions that are more inclusive, relevant, and impactful.

8. Facilitating Social Learning:

Develop interactive approaches that enable a variety of coastal audiences to access and interpret modeling outputs and understand the varied potential consequences of action/inaction.

9. Support for Implementation

Enhance and expand the network capacity and efficacy of NOAA and partner engagements at local and community scales to help communities and community decision makers identify and implement solutions that build coastal resilience.



Special Thanks To:

- Tiffany Atkinson, SAB Support
- Erik Chapman, ESMWG Member
- Cynthia Decker, SAB Executive Director
- Rachel Johnson, NOS Support, Sea Grant Knauss Policy Fellow
- Mark Osler, NOAA Senior Advisor for Coastal Inundation and Resilience
- Andrew Peck, SAB Support
- Sage Riddick, NOS Support



DISCUSSION
