



SCIENCE ADVISORY BOARD

Identifying Long-Term Research and Development Needs to Support NOAA Continued Leadership in Coastal Resilience: A Project of the NOAA Science Advisory Board

Background

The [NOAA Science Advisory Board](#) (SAB) is developing a White Paper that recommends a long-term research and development (R&D) agenda for NOAA, working across line offices, with other Federal agencies, local governments, academia, and the private sector, to ensure that our nation's coasts and coastal infrastructure, and those who rely on them, are resilient to both acute and chronic threats. The R&D needs recommended will be:

- Practical, i.e., that support the **future** needs of coastal decision makers and managers across multiple facets of coastal resilience, and
- Ambitious, i.e., that seek to advance holistic understanding of interacting social, ecological, and physical dynamics and their response to both acute and chronic threats.
- Aspirational, i.e., activities that we cannot presently undertake due to limited data, knowledge, or integrative tools.

The SAB is using the following definition of coastal resilience to guide this work: "The ability to prepare for, absorb, recover from, and successfully adapt to change. Change can be at multiple timescales and change can be physical, biological, or ecological. This can be specific events (storms and hurricanes, pollutant spills, Harmful Algal Blooms) or ongoing change (ocean warming, shifting Great Lakes water levels, sea level rise)."

The development of the recommended R&D agenda is driven by the future challenges that coastal resilience practitioners will confront, emerging science and technology, and the skills and expertise of NOAA and their partners. Input from a variety of interested parties is being sought through meetings with established groups, interviews with knowledgeable individuals and technical experts, and Focus Groups designed for wide participation.

Discussion with Stakeholder Groups

Comments and contributions to the overall discussion will not be attributed to individuals and organizations. Example discussion questions will be distributed prior to the session to allow participants to prepare and consider their responses. These may include:

- What do you think is the most important long-term challenge to coastal resilience which is important for NOAA to assist with? How should NOAA assist?
- What are vital R&D contributions for NOAA to make in this space, as compared to contributions from other federal agencies, local governments, academia, or the private sector?
- How might emerging and future technologies (i.e. machine learning, innovation in satellite observations, etc.) be used to further coastal resilience?
- What are the decisions that need to be made for which the necessary information or tools are now, or may be, unavailable that NOAA should provide?

The SAB wants to hear a variety of perspectives on these types of questions and will use the notes from the discussions to ensure they are thinking broadly about coastal resilience issues, and developing a recommended R&D agenda that meets a variety of future needs. Participants are welcome to send additional thoughts after the meeting. Notes will not be distributed but all participants will be sent a copy of the final SAB report on the topic (expected late 2021).

For more information about the Science Advisory Board, please visit the [SAB website](#).