

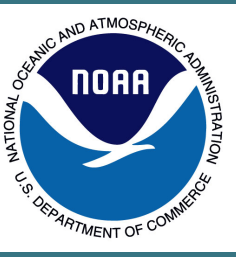
NOAA Response to the SAB Review of the Climate and Fisheries Initiative Implementation Approach

**A Presentation to the
NOAA Science Advisory Board**

Jon Hare

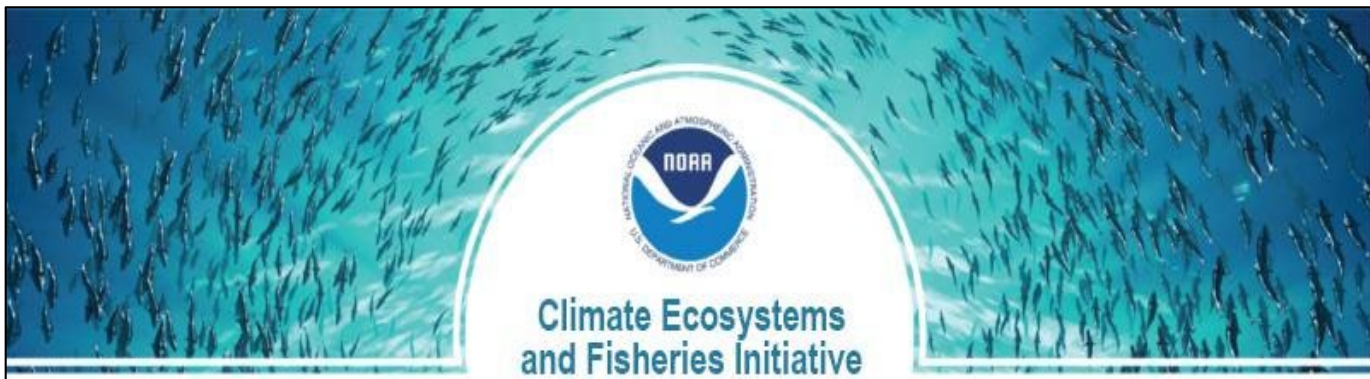
**Director, Northeast Fisheries Science Center
NOAA National Marine Fisheries Service**

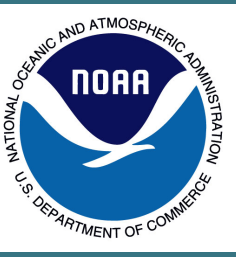
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Outline

- Purpose
- Context
- Findings & Responses
- Coordination
- Summary





Purpose

To present and discuss NOAA response to SAB Review of the CEFI Implementation Approach.



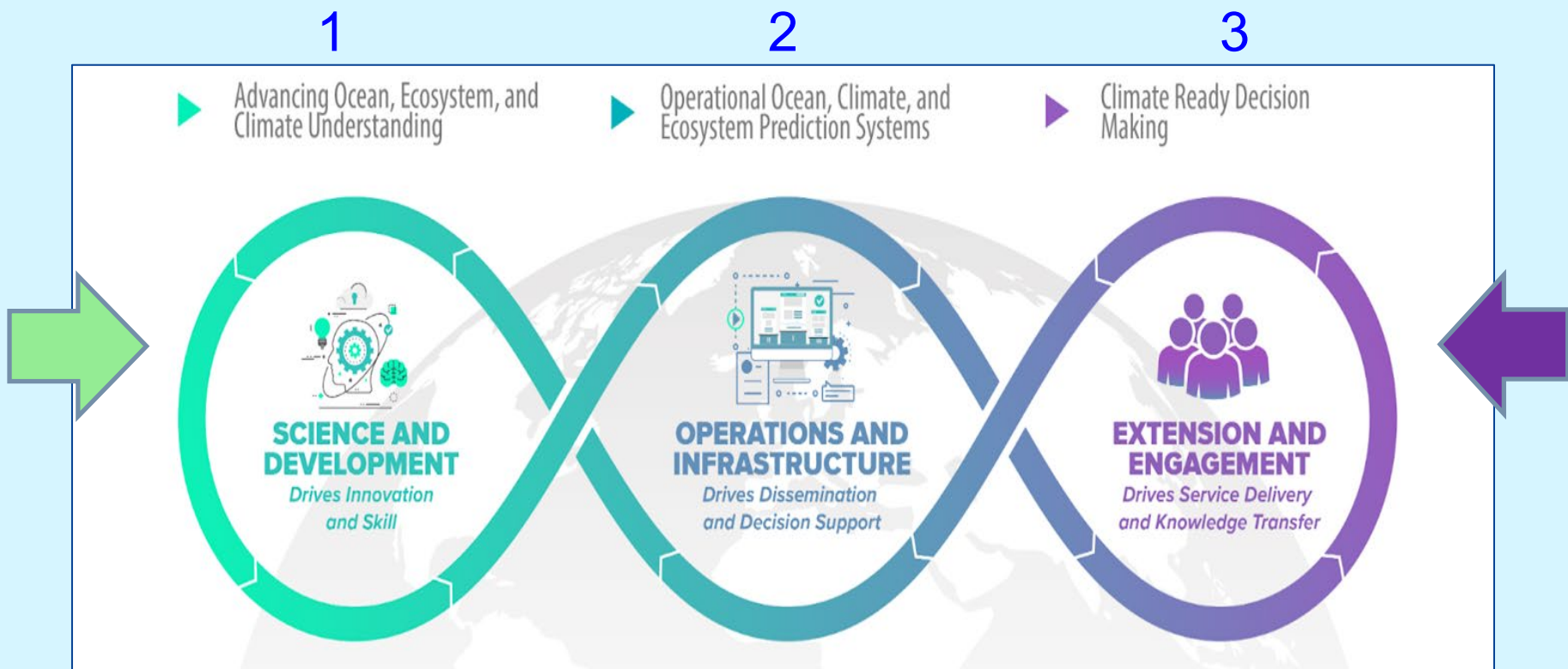


Context: What is CEFI?



- **Cross-NOAA effort to provide advice and capacity** for climate-informed resource management and community adaptation.
- **Leverages existing NOAA investments** in research, modeling, observations and decision-making.
- **Builds the end-to-end decision support system** we need to increase resilience and adaptation.
- **Reduces risks** to the nation's valuable marine resources and the many people, businesses and communities that depend on them.

CEFI Ocean Modeling & Decision Support System



Validation & Innovation

- Robust Ocean Forecasts & Projections
- Targeted Research & Obs

Actionable Advice

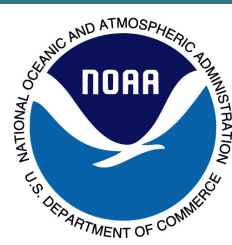
- Regional Ocean Modeling Teams
- Information Portal
- Decision Support Teams

Sustainable Management and Resilience Communities

- Climate-Ready Decisions
- Collaboration with Decision Makers



SAB Report Findings



- ***Recognizes the urgent need*** for reliable and timely information about climate change impacts on oceans & coasts.
- ***Commends NOAA for recognizing*** that “*the agency lacks the nationally integrated observing, modeling, and decision support system needed to deliver the climate information required to meet NOAA’s Living Marine Resource (LMR) mandates in the face of these rapid changes and the challenges they present*”.
- ***Recommends NOAA accelerate implementation*** of the CEFI integrated modeling and decision support system.
- ***Stresses the need to coordinate efforts*** to accelerate the transition to an integrated modeling system.



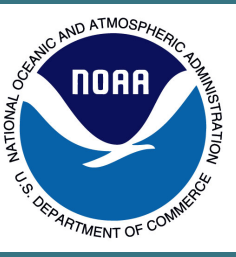
SAB Recommendations



1. Accelerate implementation of an integrated modeling system
2. Expand stakeholder engagement in products and process
3. Strengthen trust in products and process
4. Upgrade the ocean observing system
5. Advance multi-stressor predictions at multiple scales



NOAA Overall Response



1. ***NOAA is grateful*** for the SAB review and agrees with the recommendations.
2. ***We appreciate*** the thorough and timely review in collaboration with the ESMWG.
3. ***NOAA has taken action*** to address Recommendation 1.
4. ***Recommendations 2-5 provided useful guidance*** on important topics, and will be used to inform development of the CEFI system.
5. ***Recommendations 4 and 5*** include suggestions for actions that go beyond the current scope of the CEFI and require further NOAA consideration.



Response 1: Near-term actions



Rec 1.0 - Accelerate implementation of an integrated modeling system

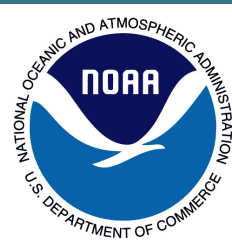
- **Action 1.1** Carefully identify responsibility, coordination, and resources required to accelerate the transition to an integrated modeling system.
- **Action 1.2** Create a timeline, as part of the full implementation plan, that takes into account the research required, model development, and transition.

Response:

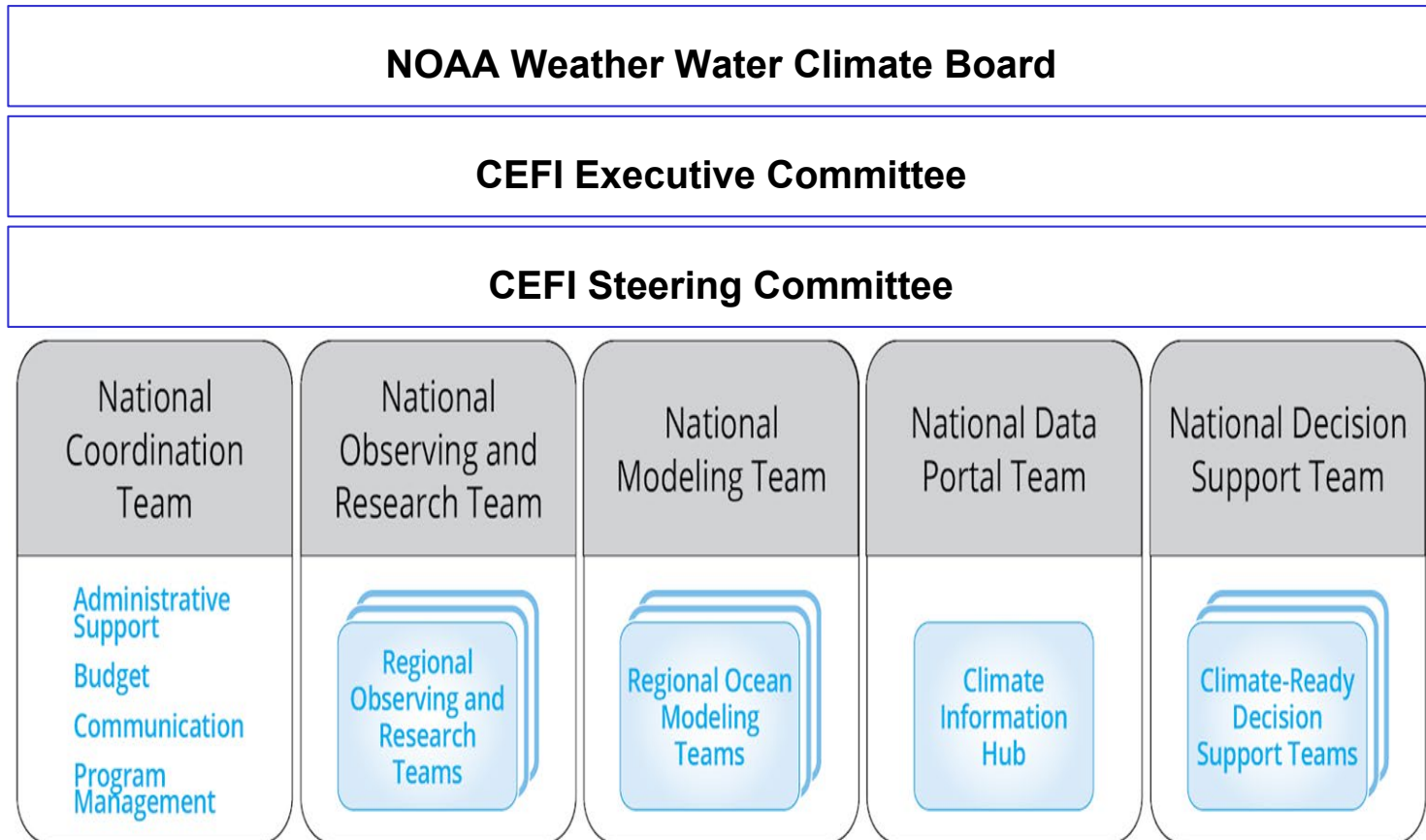
- ***Created an Interim Executive Steering Committee*** responsible for the overall development and implementation of the CEFI System and its components.
- ***Developed a governance structure*** to ensure system-wide coordination and accountability.
- ***Developed detailed annual and outyear budgets*** that can be scaled to available funds.
- ***Developing timelines for implementing*** the all components of the CEFI System will be updated based on budget and other factors.
- ***FY23 budget request and FY24 budget proposal*** to accelerate implementation.



CEFI Governance Structure



Updated structure for effective implementation (coordination, integration, accountability)





Response 2: Buildout Action



Rec 2.0 - Stakeholder engagement in products and process

The CFI should elaborate on approaches to working with more diverse groups of interested and affected stakeholders to ensure that models inform management products providing usable information for decision-making. One possibility to help with this is the NOAA Service Delivery Model.

Response:

- **Agree** - stakeholder involvement is part of the CEFI system design.
- Efforts are underway with internal and external stakeholders to ensure the system produces usable information.
- These efforts will be standard part of CEFI System operations.
- We will use existing networks, advice pathways, and the NOAA Service Delivery Framework as a guide for CEFI engagement efforts.
- However, we will be judicious in expanding beyond the current CEFI focus on decision making for living marine resources.



Responses 3: Buildout Action



Rec 3.0 Trust in products and process

As the CFI process proceeds, NOAA should continue its exemplary practices in assuring scientific integrity and consider how to further enhance trust as it engages with diverse stakeholders who are making decisions in a dynamic scientific environment under deep uncertainty.

Response:

- **Agree** - the CEFI System will use existing and new approaches to assure scientific integrity and enhance trust.
- For example, the analytical products derived from the CEFI regional modeling teams and decision support systems to inform fisheries management will undergo testing and peer review.
- The CEFI System will include extensive stakeholder engagement and co-development practices to build understanding and trust in products and advice services.



Response 4: NOAA-Wide Actions



Recommendation 4.0 - Upgrading the ocean observing system

Engage across NOAA to upgrade the ocean observing system to fill crucial gaps such as physical observations on the shelf and nearshore, and biogeochemical observations in shelf, nearshore, and offshore waters. These data are central to enabling the attribution and predictive capability called for by the CFI.

NOAA Response:

- **Agree** - upgrading the ocean observing system is needed to support CEFI and other applications.
- However, this effort is beyond the scope of CEFI alone.
- For more complete response please see NOAA response to the SAB [Advancing Earth System Prediction](#) report (March 2021) which addresses similar recommendation.
- The CEFI's Research and Ocean Observing component, in conjunction with modeling and decision support teams, will assess key needs and work with relevant NOAA offices to improve ocean observations to advance the CEFI System and other applications.



Response 5: NOAA-Wide Actions



Recommendation 5.0 - Multi-stressor predictions at multiple scales

Extend CEFI to include development of climate-informed, multi-stressor predictions at multiple temporal and spatial scales that meet the needs of One NOAA managers and stakeholders.

Response:

- The CEFI System is designed to support climate-informed, multi-stressor predictions at multiple temporal and spatial scales.
- The regional ocean/climate models that CEFI will deliver are a critical first component of any multi-stressor evaluation, since these projections can inform forecasts of hypoxia, HABs, invasive species, species range shifts and more.
- However, the scale and scope of these efforts will be determined by available resources and needs of core target decision makers (ie., living marine resource decision makers and stakeholders).



Summary



1. ***CEFI will build*** the operational decision support system needed to safeguard the nation's valuable marine resources and resource-dependent communities in a changing climate.
2. ***NOAA greatly appreciates*** the SAB/CWG support and input that will strengthen the CEFI System.
3. ***NOAA has begun to address*** the near-term recommendations (updated governance structure, budget and build-out plans).
4. ***NOAA is poised to address*** the other recommendations during implementation (they closely align with the CEFI Plan).
5. ***Two "NOAA-wide" recommendations*** (observing and multiple stressor approach) need broader NOAA consideration.
6. ***NOAA response*** to the SAB [Advancing Earth System Prediction](#) report also responds to some of the SAB CEFI recommendations.



**Climate Ecosystems
and Fisheries Initiative**

Questions/Discussion

Thank you

More information on [CEFI is available here:](https://www.fisheries.noaa.gov/topic/climate-change#noaa-climate-and-fisheries-initiative)

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