



Opportunities to Enhance Climate Resilience in Federal Fisheries

A new study conducted by the GAO finds that fishery managers are not taking steps to use climate information in managing fisheries.

More must be done to prepare U.S. fisheries for the impacts of climate change, and there are opportunities to identify and prioritize actions that will make fisheries climate-ready.

Background

Climate change is already disrupting U.S. fisheries, but fishery managers are missing opportunities to adapt to climate-related changes in fisheries. Marine fisheries are at high risk from climate-driven changes to ocean ecosystems, such as ocean warming and acidification that may cause changes in the productivity and distribution of certain species.¹ These changes could have significant economic and social consequences for the industries and communities that depend on affected species and may contribute to future fishery disasters.

In 2020, Congress directed the Government Accountability Office (GAO) to examine efforts by fishery managers (the fishery management councils and the National Marine Fisheries Service, or NMFS) to prepare and adapt our nation's fisheries to the impacts of climate change.² The GAO's report³ was finalized in August 2022 and its findings were clear: **fishery managers are only using climate information to a limited extent and could do much more to prepare our nation's fisheries for climate change.**

Key Takeaways

Despite the threats posed by climate change, fishery managers are lagging behind on climate adaptation and resilience. **For example, only about a quarter of the fishery management plans and amendments analyzed by the GAO considered climate information, and there was also limited incorporation of climate information in stock assessments.** Fishery managers were also not aware of tools and guidance available to them from NMFS nor actions taken by managers in other regions.

The report specifically found that NMFS does not regularly collect or share information about actions that fishery managers are taking to enhance the climate resilience of federal fisheries, the agency could better share information across regions, and resource constraints pose challenges to enhancing the climate resilience of fisheries.

The GAO report found a few primary challenges for enhancing resilience in fisheries. First, limited data and modeling information hamper the ability to measure future changes and predict fish stock behavior

¹ U.S. Global Change Research Program, Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, vol. 2 (Washington, D.C.: 2018).

² H. Rept. 116-455, accompanying H.R. 7667, Commerce, Justice, Science, and Related Agencies Appropriations Bill, 2021.

³ U.S. Government Accountability Office, Federal Fisheries Management: Opportunities Exist to Enhance Climate Resilience, GAO-22-105132 (Aug. 2022).

under changing conditions in order to make management decisions in response.⁴ Insufficient collaboration between NMFS regions and fishery managers hinders adaptation, and inconsistent fish survey methods across jurisdictional boundaries limits the degree to which fishery managers can understand changes in fish species distribution. The GAO also found that fishery managers face political and economic pressures to maintain the status quo, even though those pressures limit the ability of managers to adapt to changing conditions.⁵

Another key challenge was resource constraints. Lack of dedicated funding limits the availability of climate information that can be produced and used in fishery management. Fishery managers' ability to work on efforts related to climate resilience—such as downscaling climate models to a regional level or incorporating climate information into fish stock assessments—is dependent on receiving dedicated funding or additional staff capacity.⁶ Nearly all fishery managers, NMFS regions, and stakeholders interviewed by the GAO identified resource constraints as a challenge.

Recommendations

The GAO made two recommendations to improve efforts to prepare and adapt to climate change.⁷

- **Recommendation 1:** The Assistant Administrator for NMFS should regularly collect and publicly disseminate information on actions taken by managers to enhance the climate resilience of federal fisheries, such as fishery management plans that use climate information.
- **Recommendation 2:** Regional offices and fisheries science centers must work with the Councils to identify and prioritize opportunities to enhance the climate resilience of federal fisheries.

What comes next?

Moving forward, it is critical that NMFS take steps to support fishery management actions that enhance the climate resilience of fisheries. The GAO has identified many of the steps that NMFS should take. It's clear that the agency should exert greater leadership and put forth a bold and transformative vision for achieving climate resilient fisheries and management that goes beyond the status quo. The agency must also provide fishery managers with the information and technical assistance needed to support implementation of climate-ready approaches. This will require more data and modeling, as well as better coordination and communication between NMFS and the fishery management councils.

Congress can contribute to climate-ready fisheries by continuing to ensure progress is made on adapting management. **It also can address resource constraints through the appropriations process by supporting the Climate, Ecosystems and Fisheries Initiative (CEFI).** CEFI is a NOAA-wide effort to build a national integrated ocean modeling and decision support system to enhance the climate resilience of marine resources, including fisheries.⁸ This effort has the potential to address some of the challenges identified by the GAO by accelerating the production of climate informed fish stock assessments and sharing of information on species distribution and ecosystem changes. Unfortunately, NMFS has not received specific funding for CEFI at this time.⁹

⁴ *Id.* at 29.

⁵ *Id.* at 31.

⁶ *Id.* at 32.

⁷ *Id.* at 38.

⁸ *Id.* at 22.

⁹ *Id.* at 23.