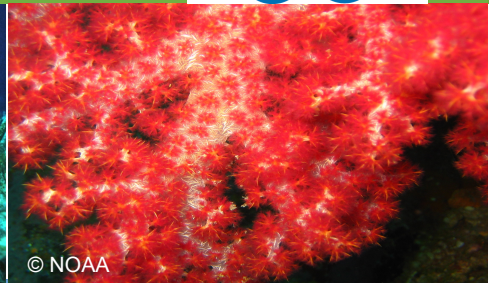
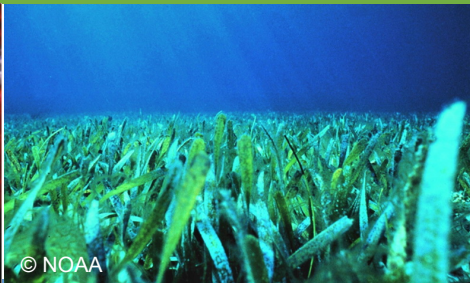
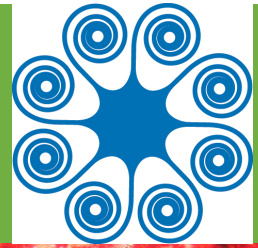


The Climate Adaptation Toolkit for Fisheries Management



Project Purpose: To improve understanding of the interactions between human and environmental systems by examining marine fisheries management in the context of climate change and ocean acidification.

Background: Supporting sustainable U.S. marine fisheries management is important to ecosystem health and human and economic well-being. These fisheries (commercial, recreational and subsistence) include both wild capture and farmed (aquaculture), and provide important contributions to the U.S. economy. Climate change is having and will continue to have cascading effects on all aspects of fisheries, including fish production, essential fish habitats, fishing-dependent communities, and resource managers.

Fisheries managers and scientists will need to prepare for and respond to the unavoidable effects of past, current, and projected greenhouse gas emissions, in addition to limiting the effects of non-climatic stressors, such as overfishing, habitat degradation, and pollution. Traditional fisheries management tools (e.g., allowable catch, size and gear restrictions, marine protected areas, etc.) may not be sufficient to sustain fisheries in the face of the combined effects of climatic and non-climatic stressors.



Climatic Stressors:

- Increasing air and water temperatures
- Increasing sea level rise
- Changes in precipitation patterns
- Ocean acidification
- Habitat conversion or loss
- Species range and phenological shifts

Non-climatic Stressors:

- Over-fishing
- Pollution
- Habitat destruction
- Bycatch
- Invasive species
- Extraction (oil and gas)

There is a general lack of understanding of the complex interactions between climatic and non-climatic stressors, their impacts on fisheries, and the manner in which managers can approach adaptation. A strong need exists to:

1. **Improve** understanding of climate impacts on fish stocks and critical habitats,
2. **Increase** the capacity to apply this information to fisheries management, and
3. **Enhance** the delivery of this information in order to implement and sustain climate-informed fisheries management.

Objectives:

This project will improve understanding of the interactions between human and environmental systems by examining fisheries management in the context of climate change and ocean acidification. Through this project, we will facilitate the development of climate adaptation strategies for sustainable fisheries management and the creation of a robust network of engaged practitioners by:

- Assessing the impacts of climatic and non-climatic stressors on fisheries;
- Appraising the needs of fisheries managers seeking to address climate change;
- Facilitating the development and continued improvement of adaptation options for fisheries through surveys of climate-informed fisheries management practice to date;
- Creating a synthesis report and case study examples of adaptation in practice in fisheries management;
- Developing a centralized portal and network to promote and sustain these efforts; and
- Providing tools and training to support and inform managers and stakeholders on vulnerabilities and adaptation options.

We see this as a first step to inform the development of a broader fishery managers guide to climate change, similar to what the coral reef community developed in 2006, *A Reef Manager's Guide to Coral Bleaching*. The work proposed in this project will provide the baseline from which to create *A Fish Manager's Guide to Climate Change*.



EcoAdapt, founded by a team of some of the earliest adaptation thinkers and practitioners in the field, has one goal - **creating a robust future in the face of climate change**. We bring together diverse players to reshape planning and management in response to rapid climate change.

Key Partners and Participants:

- National Oceanic and Atmospheric Administration
- Fishery Management Councils
- Tribal governments
- State natural resource agencies
- Private sector entities
- Fishery associations
- Non-governmental organizations
- Scientists
- Fishers

This project is part of our State of Adaptation Program. Climate change adaptation is a nascent field and many planners and managers are already dealing with the reality of climate change in their daily work. This program is designed to facilitate adaptation action by **surveying** practitioners, **assessing** adaptation activities, **writing** in-depth case studies to catalyze creative thinking, and **synthesizing** information collected to further develop the field of study and action.

How can you get involved?

- **READ** updates on our blog, *Adaptation Nation*.
- **SPONSOR** an adaptation survey and synthesis for a particular region, sector, habitat, or species that interests you.
- **CONTACT** Project Manager, Alex Score at Alex@EcoAdapt.org.