

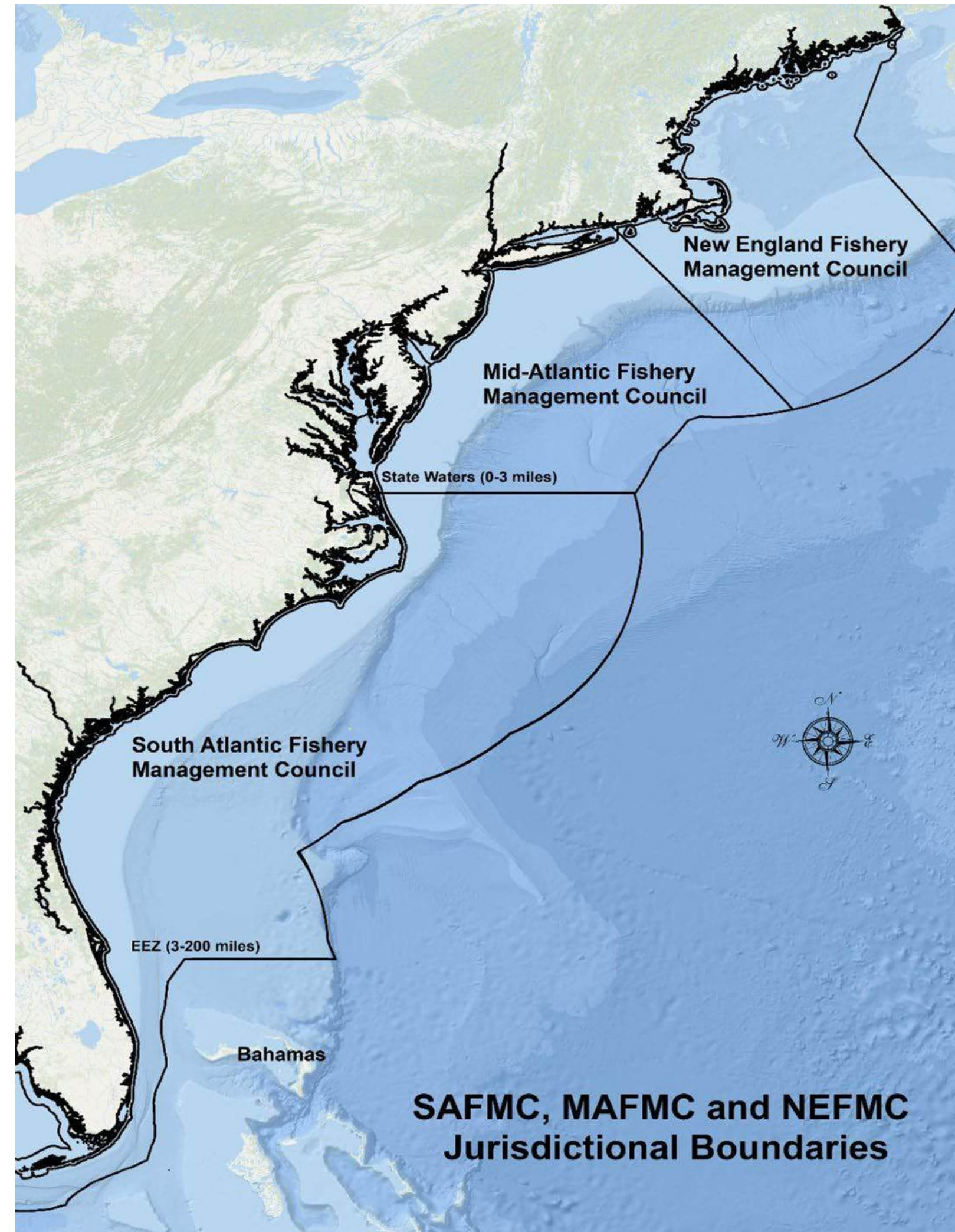
# Collaborative Climate Change Scenario Planning for U.S. East Coast Fisheries

Kiley Dancy, Mid-Atlantic Fishery Management Council  
IATTC 2<sup>nd</sup> Climate Change Workshop  
*April 8, 2026*



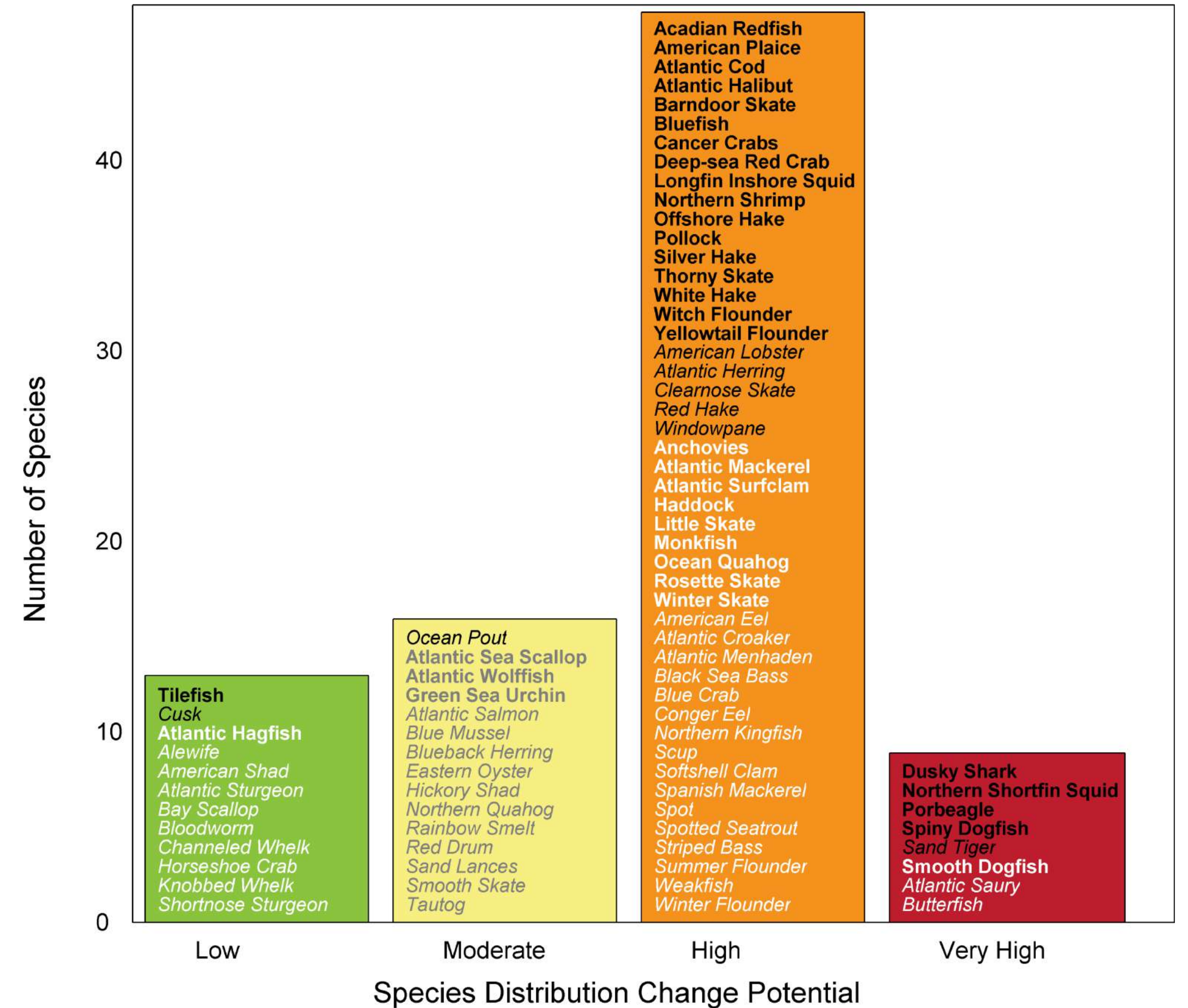
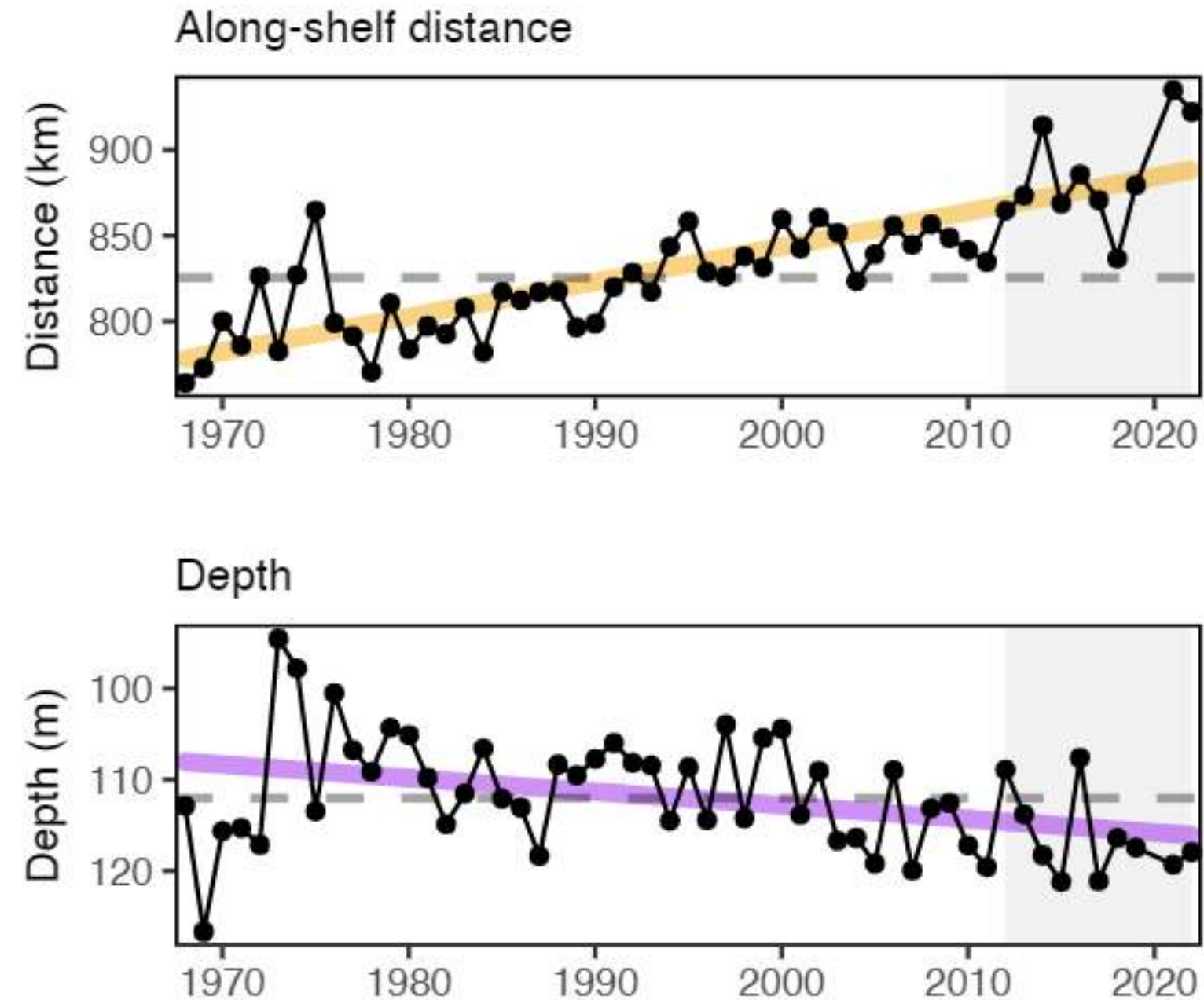
# East Coast U.S. Fisheries Governance Is Complex

- **Regional Fishery Management Councils** in Federal waters
- Recommend measures to **NOAA Fisheries**: federal implementation and enforcement
- **Atlantic States Marine Fisheries Commission** manages state waters; coordinates 15 member states (Maine-Florida)
- Some **joint or cooperative management plans** between Councils and/or between Council-ASMFC



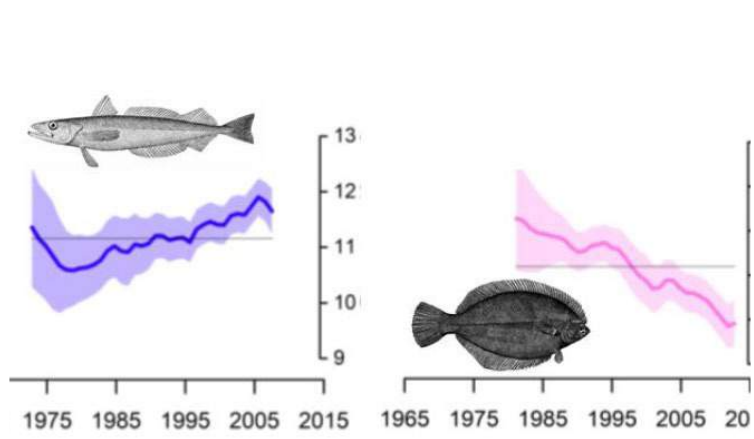
# Primary driver of initiative: species distribution changes

- Distribution changes exacerbate governance and representation challenges
- Complexity of governance system creates barriers to efficient response to change

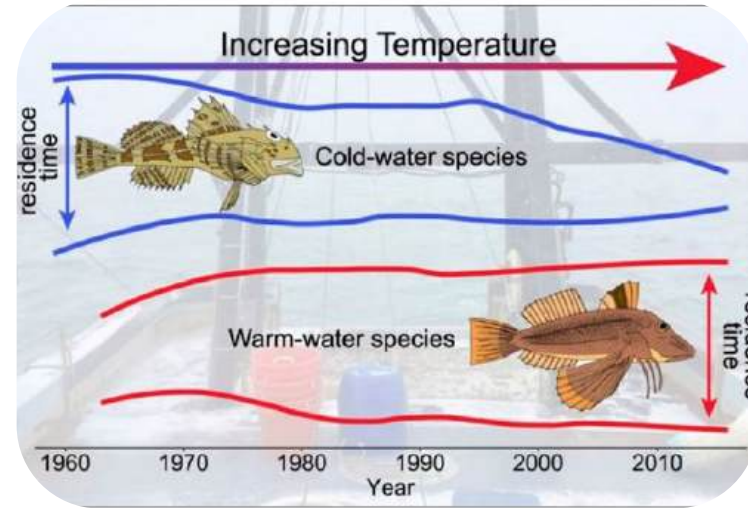


Northeast Fisheries Climate Vulnerability Assessment (Hare et al. 2016)

# Plus many other changes (climate driven or not) impacting fisheries resilience



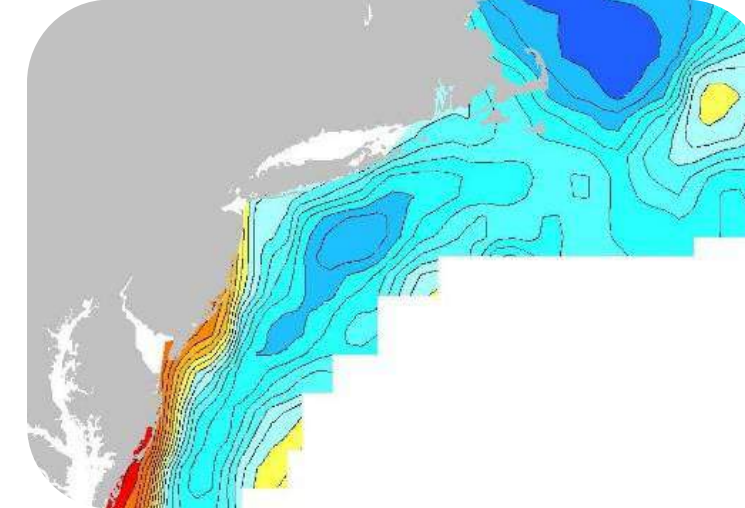
Changes in productivity



Changes in seasonal timing



Disease, HABs, Invasives



Timing/location of cold pool



Extreme weather events



Coastal population growth



Offshore wind & aquaculture



Rising costs



Loss of working waterfronts & infrastructure



Changing consumer demand



Sea level rise



Others...

# East Coast Scenario Planning Initiative

- Initiated in 2020; overseen by the Northeast Region Coordinating Council (NRCC)
  - Leadership group that coordinates stock assessment schedules & other resources/priorities in Greater Atlantic region
  - South Atlantic representation added for this initiative
- Supported by a “core team” of technical staff and an experienced facilitator

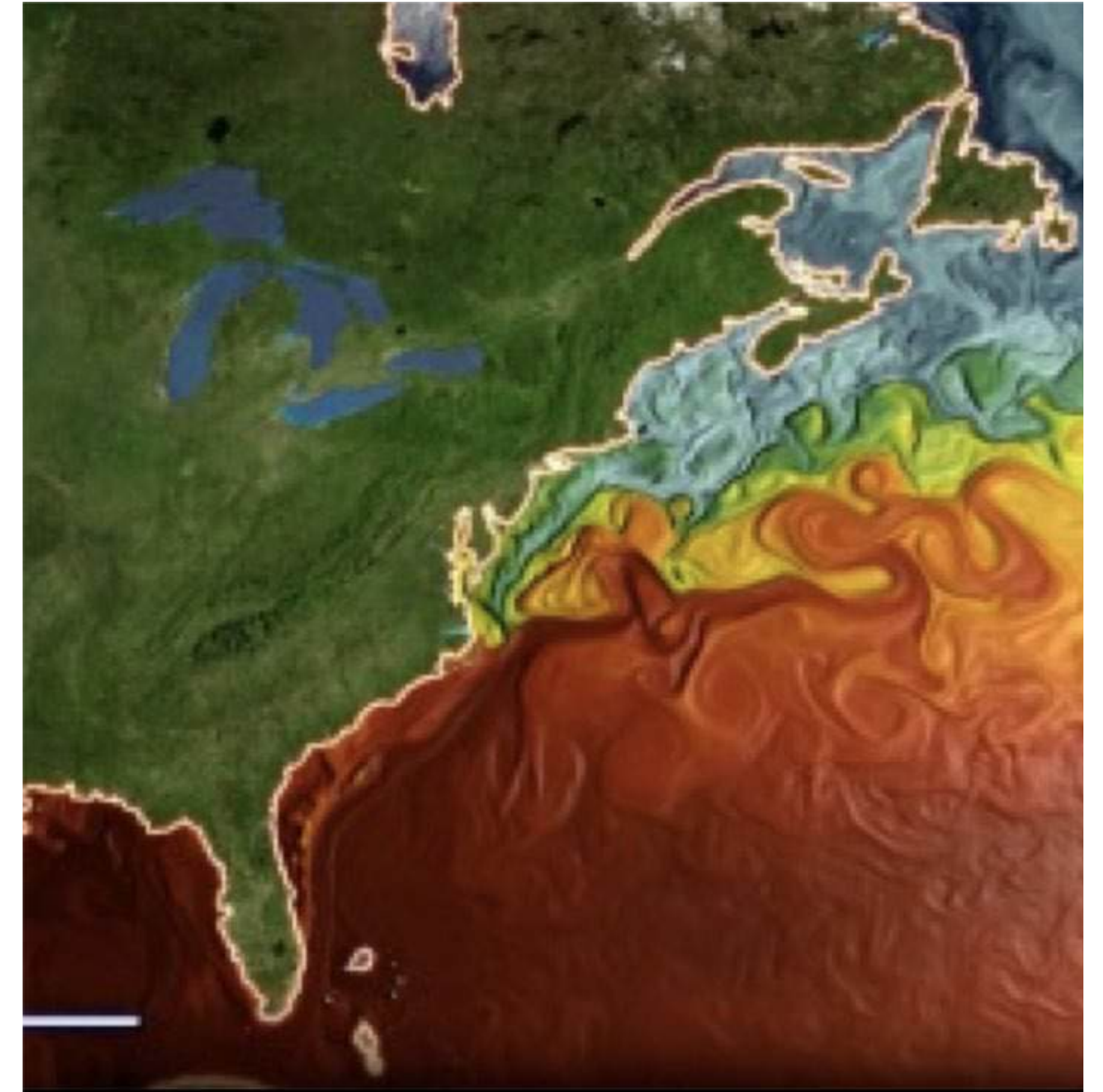


# East Coast Scenario Planning Initiative Objectives

Create scenarios and use them as a tool to:

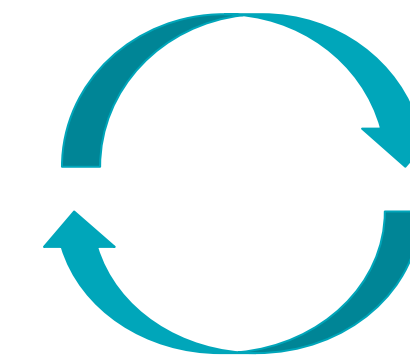
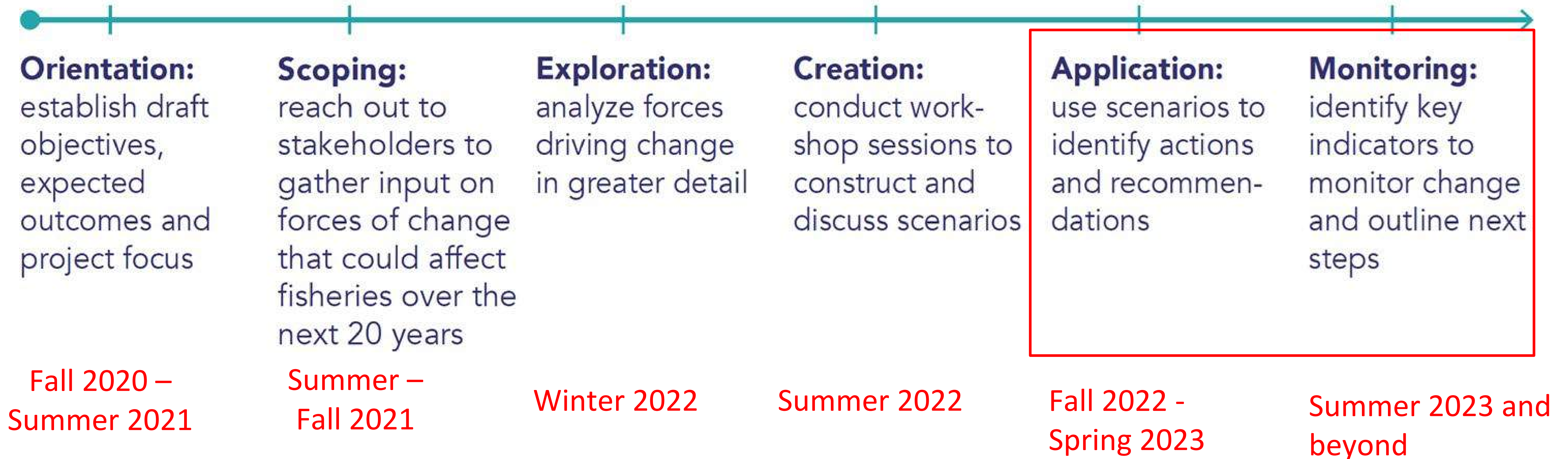
1. **Explore** how East Coast fishery governance and management issues will be affected by climate driven change in fisheries, particularly changing stock availability and distributions.

2. Advance a set of **tools and processes** that provide flexible and robust fishery management strategies, which continue to promote fishery conservation and resilient fishing communities, and address uncertainty in an era of climate change.



# Timeline

## Steps in this Multi-Year Initiative

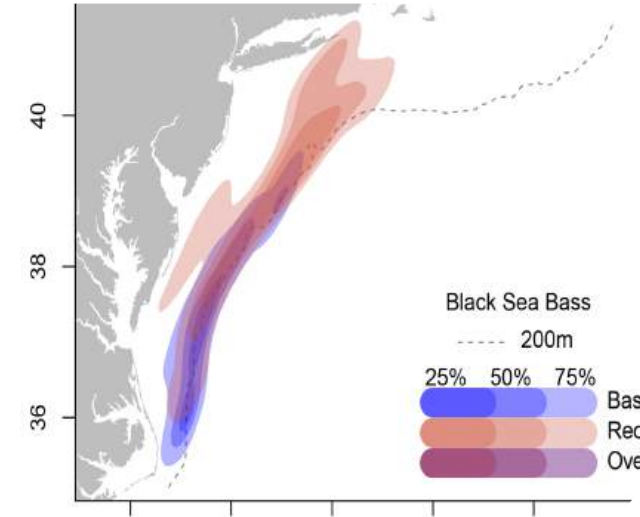


# Scoping Highlights (Summer-Fall 2021)

- High level of interest in these issues
  - 3 introductory webinars (over 250 attendees) and online questionnaire (383 responses)
- Stakeholders already seeing effects of climate change
- Identified range of oceanographic, biological, social & economic drivers of change over next 20 years



Range expansions



Range shifts



Changes in productivity and fish size



Shifts in timing or frequency of spawning



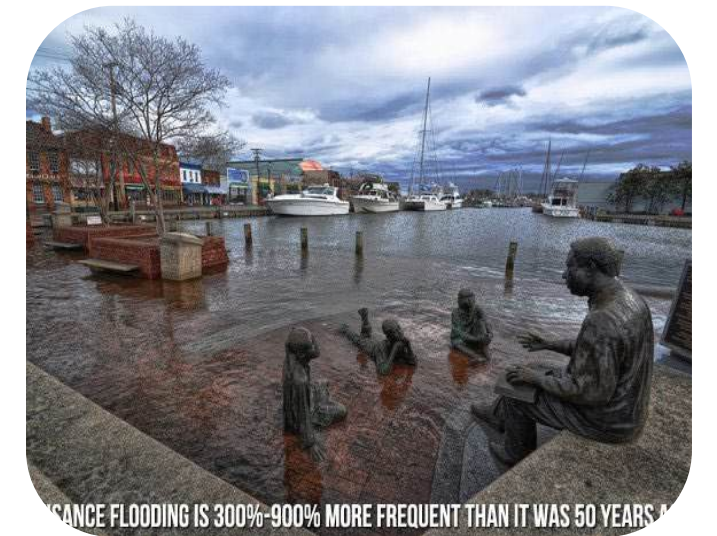
Estuarine habitat loss



New food web dynamics



Realigning businesses to adapt to new species



Sea level rise impacting boat access

# Exploration Phase: Identify “Drivers of Change”

Scoping input used to inform drivers; expert panels to explore in more detail:

## Oceanographic

1. Ocean temperature
2. Currents
3. Long term cycles
4. Cold pool
5. Water chemistry
6. Primary production
7. Extreme weather
8. Sea level rise

## Biological

9. Distribution changes
10. Productivity changes
11. Seasonal timing
12. Habitat vulnerability
13. Disease & Harmful Algal Blooms

## Social & Economic

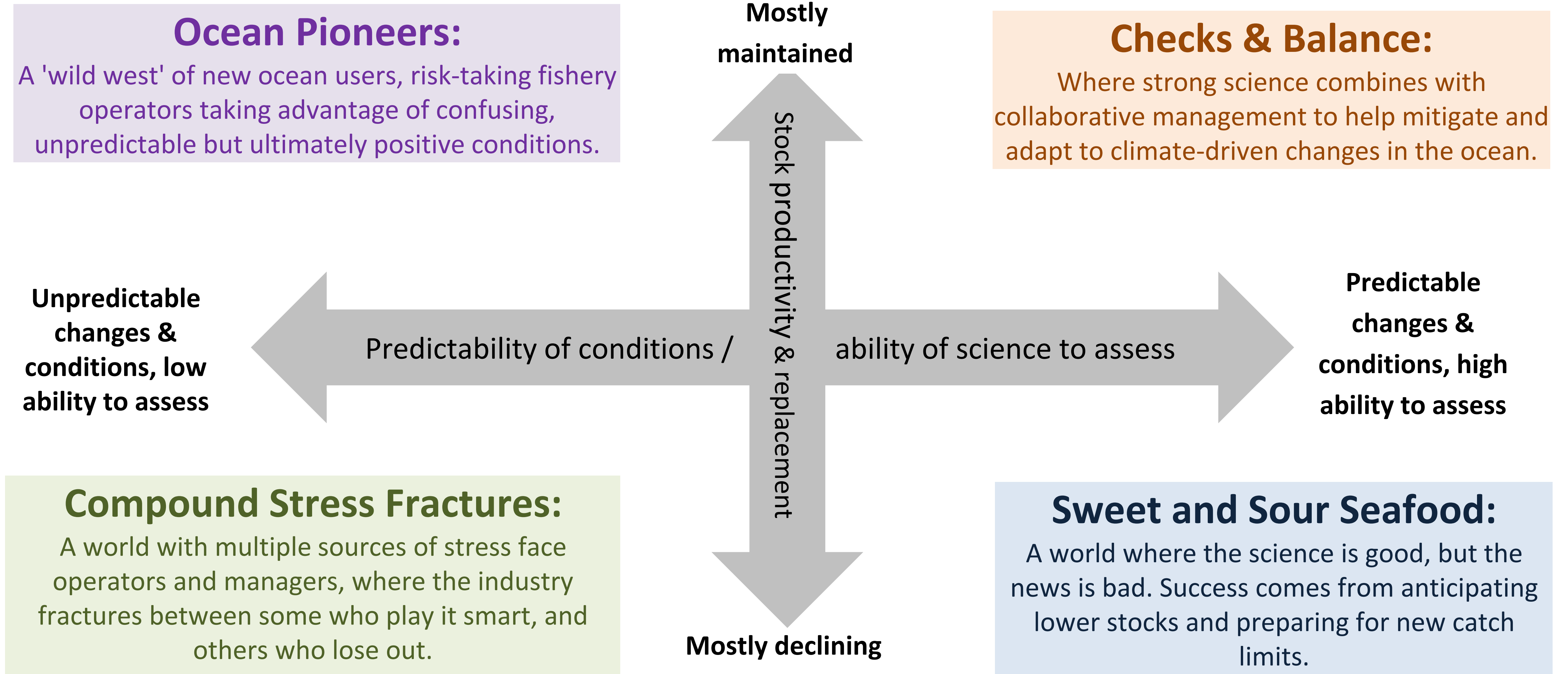
12. Population growth & demographics
13. External cost factors
14. Infrastructure and working waterfronts
15. Market dynamics
16. Technological change
17. Competing ocean uses
18. Social vulnerability & environmental justice

# Scenario Creation: Summer 2022

- 2.5-day workshop with ~75 participants from different stakeholder groups & regions
- Consider different possible combinations of **oceanographic, biological, and socioeconomic drivers of change**
- Create plausible, challenging, relevant, memorable stories that describe what we **might** face over the next 20 years
- Post-workshop “scenario deepening” stakeholder input process to add detail and validate scenarios



# Resulting Scenarios: East Coast Fisheries in 2042



# Applications Phase

Use scenarios as a **platform** to discuss:

- How well would our current systems work under each scenario?
- What would need to change to better prepare for these scenario possibilities?
- What are the tools and processes to advance now to ensure that fisheries are governed and managed effectively in an era of climate change?

Summit Meeting with managers in February 2023 served as capstone of process

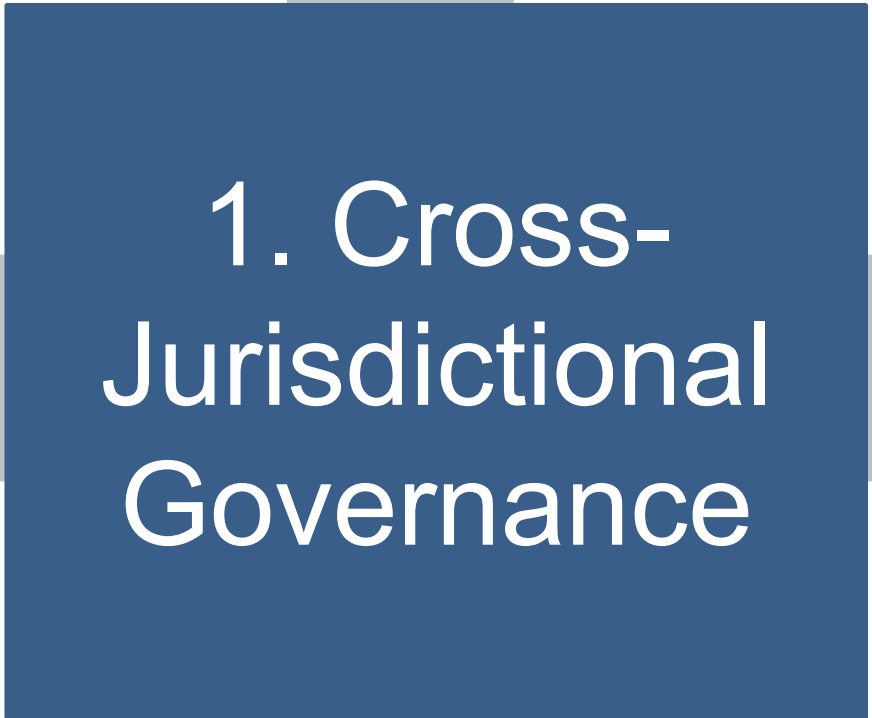
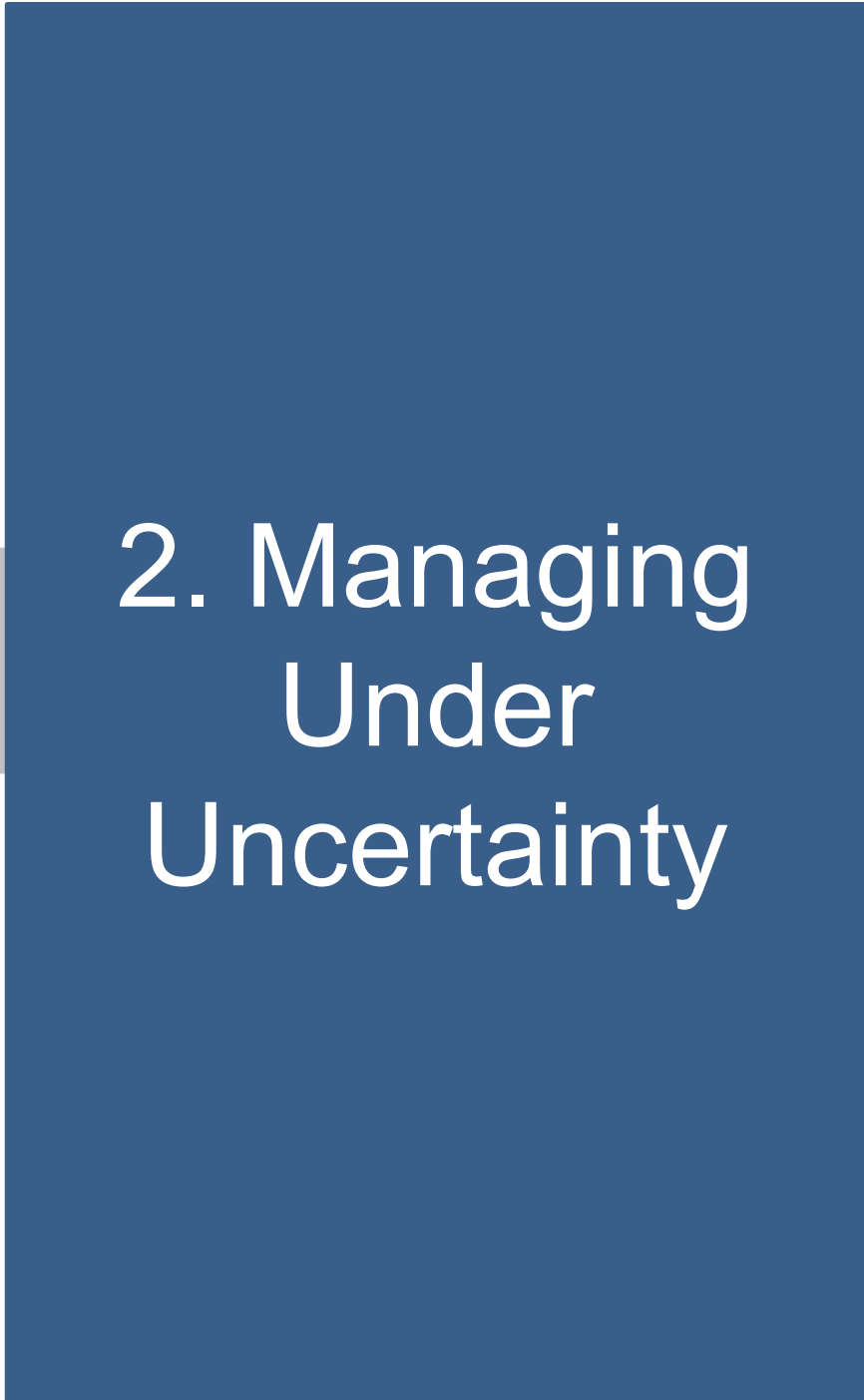


# Major Resulting Themes

## Ocean Pioneers

## Checks & Balance

Unpredictable changes & conditions, low ability to assess



Predictable changes & conditions, high ability to assess

## Compound Stress Fractures

## Sweet & Sour

# Key Product from Initiative

## “Potential Action Menu”

- **Expands** on summit recommendations; details specific actions and next steps
- **Prioritizes** actions (high/med/low) across 3 themes
- **Living document** - updated annually & used as planning tool



### 2025 Potential Action Menu

#### Introduction

The U.S. East Coast Fishery Management Councils (Councils, New England, Mid-Atlantic, and South Atlantic), the Atlantic States Marine Fisheries Commission (Commission), and the National Marine Fisheries Service (NMFS) conducted an East Coast Scenario Planning Initiative to explore jurisdictional, governance, and management issues related to climate change and fishery stock distributions. Representatives from these fishery management organizations have worked collaboratively and engaged diverse stakeholders to explore how changing ecosystems, socioeconomic conditions, and the regulatory environment will affect fishery management. This exploration was based on a multi-stage scenario planning process, where stakeholders generated several different possibilities for how changing conditions might affect east coast fisheries. This document builds on recommendations and actions developed at the February 2023 East Coast Scenario Planning Summit meeting. An overview of the scenario planning process and summit meeting can be found [here](#).

#### Role and Structure of Potential Action Menu

This potential action menu describes the actions identified through the scenario planning process, as well as [new recommendations based on fishery and ecosystem information evaluated annually](#). Most potential actions are relatively broad in scope, and each includes multiple specific next steps and possible relevant groups to take on the work.

The potential action menu is updated annually based on the recommendations of the East Coast Coordination Group (Coordination Group). The Coordination Group reviews all potential actions and prioritizations (high priority, medium priority, and parking lot) and recommends any modifications to the list of actions or their priority. A full list of potential actions by priority level can be found in the Appendix. The East Coast Core Team (Core Team) supports the Coordination Group by tracking progress of actions and associated next steps, highlighting actions that should be elevated in priority, or suggesting new actions based on changes in ecosystem conditions. This work is done annually.

The status of each of the actions and specific next steps for activities being addressed by the Coordination Group is tracked in a spreadsheet prior to the spring and fall Coordination Group meetings and is available at [www.mafmc.org/east-coast-coordination-group](http://www.mafmc.org/east-coast-coordination-group). Some actions are likely being addressed by other entities and status is not captured here or in the tracking spreadsheet. If the Core Team learns that an action or specific next step has been completed, it will be listed in the section of this menu "Completed Actions."

High priority potential actions are those that could be quick wins and/or that the Coordination Group views as important issues to address in the near term. Some of these actions include next steps that are already underway. The medium priority potential actions (also referred to as the 'watch list') are also important but could take more time or resources to address. These issues are viewed as

[2025 Potential Action Menu](#)

# New Groups & Processes Formed for Ongoing Prioritization

- **East Coast Coordination Group:** Leadership level group with reps. from 8 organizations. Prioritizes actions and coordinates/directs resources.
- **Core Team:** Staff support. Reviews new information, provides progress updates, recommends new priorities.



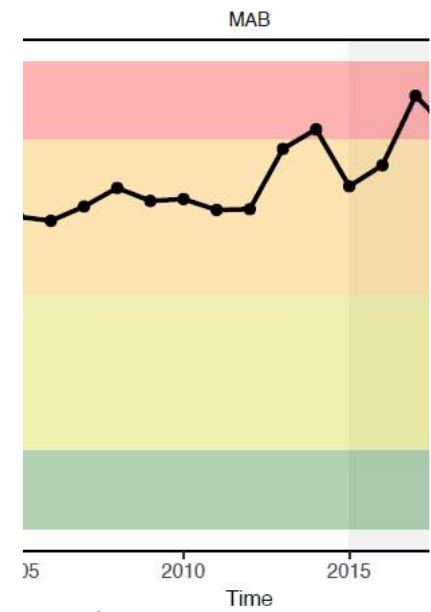
# Inflation Reduction Act Funding

- Summer 2023: As scenario planning project ended, NOAA received **Inflation Reduction Act funding** to advance climate resilience initiatives
  - \$2.5 million to each of the 3 East Coast Councils
  - Unexpected opportunity to immediately advance recommendations from scenario planning process

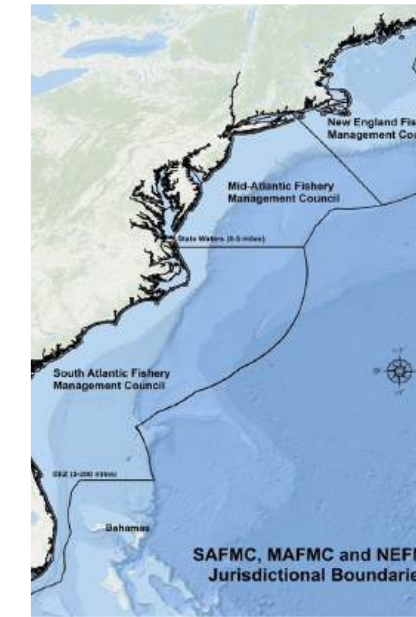


# 2025-2027 Priorities Driven by IRA Funded Work, Informed by Potential Action Menu

## Common themes:



Operationalizing ecosystem and habitat indicators for climate ready management



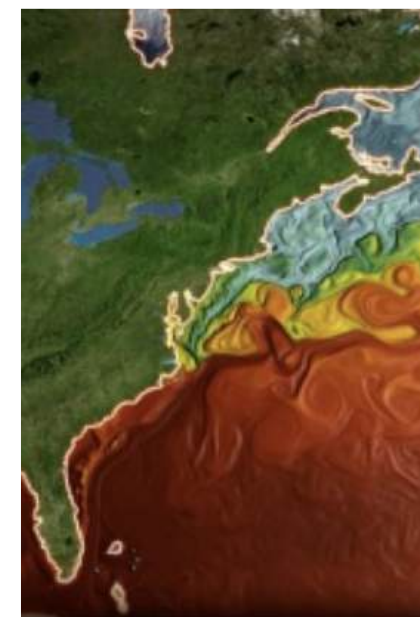
Addressing governance and representation issues



Assessing & responding to fishery distribution changes



Documentation and process improvements for joint and coordinated management



Evaluating uncertainties & data needs for climate informed management

# Did we achieve our expected outcomes?

✓ **A set of scenarios** a few stories that describe – in qualitative terms – different ways in which a changing climate might affect the future of East Coast fisheries

✓ **A better understanding** of the challenges and opportunities facing fishery management in the future

✓ **A set of near-term and long-term management priorities** that help achieve fishery management objectives under a range of different future conditions

✓ **Policy recommendations** for broader governance changes that improve our ability to adapt to future scenarios

✓ **A list of data gaps, research needs, and monitoring needs** for changing conditions

✓ **A framework** for ongoing conversation and idea generation for all stakeholders to use

# Reflections

Positives	Challenges
<ul style="list-style-type: none"><li>• Scenario framework allowed <b>aspirational, forward thinking</b> and helped redirect discussion away from short-term challenges</li><li>• Allowed for <b>quick response</b> to unexpected availability of funding</li><li>• Has <b>increased communication and coordination on priorities</b> among management entities</li><li>• <b>Increased familiarity</b> with differing regional perspectives and processes</li></ul>	<ul style="list-style-type: none"><li>• <b>Time and resource intensive:</b> more time, work, and funds needed than initially envisioned</li><li>• <b>Broad scope</b> (too broad?): many important issues; broad geographic scope; many entities impacted</li><li>• Despite general agreement on recommendations, <b>meaningful change still proving difficult</b> for more complex issues</li></ul>

# For Additional Information

Scenario  
Planning  
Initiative

- <https://www.mafmc.org/climate-change-scenario-planning>

East Coast  
Coordination  
Group

- <https://www.mafmc.org/east-coast-coordination-group>

Inflation Reduction  
Act Funding –  
East Coast  
Council Projects

- <https://www.mafmc.org/ira-projects>
- <https://www.nefmc.org/library/council-related-inflation-reduction-act-ira-projects>
- <https://safmc.net/resilient-fisheries/>

Contact

- [kdancy@mafmc.org](mailto:kdancy@mafmc.org)