



NOAA
FISHERIES

Science Updates

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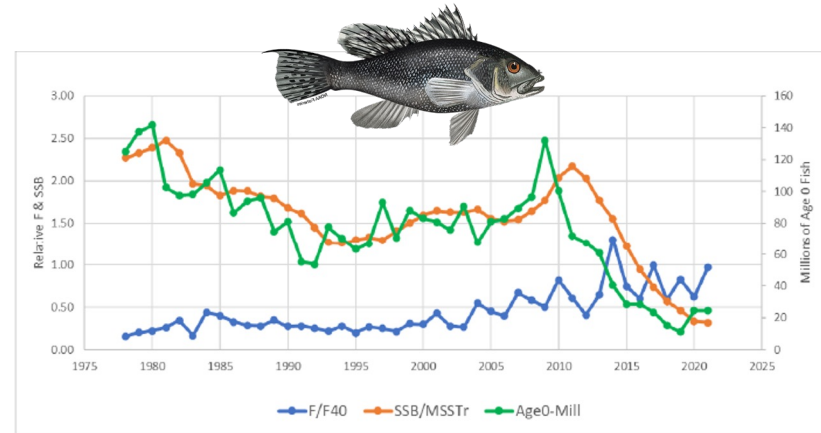
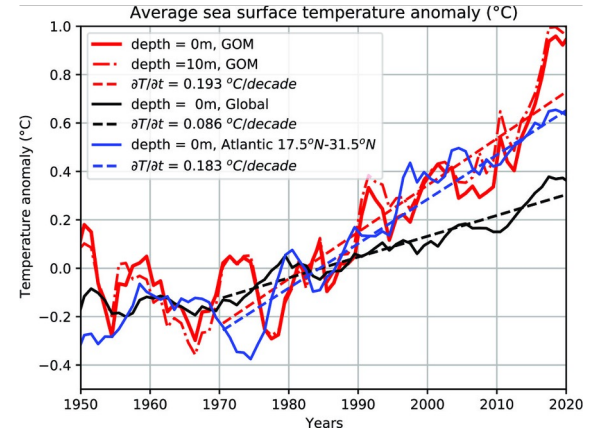
Outline

- **Data collection** considerations between NEFSC & SEFSC
- **Surveys & assessments** in the South Atlantic
- **FIMS**: the Fisheries Integrated Modeling System
- **CEFI**: Updates and Council involvement

Challenges we face

Climate driven:

- Shifting distributions
- Changing recruitment patterns in Atlantic
- Coral die-offs
- Other



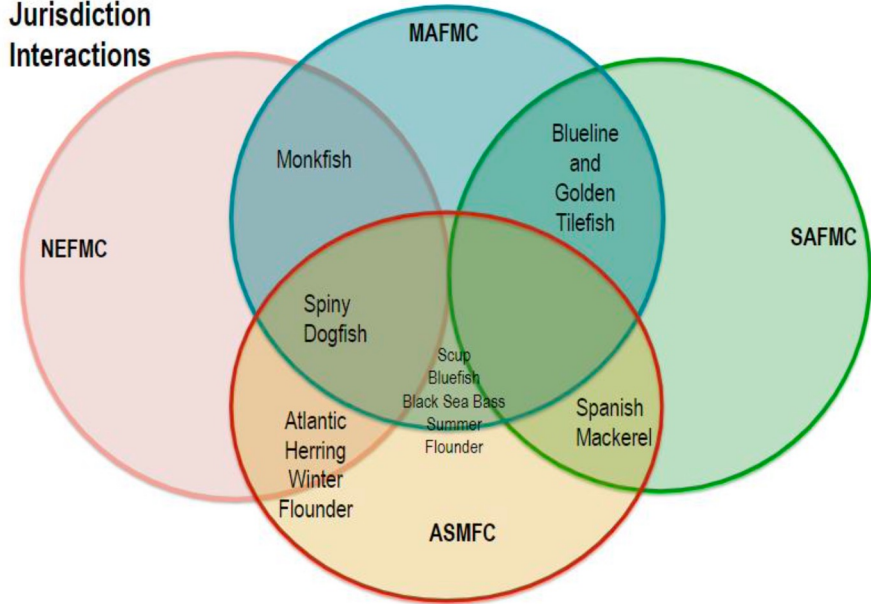
Issue:

There are species with overlapping management along the East Coast

Changing fish distributions is creating further overlap: Black Sea Bass, Cobia, King Mackerel, Spanish Mackerel

East Coast Climate Coordination Committee formed to address science and management challenges caused by changing distributions

Management Jurisdiction Interactions



South Atlantic Council to Hold King and Spanish Mackerel Port Meetings in New England and New York

The South Atlantic Fishery Management Council has scheduled [several port meetings](#) to gather stakeholder perspectives on the future of the king and Spanish mackerel fisheries. Three New England-focused meetings will be held via webinar on May 14, 15, and 16, 2024. An in-person port meeting will be held on June 4, 2024 in conjunction with a meeting of the Mid-Atlantic Fishery Management Council in Riverhead, New York.

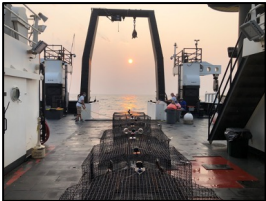
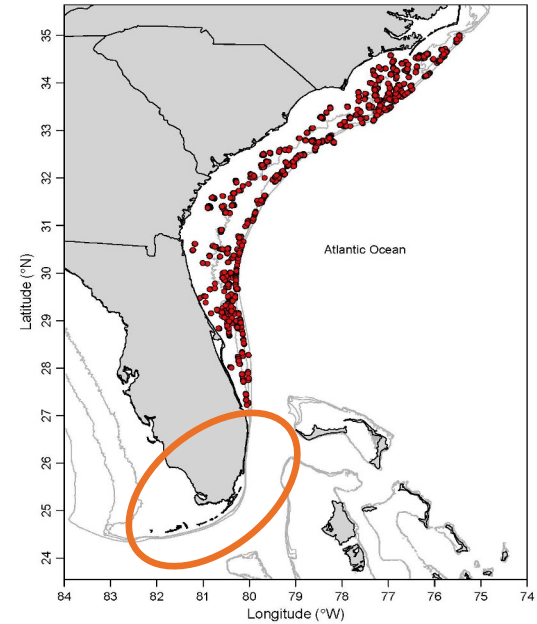
Response:

- Joint [NEFSC - SEFSC Workshop](#) held in 2021 to address survey coordination.
- Longline survey extended into Northeast to collect data on blue line tilefish (MAFMC funding)
- Planning to extend video-trap survey into the Northeast to collect data in / and around offshore wind developments
- Planning to extend Ecosystem Monitoring program to the Southeast (ship-time dependent)



SEFSC - South Atlantic Survey Developments

- Trap-video survey
 - 2024 **northward spatial expansion** - Cape Hatteras to SAFMC/MAFMC jurisdictional border
 - 2025 - state partners will perform preliminary sampling in pursuit of **southward spatial expansion** (Cape Canaveral to Tortugas)
- Deepwater longline survey
 - 2023 **northward spatial expansion** to Delaware Bay (ongoing)
- Ichthyoplankton survey
 - Proof of concept survey planned for 2025, **filling the South Atlantic Gap in New England to Gulf of Mexico ichthyoplankton survey efforts**
 - Includes eDNA sampling collaboration with MMTD and chl-*a* sampling for CEFI modeling efforts



Fisheries Integrated Modeling System

*A flexible suite of software
tools to support sustainable
fishery management*

What is FIMS?

- A suite of software tools.
- Stock assessment at core.
- Connects to ecosystem, climate, and economic models/data.
- Flexible for innovative future data types and methods.
- Collaborative community effort.
- Addresses numerous priorities.



[FIMS landing page](#) | [FIMS development repository](#)

Key Benefits of FIMS

*Helps move toward a more **integrated** and **interdisciplinary** approach to modeling and management.*

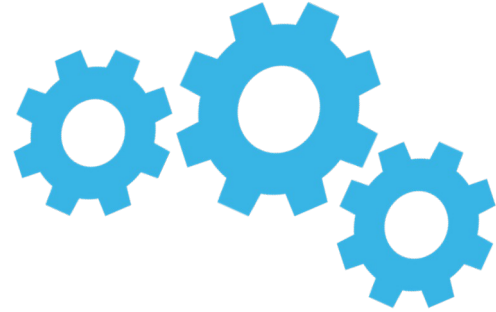
Very flexible and simple to use for innovative work.

Scales information from simple (data-limited) to complex (data-rich).

Helps scientists develop integrated models that connect components.

Developed and maintained by the community.

Timeline



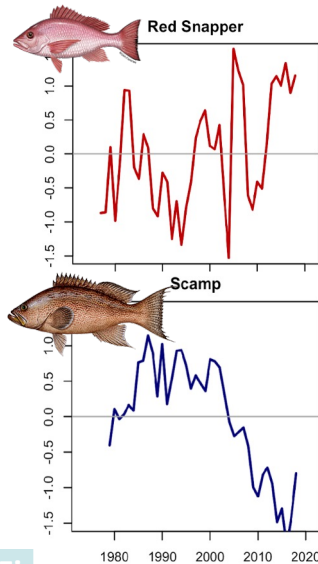
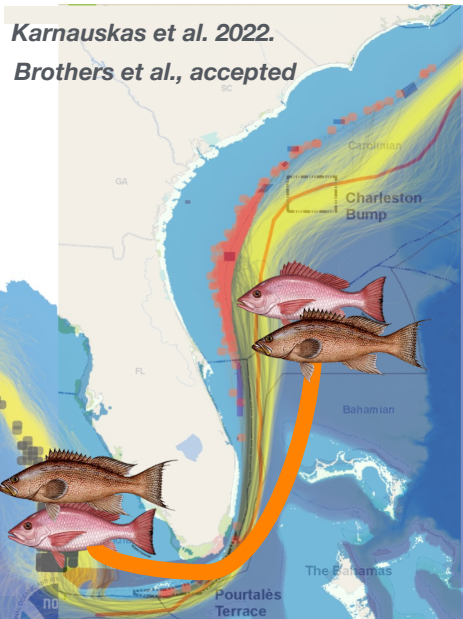
- **2024:** Add key features to FIMS
 - Fit to catches, indices, ages, and lengths
 - Allow for time-varying processes
- **2025+:** Implement key features including discards, reference points and forecasts
- **2026+:** Outreach, training, and start the process of transitioning to operations

Climate & Fisheries (Southeast)

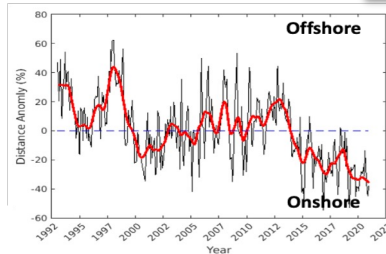
Oceanographic impacts on recruitment (snapper-grouper complex)

Issue: Physical oceanography drives changes in recruitment in space and time

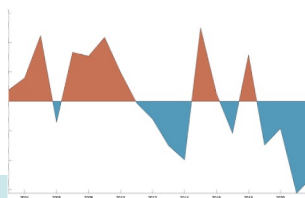
Overarching Goal: Assess the use of recruitment indicators to improve stock assessments and short-term forecasts.



Gulf Stream subsurface intrusion



Winter Chl-a



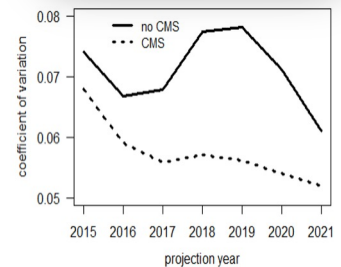
Indicators for Climate-informed advice

ESRs

Stock Assessments



Craig et al., 2022



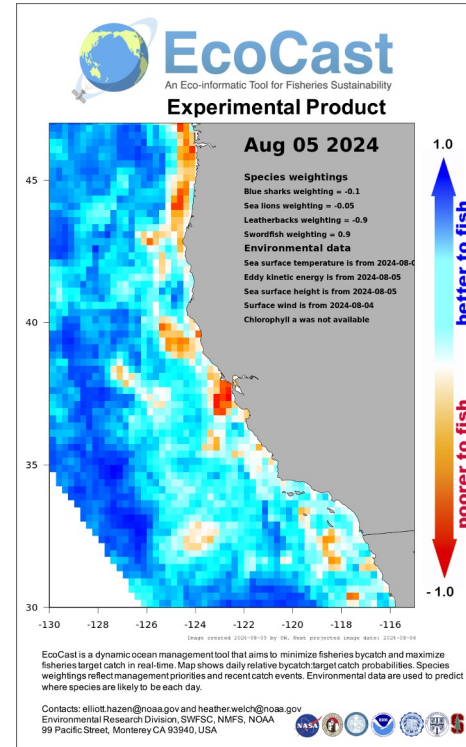
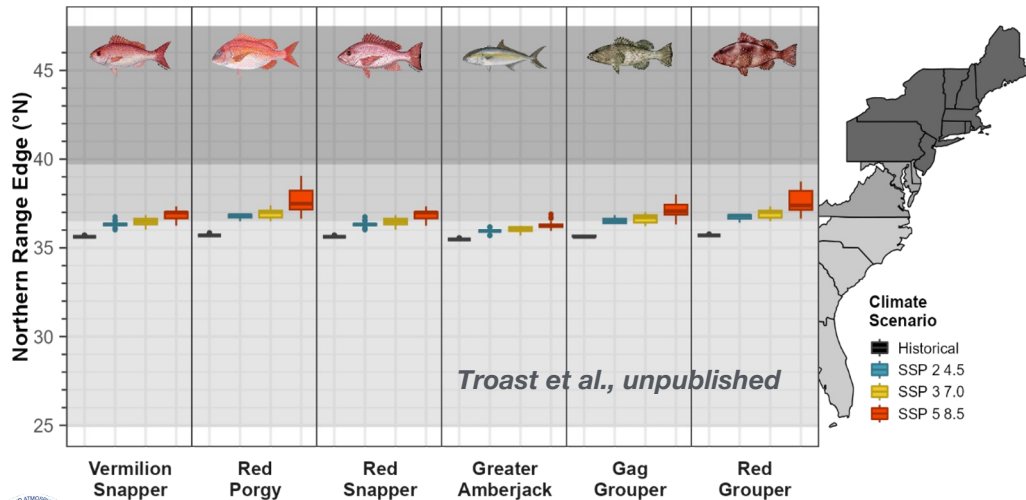
Karnauskas et al. 2017

Climate & Fisheries (Southeast)

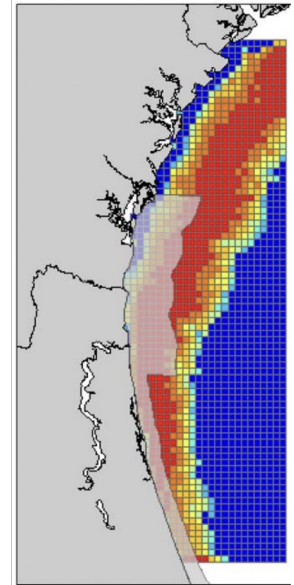
Shifting species distribution

Issue: Management will need to adapt to species distribution and abundance driven by climate

Approach: Forecast species range shifts/ expansions/ contractions under climate scenarios



Predicted Right Whale Relative Density



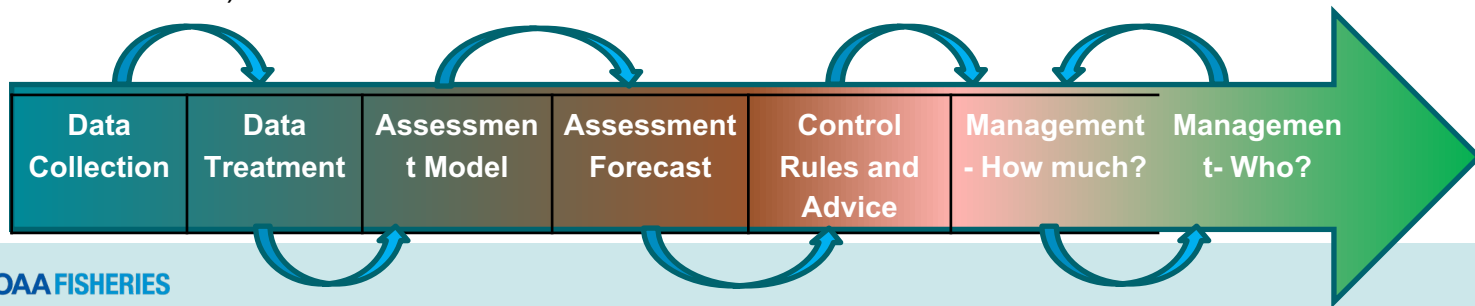
Garrison, 2007

Joint challenges as we manage fisheries in a changing climate

- What outcomes do we need to prioritize?
- What specific taxa, species, or fishing community considerations should we focus on together?
- Questions we might ask together include:



1. How are we adjusting the permitting process now to take into account shifted/shifting stocks?
2. How are we going to change ACLs/SDCs now to address present and future changes?
3. What are present mitigation options to account for CC effects on the full suite of fished taxa in a region?
(Winners & Losers)



Opportunities for Council involvement in CEFI and ensuring Council needs are considered

Organization-level connection points:

- SEFSC CEFI team coordinating on Council IRA projects throughout development and implementation phases
- SAFMC Council staff member on CEFI Decision Support Team
- SEFSC/SAFMC collaboration via [East Coast Climate Coordination Group](#) to oversee implementation of Climate Change Scenario Planning Initiative

CEFI demonstration project-level connection points:

- [Dolphin MSE](#) – Science Center/Council collaboration since project inception
- [Shrimp Futures](#) – ongoing socialization of project with [Council](#) and [AP](#)
- Recruitment studies – regular report-out on research via [SSC](#), [seminar series](#)
- Coastal migratory pelagics (Cobia, King & Spanish mackerel) – coordination on Gulf and SAFMC [stakeholder input](#)

Thank you

