

Update CFMC IRA Status

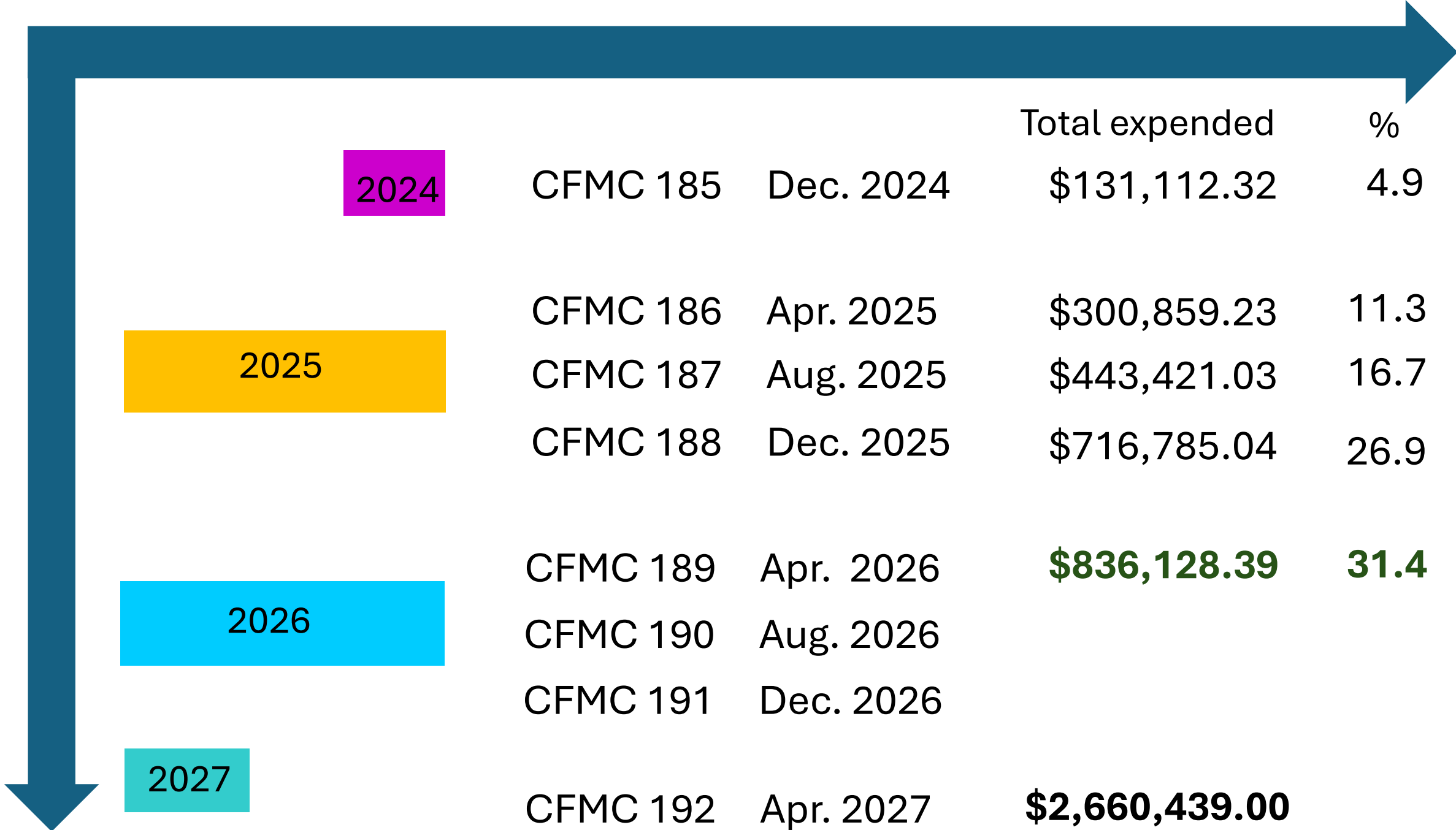
Martha Prada
CFMC IRA Coordinator

189 CFMC Regular meeting
Buccaneer Hotel, St. Croix
April 21-22, 2026



NOAA

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE



2024

CFMC 185 Dec. 2024

Total expended \$131,112.32 4.9%

2025

CFMC 186 Apr. 2025

\$300,859.23 11.3%

CFMC 187 Aug. 2025

\$443,421.03 16.7%

CFMC 188 Dec. 2025

\$716,785.04 26.9%

2026

CFMC 189 Apr. 2026

\$836,128.39 31.4%

CFMC 190 Aug. 2026

CFMC 191 Dec. 2026

2027

CFMC 192 Apr. 2027

\$2,660,439.00

Project	Allocated funds	Total payments	% Technical progress	% financial progress
CFMC-IRA-2024-001 Martha Prada	\$215,880.00	\$106,489.64	58	49
CFMC-IRA-2024-002 Consultores Educativos Ambientales	\$229,615.00	\$157,897.60	65	69
CFMC-IRA-2024-003 HJR Reefscaping	\$363,485.00	\$132,128.15	40	36
CFMC-IRA-2024-004 GCFI	\$349,035.00	\$65,788.36	40	19
CFMC-IRA-2024-005 Beyond Our Shores Foundation	\$372,921.00	\$259,533.82	65	70
CFMC-IRA-2024-006 Isla Mar Research Expedition LLC	\$384,082.00	\$52,930.51	40	40
CFMC-IRA-2024-007 - DPNR	\$575,929.00			
CFMC - Admin	\$169,492	\$61,360		36
Total / Average	\$2,660,439.00	\$836,128.39	51	46

April 15, 2026

1. Understanding extreme events and its impact on the fishery ecosystem and the fishers



Storybook with new graphic design.

2 in-person workshops in USVI (11 teachers, 8 fishers).

Storybook texts going through second adjustments with USVI LEK.

Upcoming work: 4 final virtual workshops, text updates completed and translated. Graphic design finalized.

Impacts of extreme events



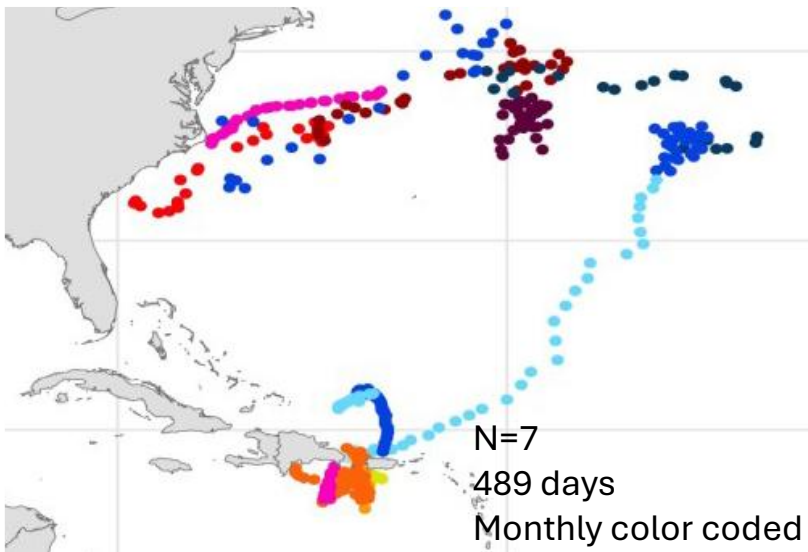
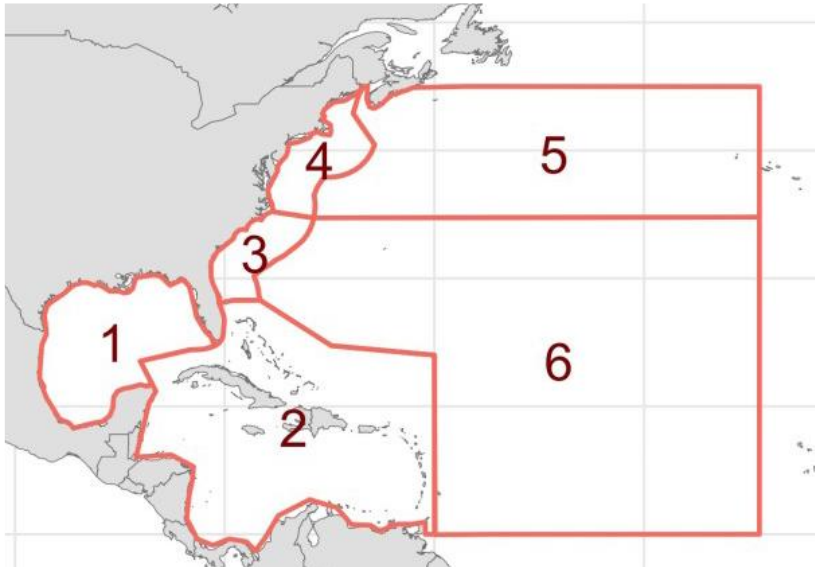
- They alter or reduce the abundance of coastal and marine species of economic, cultural, or ecological value.
- They hinder predictions of productive seasons.
- They displace tourism developments and cause investment losses.
- They increase the vulnerability of fisheries.
- They alter salinity and nutrient concentrations and generate stress in marine species.
- They change concentrations of harmful bacteria (*Escherichia coli*, *Enterococcus* sp.).
- They generate pollution along the coast and surrounding seas through the accumulation of sediments, debris, and waste (solid and liquid).

How to identify an extreme event



Description of the extreme event	Indicator
Increase in the intensity, duration, and frequency of tropical storms, including waves, depressions, storms, and hurricanes.	Number of days per year with storm winds.
Unusual rise in sea level (average height of the sea surface) that is becoming progressive.	Flooding level of low-lying wetlands.
Frequent impact of large waves on the coastal zone, gradually removing sand, soil, or rocks from the coasts.	Loss of beach width. Destruction of coastal infrastructure. Reduction of tourism.
Rapid decrease in seawater pH.	Degree of weakening of calcareous organisms such as corals, snails, crabs, lobsters, sea stars, sea urchins, among others.
Increase in terrestrial inputs in the coastal zone, including sediments and contaminants associated with catastrophic rainfall.	Rainfall greater than 2 inches in less than 4 hours. Significant and localized decrease in salinity. Number of days with turbid waters.
Significant and progressive increase in sea surface temperature.	Increase in the number of hot days. Appearance of algae such as <i>Sargassum</i> . More frequent or intense hurricanes.

2. Understanding Impacts of changing environments and Fishing Pressure on Dolphinfish



Species movement: drifters (2002 – to present), 21 satellite tags (12 PR; 7 USVI; 5 MAB), tag records (22), recaptures (9), 324 conventional tags (MAB 260; PR 31; USVI 33), 24 trips.

Environmental datasets: SST, Sargassum, wind, Teconnection patterns, currents Gulf Stream, Charleston Gyre, Mona Passage.

Fishing datasets: FAO, MRIP, FWC, ICCAT, SAU DF landings, PR recreational & CPUE, DR commercial catch.

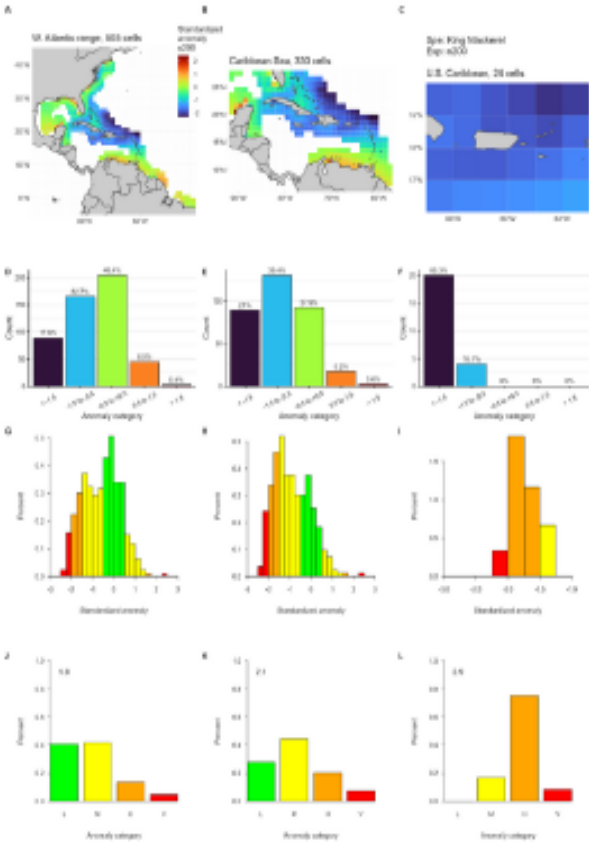
Data analysis: SatTagSim seasonal Markovian movement matrix, 6 spatial strata.

Upcoming work: 4 trips MAB (NC, FL, RI), data analysis continue.

3. Life history of priority managed species and evaluating their vulnerability to changing environmental conditions

25 species!!!

Exposure Factor Analysis Example



Anomalies!!!

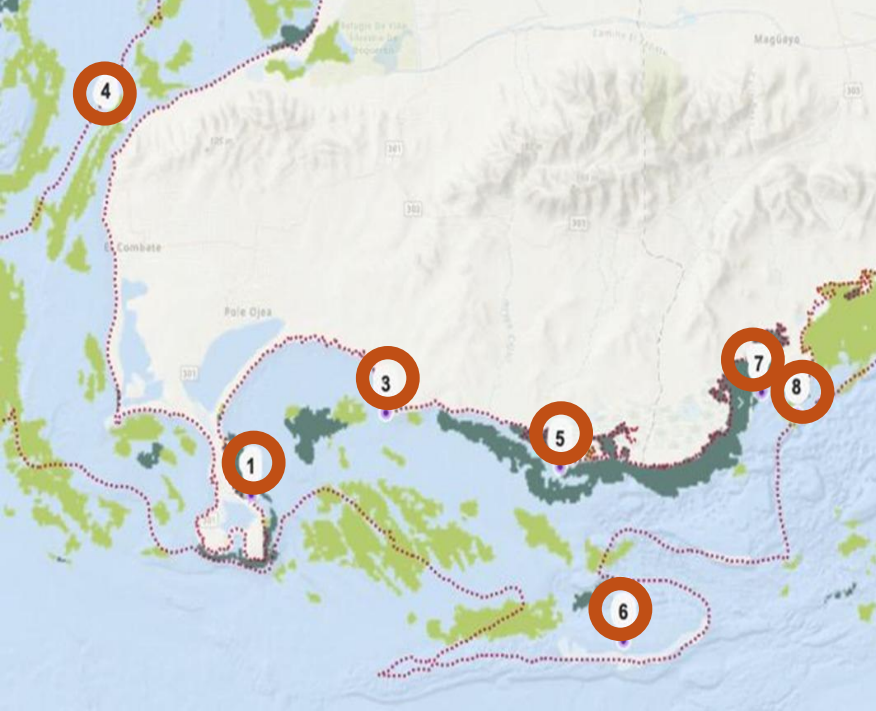
Matrices: Habitat, prey, ocean acidification tolerance, reproductive strategy, stock range, early life history requirements, stock size status, other stressors, population growth rate, mobility & dispersal early life stages, adult mobility, spawning characteristics, predation & competition, genetic diversity .

Scores: low, moderate, high, very high.

Exposure factors: 13 different quantitative & 3 qualitative environmental factors.

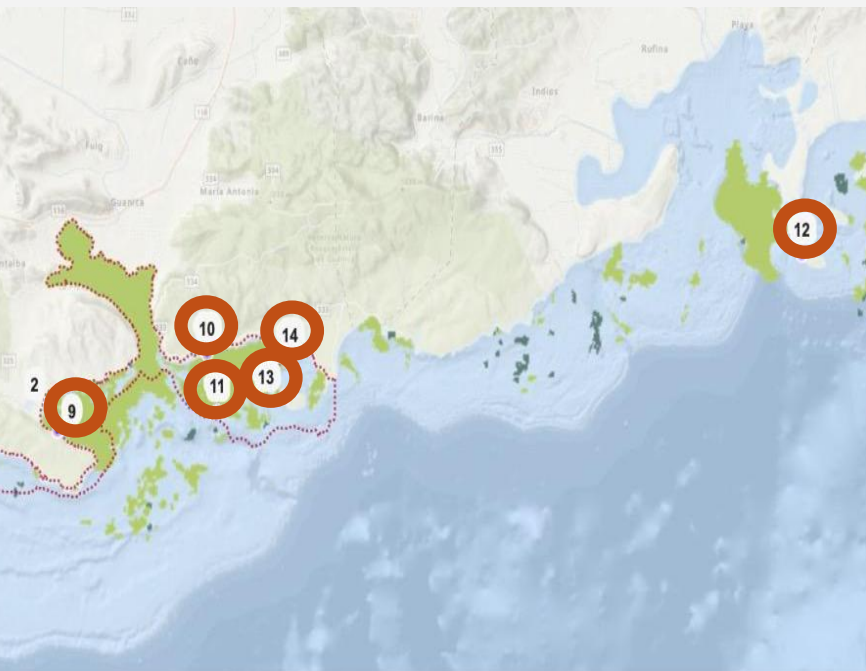
Upcoming work: complete/understand experts scores, vulnerability, traits, variability, directional effects, scores narratives.

4. Environmental vulnerability to Assess the ecological under a recovery plan: queen conch & Nassau grouper



Cabo Rojo to Guánica: 404 juvenile conch & 2 juvenile Nassau grouper registered.

Sal: 37.0-33.5; °T: 28-31°C, D.O.:80-120%, pH: 7.5-8.3

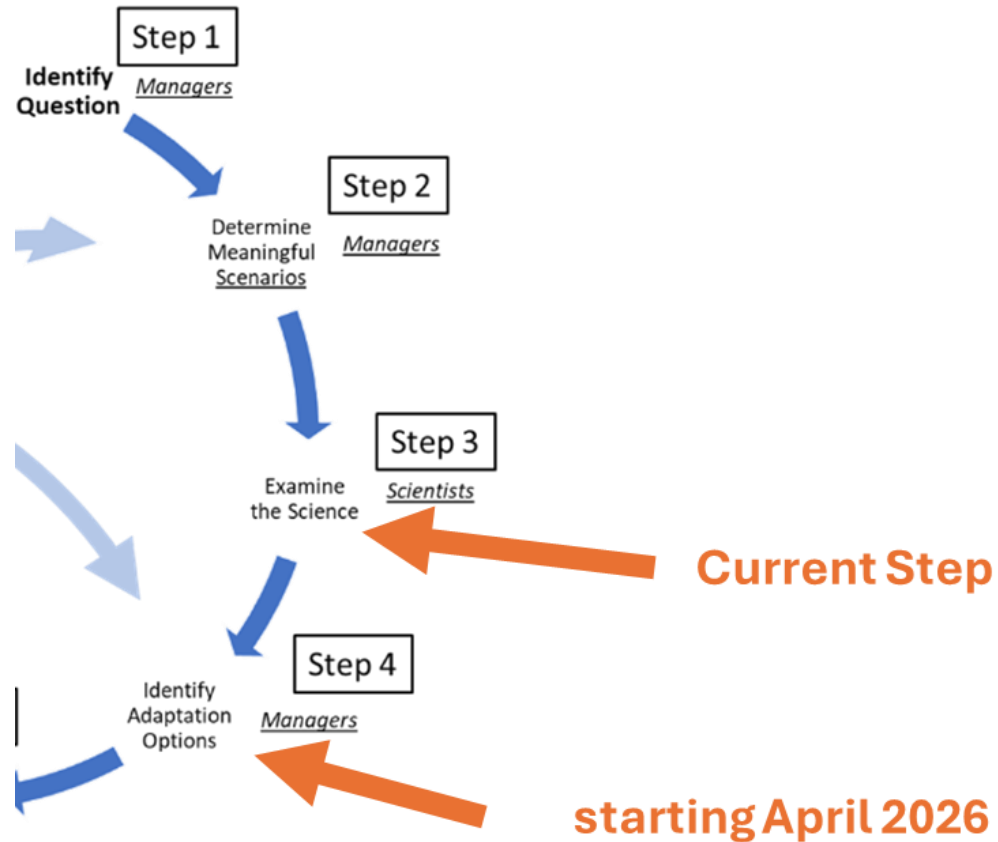


Surveys for adult conch completed. reproductive activity.

Workshop: Fishers PR west area.

Upcoming work: Continue surveys, data analysis, 1 workshop in STCX.

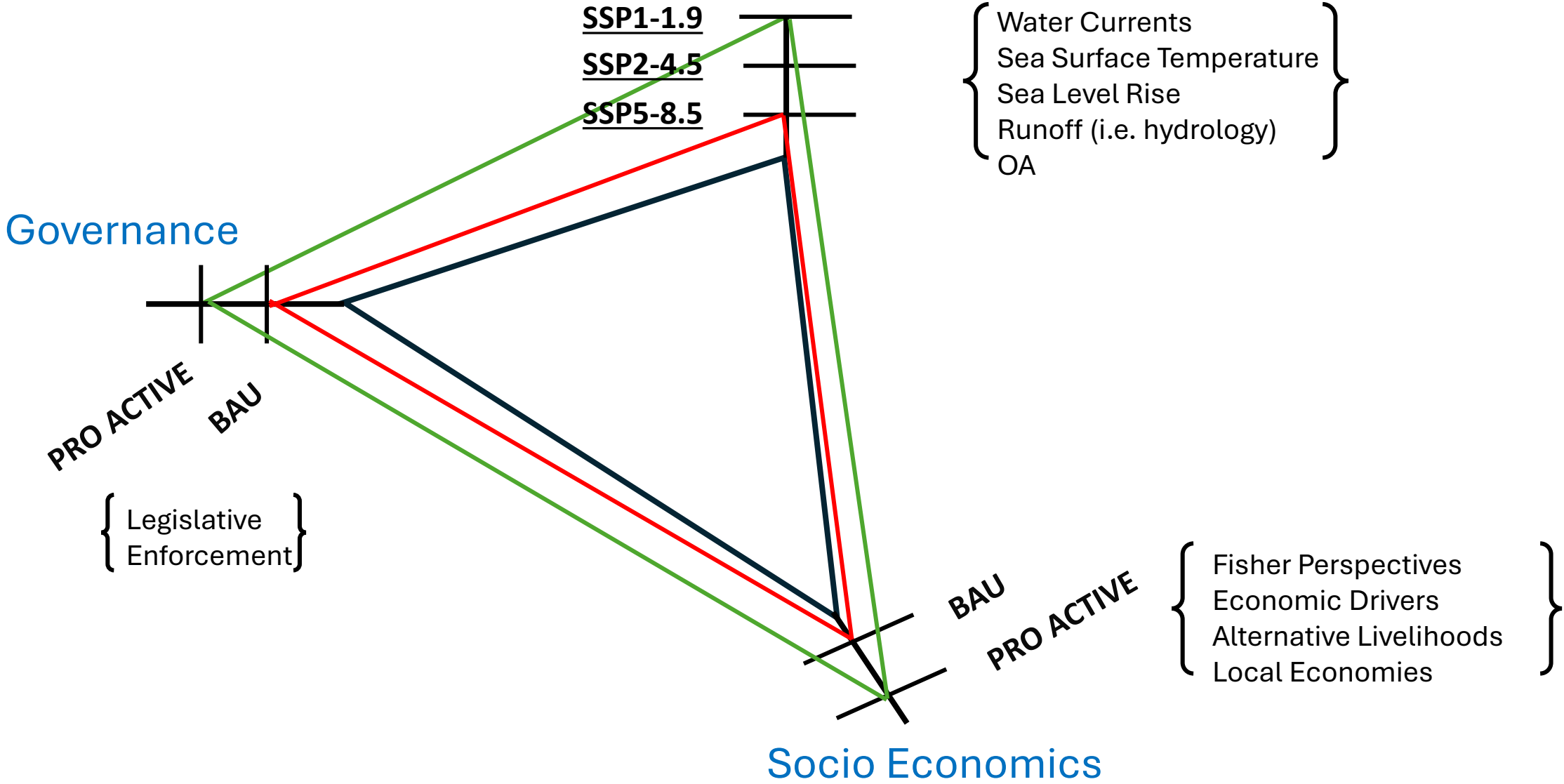
5. Adapting to Extreme events in the U.S. Caribbean: Implementing a Smart Approach to Ensure Sustainable Red Hind and Lobster Fishing



Science analysis: Listed scientific topics require in-depth examination in step Structure scenarios IPCC\ AR6 RCP 4.5, 6.5, 8.5 variables (minimum – aggressive).

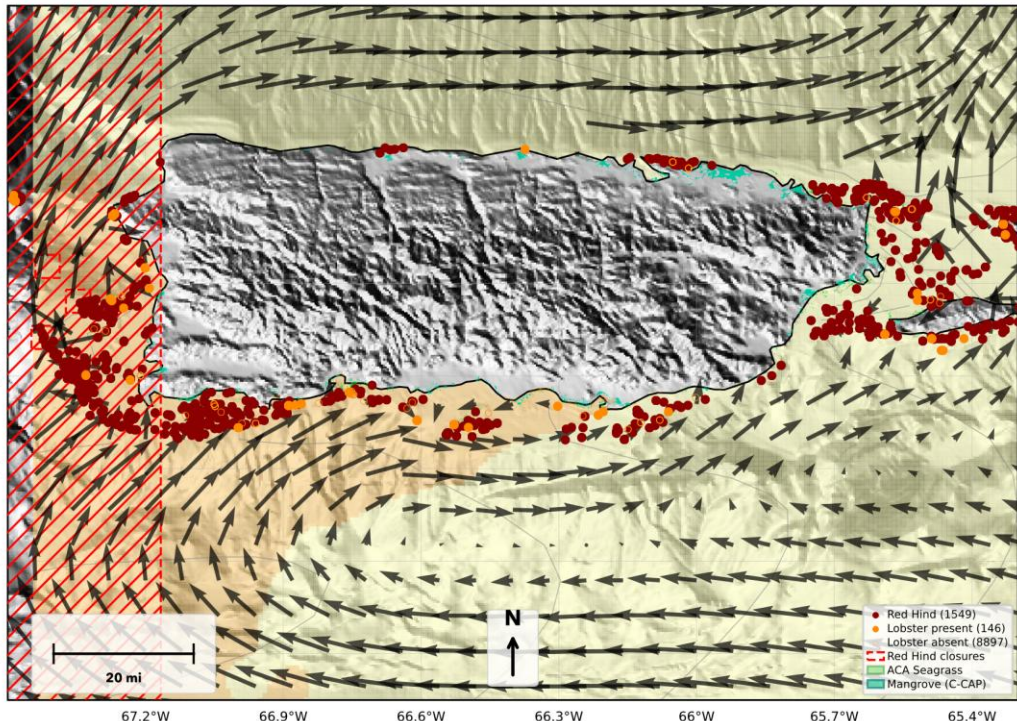
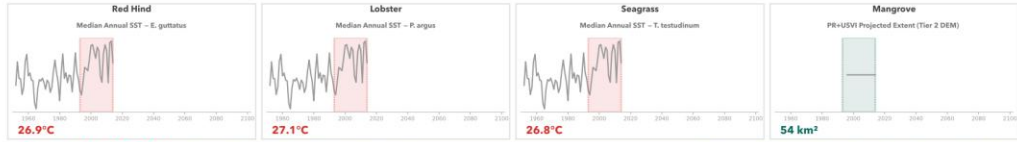
Upcoming work: finalize science, adaptation options (Step 4) workshops & online surveys. *Complete fishers interviews.*

Environmental Change



SST & currents modeling: current condition vs. high variation

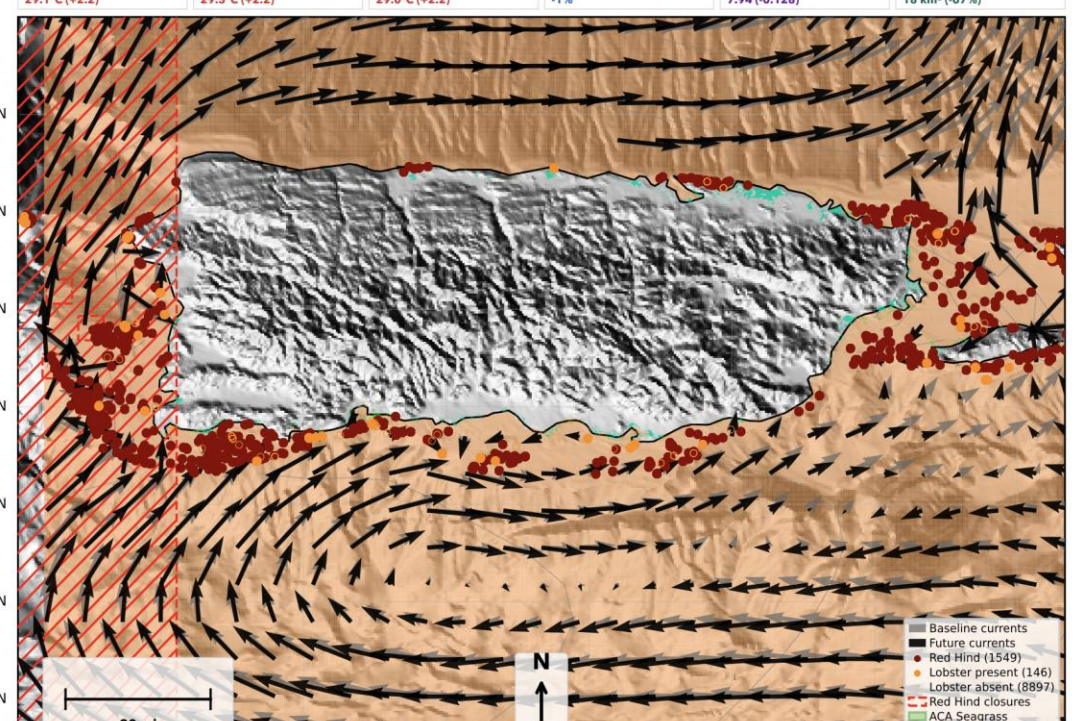
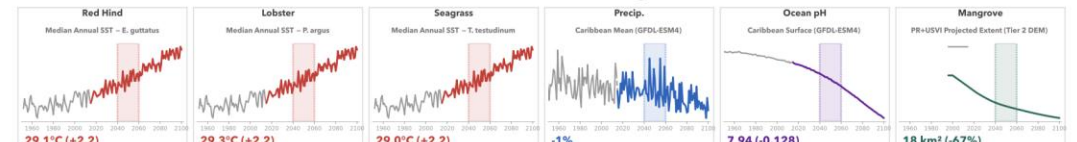
CaribeMAP: Puerto Rico – Historic Baseline Conditions (1993-2014)



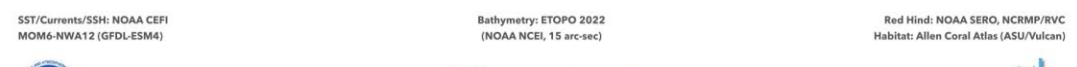
SST/Currents/SSH: NOAA CEFI MOM6-NWA12 (GFDL-ESM4)
 Bathymetry: ETOPO 2022 (NOAA NCEI, 15 arc-sec)
 Red Hind: NOAA SERO, NCRMP/RVC Habitat: Allen Coral Atlas (ASU/Vulcan)



CaribeMAP: Puerto Rico – SSP5-8.5 (High, ~2.1°C) (2040-2060)



SST/Currents/SSH: NOAA CEFI MOM6-NWA12 (GFDL-ESM4)
 Bathymetry: ETOPO 2022 (NOAA NCEI, 15 arc-sec)
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6. US Caribbean Community of Practice Hub to Operationalize Ecosystems Based Fisheries Management



Developing strategies for reallocation of funds

CFMC Takes Action

Caribbean Fishery Management Council
 ADVANCING, RESTORING AND MANAGING OF FISHERY RESOURCES IN THE U.S. CARIBBEAN



JANUARY-MARCH 2026
 Vol. 1 No. 5

As increasingly frequent and intense extreme environmental events alter marine ecosystems and fisheries, the need to identify robust adaptive management strategies that support the sustainability and resilience of species and fisheries has become urgent. To better understand these impacts and inform effective management planning, the Caribbean Fishery Management Council (CFMC) is collaborating with the Gulf and Caribbean Fisheries



"Adapting to a Changing Climate in the U.S. Caribbean: Implementing a Climate Smart Approach to Ensure Sustainable Red Hind and Lobster Fishing"

WWW.CARIBBEANFMC.COM

CFMC toma acción

Consejo de Administración Pesquera del Caribe
 AVANZANDO, RESTAURANDO Y GESTIONANDO LOS RECURSOS PESQUEROS EN EL CARIBE ESTADOUNIDENSE



ENERO-MARZO 2026
 Vol. 1 No. 5

Ante la creciente frecuencia e intensidad de eventos extremos que alteran los ecosistemas marinos y las pesquerías, se hace urgente la necesidad de identificar estrategias de gestión robustas y adaptativas que apoyen la sostenibilidad y la resiliencia de dichas especies y pesquerías. Para comprender mejor estos impactos y contribuir a la planificación eficaz de la ordenación pesquera, el Consejo de Administración Pesquera del Caribe (CFMC, en inglés) está colaborando con el Instituto de Pesquerías del Golfo y del Caribe



"Adaptándose a un clima cambiante en el Caribe estadounidense: Implementación de un enfoque climático inteligente que asegure la pesca sostenible del mero cabrilla y la langosta espinosa"

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Boletín para informar y compartir los avances de distintos proyectos que mejoran la sostenibilidad de las pesquerías en el Caribe Estadounidense.

(GCFI, en inglés) en el desarrollo de un proyecto financiado por la iniciativa NOAA – IRA al CFMC. Este esfuerzo, liderado por Bob Glazer y Alejandro Acosta, reúne a un equipo multidisciplinario de expertos en modelación, socioeconomía y biología marina, que se complementa con conocimientos ecológicos tradicionales de modo que fortalece la base científica del proyecto y su relevancia en la administración pesquera.

En este contexto, el poder anticipar las condiciones cambiantes — mediante la identificación de escenarios futuros probables — es un prerrequisito hacia una gestión eficaz y adaptativa. Por ejemplo, un escenario podría

Additional updates

Two new bulletins: CVA & Scenario planning

Council projects, Lunch & Learn: Caribbean spiny lobster & red hind done. Remaining projects scheduled.

Additional communication IRA projects: DAPs & OEAP.

<https://www.caribbeanfmc.com/advancing-sustainable-fisheries>

Species Selected as Priorities for Management

The table includes the Spanish, English, and scientific names of the species selected as priorities for management, according to the project described here. Based Fisheries Management Plans (BFMPs), species are divided into functional groups. The categories appearing in the plans are reef and rays. In addition to fish, the Caribbean spiny lobster, the conch, and resources (sea cucumbers, sea urchins, and corals) are included in the table, we have followed these categories and also the divisions by

-- Reef Fish | Peces arrecifales --

Snappers Pargos	Species Name	Nombre en español
	Silk Snapper	Chillo
	Queen Snapper	Cartucho
	Mutton Snapper	Sama
	Yellowtail Snapper	Colirrubia
	Lane Snapper	Arrayao

Especies seleccionadas como prioritarias para el manejo

A continuación, se incluyen los nombres en español, en inglés y científico de las especies seleccionadas como prioritarias, según el proyecto aquí reseñado. Dentro de los Planes de Manejo Pesquero Basados en Isla (BFMPs, en inglés), las especies están divididas en categorías basadas en grupos funcionales. Las categorías que aparecen en los planes son: peces de arrecife, peces pelágicos y rayas. Además de los peces, se incluyen la langosta espinosa caribeña, el carrucho y los recursos de arrecife de coral (pepinos de mar, erizos de mar y corales) en grupos aparte. En la tabla, hemos seguido estas categorías y también las divisiones por familias de especies.

-- Peces arrecifales | Reef Fish --

Pargos Snappers	Nombre en español	Species Name	Nombre científico
	Chillo	Silk Snapper	<i>Lutjanus vivanus</i>
	Cartucho	Queen Snapper	<i>Etelis oculatus</i>
	Sama	Mutton Snapper	<i>Lutjanus analis</i>
	Colirrubia	Yellowtail Snapper	<i>Ocyurus chrysurus</i>
	Arrayao	Lane Snapper	<i>Lutjanus synagris</i>

Thank you

Questions?