

# U.S. Caribbean Snapshot Ecosystem Status Report 2025

This is a short-form update to the full 2025 U.S. Caribbean Ecosystem Status Report (ESR) [1] highlighting the recent status of environmental, ecological, and socioeconomic factors. Indicators were compiled into two categories: tracking performance toward fishery management objectives and risks to meeting fishery management objectives.

## Overview of recent trends

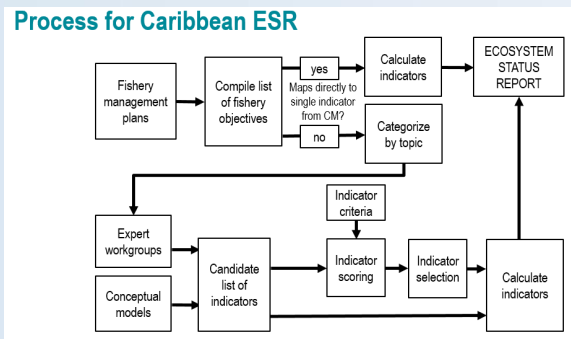
### Performance indicators

- 17 indicators were compiled to track performance towards management objectives.
- Indicators were categorized as relating to food production, socioeconomic health, equality, engagement and participation, bycatch reduction, governance, and protection of ecosystems.
- add some text about indicators

### Risk indicators

- 13 indicators were compiled to track risks to meeting management objectives.
- Indicators track changes in the physical environment and human activities.
- Major recent changes in the physical environment include increased sea surface temperature, coral bleaching stress, and ocean acidification.
- Other insights?

### Process for Caribbean ESR



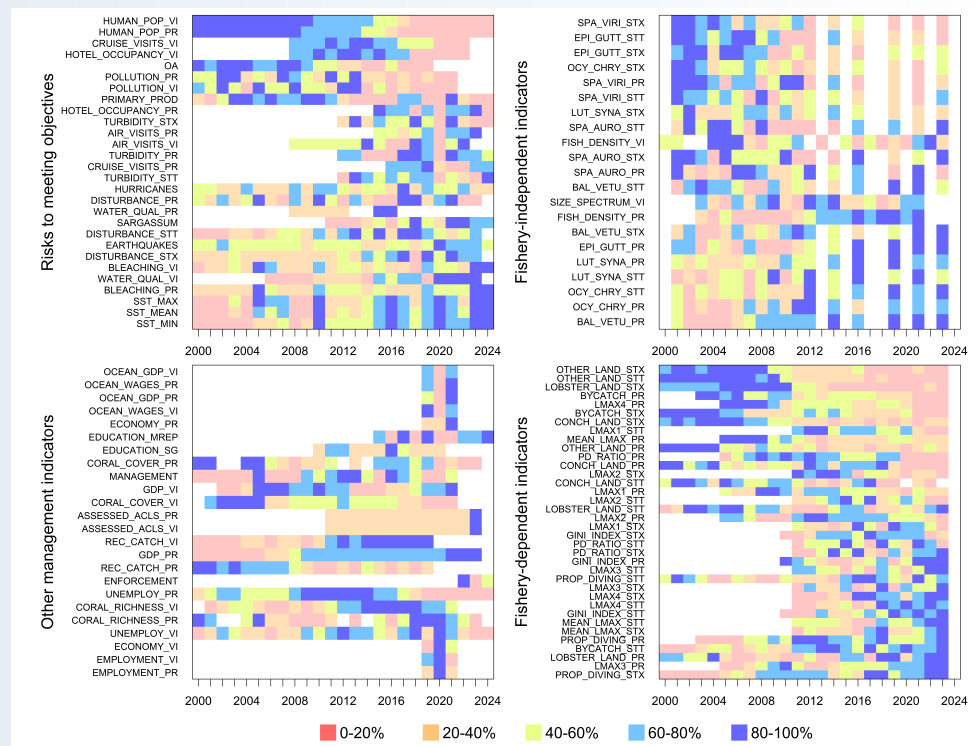
## Analysis

Multivariate methods (principal components analysis and traffic light plot; see details in full report) were used to synthesize the information contained in the full suite of indicators.

## Interpretation

The traffic plot conveys that many indicator values underwent rapid change in the period 2017-2021, and the PCA biplots confirm these patterns as there are larger two-dimensional shifts between these years. These shifts are most likely driven by several major stressor events in this time period, including the major hurricanes Maria and Irma (2017) and the COVID pandemic (2020-2021). Together, the multivariate analyses suggest that these events have had some destabilizing impacts on the U.S. Caribbean fishery ecosystem.

## Integrated Ecosystem Perspectives



Indicator	X2023.Value	X2024.Value	Time.Series
Mean winter (Feb-Mar) bottom temperature (°C)	8.5	7.9	placeholder_temp.png
Shelf water volume (km <sup>3</sup> )	1,200.0	1,150.0	placeholder_volume.png
Commercial Landings (MT)	500.0	520.0	placeholder_comm.png
Recreational Landings (MT)	300.0	280.0	placeholder_rec.png
Another Indicator	10.0	12.0	placeholder_indicator_a.png
Yet Another Indicator	25.0	28.0	placeholder_indicator_b.png

\* The y-axis units are included in the “Indicator” column of the table. In all figures, the dashed line represents the time series mean, and the solid green lines indicate  $\pm 1$  standard deviation. Commercial data were derived from the commercial dealer database hosted at the Greater Atlantic Regional Office. All dollar values have been adjusted to 2024 real dollars using the [Gross Domestic Implicit Price Deflator](#). The code used to create this report can be viewed online: [github.com/NEFSC/READ-EDAB-bsbESP](#)

We welcome your observations! Please contact [northeast.ecosystem.highlights@noaa.gov](mailto:northeast.ecosystem.highlights@noaa.gov) with any on-the-water insights or changes observed in the black sea bass fishery and [nefsc.esp.leads@noaa.gov](mailto:nefsc.esp.leads@noaa.gov) with questions or comments on the information presented in this report.

## References

1. R. Tabandera, A. Tyrell, M. McMahan, & P. Perez, Black sea bass ecosystem considerations and indicator development. (2024). <https://doi.org/10.25923/EZ9G-AF05>.
2. P. S. Fratantoni, T. Holzwarth, & M. H. Taylor, [Description of oceanographic conditions on the northeast U.S. Continental shelf during 2014](#). (2015).
3. L. Jean-Michel, G. Eric, B.-B. Romain, G. Gilles, M. Angélique, D. Marie, B. Clément, H. Mathieu, L. G. Olivier, R. Charly, C. Tony, T. Charles-Emmanuel, G. Florent, R. Giovanni, B. Mounir, D. Yann, & L. T. Pierre-Yves, The Copernicus Global 1/12° Oceanic and Sea Ice GLORYS12 Reanalysis. *Frontiers in Earth Science*, **9** (2021) 698876. <https://doi.org/10.3389/feart.2021.698876>.