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Update on Ecosystem Status Reports for the Gulf

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Gulf Council Ecosystem Technical Committee Meeting
May 9, 2025

Ecosystem Status Reports

- Synthesis products providing information on past and current trends of ecosystem conditions
- Support an ecosystem approach to management by providing context for decision-making
- Indicators can be linked to management objectives, or provide information on risks to meeting objectives

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

NOAA Technical Memorandum NMFS-SEFSC-706

2017 ECOSYSTEM STATUS REPORT UPDATE FOR THE GULF OF MEXICO

Mandy Karnauskas, Christopher R. Kelble, Seann Regan, Charline Quenée, Rebecca Allee, Michael Jepson, Amy Freitag, J. Kevin Craig, Cristina Carollo, Leticia Barbero, Neda Trifonova, David Hanisko, and Glenn Zapfe

INTEGRATED SOCIO-ECOLOGICAL SYSTEM OF THE GULF OF MEXICO

Ecosystem Status
Seabirds, Protected Species, Species Interactions, Primary Productivity, Fish Abundance

Human Wellbeing
Social Services, Basic Needs, Economic Security, Education, Health, Safety, Social Connectedness

Human Activities
Fishing, Farming, Water Use, Recreation, Research, Management, Energy Extraction

Local Social Systems
Laws, Policies, Economic Institutions, Political Systems

Habitat
Marine, Estuarine, Freshwater, Seagrass, Oyster, Artificial Habitat

Climate & Ocean Drivers
Climate, Sea-Level Rise, Ocean Currents, Hurricanes

Social Drivers
Population Growth, Tourism, Economic Patterns

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, Florida 33149

March 2017

Sea surface temperature western subregion

standardized monthly anomaly

1985 1995 2005 2015

Proportion of stocks undergoing overfishing

proportion

2000 2005 2010 2015

Ocean-related GDP

billions of dollars (adj. to 2013)

2006 2008 2010 2012

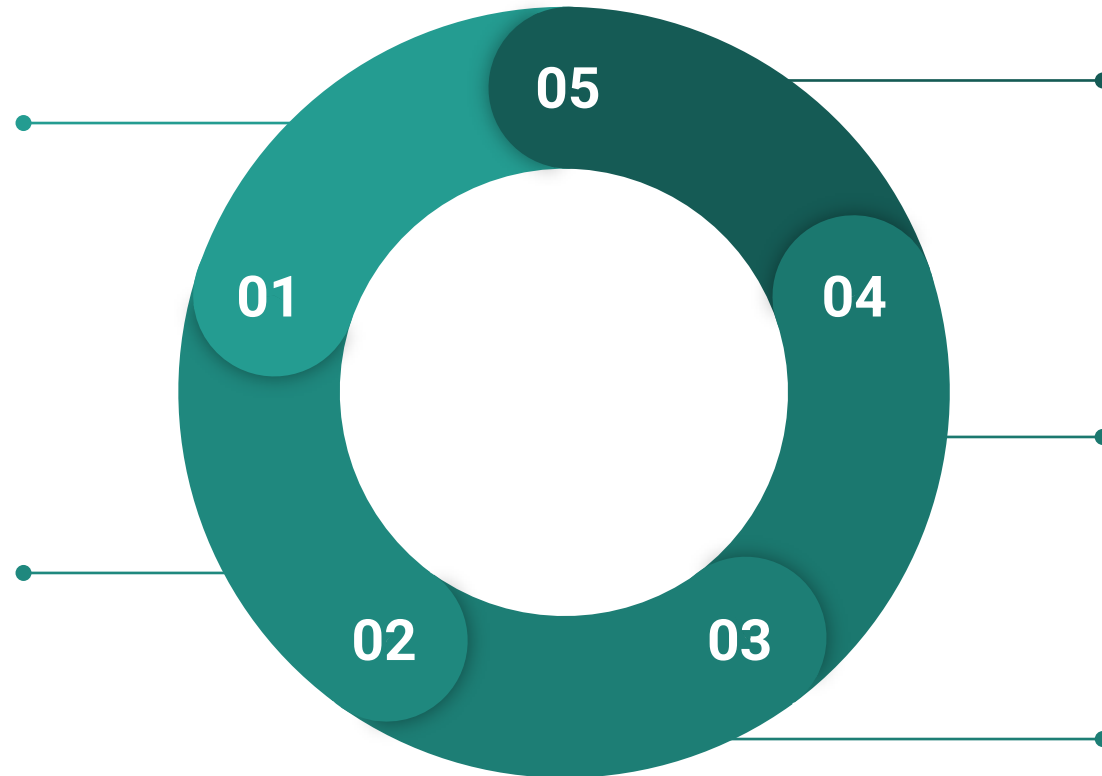
Ecosystem Status Report workflow

Access the data

Download / request data for each indicator on an annual basis

Create the indicators

Clean the data, manipulate as needed into an indicator time series



Review the report

Allow collaborators to contribute to and review the report

Create the report

Combine background text, figures, interpretations of indicators, and other information into a report

Plot the indicators

Create time series plots / other visuals for indicator data that are not time series

Building Ecosystem Status Reports... the old way

Google Sheets

You need access

Request access, or switch to an account with access.
[Learn more](#)

Message (optional)

Request access

You're signed in as [carissa.gerv...](#)

I need your data please

Professor X

I need your data please

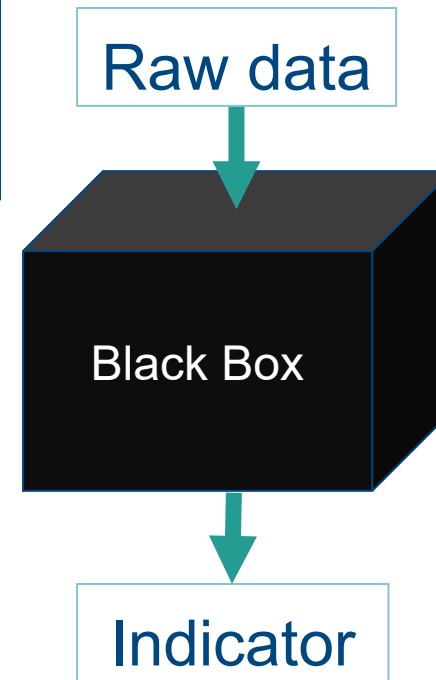
Dear Professor X,

We are updating an Ecosystem Status Report for the Caribbean region. Could you please send us updated data on your totally awesome indicator through 2023?

Carissa

404

Page not found



Name

- feature story final files
 - feature story-1 final.docx
 - feature story-2 final-final.docx
 - feature story-3 final-final-final.docx
 - feature story-HereWeGoAgain-final.docx
 - feature story-NotKidding-final.docx
 - feature story-YGTBFKM-final.docx

"Final"...You keep using that word. I do not think it means what you think it means.

Average time to completion:
~2-3 years



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Building Ecosystem Status Reports... the efficient way



Access the data



Create the indicators



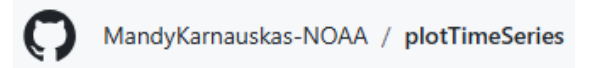
Review the report



Create the report



Plot the indicators



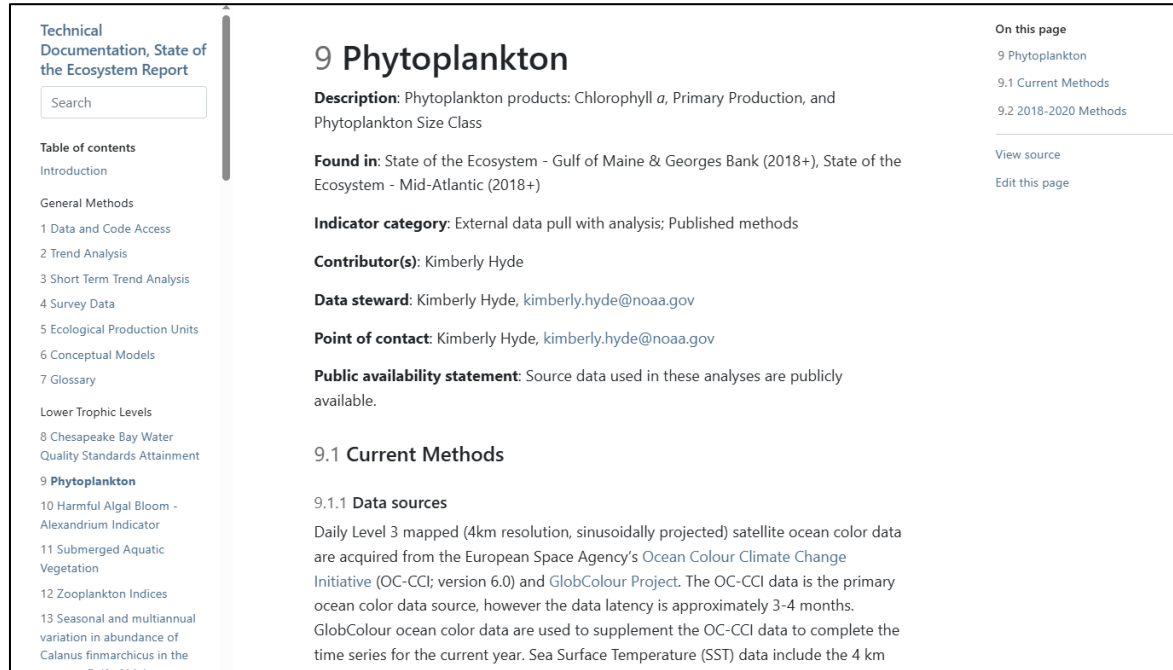
Caribbean Ecosystem Status Report (completed 2025)

- Reproducible, open source
- More concise, less text
- Indicators explicitly tied to management objectives
- Static PDF and interactive web versions
- Modular for incremental improvements
- Time to update indicators (once data are available) ~2-3 weeks

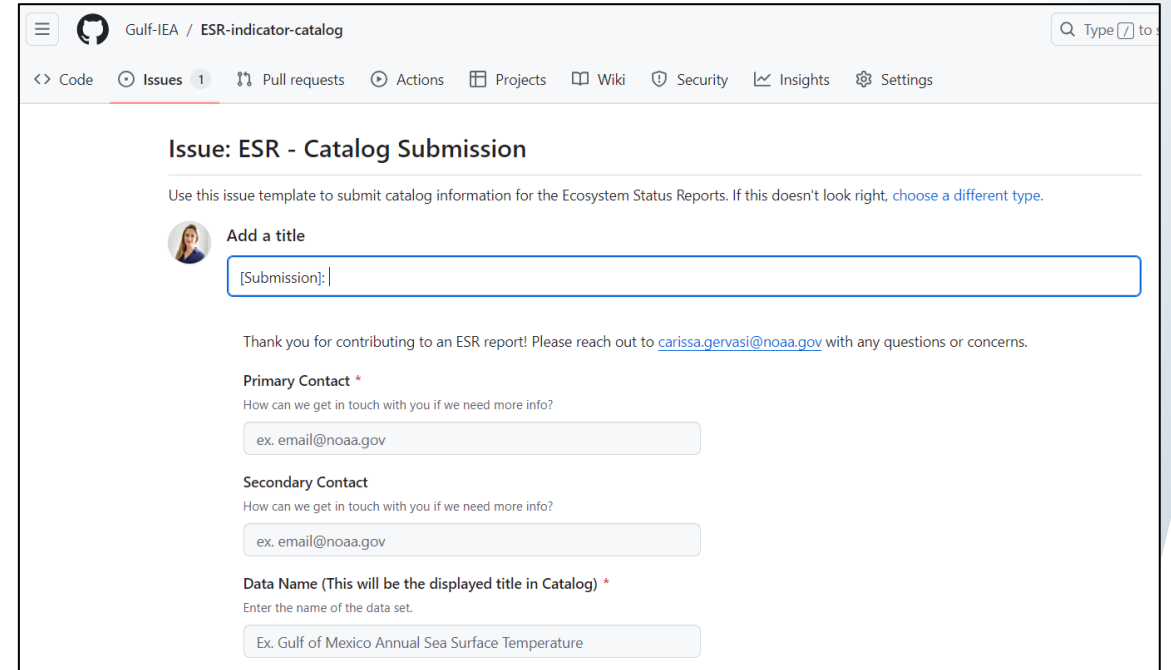
The collage displays various components of the Caribbean Ecosystem Status Report. At the top left is the main report cover, featuring the title 'Caribbean Ecosystem Status Report' and the Southeast Integrated Ecosystem Assessment Program logo. To its right is a digital version of the report with the NMFS Open Science logo and a table of contents listing sections from Introduction to References. Below these is a page titled '2 Tracking performance toward fishery management objectives', which includes a sub-section '2.1 Food production' and '2.1.1 Abundance of economically important species'. To the right of this page is a 'Table of contents' listing 2.1 Food production (with sub-sections 2.1.1-2.1.4) and 2.2 Socioeconomic health (with sub-sections 2.3-2.7). At the bottom right is the 'openscapes' logo, which features a stylized landscape with fish and the website 'openscapes.org'. Below the logo is the GitHub repository link: <https://github.com/Gulf-IEA/Caribbean-ESR-2>. The bottom of the collage shows the NOAA logo and the NOAA Fisheries logo.

Gulf Ecosystem Status Report update

Timeline: 2025 - 2026; next steps are to collate existing indicators in catalog



The screenshot shows a technical documentation page for 'Phytoplankton'. On the left is a navigation sidebar with a search bar and a table of contents. The main content area includes a description of phytoplankton products (Chlorophyll a, Primary Production, and Phytoplankton Size Class), found in 'State of the Ecosystem - Gulf of Maine & Georges Bank (2018+)', and 'State of the Ecosystem - Mid-Atlantic (2018+)'. It also lists an indicator category, contributor (Kimberly Hyde), data steward (kimberly.hyde@noaa.gov), point of contact (kimberly.hyde@noaa.gov), and a public availability statement. A sub-section '9.1 Current Methods' includes '9.1.1 Data sources' which describes satellite ocean color data from the European Space Agency's OC-CCI and GlobColour Project, and GlobColour ocean color data used to supplement OC-CCI data.



The screenshot shows a GitHub issue template for 'ESR - Catalog Submission'. The issue title is 'Issue: ESR - Catalog Submission'. Below the title is a text input field with the placeholder '[Submission:]'. The template includes a thank you message and contact information for Carissa Gervasi (carissa.gervasi@noaa.gov). It also has sections for 'Primary Contact' and 'Secondary Contact', each with a text input field and the placeholder 'ex. email@noaa.gov'. The 'Data Name' section has a text input field with the placeholder 'Ex. Gulf of Mexico Annual Sea Surface Temperature'.

Using similar infrastructure as Northeast State of the Ecosystem technical documentation to create an indicator catalog for the Gulf

Intake form for data contributors

<https://github.com/Gulf-IEA/ESR-indicator-catalog>



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More information

Gulf ESRs

<https://www.integratedecosystemassessment.noaa.gov/regions/gulf-mexico/gulf-mexico-ecosystem-status-reports#gulf-of-mexico-ecosystem-status-report>

South Atlantic ESR

<https://www.integratedecosystemassessment.noaa.gov/regions/gulf-mexico/south-atlantic-ecosystem-status-report>

Caribbean Ecosystem Status Report Github Page

<https://github.com/Gulf-IEA/Caribbean-ESR-2>

Collaborators

Brendan Turley

Brittany Troast

Seann Reagan

Amy Freitag

Openscapes community

