

2024 Pacific Islands GIS & Remote Sensing Users conference



NOAA CoastWatch & PacIOOS: Training Course to Access and Use Data for Ocean and Coastal Applications, Nov 26, 1-6pm, Suva, Fiji

NOAA OceanWatch Central Pacific

Daisy Shi

NOAA Pacific Islands Fisheries Science Center, Honolulu, HI



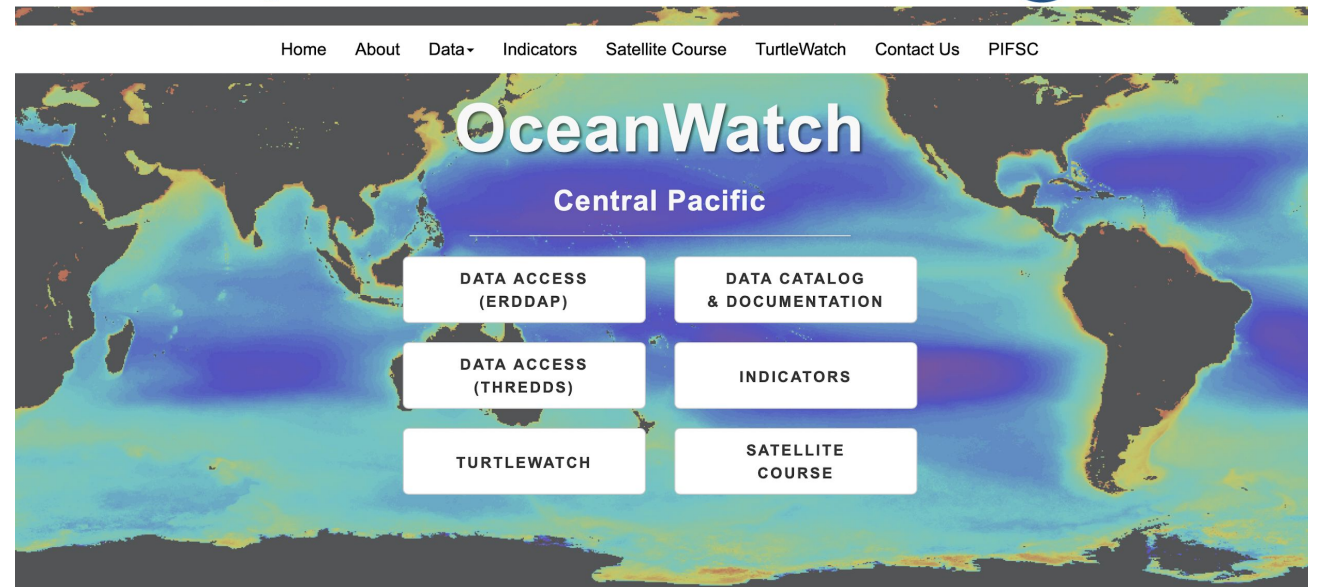
Pacific GIS and
Remote Sensing Council

coastwatch.info@noaa.gov



OceanWatch and CoastWatch

- Help people find, choose, access, and use **satellite observations** for ocean, coastal and inland water applications.
- Understand and address the needs of a wide range of stakeholders in the Pacific Islands region.
- Distribute relevant satellite data products, work with users on specific applications, and organize training courses to build capacity.



<https://coastwatch.noaa.gov>; <https://oceanwatch.pifsc.noaa.gov>

Provide a variety of satellite data products for the Pacific Islands region

Products	Variables	Spatial resolution	Coverage	Temporal resolution	Time span	Dataset names
Sea Surface Temperature	SST	2, 4, 5km	global	Daily to monthly	1981-present	ACSPO, CoralTemp, Geopolar blended, AVHRR Pathfinder
Coral Reef Watch Datasets	SST anomaly, Coral Bleaching Hotspot, Degree Heating Week, Bleaching Alert Area	5km	global	Daily	1985-present	Coral Bleaching Hotspot, Degree Heating Week, Bleaching Alert Area
Ocean Color	Chlorophyll-a, Kd490, PAR	750m, 4, 9km	Pacific Islands, global	Daily to monthly	1997-present	VIIRS-SNPP, ESA OC-CCI, MODIS-Aqua, SeaWiFS
Wind	U, V, windspeed, wind stress, wind stress curl	¼ degree, 40km	global	6 hr to monthly	1987-present	CCMP NRT, CCMP, ASCAT, QuickSCAT
Altimetry	Sea level anomaly, Geostrophic Currents	¼ degree	global	Daily	2012-2019	NOAA LSA/NESDIS/STAR DT
Salinity	Ocean surface salinity	1 degree	global	Daily to monthly	2010-present	Aquarius, Miras SMOS



Data Access

ERDDAP > griddap > Make A Graph

Dataset Title: **Chlorophyll a concentration, ESA OC CCI - 8-Day, 1997-present. v6.0**

Institution: Plymouth Marine Laboratory (Dataset ID: esa-cci-chla-8d-v6-0)

Information: [Summary](#) | [License](#) | [FGDC](#) | [ISO 19115](#) | [Metadata](#) | [Background](#) | [Data Access Form](#)

Graph Type: surface

X Axis: longitude

Y Axis: latitude

Color: chlor_a

Dimensions **Start** **Stop**

time (UTC) specify just 1 value → 2023-12-27T00:00:00Z

latitude (degrees_north) 89.97916666666667 -89.97916666666666

longitude (degrees_east) 0.0208333333333314386 359.97916666666663

Graph Settings

Color Bar: Continuity: Scale:

Minimum: Maximum: N Sections:

Draw land mask:

Y Axis Minimum: Maximum: Ascending

Redraw the Graph (Please be patient. It may take a while to get the data.)

Optional:

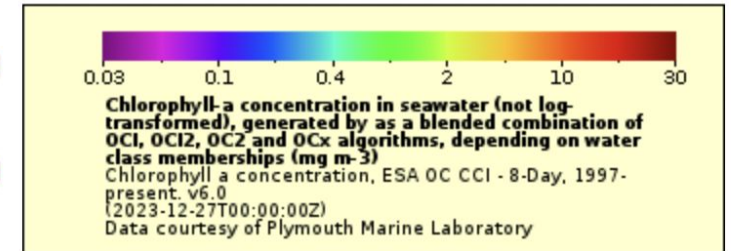
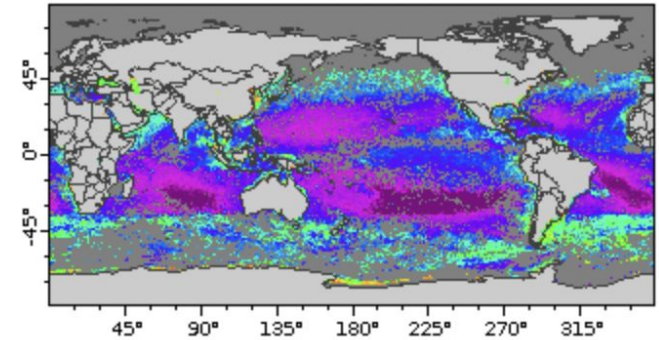
Then set the File Type: ([File Type information](#))

and

or view the URL: <https://oceanwatch.pifsc.noaa.gov/erddap/griddap/esa-cci-chla-8d-v6-0.htmlTa>
([Documentation](#) / [Bypass this form](#))

Click on the map to specify a new center point.

Zoom:



All datasets are remapped to center at the dateline: user-friendly for the Pacific Islands region

- ERDDAP
- THREDDS
- Satellite Course

Develop value-added products for users

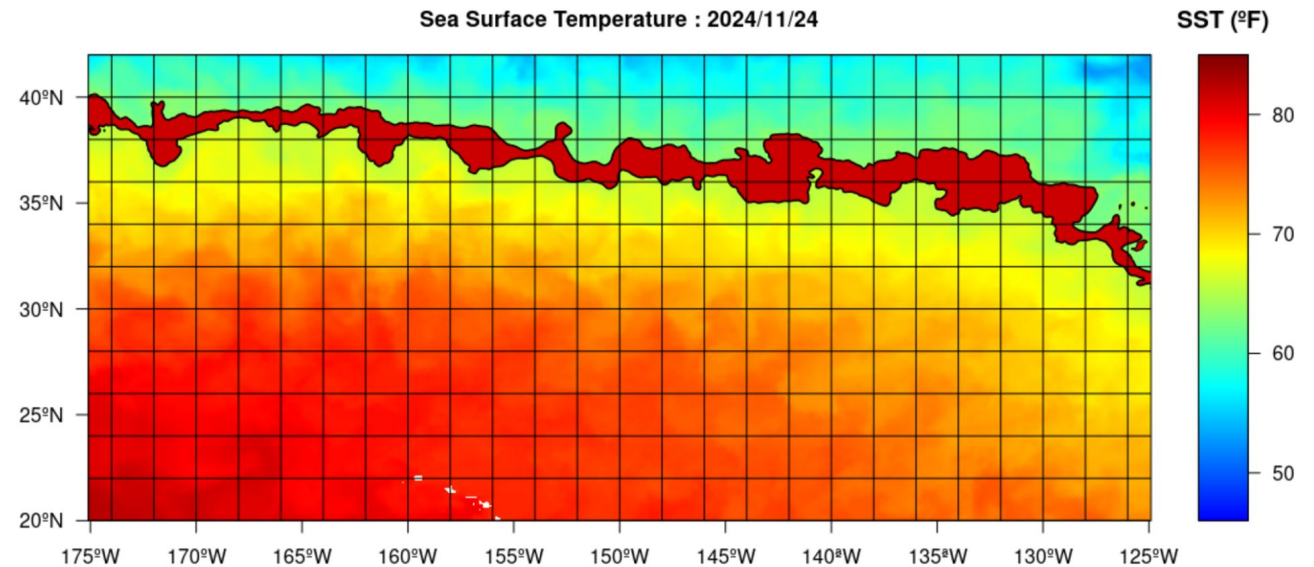
- TurtleWatch



Provides up-to-date information about the thermal habitat of loggerhead sea turtles in the Pacific Ocean north of the Hawaiian Islands, to reduce bycatch by Hawaii-based longline fishing vessels.

EXPERIMENTAL PRODUCT

Avoid fishing between solid black 63.5°F and 65.5°F lines to help reduce loggerhead sea turtle interactions



PACIFIC ISLANDS FISHERIES SCIENCE CENTER
ECOSYSTEM SCIENCES DIVISION
1845 Wasp Blvd, Honolulu, HI 96818
<http://www.pifsc.noaa.gov/eod/turtlewatch.php>
contact: hui.shi@noaa.gov
Data provided by the OceanWatch - Central Pacific node

TurtleWatch

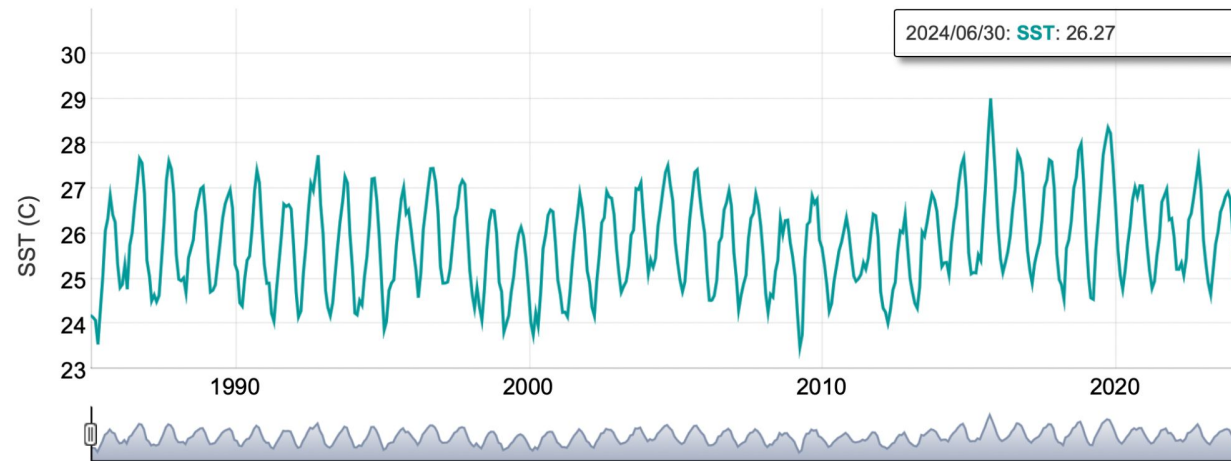
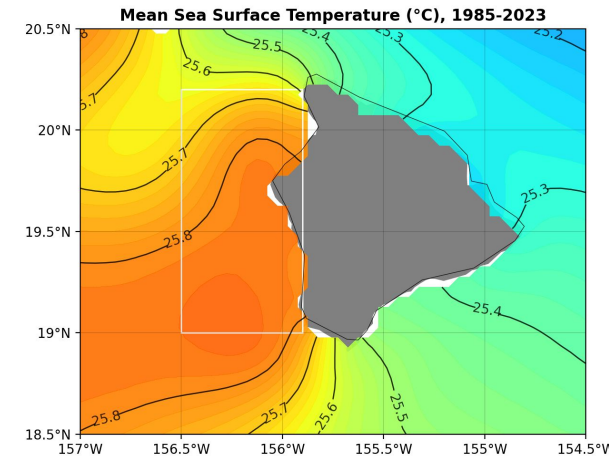
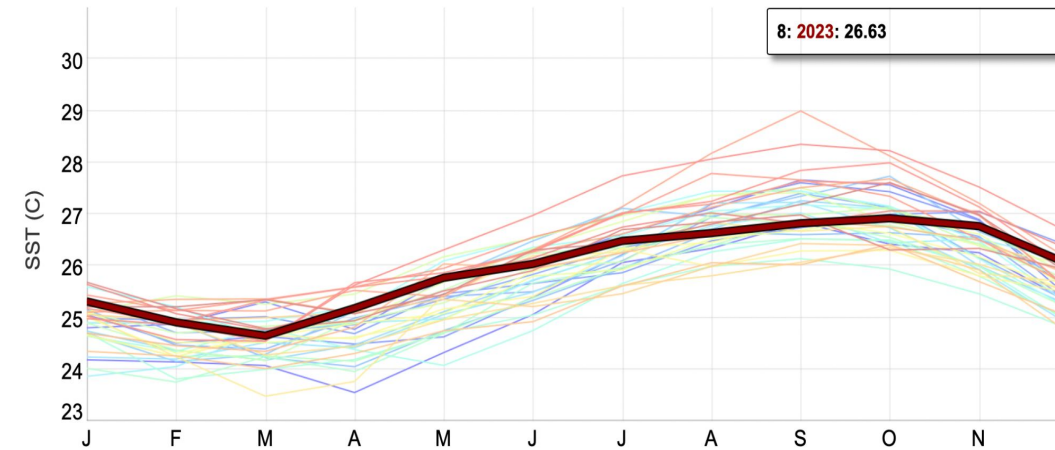


Develop value-added products for users

- West Hawai'i Integrated Ecosystem Assessment



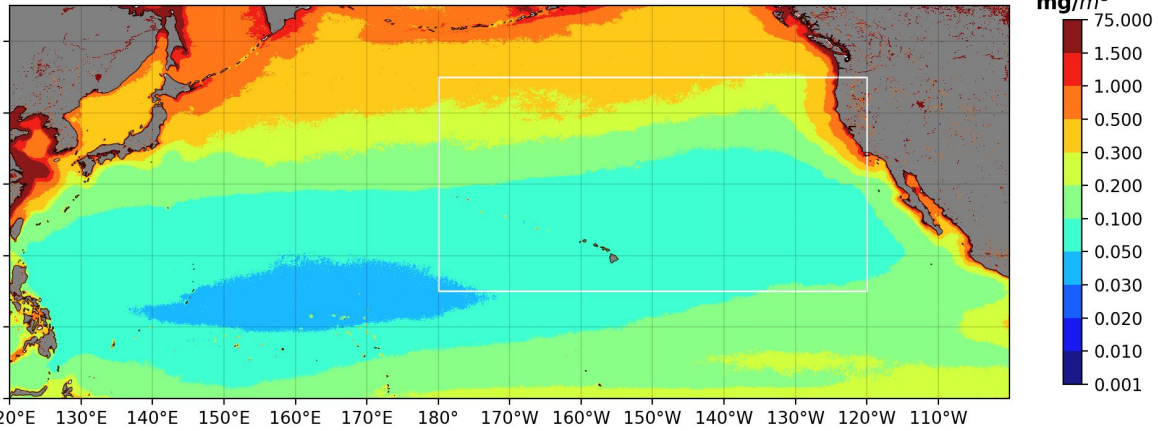
Provides ecosystem science to support natural resource management.



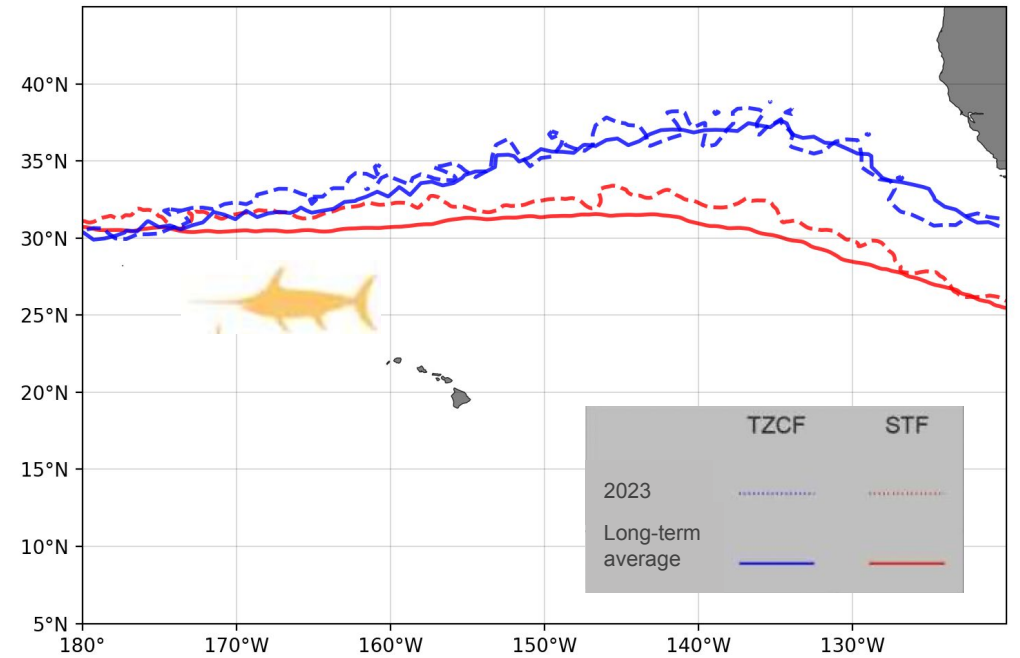
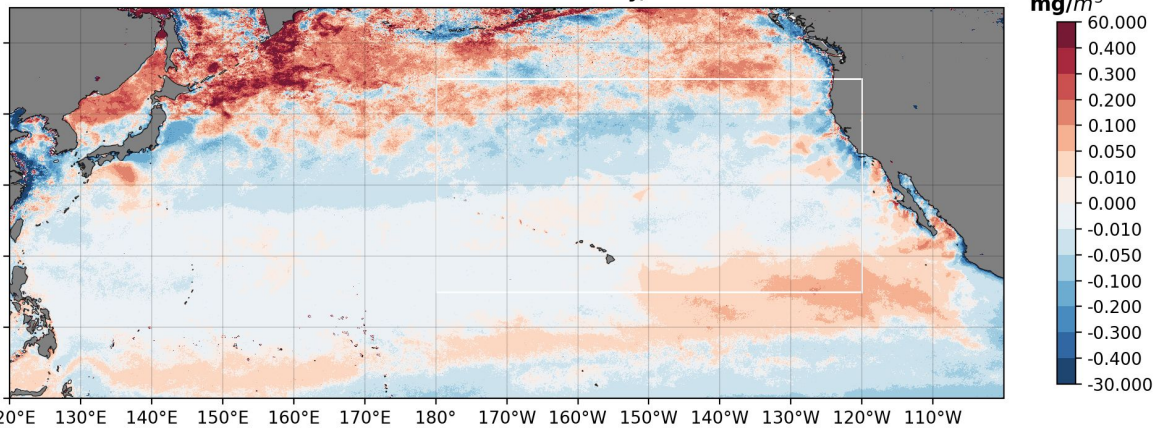
Develop value-added products for users

- Conditions in the Hawaii longline fishing grounds

Mean Chl-a Concentration, 1998-2009

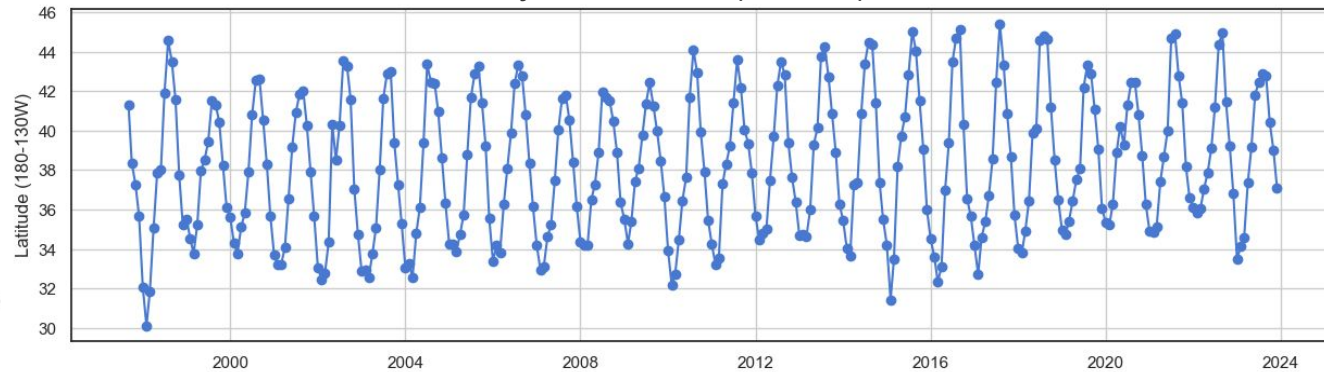


Chl-a Concentration Anomaly, 2023



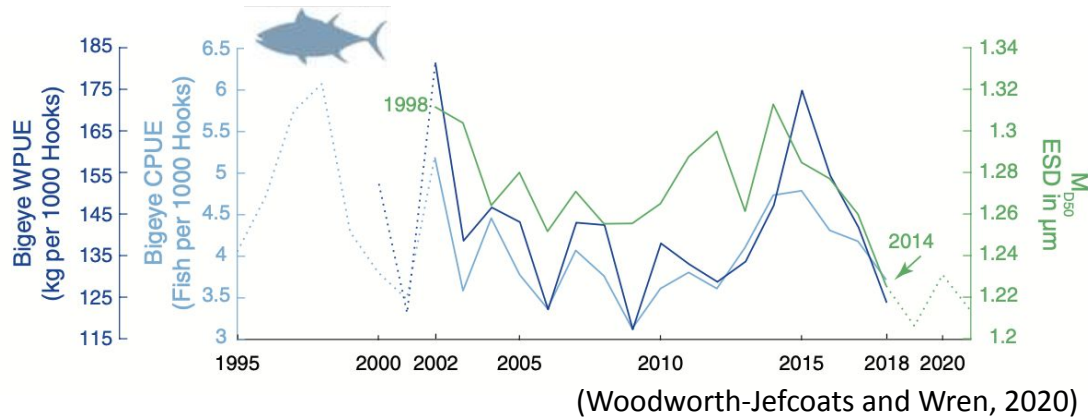
Transition Zone Chlorophyll Front (TZCF) and North Pacific Subtropical Front (STF)

Monthly location of TZCF (1997-2023)



Develop value-added products for users

- Phytoplankton size structure estimated by satellite SST and ocean color is used in a fisheries forecast



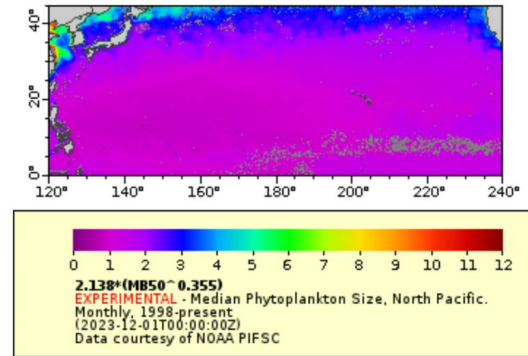
Dataset Title: **EXPERIMENTAL - Median Phytoplankton Size, North Pacific. Monthly, 1998-present** [📧](#) [RSS](#)
 Institution: NOAA PIFSC (Dataset ID: md50_exp)
 Information: [Summary](#) | [License](#) | [FGDC](#) | [ISO 19115](#) | [Metadata](#) | [Background](#) | [Data Access Form](#)

Graph Type:
 X Axis:
 Y Axis:
 Color:

Dimensions
 Start: specify just 1 value → 2023-12-01T00:00:00Z
 Stop:
 latitude (degrees_north): 0.0 to 45.0
 longitude (degrees_east): 120.0 to 240.0

Graph Settings
 Color Bar:
 Continuity:
 Scale:
 Minimum:
 Maximum:
 N Sections:
 Draw land mask:
 Y Axis Minimum:
 Y Axis Maximum:

Click on the map to specify a new center point.
 Zoom:



https://oceanwatch.pifsc.noaa.gov/erddap/griddap/md50_exp.graph



Western Pacific Regional Fishery Management Council

Pelagic Annual SAFE Reports

The 2022 Annual Stock Assessment and Fishery Evaluation Report for the Western Pacific region was drafted by the Fishery Ecosystem Plan Team. This is a collaborative effort primarily between the Western Pacific Regional Fishery Management Council, NMFS-Fisheries Science Center, Pacific Islands Regional Office, as well as the Department of Natural Resources (Hawaii), the Department of Marine and Wildlife Resources (Guam), the Division of Aquatic and Wildlife Resources (Guam), and the Division of Fishery Resources (Commonwealth of the Northern Mariana Islands).

In the 2022 five-year fishery ecosystem plan (FEP) review, the Council identified the need for a new annual report as a priority for improvement. The former annual report has been revised to meet the new regulatory requirements for the Stock Assessment and Fishery Ecosystem Plan (SAFE) report. The purpose of the report is twofold: to monitor the health of the fishery and ecosystem to assess the effectiveness of the FEP in meeting management objectives, and to maintain the structure of the FEP living document.

The report attempts to summarize annual fishery performance looking at trends in catch, effort, and rates as well as provide a source document describing various projects and activities being undertaken on a local and federal level. This report provides a comprehensive overview of annual catches relative to the Annual Catch Limits established by the Council with the local fishery management agencies. The full report also includes ecosystem considerations including biological indicators, protected species, climate change, and socioeconomics. Information like marine spatial data and the latest scientific information available for each fishery are also described.

Report Sections	
All Tables & Figures	
Introduction	
American Samoa	
CNMI	
Guam	
Hawaii	
Protected Species	
Climate and Oceanic Indicators	

SAFE: Stock Assessments and Fishery Evaluation

Our mission

- We aim to **serve** relevant satellite data products, **develop** value-added products based on research and applications, and **facilitate** access to data with an emphasis on the **needs of users in the Pacific Islands region**.

For data inquiries, access, training courses:

contact me (hui.shi@noaa.gov) or OceanWatch-Central Pacific at pi.oceanwatch.info@noaa.gov