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**

# Introduction to NOAA CoastWatch


## the CoastWatch Training Team

Pacific GIS and Remote Sensing Council

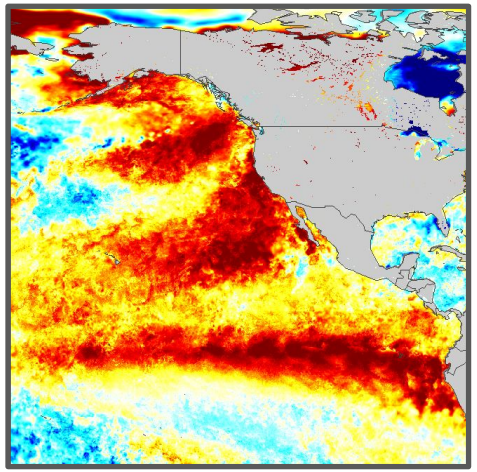
coastwatch.info@noaa.gov

# NOAA CoastWatch is a national program funded by NOAA/NESDIS[1]

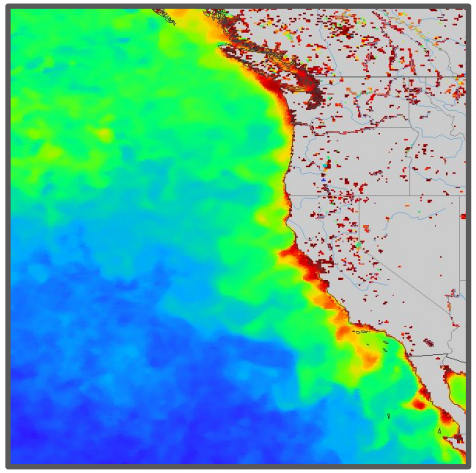
**MISSION: PROVIDE ACCESS TO AND PROMOTE THE USE OF SATELLITE DATA PRODUCTS**
for oceanic, freshwater, & polar applications

[1]National Environmental Satellite, Data, and Information Service

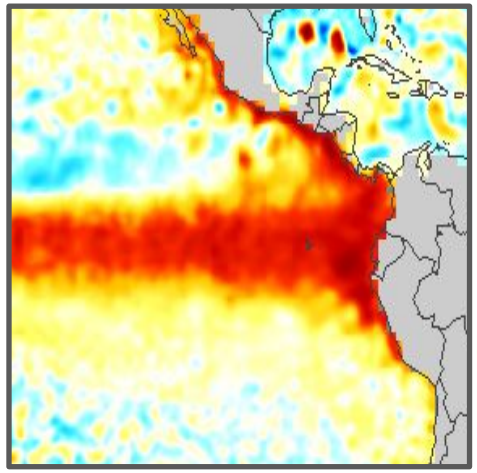
# CoastWatch distributes ocean satellite data



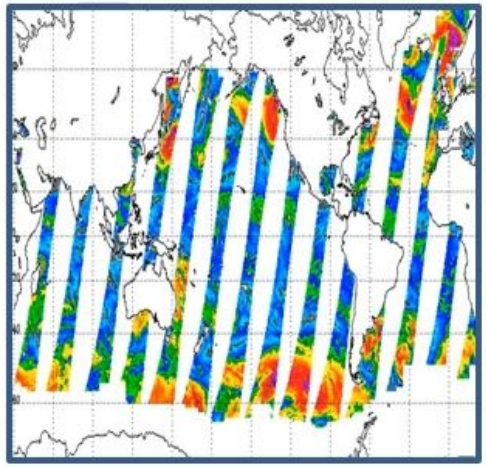
Temperature



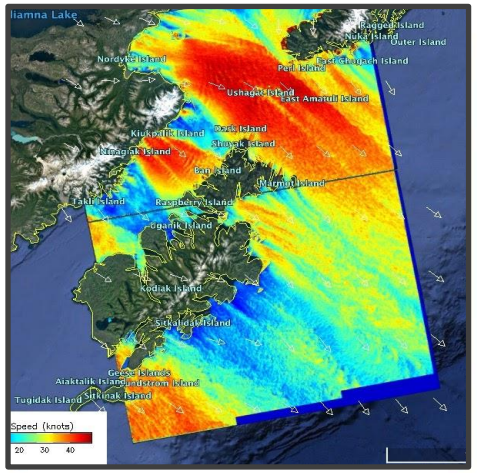
Ocean Color



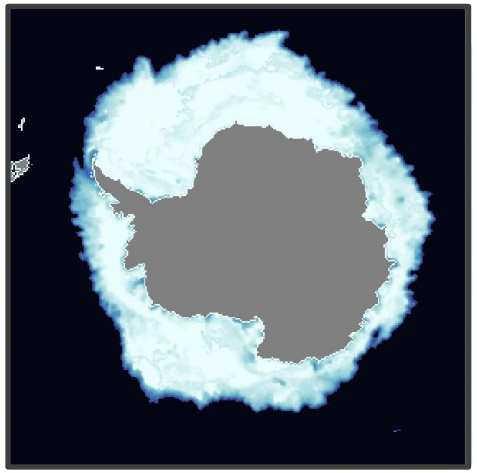
Altimetry



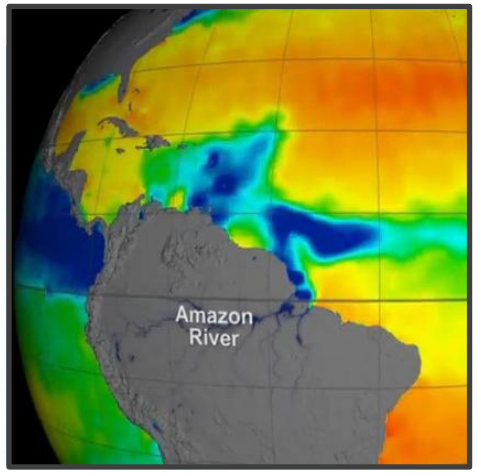
Ocean Vector Winds



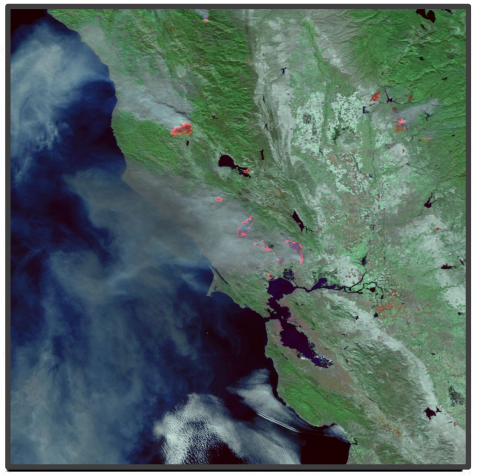

Synthetic Aperture Radar



Sea Ice




Salinity



Imagery

# CoastWatch offers several levels of service to help users with satellite data

INCREASING ASSISTANCE TO USER

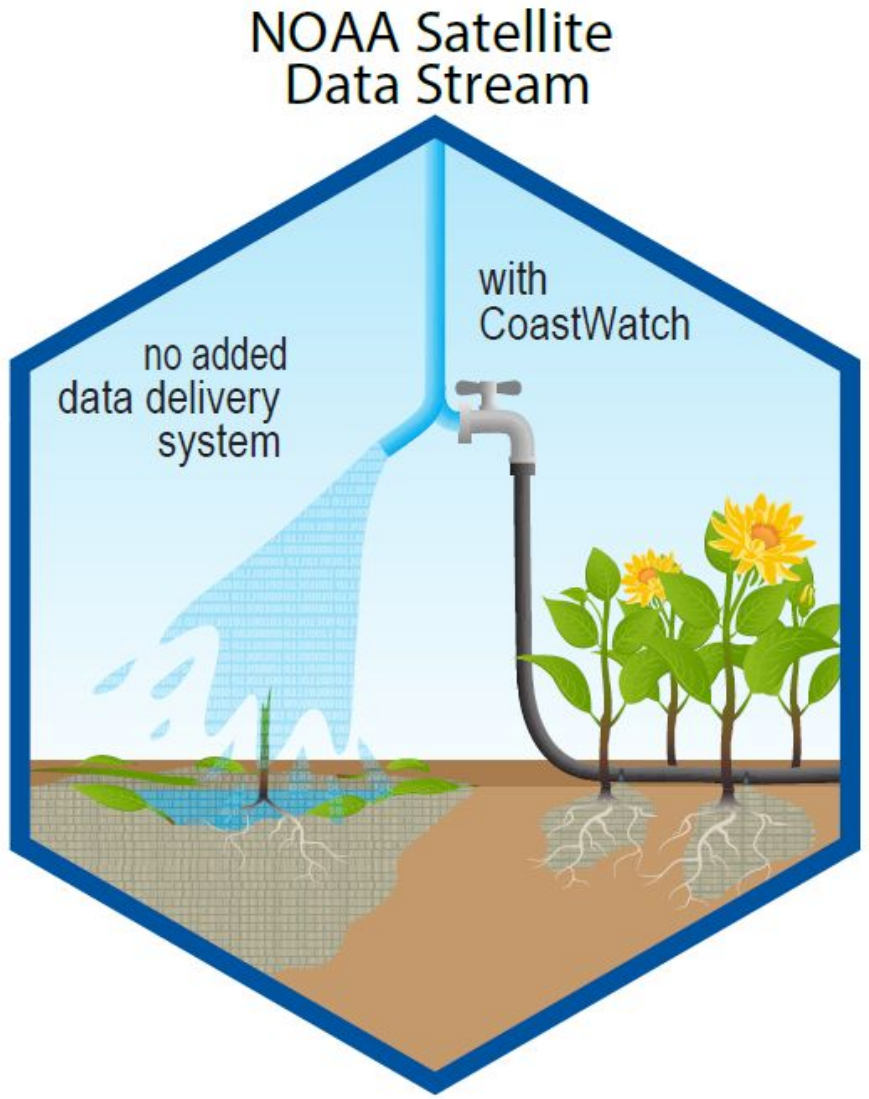
Provide access to datasets with data servers

Develop tools and tutorials to help users interact with the server and use the data

Provide training and hands-on assistance

Find or create products and tools to address users needs

Work directly with users on projects




## COASTWATCH IS A VALUE ADDED PROVIDER

# NOAA CoastWatch Resources in a Nutshell

- Easy access to satellite datasets using ERDDAP
- Online (short, ~20 minutes) videos explaining the basics of all the satellite products (SST, ocean color, sea surface height, etc.)
- Code notebooks in R and Python on GitHub to do demonstrate basic data extraction (from ERDDAP) and plotting examples
- Periodic courses offered on understanding and accessing satellite data
- Helpdesk: Coastwatch.info@noaa.gov

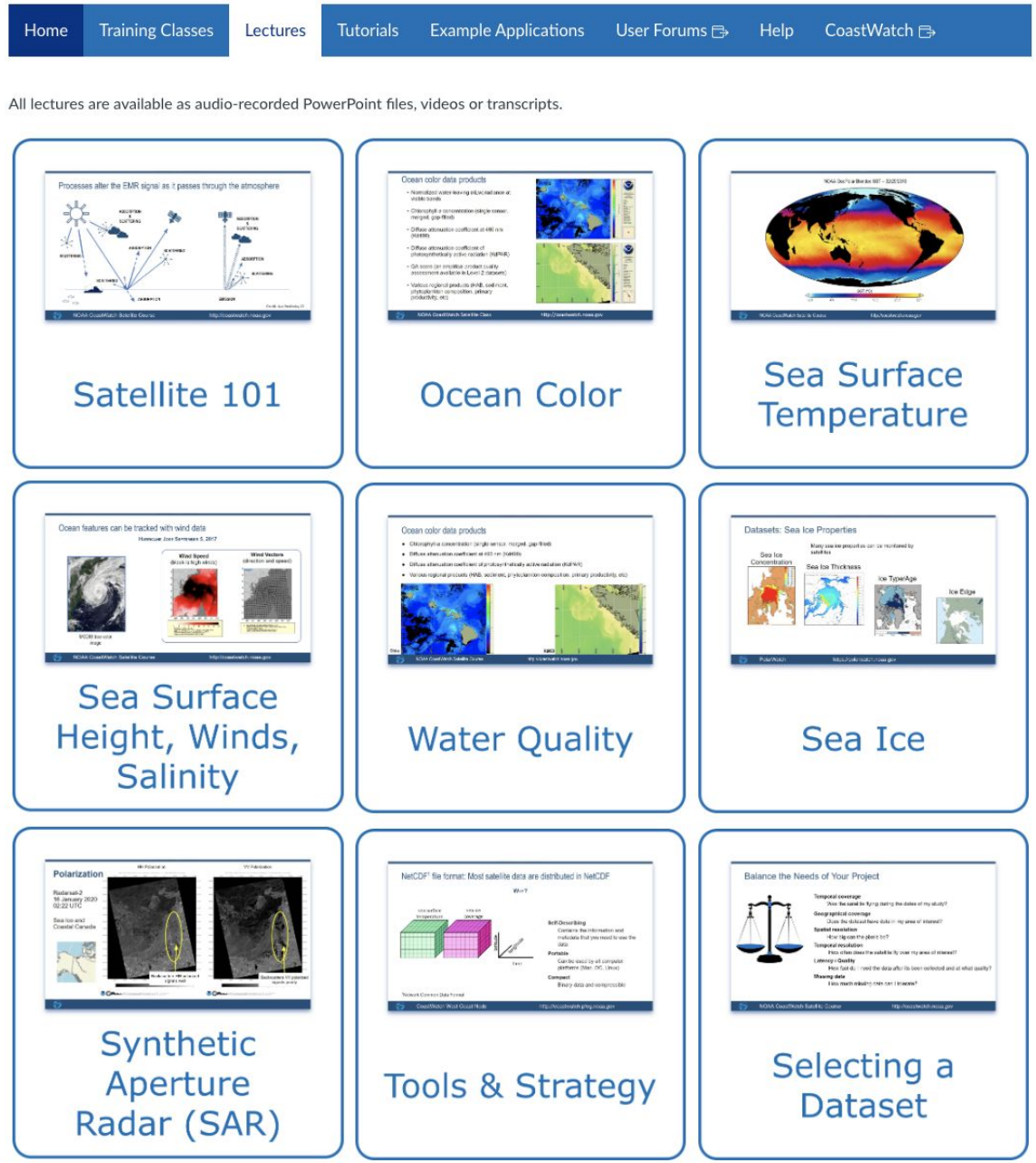
# Recorded Lectures are Available on the CoastWatch Learning Portal

Presently housed on the University of Maryland learning management system:

https://umd.instructure.com/courses/1336575/pages/all-lectures

Transitioning to Github:

https://coastwatch-training.github.io/CoastWatch-Workshops/



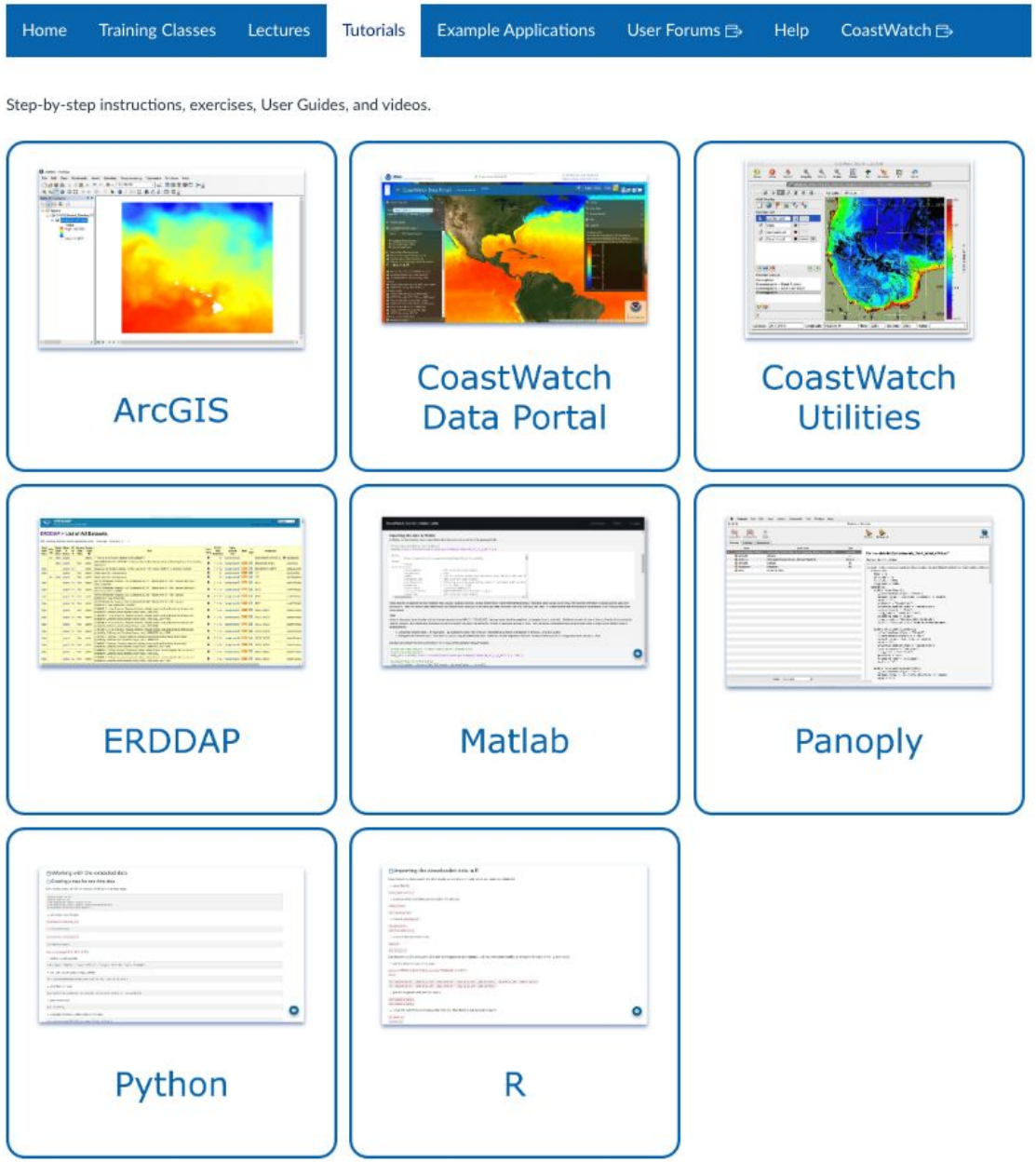
# Tutorials are Available on the CoastWatch Learning Portal

Presently housed on the University of Maryland learning management system:

https://umd.instructure.com/courses/1336575/pages/tutorials-and-user-guides

Transitioning to Github. The R and python code on GitHub are the most up-to-date versions:

https://github.com/coastwatch-training/CoastWatch-Tutorials



# CoastWatch Datasets

https://coastwatch.noaa.gov/erddap/index.html

https://coastwatch.noaa.gov/cwn/products.html

## CoastWatch Product Search Tool

Please visit our Product Glossary to view the terms used by this search tool.

**Search Panel**

Filters Active - 0 | Clear All

**Product Family**

- Field Observations (In situ) 1
- Ocean Color 10
- Ocean Currents 2
- Ocean Heat Content 1

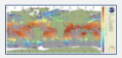
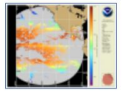
**Product Measurement**

- Along-track Significant Wave Heigh
- Chlorophyll-a Anomaly Difference
- Chlorophyll-a Anomaly Ratio
- Chlorophyll-a Concentration

**Processing Algorithms**

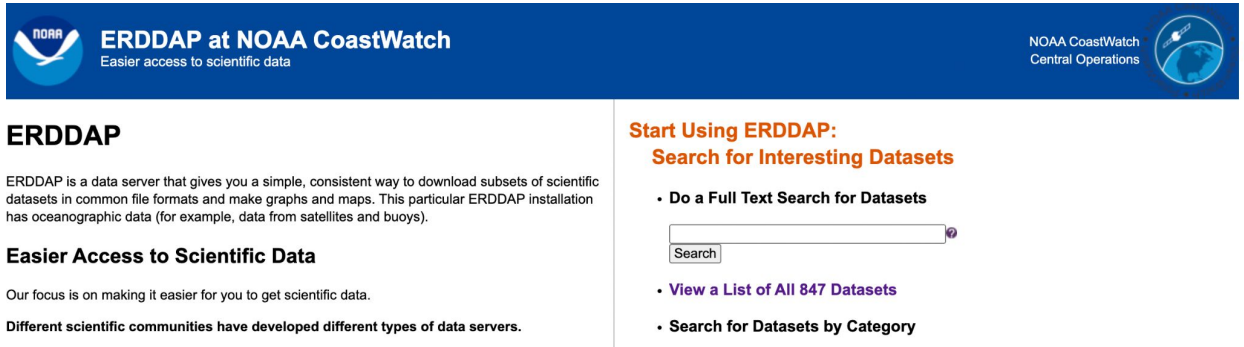
- ACSPO 8
- MSL12 7
- N/A (Unspecified) 21

10 entries per page | Search Table:

| Product | Begins | Ends | Summary |
|---|---|---|---|
| ACSPO Global 0.02° Gridded Super-collated SST and Thermal Fronts from Low-Earth-Orbiting Platforms (L3S-LEO)  | 2000 | Present | NOAA Advanced Clear-Sky Processor for Ocean (ACSPO) L3S-LEO SST is a family of multisensor gridded ("L3") 0.02° resolution super-collated ("S") products. The L3S-LEO family is organized into three lines: PM, AM and Daily. The AM and PM lines correspond to 9:30am/pm and 1:30am/pm equator crossing times, respectively. The Daily line combines PM and AM (day and night) SSTs into a single daily L3S SST that is normalized to 1:30am viewing conditions. |
| ACSPO Global SST from ABI  | 2017 | Present | The ABI SST data are produced from GOES-East (GOES-16) and GOES-West (at present GOES-18, before 2023/01/10 GOES-17) satellite using the NOAA Advanced Clear-Sky Processor for Ocean (ACSPO) v2.xx enterprise system. Currently, near-real time (NRT) data are produced at STAR, with a ~2-6 hour latency. A Reanalysis (RAN) dataset for GOES-16 is also available. The data are available in NetCDF4 format, compliant with the GHRSST Data Specifications v2 (GDS2). Currently, the data are archived on PO.DAAC and available at this Coast Watch page as a 2week rotated buffer. |

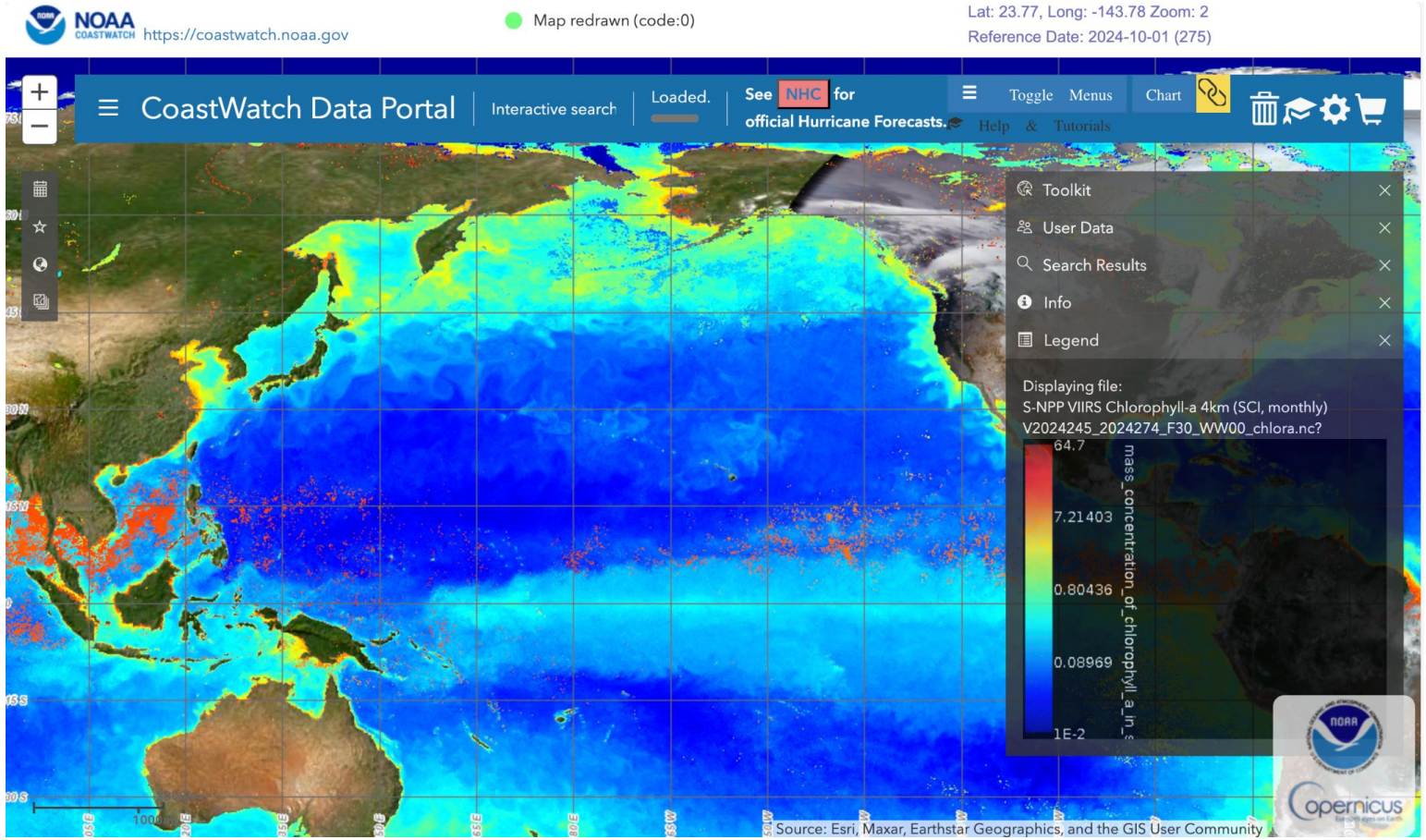
## ERDDAP at NOAA CoastWatch

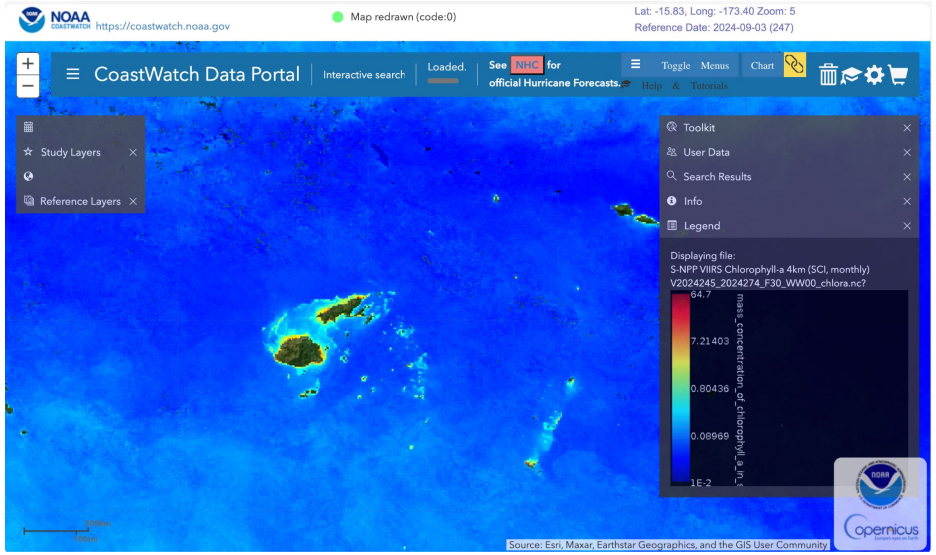
| | |
|---|---|
| **Type** | Remote Data Server<br>Web Application |
| **Webpage** | Link to ERDDAP at NOAA CoastWatch |
| **Description** | The ERDDAP data server provides a simple, consistent way to subset and download gridded (Level 3 and above) environmental datasets in common file formats with options to make graphs and maps. At NOAA CoastWatch / OceanWatch / PolarWatch, all of the regional nodes and the CoastWatch Central hub now have ERDDAP servers in place as an option for data access. |
| **Screenshot** | |



# CoastWatch Data Portal

https://coastwatch.noaa.gov/cw_html/cwViewer.html



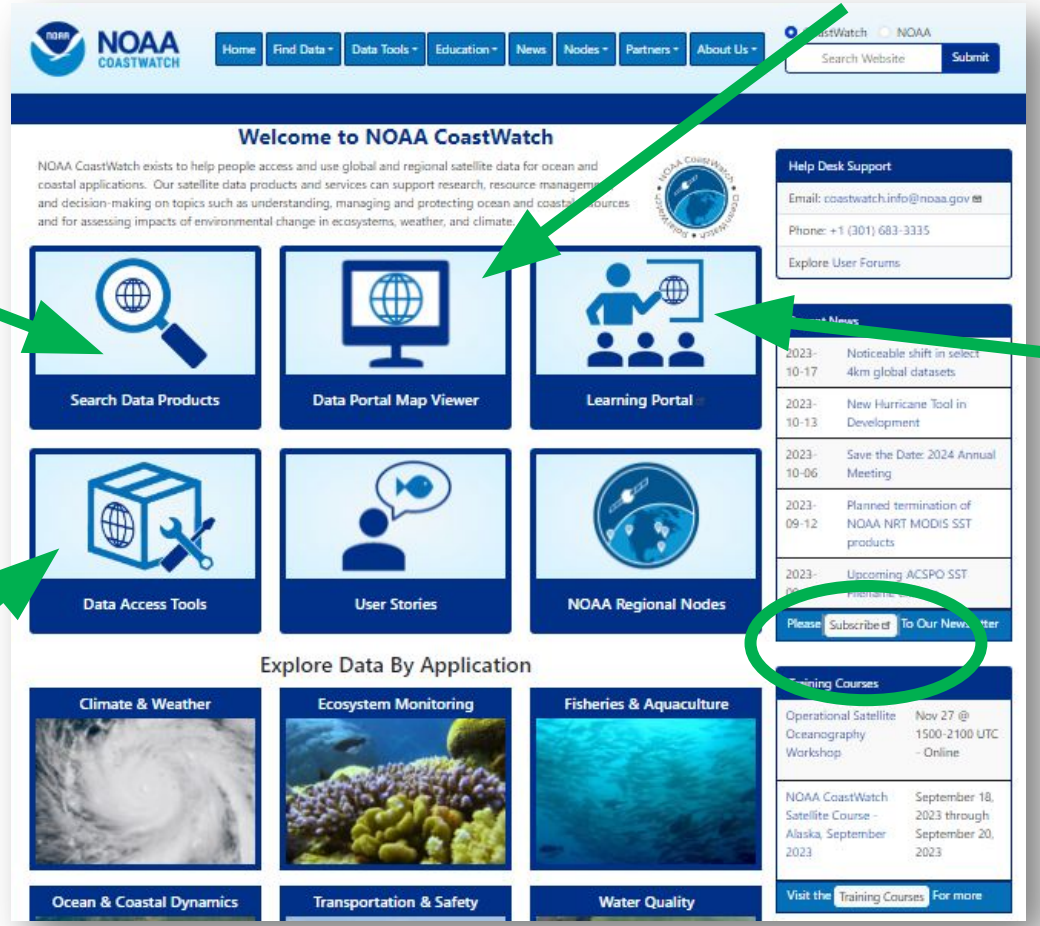




https://umd.instructure.com/courses/1336575/pages/coastwatch-data-portal-tutorials

# Website: coastwatch.noaa.gov

Data portal for visualization

Data searching tool for satellite products




Learning Portal has links to recorded lectures and tutorials

Data access through ERDDAP and more

**Subscribe** to our newsletter for announcements for satellite classes

Questions? coastwatch.info@noaa.gov