

Data Access on PolarWatch

Sunny Hospital (PolarWatch Operations Manager)

PolarWatch Sea Ice Training

October 21, 2024

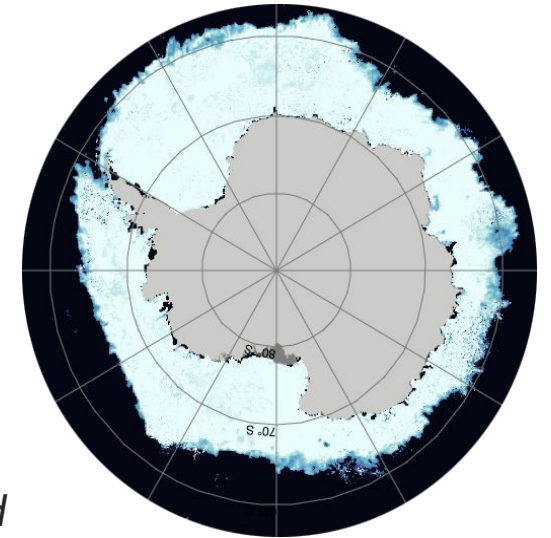
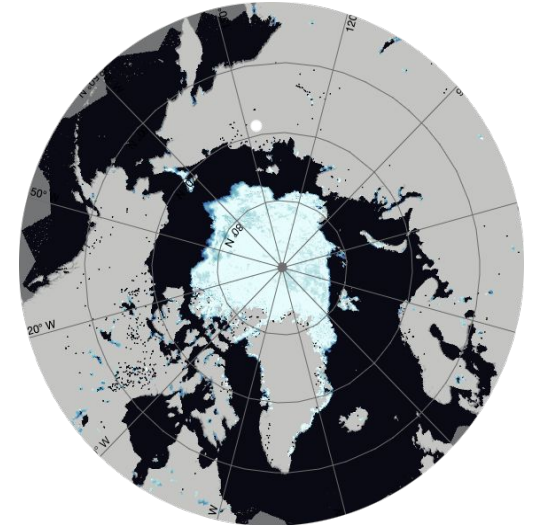


PolarWatch Make Data Accessible

As the Polar Node of NOAA CoastWatch Program

PolarWatch focuses on

- Data products in high latitudes
(i.e. remote sensing data, model output)
- Sea ice data products
(i.e. sea ice concentration, sea ice thickness, ..)
- Polar projections
(polar stereographic projection, The Equal-Area Scalable Earth (EASE) Grids)



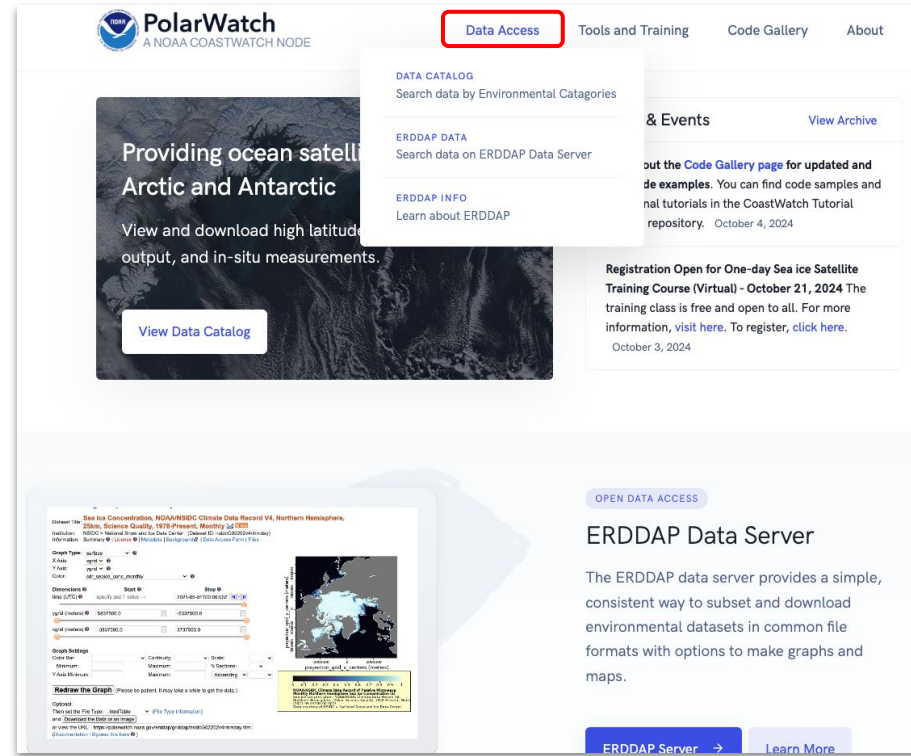
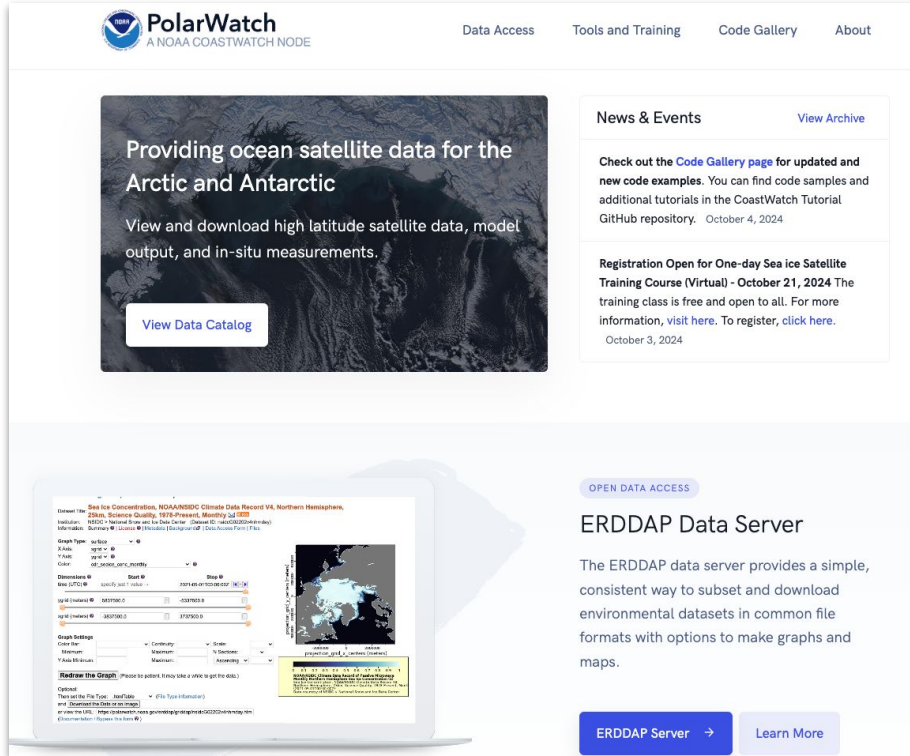
Images on the left: Blended sea ice concentration data at 1 km resolution for the Arctic (top) and Antarctic (bottom). Source: PolarWatch.noaa.gov

PolarWatch: How to Find and Access Data

- Polarwatch ERDDAP Data Server
 - Web Interface, API
- PolarWatch Catalog
 - List of dataset organized by topics
 - Preview and Download Data
- Contact PolarWatch
 - <https://polarwatch.noaa.gov/about/contact/>



PolarWatch Website



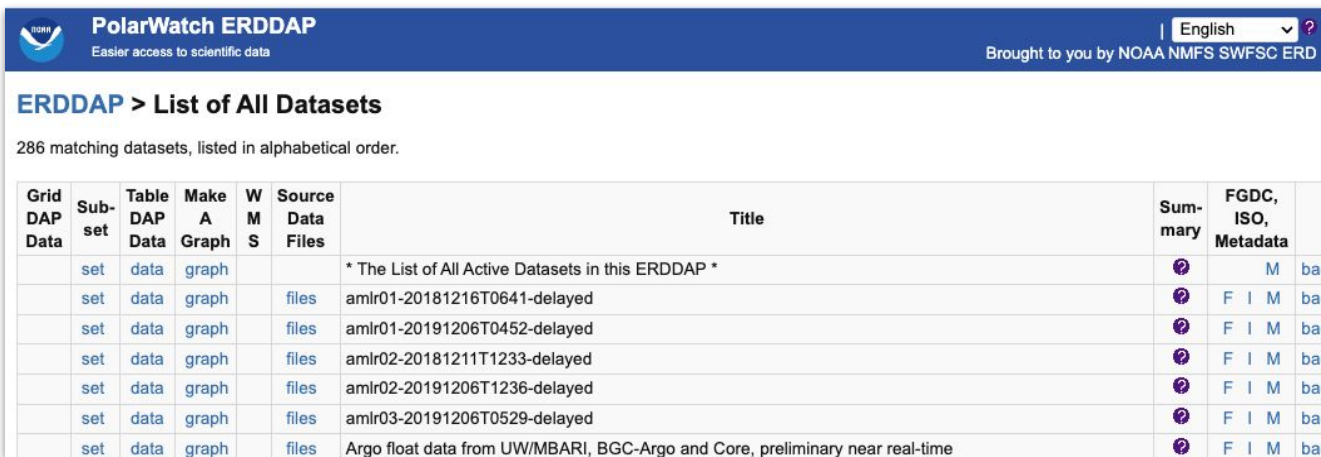
Menu: Data Access

ERDDAP Data
Data Catalog

<https://polarwatch.noaa.gov>



PolarWatch ERDDAP



The screenshot shows the PolarWatch ERDDAP web interface. The header includes the NOAA logo, the text "PolarWatch ERDDAP" and "Easier access to scientific data", a language dropdown set to "English", and "Brought to you by NOAA NMFS SWFSC ERD". The main content area is titled "ERDDAP > List of All Datasets" and states "286 matching datasets, listed in alphabetical order." Below this is a table with columns: Grid DAP Data, Sub-set, Table DAP Data, Make A Graph, W M S, Source Data Files, Title, Sum-mary, FGDC, ISO, Metadata, and a partially visible "bac" column. The first row is a summary row: "* The List of All Active Datasets in this ERDDAP *". Subsequent rows list datasets like "amir01-20181216T0641-delayed" and "Argo float data from UW/MBARI, BGC-Argo and Core, preliminary near real-time".

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	W M S	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	bac
	set	data	graph			* The List of All Active Datasets in this ERDDAP *	🔍	M	bac
	set	data	graph		files	amir01-20181216T0641-delayed	🔍	F I M	bac
	set	data	graph		files	amir01-20191206T0452-delayed	🔍	F I M	bac
	set	data	graph		files	amir02-20181211T1233-delayed	🔍	F I M	bac
	set	data	graph		files	amir02-20191206T1236-delayed	🔍	F I M	bac
	set	data	graph		files	amir03-20191206T0529-delayed	🔍	F I M	bac
	set	data	graph		files	Argo float data from UW/MBARI, BGC-Argo and Core, preliminary near real-time	🔍	F I M	bac

- **Web Interface** to View, Search, Subset, Preview, Download Data
- **API** for data request (with a query string) for commonly used programs like Python, R, Matlab
- Many code examples in Coastwatch tutorials

#python

```
import xarray # Python package for large dataset
url = "https://polarwatch.noaa.gov/erddap/griddap/nesdis_blendedsic_nhem_daily"
xarray.open_dataset(erddap_url) # Python package for large dataset
```

<https://polarwatch.noaa.gov/erddap/>



PolarWatch Catalog/Portal

PolarWatch Data Catalog

Sea Ice related product

Sea Ice SST Ocean Color Wind SSH Tabular data only Gridded data only Clear Selection (All)

Search:

↑	Title	Dates	Resolution	Area	Projection	Composite	Access
▶	Sea Ice Surface temperature from NOAA-20 VIIRS NRT, Arctic	2021-2024	795.0 m	Arctic	Polar Stereographic	Daily 4-day	ERDDAP <input type="button" value="Portal"/>
▶	Sea Ice Surface Roughness from Ice Bridge Airborne Surveys, Arctic	2009-2018	Varies	Arctic	Geographic	NA	ERDDAP <input type="button" value="Portal"/>
▶	Sea Ice Concentration NSIDC Climate Data Record V4, Antarctic	1978-2024	25 km	Antarctic	Polar Stereographic	Daily Monthly	ERDDAP <input type="button" value="Portal"/>
▶	Sea Ice Surface temperature from NOAA-20 VIIRS NRT, Antarctic	2021-2024	795.0 m	Antarctic	Polar Stereographic	Daily 4-day	ERDDAP <input type="button" value="Portal"/>

PolarWatch Data Catalog

Search, Preview, Access

- User friendly data search by topic
- Options:
 - ERDDAP for data access
 - Portal for data preview

<https://polarwatch.noaa.gov/catalog/list.php>



Data Preview on Polar Projections

- global, arctic, antarctic map view available
- date selection
- data download

The screenshot displays the NOAA PolarWatch Data Catalog interface for the dataset "Blended Sea Ice Concentration from AMSR2/VIIRS Daily 1km, Arctic". The main view is a polar projection map of the Arctic region, showing sea ice concentration data. The map is titled "DAILY, 10/06/2024 12:00Z". A color scale at the bottom of the map indicates "ICECONC (PERCENT)" from 0 to 100. The interface includes a "Map Settings" panel on the right, which is currently set to "Variable: IceConc", "Map View: Arctic", and "Time: 10/06/2024 12:00Z". A "Quick Download" button is visible below the map settings. A summary panel on the left provides details about the dataset, including the time period (Dec 2023 to Oct 2024), spatial coverage (Arctic), spatial resolution (1000.0 m), projection (Ease-2), and data provider (NOAA NESIS STAR). A "Choose your download settings" panel is also visible, showing options for location, dates, and format. The download settings panel includes a "Location" section with rows (28.79 to 28.86) and cols (-93.39 to 86.52). The "Dates" section is set to "Custom" with a range from 10/06/2024 12:00Z to 10/06/2024 12:00Z. The "Format" section is set to "NetCDF (.nc)".

<https://polarwatch.noaa.gov/catalog/list.php>



PolarWatch Catalog/Portal

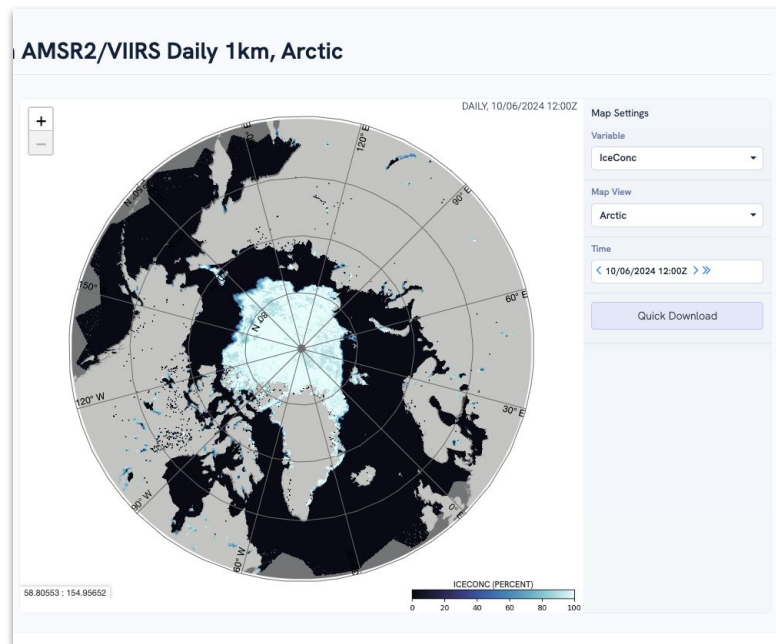
PolarWatch Data Catalog

Sea Ice related product

Sea Ice SST Ocean Color Wind SSH Tabular data only Gridded data only Clear Selection (All)

Search:

Title	Dates	Resolution	Area	Projection	Composite	Access
▶ Sea Ice Surface temperature from NOAA-20 VIIRS NRT, Arctic	2021-2024	795.0 m	Arctic	Polar Stereographic	Daily 4-day	ERDDAP Portal
▶ Sea Ice Surface Roughness from Ice Bridge Airborne Surveys, Arctic	2009-2018	Varies	Arctic	Geographic	NA	ERDDAP Portal
▶ Sea Ice Concentration NSIDC Climate Data Record V4, Antarctic	1978-2024	25 km	Antarctic	Polar Stereographic	Daily Monthly	ERDDAP Portal
▶ Sea Ice Surface temperature from NOAA-20 VIIRS NRT, Antarctic	2021-2024	795.0 m	Antarctic	Polar Stereographic	Daily 4-day	ERDDAP Portal
▶ Sea Ice Sail Height from Ice Bridge Airborne Surveys, Arctic	2010-2018	Varies	Global	Geographic	NA	ERDDAP Portal
▶ Sea Ice Thickness from APP-X NCEI CDR, Arctic	1982-2024	25 km	Arctic	Polar Stereographic	Daily	ERDDAP Portal



Choose your download settings

This dataset is provided in EASE-2 (EPSG:6931) coordinates. Data access available through this subsetting form as well as via file access. Direct file access provides the projection metadata in a format better suited for netcdf data viewers.

Location

Rows: 28.79 to 28.86 ADD STRIDE

Cols: -93.39 to 86.52 ADD STRIDE

Dates Available from Dec 19, 2023 to Oct 06, 2024

Latest Date Past week Past month Custom

10/06/2024 12:00Z to 10/06/2024 12:00Z ADD STRIDE

Parameters

IceConc

Format Use ERDDAP for many more formats

NetCDF [.nc]

Download View Url

[https://polarwatch.noaa.gov/erddap/griddap/neddis_blenededsic_nhem_daily.nc?IceConc\[\[2024-10-06T12:00:00Z\]:1;\[2024-10-06T12:00:00Z\]\]\[:28.86\]:1;\[28.79\]\]\[:\[-93.39\]:1;\[86.52\]\]](https://polarwatch.noaa.gov/erddap/griddap/neddis_blenededsic_nhem_daily.nc?IceConc[[2024-10-06T12:00:00Z]:1;[2024-10-06T12:00:00Z]][:28.86]:1;[28.79]][:[-93.39]:1;[86.52]])

SEARCH DATA

PREVIEW DATA

DOWNLOAD DATA

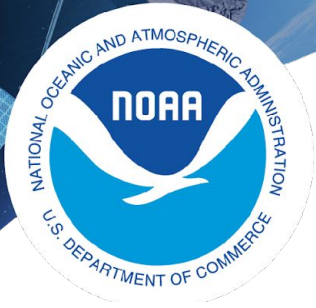


PolarWatch Datalog/Portal Demo

polarwatch.noaa.gov

- sea ice data products in the Arctic and Antarctic
 - data from our partners (NESDIS STAR, USNIC, NSIDC)
 - data holdings on PolarWatch
 - pointers to data holdings on CoastWatch Central
- sea ice remote sensing data in polar stereographic projections, EASE-2





More Data Questions, Contact Us

PolarWatch Node Manager

cara.wilson@noaa.gov

Polarwatch Ops Manager

sun.bak-hospital@noaa.gov

CoastWatch Help Desk

coastwatch.info@noaa.gov

<https://polarwatch.noaa.gov>

