

ERDDAP - Home Page Environmental Resources

coastwatch.pfeg.noaa.gov/erddap/index.html

## ERDDAP

Easier access to scientific data

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### ERDDAP

ERDDAP is a data server that gives you a simple, consistent way to download subsets of gridded and tabular scientific datasets in common file formats and make graphs and maps. This particular ERDDAP installation has oceanographic data (for example, data from satellites and buoys).

#### Easier Access to Scientific Data

Our focus is on making it easier for you to get scientific data.

Different scientific communities have developed different types of data servers, for example, OPeNDAP, WCS, SOS, OBIS, and countless custom web pages with forms. Each is great on its own. Without ERDDAP, it is difficult to get data from different types of servers:

- Different data servers make you format your data request in different ways.
- Different data servers return data in different formats, usually not the common file format that you want.
- Different datasets use different formats for time data, so the results are hard to compare.

ERDDAP unifies the different types of data servers so you have a consistent way to get the data you want, in the format you want.

- **ERDDAP acts as a middleman between you and various remote data servers.** When you request data from ERDDAP, ERDDAP reformats the request into the format required by the remote server, sends the request to the remote server, gets the data, reformats the data into the format that you requested, and sends the data to you. You no longer have to go to different data servers to get data from different datasets.
- **ERDDAP offers an easy-to-use, consistent way to request data: via the OPeNDAP standard.** Many datasets can also be accessed via the Web Map Service (WMS).
- **ERDDAP returns data in the common file format of your choice.** ERDDAP offers all data as .html, .table, ESRI .asc and .csv, Google Earth .kml, OPeNDAP binary, .mat, .nc, ODV .txt, .csv, .tsv, .json, and .xhtml. So you no longer have to waste time and effort reformatting data.
- **ERDDAP can also return a .png or .pdf image with a customized graph or map.**
- **ERDDAP standardizes the dates+times in the results.** Data from other data servers is hard to compare because the dates+times often are expressed in different formats (for example, "Jan 2, 1985", "2 Jan 85, 02-JAN-1985, 1/2/85, 1985-01-02, "days since Jan 1, 1900"). For string times, ERDDAP always uses the ISO 8601:2004(E) standard format, for example, 1985-01-02T00:00:00Z. For numeric times, ERDDAP always uses "seconds since 1970-01-01T00:00:00Z". ERDDAP always uses the Zulu (UTC, GMT) time zone to remove the difficulties of working with different time zones and standard time vs. daylight saving time. ERDDAP has a service to convert a numeric time to/from a string time.
- **ERDDAP has web pages (for humans with browsers) and RESTful web services (for computer programs).** You can bypass ERDDAP's web pages and use ERDDAP's RESTful web services (for example, for searching for datasets, for downloading data, for making maps) directly from any computer program (for example, Matlab, R, or a program that you write) and even from web pages (via HTML, image tags or JavaScript).

For a quick introduction to ERDDAP, watch the first half of this [video](#). (5 minutes)

In it, a scientist downloads ocean currents forecast data from ERDDAP to model a toxic spill in the ocean using [NOAA's GNOME software](#) (in 5 minutes). Thanks to Rich Simell. (One tiny error in the video: when searching for datasets, don't use .xml between search terms. It is implicit.)

erdCalCOFegg.xml Share\_vid\_snagprof Share\_vid\_snagprof Show all downloads

### Start Using ERDDAP:

#### Search for Interesting Datasets

- [View a List of All 900 Datasets](#)
- **Do a Full Text Search for Datasets**
- **Search for Datasets by Category**  
Datasets can be categorized in different ways by the values of various metadata attributes. Click on an attribute (`cdm_data_type`, `institution`, `bios_category`, `keywords`, `long_name`, `standard_name`, `variableName`) to see a list of categories (values) for that attribute. Then, you can click on a category to see a list of relevant datasets.
- **Search for Datasets with Advanced Search**
- **Search for Datasets by Protocol**  
Protocols are the standards which specify how to request data. Different protocols are appropriate for different types of data and for different client applications.

Protocol	Description
griddap datasets	Griddap lets you use the OPeNDAP hyperslab protocol to request data subsets, graphs, and maps from gridded datasets (for example, satellite data and climate model data). <a href="#">griddap documentation</a>
tabdap datasets	Tabdap lets you use the OPeNDAP constraint/selection protocol to request data subsets, graphs, and maps from tabular datasets (for example, buoy data). <a href="#">tabdap documentation</a>
"files" datasets	ERDDAP's "files" system lets you browse a virtual file system and download source data files. <a href="#">"files" documentation</a>
WMS datasets	The Web Map Service (WMS) lets you request an image with data plotted on a map. <a href="#">WMS documentation</a>

- **Developers of computer programs and JavaScripted web pages can search for datasets via**
  - [ERDDAP's RESTful search services](#)
  - [ERDDAP's allDatasets tabular dataset that has a row of information for each dataset](#)
  - [ERDDAP's OpenSearch 1.1 Service](#)