

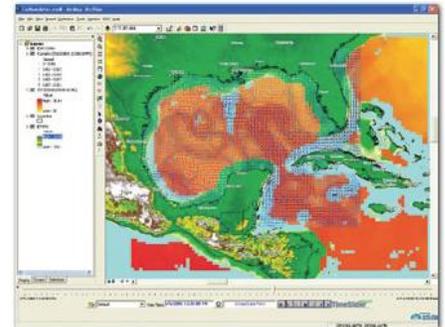
## Quick Start Guide



EDC Java-based interface for dataset browsing.



EDC selection of variables and spatial and temporal subsetting.



ArcGIS display showing data retrieved using EDC. All datasets shown are from OPeNDAP sources.

“I had been struggling with satellite data in ArcGIS for three or four years. I found several workarounds. But all the workarounds tended to be very laborious, and they worked only marginally. On any given satellite data project, I was spending 90 percent of my time just getting the data into a usable format for ArcGIS. It was painful. So I was more than a little skeptical about the EDC product. I thought if it saves a little time, it might be worth it. Then in the first 10 minutes of using it I was amazed. Not only did it work, but it seamlessly pulled the data into ArcGIS directly from the OpenDap servers. It turned all-day data import, cleanup, and temporal animation exercises into 10-minute operations. That is not an exaggeration.

I had just completed a fairly large high-seas-driftnet project. The Coast Guard wanted to correlate illegal fishing activity to ocean conditions. But processing oceanographic data takes time. I spent two weeks very tediously massaging and animating several months worth of sea surface temperature, ocean current data, and vessel positions, and it covered the entire Pacific Ocean north of the twentieth parallel. That is a pretty big area and a monstrous dataset. If the EDC product had been at my disposal, I would have been able to compress that two weeks literally into a couple hours. The EDC now makes near-real-time satellite data processing a very real possibility.

Not only does it pull the data in cleanly, but it is already structured to temporally animate, which is a huge step forward. I think that everybody who uses it will be thrilled with the way it handles temporal data. It is a must-have for anybody working with satellite data. Thanks NOAA.”

- Jonathan Kamler, Operations Analyst, Response Division, Living Marine Resources  
Seventeenth Coast Guard District

## ABOUT EDC

Built by NOAA and Applied Science Associates, Inc. (ASA), the Environmental Data Connector (EDC) extension uses a Java-based browser to allow users to connect to THREDDS (Thematic Real-time Environmental Distributed Data Services) catalogs. The connector leverages existing components from the Unidata libraries so that users can filter large amounts of data in space and time. The data is then converted to raster or feature classes in ArcGIS and is available for standard GIS analysis and display. The raster and feature data are connected to ASA's TimeSlider™ extension so that the data may be animated and analyzed over time. Special customizations were made to the TimeSlider for this project to manage data with non-uniform time steps; the scientific data is highly variable in time with some data, such as in-situ current and wind measurements, being measured every few minutes to climate data that may be measured in terms of decades. Future developments for consideration include support for the ERDDAP web service, a RESTful service that can access seven different protocols, and the OGC (Open Geospatial Consortium) standards.



## BEFORE YOU START

To install the OPeNDAP Connector, you must have the following previously installed on your system:

ArcGIS 9.2

ArcGIS 9.2 Service Pack 3, available for download on ESRI's website, [www.esri.com](http://www.esri.com).

Java Run-Time Environment 6

.NET Framework 2.0 or 3.0

.NET Support for ArcGIS Desktop

## INSTALLATION

1. Run Setup.exe to begin the installation.
2. If you have a previous version installed, you will be prompted to uninstall it, do so and then rerun the Setup.exe
3. Click **Next** to proceed with the installation. You will be prompted to select a destination folder for the OPeNDAP files. The files can now be installed to any writable directory on your system
4. When the install is complete, open ArcGIS 9.2.
5. Go to *Tools > Extensions*. Check the box next to the Timeslider Extension to turn it on. Check the box next to the Environmental Data Connector to turn it on. Click **Close**.
6. The TimeSlider will appear as a dockable window at the bottom of the map
7. The Environmental Data Connector will appear as a new menu in the main menu bar.

## INSTALLING .NET SUPPORT FOR ARCGIS DESKTOP

.NET support for ArcGIS Desktop is not automatically installed on the computer with ArcGIS Desktop if the .NET Framework was not installed on the computer before the ArcGIS Desktop install was performed or if the version of the .NET Framework installed on the computer was not the correct version. To install .NET support manually:

1. Open the Control Panel and go to Add/Remove Programs
2. Beside ArcGIS Desktop, click the Change button
3. Select 'Modify' installation, click Next
4. Click on the icon next to .NET Support and select the option 'Entire feature will be installed on local hard drive'
5. Continue through the wizard to complete the installation

## FINDING DATA

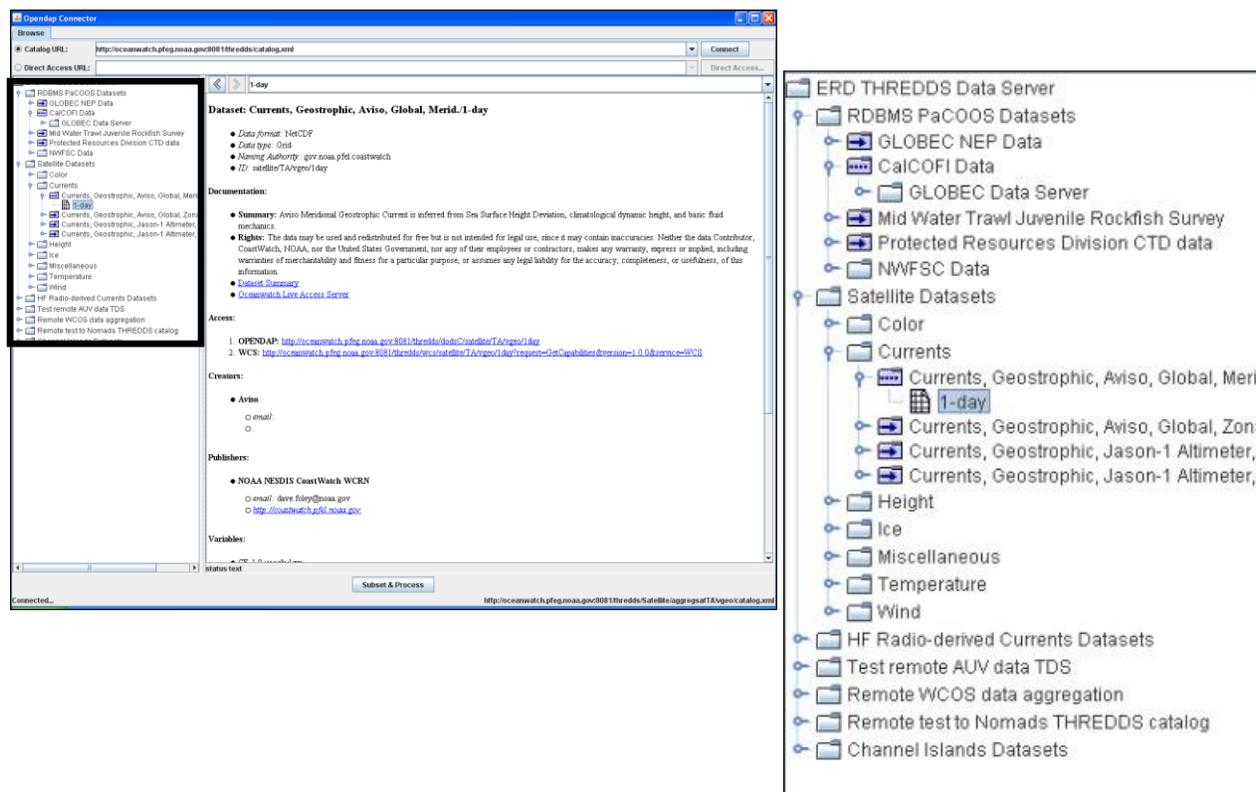
To initialize the OPeNDAP Connector, click on the icon in ArcMap.



In the Browse section, you can choose from a list of resources that provide meteorological and oceanographic data. In the **Catalog URL** field, you can click the drop-down arrow to browse several sources of data. Select a data source and click **Connect** to view the available data sets. If you would like to use a data source that is not listed, type the address in the **Direct Access URL** and click **Direct Access**.

|   |   |   |                  |
|---|---|---|------------------|
| <input checked="" type="radio"/> Catalog URL: | <input type="text" value="http://oceanwatch.pfeg.noaa.gov:8081/thredds/catalog.xml"/> | ▼ | Connect          |
| <input type="radio"/> Direct Access URL:      | <input type="text"/>  | ▼ | Direct Access... |

In the catalog tree that loads, navigate to the data you would like to use and select it. Metadata for the selected item will appear in the right-hand pane. Click to select a data set. To prepare this data for display, click **Subset & Process**.



## VIEWING DATA

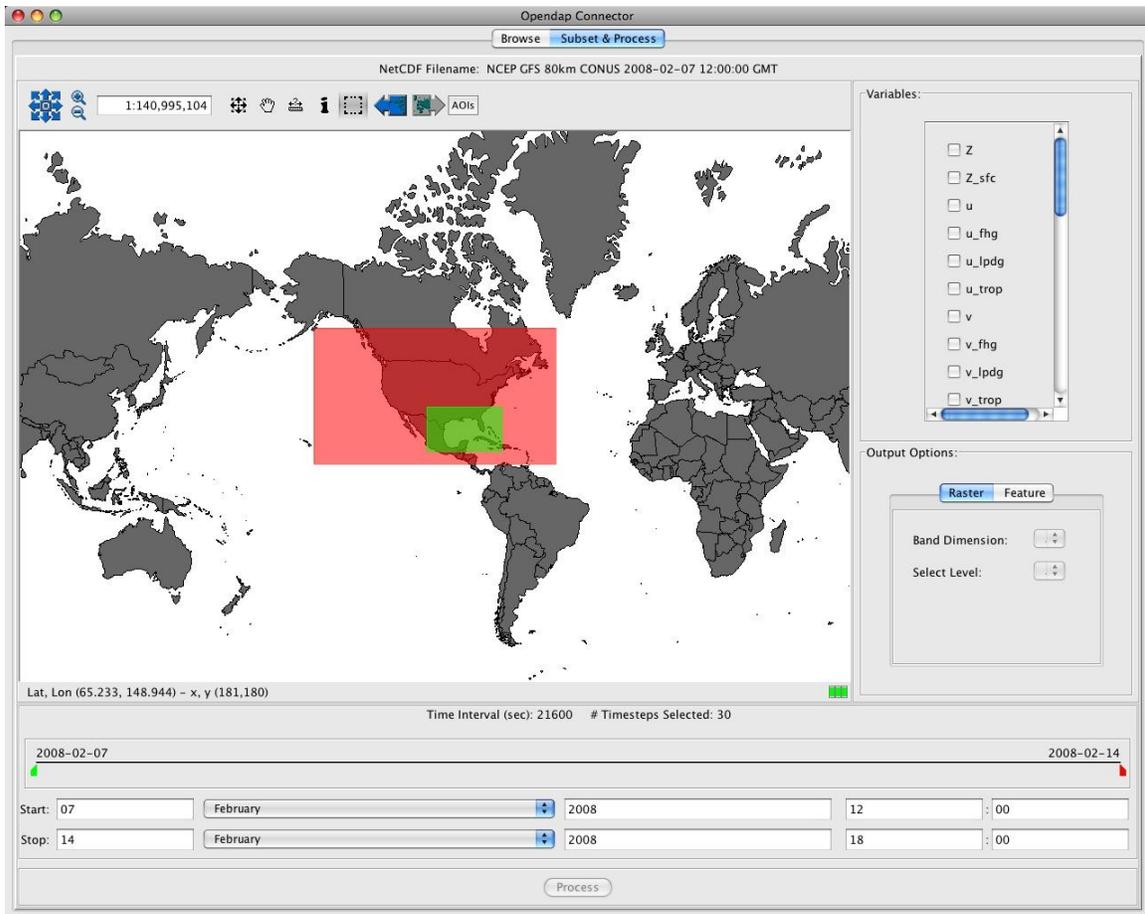
The Subset & Process section allows you to define an area of interest for your data as well as a variable. The area shaded in red is the coverage of the data set. You can further delimit this area by selecting an area of interest.



Use the Pan arrow

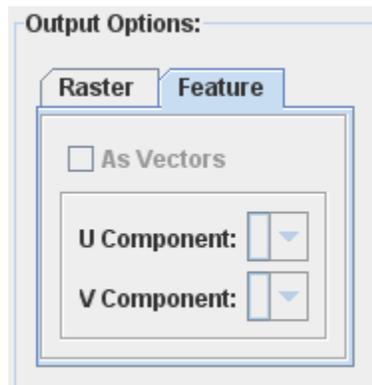
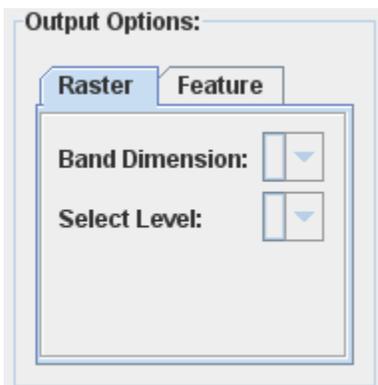
s and **Zoom** tools to move around the map and locate the area from where you would like to obtain data. The **Scale** field shows your current scale in the display below. Other tools in the toolbar allow you to Center Map, Freehand Pan, Measure, Identify, or Select the Area of Interest. The **AOIs** menu contains items for storing and recalling frequently used areas of interest.

Click the **Selection** icon and use the crosshairs to draw a box around your area of interest. To the right, the Variable Selection menu lists all the available types of data in the dataset. Hovering the mouse over the variable name will display a definition of that variable.

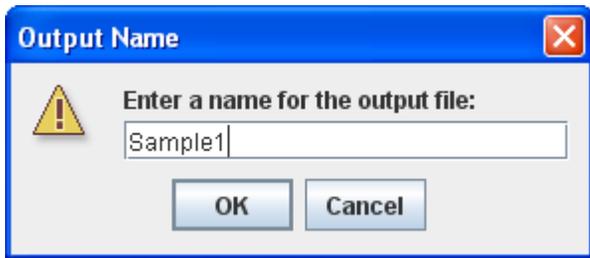


In the Output Options menu, you will specify the format generated by the OPeNDAP Connector: raster or feature.

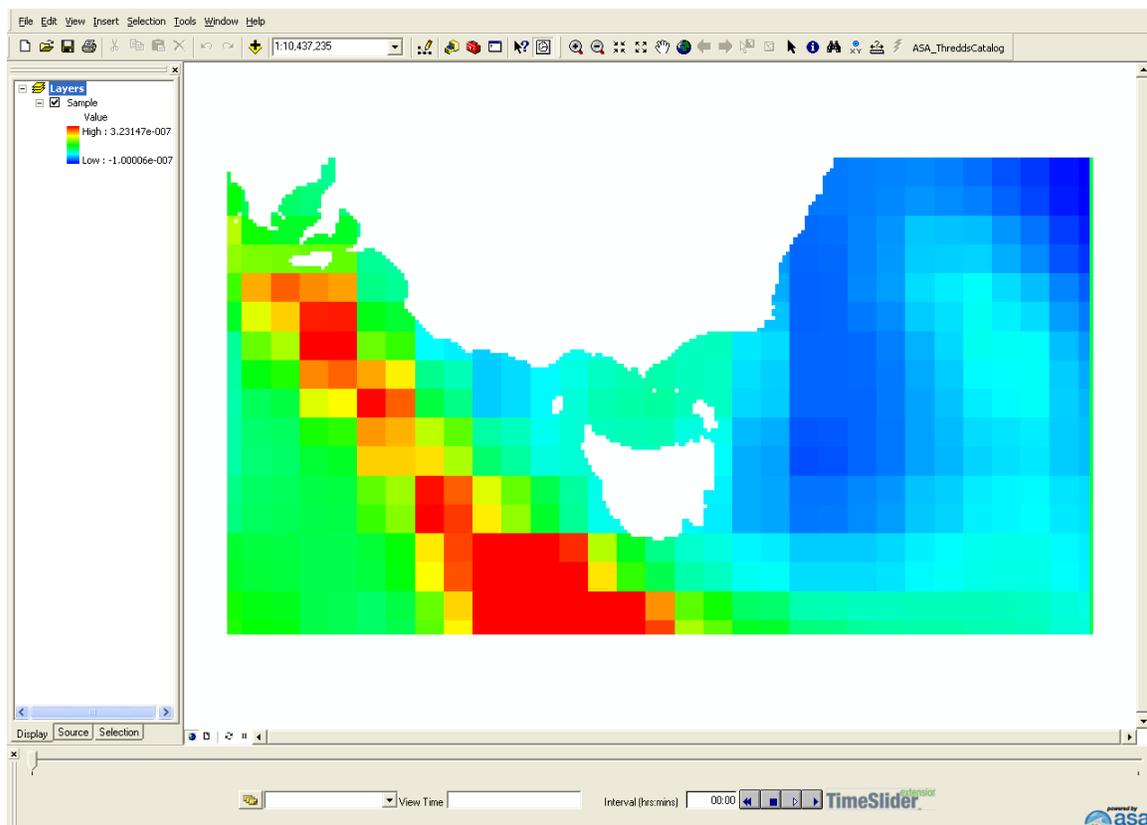
Once you have selected a variable, you must select an output format for the data.



Below the map display, the sliders allow you to select the time period for your data. The entire time period of the dataset is selected by default. You can do this by moving the slider manually, or by selecting the number of time steps.



Once the Variable and Output Options have been selected, click Process to export your subset of data to ArcGIS. Select a name for the output shapefile or raster grid, and click **OK**.



In ArcGIS, turn on the TimeSlider extension. Click on the **Add Data to TimeSlider** button on the TimeSlider toolbar. The default display will be in the dialog box will be for Vector Data. You must click once on the layer name in the left-hand pane to change the settings to Raster Settings. After changing these settings where appropriate, click **Done**. The file can now be animated.