

A Quick Intro to the OOI Website

Sage Lichtenwalner
2018 OOI Data Workshops

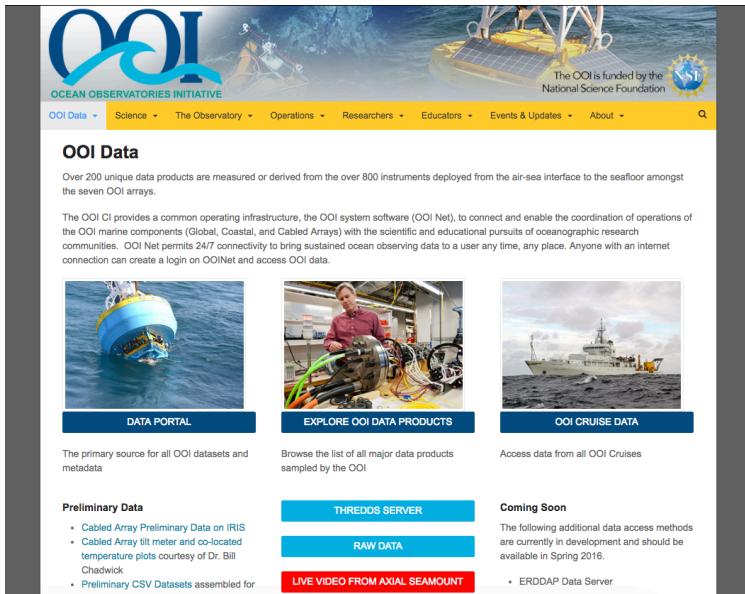


oceanobservatories.org



Many Paths to the Data

OOI data are made available free of charge to the user communities of oceanographers, scientists, and educators and to the public; and, as much as possible, data are provided in near-real time.



OOI Data Portal

- Streaming data from cabled assets
- Plotting
- Asynchronous downloads
- Metadata/Asset Management
- Live Video from Axial Seamount

Additional Access Points

- THREDDS/NetCDF files
- Raw Data
- Cruise Data
- Seismometer Data (IRIS)
- Tilt Meter (Chadwick website)

OOI Data Policy: open access to all.

There are no constraints on who publishes or when, only an acknowledgement is required

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OOI: Web Portals



[Search...](#)

The OOI is funded by the National Science Foundation

[OOI Data](#) • [The Observatory](#) • [Community](#) • [Researchers](#) • [Educators](#) • [Science](#) • [Events & Updates](#) • [About](#)

OOI Updates

2016 AGU Fall Meeting OOI Town Hall

November 22, 2016. We look forward to seeing each of you at the upcoming 2016 AGU Fall Meeting in San Francisco, CA. The OOI will be hosting a town hall TUES, Dec. 13, from 8:15-7:15 PM in Moscone West, Room 2008. The focus of the town hall will be on you, our users, and using OOI data.

Management and Operation of the Ocean Observatories Initiative (OOI)

November 22, 2016 - The Division of Ocean Sciences (OCE) of the National Science Foundation (NSF) has recently announced a solicitation (NSF-17-024) that seeks the services of a qualified organization to provide scientific and technical management and operation of the Ocean Observatories Initiative (OOI).

NOTICE: Oxygen Sensor Calibration Issue

November 11, 2016 - A data anomaly came to our attention during the Portland workshop last month regarding some of the OOI oxygen data.

**UNOLS hosts Workshop Focused on OOI's North East Pacific Array**

October 21, 2016 - The University-National Oceanographic Laboratory System (UNOLS) hosted a recent workshop in Portland, OR focused on the current and future science that can be addressed by the extensive OOI Infrastructure operating in the Northeast Pacific.

OOI Monthly Update – September 2016

October 17, 2016 - Our busy Summer is setting up to transition right into a busy Fall. In this month's newsletter, as always, you can review a few of our many recent highlights – community workshop, maintenance cruises continue, and a new OOI Data Portal is available for use. Check it out!

Data Portal
Access data from the the OOI arrays.

Education Portal
Read and create educational visualizations, customize maps, and do data investigations.

LIVE VIDEO from AXIAL SEAMOUNT

Upcoming Events

2016 AGU Fall Meeting
December 13 – December 18

AGU 2016 Town Hall
December 13 @ 8:15 pm - 7:15 pm

View All Events

Recent Page Updates

- Information for Members 9/12
- Community Resources 7/23
- Coastal/Global Array Webinar Recording 7/7
- Sediment Vortex Voluntiers 6/28
- Cabled Array Webinar Recording 8/24

Information for Researchers
Guidance for proposal writers and data users.

Main

[Home](#) [Science](#) [Asset Management](#)

[Data Catalog Search](#) [Glossary](#) [FAQ](#) [Log In](#)

Research Arrays Select an array on the map or choose from the list.

- Endurance
- Station Papua
- Pioneer
- Argentine Basin
- Immerg Sea
- Southern Ocean
- Cabled Array

The map displays the Southern Ocean and parts of the Atlantic, Pacific, and Indian Oceans. Labeled arrays are shown as green dots: Endurance (Antarctic Peninsula), Station Papua (Papua New Guinea), Pioneer (South America), Argentine Basin (Argentina), Immerg Sea (South America), Southern Ocean (Antarctica), and Cabled Array (South America). The map also shows major ocean currents and bathymetry.

OONet

The screenshot shows the homepage of the Ocean Education Portal (OEP). The header features the OEP logo and the text "Ocean Education Portal". Below the header, there are navigation links for "About the OEP", "Learn", "Teach", and "My Profile". A search bar is also present. The main content area has a blue background with white text. It includes a "Welcome" message, a "What's New" section with a link to "View All Recent Posts", and a "Recent Posts" section listing "How to Make a Model Tidal Current Turbine" by "John W. H. Sauer" and "How to Make a Model Wind Turbine" by "John W. H. Sauer". On the right side, there is a large image of two people working on a yellow model wind turbine. At the bottom, there is a banner with the text "T-APL Team uses a 100% Renewable Energy System to Balance Their Impact" and a "Read More" button.

Education

ERDDAP

Cruises



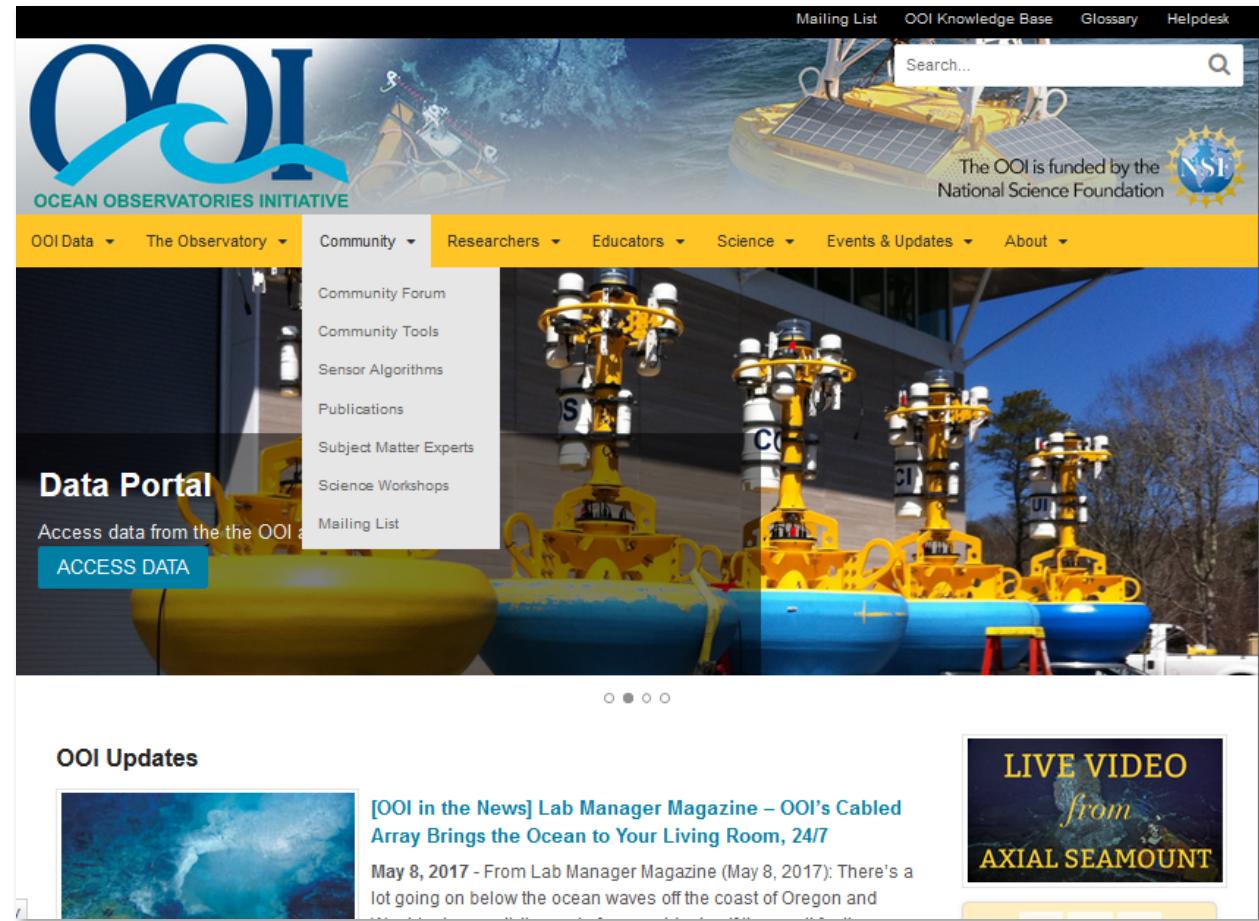
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Website Features

Portal of entry for various stakeholders and users:

- Data
- Science Themes
- Community Tools/Forum
- Researcher Proposal Information
- Education



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Array, Platform & Instrument Info...

Coastal Pioneer

The Pioneer Array is located off the coast of New England, south of Martha's Vineyard. The Continental Shelf-Slope area of the New England coast is a highly productive area and one that is located at a dynamic intersection where ocean currents meet in weather-like "fronts," and where nutrients, pollutants, and other properties are exchanged between the coast and the deep ocean. Data from the inshore, shelf area helps to examine exchanges between the shelf and slope and the shelf ecosystem, as well as provide broader insight into the issues of air-sea gas exchange, including Carbon Dioxide.

The backbone of the Pioneer Array is a frontal-scale moored array with three electro-mechanical surface moorings and seven profiler moorings. Each surface mooring incorporates a surface buoy with multiple sources of power generation and multiple surface and subsurface communications systems. Each surface mooring is anchored by a Multi-Function Node (MFN) on the seafloor. Two MFNs incorporate docking stations for AUVs. All three MFNs are capable of supporting multiple onboard (e.g., frame-mounted) sensors as well as external sensor packages connected by wet-mateable connectors. Five profiler moorings with surface expressions for data telemetry support wire-following profiling packages with a multidisciplinary sensor suite. Two surface-piercing profiler moorings use a buoyant instrument package capable of profiling from a few meters above the bottom up to the air-sea interface.

In order to provide synoptic, multi-scale observations of the outer continental shelf, shelf break region, and continental slope, the moored array is supplemented by nine mobile platforms: six Coastal Gliders and three AUVs. The role of the Coastal Gliders is to monitor the mesoscale field of the slope sea and outer shelf, resolving rings, eddies and meanders from the Gulf Stream as they impinge on the shelf break front. The AUVs are the primary tools for resolving cross- and along-front "eddy fluxes" due to frontal instabilities, wind forcing, and mesoscale variability.

Array Diagrams

Array

Site Name	Water Depth
Central Surface Mooring (CP01CNSM)	133
Central Surface Piercing Profiler Mooring (CP01CNSP)	133
Central Inshore Profiler Mooring (CP02PMCI)	127
Central Offshore Profiler Mooring (CP02PMCO)	148
Upstream Inshore Profiler Mooring (CP02PMU)	95
Upstream Offshore Profiler Mooring (CP02PMUO)	452
Inshore Surface Mooring (CP03ISMM)	92
Inshore Surface Piercing Profiler Mooring (CP03ISSP)	92
Offshore Profiler Mooring (CP04OSPM)	453
Offshore Surface Mooring (CP04OSSM)	450
AUVs (CP05MOAS-AV)	0-600
Coastal Gliders (CP05MOAS-GL)	0-1000

Sites

Coastal Pioneer Central Surface Mooring (CP01CNSM)

The Pioneer Central Surface Mooring is located on the Continental Shelf, approximately 130 meters deep. The Continental Shelf-Slope area off the New England coast is a highly productive area and one that is located at a dynamic intersection where ocean currents meet in weather-like "fronts," and where nutrients, pollutants, and other properties are exchanged between the coast and the deep ocean. Data from the shelf area help to examine exchanges between the shelf and slope and the shelf ecosystem, as well as provide broader insight into the issues of air-sea gas exchange, including Carbon Dioxide.

Like other coastal moorings, the Pioneer Central Surface Mooring is specifically designed to examine coastal-scale phenomena and withstand the challenging conditions of shallow coastal environments, including large tidal fluctuations. The Surface Mooring contains a surface buoy floating on the sea surface and instruments located at fixed depths through the water column, and an anchor on the seafloor. The surface buoy provides a platform on which to secure surface instruments, allowing for the collection of data in the air and in the water, as well as an antenna to transmit data to shore via satellite.

Instruments

This site includes following instruments. To learn more about an instrument, select its name on the left; to access data for an instrument, select an icon on the right.

Instrument	Design Depth	Location	Access Data
Velocity Profiler (short range) (ADCP)	133m	Multi-Function Node	
Seafloor Pressure (PRESSF)	133m	Multi-Function Node	
Single Point Velocity Meter (VELPT)	133m	Multi-Function Node	
pCO2 Water (PCO2W)	133m	Multi-Function Node	
Seawater pH (PHSEN)	133m	Multi-Function Node	
Absorption Spectrophotometer (OPTAA)	133m	Multi-Function Node	
CTD Pumped (CTDP)	133m	Multi-Function Node	
Dissolved Oxygen Stable Response (DOSTA)	133m	Multi-Function Node	

Research Themes

- Climate Variability, Ocean Circulation, and Ecosystems
- Coastal Ocean Dynamics and Ecosystems
- Ocean-Atmosphere Exchange

Technical Resources

Instruments

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....Instruments & Data Products

Instruments

The OOI manages and integrates data from over 800 instruments deployed amongst its seven arrays. Instruments are located on a myriad of platforms including gliders, AUVs, surface buoys, profilers, inductive mooring cables, and seafloor junction boxes. Overall there are nearly 75 models of specialized instrumentation used throughout the OOI that collect over 200 unique data products.

Instrument Name	Primary Discipline
2-Wavelength Fluorometer (FLNTU)	Biological
2-Wavelength Fluorometer (FLORD)	Biological
3-Axis Motion Pack (MOPAK)	Engineering
3-D Single Point Velocity Meter (VEL3D)	Physical
3-Wavelength Fluorometer (FLORT)	Biological
5-Beam, 600 kHz Acoustic Doppler Current Profiler (> 50 m range) (VADCP)	Physical
Absorption Spectrophotometer (OPTAA)	Biological
Benthic Fluid Flow (FLOBN)	Chemical
Bio-acoustic Sonar (Coastal) (ZPLSC)	Biological
Bio-acoustic Sonar (Global) (ZPLSG)	Biological

CTD Profiler (CTDPF)

A CTD is so named as it measures Conductivity, Temperature and Depth. These parameters can then be used to calculate salinity and density. CTD Profiler sensors are mounted on a profiler.

Data Products

This instrument records the following data products. To learn more about a data product, select its name.

- [Conductivity \(CONDWAT\)](#)
- [Density \(DENSITY\)](#)
- [Practical Salinity \(PRACTSAL\)](#)
- [Pressure \(Depth\) \(PRESSWAT\)](#)
- [Temperature \(TEMPWAT\)](#)

OOI Sites

This instrument is used at the following sites. Select a site to access data for this instrument at that site.

Array and Site Name	Instrument Count
Coastal Endurance - OR Inshore Surface Piercing Profiler Mooring (CE01SP)	1
Coastal Endurance - OR Offshore Cabled Deep Profiler Mooring (CE09SP)	1
Coastal Endurance - OR Offshore Cabled Shallow Profiler Mooring (CE09SP)	2
Coastal Endurance - WA Inshore Surface Piercing Profiler Mooring (CE09SP)	1
Coastal Endurance - WA Shelf Surface Piercing Profiler Mooring (CE07BSP)	1

Data Products

Over 200 unique data products are measured or derived from the nearly 75 models of specialized instrumentation used in the OOI from the air-sea interface to the seafloor.

Data Product Algorithms

Data Product specifications and data flow diagrams for current data products can be found in the [OOI Technical Data Package repository](#).

Quality Control

OOI Quality Control strives to meet or exceed QARTOD standards. In addition to daily human-in-the-loop QC tests, as data streams are collected, data products are run through six automated QC algorithms. Please see the [OOI Data Quality Control](#) page for more information.

Data Products

The following lists include the most significant science data products collected by the OOI system, broken up by their primary sampling regime. You can also view the expanded Data Product list with descriptions.

Air-Sea Interface	Seafloor/Crust	Water Column
<ul style="list-style-type: none"> • Air Temperature (TEMPPRK) • Air Temperature at 2 m (TEMPPAM) • Barometric Pressure (BAROREB) • CO₂ Mole Fraction in Atmosphere (CO2GATM) • CO₂ Mole Fraction in Surface Sea Water (CO2SSW) • Direct Covariance Flux of Heat (FLUXWHT) • Direct Covariance Flux of Moisture (FLUXWHT) • Direct Covariance Flux of Momentum (FLUXWHT) 	<ul style="list-style-type: none"> • 16s rRNA sequence of filtered physical sample (DNA16SF) • Benthic Flow Rates (BENTHFL) • Broadband Acoustic pressure waves (HYDRAPEB) • Broadband Frequency (HYDFRBR) • Broadband Ground Acceleration (GRNDAC) • Broadband Ground Velocity (GRNDVBL) • HD Video (HDVIDO) • Hydrogen Concentration (THROPHC) • Methane Concentration (METHCONC) 	<ul style="list-style-type: none"> • Bottom Pressure (BSPRKG3) • Conductivity (CONDWAT) • Density (DENSITY) • Downwelling Spectral Irradiance (SPECIR) • Echo Intensity (ECOINT) • Fluorometric CDOM Concentration (CDONFLC) • Fluorometric Chlorophyll-a Concentration (CHLFLC) • Horizontal Electric Fields (HL-EF) • Mean Point Water Velocity (MLPWV) • Multi Parameter Acoustic Profiler (MLPROF)

Instruments

Description

Data Products

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Publications

Goal: List all publications that reference the OOI and its data.

We have a long way to go on that goal...but welcome your help and ideas!

Are there publications that you know of that we currently do not have on the website?

The screenshot shows the OOI website's navigation bar at the top, featuring links for Mailing List, OOI Knowledge Base, Glossary, and Helpdesk. Below the navigation is a banner image of an underwater glider and a research vessel. The main content area has a yellow header bar with links for OOI Data, The Observatory, Community, Researchers, Educators, Science, Events & Updates, and About. The 'Community' dropdown menu is open, showing options like Community Forum, Community Tools, Sensor Algorithms, Publications, Subject Matter Experts, Science Workshops, and Mailing List. The 'Reports and Publications' section lists several scientific papers, such as Brasseur et al. (2012), Caress et al. (2012), Dreyer et al. (2012), Cowles et al. (2010), deCharon et al. (2015), Delaney and Kelley (2015), Delaney and Varga (2009), Gawarkiewicz et al. (2011), Karson et al. (2015), Kelley et al. (2014), and Mahoney and Plueddemann (2011). The right side of the page includes a search bar and a note that the OOI is funded by the National Science Foundation.



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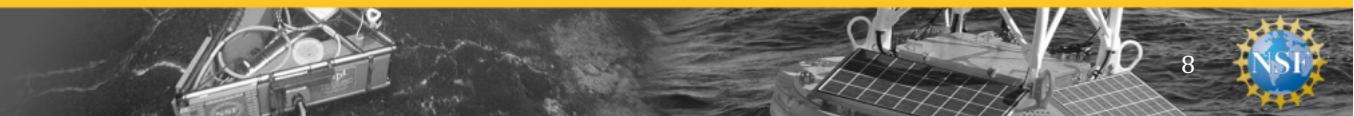
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Community Tools

- Repository for community generated tools external to the OOI Cyberinfrastructure team
- These tools include:
 - Quality Control Testing Repository
 - Download & plotting tools
 - “Decoders” for reference designator codes
 - Tilt Meter Plots
 - Python modules for CAMHD & HYDBB
 - Time-Lapse Videos

oceanobservatories.org/community-tools/



Help Desk

Questions about data, data access,
and instrumentation

help@oceanobservatories.org

The OOI is funded by the National Science Foundation

Helpdesk

Welcome to the OOI Helpdesk

What can we help you with?

The OOI Helpdesk is the key point of contact for any and all inquiries about the OOI project and its data. Through the Helpdesk, users can ask questions about a myriad of topics including but not limited to OOI history, partnerships, funding, future RFPs, access to data, and instrument deployment.

All inquiries sent to the OOI Helpdesk will be addressed in a timely manner.

Before contacting the Helpdesk, we encourage you to check out the following resources that may help you with your inquiry:

- Frequently Asked Questions
- OOI Data Usage Policy
- Data Quality Control
- Operations Plan
- Observations and Sampling Approach
- Data Portal Tutorial

Still have a question?

Send us an email: help@oceanobservatories.org.

If you are reporting an issue with the OOI Data Portal... please provide as much detail as possible regarding your issue. Let us know what page you were on, what time you encountered the issue, and describe what you were trying to accomplish when the problem occurred. A member of the OOI team will connect with you shortly about your report.

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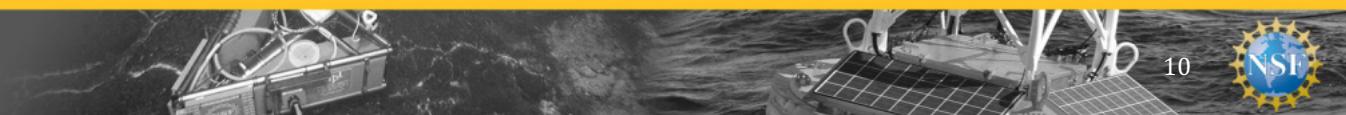
OOI Project Site
oceanobservatories.org

Data Portal
ooinet.oceanobservatories.org

OOI Data Explorations (new)
explorations.visualocean.net



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The OOI Data Portal

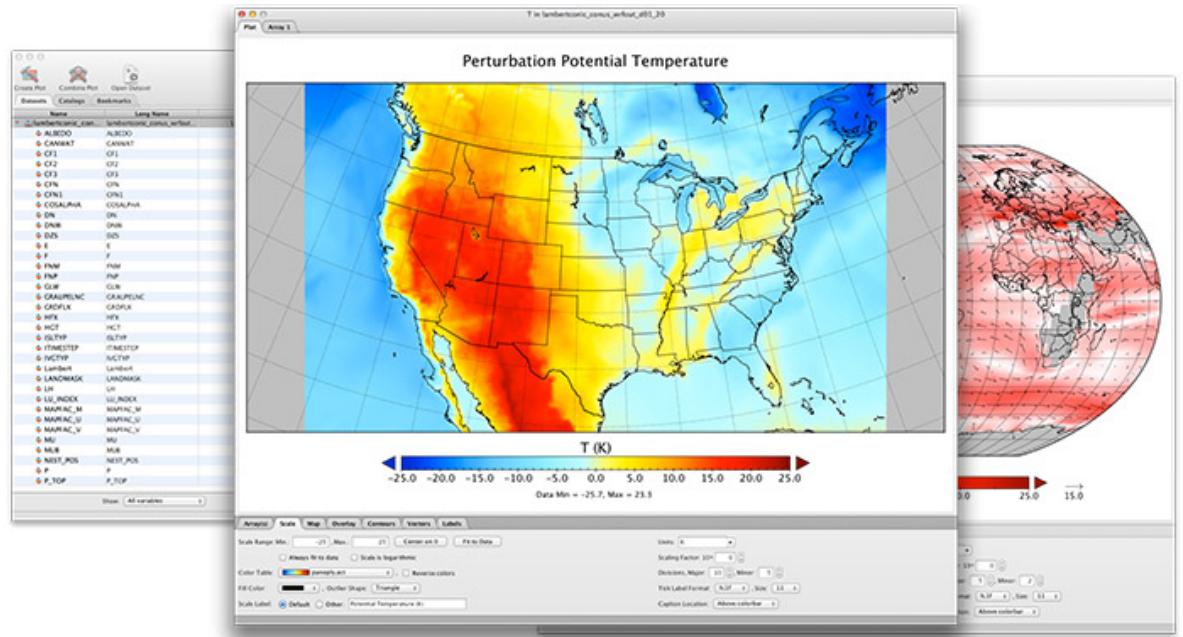
ooinet.oceanobservatories.org

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Panoply

- netCDF, HDF and GRIB Data Viewer
 - Quickly plot data files
 - Easily view variable and metadata lists



Your Challenge

Using the OOI Data Portal:

- Create a plot of ~1 month of data from an instrument you're interested in.
- Create a plot of a similar instrument on another array
- Create a plot of a completely different instrument type

While you investigate, please think about:

- What do you like about the Data Portal?
- What do you think should be improved?
- What additional information did you wish you could find?

