

OOI Data Explorer

> Data Access

> Interactive Data Views

> Visit OOI^{NET} Data Portal

Welcome to the Ocean Observatories Initiative Data Explorer, where you can:

- > Search and download cabled, uncabled, and recovered data for physical, chemical, geological, and biological observations from the field
- > Compare datasets across regions and disciplines
- > Generate and share custom data views
- > Download full datasets using ERDDAP

How to use the Data Explorer:

- > Coming soon: Click here to view available Help Resources
- > Click here to send us your feedback
- > Click here for portal release notes

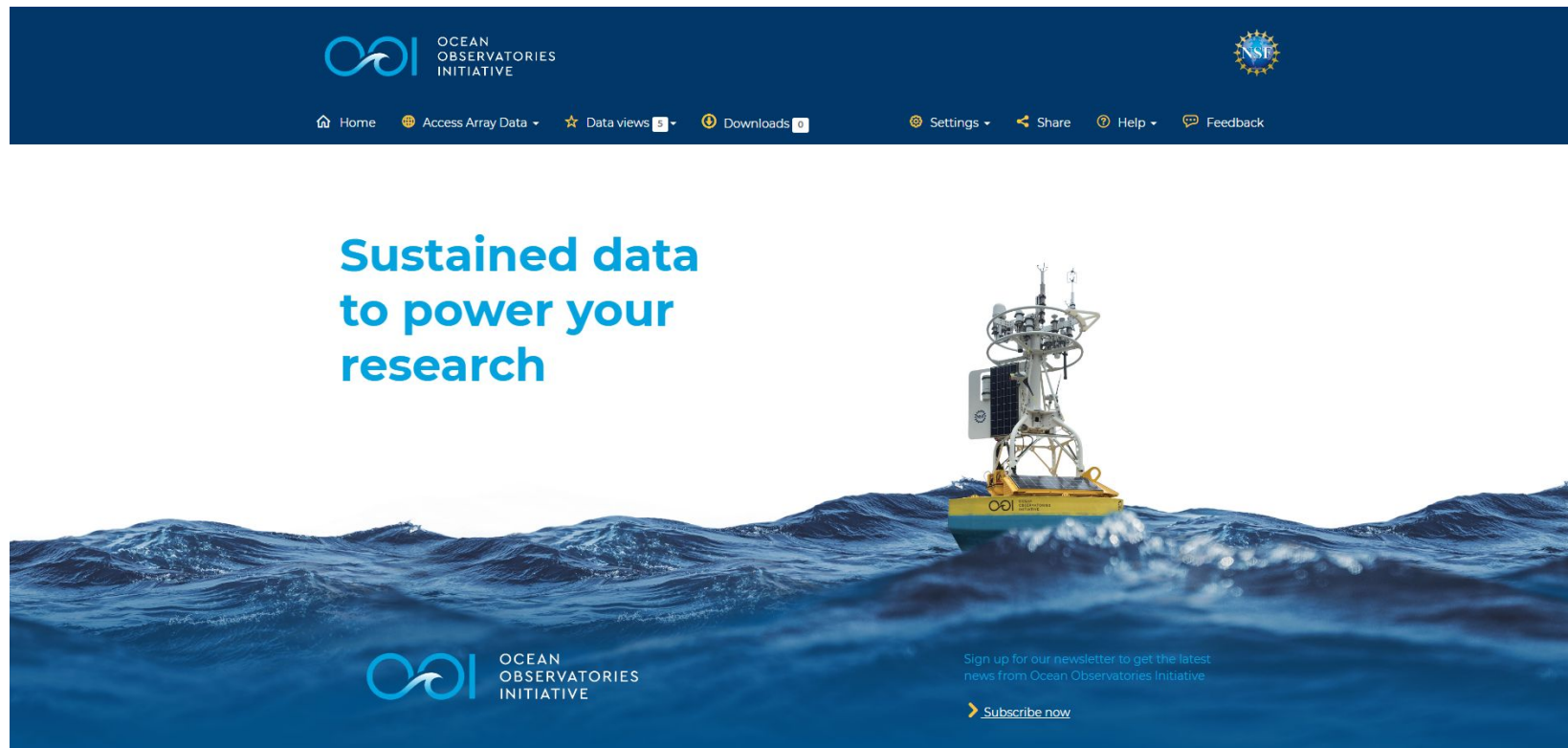


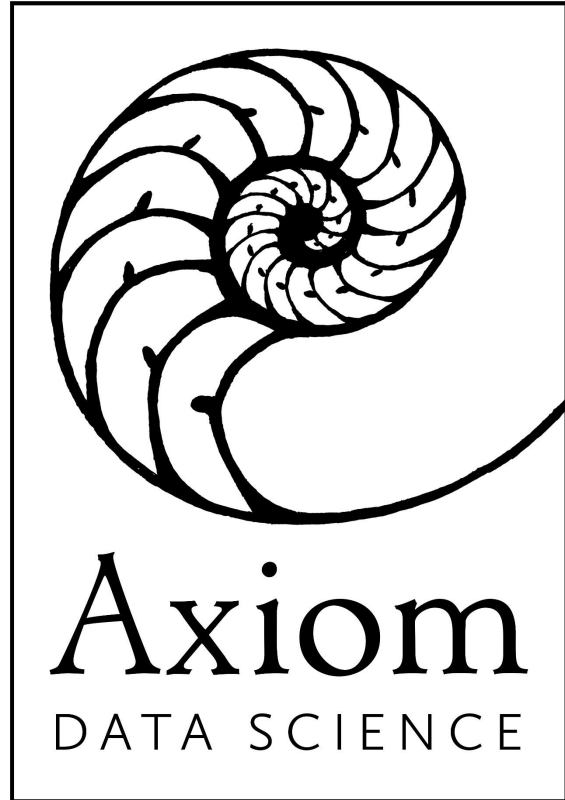
Data Explorer v1.0
Axiom Data Science

<https://dataexplorer.oceanobservatories.org/>

Data Explorer

- Data exploration system for researchers to find, discover, and access OOI data
- Launched Oct 2020 following user-driven design approach
- Exists alongside OOI Data Portal to maintain data access





Mission

To build a better understanding of society and the environment by increasing the accessibility, reuse and impact of scientific data.



Capabilities

Support government, academic, and private sectors in data management, analysis, software engineering, cyberinfrastructure.



Profile

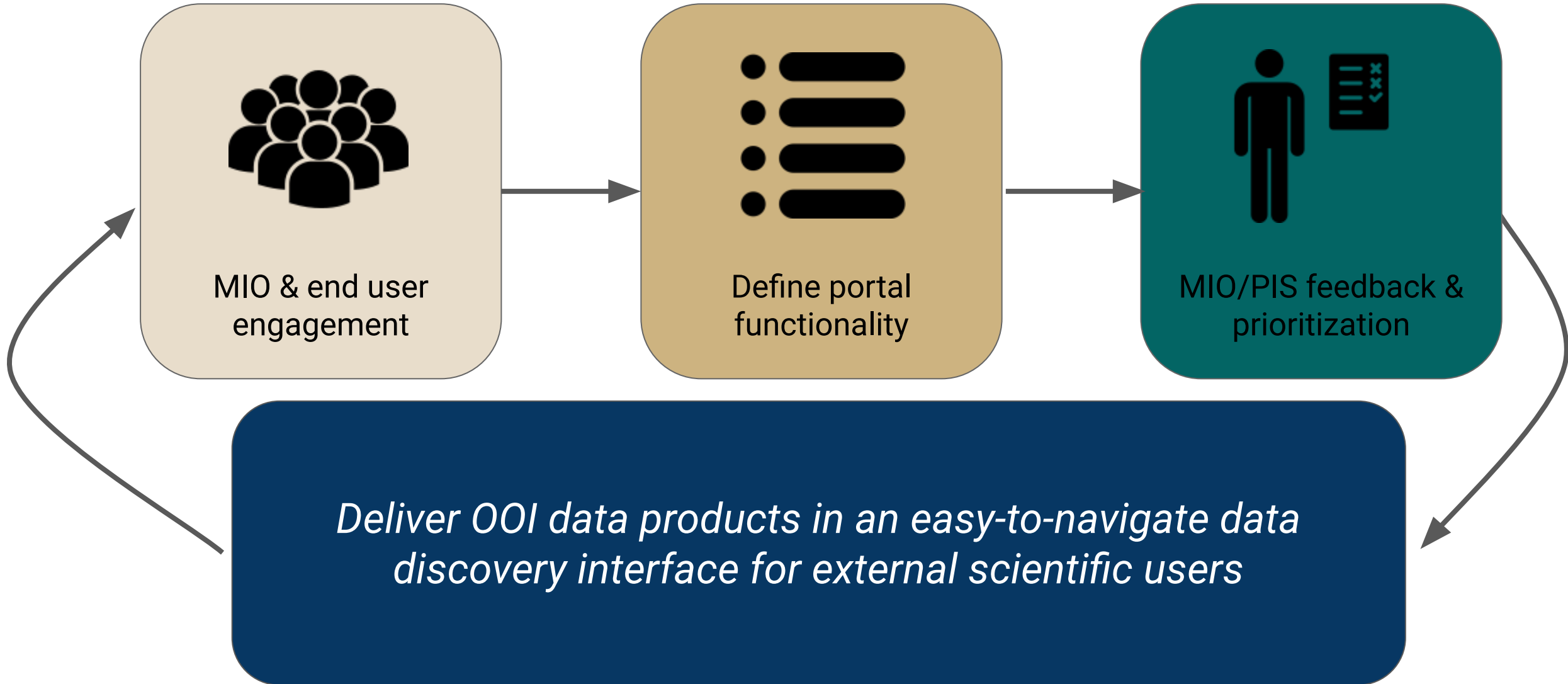
Services: High-performance computing, development operations, cluster compute, and large-scale operational assembly approaches.
Offices: AK, RI, OR



Partnerships

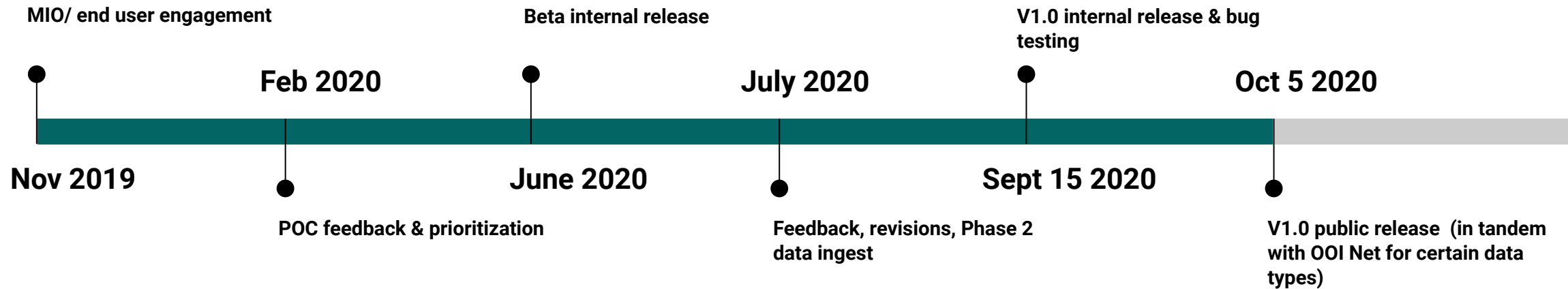


Development approach (*POC, beta, 1*)





Development timeline



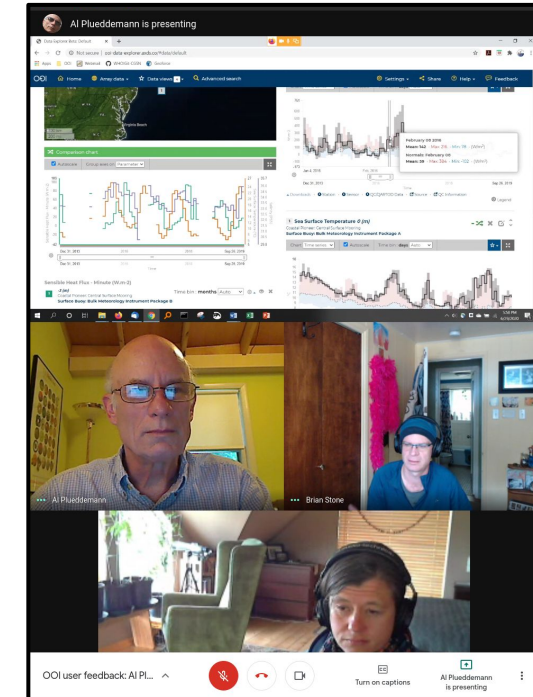
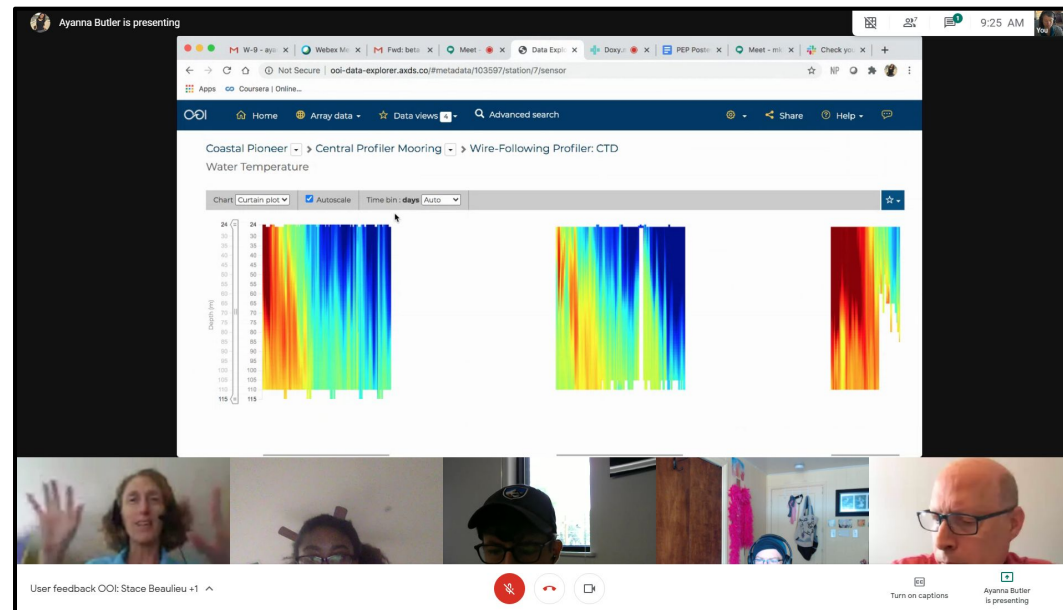
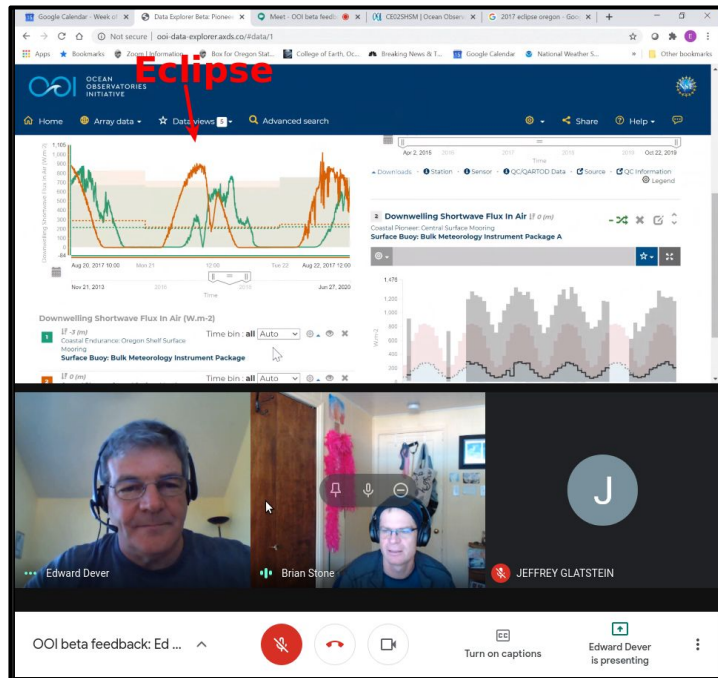


Data Explorer (beta): user interviews

Purpose: Gather feedback and additional input to inform development of the next iteration (v1.0)

Interviewees:

- Chris Wingard, OSU
- Mike Vardaro, UW
- Wendi Ruef, UW
- Jon Fram, OSU
- Deb Kelley, UW
- Al Pluedemann, WHOI
- Stace Beaulieu, WHOI
- Miguel Goni, OSU
- Ayanna Butler, WHOI
- Carrie Wall Bell, NOAA-NMFS
- Cheryl Greengrove, UW Tacoma
- Melanie Fewings, OSU
- Ed Dever, OSU





Data Explorer (v1.0): pre-release & launch

- Responsive to user interviews
 - Resolved feedback and bug fixes
 - Integrated new functionality
 - Ingested additional data set
- Internal release to DMWG, Pls & interviewees Sept for bug testing
- Oct 5: go live!
- Oct 21: community webinar

OOI Data Explorer Update Releases & Release Notes

v1.0 release
Sep 13, 2020

Release Summary

The Ocean Observatories Initiative (OOI) is pleased to announce the release of its new OOI Data Explorer v1 (<http://dataexplorer.oceanobservatories.org/>). To help make OOI data more accessible, usable, and easily integrated into research and classrooms, the OOI team has spent the last year developing this new tool that will allow users to discover the data required to meet their needs. This version 1 brings improvements, additional data access, and bug fixes to the beta version released to an exclusive subset of scientific users in July 2020 for testing and feedback.

Important:

As it is still in the development stage, the Data Explorer v1.0 can be unstable and you may experience a few minor problems, known as bugs. Additionally, only a subset of the OOI data streams are available. This is expected and you will see placeholders (gray boxes) where additional data are forthcoming.

New Features and Bug Fixes

Gold Copy API

- Enhancements to Gold Copy ERDDAP service
- Initial optimizations for ERDDAP dataset loading and download performance
- Code refactor for data availability to prevent overlapping provenance annotations
- Expose deployment summary information to the user, including: deployment name, start/end time, deployment location, calibration information
- Import instrument narratives and images from <https://oceanobservatories.org/> into Data Explorer, including: text narratives, diagrams, instrument classes, model information, and data product description and access links
- Add reference identifiers and link to data stream in OOI Data Portal

Grid view

- Update to grid filtering algorithm to prevent null result
- Implement full text search to all charts, including instrument make and model
- Add access to OOI diagrams and descriptions at array, subsite, and node levels
- Display glider data preview
- Highlight depth/map location when hovering over chart
- Bug fixes to map and depth chart hover and scroll functionality

Charting

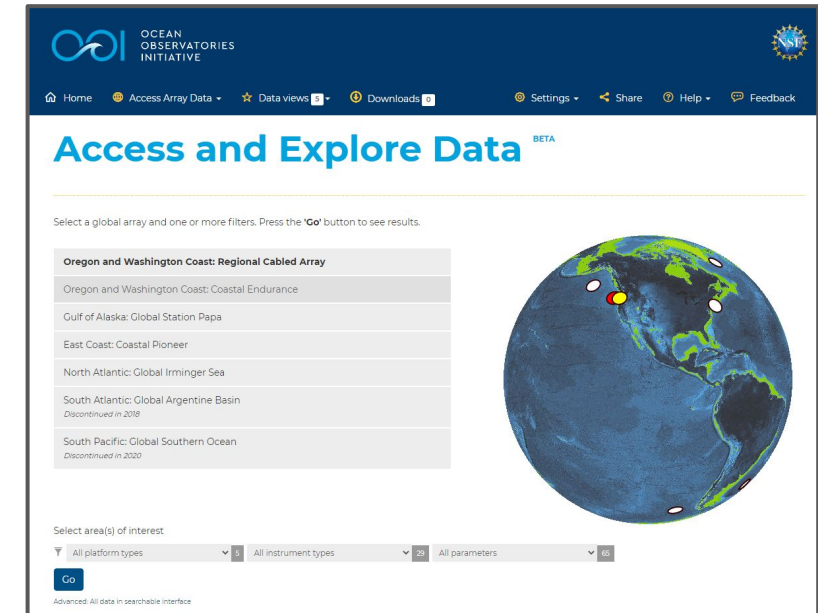
- Improve time selection on charts
- Performance enhancement for multi-depth instruments (i.e. ADCP) to allow quicker load of time and depth binned data
- Allow user to add items to downloads queue from chart
- Expose data quality flags from QARTOD tests alongside the data (where available, e.g., CTD datasets)
- Improve navigation from individual chart view to sensor display
- Resolve bug with overlapping annotation visualizations

Search/Navigation



Data Explorer: key features

- Pre-calculated data sets
- Merged streams (telemetered and recovered)
- Data access via interoperability (ERDDAP, THREDDS)
- Interactive display and time series chart
- Ability to view multiple graphs at once
- Ability to create custom data view for sharing
- Robust search capabilities
- Visualization of QC flags and annotations
- CF compliant metadata
- 36 instrument types, 100+ primary data products (parameters)

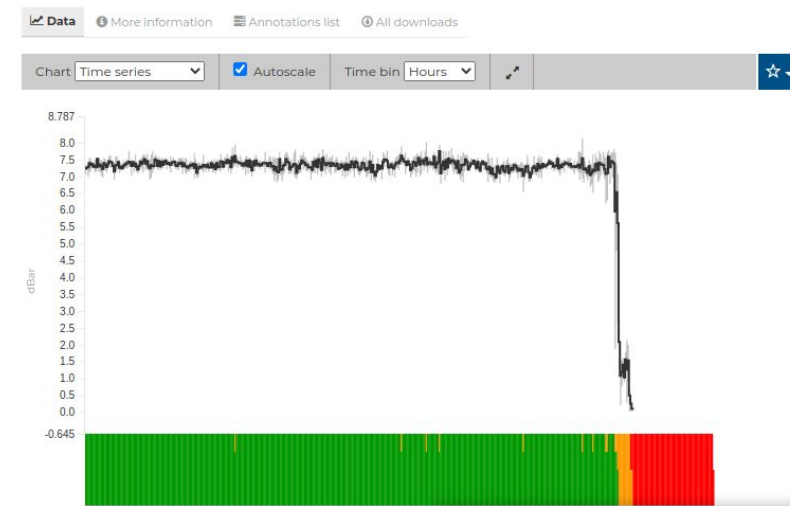




Data Explorer (v1.0): Community Standards

- Data discovery: use metadata standards
 - CF Standard names: OOI already has standard names for many data products. We worked to match up more parameters with existing names. Some names still need to be matched or proposed
 - Datasets in ERDDAP use IOOS/CF metadata profile
- Data exploration: use QC standards to flag data
 - OOI is using working to apply QARTOD to their data, using the ioos_qc library
 - QC rollup flags are visualized and available in the netCDF files in an IOOS-standard way
- Data Access: use standard file formats and community-adopted services
 - netCDF, ERDDAP, THREDDS

Coastal Endurance ▾ > Oregon Inshore Surface Mooring ▾ > Near Surface
Instrument Frame: CTD
Sea Water Pressure



```
sea_water_practical_salinity {  
  Int32 _ChunkSizes 473909, 1;  
  Float64 _FillValue -9999.0;  
  Float64 actual_range 25.8808822616, 33.3163974841;  
  String ancillary_variables "sea_water_practical_salinity_qc_agg  
sea_water_practical_salinity_qc_tests";  
  String id "1017734";  
  String ioos_category "Other";  
  String long_name "Salinity";  
  Float64 missing_value -9999.0;  
  String platform "station";  
  String standard_name "sea_water_practical_salinity";  
  String standard_name_url  
"http://mmisw.org/ont/cf/parameter/sea_water_practical_salinity";  
  String units "1e-3";  
}
```




- Coastal Endurance ▾ ▶ Oregon Inshore Surface Mooring ▾ ▶ Near Surface
Sea Water Pressure


The screenshot shows the 'All downloads' page in the Pangeo Data Catalog. At the top, there are navigation links: 'Data', 'More information', 'Annotations list', and 'All downloads'. Below these is a heading 'Select items to add to downloads queue'. The main content is a list of datasets, each with a checkbox and a 'Downloads' button. A red box highlights the 'Downloads' button for the 'Full time series' dataset, and a red arrow points to a modal window that appears when the button is clicked. The modal window shows download options for three formats: ERDDAP, CSV, and NetCDF. For ERDDAP, there are links for 'Dataset', 'Charts', and 'Metadata'. For CSV and NetCDF, there is a 'Download' button with a download icon.

Dataset Name	Format	Action
Full time series	ERDDAP	Dataset, Charts, Metadata
	CSV	Download
	NetCDF	Download

Data Explorer v1.0 demo



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Data Explorer: Looking forward


Next steps

- resolve bug fixes (ongoing)
- continue user-driven design and engagement for feedback
- additional portal functionality & optimization as per user stories
- feedback prioritization
- migration of additional data sets
- integration with new CI system

Questions?



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