# PO.DAAC Tools & Services

An introduction to the tools and services offered by the Physical Oceanography Distributed Active Archive Center

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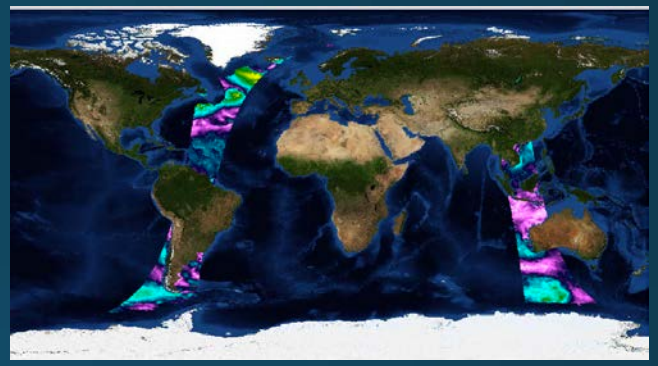
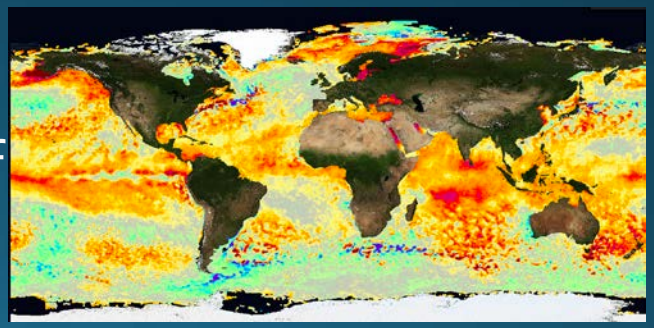
# Some Definitions

- **Dataset** – A collection of granules, generally based on platform, instrument, measurement and version of the data
- **Granule** – An individual time slice of a dataset. Usually a single data file represents a granule.
- **Level 2** - Swath based data
- **Level 3** – Gridded, time averaged data
- **Subsetting** – Reduce quanitity of data of interest by time and space (and sometimes value)



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# PO.DAAC Tools & Services

- Discovery
  - Portal or API based discovery
- Access
  - Whole and offset file access via numerous mechanisms
- Exploration, Visualization, and Subsetting
  - Map and data based explorations (Level-2, Level-3)

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# Tools and Services Overview

| Functionality | Tool/Service | Notes |
|---|---|---|
| **Data Discovery** | PO.DAAC Portal | Mission information and Resources |
| | Consolidated Web Services (CWS) | Dataset, Granule search services |
| **Data Access** | FTP | Traditional FTP access |
| | Drive | WebDAV enabled http access |
| | OPeNDAP | Web based science access |
| | THREDDS | Aggregations, remote data access |
| | W10N | Webification, ReST access to data/metadata |
| **Exploration, Visualization and Subsetting** | State of the Ocean | Level-3 visualization tool |
| | LAS | Level-3 Visualization and subsetting tool |
| | HiTIDE/L2SS | Level 2 exploration, subsetting |
| | CWS | Dataset, Granule search services |


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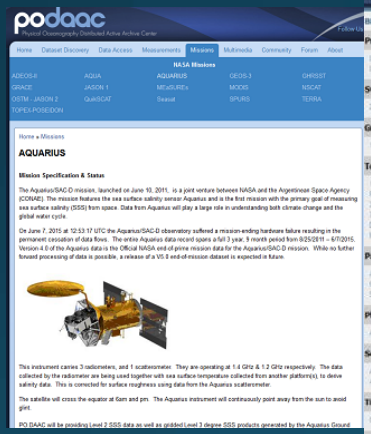
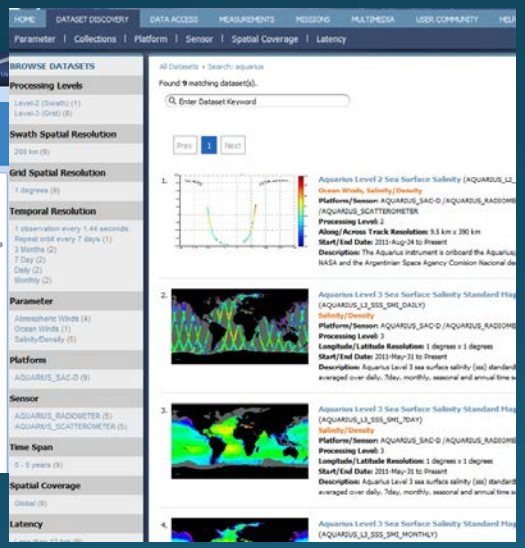
# Discovery

- Web Portal & Mission Pages
  - Faceted data search & links to mission resources




http://podaac.jpl.nasa.gov/aquarius




http://podaac.jpl.nasa.gov/datasetlist?search=aquarius

- Web Services
  - Dataset, Granule discovery
  - Restful
  - Parameter based
  - Search on many different metadata attributes



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# Access

- FTP
- PO.DAAC Drive* – WebDAV enabled access over HTTP
  - Mount Drive locally to interact with our entire archive
- OPeNDAP – index based file access (L1+)
- THREDDS– aggregate queries by value (L3+)
- W10N*– Restful metadata, data access

* Labs or UAT capability


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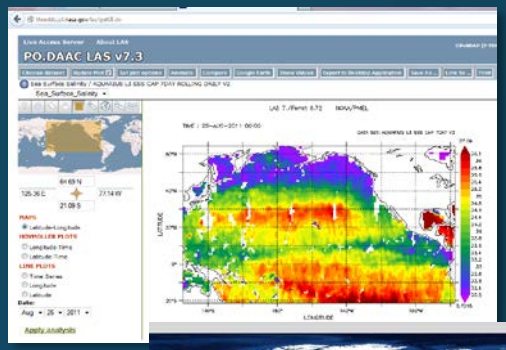
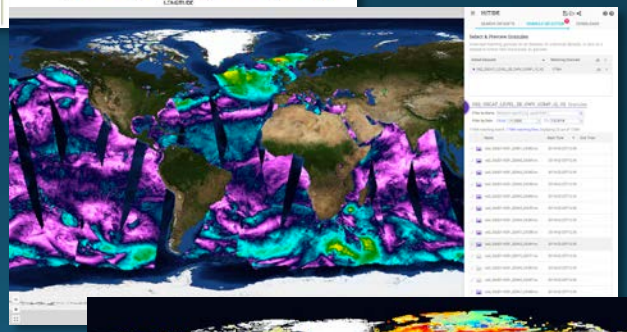
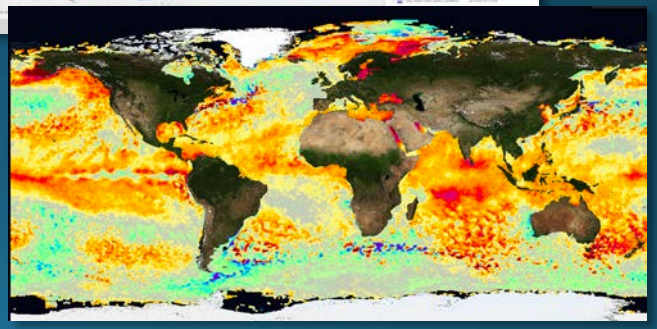
# Visualization and Subsetting

- Live Access Server (LAS)
  - Visualization and Plotting
  - Subsetting
  - Level 3+ data
- HiTIDE & L2SS (Level 2 Subsetter)
  - Visualization
  - Subsetting
  - Level 2 data
- State of the Ocean (SOTO)
  - Level 3 visualizations
  - Simple animations







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# Backup Slides


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# Summary of PO.DAAC Web Services

| *Feature* | THREDDS | OPeNDAP | PODAAC-ws |
|---|---|---|---|
| ***Mode of Access*** | Interactive Form<br>Extended URL | Interactive Form<br>Extended URL | Interactive Form<br>Extended URL |
| ***Dataset Applicability*** | L3 - 4 (gridded) | L1 – 4 (swath & gridded) | L1 – 4 (swath & gridded) |
| ***Operation Level*** | Granule Collection | Individual Granule | Dataset/Granule |
| ***Subset Query*** | By-value | By-index | By-value |
| ***Exposes/Returns*** | Metadata/Data | Metadata/Data | Metadata/Data |
| ***Query Limitations*** | lg. aggregate queries | - | - |
| ***Subservices*** | NCCS, WMS, WCS | - | Metadata: Dataset, Granule<br>Image, extract: Granule |
| ***Ease of Use*** | High | Lower (but v. flexible) | Mid |


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# Upcoming or Future Capabilities

- Distributed Matchup Service (DOMS)
- Anomaly Detection Service
- Saved Searches/Subscription Downloads for HiTIDE/L2SS
- Drive enhancements and tie-ins
- RipTide - SOTO Enhancements and rework


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