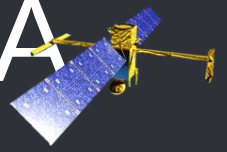
podaac
Physical Oceanography Distributed Active Archive Center

PO.DAAC SWOT DATA Access



Suresh Vannan, Michael Gangl, Michelle Gierach, Jessica Hausman, Catalina Oaida

Contact: suresh.vannan@jpl.nasa.gov

Jet Propulsion Laboratory, California Institute of Technology

June 19th, 2019
SWOT Science Team Meeting 2019
Bordeaux, France

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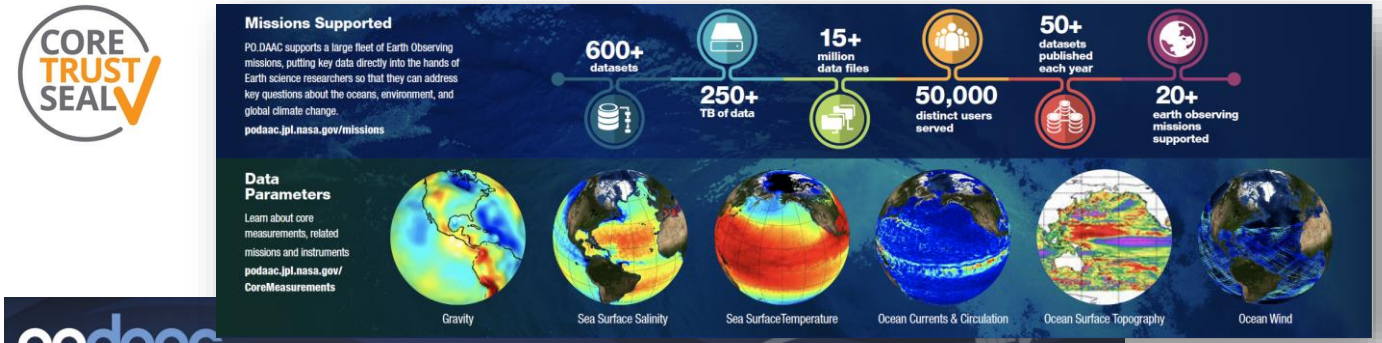
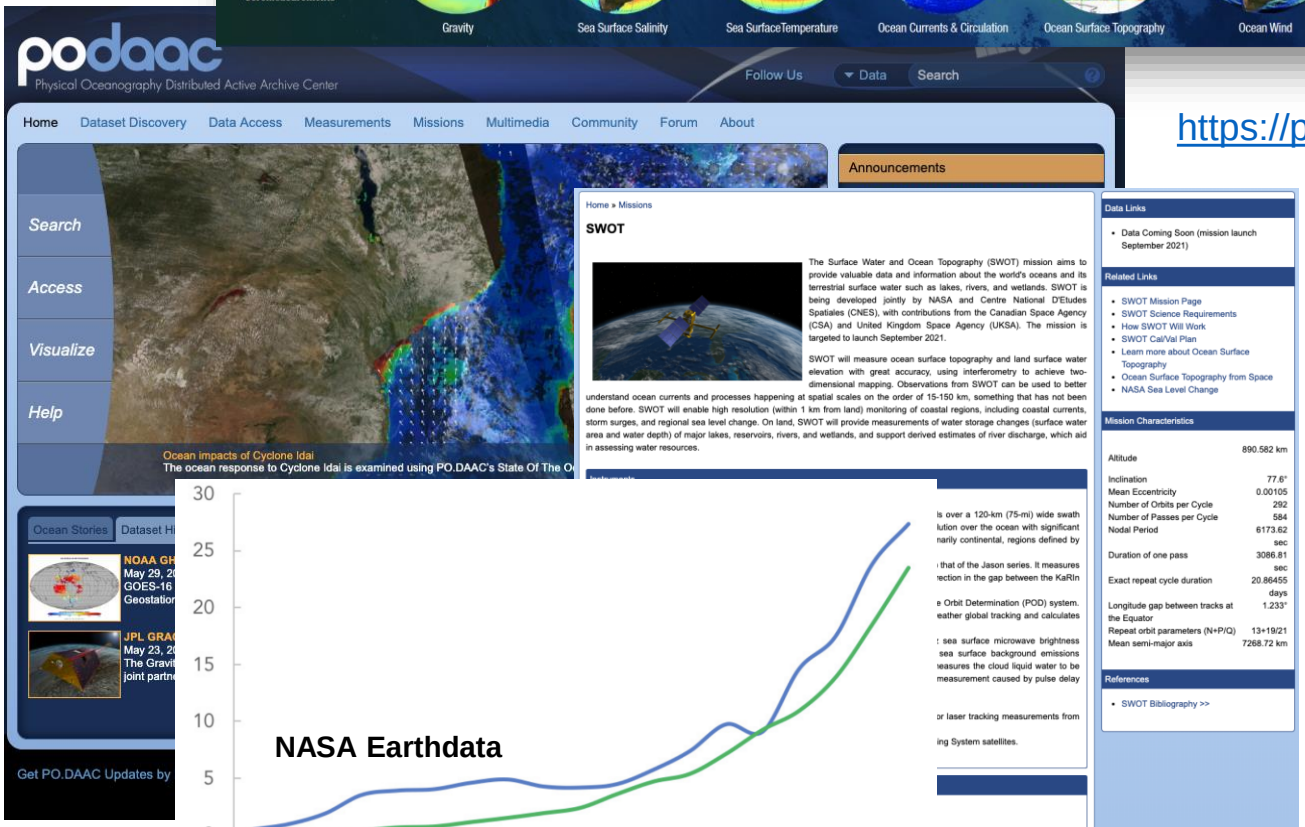
PO.DAAC : NASA Archive For SWOT



Launch: Sept 2021



https://podaac.jpl.nasa.gov/SWOT

Stay Connected

- ✓ Learn about datasets, tools, and services release timelines
- ✓ Test-Drive SWOT tools and services
- ✓ PO.DAAC SWOT road shows: When and Where?
- ✓ Training and user engagement [*In partnership with the SWOT Applications Early Adopters program*]

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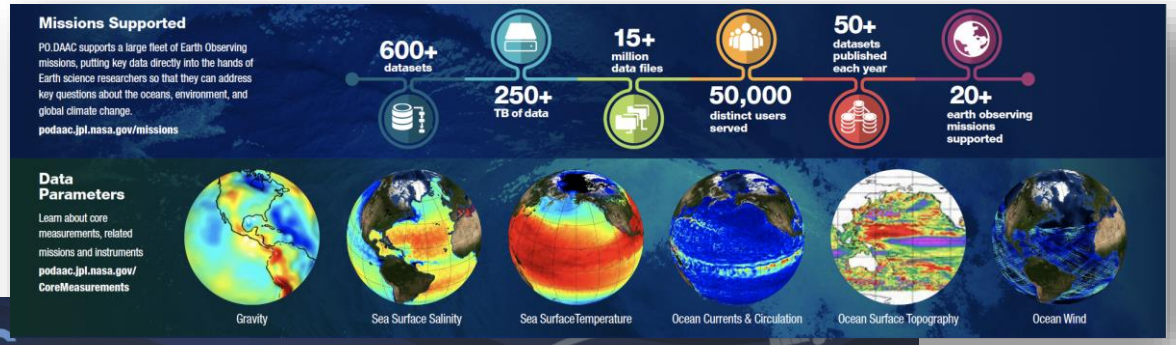
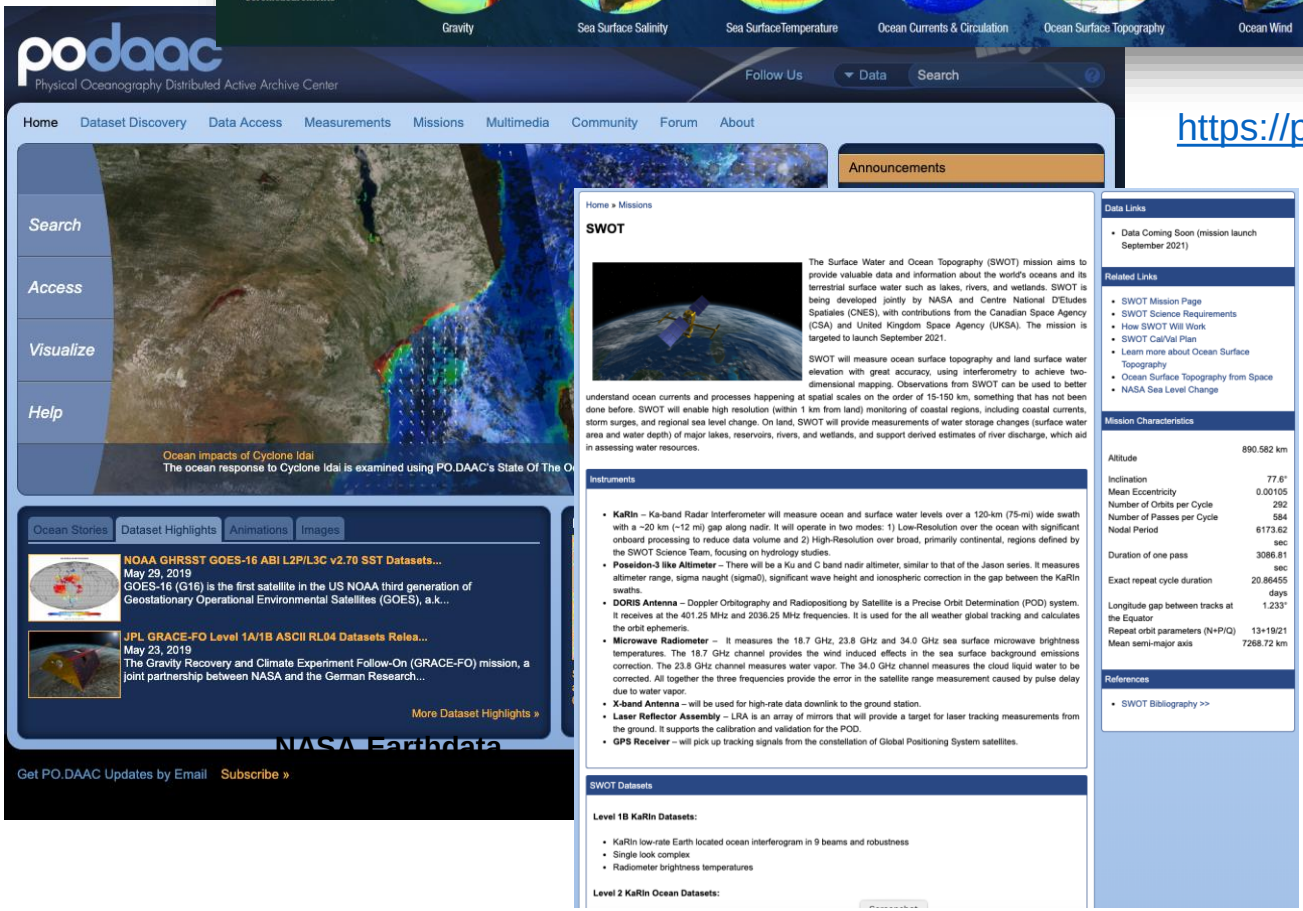
PO.DAAC : NASA Archive For SWOT



Launch: Sept 2021



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PO.DAAC Science Team Support

Pre-launch

Cal/Val Support:

- Archive and distribution of Cal/Val datasets (As Needed)
- Data Engineering support for effective integration of Cal/Val data in support of SWOT
- Support data access across Hydrology and Ocean Cal/Val Sites (Example Hydrology: Tier 1 Gold Standard and Tier 2 Sites; Ocean: California Site)

Supporting datasets:

- Collocate AirSWOT datasets (e.g. ABOVE campaign)
- Access to pre-SWOT datasets

Dataset publication workflow:

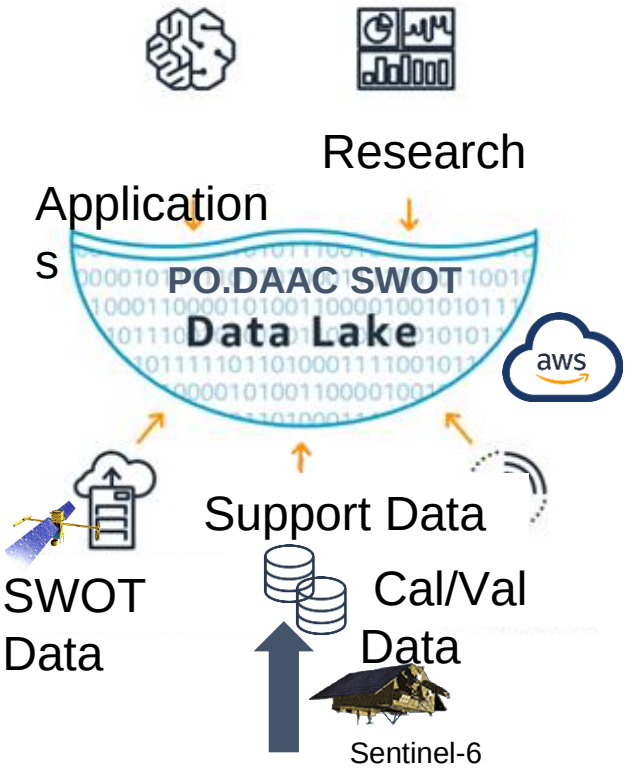
- Simplified and Efficient dataset submission workflow into PO.DAAC
  - *Improved communication within PO.DAAC and with data providers*
  - *Uniform data provider experience*

Early Adopter

- Working with the SWOT Early adopter program

Post-launch

- Restricted Access to Cal/Val datasets (Project Requirement)
- Download or Subscribe to data
- User services support (e.g. on-boarding hydrology users)
- Impact metrics
  - *Dataset Citation metrics, Download metrics etc.*



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PO.DAAC SWOT Capabilities

2019 — Services Development

2020 — Service & Data Integration

2021 — Services, Advanced Cloud Usage

SWOT Launch

Today
June 2019

2020 SWOT STM Hands-on Workshop 1

2021 SWOT STM Hands-on Workshop 2

Search and Download

- Geometry Type
- HUC
- SWOT Feature ID
- Spatial and Temporal Search

Dissemination

- Subscribe
- Subset (space, time, variable, polygon, Quality)

Transformations

- On-Demand Raster
- Re-grid
- Reformat
- Data Product Specific: e.g. River Reach Averaging

Analysis

- Analysis in place (Cloud)
- Integration with other datasets

https://podaac.jpl.nasa.gov/SWOT

Website: Major update coming Fall 2019

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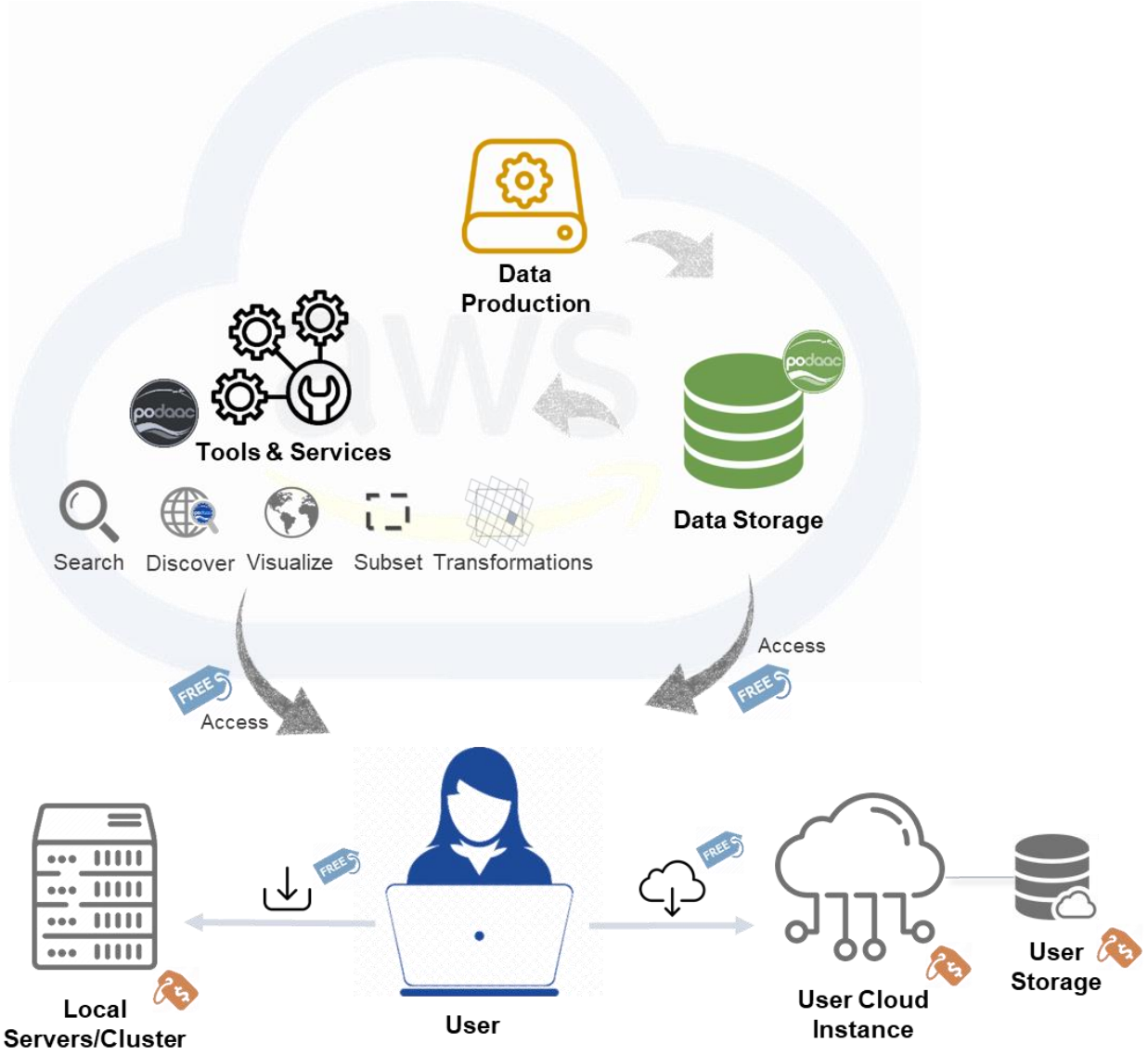
PO.DAAC SWOT (Cloud) Data Flow



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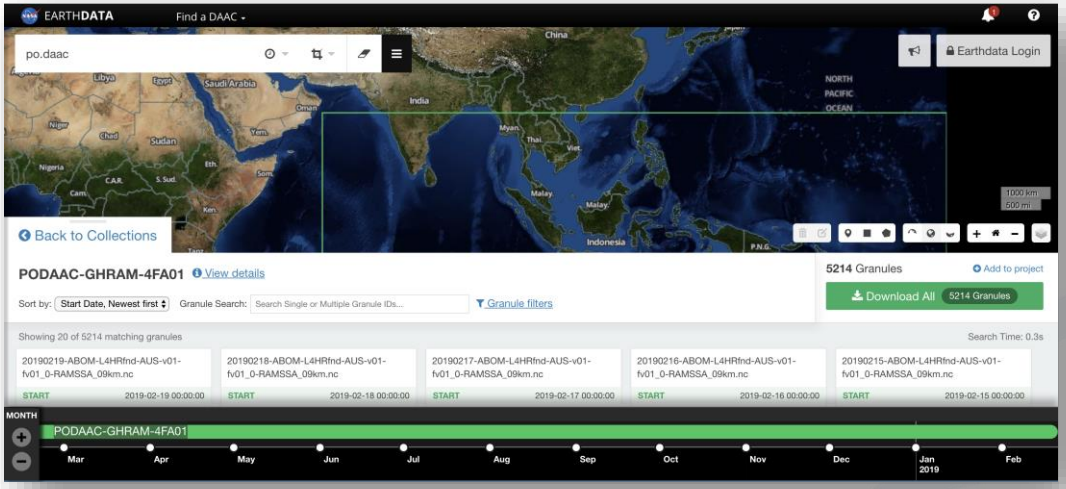
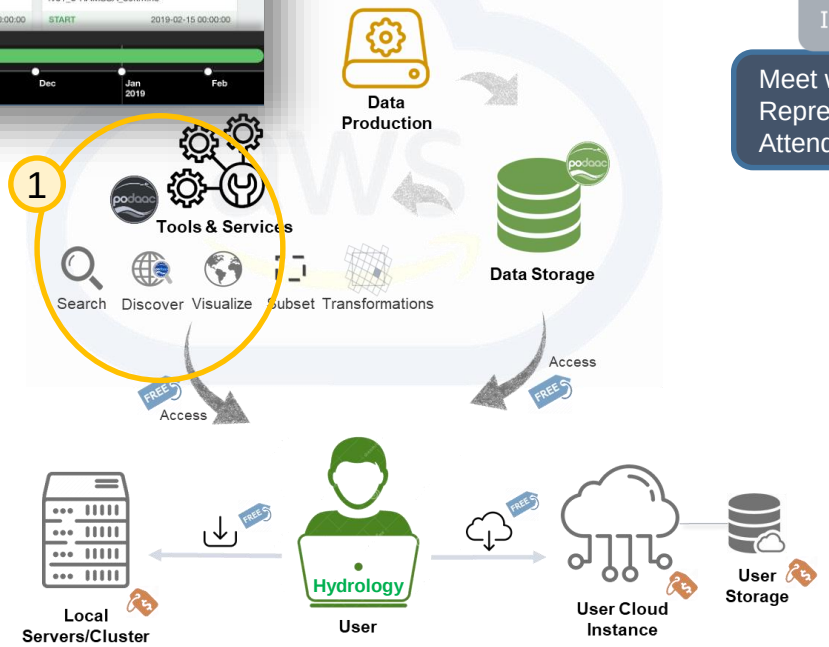
PO.DAAC SWOT – Hydrology User Workflow



1 SWOT Data Search Portal

https://search.earthdata.nasa.gov/portal/**SWOT**/search

→ Earthdata Search available now
→ SWOT Search portal available fall 2019



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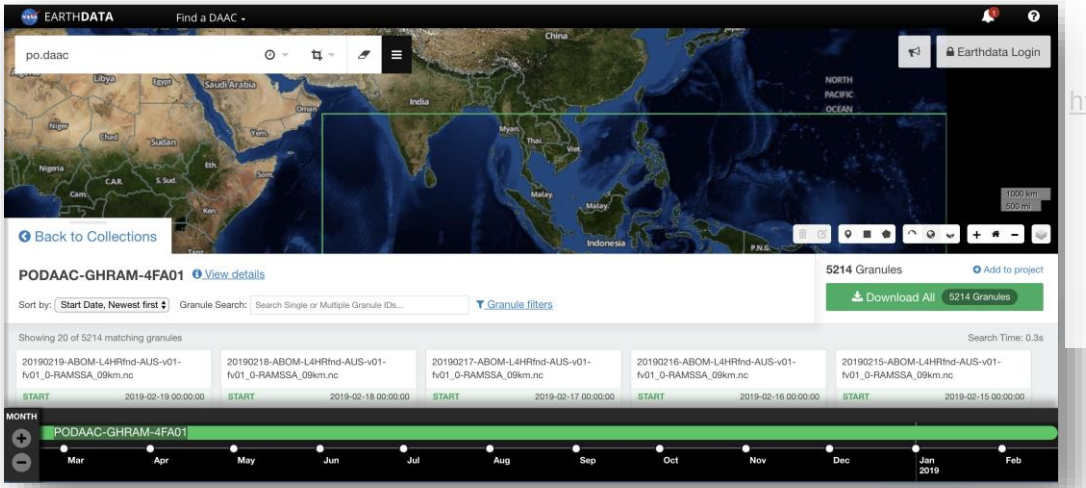
PO.DAAC SWOT – Hydrology User Workflow



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More Information

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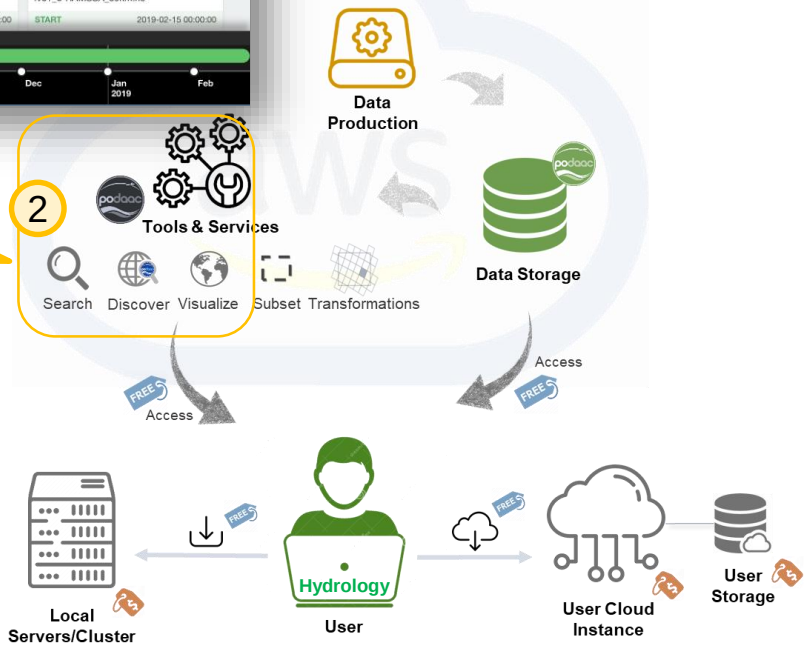
2

SWOT Feature **Search**

HUC **Search**

Subscribe by HUC (Search-based Subscription)



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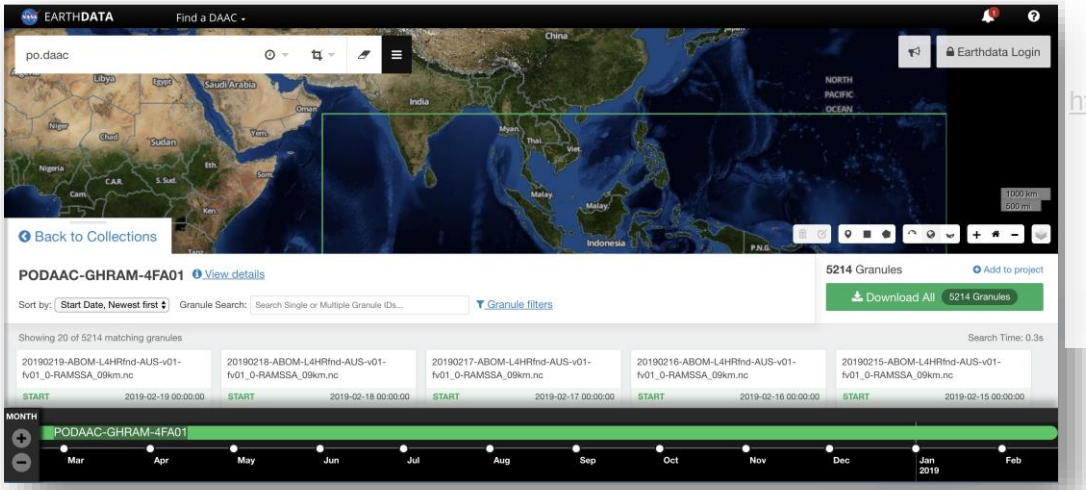
PO.DAAC SWOT – Hydrology User Workflow



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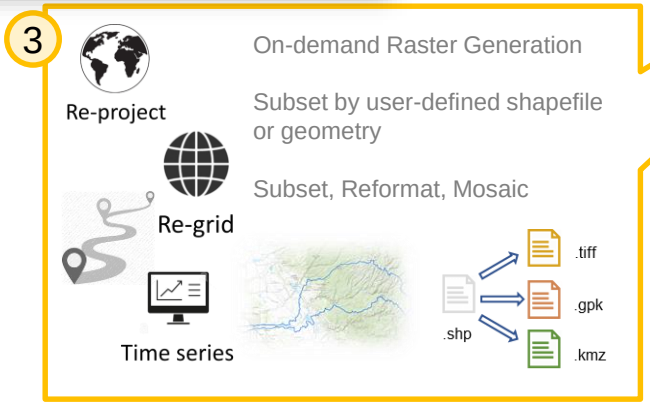
GIS Services, Integrations and Standards



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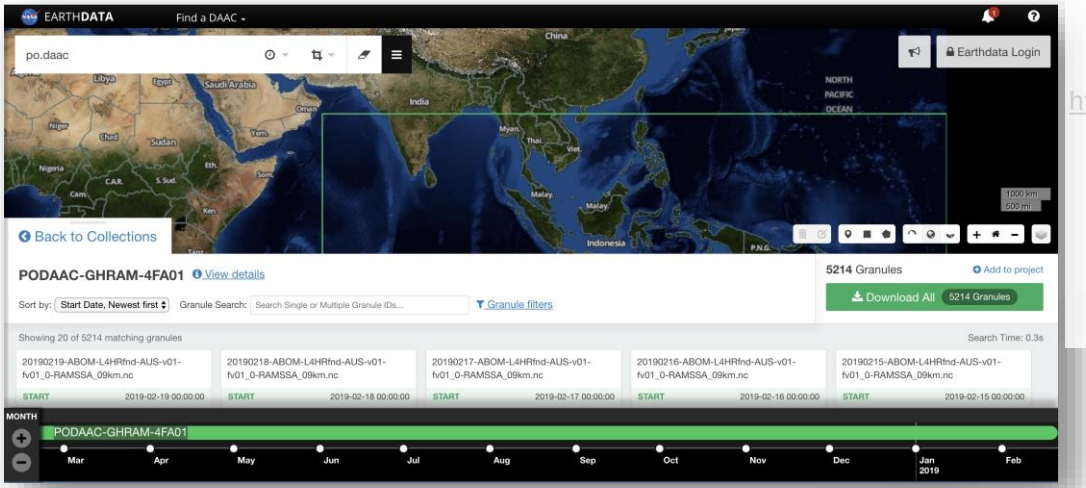

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On-demand Raster Generation

Re-project

Subset by user-defined shapefile or geometry

Subset, Reformat, Mosaic

Re-grid

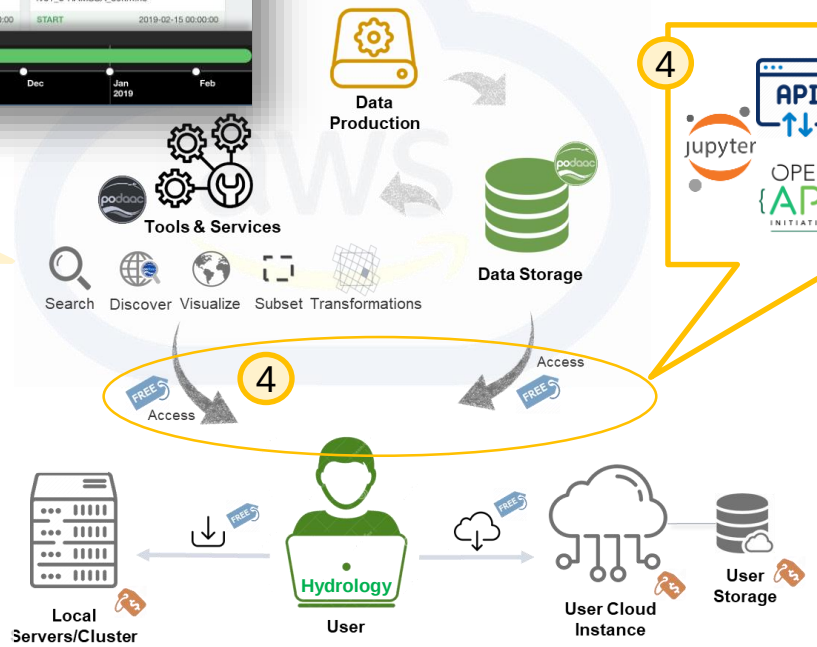
Time series

.tiff

.gpk

.shp

.kmz



4

API-based **access** to metadata/data

Scripted Access: PO.DAAC Webservices 2.0

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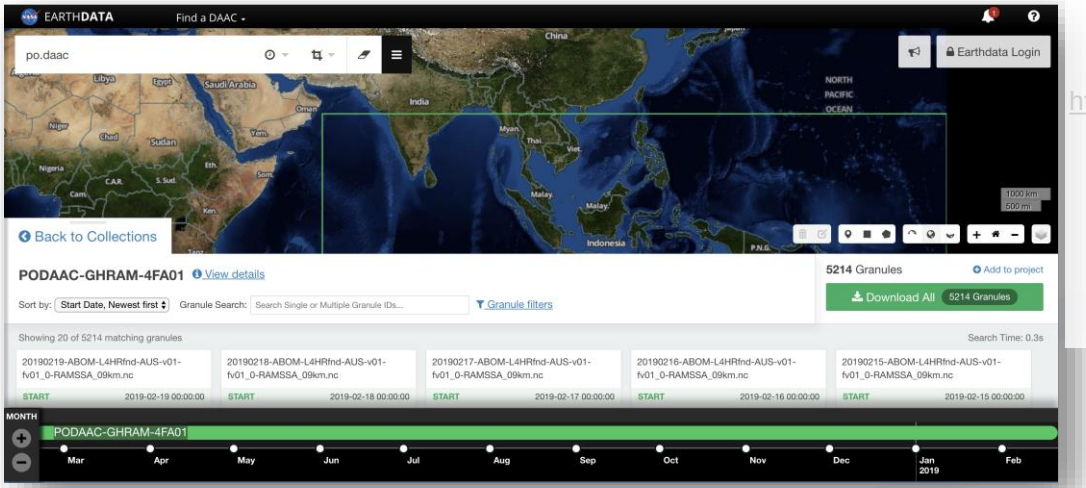
PO.DAAC SWOT – Hydrology User Workflow



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Re-grid

Time series

.tiff .gpk .kmz .shp

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API-based **access** to metadata/data

Scripted Access: PO.DAAC Webservices 2.0

5

Access from User Cloud-based workspace, or View in GIS Client

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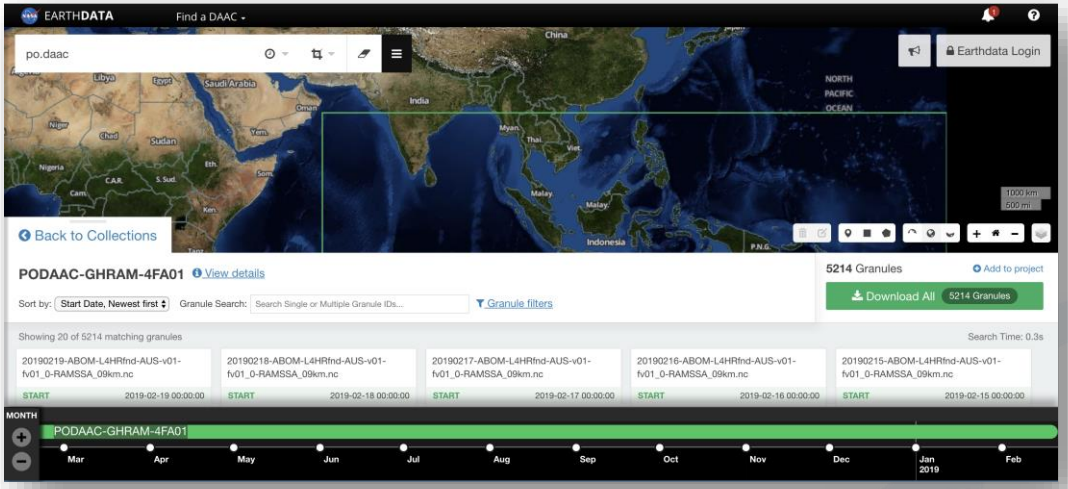
PO.DAAC SWOT – Oceans User Workflow



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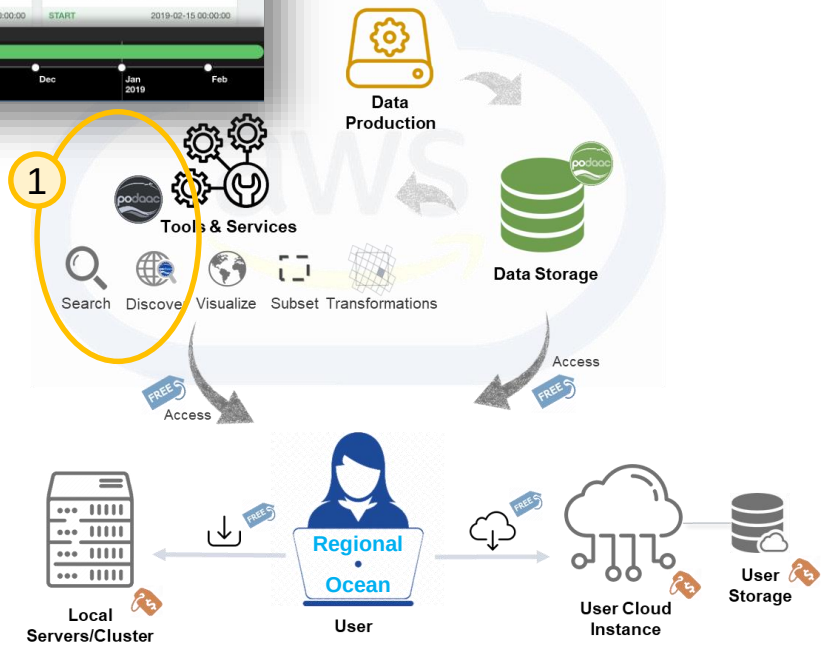

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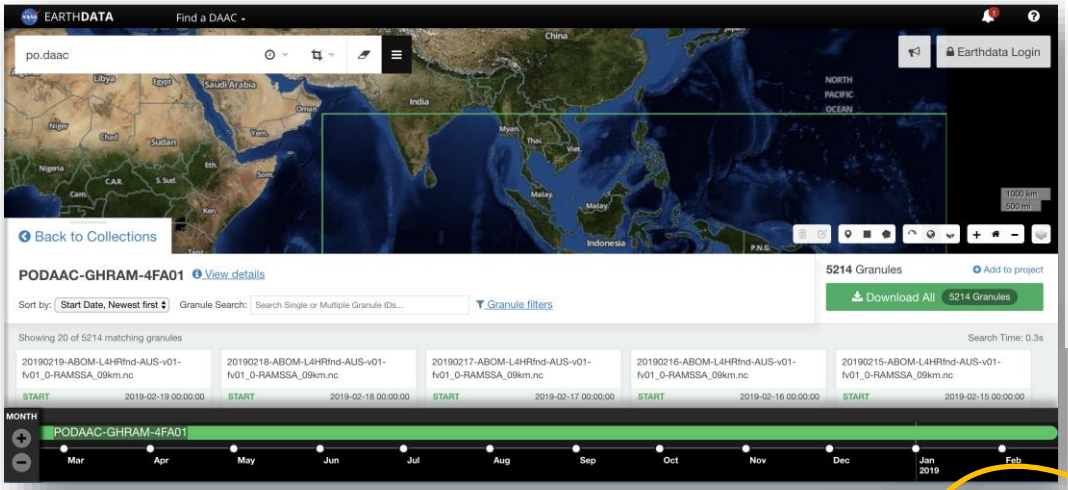

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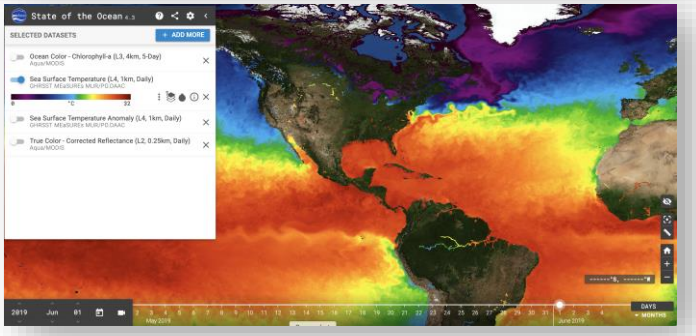
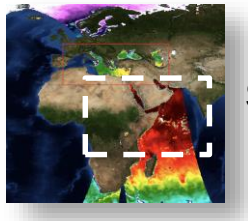
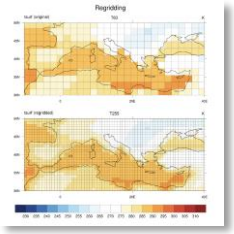


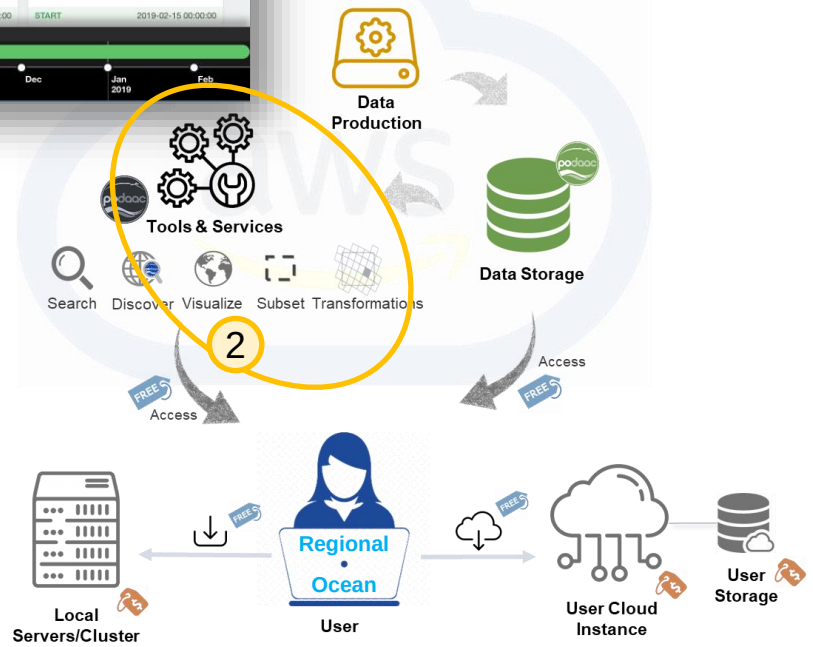
Visualize SWOT Products
State of the Ocean (SOTO)



Subset
by area of interest



Re-grid
to model resolution



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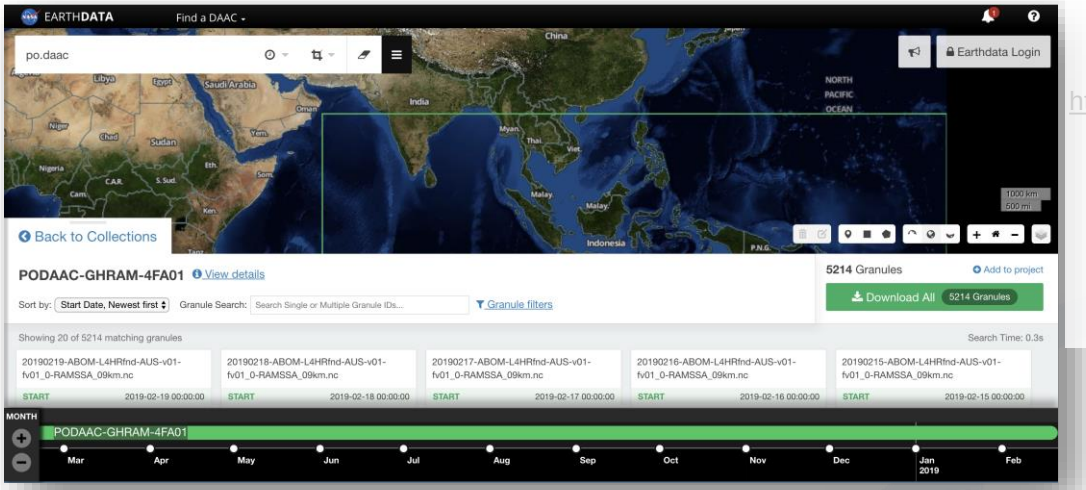

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Visualize SWOT Products

State of the Ocean (SOTO)

Subset
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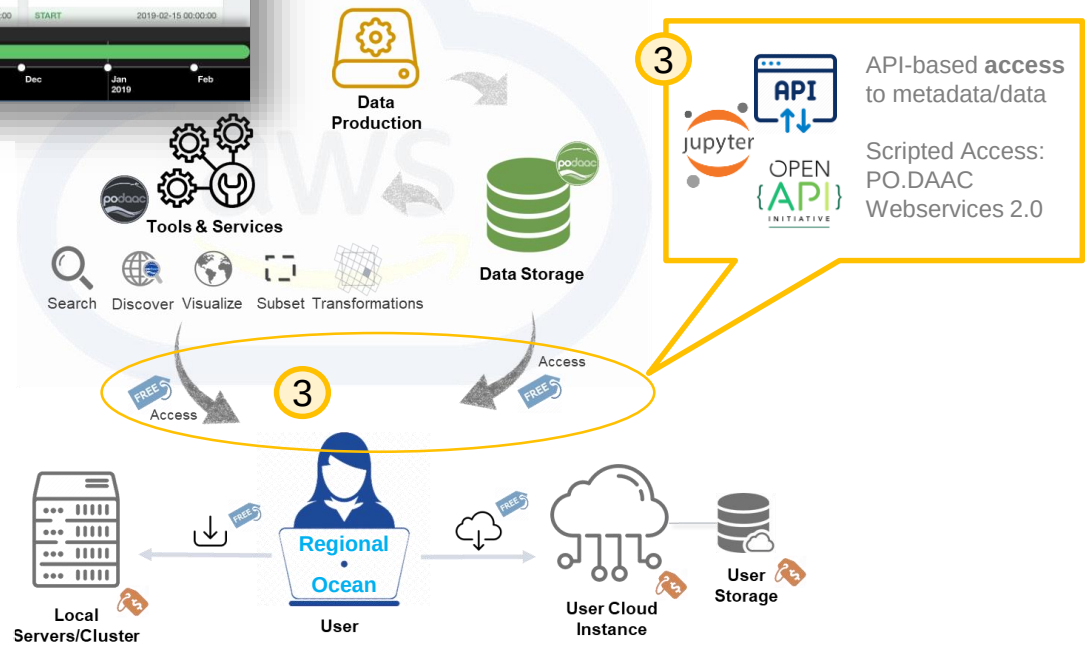
Re-grid
to model resolution



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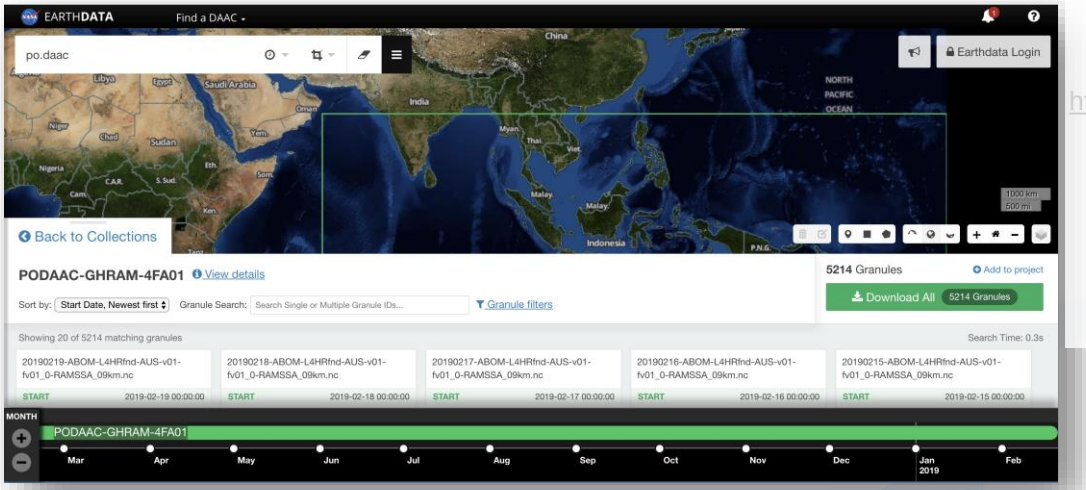

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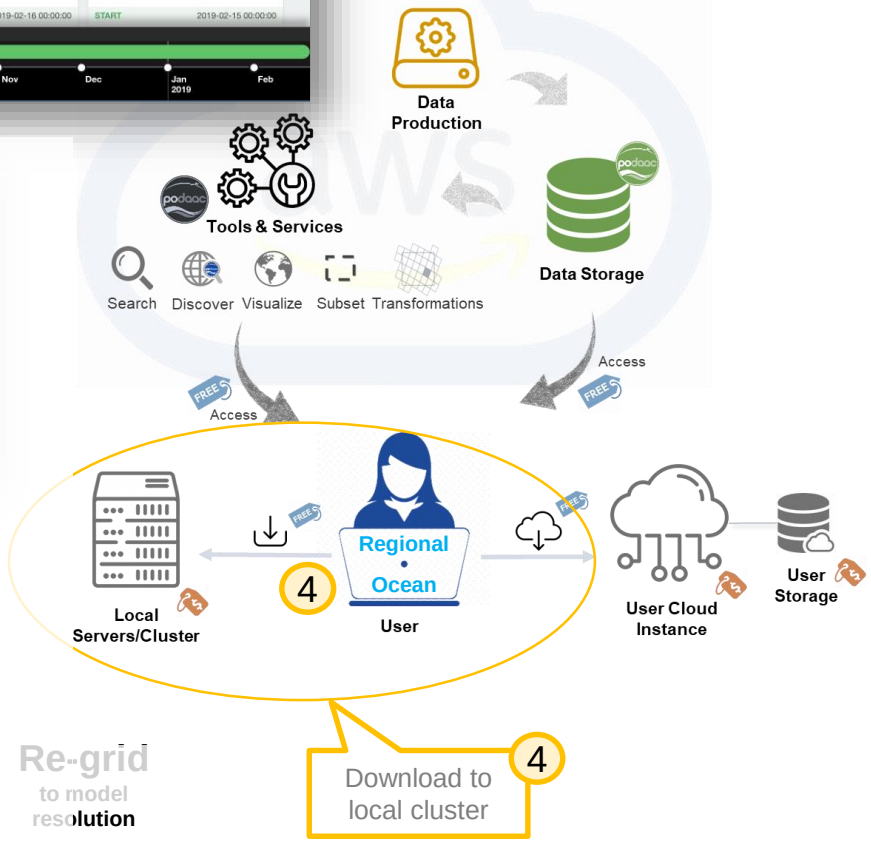

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Will I be charged for downloading data from PO.DAAC?

- No. There is no charge involved. NASA's policy is free and open data
- End-user computational costs are not PO.DAAC's responsibility
- Understanding computational costs is an important aspect when working with SWOT like data volumes. PO.DAAC will assist as needed by providing primer documents, tutorials, webinars etc.

Will there be a FTP service?

No, per NASA Policy. There is an equivalent service. Login will be required per NASA Policy.

Are you working with Google Earth Engine?

Yes, We are working with Google**.** Ongoing discussion is to determine protocols to help them find, access, and update NASA data that Google would like to host on the platform

Who helps guide PO.DAAC's tools and Services development?

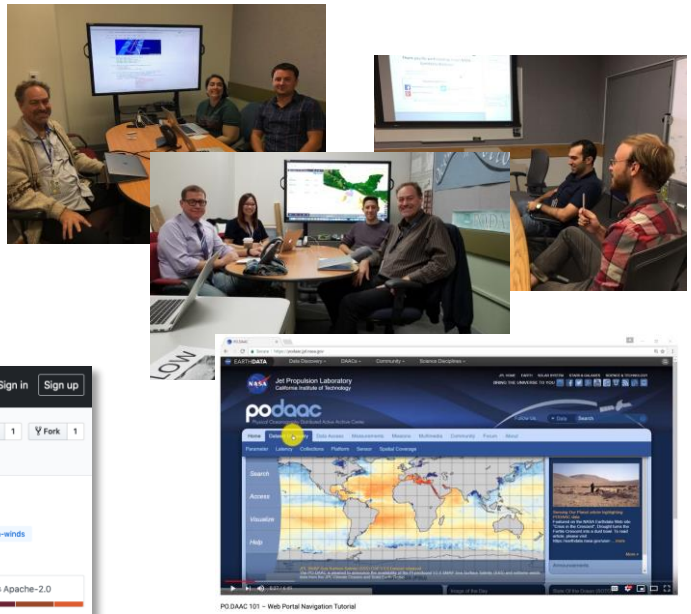
You.
This science team.
The next science team.
PO.DAAC cloud Early adopters (14 individuals representing the community)
PO.DAAC User Working Group

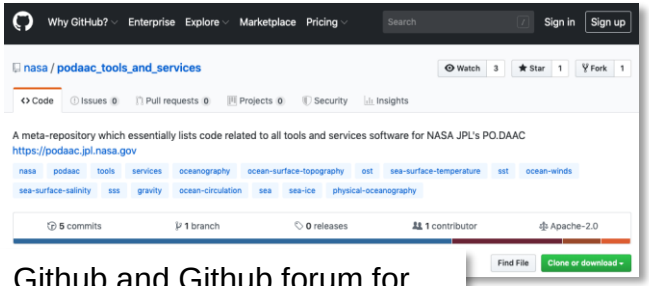
What is your outreach plan?

Hands-on training
Sign up to test-drive
Handbook and tutorials

PO.DAAC Website

Need More Details:
Meet with PO.DAAC Representatives
Attend the Hydro Splinter





Github and Github forum for community adoption

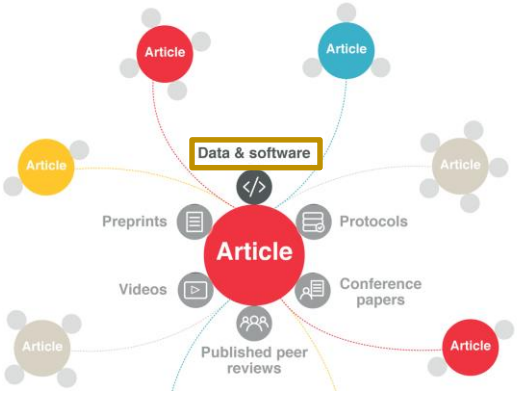
PO.DAAC SWOT Levels of Service

Data Package

Documentation
Metadata
Browse
Imagery
Data Files

- ✓ Curator of data files, metadata, browse images, and documentation
- ✓ Provide tools to explore, access, and extract data
- ✓ Provide long-term, secure archiving (back-up and recovery)
- ✓ Address user questions, and serve as a buffer between users and data contributors
- ✓ Provides usage & download statistics and data citation statistics

Measuring Impact

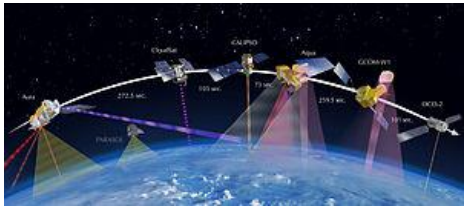


PO.DAAC datasets Cited in peer-reviewed

596

SWOT usage

Data Integration Across Missions, Organizations



- PO.DAAC would like to be plugged in to cross-mission integration topics/discussions (Important to understand and support value added product capabilities)
- Cognizant of complementary capabilities across AVISO and NASA (PO.DAAC would like to propose a joint data workshop for 2020)

Questions?

@podaac

https://podaac.jpl.nasa.gov/SWOT

https://podaac.jpl.nasa.gov/rss.xml