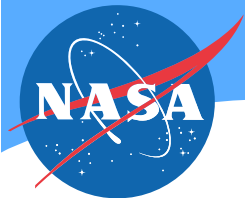# Global Data Assembly Center (GDAC) Report to the GHRSST Science Team

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Physical Oceanography DAAC (PO.DAAC)

19th GHRSST Science Team Meeting

Darmstadt, Germany

4 June 2018

National Aeronautics and
Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

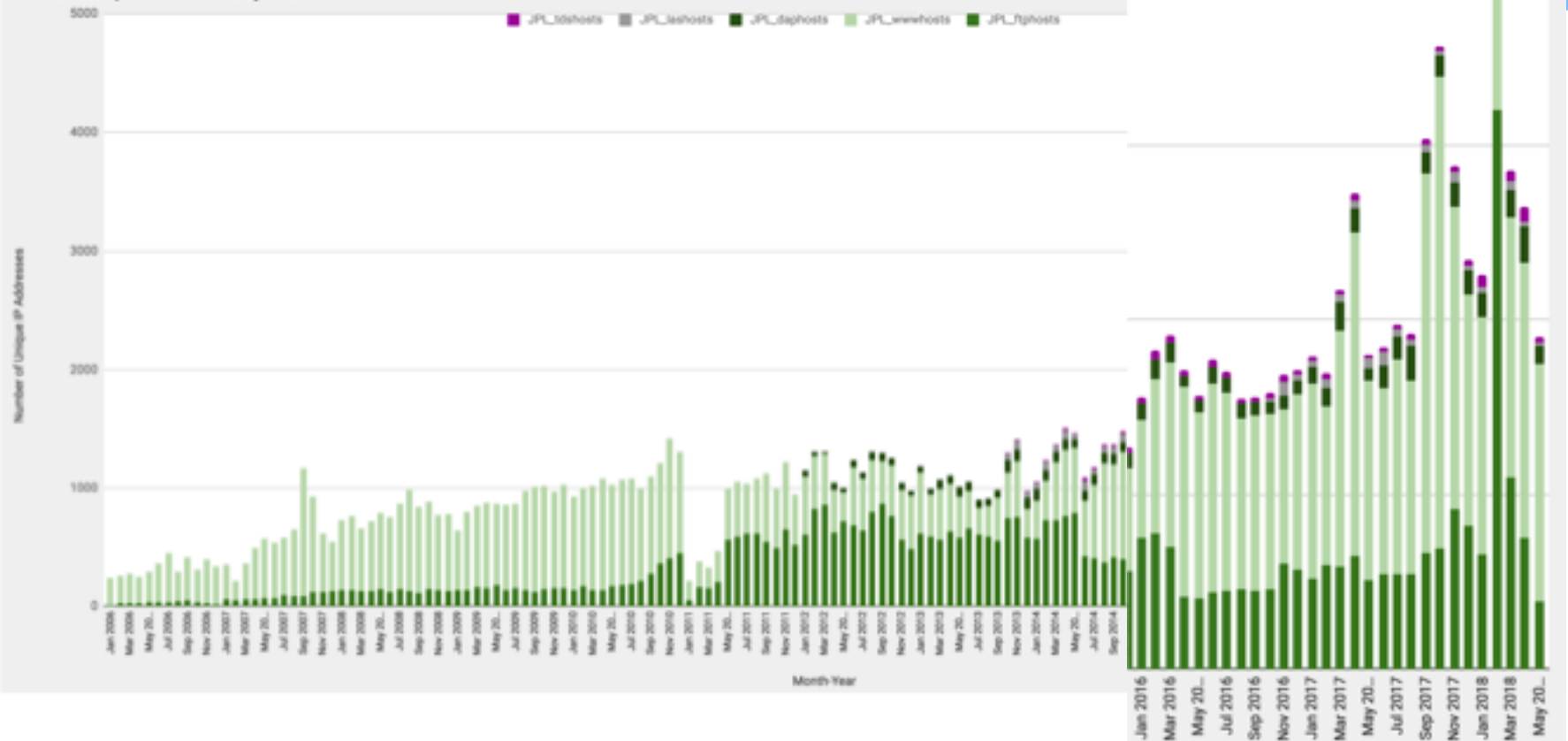# 2017-2018 Highlights

* Several new and improved datasets ingested in last 12 months
    * Retired 42 deprecated datasets
* Continued support operational datastreams from 14 RDACs
* Maintain linkages to NASA CMR and LTSRF archive
    * See https://search.earthdata.nasa.gov/search
* Continued user uptake
    * Recent record month of 45 TBs distributed (March 2018) !
    * Several GHRSST datasets in PO.DAAC top 10
* User community engagement
    * Improved data recipes with data and tutorials
    * PO.DAAC drive evangelizing
* Supporting Regional Global Task Sharing (R/G TS) architecture formal proposal
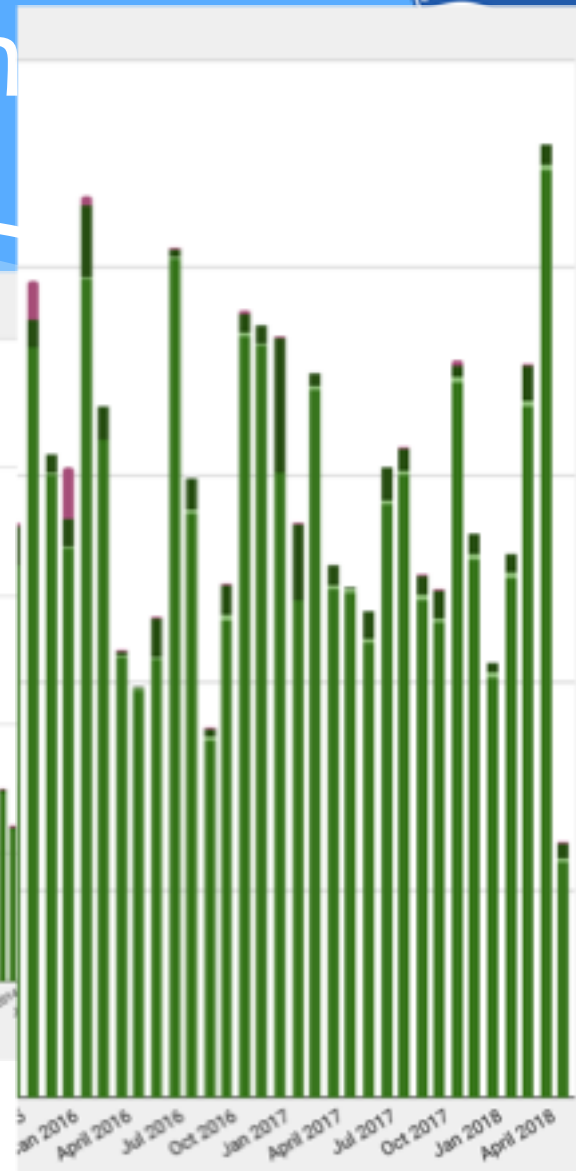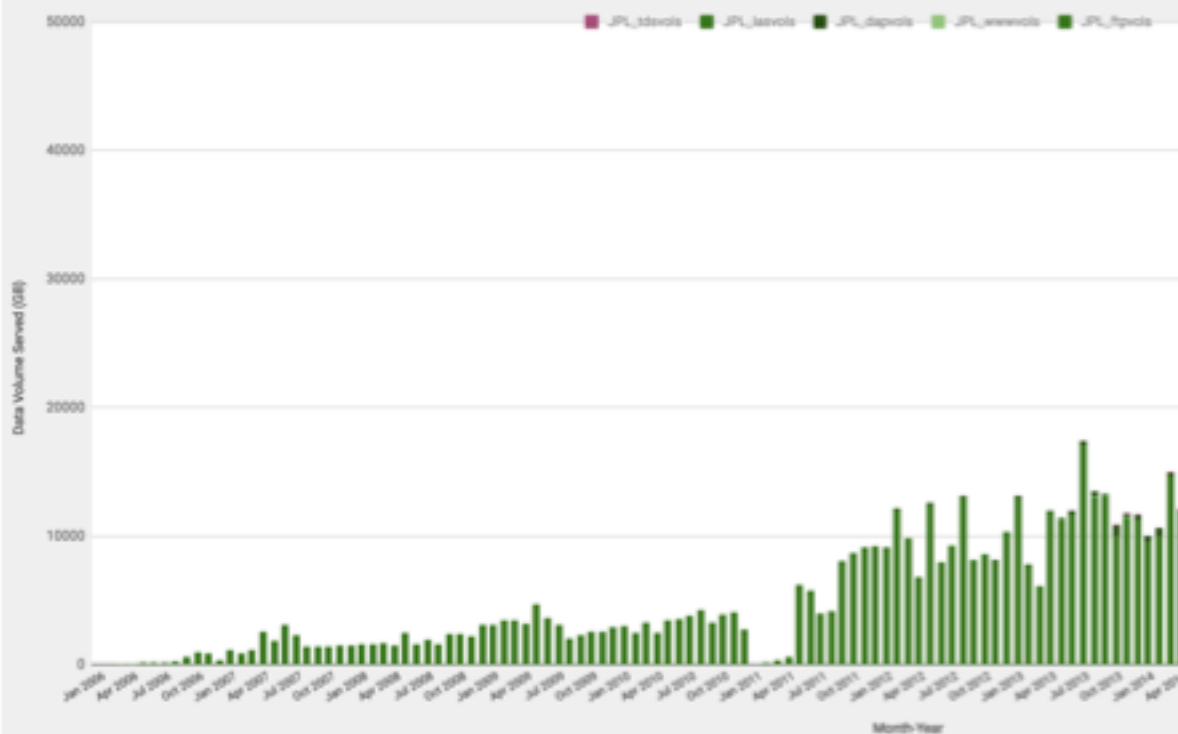
PO.DAAC Distribution metrics: Monthly Unique Us

Monthly Volum

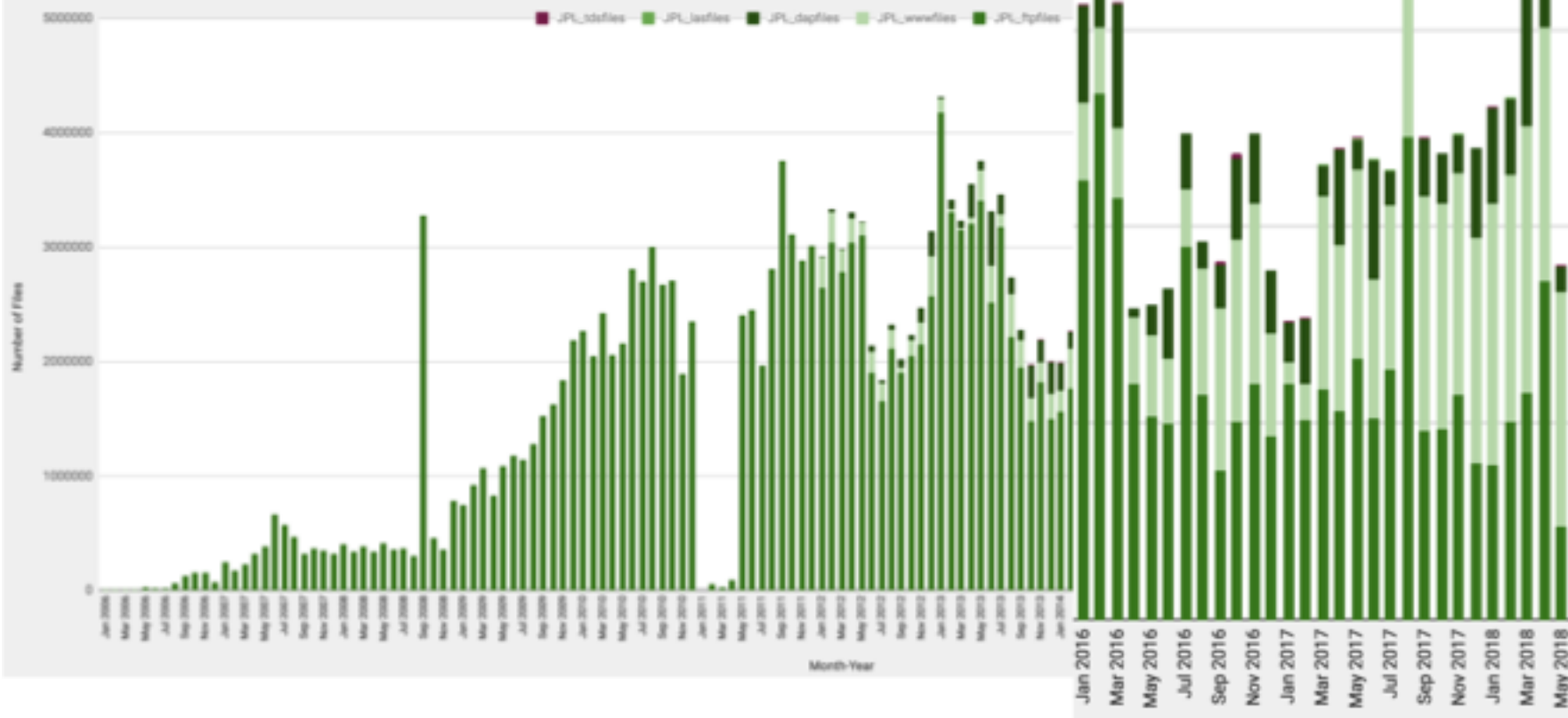GHRSST: Data Volumes Served at JPL

Monthly Files

GHRSST: Number of Files Served by JPL.

Legend: JPL_tdsfiles, JPL_lasfiles, JPL_dapfiles, JPL_wwwfiles, JPL_ftpfiles

Top 10 Datasets for FTP by users during 2018

Rank	Name	Tool	Files	Volume (GB)	Users
1	PODAAC-GMSLM-TJ142 Global Mean Sea Level Trend from Integra TOPEX/Poseidon Jason-1 and OSTM/Jaso				
2	PODAAC-GHMDT-2PJ02 GHRSST Level 2P Global Skin Sea Surfac Resolution Imaging Spectroradiometer (M				
3	PODAAC-GMSLM-TJ124 Global Mean Sea Level Trend from Integra TOPEX/Poseidon Jason-1 and OSTM/Jaso				
4	PODAAC-TEMSC-ANTS1 Antarctica Mass Variability Time Series Ve CRI Filtered				
5	PODAAC-OSCAR-03D01 OSCAR third degree resolution ocean surf				
6	PODAAC-GHGMR-4FJ04 GHRSST Level 4 MUR Global Foundation (v4.1)				
7	PODAAC-GHGMR-4FJ01 GHRSST Level 4 MUR Global Foundation				
8	PODAAC-TEMSC-GRTS1 Greenland Mass Variability Time Series Ve CRI Filtered				
9	PODAAC-TEMSC-SFC01 MASCON CLMR4 Scale Factor with CRI F				
10	PODAAC-TEMSC-LMC01 MASCON Land Mask used with CRI filter				

Top 10 Datasets for FTP by files during 2018

Rank	Name	Tool	Files	Volume (GB)	Users
1	PODAAC-GHVRS-3UO41 GHRSST v2 Level 3U Global Skin Sea Surface Temperature from the Visible Infrared Imaging Radiometer Suite (VIIRS) on the Suomi NPP satellite created by the NOAA Advanced Clear-Sky Processor for Ocean (ACSPO)	FTP	1329097	5739.50	21
2	PODAAC-GHMDA-2PJ02 GHRSST Level 2P Global Skin Sea Surface Temperature from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Aqua satellite	FTP	614647	10505.66	177
3	PODAAC-ASOP2-25X01 MetOp-A ASCAT Level 2 25.0 km Ocean Surface Wind Vectors	FTP	613248	297.97	130
4	PODAAC-QSF12-L2B01 QuikSCAT Level 2B Ocean Wind Vectors in 12.5km Slice Composites Version 3 (Uncompressed)	FTP	511879	8248.87	71
5	PODAAC-GHMDT-2PJ02 GHRSST Level 2P Global Skin Sea Surface Temperature from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Terra satellite	FTP	440305	8562.10	3205
6	PODAAC-TPMGD-BIN0B TOPEX/POSEIDON ALTIMETER MERGED GEOPHYSICAL DATA RECORD GENERATION B	FTP	375794	123.65	253
7	PODAAC-GOES3-3HOUR GOES Level 3 6km Near Real Time SST 3 Hour	FTP	372721	4343.03	38
8	PODAAC-GHVRS-2PN30 GHRSST Level 2P 1 m Depth Global Sea Surface Temperature version 3.0 from the Visible Infrared Imaging Radiometer Suite (VIIRS) on the Suomi NPP satellite (GDS2)	FTP	313998	4944.62	21
9	PODAAC-ALTCY-TJ123 Integrated Multi-Mission Ocean Altimeter Data for Climate Research Version 3	FTP	286139	31.04	3
10	PODAAC-AQR50-2SOCS Aquarius Official Release Level 2 Sea Surface Salinity & Wind Speed Data	FTP	269753	1191.13	25

New datasets released

* NOAA OSPO
  * OSPO VIIRS (L3U/L2P) v2.41
* RSS
  * WindSat L3U v7.0.1a
  * GMI L3U v8.2a
  * AMSR2 L2P v8a
  * TMI L3U V7.1a
  * AMSRE L3U v7as
  * MW&MW/IR OI L4 GLOB v5.0
* NAVO
  * VIIRS-NPP L2P 1-meter SST v3.0
* JPL
  * VIRSS L2p v2016.0

Tool Summary

* **SOTO**: visualization including GHRSST MODIS L2P, MUR L4, SMAP SSS
  * **Improved SOTO under design !**
* **PO.DAAC Web Services**: search, discovery, metadata, extract as "chained" services.
  * **L2 Subsetting Service**
* **HiTIDE**: GUI based L2 subsetting.
* **OPeNDAP:** Subsetting for L2/L3/L4
* **THREDDS:** Dataset aggregation and subsetting
* **Live Access Server** (LAS) for L3/L4 subsetting and visualization
* **Webification (w10n-sci)**: Arbitrary data store exposed as URLs. Subsetting by value.
* **Metadata Compliance Checker:** Granule level CF and ACDD metadata checks

PO.DAAC Drive

- PO.DAAC (or Earthdata) Drive will replace FTP in the very near future
  - *https://podaac-uat.jpl.nasa.gov/drive*
  - *https://urs.earthdata.nasa.gov/users/new*
- How do user interact with PO.DAAC drive?
  - HTTPS interface, e.g., using browser or wget
  - Mount the entire PO.DAAC data store as if a local disk drive

PO.DAAC Drive Version: 1.1

PO.DAAC Drive is a new way of browsing data at PO.DAAC. Drive is an FTP alternative that allows users to access data via browser and command line as has been traditionally done, but can also allow users to mount the remote data to your own computer, seeing the data as if you had the entire PO.DAAC archive mounted on your own machine! A few simple steps will have you up and running with PO.DAAC Drive.

PO.DAAC Drive Test Period: 8 March, 2016 - 1 May, 2017

For questions or to provide feedback, please visit the **PO.DAAC Drive Forum**

OceanWorks

* Server side analytics and data interrogation and visualization
* Improved search relevance for oceanographic dataset discovery
* In situ to satellite matchup capability
* New paradigm for data storage and access
* Several talks on Thurs highlighting this technology and capabilities

Impacts of GHRSST

* New NASA Data Management Plan proposals for emerging Missions to include detailed data quality sections
  * "General: Describe the process planned for assuring data quality. Include data flows and organizations/groups involved in assuring data quality. Provide reference to Interface Control Documents between organizations that have been or planned to be developed. Work with NASA designated *data centers*, science teams, and/or review boards to provide data quality information through *a standardized format or schema* for describing quality (e.g., **GHRSST GDS-2 model for quality confidence levels).** *If a standard schema is not available* or applicable for use, include documentation clearly explaining the schema to be used and/or consider developing a published and citable standards document through ESO."
  * **"Identify quantifiable data quality criteria, such as confidence levels and the values of quality flags, which can be used as criteria for refining search queries**."
  * **" Provide pixel-level uncertainty information where possible and meaningful;** provide the confidence level (e.g., 95%) to indicate the statistical significance."