

National Aeronautics and
Space Administration



EXPLORE EARTH

PREFIRE data update

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A large graphic on the left side of the slide depicts a cosmic scene. It features a bright sun in the lower-left, a large blue and white Earth in the lower-right, and several other celestial bodies including a ringed planet (Saturn), a reddish planet (Mars), and a grey moon-like sphere. The background is a vibrant nebula with blue and green hues and numerous stars. A white curved line separates this graphic from the text on the right.

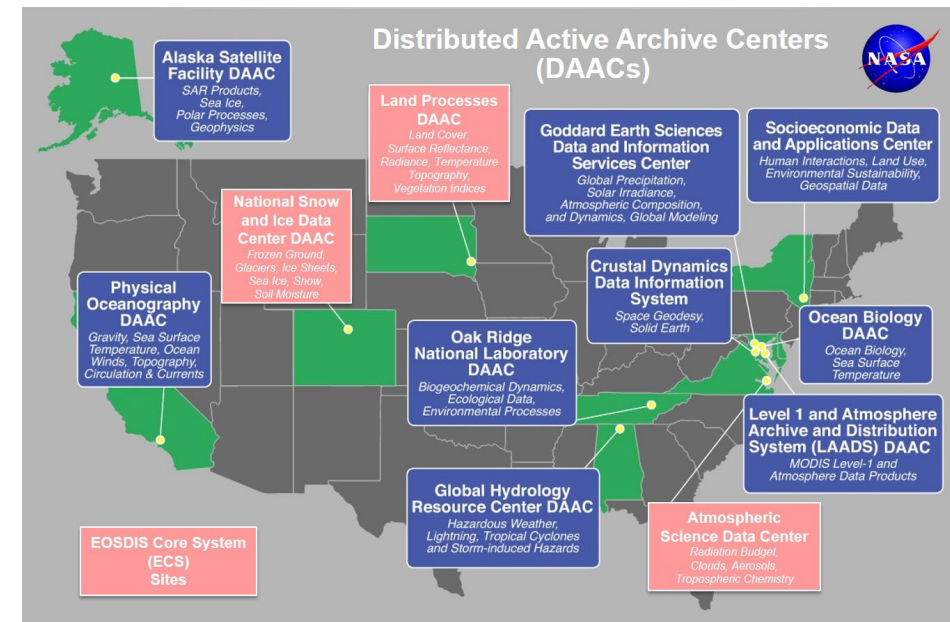
EXPLORE EARTH

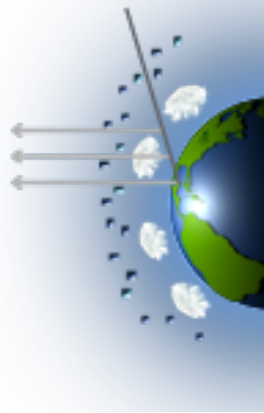
- ASDC Overview
- PREFIRE Data Products Archiving and Distribution
- Data Distribution Tools and Services
- PREFIRE E2E testing update
- Way Forward

Earth Observation System Data and Information System *EOSDIS*

EOSDIS data centers **process, archive, and distribute thousands of data products** to the global user community. The primary services provided by EOSDIS are data archive & management, distribution, information management, product generation, and user support. It is comprised of multiple components including:

- **Distributed Active Archive Centers (DAACs)**
- Science Data Processing Segment (SDPS)
- Science Investigator-led Processing Systems (SIPS)
- Common Metadata Repository (CMR)
- Earthdata Search (EDS)
- Global Imagery Browse Services (GIBS)
- more

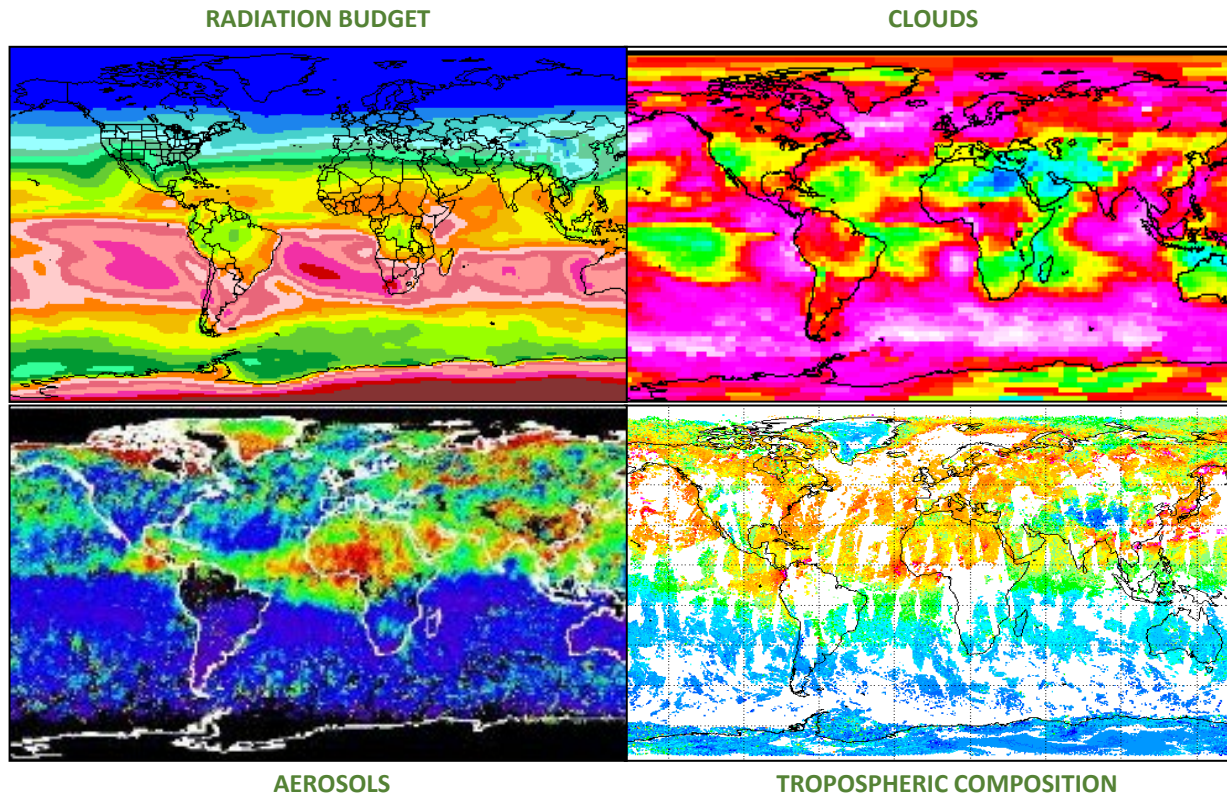




Atmospheric Science Data Center

ASDC Vision

"To be a leading provider of **atmospheric science data** products and services to the science community through **agility, innovation, and technical excellence**"



ASDC at a glance

- ✓ 44+ Science projects
 - MISR ◦ MOPITT ◦ MAIA ◦ TEMPO ◦ CERES
 - CALIPSO → RSIG (EPA)
 - Airborne field campaigns
(**KORUS AQ, DISCOVER AQ, FIREX AQ**)
- ✓ 1100+ unique science products
- ✓ Data usage
 - 2,061 Terabytes ◦ 160,000 users
 - 158 countries
- ✓ Data archive
 - 5.8 Petabytes ◦ 141 million files (4,400 TB)
on high-speed disks
- ✓ Data in cloud (ongoing)
 - Data and services in the cloud
 - Scalable infrastructure

Primary Functions of ASDC

Ingest receive data from data provider

Archive preservation & provenance

Distribute tools and services

Process create higher level products

Outreach & Support research community

Services at the ASDC

PRE-LAUNCH

- Preparation for Ingest
 - Accurate metadata for discovery
 - Well formatted data for maximum interoperability
 - Digital Object Identifiers for each product
- Support Data Flow Testing Prior to Launch
 - Interface confidence tests
 - End-to-end ground system testing with instrument or synthetic data
- Discuss Service Options
 - Customer/Product affinities and technical capacity
 - Data Delivery Cadence

ACTIVE OPERATIONS

- Standard curation of archived data
 - Provenance and integrity
 - Up to date documentation
 - Disaster Recovery
- User Services staff to assist customers
 - Maintain FAQs, examples of scripts
 - Perform reach back to science team when necessary
 - Disseminate announcements to user community
 - Use customer feedback from annual third-party ACSI survey, contacts, and ASDC User Working Group to determine changes in services
- Subsetting and ArcGIS capabilities
 - Temporal, spatial and variable slices

ASDC Data Distribution: Tools and Services

✓ NASA Earthdata Search

- metadata ◦ browse ◦ download
- customize ◦ HTTPS and AWS S3 direct data access



✓ NASA Earthdata WorldView

- visualize ◦ GIBS API



✓ NASA Earthdata Harmony

- transform ◦ subset ◦ reformat



✓ NASA Earthdata GIS

- ArcGIS Image & Feature Service
- OGC WMS, WFS & WCS



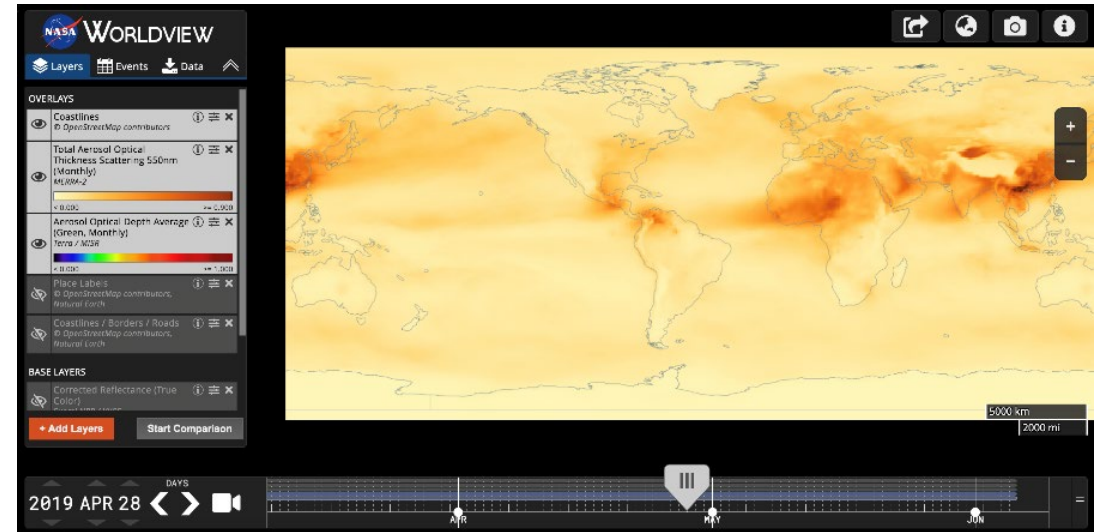
✓ OPeNDAP

- transform ◦ subset ◦ reformat



✓ ASDC Subsetters

- subset ◦ aggregate



User Support and Other Resources

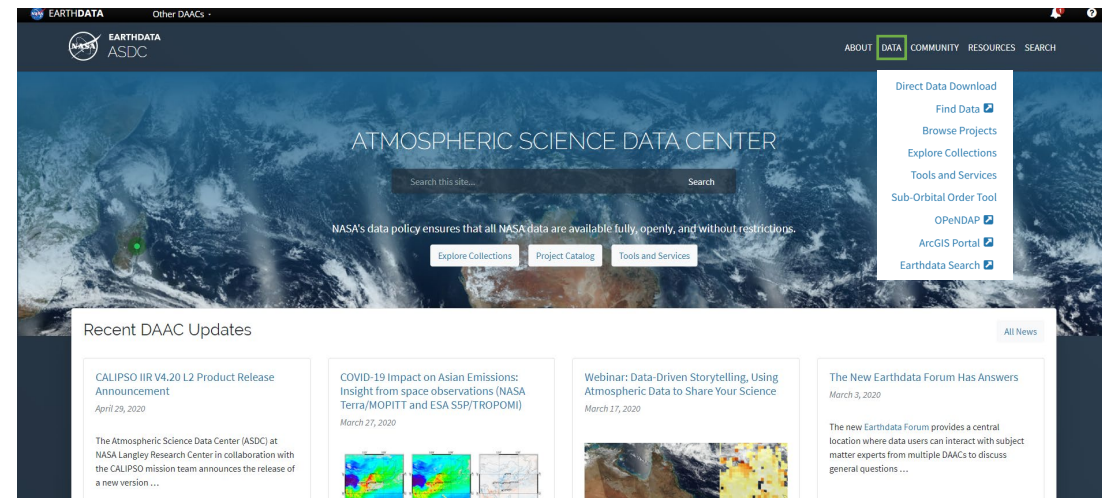
Example scripts

- Python/Jupyter Notebook ◦ R scripts
- contributed tutorials/scripts



Earthdata Forum <https://forum.earthdata.nasa.gov/>

ASDC User Support support-asdc@earthdata.nasa.gov



<https://asdc.larc.nasa.gov/>

Earthdata Forum

Science Data Users can seamlessly search for information even if they do not know which DAAC the data belongs to.

Scientists & Data Providers can effectively assist their user community in more accurately using their products.

DAACs & Subject Matter Experts (SMEs) can quickly link users to existing resources.

DAAC User Services can swiftly provide inquirers with an authoritative source related to DAAC data products & services.

The screenshot shows the Earthdata Forum website. At the top, there is a navigation bar with the NASA logo, 'EARTHDATA', 'Find a DAAC', a notification bell, 'Feedback', and a help icon. Below this is a header section with the NASA logo, 'EARTHDATA Forum BETA', and a welcome message: 'Welcome to the Earthdata User Forum! Here, subject matter experts from several NASA Distributed Active Archive Centers (DAAC) can discuss general questions, research needs and data applications. Users can query how to access, view and interpret the data.' A blue navigation bar contains 'Quick links', 'FAQ', 'Data Recipes', and 'Login'. Below this is a 'Home' button. The main content area has a green 'Post a New Question' button and a timestamp: 'It is currently Fri Feb 21, 2020 1:51 pm America/New_York'. There are three search options: 1. 'SEARCH' with a text input field 'Search for keywords, tags...' and an 'Advanced Search' link. 2. 'SEARCH BY TAGS' with four dropdown menus: 'Discipline' (Select), 'DAAC' (Select), 'Major Projects' (Select), and 'Services/Usage' (Select), followed by a green 'Submit' button and a link 'What do these tags mean?'. 3. 'FORUM' with a table of forum posts.

	QUESTIONS	POSTS	LAST POST
All Questions/Comments Please enter here to ask a question about any NASA Science related topics!	215	452	Where can I find more FAQs fr... by GES DISC - zliu Fri Feb 21, 2020 10:18 am America/New_York

<https://forum.earthdata.nasa.gov/>

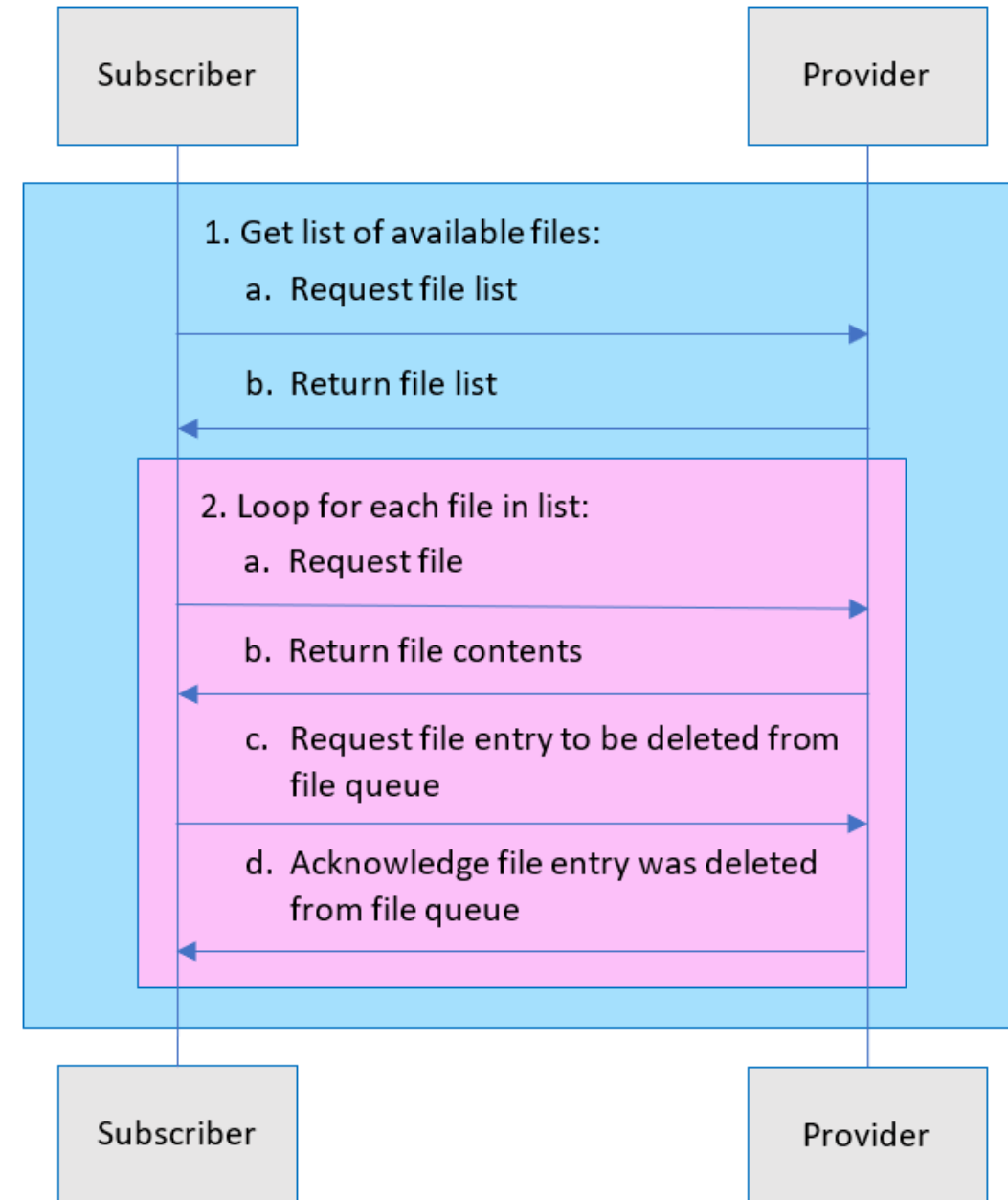
ASDC in the Cloud

- ESDIS is heavily investing in commercial cloud
 - Primary motivations
 - To allow the science community to do unprecedented science with unconstrained processing and storage capacity across all EOSDIS data in a highly available environment (AWS)
 - The size of future datasets makes on-premise archiving undesirable
 - SWOT and NISAR are most often cited
 - Building an AWS-native ingest and archive system called Cumulus that is intended to be used by all DAACs
 - ESDIS pays for the storage. Users pay for their own compute resources.
 - Data download will still be available free of charge
 - TEMPO, CLARREO-PF and PREFIRE are ingested on the cloud
 - User experience will not be interrupted or degraded
 - Activities are being planned in a way to avoid introducing technical and schedule risks and dependencies.
 - ASDC will work closely with ESDIS to identify risks, technical challenges and uncertainties, and proposing concepts and architectures for mitigating any issues that arise

SDTP Product Flow

1. The subscriber requests the file contents by performing a HTTPS GET containing the file-id.
2. The provider returns the file contents.
3. The subscriber acknowledges the file transfer by performing a HTTPS DELETE containing the file-id of the file.
4. The provider removes the file from the queue for the subscriber and returns a HTTPS Success status.

Products	File Naming Convention	Type
TLM	prefire_01_bus_tlm_2022_15_18_53_21.csv	CSV
ORB	prefire_01_2022_15_18_53_21.tle	TLE
L0	prefire_01_payload_tlm_2022_15_18_53_21.bin	Binary
L1	PREFIRE_SAT1_1B-RAD_P01_R01_20220715185321.00001.nc	NetCDF4 + metadata
L2	PREFIRE_SAT1_2B-FLX_P01_R01_20220715185321.00001.nc	NetCDF4 + metadata
L3	PREFIRE_SAT1_3-SFC_SUBID_S00_R00_20220715-20220724.nc	NetCDF4 + metadata
Auxiliary	PREFIRE_AUX-MET_S00_R00_20220715185221.nc	NetCDF4 + metadata





Search Collections

Collections > PREFIRE_SAT1_AUX-MET_R01

MANAGE COLLECTIONS v1.17.2

MANAGE VARIABLES v1.8.1

MANAGE SERVICES v1.4

MANAGE TOOLS v1.1

MANAGE CMR

[Edit Collection Record](#) | [Clone Collection Record](#) | [Delete Collection Record](#) | [Revisions \(3\)](#) | [Granules \(0\)](#) | [Tags \(0\)](#) | [Save as Template](#) | [Create Associated Variable](#)

Short Name: PREFIRE_SAT1_AUX-MET

PREFIRE_AUX-MET

C1256593911-ASDC_DEV2

Version R01

E2E

Metadata Download Options

ATOM

DIF 10

ECHO 10

ISO 19115 (MENDS)

ISO 19115 (SMAP)

Overview

Download Data

Services **0**

Tools **0**

Citation Info

Documentation

Additional Info

Related Collections **390**

prefire

1 Matching Collection

Showing 1 of 1 matching collection

Export Sort View

PREFIRE_AUX-MET

2 Granules 2021-01-01 to 2021-01-02 Earthdata Cloud

E2E

PREFIRE SAT1 AUX-MET vR01 - NASA/LARC/SD/ASDC



Filter Collections

Categories

Features

- Available in Earthdata Cloud
- Customizable
- Map Imagery

Keywords

Platforms

Instruments

Organizations

Projects

Processing Levels

Data Format

Tiling System

Horizontal Data Resolution

Latency

Subscriptions



PREFIRE Status

- New testing in the UAT environment with enhanced simulated NetCDF files.
- Move the 26 collection to production environment.
- Archive & distribute ATBD documentation.
- Archive & distribute User guide documents in-progress.
- Ingest thumbnails.

A large graphic on the left side of the slide depicts a space scene. At the bottom, the blue and white horizon of Earth is visible. Above it, a bright yellow sun glows. In the center, a large, dark, cratered moon is shown. To the left, Saturn with its rings and a smaller planet are visible. The background is a vibrant, colorful nebula in shades of blue, green, and yellow, with numerous stars scattered throughout.

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- PREFIRE Data Products and Distribution
- Data Distribution Tools and Services
- Questions



Atmospheric Science Data Center

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