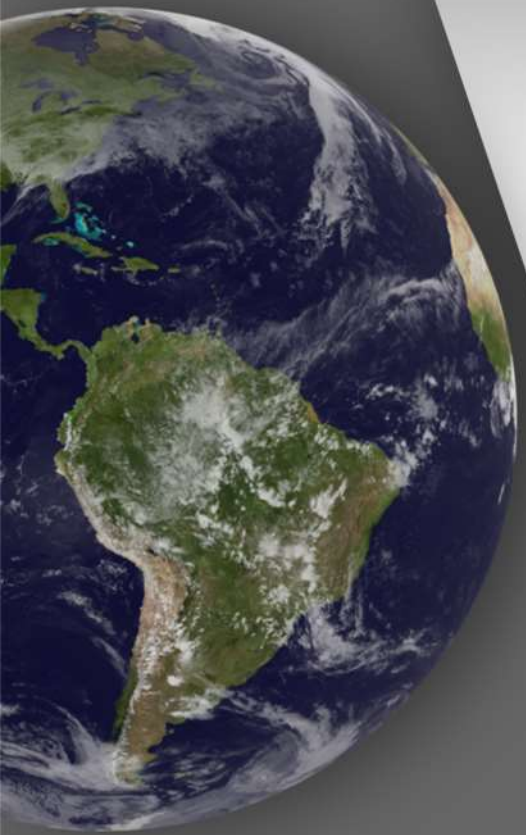


Science Enabling Center for Agriculture Application

Jennifer Wei

ESDIS Project Scientist
GES DISC Lead Scientist

Outline

01

WHY & WHAT IS SCIENCE ENABLING CENTER?

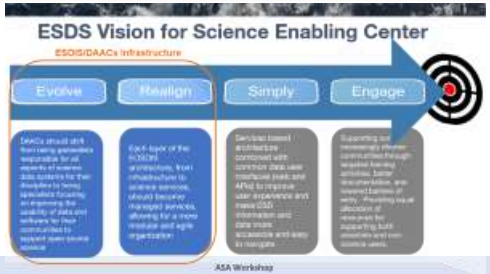
NEEDS & STRATEGY

02

HOW TO

REALIGN EOSDIS INFRASTRUCTURE & EVOLVE DAACS

INFRASTRUCTURE ALIGNMENT

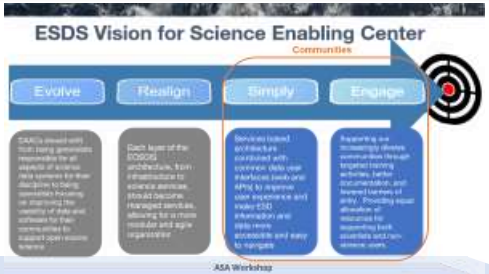


03

HOW TO

SIMPLY SERVICES & ENGAGE USERS (AGRICULTURE COMMUNITY)

COMMUNITY-ORIENTED

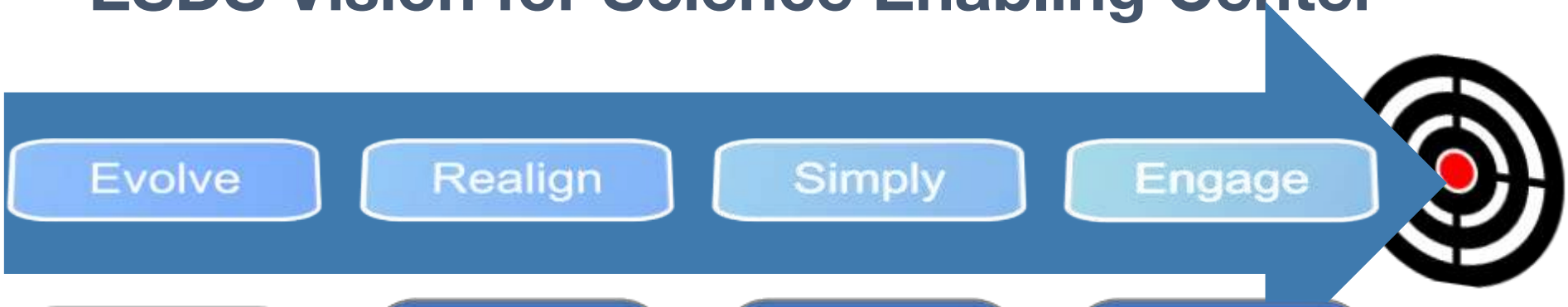


WHY and WHAT
Science Enabling Center (SEC)

- **Data Volume Needs as** the NASA's Earth Observing System Data and Information System (EOSDIS) archive grows
- **Open Science Framework** defined by the NASA Earth Science Data Systems (ESDS) Program to be **a collaborative culture** that empowers the open sharing of data, information, and knowledge within the scientific community and the wider public to accelerate scientific research and understanding

Science Enabling Center is a newly proposed **science information** center with open science framework design in the **cloud**

ESDS Vision for Science Enabling Center



DAACs should shift from being generalists responsible for all aspects of science data systems for their discipline to being specialists focusing on improving the usability of data and software for their communities to support open source science

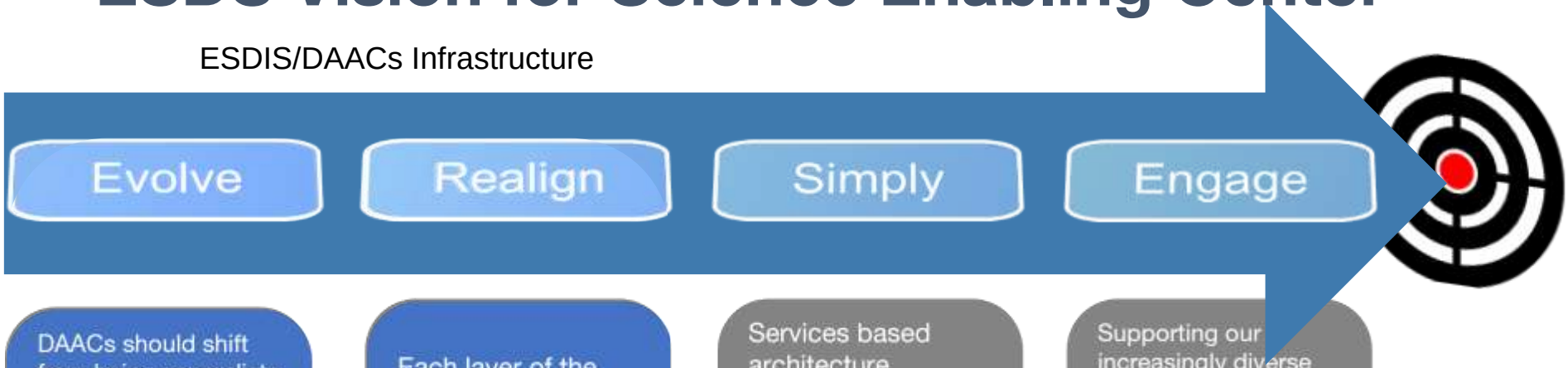
Each layer of the EOSDIS architecture, from infrastructure to science services, should become managed services, allowing for a more modular and agile organization

Services based architecture combined with common data user interfaces (web and APIs) to improve user experience and make ESD information and data more accessible and easy to navigate

Supporting our increasingly diverse communities through targeted training activities, better documentation, and lowered barriers of entry. Providing equal allocation of resources for supporting both scientists and non-science users.

ESDS Vision for Science Enabling Center

ESDIS/DAACs Infrastructure



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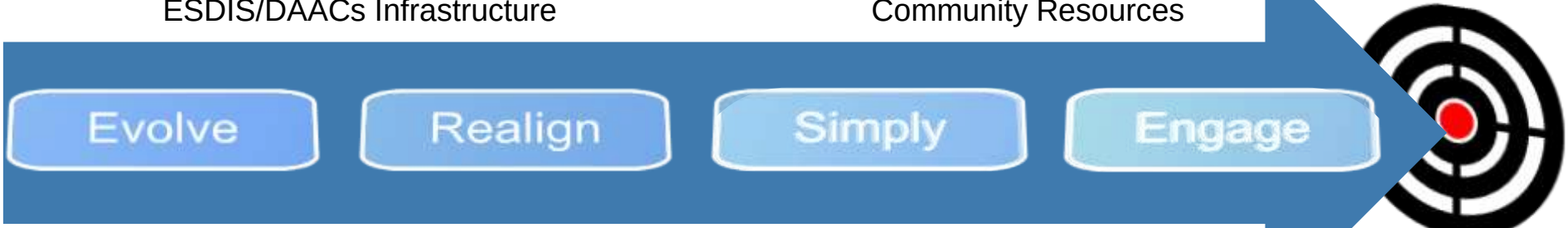
ESDS Vision for Science Enabling Center

ESDIS/DAACs Infrastructure

Community Resources



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ESDS Vision for Science Enabling Center

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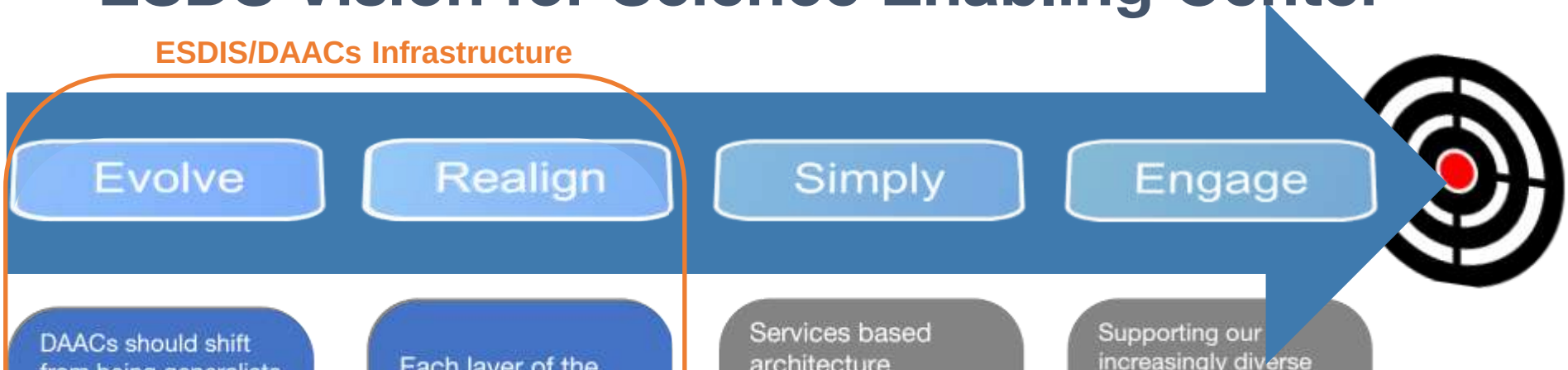

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Five Tenets for Science Enabling Center

Guiding Principles

Ensuring **quality** and **fitness for purpose** of the organization's data and metadata assets

Data and Metadata Stewardship

Capturing and cataloging scientific information from **publications** into searchable databases **linked to data resources**.

Information Management

Managing and supporting **open-source software** development projects: cataloging, documentation, review for long-term sustainability, and user support

Open-Source Software Support

Addressing **cross-mission and division** science as well as dedicated support for discipline specific communities to better **integrate and fuse data**.

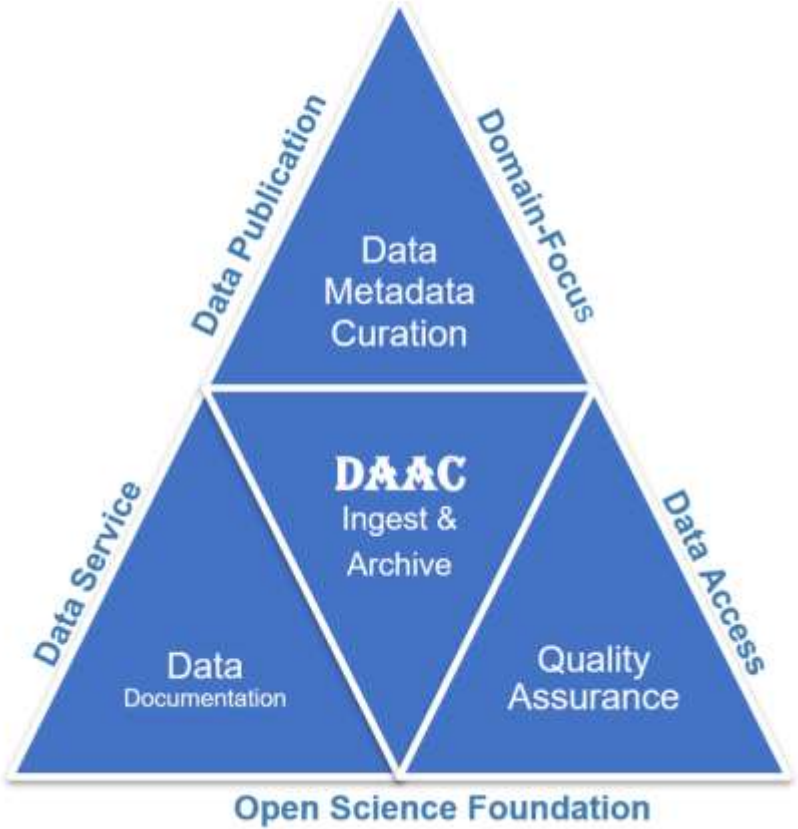
Cross-Mission Science and Modeling

Answering scientific and technical questions about data and information, **evaluating and merging community contributions to open-source software**

User Support

DAACs Support for Facilitating Science

- Support open science initiatives by providing open-source software and documentation along with the data
- Data Service: dataset documentation, developing discipline-focus services and learning resources
- Data Access: data quality and dissemination, developing value-added products
- Data Curation: Meta/data curation, domain-focused user support, publishing data



DAACs
vs.
Science Enabling Center (SEC)

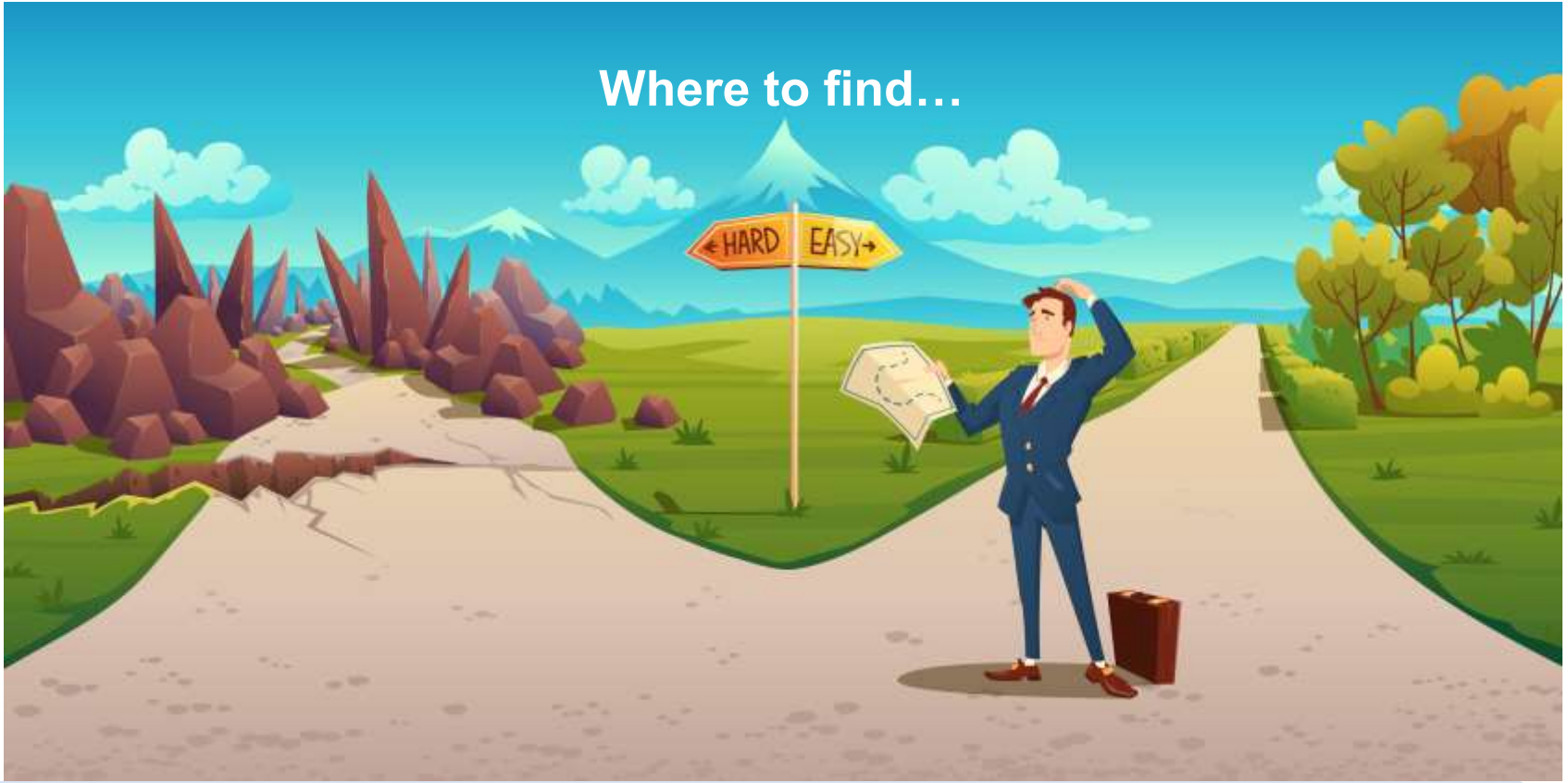
- Target **specific science application**
- **Infrastructure**
  - Provide open access and modular services by leveraging ESDIS core services as necessary
  - Develop cloud-optimized data services
  - Produce higher-level, valued-added datasets
- **Community**
  - Leverage DAAC discipline data services and user support
  - Develop and curate learning sources

ESDS Vision for Science Enabling Center

Communities

Evolve	Realign	Simply	Engage
DAACs should shift from being generalists responsible for all aspects of science data systems for their discipline to being specialists focusing on improving the usability of data and software for their communities to support open source science	Each layer of the EOSDIS architecture, from infrastructure to science services, should become managed services, allowing for a more modular and agile organization	Services based architecture combined with common data user interfaces (web and APIs) to improve user experience and make ESD information and data more accessible and easy to navigate	Supporting our increasingly diverse communities through targeted training activities, better documentation, and lowered barriers of entry. Providing equal allocation of resources for supporting both scientists and non-science users.

Open Science Community Guidance



Enabling Science Together

NASA Earth Science Data System

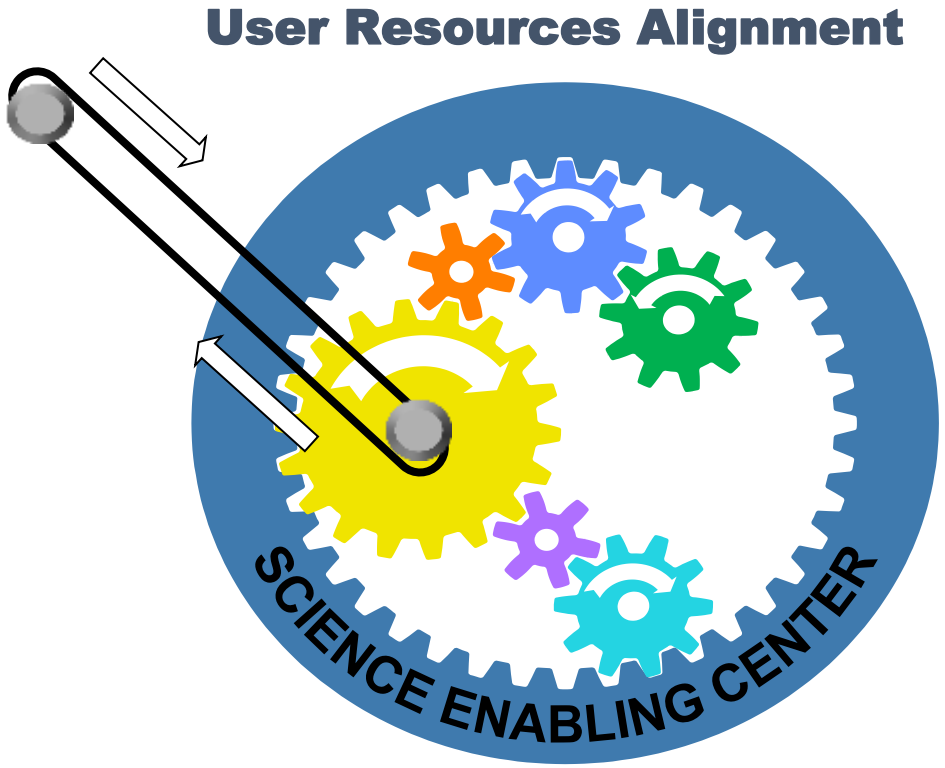
EOSDIS/ESDIS
DAACs, SIPS, EOSDIS Users

External Partners
ESA, JAXA, NOAA, USGS, PNNL, FEMA, USDA,…

Internal Partners
HARVEST, ARSET, POWER,…

NASA Science Teams

External Stakeholders
Universities, Private Sectors, local governments…



One Stop Shop - NASA Earth Observation Website

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Learn

Whether you are a scientist, an educator, a student, or are just interested in learning more about NASA's Earth science data and how to use them, we have the resources to help. Get information and guides to help you find and use NASA Earth science data, services, and tools.

- Get Started
- Backgrounders
- Data Pathfinders
- Data Toolkits
- Webinars and Tutorials
- Data Stories
  - Articles
  - Data Chats
  - Data User Profiles

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Data Topics Learn Engage About

Earthdata / Learn / Get Started

Get Started

Explore User Driven Resources

I am new to using NASA Earth Science Data.

Learn More

I need data and want to know where to find it.

Find Data

I have data and I need to know how to process it for scientific research.

Use Data

An Earthdata Login is required of all users before they can download data or use selected tools from any of the Distributed Active Archive Centers (DAACs) that comprise NASA's Earth Observing System Data and Information System (EOSDIS).

Register

Questions

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