



Science Enabling Center for Agronomy Community

NASA ESDIS

November 2022

Outline

01

WHY IS
SCIENCE ENABLING
CENTER?

NEEDS & STRATEGY

02

HOW TO
EVOLVE DAACS &
REALIGN EOSDIS
INFRASTRUCTURE

**INFRASTRUCTURE
ALIGNMENT**

03

HOW TO
SIMPLY SERVICES
& ENGAGE USERS
(AGRICULTURE
COMMUNITY)

COMMUNITY-ORIENTED

WHY Science Enabling Center?

Motivation

- **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 open science framework for (1) providing the most efficient use of the EOSDIS (Earth Observing System Data and Information System) data through the deployment of **cloud-enabled data and tools**; (2) enabling the user community to propose projects for developing technologies specifically aimed at **enabling science in the cloud and machine learning**

OPEN SCIENCE



Earthdata Cloud



ESDS Vision for Science Enabling Center

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.

ESDS Vision for Science Enabling Center

ESDIS/DAACs

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ESDS Vision for Science Enabling Center

ESDIS/DAACs

Community Resources

Evolve

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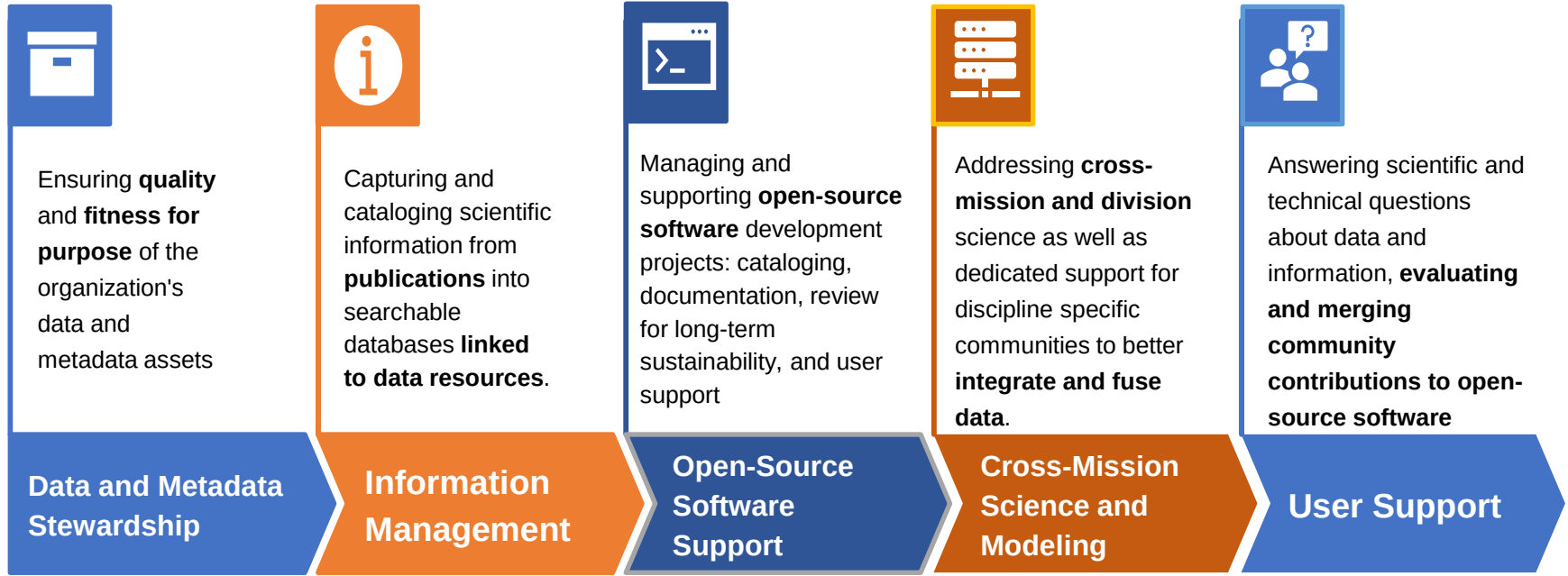
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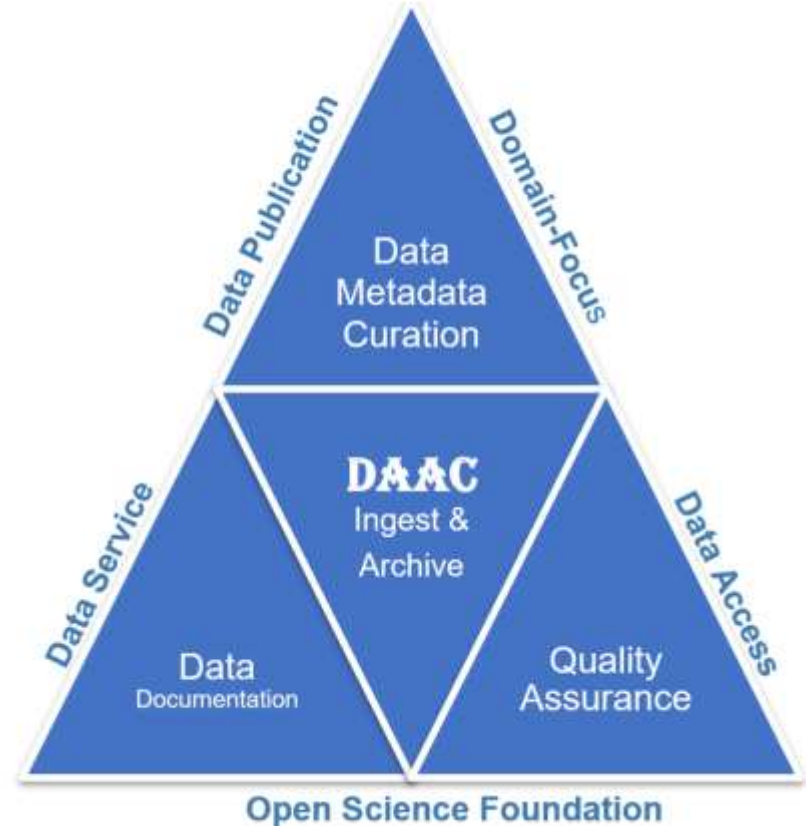
Five Tenets for Science Enabling Center

Guiding Principles



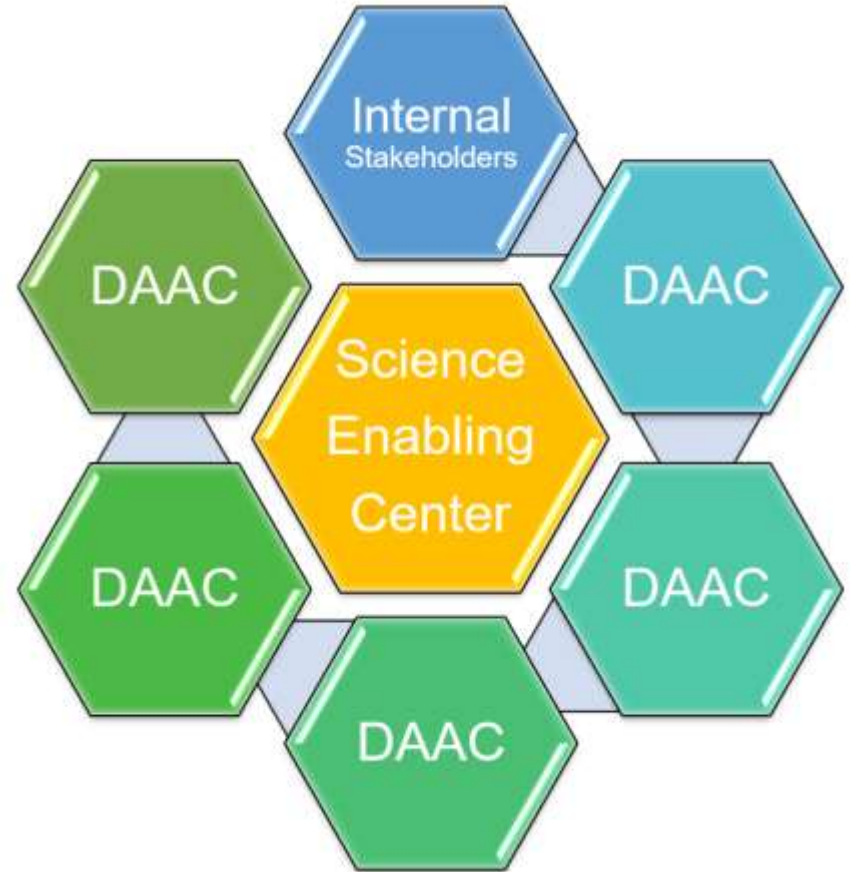
DAACs Support for Facilitating Science

- 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 to Science Enabling Center (SEC)

- Providing user support to targeted science/applications
- Leveraging DAAC discipline data/services/support
- Providing open access and modular services by leveraging core services as necessary
- Developing cloud-optimized data services
- Producing higher-level, valued-added datasets to the targeted science/applications
- Developing and curating learning sources to targeted science/applications



ESDS Vision for Science Enabling Center

ESDIS/DAACs

Communities

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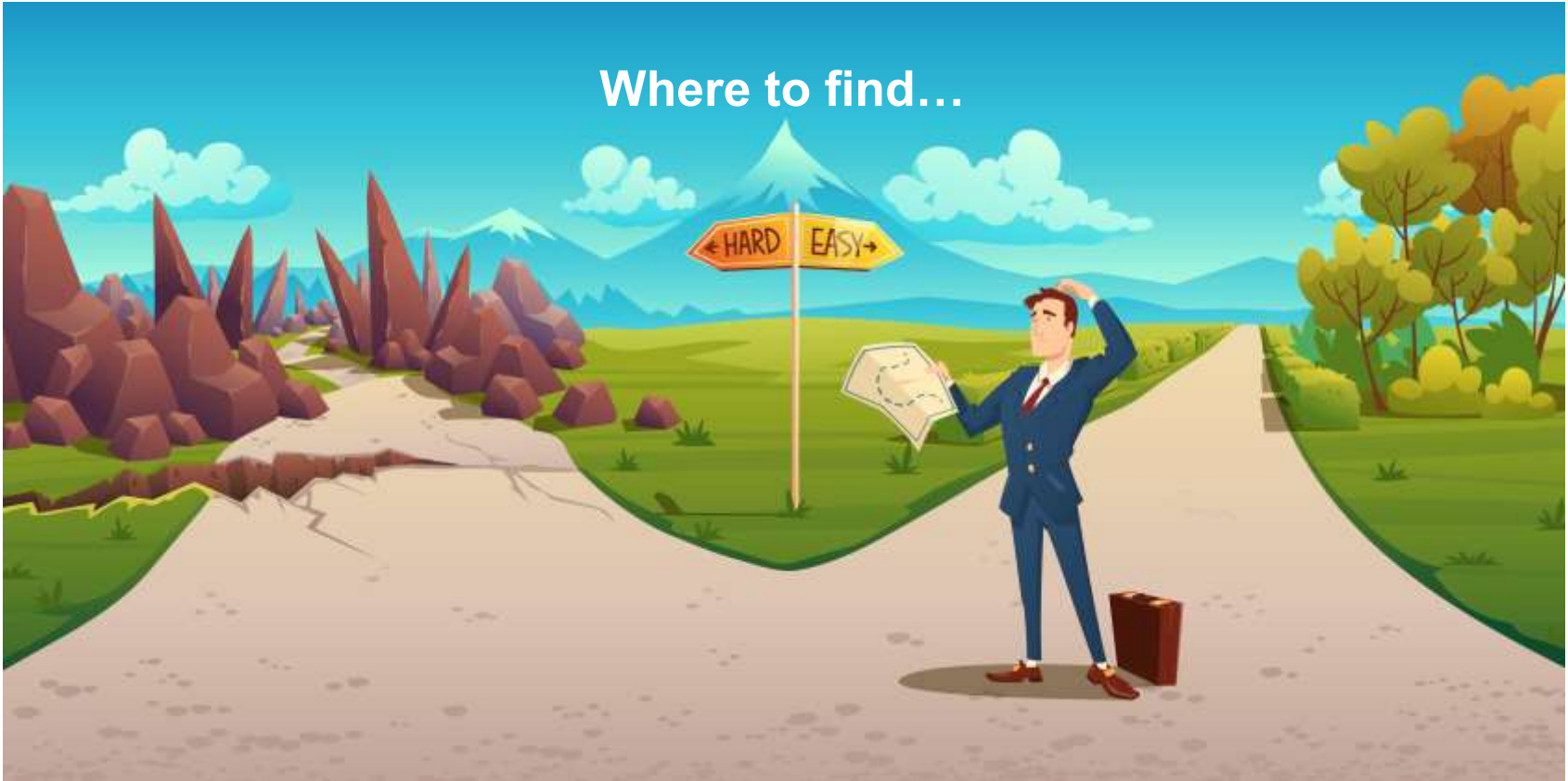
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Open Science Community Guidance

Where to find...



Enabling Science Together

Teams Alignment

ESDS Data System Evolution
DSE, EOSDIS, ESDSWG, CSDA, ESCO, Unbound

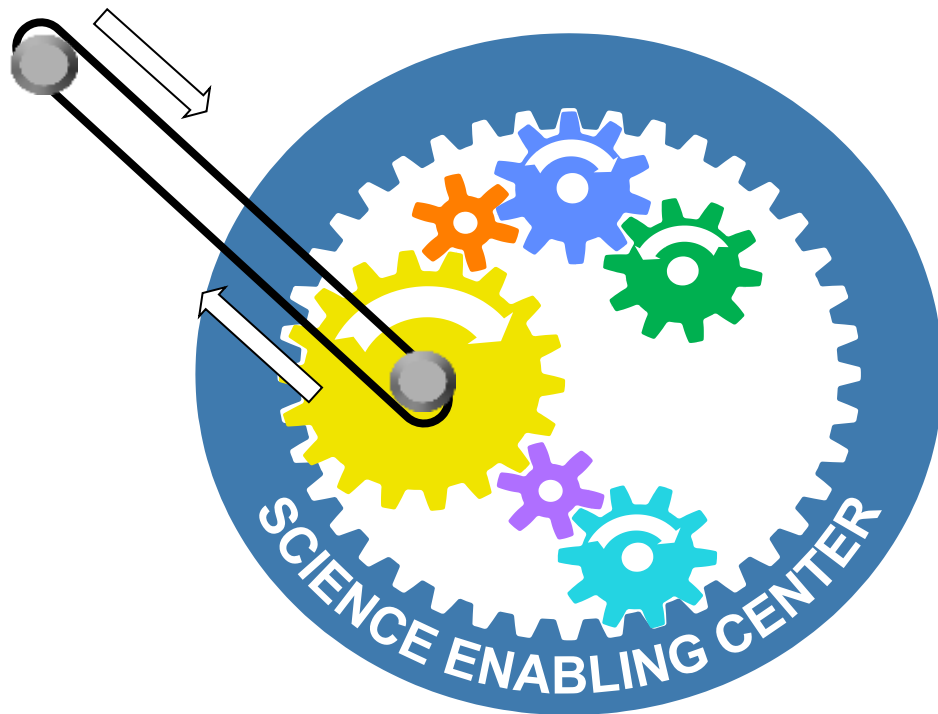
ESDIS
DAACs, SIPS, EOSDIS Users

Partners
ESA, JAXA, NOAA, USGS, PNNL, FEMA, USDA,...

Applied Sciences
HARVEST, ARSET, POWER,

NASA Science Teams

External Stakeholders
Universities, Private Sectors, Regional



NASA Earth Observation Website



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

Data

Topics

Learn

Engage

About



Your Gateway to NASA Earth Observation Data

The Earth Science Data Systems (ESDS) Program provides full and open access to NASA's collection of Earth science data for understanding and protecting our home planet. Begin your Earthdata exploration by clicking on any of the discipline icons above.

Get Started

Find Data

Use Data

ESDIS Project



NASA Earth Observation Website



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

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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





Get Started



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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