



National Aeronautics and
Space Administration

NASA earth

Commercial Satellite Data Acquisition (CSDA) Program Update

Melissa Martin

CSDA Program Manager
Earth Science Division
Science Mission Directorate, NASA Headquarters

Dana Ostrenga

CSDA Project Manager
Earth Science Division
NASA Goddard Space Flight Center

Batu Osmanoglu

CSDA Deputy Project Manager
Earth Science Division
NASA Goddard Space Flight Center



Overview: Why does NASA buy commercial satellite data?

Enhances our science and applications and makes unique contributions to our mission.

Combined approaches are powerful.

NASA's fleet provides innovative, first-in-kind observations; global coverage; open access to data, calibration, analytics; and robust validation that sets the world's measurement standards and forms the backbone of Earth-system science and applications.

Commercial data is an important complement to our fleet that increases the pace of discovery by offering higher spatial resolutions, more frequent observations, and other complementary measurements.

NASA partners with other federal agencies to maximize the value of commercial data purchases for all.

How does NASA help the commercial space sector?

Acquiring, evaluating, using, and archiving the data.

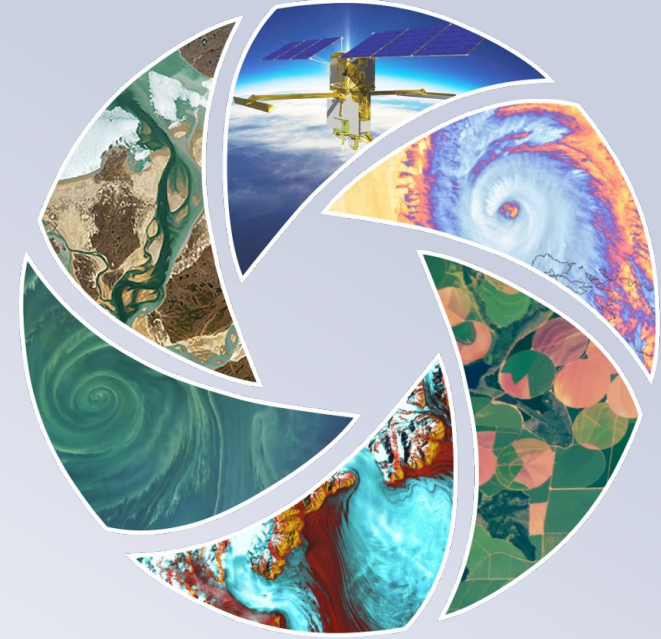
NASA's evaluations of commercial data are trusted by the data providers, private sector, and user community.

NASA's broad expertise in observations, instruments, and calibrations, as well as the research & application uses, help the providers understand their data.

NASA's purchases represent a critical revenue stream for some companies.

CSDA Program Mission: Formal Goals

Identify, evaluate, and acquire commercial satellite data that support NASA's Earth science research & application goals.



CSDA Program Goals

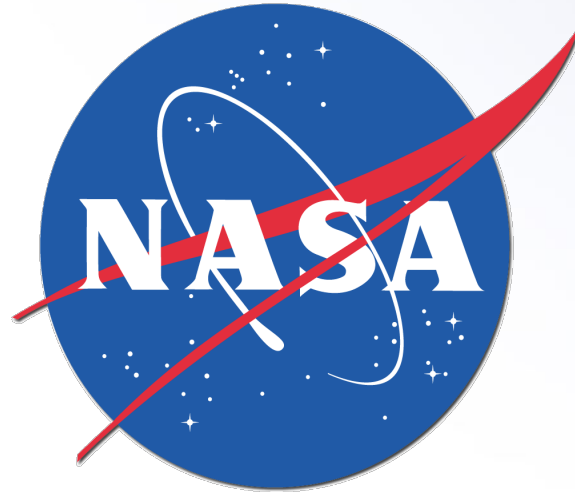
- Establish a continuous and repeatable process to on-ramp new commercial data vendors.
- Enable sustained use of purchased data for broader use and dissemination by NASA scientific community.
- Ensure long-term data preservation, access and distribution of purchased data and long-term access for scientific reproducibility.
- Coordinate with other US Government agencies and international partners on the evaluation and scientific use of commercial data.
- Compliance with 2003 US Commercial Remote Sensing Policy

The NASA-Commercial Partnership (how NASA contributes to Commercial Data Vendors)

**NASA capabilities used as
intercomparison sources**

**NASA RadCalNet calibration
sites provide Vendors with a
common calibration and
geolocation resource**

**Reliance on NASA data for
determining geolocation
accuracy**



**NASA data used in the
evaluation of Vendor data
calibration accuracy**

**Standards for cross-calibration
of vendor data**

**NASA applications used as
validation and cross-
calibration activities**

**NASA data used for algorithm
development for Vendor
retrievals**

Program Timeline

PILOT

Initiated to evaluate data from commercial satellite companies to find a cost-effective means to augment and/or complement NASA Earth observations for research and applied science activities.

BPA ONRAMP 1

Pilot successfully ended and CSDA transitioned into a sustained program with on-ramping opportunities for new vendors.

BPA ONRAMP 2/3

2nd CSDA solicitation released (ROSES 2022 A.44) to promote scientific use of purchased data by the scientific and applied science communities.

22 proposals were selected.

BPA TO IDIQ

Move from BPAs to Multiple-Award Indefinite-Delivery, Indefinite Quantity (IDIQ) contract with Firm-Fixed-Price (FFP) task orders. Awarded 7 vendors October 2023.

IDIQ ONRAMP 1

CSDA name change from Commercial *SmallSat* Data Acquisition to Commercial *Satellite* Data Acquisition.

IDIQ Multiple award contract on-ramp 1: Awarded eight new vendors in Sept. 2024.

Release of CSDA solicitation (ROSES 2024 A.48) with focus on complimentary use of commercial data with NASA data for science research and applications.

2017



2020



2022



2023



2024



CSDA's tiered End User License Agreement (EULA) approach is modeled after National Reconnaissance Office (NRO) Geospatial Intelligence Systems Acquisition Directorate Commercial Systems Program Office (CSPO) common, standardized family of EULAs.



NASA CSDA Vendors

6

Multispectral

MAXAR

BLACK|SKY

SATELL^{OGIC}

planet.



TELEDYNE
BROWN ENGINEERING

pixxel

Hyperspectral

CH₄ Emissions



GHGSAT

GNSS-R & RO

PLANETiQ

spire

Synthetic Aperture Radar

MDA

UMBRA

ICEYE



Capella Space

Precipitation Radar



tomorrow.io







DEMs

MAXAR
AIRBUS

Current Active Task Orders

Commercial Vendor	Type of Data	Period of Performance
Airbus	SAR, DEM	08/02/2024 – 08/01/2025
Capella	SAR	09/28/2024 – 09/27/2025
Maxar	DSM, DTM	09/29/2024 – 09/28/2025
Pixxel	Hyperspectral (L1C and L2A)	09/27/2024 – 09/26/2025
Planet Labs	Electro-Optical	11/25/2024 – 11/24/2025
PlanetiQ	Neutral Atmosphere Radio Occultation products, Ionosphere Total Electron Content (TEC)	08/05/2024 – 08/04/2025
Satellogic	Electro-Optical (L1 Basic and L1 Orthorectified)	09/27/2024 – 09/26/2025
Spire Global, Inc	<ul style="list-style-type: none"> • GNSS-RO • GNSS-PRO • Conventional GNSS-R: bistatic radar • Grazing Angle GNSS-R: sea ice and altimetry • Space Weather: TEC, ionospheric profiles, scintillation, and magnetometer • Satellite Precise Orbit Determination (POD) • GNSS-R Soil Moisture • GNSS-R Ocean Surface Wind Speed • Raw intermediate frequency collections 	08/12/2024 – 08/11/2025
Tomorrow.io	Precipitation Radar (L1C-geoprof and L2A-PRECIP)	09/27/2024 – 09/26/2025
Umbra	SAR	09/27/2024 – 09/26/2025

Three-Tiers of End User License Agreements (EULAs)

Authorized User Community	Type of EULA		
	Public Release	U.S. Gov Plus	U.S. Gov
U.S. Federal Government including: <ul style="list-style-type: none"> U.S. State/Local/Tribal Government; Contractors and Grantees associated with a Government Agency; NGO's and Non-Profit Organizations working with USG 			
U.S. Federal Government as stated above, Foreign Civil Partners for USG purposes			
Public Release., Open			

USG license is minimum level for CSDA

Scientific Non-Commercial Use License

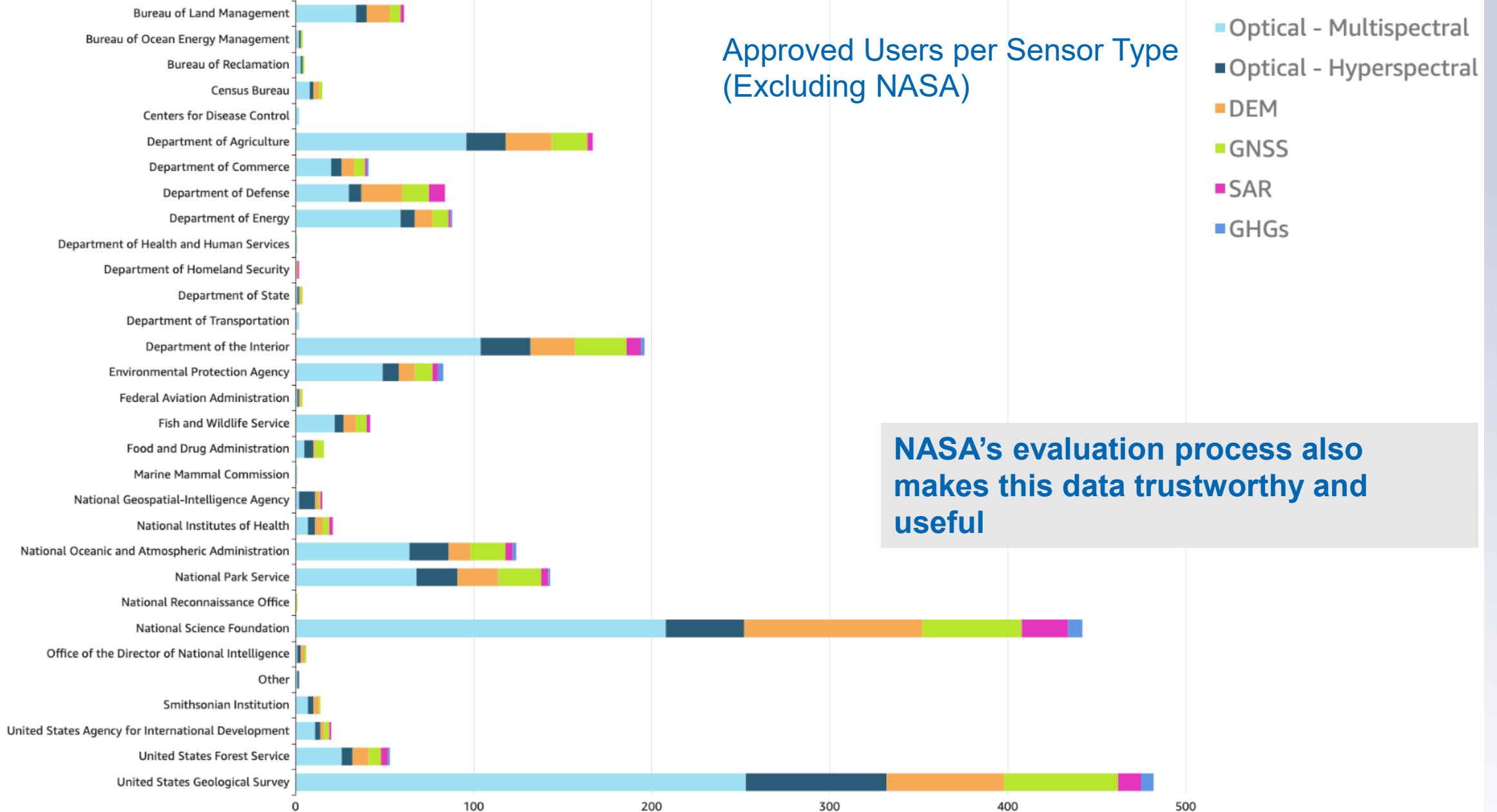
Modeled after National Reconnaissance Office (NRO) Geospatial Intelligence Systems Acquisition Directorate Commercial Systems Program Office (CSPO) common, standardized family of EULAs.

Expanding use of commercial data at NASA

NASA will provide commercial data to agency partners under the agreed EULA by request. *NASA will not prohibit agency usage of the data if it abides by the EULA requirements, as specified in Contract Attachment B.* Use is not intended for the development of commercial products or services and does not include activities funded or sponsored by non-governmental organizations.



CSDA helps other federal agencies meet their mission



Partnerships

Building new partnerships and improving data sharing possibilities

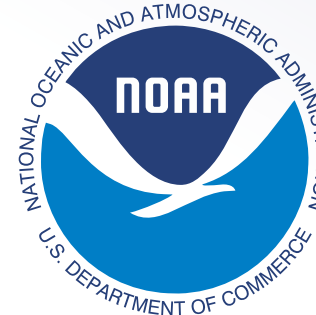
- Working closely with U.S. Government agencies to align and share data acquisitions, share evaluation processes, share data requirements and needs.

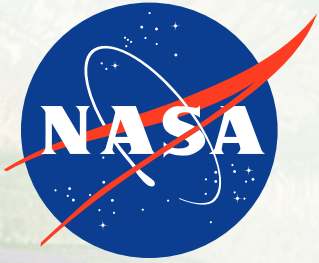


- Continuing our collaboration with international partners in developing guidelines, data evaluations, and programmatic and technological processes.



- Coordination of Commercial Data Purchase within the U.S. Government with other Federal Agencies





ESA-NASA Joint EO Mission Quality Assessment Framework

Separately:

- ESA's Earthnet Data Assessment Project (EDAP) established an EO mission quality assessment framework, which was also later customised for several different sensor domains.
- CSDA created an evaluation process to assess the quality and the integration into various research and applications supporting different thematic areas.

Together:

Developed the **Joint EO Mission Quality Assessment Framework**

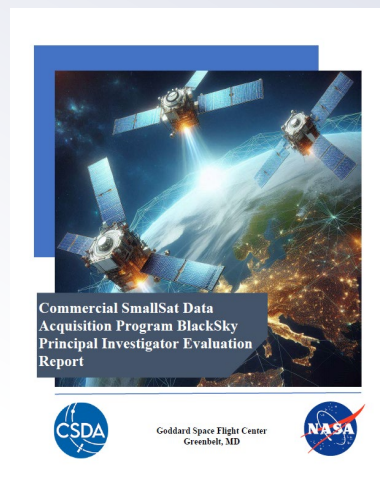
- To ensure that decisions on acquisition of commercial data can be made with confidence;
- The development of a set of guidelines to assess the data quality of these commercial sources;
- To strengthen the existing partnership between ESA and NASA

Data Provider Documentation Review			Validation Summary
Product Information	Metrology	Product Generation	
Product Details	Radiometric Calibration & Characterization	Radiometric Calibration Algorithm	Radiometric Validation Method
Availability & Accessibility	Geometric Calibration & Characterization	Geometric Processing	Radiometric Validation Results Compliance
Product Format, Flags & Metadata	Metrological Traceability Documentation	Mission Specific Processing	Geometric Validation Method
User Documentation	Uncertainty Characterization		Geometric Validation Results Compliance
	Ancillary Data		

We help the space sector and partners: NASA's evaluation of vendors

Evaluation

- NASA performs detailed evaluations with engineers and scientists that are experts and potential users
- Evaluation Criteria include:
 - Data quality
 - Usefulness
 - Accessibility and other vendor characteristics
- Product is a published, open access report that serves as a seal of approval
- Vendors appreciate how much they learn about their data



Impact



- Enhanced recognition among research and applications communities



- Strengthened credibility and trust of customers and investors



- Access to NASA expertise in data quality and measurement characteristics



- Strengthen vendor capabilities, improve staff retention through increased morale



- Increased brand awareness through CSDA communications



- Greater exposure to the full extent of data utility

All of NASA's research and application solicitations are open to using commercial data, and NASA also supports a research program focused solely on using commercial data.

Stakeholder Engagement and Support

1. CSDA Program monthly webinar series with focus on

Vendors

- Presenting on their current constellation
 - Instrumentation updates
 - Data Products
 - Science Uses and Applications
2. Provide access to commercial data tools to support science research and applications use of commercial data
 3. Improve and update the CSDA website highlighting vendors and the applications of commercial data
 4. Engagement with the community at conferences, workshops and science meetings
 - How the data is being used in scientific research and application
 - Challenges encountered when using the data



A.48 Commercial Satellite Data Earth Science Research and Applications

Number: NNH24ZDA001N-CESRA Directorate: Science Mission Directorate Type: NASA Research Announcement Status: Due within 30 Days

▼ Dates			
Label	↑↓ Date	↓ Option	↑↓
Release	Feb 14, 2024		
CESRA24 Step-1 Proposals Due	Feb 14, 2025		
CESRA24_2 Step-2 Anonymized Proposals Due	Apr 09, 2025	Create	

A.48 COMMERCIAL SATELLITE DATA EARTH SCIENCE RESEARCH AND APPLICATIONS

NOTICE: Amended December 12, 2024. This Amendment releases final text for this program element now entitled Commercial Satellite Data Earth Science Research and Applications. The name and scope have changed from the previously released TBD placeholder.

This program element uses a two-step proposal submission process, see Section 4.2. 5-page not anonymized Step-1 Proposal PDFs are due Friday, January 31, 2025, and anonymized 12-page Step-2 Proposals are due Wednesday, March 26, 2025. Step-2 Proposals will be evaluated using dual-anonymous peer review, see Section 4.3.

There will be a telecon for prospective proposers on Friday, December 20, 2024, at 2-3 PM Eastern Time. Connection information for this meeting is in Section 6.2.

1. Overview

This element solicits proposals for Earth science research and applications based on observations acquired by NASA's Commercial Satellite Data Acquisition (CSDA) Program. It is open to any areas of research and applications that contribute to the objectives and key results described in [Earth Science to Action \(ES2A\) strategy](#). The proposed work should also highlight how commercial data will supplement existing capabilities of the NASA's Earth Observing fleet and other free and open data sources.

Proposals are generally expected to be based on data already in the archive, but new acquisitions may be requested from any vendor currently on contract with NASA, noting that requests will be restricted by program resources.

The cost of the data will be covered by CSDA and should not be reflected in the proposal budget.

Proposals must also address three key requirements, as follows:

- 1) Mandatory two-step process with feedback on Step-1. With many potential proposers unfamiliar with the capabilities and requirements of the CSDA program, the process includes feedback on the Step-1 proposal to ensure that the CSDA program can provide the full range of data requested. This feedback is expected to be useful in adjusting the scope of the Step-2 proposal.
- 2) Data evaluation participation. An important aspect of the CSDA Program is continuing evaluation of the utility of commercial data to meet NASA needs. To assist with this process, awardees must complete an evaluation review 12

ROSES 2024: A.48 Commercial Satellite Data Earth Science Research and Applications

Solicits proposals that will

- Demonstrate how this data supplements existing capabilities of the NASA's Earth Observing fleet and other free and open data sources.
- Assess the utility and accessibility of the CSDA data.
- Open to any areas of research and applications that contribute to the objectives and key results described in Earth Science to Action (ES2A) strategy.
- CSDA Program will cover the cost of the commercial data request.
 - Release date: 12 December 2024
 - Mandatory Step-1 due date: 14 February 2025
 - Step-2 due date: 9 April 2025
 - Selection: ~July 2025
 - Funding: ~ \$4M each year for 2 years

Summary

- Significant value in commercial data to augment NASA/U.S. satellite fleet.
- Scientific evaluation process is unique to NASA and critical to procurement.
- NASA is working with other agencies on licensing agreements to improve efficiencies, reduce redundancies, and maximize data use within budgetary constraints.
- **We have opportunities at NASA to support the scientific research and application use of commercial data.**

Accessing and Requesting Commercial Satellite Data FAQ: [CSDA FAQs: Accessing and Requesting Commercial Satellite Data | NASA Earthdata](#)

Learn more about CSDA



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





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