



National Aeronautics and
Space Administration

NASA COMMERCIAL SATELLITE
DATA ACQUISITION (CSDA)
PROGRAM

NASA CSDA Program 2026

Ashutosh Limaye
CSDA Chief Scientist, Marshall Space Flight Center

Melissa Martin, CSDA Program Manager
Earth Science Division, NASA Headquarters

NASA Earth

Why does NASA buy commercial data?

NASA's fleet delivers global, first-of-its kind observations with open, validated data that forms the backbone of Earth-system science and applications.

Commercial data enhances our science and applications and makes unique contributions to our mission by offering:

- Higher resolution & more frequent observations
- Taskable observations
- Flexible, real-time, niche data services
- Cost-effective options for users



22-day image pair in Sothem California showing agricultural fields and a geothermal plant. Includes copyrighted material of Airbus U.S copyright 2020-2021, all rights reserved.

Combined approaches are powerful.

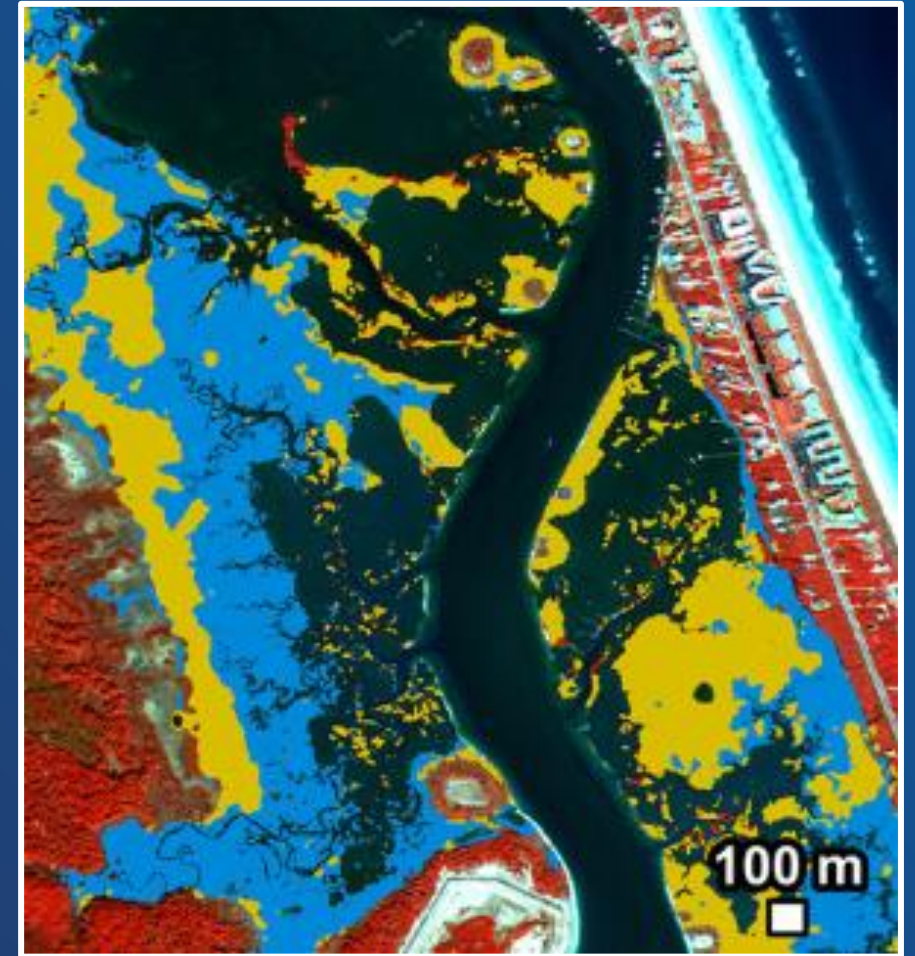
SCIENCE MISSION DIRECTORATE HIGHLIGHTS

Earth Science Division

Revisiting Roots: *Satellites Detect Changes in Dynamic Mangrove Habitats*

Mangroves — a keystone species essential to coastal environments — can **prevent erosion**, **protect from hurricane damage**, and **support vibrant habitats**.

- **Mangroves are difficult to map.** They can dramatically change ecosystems because of their intricate growth patterns, but as a result, can be difficult to see with low-resolution imagery.
- **NASA's Solution: supplementary satellites.** The Commercial Satellite Data Acquisition (CSDA) program offers commercial data that supplements NASA data and helps solve this challenge:
 - Government sensors (**Sentinel-2** and **Landsat 8**) acts as a baseline of public global imagery to identify areas of interest.
 - Commercial sensors (**Planet** and **WorldView**) uses supplementary very-high resolution imagery to locate specific mangrove locations.
- By improving how we map these coastal environments, NASA supports efforts to **preserve habitats**, **strengthen disaster resilience**, and **protect shoreline communities**.



WorldView-2 Satellite imagery in Florida, with the highest accuracy of mangroves (yellow) and surrounding saltmarshes (blue).[Doughty, et al., 2024]

Primary NASA Researcher: NASA Postdoctoral Program Fellowship of Cheryl L. Doughty, NASA Goddard Space Flight Center

<https://doi.org/10.1002/rse2.394>

SCIENCE MISSION DIRECTORATE HIGHLIGHTS

Earth Science Division

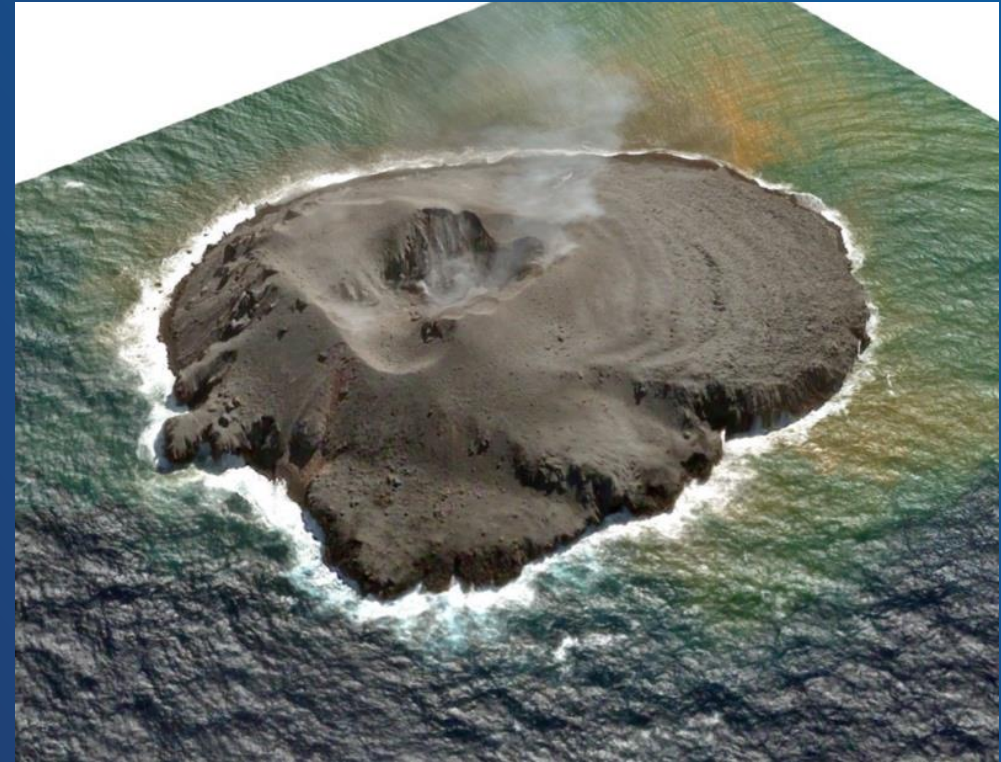
Rocky Changes in Tonga: Satellites Monitor Emergence of New Volcanic Island

In Tonga, a submarine volcano formed an **entirely new island**, called *Home Reef*. A previous island, known as *Hunga Tonga Hunga Ha'apai*, experienced the same **rapid emergence** but ultimately **exploded to disappear in 2022**

- **Challenge:** New islands are highly dynamic and difficult to monitor.
- **NASA solution: Complementary satellites.** The Commercial Satellite Data Acquisition (CSDA) program offers high-resolution commercial data that supports NASA missions and applied science:
 - Commercial **Umbra**, **Vantor WorldView**, and **Vantor Legion** are used to develop detailed island visualizations. Specifically, **Legion** provides very high-resolution imagery that has revealed never-before seen details in 3D.
 - Government **ICESAT-2** provides Light Detection and Ranging (LIDAR) data that serves as the calibration for 3D measurements.
- Satellite visualizations allow NASA and stakeholders to monitor unstable landscapes, including **anticipating natural disasters**, **measuring erosion**, and even **training for dynamic conditions on Mars, Venus, and beyond**.

Satellite Visualization of Home Reef, Tonga

Made with Maxar Legion Imagery and Digital Elevation Model (DEM)



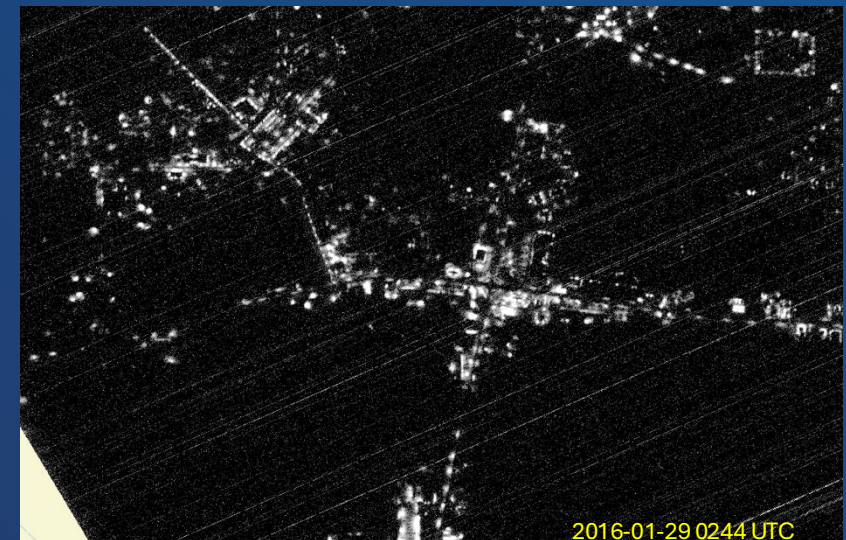
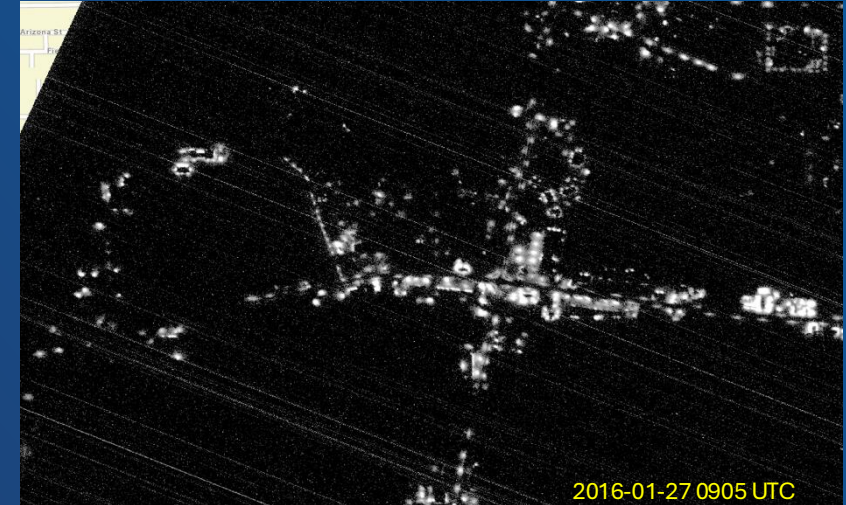
Rendering of **Home Reef**, Tonga on June 19, 2025. The base structure of the model is digital topography (1m scale) built with Maxar Legion 0.3 m resolution stereo imagery. The outer layer is **Maxar's Legion 30 cm imagery** overlaid on top. The island is ~500m across and over 50m tall. [Garvin et al., 2025].

Primary NASA Researcher: NASA Postdoctoral Program Fellowship of Cheryl L. Doughty, NASA Goddard Space Flight Center

<https://doi.org/10.1002/rse2.394>

Disaster Response Task Order January 2026 Eastern United States Winter & Ice Storm

- A powerful winter storm moved across the country during the weekend of January 23-25, 2026. Heavy snow was observed across portions of the Midwest, while a devastating ice storm unfolded across portions of the Mississippi and Tennessee.
- Working with FEMA HQ and FEMA Region 4, the NASA Disasters Response Coordination System worked to utilize the CSDA Disaster Response Task Order for the first time.
- Three different vendors were tasked for this event to provide data for situational awareness, Optical, X-band SAR, and Nighttime Imagery.
- In addition to supporting our partners, this was a great opportunity to test how CSDA and DRCS will be working together this year to execute this task order.

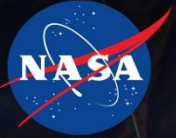


BlackSky Nighttime Imagery product acquired during on two different dates following the ice storm that hit the Southeast in January 2026. This product shows the changes in the observed lights between the two-night highlighting power restoration in Batesville, MS.

NASA CSDA Commercial Data Portfolio

Broadening access to diverse, complementary Earth observation capabilities

National Aeronautics and
Space Administration



OPTICAL/ MULTISPECTRAL

AIRBUS



BLACK SKY
SATELLOGIC



SATLANTIS
Vantor



HYPERSPECTRAL (VNIR-SWIR)



pixxel



KUVA SPACE



SAR

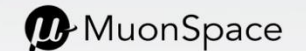
AIRBUS



ICEYE



GNSS (RO/R)



THERMAL INFRARED



PRECIPITATION/ MICROWAVE



ATMOSPHERIC/ GHG



DEM/ ELEVATION

AIRBUS



DIVERSE

Broad set of commercial
partners and capabilities



COMPLEMENTARY

Complements NASA's
Earth observations



RESPONSIVE

Rapid access to data for
timely decision making



ACCESSIBLE

Structured delivery framework
broadens U.S. government access.

Current Active Task Orders (as of August 29, 2026)

Vendor	Type of Data	Period of Performance
Airbus	InSAR	07/28/2025 – 07/27/2027
	SAR	09/25/2025 – 09/24/2026
	Multispectral	11/26/2025 – 11/24/2026
Capella	SAR	09/26/2025 – 09/25/2026
Vantor	Multispectral	11/25/2025 – 11/24/2026
Planet Labs	Multispectral	11/25/2025 – 11/24/2026 (Allocated access)
Planet Labs	Multispectral	11/25/2025 – 11/24/2026 (Allocated access)
PlanetiQ	Neutral Atmosphere Radio Occultation products, Ionosphere Total Electron Content (TEC)	In collaboration with NOAA Radio Occultation Delivery Order 5

Current Active Task Orders (as of August 29, 2026)

Vendor	Type of Data	Period of Performance
Spire Global	GNSS-RO	In collaboration with NOAA Radio Occultation Delivery Order 5
MDA	SAR	09/26/2025 – 09/26/2026
Umbra	SAR	09/26/2025 – 09/25/2026
GHGSat	Greenhouse Gas Emission Rate	02/11/2025 – 02/10/2027
ICEYE	InSAR SAR	07/29/2025 – 07/28/2027 09/26/2025 – 09/26/2026

Three-Tiers of End User License Agreements (EULAs)

Authorized User Community	Type of EULA		
	U.S. Gov	U.S. Gov Plus	Public Release
U.S. Government defined under Title 5 U.S.C. 101-105			
The U.S. Gov Executive Office of the President (EOP), members of Congress, and congressional staff			
State and local governments, territories, and tribal authorities within the U.S.			
Non-Government Organizations and/or Non-Profit Organizations working for the purpose of the U.S. Government			
Contractors, subcontractors, partners, and/or grantees supporting the U.S. gov to execute their contracts			
Foreign Governments, intergovernmental entities, and international Defense and Coalition Partners for U.S. Gov purposes			
Public, Open Data			

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.

CSDA Program: Essential Facts for Users

- Commercial data is available to the approved community at *NO COST* to the researcher
- CSDA data is *not* open data; it is licensed commercial data with specific usage and redistribution constraints
- CSDA data *cannot* be freely redistributed
- *Not only* NASA teams have access to the data. The minimum licensed access is open to the entire US Government, including any entity receiving government funding, state, local, tribal and territories

Three Takeaways:

- 1. NO COST to you**
- 2. Not Open**
- 3. Any USG-funded researcher is eligible**

CSDA is a science-enabling program that provides licensed access to high-quality commercial Earth Observations data, strengthens data quality through cal/val partnerships and transparent evaluations, and funds the development of science and application use cases to help turn commercial data into actionable research and applied solutions.

Expanding the 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.



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



USGS Civil Applications Committee Source

CACSource@usgs.gov



Sensor	Vendor	Constellation	Spectrum/Polarization	Point Size	Area Size	Best Resolution	Tasking	Delivery
EO	Vantor	WorldView1	PAN	17 x 17km	Best: 25 x 40km Max: 3000sqkm	PAN: 0.5m	CIDR and CMT	EarthExplorer HDDS G-EGD Pro
		WorldView2	PAN/MSI	13 x 13km		PAN: 0.46m MSI: 1.85m		
EO	BlackSky	GEN 2	PAN/MSI	4 x 4km	NA	0.85m	CIDR and CMT	G-EGD Pro
		GEN 3	MSI	4 x 4km	NA	0.35m	CIDR and CMT Enter in "Request Details"	G-EGD Pro
EO	Planet	PlanetScope Dove	PAN/MSI	NA	NA	3m	No, always collecting. Reach out to Planet PMO: planetuseraccountreq@nga.mil	PlanetExplorer
HSI		Tanager	HSI	18 x 18km	NA	30m	CIDR and CMT Enter in "Request Details"	S3 Bucket (Not automated)
HSI	Orbital Sidekick	GHOst	HSI	4 x 12km	NA	8.33m	CIDR and CMT Enter in "Request Details"	S3 Bucket (Not automated)
SAR	ICEYE(US)	X-band	VV	5 x 5km	Max: 100 x 100km	0.22m	CIDR and CMT	G-EGD Pro
SAR	Capella	X-band	VV or HH	5 x 5km	Max: 20 x 10km or Max: 10 x 100km	0.25m	CIDR and CMT	G-EGD Pro
SAR	Umbra	X-band	VV or HH	5 x 5km	NA	0.25m	CIDR and CMT	G-EGD Pro
SAR	RADARSAT	RADARSAT 2	Single: HH or VV Dual: HH+HV or VV+VH Quad: HH+VV+HV+VH	4 x 4km	Max: 500 x 500km	1m	CIDR and CMT	E-mail
IR	HydroSat	VanZyl	IR	70 x 70km	NA	30m	CIDR and CMT	S3 Bucket (Not automated)
IR	Muon Space	MuSat	IR	60 x 60km	1500 x 1500km	50m	CIDR and CMT	S3 Bucket (Not automated)

ESA-NASA Joint EO Mission Quality Assessment Framework - Data Evaluation Criteria

ESA and NASA 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



1. **Accessibility of vendor supplied imagery and data**
 - Ease and efficiency of search, discover, and download from vendor systems.
2. **Accuracy and completeness of metadata**
 - Accuracy and completeness of metadata provided by vendor.
3. **Quality of User Support Services**
 - Availability, responsiveness, and technical expertise required to answer PI inquiries.
4. **Usefulness of data for advancing Earth system science research and applications**
 - Ability of data to support Earth system science research and applications activities.
5. **Quality of vendor supplied imagery and/or data**
 - Data attributes such as geolocation accuracy, radiometric accuracy, and platform intercalibration. Data quality evaluation will use the ESA-NASA Evaluation Guidelines.

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		

CSDA Data Evaluation Status (as of 8/13/2026)

Commercial Partner	Product	Status	Final Report for Public Release
Umbra	SAR	Final Reports Delivered	Released
Vantor (formerly Maxar)	Multispectral (Legion)	Will brief HQ August 21, 2026	October 2026
	DEM	Final Report Delivered	Released
Satellogic	Multispectral	Version 1 assessment complete Waiting data for Version 2 assessment	V1 Released V2 TBD
Airbus	Multispectral	Science Team waiting data	TBD
	DEM/DTM/DSM	World DEM and World DEM Neo assessments in progress. Will brief HQ on August 20, 2026	September 2026
Tomorrow.io	Precipitation radar	Final Report Delivered	Released

CSDA Data Evaluation Status (as of 8/13/2026)

Commercial Partner	Product	Status	Final Report for Public Release
Pixxel	Hyperspectral	Significant quality issues identified. Adjusting evaluation plan.	TBD
Wyvern	Hyperspectral (TOA only)	Participated in joint initial evaluation with NGA	Received NGA final report
		Participating with NGA on CRADA partnership with Wyvern to improve data – provided NASA Scope of Work	TBD
Polar Geospatial Center (PGC)	EarthDEM	Briefed HQ in February. Final report delivered.	Released
PlanetiQ	GNSS-RO	Briefed HQ in December PI data utility summary report ready for signatures Quality assessment report in preparation	August 2026
Muon Space	Thermal IR	Working evaluation plan with USGS	TBD

CSDA Calibration/Validation Support

1. Pilot: Calibration and Validation of Mid to Thermal Infrared Commercial Data – Released!
 - The pilot will provide commercial data providers no-cost access to NASA/JPL's thermal and mid-infrared calibration/validation infrastructure, expert analyses, and ongoing technical collaboration to help rigorously validate and improve their sensor data quality.
2. CSDA-supported ROCX Field campaign 2027 will be a coordinated remote sensing experiment designed to build on the successful RIT Open Community eXperiment (ROCX2025). It will integrate airborne, spaceborne, UAS, and ground-based observations to generate well-documented, analysis-ready datasets for remote sensing research. These datasets will serve calibration/validation (cal/val), cross-sensor comparison, algorithm development, and uncertainty quantification needs across NASA, commercial partners, academia, and other government agencies.
3. Release of ROSES2026 solicitation that supports the optimization of commercial data:
 - Proposals will require researchers to collaborate with commercial data providers (on an unfunded basis) to advance the development and enhancement of the providers' data products.
4. Communication of all ground sensor network activities, field deployments and airborne field campaigns:
 - In coordination with the NASA Earth Science Research Element, information on upcoming field campaigns will be shared with commercial data providers to ensure they are aware of opportunities to use the resulting open-access data for calibration and validation activities.

How to Request Access

All prospective users are subject to authorization prior to being provided access to data

A user must:

- Provide basic contact information (name, email, affiliation).
- Provide a high-level description of the *science* the data will support.
- Concur that you have read and agree to the provided vendor-specific EULAs.

Sign-Up Form (Scan Code)

Once approved, users will receive email notification with data access details



CSDA Program Authorization Request Form

Thank you for your interest in accessing data through the Commercial Satellite Data Acquisition Program. This form is designed to collect the information needed to determine if you are eligible for data access. All items marked with an asterisk are required.

If you have questions or concerns about the information requested below, please contact the CSDA Program Data Management Team csda-support@nasa.gov

Earthdata Username		An Earthdata profile is required for ordering data through the Satellite Data Explorer. If you don't already have one, you can register here.
Title		
First Name*		
Last Name*		
Email Address*		Please provide a nasa.gov (preferred) or institutional email
Position		
Affiliation / Supporting Institution*		Please expand all acronyms or abbreviations. For example: University of Alabama in Huntsville or Goddard Space Flight Center.
Government Funding Agency*	Bureau of Land Management	
Department		Please expand all acronyms or abbreviations. Examples include university departments and programs or subagency of the supporting institution.
Are you a US Government Civil Servant?*	☐ Yes ☒ No	
Please provide the Grant or Contract Number under which this work will be performed*	Grant or Contract Number Grant Start Date (Optional) Grant End Date (Required)	A grant or contract number is required unless you are a Civil Servant. + Add another grant
Research Area*		
Please provide a detailed description of how you will use the data*		

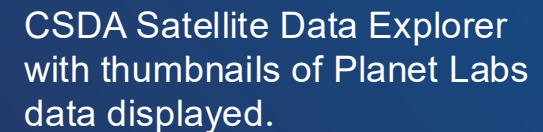
Access

- If you qualify for data access under our EULA, you can get authorization through the CSDA website: <https://csdap.earthdata.nasa.gov/signup>
 - Eligibility to download validated through USG grant license or NASA email – validation and additional download support by NASA CSDA MSFC team.

Satellite Data Explorer (SDX):

Web interface for central search, discovery, and distribution of CSDA data:

<https://science.nasa.gov/earth-science/csda/satellite-data-explorer/>



Working Together

<https://science.nasa.gov/earth-science/csda/>



Webinars

Vendor, Program, Science Focus

- Focus- constellations, data, use cases, data discovery & data access
- Monthly Webinar
- Available on the NASA Earth YouTube Channel
- Science theme-focused webinars coming soon!



Quarterly Newsletter

CSDA Orbit

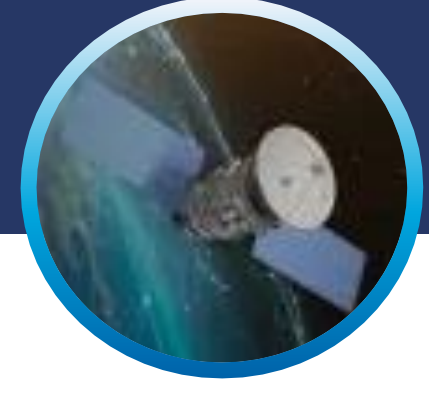
- CSDA Program Activities and Initiatives
- Data Provider News
- Research & Applications for CSDA Commercial Data
- Learning Resources
- Community Events



Website Content

Data Provider Pages, Learning Resources

- Vendor Page: Description, Hero Imagery, Data Tables, Documentation, Learning Resources
- Data Fact Sheets, Tutorials, Other Learning Resources (e.g. data recipes, Jupyter Notebooks)



Connect with Us

Listserv, Publications

- [Email publications](#) for CSDA Publications Library on Zotero & NASA ESD Pubs database:
- [Subscribe to CSDA Program News listserv](#)
- Have a question? We are here to help!

Questions for the community

Help us understand your commercial data use so we can support your science



YES – You use commercial data



What type of commercial data are you using?



Which constellations/sensors?



How are you accessing the data?



What is your use case?



What are your key AOIs or temporal needs?

NO – You don't (yet)



What is preventing you from using commercial data?



Is licensing/access a barrier??



Do you require training or guidance?



Is processing or lack of HCP an issues?



Is it because the data that you want is not available?

Learn more about CSDA



For information about NASA's CSDA program, its vendors, and available data resources:



CSDA Deputy Program Manager:
Batuhan Osmanoglu

CSDA Chief Scientist: Ashutosh Limaye

CSDA Project Scientist (Evaluations):
Fritz Policelli





NASA Earth

Your Home.

Our Mission.

science.nasa.gov/earth