



Produced for Quantitative Remote Sensing of Vegetation Parameters
ITC Quartile 1 2023 - 2024

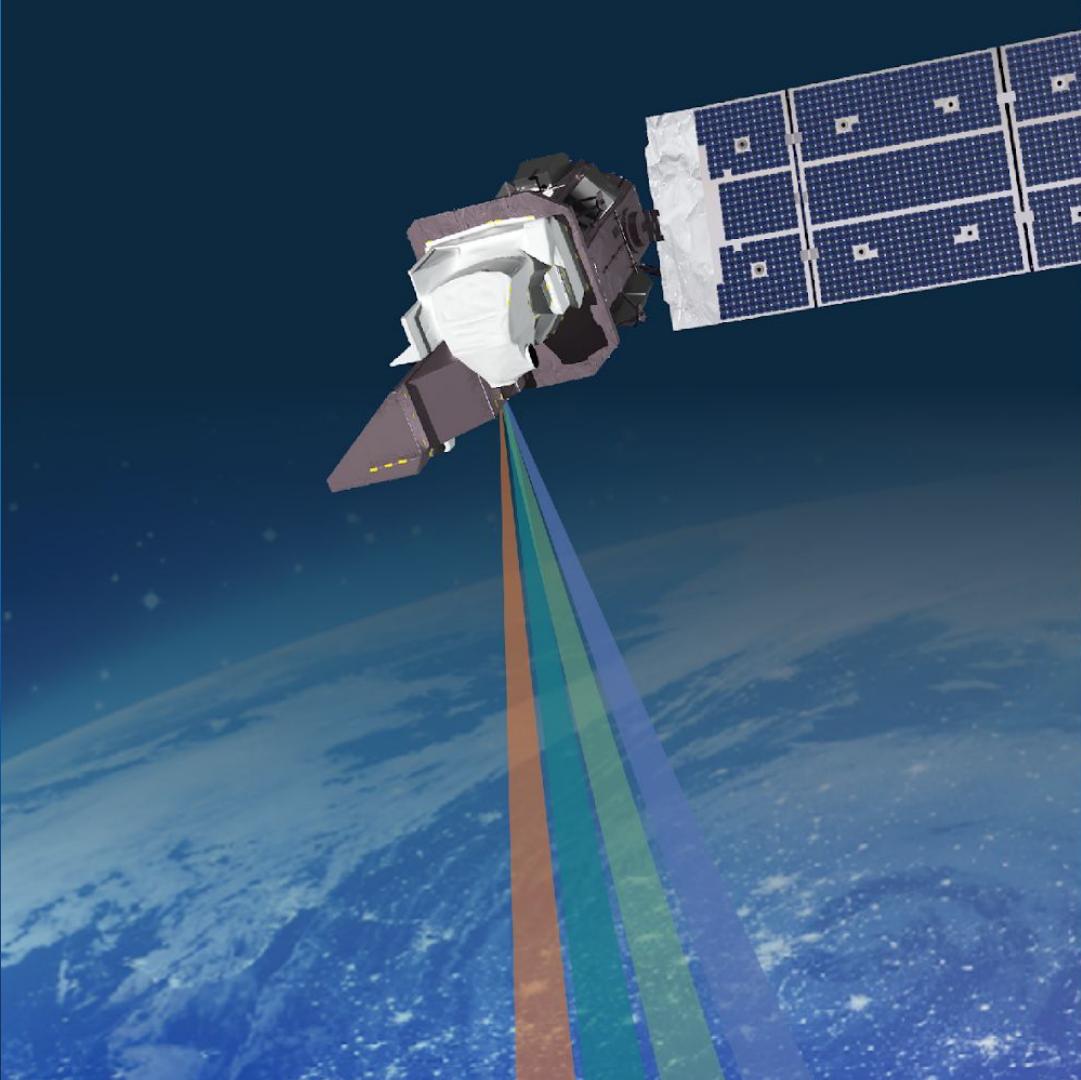
What is ClimateSERV?



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What is SERVIR?

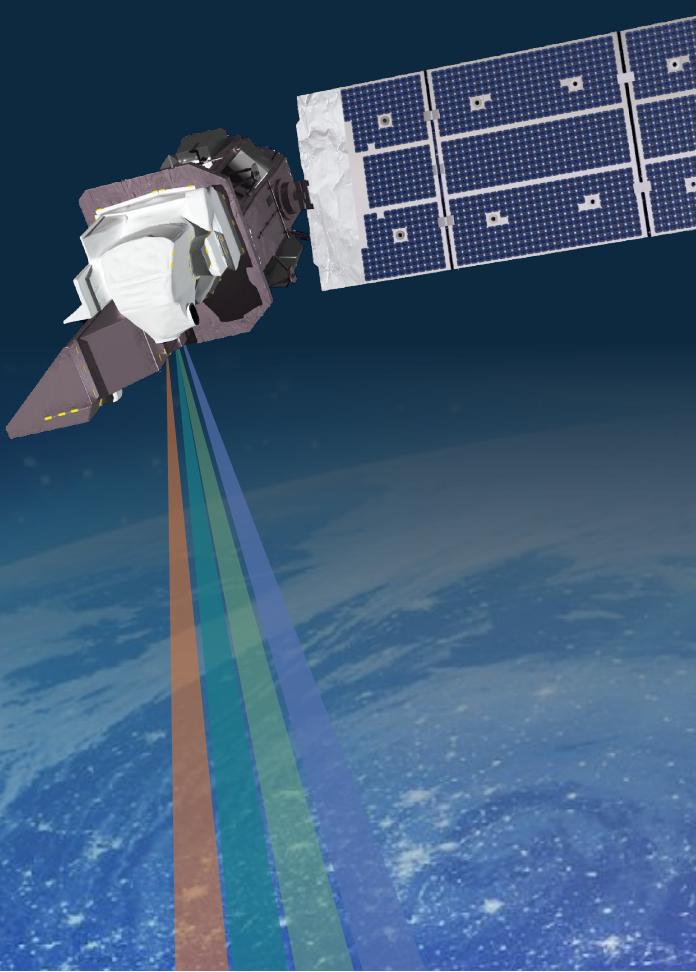


CONNECTING SPACE TO VILLAGE



SERVIR is a joint initiative of NASA, USAID, and leading geospatial organizations in Asia, Africa, and Latin America that partners with countries and organizations to address challenges in climate change, food security, water and related disasters, land use, and air quality.

Using satellite data and geospatial technology, SERVIR co-develops innovative solutions through a network of regional hubs to improve resilience and sustainable resource management at local, national and regional scales.



USAID
FROM THE AMERICAN PEOPLE



SERVIR

ICRISAT
International Crops Research Institute for the Semi-Arid Tropics

ICIMOD

adpc

ALLIANCE
 CIAT
Centro International de Agricultura Tropical



SERVIR

Who Is SERVIR?



USAID
FROM THE AMERICAN PEOPLE



- Poverty reduction & resilience
- Data-dependent issues in data-scarce places
- International field presence

- 30+ Earth observing satellite missions, free & open data
- Major research portfolio
- Societal benefit from space

Regional Hub Host Institutions:

ALLIANCE



Hub Consortium Members:



Private sector collaborators:



USG collaborators:



Intergovernmental, NGO collaborators:

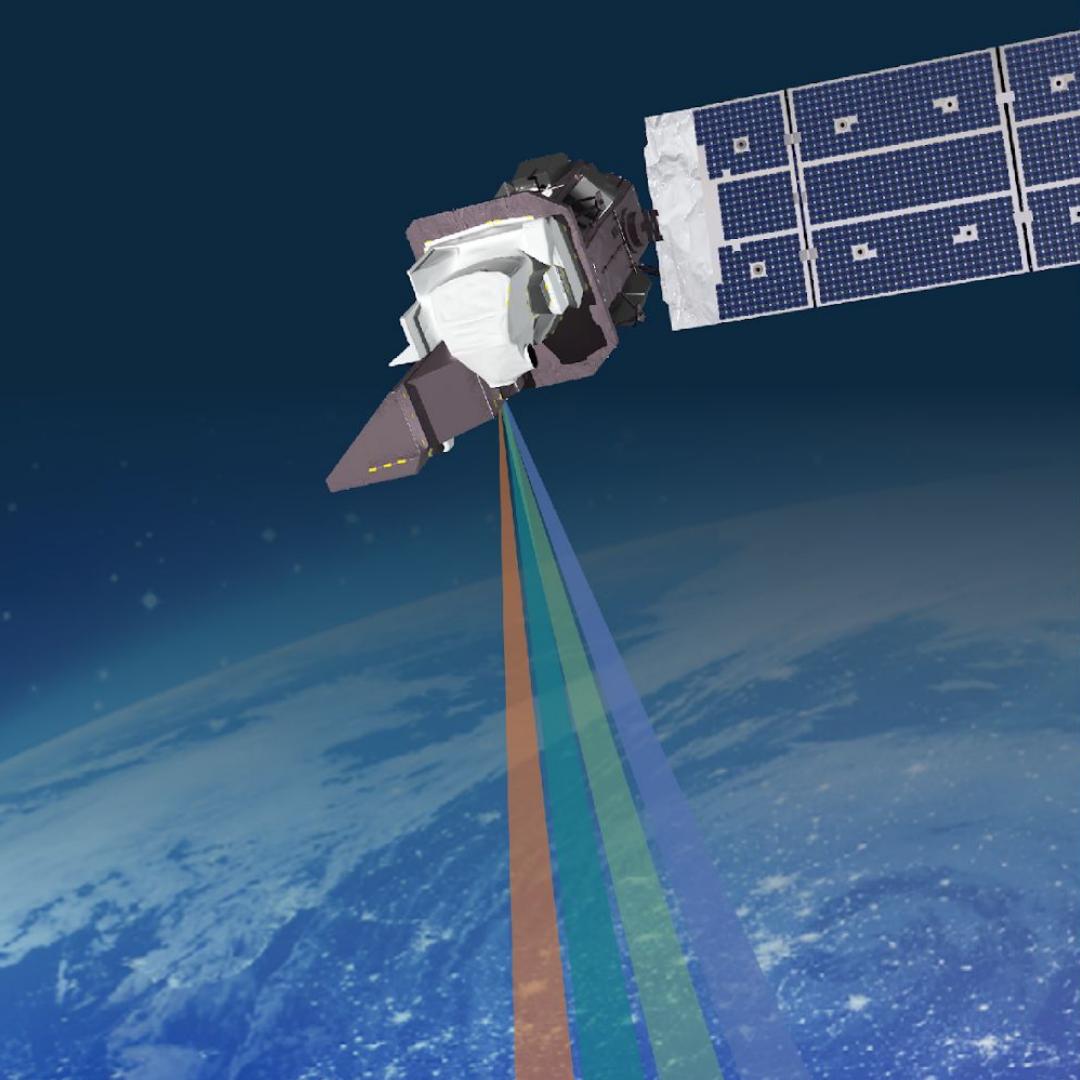


Research collaborators:

20+ US universities & research centers through the SERVIR Applied Sciences Team; ITC, in-region university networks



ClimateSERV



ClimateSERV Increases Global Access to Critical Agricultural, Drought Information



ClimateSERV provides actionable climate information for regional and local decision makers:

- Enables easy access to **180-day rainfall and temperature forecasts**, along with historic rainfall and vegetation conditions
- Includes **key datasets and visualizations** from CHIRPS, NMME, and MODIS without the need for extensive local monitoring
- Currently in use by Kenya Meteorological Service field offices to develop in-season **crop selection guidance** and **suggested planting times**

The screenshot shows the ClimateSERV 2.0 homepage. At the top, there's a navigation bar with links for Home, Map, About, and Help Center. Below the navigation is a large map of the world showing rainfall and temperature forecasts. A green callout box on the map contains the text "ClimateSERV 2.0" and "Data and tools for sustainable development". Underneath the map, there's a section titled "ACTIONABLE DATA FOR DECISIONMAKING" with a detailed description of the service's capabilities. Below this is another section with a photograph of a person working in a field and the text "Find where drought hits hardest." At the bottom of the page are two green buttons labeled "HELP CENTER" and "ESRI DATASETS".

ClimateSERV Home Map About Help Center

ClimateSERV 2.0

Data and tools for sustainable development

ACTIONABLE DATA FOR DECISIONMAKING

ClimateSERV enables users to easily visualize and download 180-day rainfall and temperature forecasts, as well as historic rainfall and vegetation conditions. Whether a development practitioner, scientist, or other decision-maker, ClimateSERV can help provide critical information for agriculture and water availability applications.

Find where drought hits hardest.

Pinpoint where vegetation is struggling the most. View, clip and download 4 and 12-week Evaporative Stress Index statistics and data products.

HELP CENTER ESI DATASETS



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ClimateSERV GUI



ClimateSERV

HOME MAP ABOUT

HELP CENTER

Statistical Query

Set Area of Interest

About AOI options ▾

Draw Upload Select

Show Current AOI ▾

Select Data

Type of Request ?

Time-series Analysis

Dataset Type ?

Observation

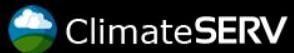
Data Source ?

N/A to N/A

1fps

Leaflet | Tiles © Map data ©2019 Google

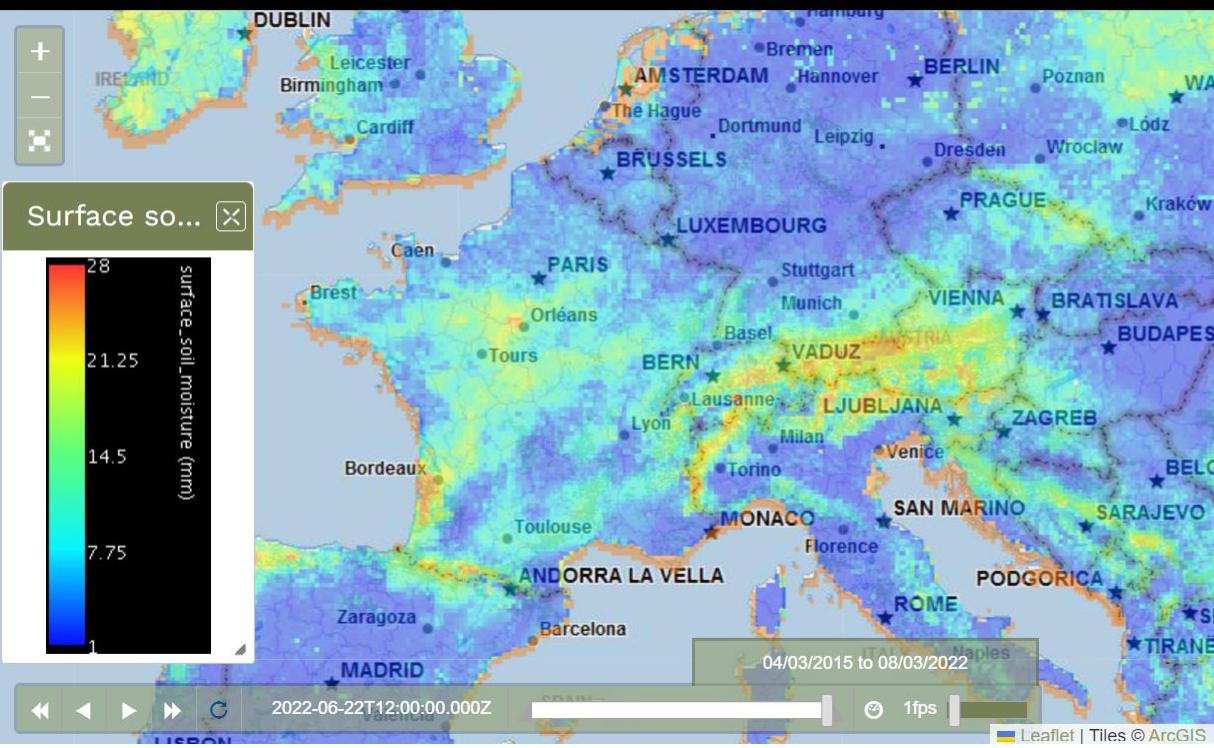
ClimateSERV GUI: Layers Panel



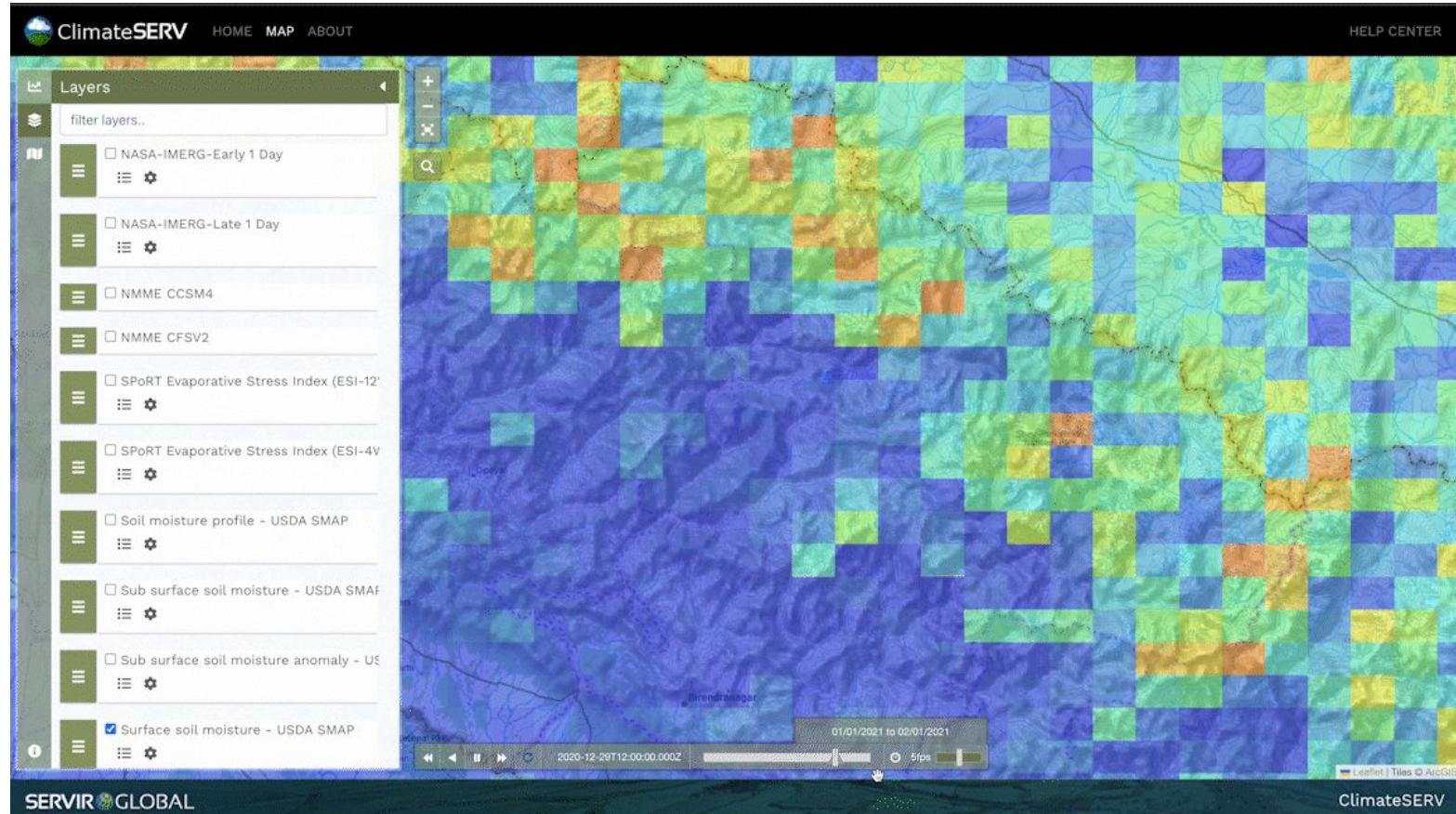
HOME MAP ABOUT

HELP CENTER

- SPOT Evaporative Stress Index (EST-4V)
- Soil moisture profile - USDA SMAP
- Sub surface soil moisture - USDA SMAP
- Sub surface soil moisture anomaly - USDA SMAP
- Surface soil moisture - USDA SMAP
- Surface soil moisture anomaly - USDA SMAP



ClimateSERV GUI: Layers Panel



ClimateSERV GUI: Statistical Query Panel



Soil Moisture Datasets Available in ClimateSERV



1. NSIDC SMAP

- a. Historical Data
- b. Characteristics
 - i. Spatial Range: Near-Global (everywhere excluding poles)
 - ii. Spatial Resolution: 1 km
 - iii. Temporal Range: 1 April 2015 - 29 September 2022
 - iv. Temporal Resolution: Daily
 - v. Top 5 cm of soil column
- c. Subsets
 - i. Raw data (daily)
 - ii. 15-day mosaic

2. USDA SMAP

- a. Historical Data
- b. Characteristics
 - i. Historical Data
 - ii. Spatial Range – Global
 - iii. Spatial Resolution – 10 km/ 0.1°
 - iv. Temporal Range – March 31, 2015 - August 03, 2022
 - v. Temporal Resolution: Every 3 days
 - vi. Top 2.5 cm of soil column
- c. Subsets
 - i. Soil Moisture Profile
 - ii. Subsurface Soil Moisture
 - iii. Subsurface Soil Moisture Anomaly
 - iv. Surface Soil Moisture
 - v. Surface Soil Moisture Anomaly

3. LIS Soil Moisture

- a. Model
- b. Characteristics
 - i. Spatial Range – Most of Africa, some of Middle East
 - ii. Temporal Range – June 1, 2000 - Present
 - iii. Spatial Resolution: 3 kilometers
 - iv. Temporal Resolution: Daily
- c. Subsets
 - i. Modeled Soil Moisture 0 - 10 cm
 - ii. Modeled Soil Moisture 10 - 40 cm
 - iii. Modeled Soil Moisture 40 - 100 cm
 - iv. Modeled Soil Moisture 100 - 200 cm

ClimateSERV Materials



Module 1: Getting Started in ClimateSERV

SERVIR Science Coordination Office
Curriculum Development Team
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Module 2: Exploring Soil Moisture Data in ClimateSERV

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Curriculum Development Team
Contact: mrm0065@uah.edu

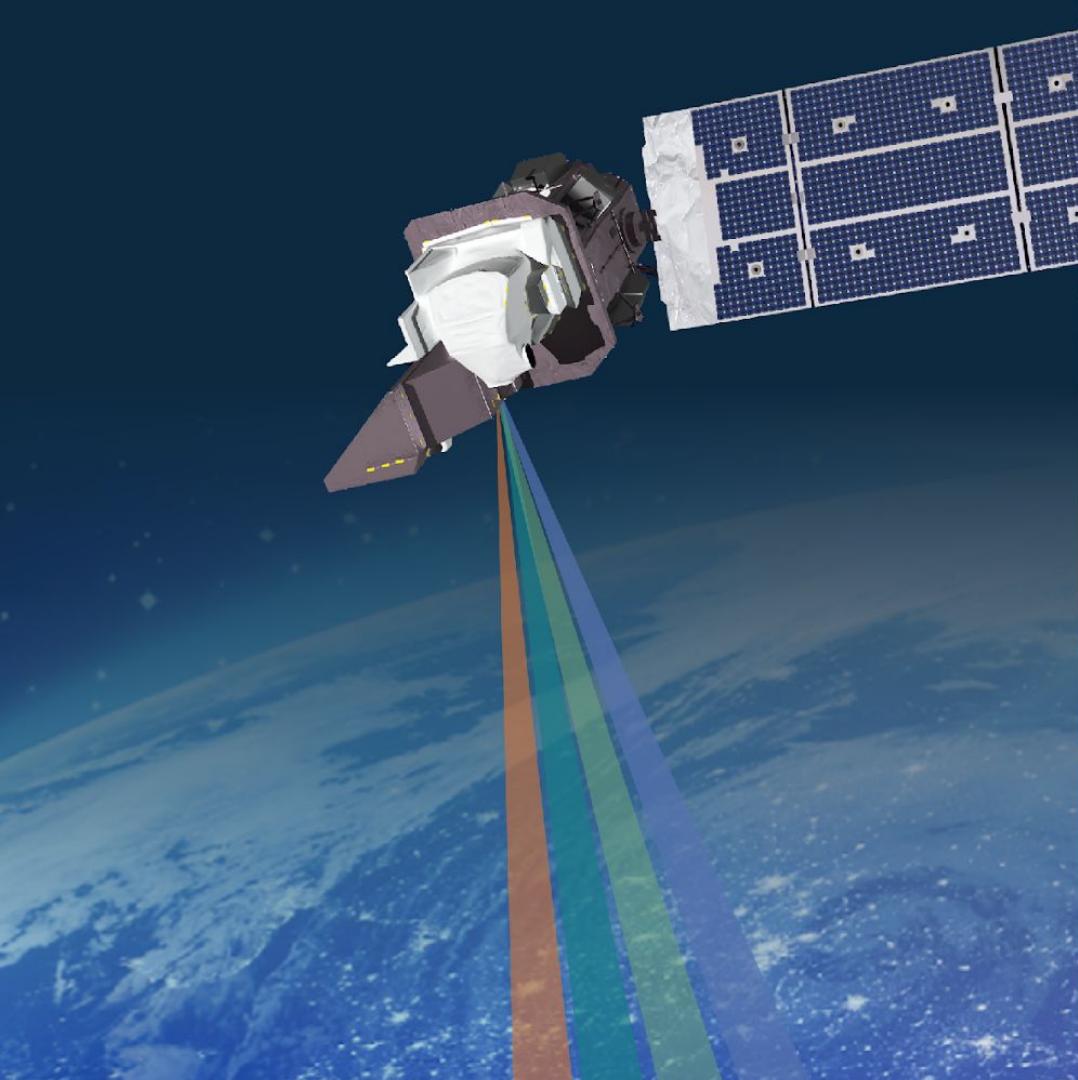


ClimateSERV Dataset Encyclopedia

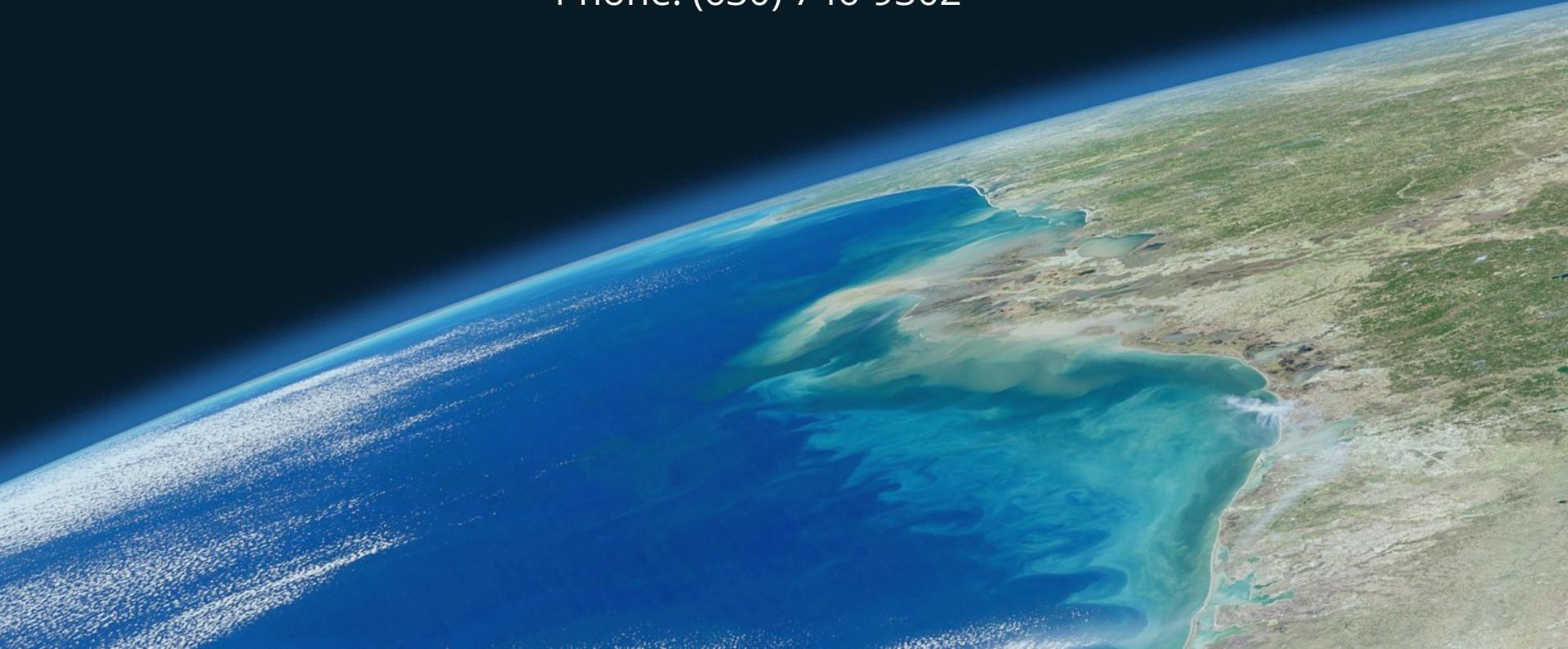
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Live Demonstration



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