



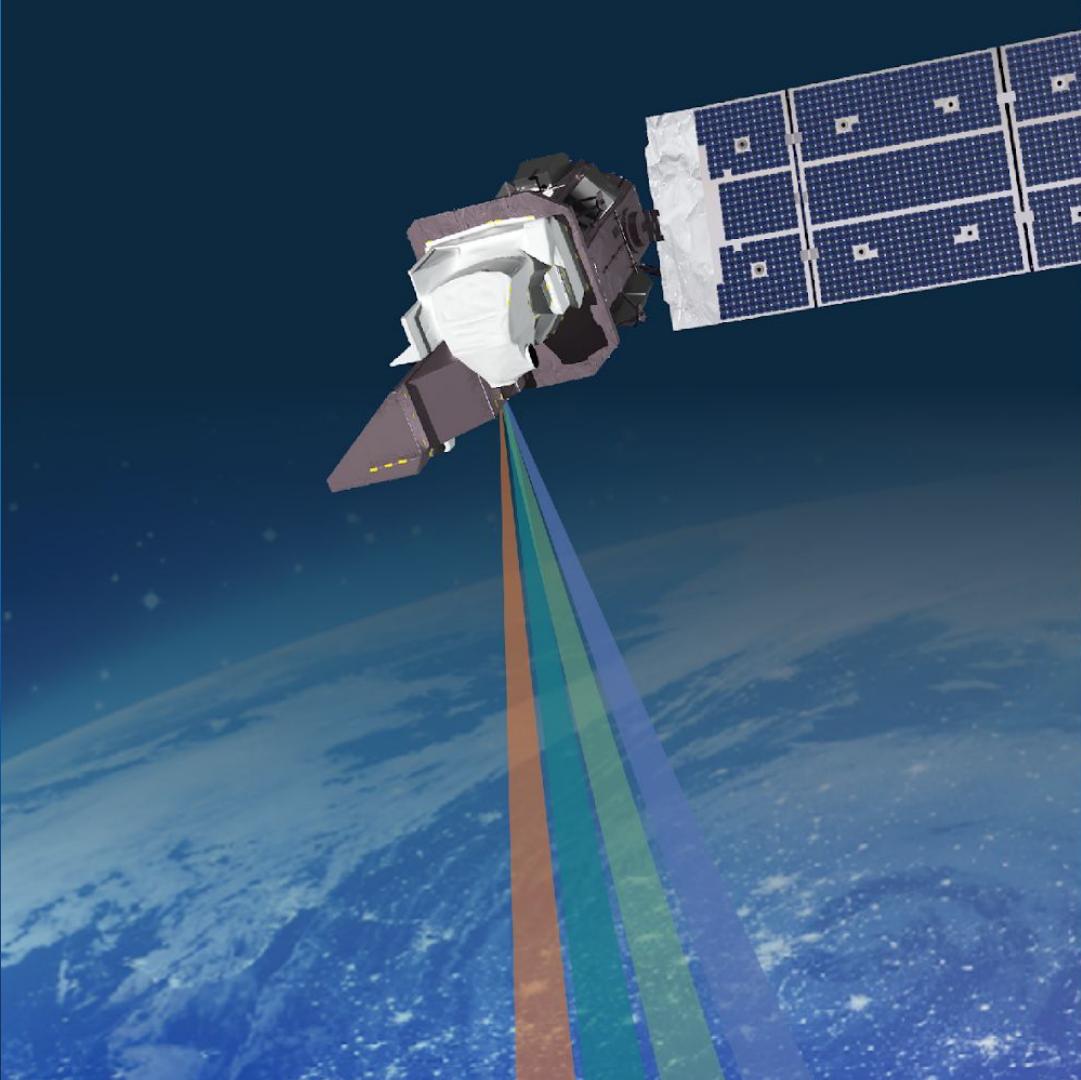
Produced for Quantitative Remote Sensing of Vegetation Parameters  
ITC Quartile 1 2022 - 2023

# What is ClimateSERV?

—  
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# What is SERVIR?

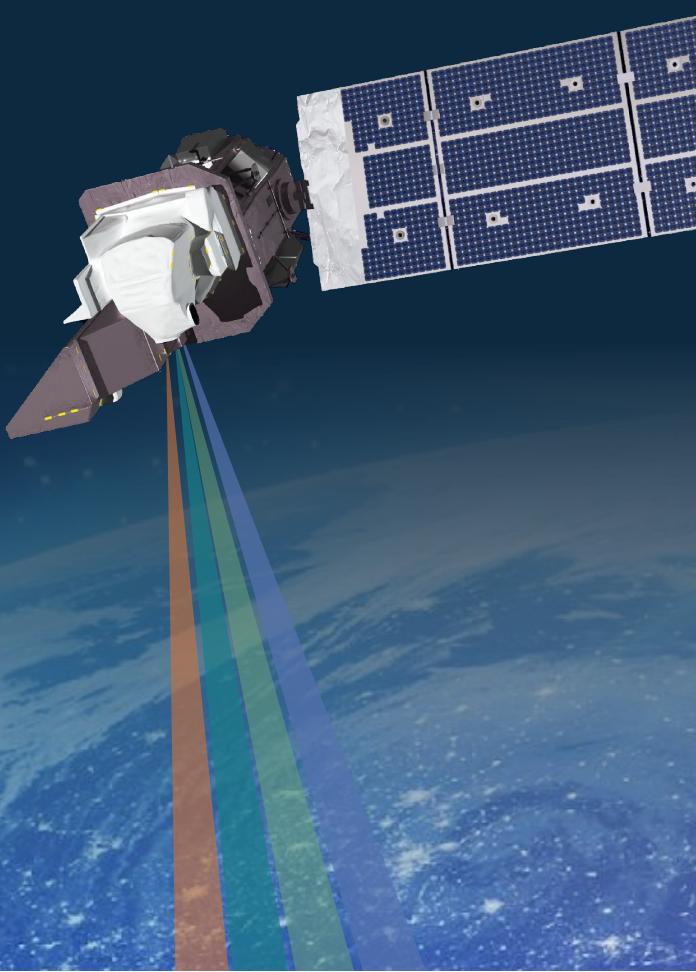


# CONNECTING SPACE TO VILLAGE



**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**

**RCMRD**

**ICIMOD**

**adpc**

**ALLIANCE  
CIAT**



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



RCMRD

ICIMOD

adpc

## Hub Consortium Members:

Deltas

SEI Stockholm Environment Institute



imaflora<sup>®</sup>

eco ciencia



CSE  
Centre de Suivi Ecologique



COLUMBIA  
UNIVERSITY



## Private sector collaborators:



## USG collaborators:



**USGS**  
science for a changing world



## Intergovernmental, NGO collaborators:



Food and Agriculture Organization of the United Nations



World Food Programme



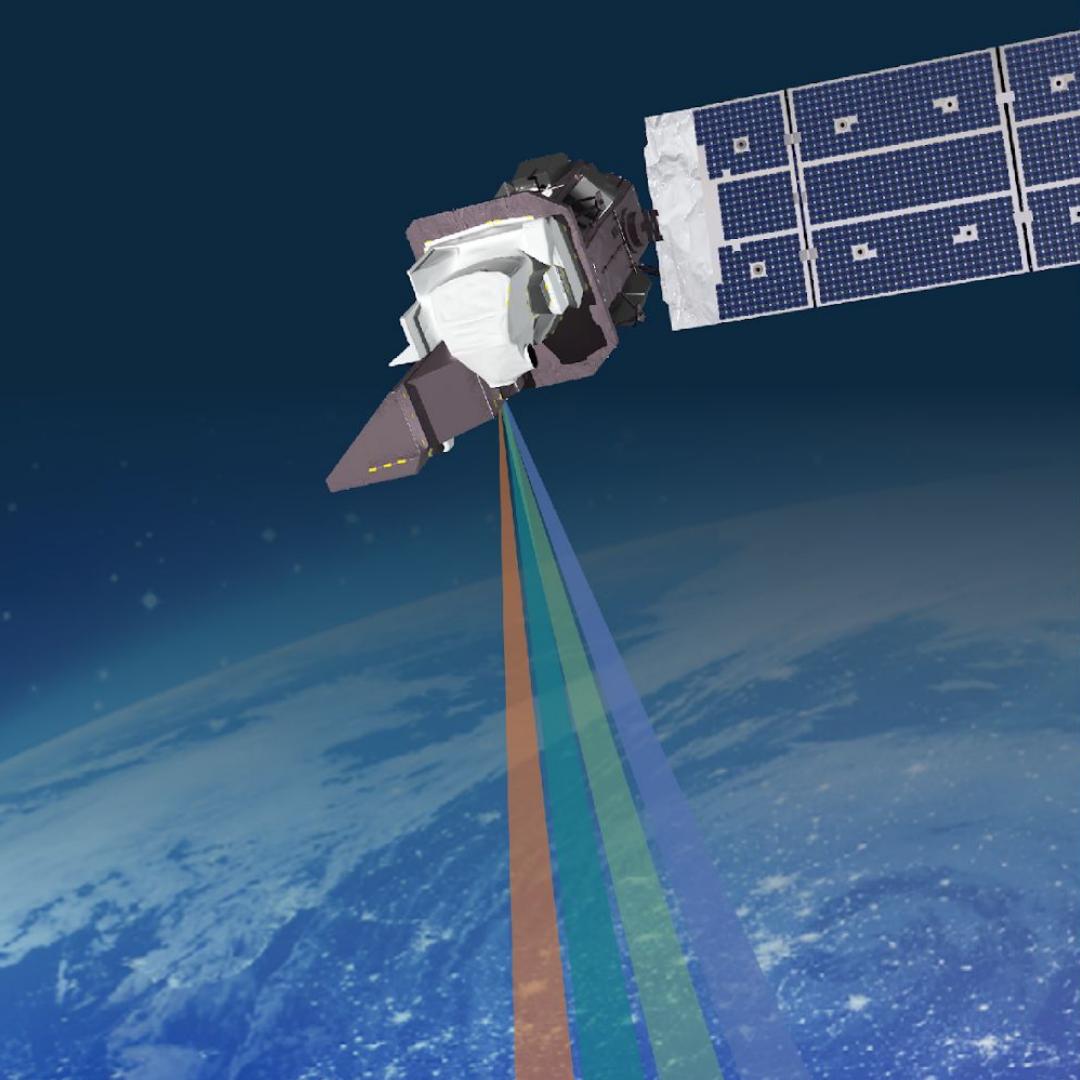
MERCY CORPS

## 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. The main feature is a global map of the world showing rainfall and temperature forecasts in shades of blue and green. Overlaid on the map is the text "ClimateSERV 2.0" and a callout box that says "Data and tools for sustainable development". Below the map, there's a section titled "ACTIONABLE DATA FOR DECISIONMAKING" with a sub-section about rainfall and temperature forecasts. Further down, there's a photograph of a person working in a field with irrigation equipment, and text encouraging users to "Find where drought hits hardest." At the bottom, there are buttons for "HELP CENTER" and "ESI 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



ClimateSERV

HOME MAP ABOUT

HELP CENTER

□ SPOT Evaporative Stress Index (EST-4V)

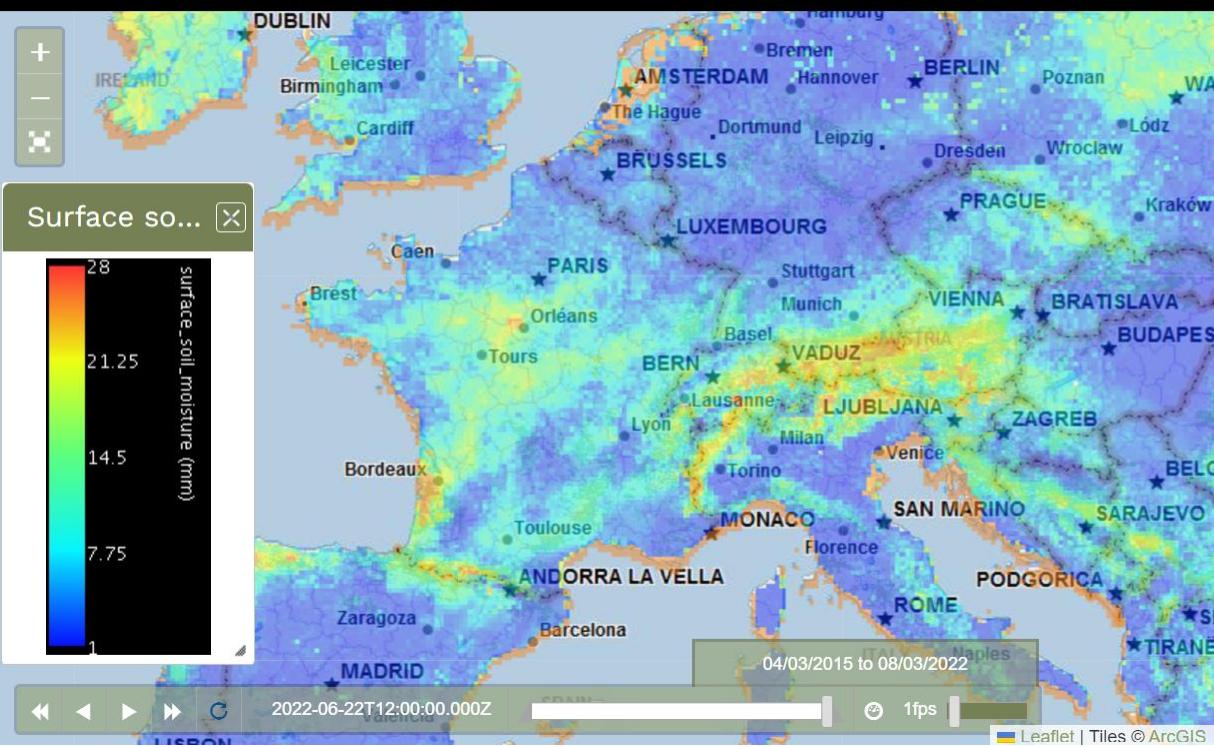
□ Soil moisture profile - USDA SMAP

□ Sub surface soil moisture - USDA SMAP

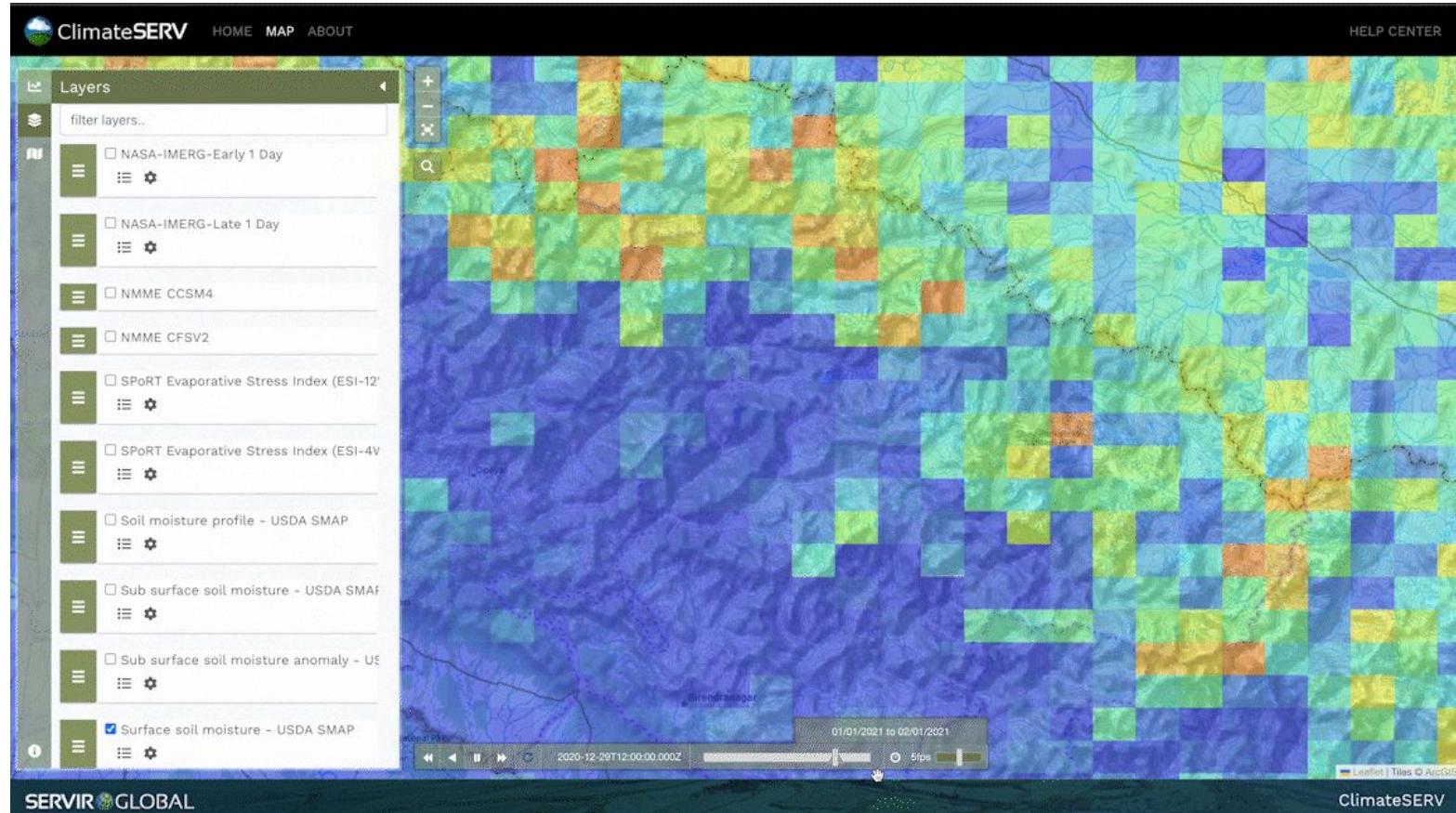
□ Sub surface soil moisture anomaly - USDA

□ Surface soil moisture - USDA SMAP

□ Surface soil moisture anomaly - USDA



# ClimateSERV GUI: Layers Panel



# ClimateSERV GUI: Statistical Query Panel



# Live Demonstration



# ClimateSERV Materials



## Module 1: Getting Started in ClimateSERV

SERVIR Science Coordination Office  
Curriculum Development Team  
Contact: [mrm0065@uah.edu](mailto:mrm0065@uah.edu)



## Module 2: Exploring Soil Moisture Data in ClimateSERV

SERVIR Science Coordination Office  
Curriculum Development Team  
Contact: [mrm0065@uah.edu](mailto:mrm0065@uah.edu)



## ClimateSERV Dataset Encyclopedia

SERVIR Science Coordination Office  
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SERVIR For QRSVP Syllabus

# Acknowledgements

Collect Earth Online has received financial support from NASA, The U.S. Agency for International Development (USAID), SERVIR, the Food and Agriculture Organization (FAO), the U.S. Forest Service, SilvaCarbon, Google, and Spatial Informatics Group. It was co-developed as an online tool housed within the OpenForis Initiative of FAO.

Collect Earth Online was initially developed by SERVIR, and is now supported by a broad base of partners. CEO was inspired by Collect Earth, a desktop software developed by FAO. The development team includes Arthur Luz, Jordan Combs, Matt Spencer, Richard Shepherd, Oliver Baldwin Edwards, Sif Biri, Roberto Fontanarosa, Francisco Delgado, Githika Tondapu, Billy Ashmall, Nishanta Khanal, John Dilger, Karen Deyson, Karis Tennesson, Kel Markert, Africa Flores, Emil Cherrington, and Eric Anderson.

The Collect Earth Online curriculum was organized by SERVIR's Science Coordination Office with individual modules created by NASA's Earth Observatory, the Spatial Informatics Group, and SERVIR SCO. Individual modules were developed by Crystal Wespestad (Spatial Informatics Group), Holli Riebeek (NASA Earth Observatory), Robert Simmon (NASA Earth Observatory), Billy Ashmall (SERVIR Science Coordination Office) Micky Maganini (SERVIR Science Coordination Office), NASA Earth Observatory, NASA, and the US Agency for International Development. Review of the material was conducted by SERVIR's Science Coordination Office, specifically Kelsey Herndon, Emil Cherrington, Billy Ashmall, Diana West, Katie Walker, Lauren Carey, Jacob Abramowitz, Jake Ramthun, Natalia Bermudez, Stefanie Mehlich, Emily Adams, Stephanie Jimenez, Vanesa Martin, Alex Goberna, Francisco Delgado, Biplov Bhandari, and Amanda Markert. Crucial insight regarding the development of the curriculum materials was provided by Claudia Paris and Andrea Puzzi Nicolau.

Review of the material was also conducted by Bart Krol and Laura Cray of ITC (The Faculty of Geo-information Science and Earth Observation at the University of Twente). The course and unit banner images were created by Gianluca Ambrosi of ITC.

## Sources

- Development Team: <https://sams.servirglobal.net/detail/7>
- All other info: <https://www.collect.earth/about/>

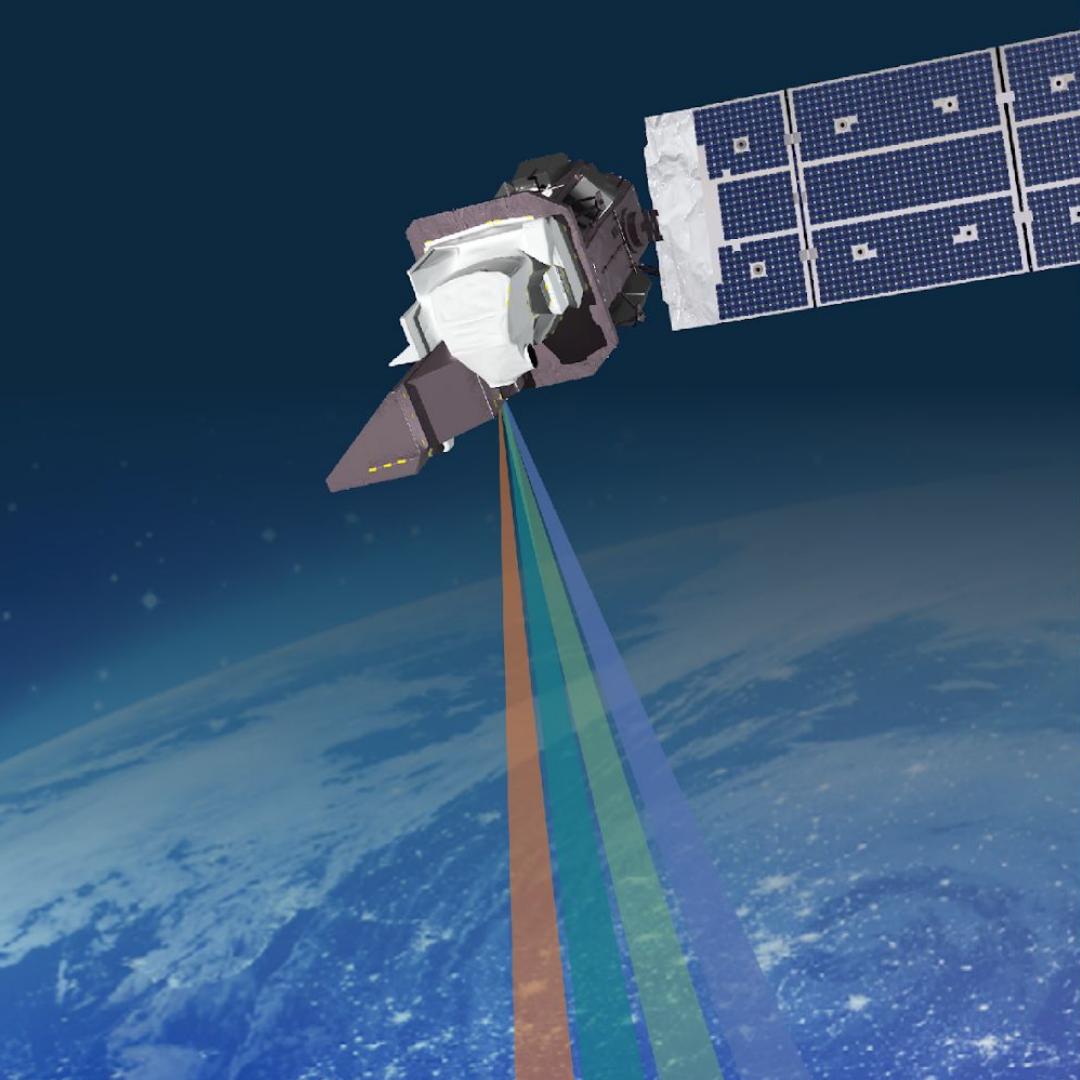


# SERVIR

SERVIRglobal.net



# Backup Slides



# What Makes SERVIR Unique?



## SERVIR services are...

- **Demand-driven** to ensure each community's needs and values are prioritized throughout the process
- **Co-developed** with regional experts to bring together NASA science and in-depth local knowledge
- **Inclusive**, emphasizing that services must be accessible and represent the needs of women and indigenous communities
- **Built to last**, prioritizing trainings and resources to strengthen capacity and foster sustained capabilities



# SERVIR Strategy for 2020-2025

## STRATEGIC GOALS

1. Strengthen regional to national capacity and commitment
  - Assist regional hubs and partners to institutionalize SERVIR approach, diversify funding
2. Demonstrate greater development relevance and impact of services
  - Engage more development actors like USAID's field programs; Explore new areas for SERVIR Earth observation services
3. Enhance the SERVIR network's global leadership and influence
  - Extend technical exchange program to external audiences, more thought leadership



*SERVIR Eastern & Southern Africa / RCMRD are collaborating with local water authorities and the USAID WARIDI program to use satellite-derived rainfall, soil moisture and streamflow for better management of water resources in Tanzania.*