



National Aeronautics and
Space Administration

NASA
earth

From ground to orbit: combining in-situ and satellite monitoring of water to improve basin management

Taking Action for Water Resources Using
NASA Missions and Data

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Program Coordinator | Water Resources Program
NASA Earth Action | Earth Science Division

INBO Webinar – April 22, 2025





Apr 22 2025 16:48

<https://svs.gsfc.nasa.gov/5067/>



WATER AND ENERGY CYCLE FLEET

Key

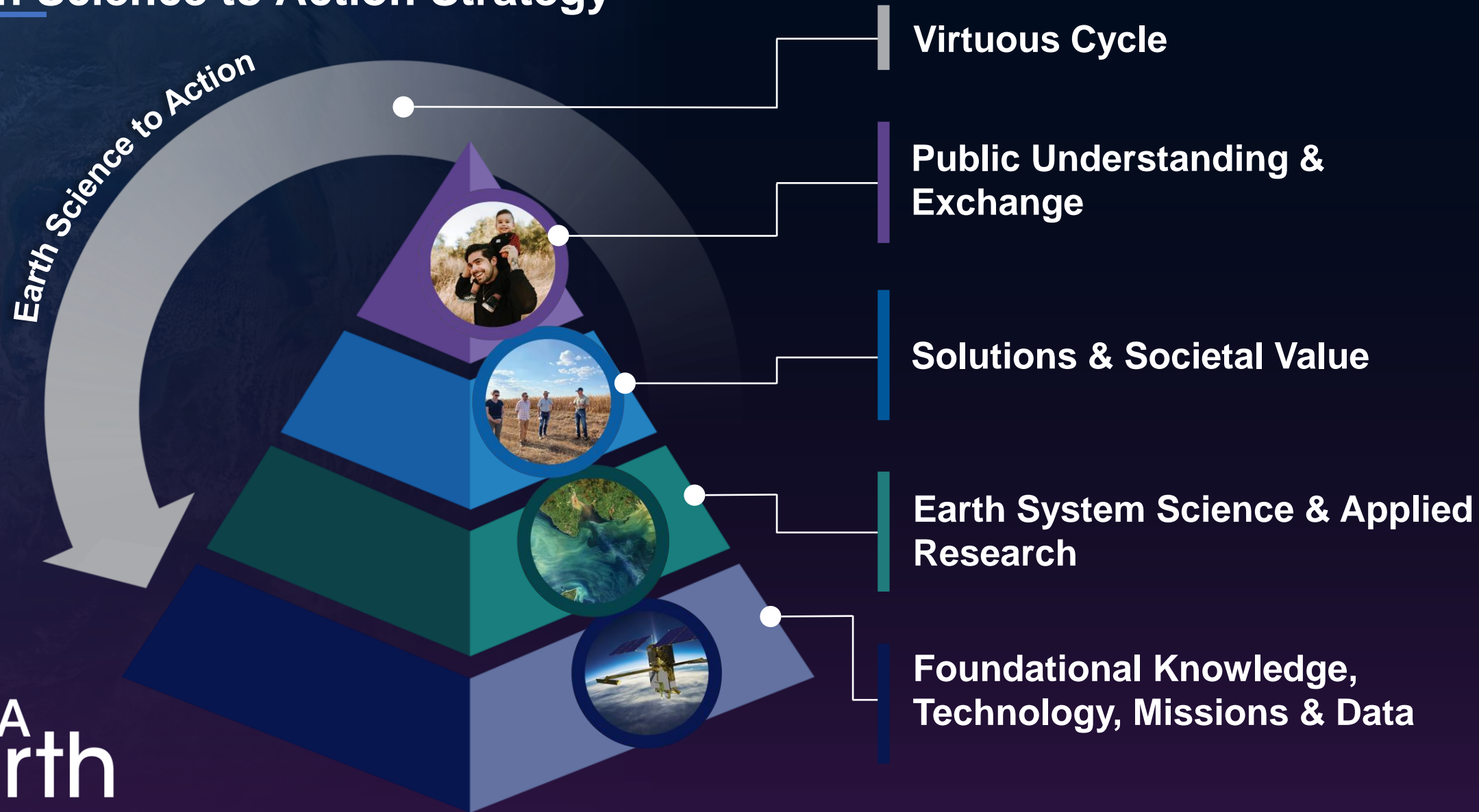
- International Partners
- U.S. Partner
- ISS Instrument
- JPSS Instrument
- Cubesat
- Launch Date TBD
- Earth System
- Observatory Mission
- (Pre) Formulation
- Implementation
- Operating
- Extended



ISS INSTRUMENTS

MISSIONS

Earth Science to Action Strategy



NASA Water Resources Program



The goal of the Water Resources Program is to advance the use of NASA Earth science data for sustainable, adaptable, and informed water resources management.

Program Objectives:

1. Enhance Water Use Efficiency
2. Improve Water Quality Monitoring and Management
3. Strengthen Water Resources Resilience
4. Foster Awareness and Empower Communities

Water Challenges:

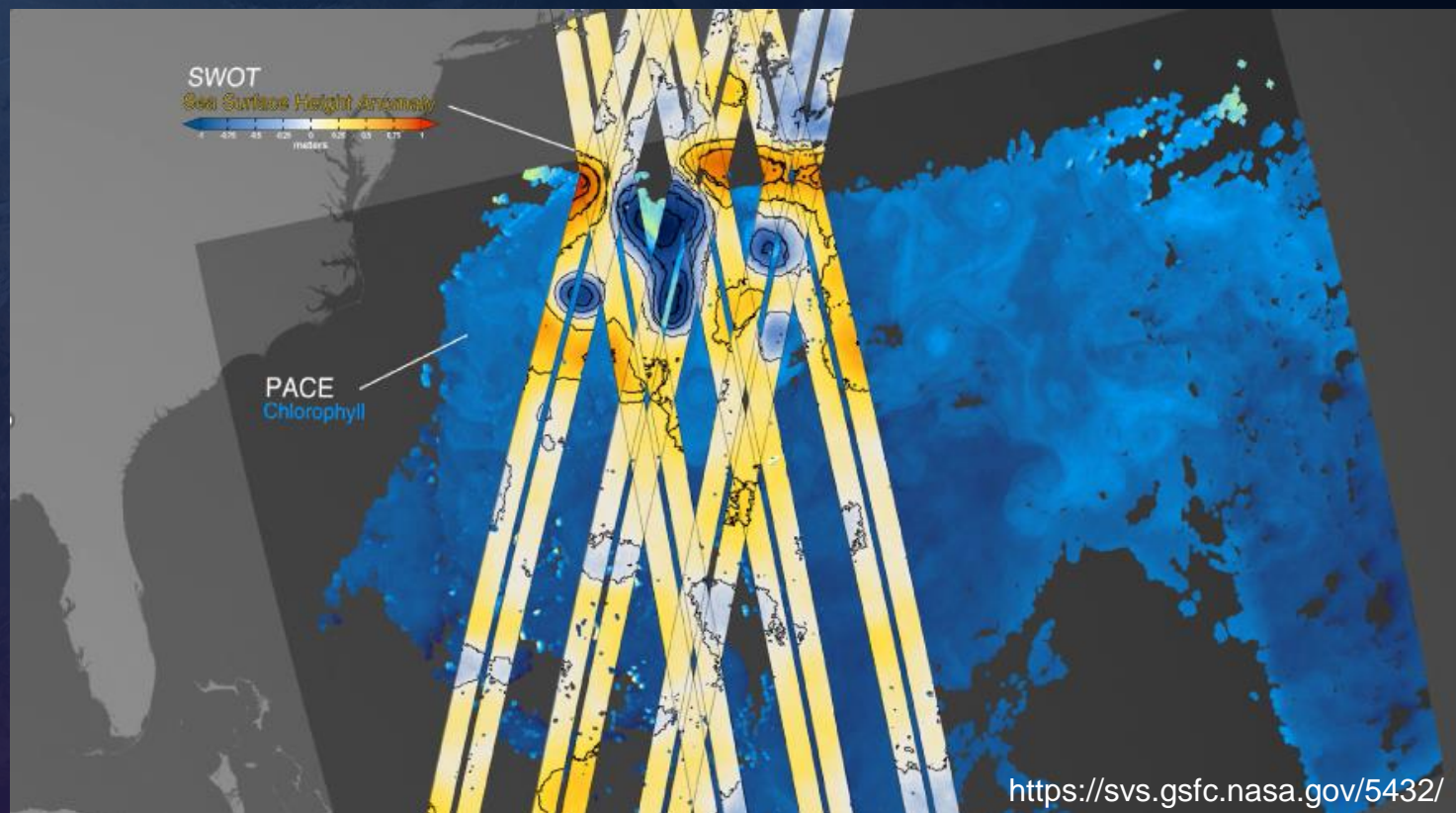
- Ensuring Equitable Water Distribution
- Addressing Water Scarcity with Efficient Irrigation
- Managing Wastewater & Stormwater Systems
- Facilitating Transboundary Water Management
- Monitoring & Managing Water Quality
- Designing & Operating Sustainable Hydropower Systems
- Mitigating Risk & Responding to Extremes (Flood/Drought)

PACE

Plankton, Aerosol, Cloud, ocean Ecosystem

SRON

SPACE
RESEARCH
ORGANISATION
NETHERLANDS



PACE Postlaunch
Airborne eXperiment
(PACE-PAX)



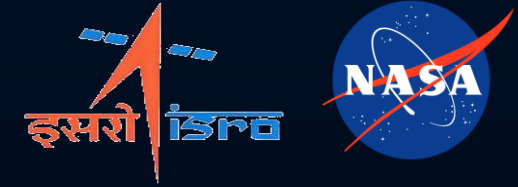
PACE-PAX

July 2020

Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission

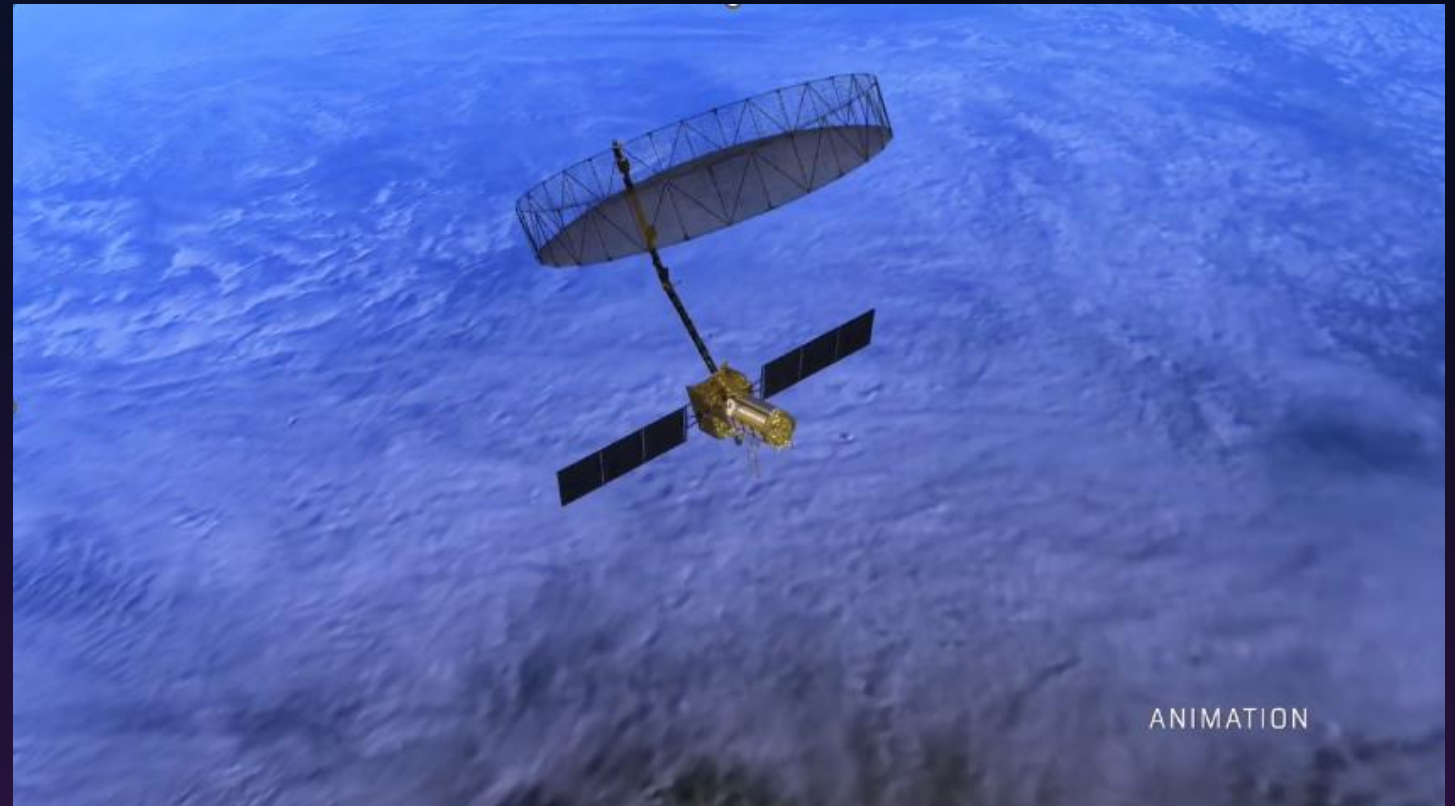
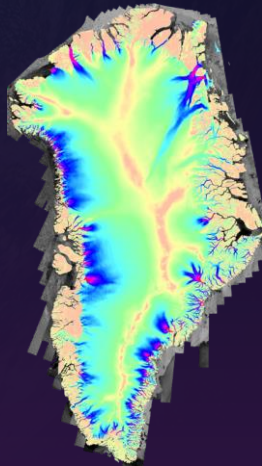
PACE Science Data Product Validation Plan

NISAR



Measuring Earth's changing ecosystems, dynamic surfaces, and ice masses

- Response of ice sheets to climate change and the interaction of sea ice and climate
- Carbon storage and uptake dynamics in wooded, agricultural, wetland, and permafrost systems
- Earthquake, volcanic, and landslide cycles, exploring potentials for urgent response and hazard mitigation
- Soil Moisture
- Dynamics of water, hydrocarbon, and sequestered CO₂ reservoirs

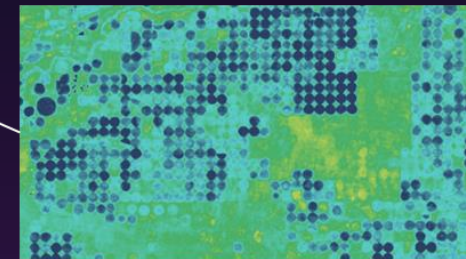
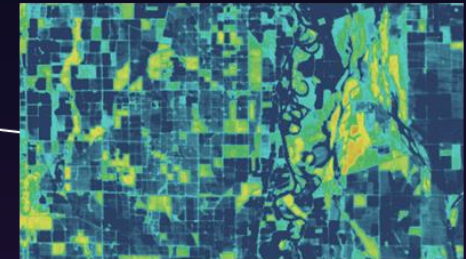
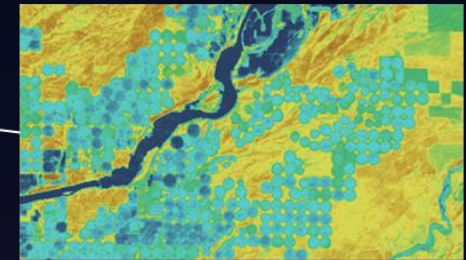
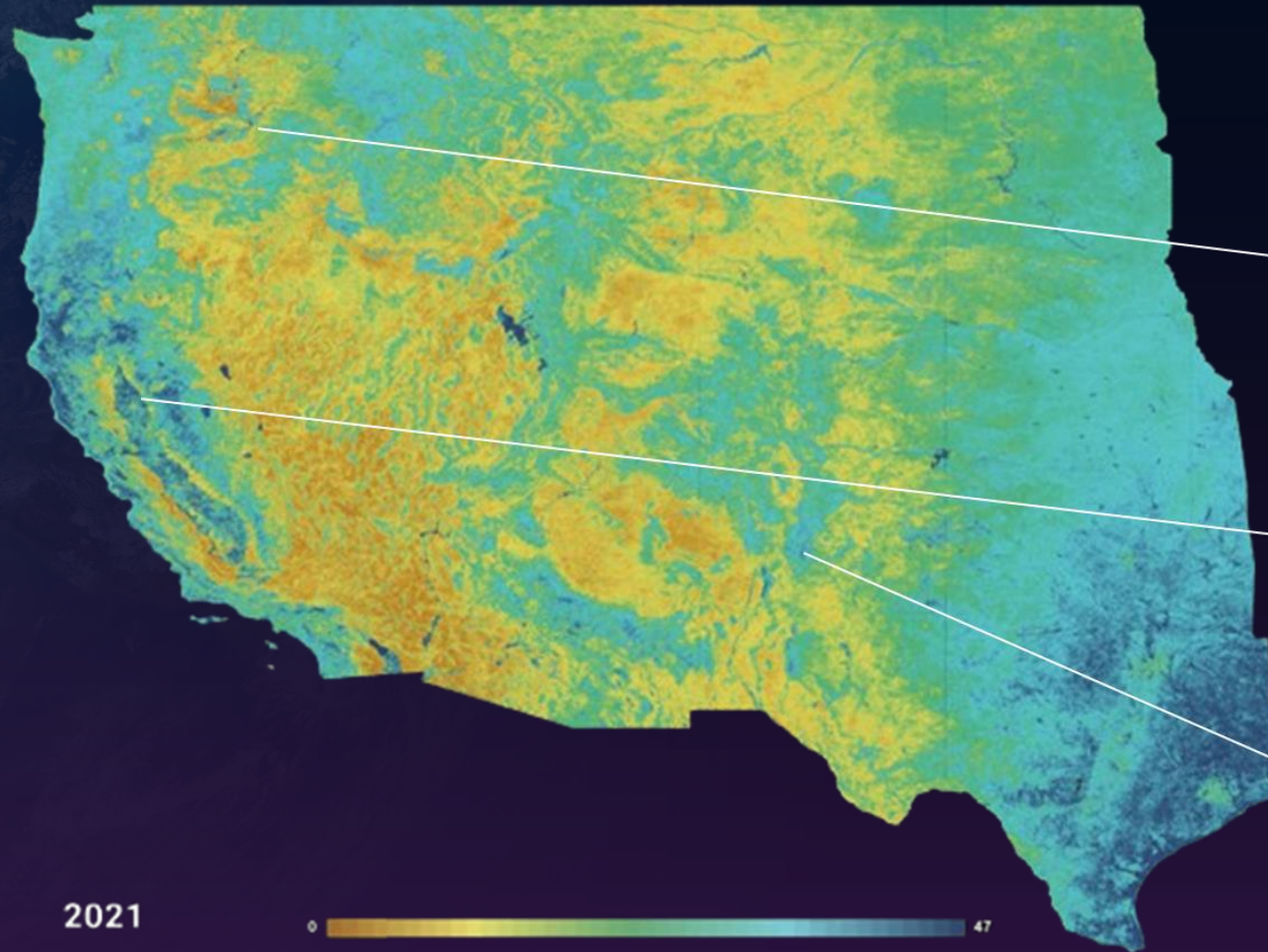
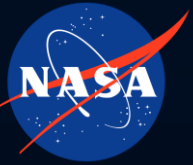


OpenET

*Field-scale Evapotranspiration Data for
Precision Agriculture & Water Resources Management*



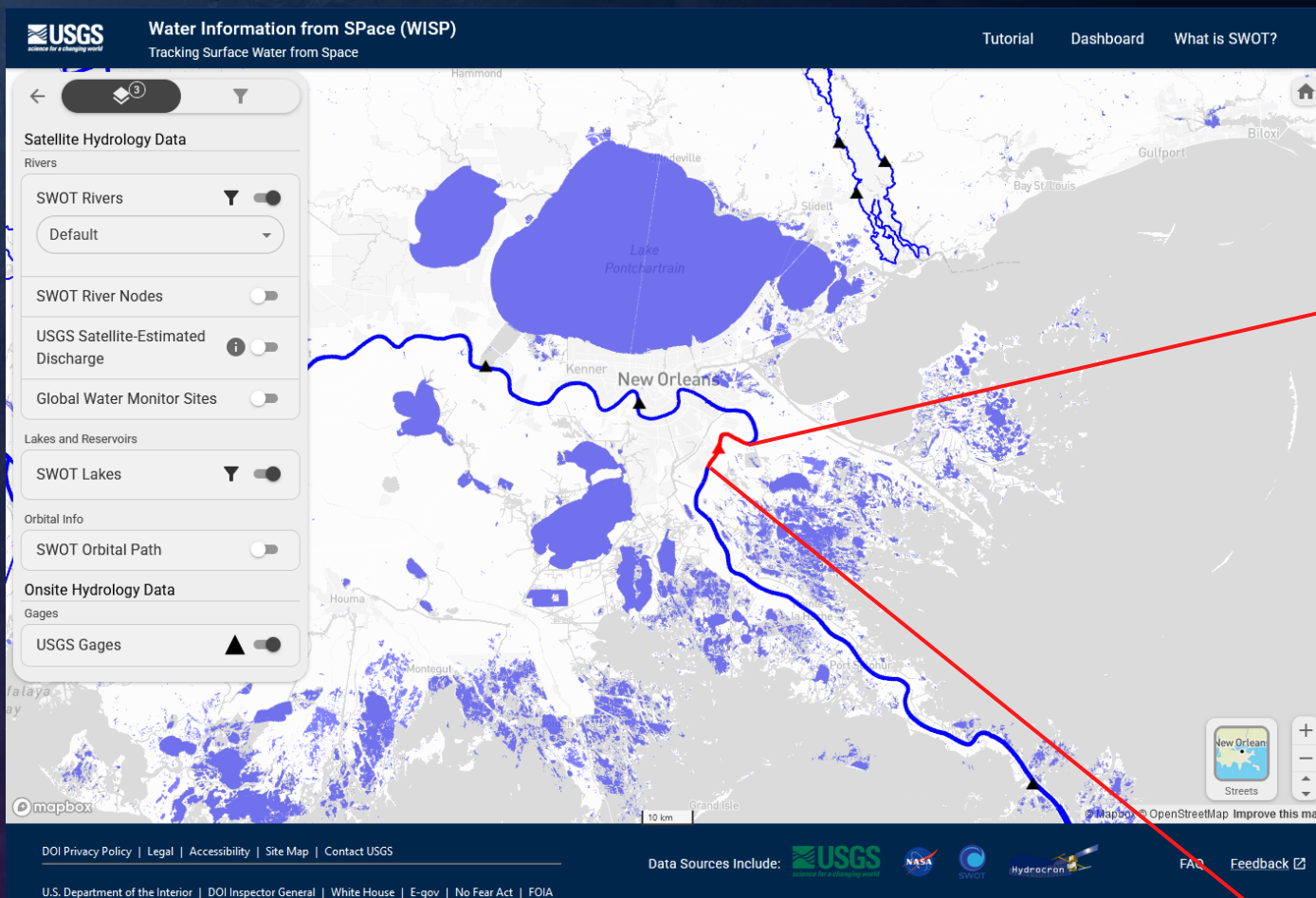
Agricultural
Research
Service



<https://openetdata.org>

SWOT

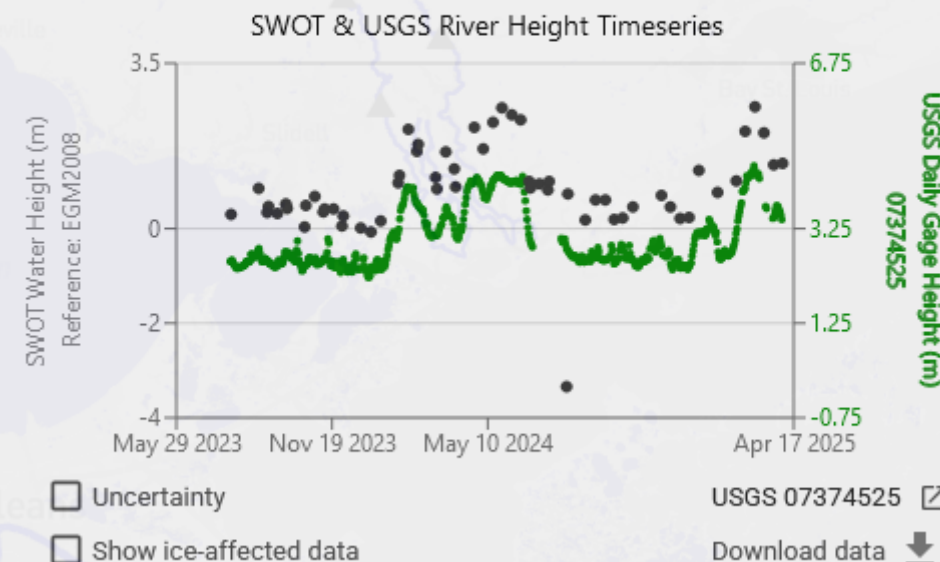
Producing the first global survey of Earth's surface water



Water Information From SSpace (WISP)

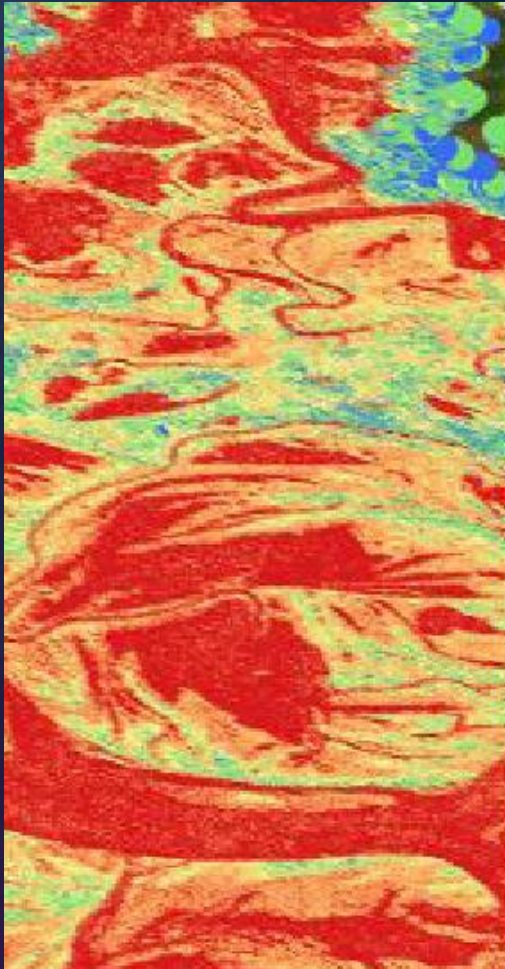
<https://apps.usgs.gov/wisp>

Mississippi River at Belle Chasse, LA (07374525)



ARSET

NASA's Applied Remote Sensing Training Program



National Aeronautics and
Space Administration



Monitoring Global Terrestrial Surface Water Height using Remote Sensing

May 13 & 16, 2025

11:00-12:30 (English) or 15:00-16:30 (Spanish) EDT (UTC-4)

To Register

English: <https://go.nasa.gov/3Egw5AN>

Spanish: <https://go.nasa.gov/3RLPk8l>

Upcoming
Training!



Connect with Water at NASA

Data Access

- [NASA Earth Data](#)
- [Earth Information System: Freshwater](#)
- [Water Pathfinder](#)
- [Agricultural Pathfinder](#)
- [GESDISC](#)
- [Ocean Biology DAAC](#)

Resources

- [ARSET](#)
- [Earth Observatory](#)
- [Western Water Applications Office](#)
- [Scientific Visualization Studio](#)

Open Tools & Applications

- [JPL Opera](#) - six operational product suites for applied remote sensing
- [CyAN](#) – web and app-based tool that provides daily, weekly, and true-color satellite data on potential harmful algal blooms
- [Global Water Monitor](#) - satellite data products relevant to lakes, reservoirs, river channels, wetlands and global mean sea level
- [Open ET](#) - easily accessible satellite-based estimates of evapotranspiration (ET) at the field scale
- [Mascon Visualization Tool](#) – interactive GRACE data
- [SwotViz](#) – Global SWOT Data Viewer
- [WISP](#) – Water Information from Space

Connect with us here





Thank you!

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Analytical Mechanics Associates (AMA)



NASA
earth

science.nasa.gov/earth

Your Home. Our Mission.