

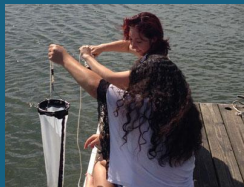


# Welcome from the NASA Water Resources Program

Erin Urquhart, NASA Water Resources-Program Manager  
April 29, 2024

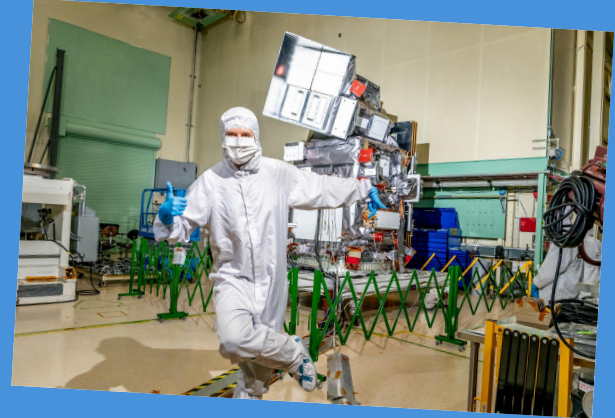
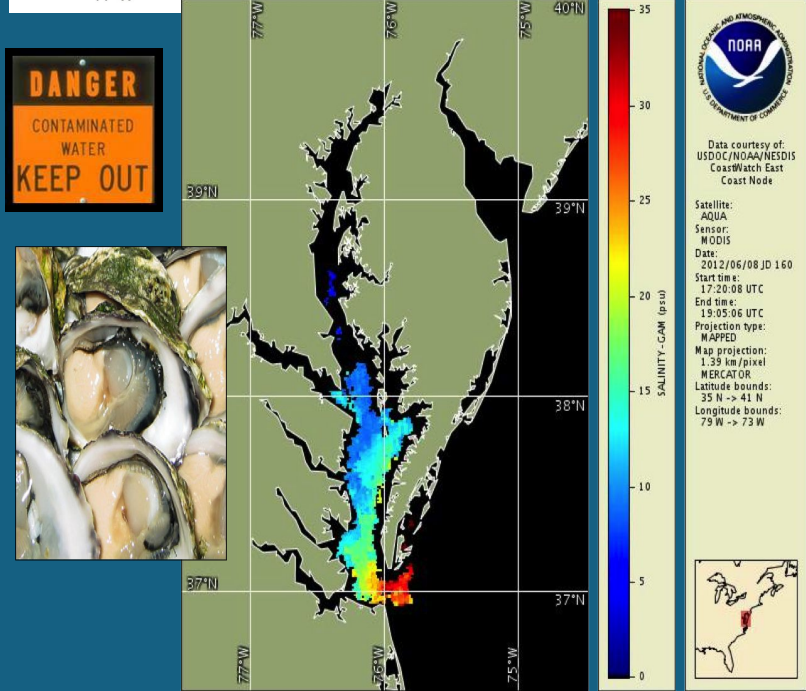
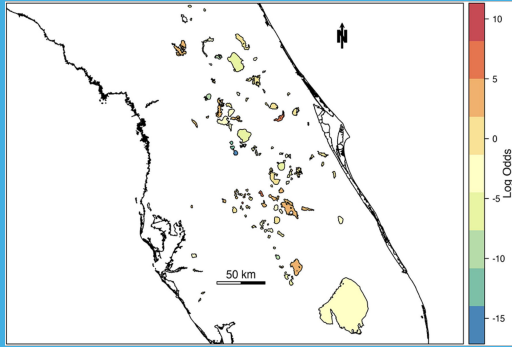
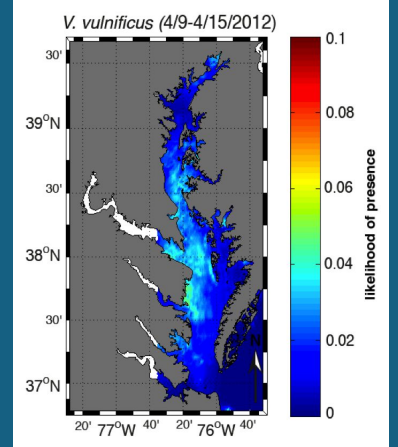
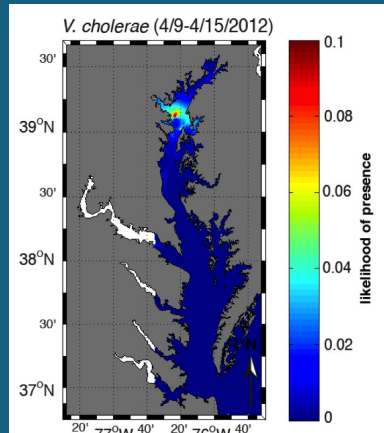
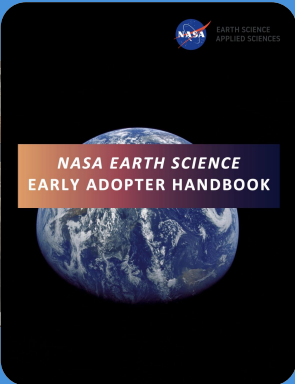
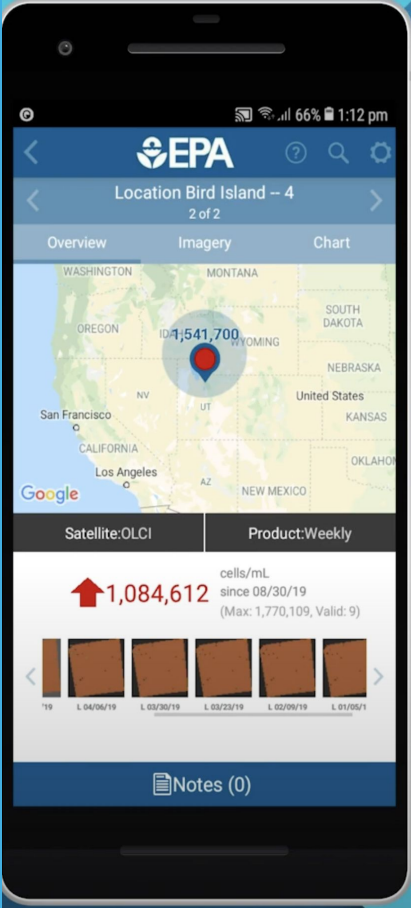






# CYAN

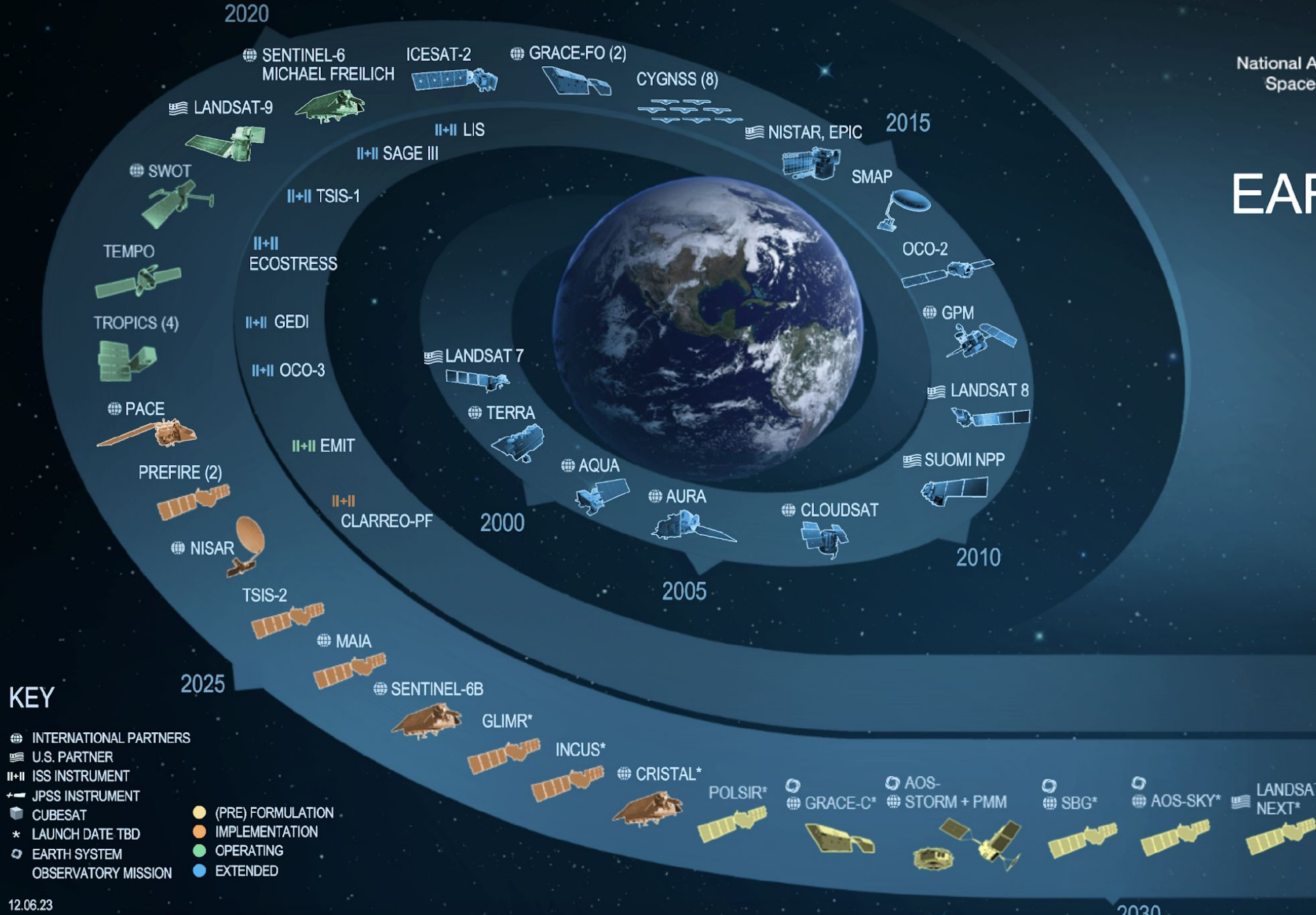
# PACE







# EARTH FLEET



## INVEST/CUBESATS

- NACHOS 2022
- CTIM 2022
- NACHOS-2 2022
- MURI-FD 2023
- SNOOPI\* 2024
- HYTI\* 2024
- ARGOS\* 2024

## JPSS INSTRUMENTS

- OMPS-LIMB 2022
- LIBERA 2027
- OMPS-LIMB 2027
- OMPS-LIMB 2032

## ISS INSTRUMENTS

## MISSIONS

### KEY

- INTERNATIONAL PARTNERS
- U.S. PARTNER
- II+II** ISS INSTRUMENT
- +** JPSS INSTRUMENT
- CUBESAT
- \*** LAUNCH DATE TBD
- EARTH SYSTEM OBSERVATORY MISSION
- (PRE) FORMULATION
- IMPLEMENTATION
- OPERATING
- EXTENDED

**IN THE NEXT DECADE  
NASA IS LEADING AN  
OUTPOURING OF  
INFORMATION FROM  
SPACE**



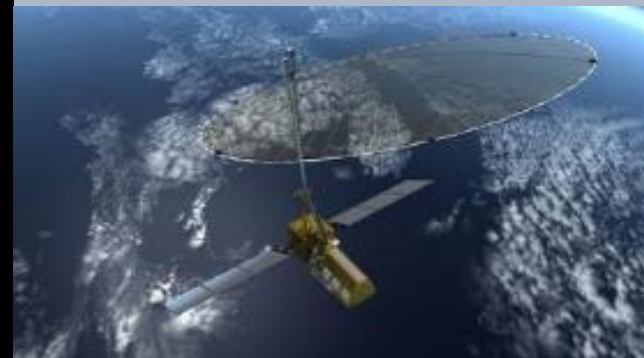
**Surface Biology & Geology  
Observable (SBG)**

Launch Target:  
2027/2028



**NASA-ISRO SAR (NISAR)**

Launch Target:  
No earlier than April 2024



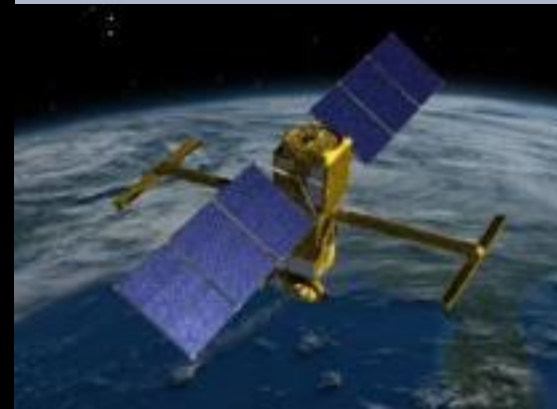
**Plankton Aerosol, Cloud, Ocean  
Ecosystem (PACE)**

Launched:  
Feb 8, 2024



**Surface Water and Ocean  
Topography (SWOT)**

Launched:  
December 2022

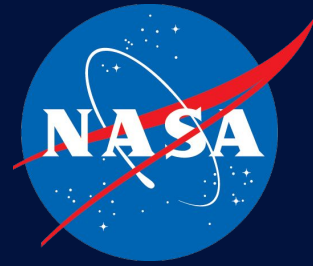




# NASA Water Data



WATER  
RESOURCES



- ☐ Precipitation
- ☐ Snow Cover
- ☐ Groundwater
- ☐ Soil Moisture
- ☐ Surface Water
- ☐ Water Quality Indicators



## Why Does NASA have a water resources application area?

NASA Satellite Data



Sustained use of NASA data in resource management decisions.

# NASA and Water Resources



## *Why NASA? Why Now?*

Water use has grown at more than **2X rate of population increase** in the last century.



By **2025**:

- **~1.8 billion people** will live in areas plagued by water scarcity,
- **2/3 of the world's population** living in water-stressed regions because of use, growth, and climate change.  
(Source: United Nations)

**As water resources become scarcer, water resource information will become more critical.** Most of the current and planned NASA Earth observing satellites provide unprecedented information that enable accurate and complete assessments of current and past water resource quality, supply, and demand that are essential for understanding how to address the future.

# How?

## Through user-centered collaboration

- Relationship development
- User/partner/community identified needs
- Collaboratively matching capabilities and building out co-designing solutions



### Local Resource Managers and Decision makers

### Federal and international

### Non-profit and private sector



NC DEPARTMENT OF  
HEALTH AND  
HUMAN SERVICES



The Nature  
Conservancy



American Water Works  
Association

*Dedicated to the World's Most Important Resource®*



WALTON FAMILY  
FOUNDATION

# The 3 Pillars of the NASA Earth Action Water Resources Program



**Portfolio of Applied  
Research Projects**



**Partnership  
Engagement and  
Program Activities**



**Western Water  
Applications Office  
(WWAO)**





# The Pillars of the NASA Earth Action Water Resources Program

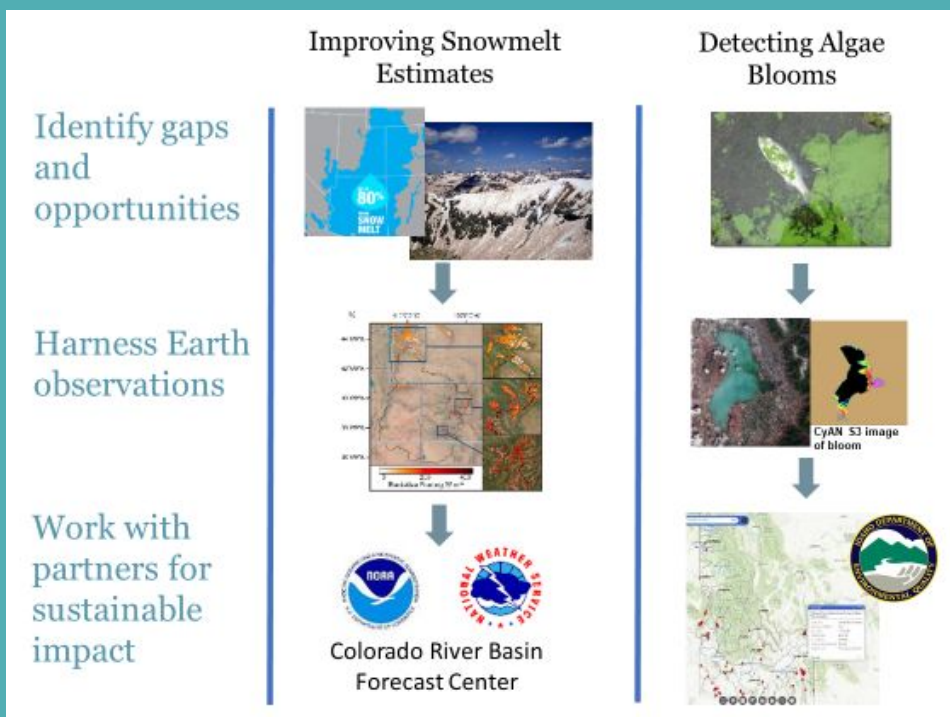


Portfolio of Applied Research Projects

Partnership Engagement & Program Activities

Western Water Applications Office (WWAO)

## Enabling and Supporting the use of Earth Science



## Grants provided through NASA ROSES (30):

- ❖ 2 CONUS Scale
- ❖ 13 West Coast
- ❖ 4 East Coast
- ❖ 4 Mid West
- ❖ 4 Africa
- ❖ 4 Other International
- ☐ Improved Irrigation
- ☐ Streamflow prediction
- ☐ Disaster Response & Preparedness (including Flooding)
- ☐ Drought
- ☐ Precip. predictions
- ☐ Water Quality
- ☐ Groundwater
- ☐ Reservoir Management

# The Pillars of the NASA Earth Action Water Resources Program



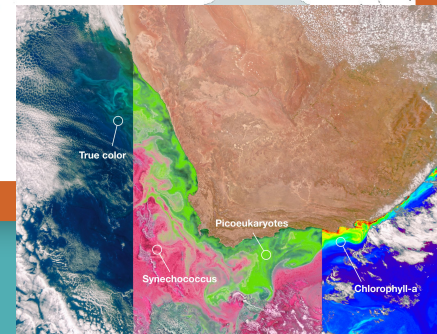
Portfolio of Applied  
Research Projects

Partnership Engagement &  
Program Activities

Western Water Applications  
Office (WWAO)

## Foci for the upcoming year:

- User-centric, co-development, stakeholder engagement capacity building w/in NASA WR community.
- New partnerships, opportunities, and international presence and engagement.
  - AWRA, World Water Week, AGU
- Engagement with coastal communities related to water quality & food security.
- Leveraging NASA's new EO missions to increase impact.





# Water Resources Program Management Team

## Program Manager



Erin Urquhart

## Associate Program Managers



Forrest Melton



Chris Hain



Perry Oddo

## Program Coordinators



Sarah Brennan

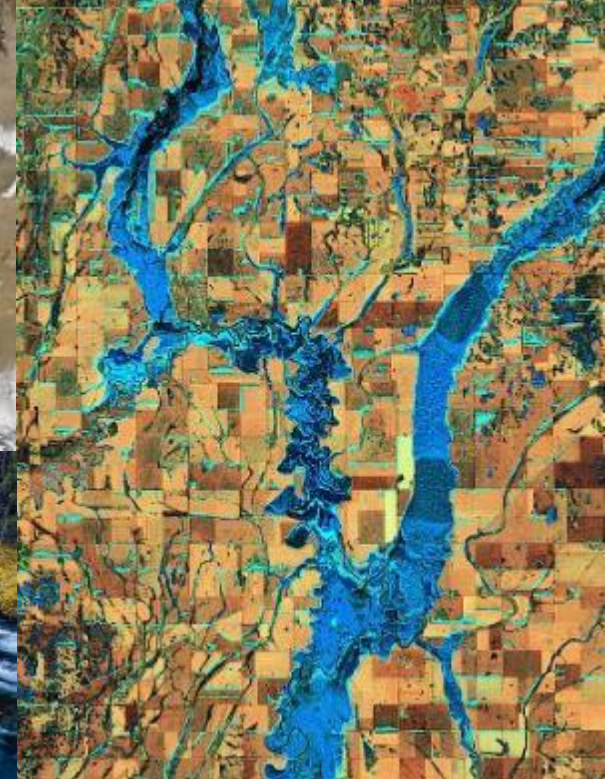
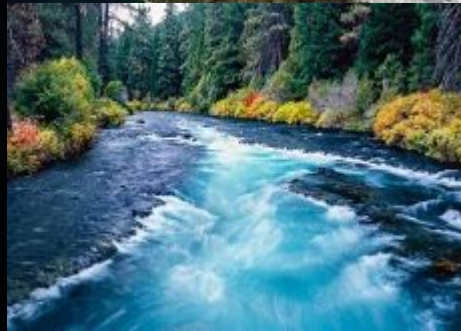


Denise Hill

## WWAO Program Manager



Stephanie Granger



**Thank you!**

Erin Urquhart, PhD

*[erin.urquhart@nasa.gov](mailto:erin.urquhart@nasa.gov)*

