



National Aeronautics and  
Space Administration

# NASA earth

**Ocean Vector Winds –  
a view from Washington & NASA HQ**

**Dr. Nadya Vinogradova Shiffer**  
NASA HQ, Science Mission Directorate

May 29-31, 2024 · Salt Lake City, UT





JASON-3



SENTINEL-6 MF



SMAP



COWVR



SWOT



SENTINEL 6-B

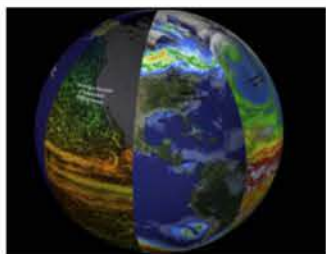


CRISTAL



S-MODE

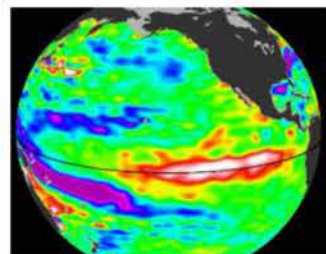
SASSIE



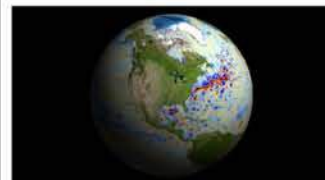
**Physical Oceanography (PO)**



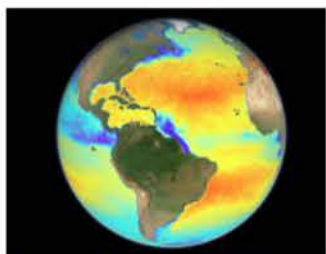
**Sea Level Change (N-SLCT)**



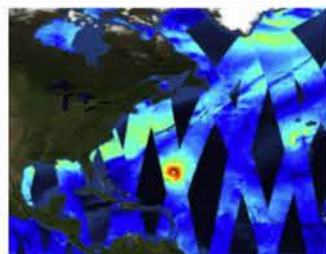
**Ocean Surface Topography (OSTST)**



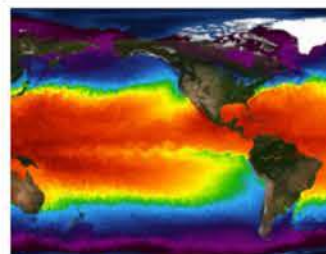
**Surface Water and Ocean Topography (SWOT)**



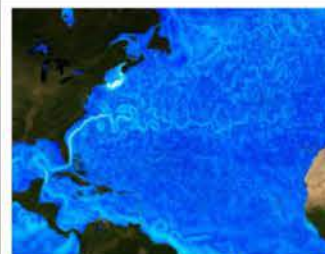
**Ocean Surface Salinity (OSST)**



**Ocean Vector Winds (OVWST)**



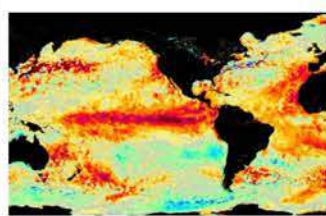
**Sea Surface Temperature (SST)**



**Estimating Circulation and Climate of the Ocean (ECCO)**



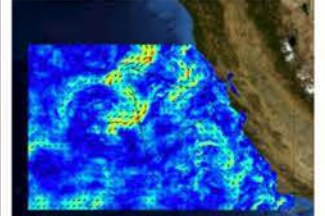
**Coastal Resilience**



**Ocean Heat and Earth Energy**



**Salinity and Stratification at the Sea Ice Edge (SASSIE)**



**Sub-Mesoscale Ocean Dynamics Experiment (S-MODE)**

# NASA Ocean Physics

## Science Teams & Missions



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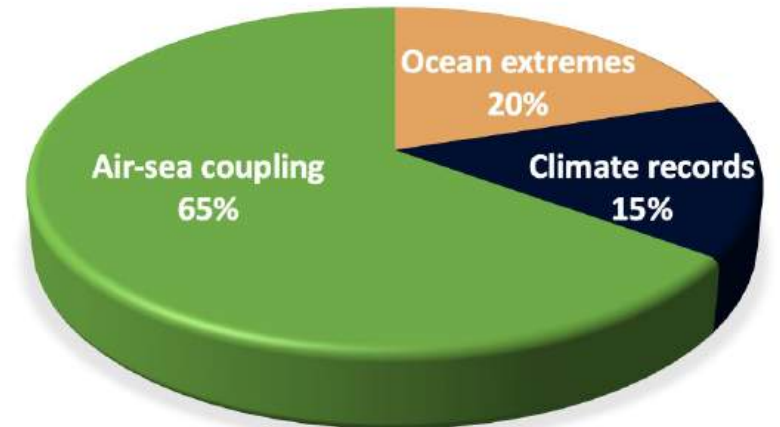
# NASA Ocean Vector Winds Science Team 2023 – 2026

40+ members

75% new PIs

42% Early Career Scientists (welcome!)

42% Senior Career Scientists (thank you!)



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**Annette deCharon**  
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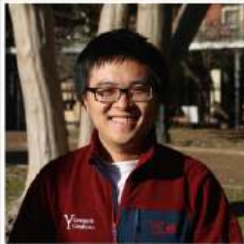
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Team Lead:

Project Scientist:

Comms Lead:

Mark Bourassa

Ernesto Rodriguez

Annette deCharon



<https://www.nasawinds.org>



# ODYSEA

## Mission science – ODYSEA

○ Congratulations ODYSEA Team!

Step-1 Selection as NASA Earth System Explorer

Help ODYSEA make its next Step toward the launch!

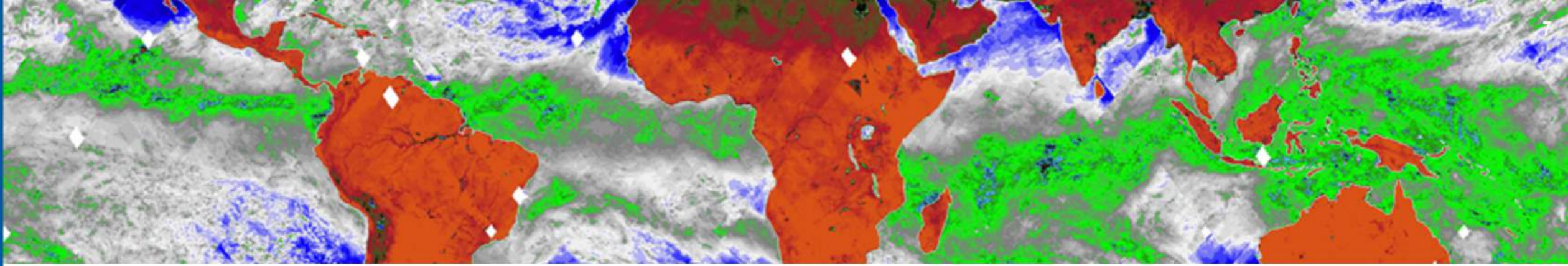
## Mission science – SMODE

○ Small-scales ocean impact Earth climate

60+ members

73 datasets are on NASA PO.DAAC

Keep exploring!

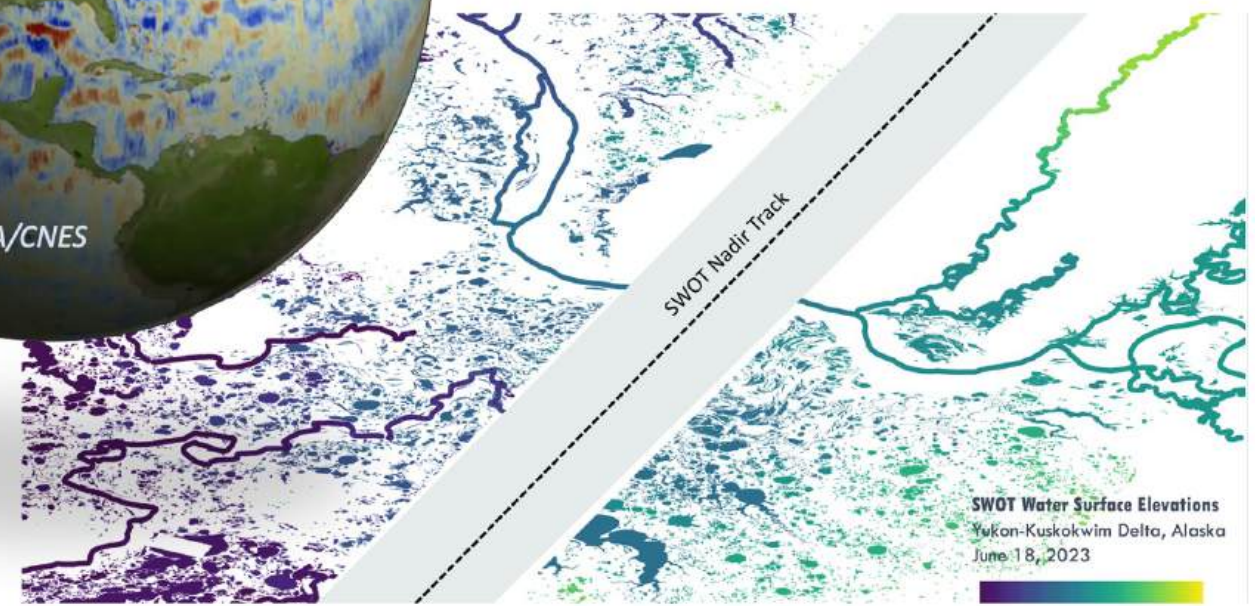
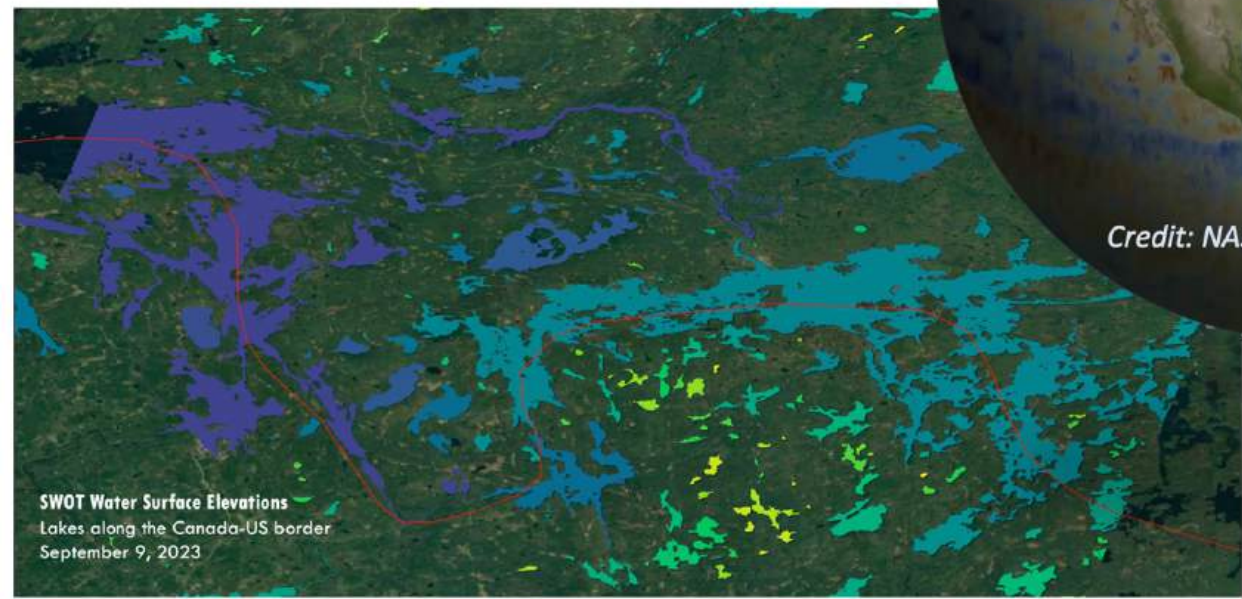
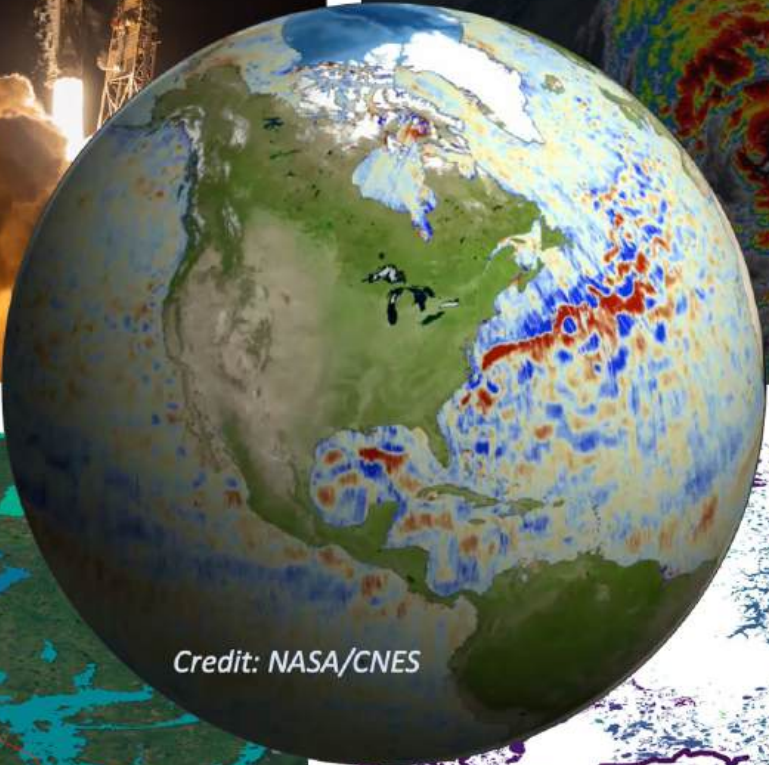
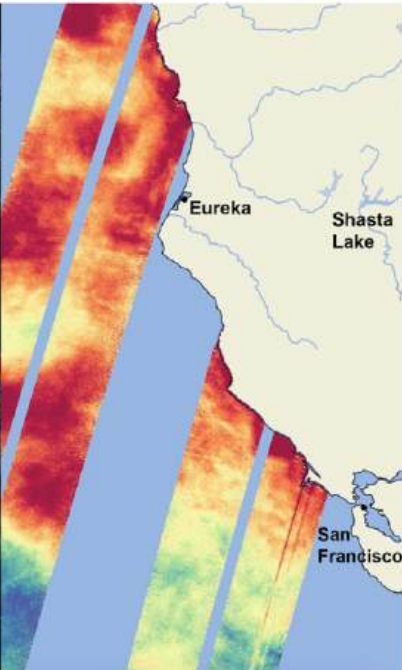
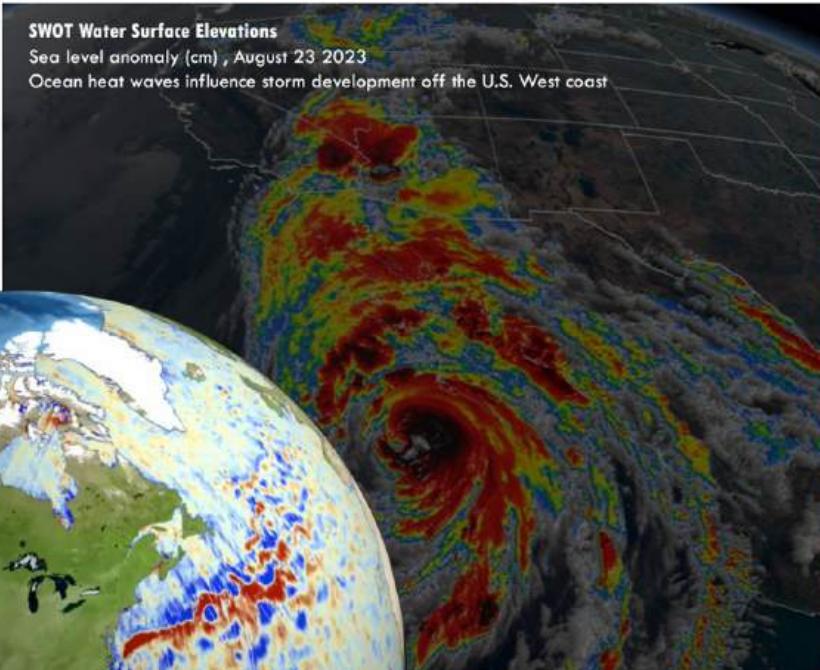


## Mission science – COWVR / TEMPEST

○ Ocean winds, atmospheric convection and precipitation from space

Launched Dec 21, 2021

Needed: science and applications with new data



# Earth Science to Action Strategy

Earth Science to Action

NASA  
earth

## Virtuous Cycle

- User needs inform next iteration of programs, missions and initiatives

## Public Understanding & Exchange

- Put more scientific understanding into public sphere
- Deliver applied science to users
- Participate in multi-way info exchange
- Use input to inform subsequent work

## Solutions & Societal Value

- Offer models, scientific findings and info through Open-Source Science principles
- Support climate services
- Provide science applications and tools to inform decisions

## Earth System Science & Applied Research

- Grow scientific understanding of Earth's systems
- Develop predictive modeling for science applications and tools to mitigate, adapt and respond to climate change

## Foundational Knowledge, Technology, Missions & Data

- Technology innovation
- Earth observations missions
- Data collected from space, air and ground



**NASA**  
**earth**

[science.nasa.gov/earth](https://science.nasa.gov/earth)

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