

**Weekly Report – April 17, 2026**  
Cooperative Institute for Satellite Earth System Studies (CISESS)  
NOAA/NESDIS/STAR

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**HIGHLIGHTS FOR NESDIS LEADERSHIP**

**Data and Information**

**Ocean Color Products Now Archived**

NOAA NOAA-21 Operational Ocean Color Products have been successfully archived by NCEI through the Comprehensive Large Array-data Stewardship System (CLASS). As of late February 2026, they are available to the public on the CLASS data distribution website. These datasets contain Ocean Color Environmental Data Records Level-2 products from the Visible Infrared Imaging Radiometer Suite onboard the NOAA-21 satellite and are developed by the Center for Satellite Applications and Research. As the lead for the NCEI end-to-end stewardship process, CISESS Scientist Dr. Yongsheng Zhang has coordinated with STAR, OSPO, CLASS, and the NCEI Data Stewardship Division to ensure a successful long-term preservation of these products, which are beneficial in assessing water quality and tracking potentially harmful algal blooms in order to protect public health.

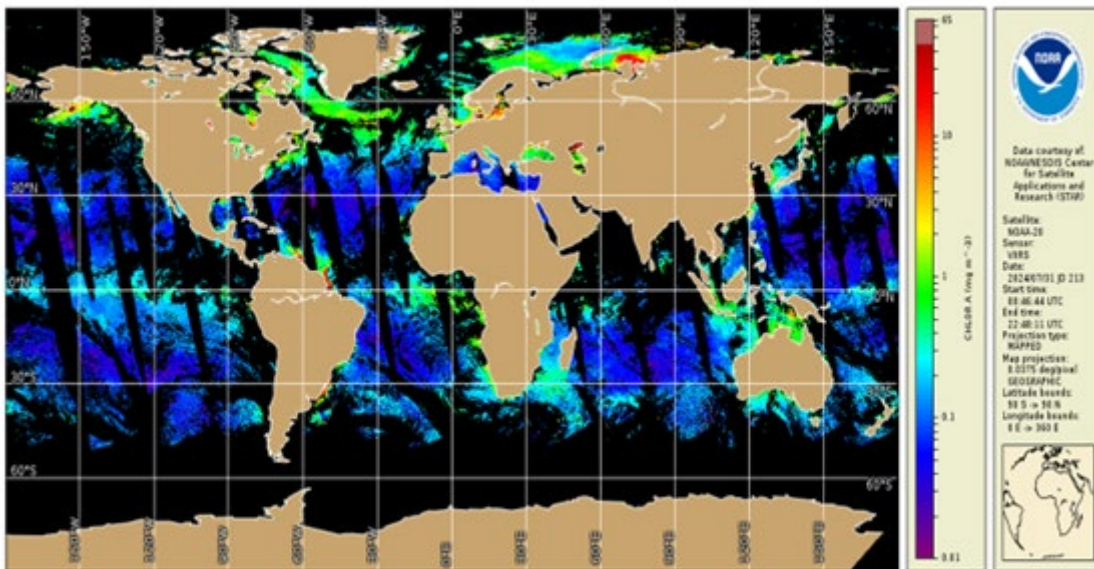


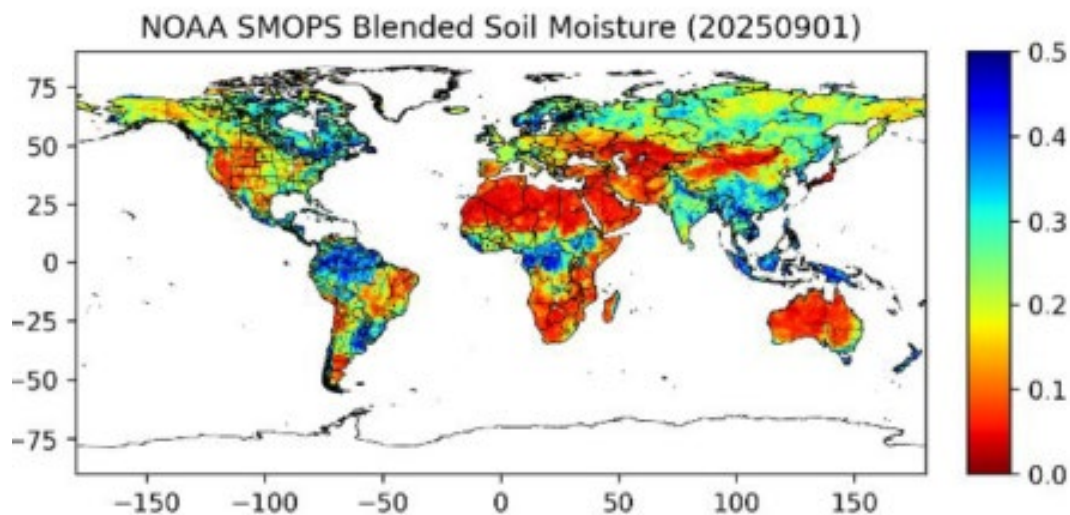
Figure: Example of daily global chlorophyll concentration observed by NOAA-21:  
<https://www.ospo.noaa.gov/products/ocean/color/viirs/noaa21/index.html>

(Yongsheng Zhang, CISESS, [y Zhang25@umd.edu](mailto:y Zhang25@umd.edu); Funding: NCEI)

## **Use-Inspired Science**

### **Ingested: the Soil Moisture Operational Products System**

CISS Scientists Jifu Yin and Jicheng Liu, and colleagues at NOAA have announced that the Soil Moisture Operational Products System they developed has been successfully ingested into the Unified Forecast System Land Data Assimilation model, developed by NOAA's Earth Prediction Innovation Center. This effort is partially supported by a CISS Seed Project. Their research addresses long-standing limitations in soil moisture coverage, consistency, and latency by delivering near-real-time, weather data record, and high-resolution products for operational and scientific use. SMOPS strengthens NOAA's ability to predict droughts, floods, and other high-impact environmental events, benefiting water managers, forecasters, researchers, and decision-makers. More details about this achievement can be found [in this article](#) (included in the STAR/Satellite Meteorology and Climatology Division Weekly Report).



*Figure: Daily near-real-time SMOPS Version 5.0 output for 1 September 2025.*

*(Jifu Yin, CISS, [jifu.yin@noaa.gov](mailto:jifu.yin@noaa.gov), Funding: IJJA, JSTAR GCOM & LEO; Jicheng Liu, CISS, [jliu1220@umd.edu](mailto:jliu1220@umd.edu), Funding: IJJA)*

## **People**

### **CISS Scientist Helps Review Hollings Scholarship Applications**

CISS Scientist Christopher Smith, the GOES-R Satellite Liaison to the National Weather Service's (NWS) Weather Prediction Center (WPC) and Ocean Prediction Center (OPC), was honored for the time and expertise dedicated to reviewing applications for the 2026 NOAA Ernest F. Hollings Scholarship. Smith reviewed and scored six Hollings Scholarship applications in the Physical Sciences thematic area. The Hollings Scholarship offers undergraduate applicants up to \$9,500 per year for two years of full-time study and a 10-week paid Summer Internship at

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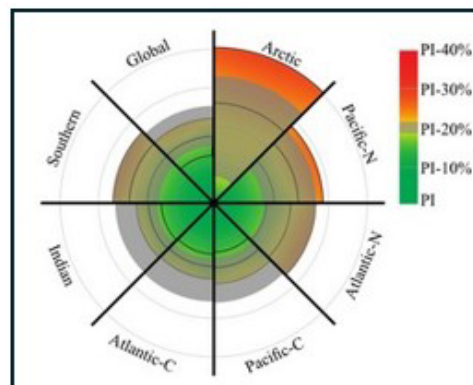
a NOAA facility. The scholarship offers hands-on experience to students related to NOAA’s scientific research, technology, policy management, and education. Out of 718 applicants reviewed, 130 students were selected, with recipient names publicly available on NOAA’s Office of Education website after April 30.



*(Christopher Smith, CISESS, csmith70@umd.edu; Funding: GOES-R PGRR)*

### Popular Paper Download

CISESS Scientist Li-Qing Jiang reports that his paper titled “[Ocean Acidification: Another Planetary Boundary Crossed](#)” published last year was one of the [2025 top downloaded papers](#) of the journal *Global Change Biology*. The study involved a detailed analysis of ocean carbonate system observations, models, and biological assessments, demonstrating that by year 2020, average global ocean conditions had already crossed into the range of the uncertainty of the ocean acidification boundary. By extending the analysis to ocean regions, Jiang and Coauthors showed that 4 out of 7 regions have crossed the average boundary, while all 7 have passed into the boundary uncertainties.



*(Li-Qing Jiang, CISESS, liqing.jiang@noaa.gov; Funding: NCEI)*

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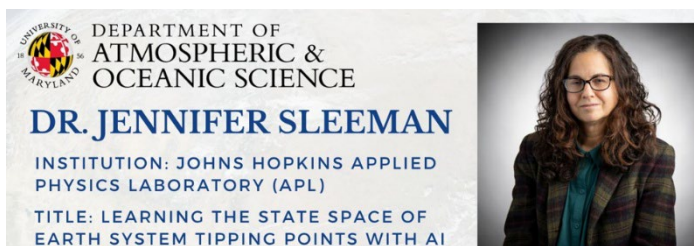
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## TRAINING AND EDUCATION

### CISESS Scientist Presents at UMD’s Department of Atmospheric and Oceanic Science Spring 2026 Semester Seminar Series

On 16 April 2026, CISESS Scientist Jennifer Sleeman presented a seminar at the Department of Atmospheric and Oceanic Science titled “Learning the State Space of Earth System Tipping Points with AI”.

Graduate students and faculty listened attentively as Sleeman described an AI-assisted methodology for Earth system

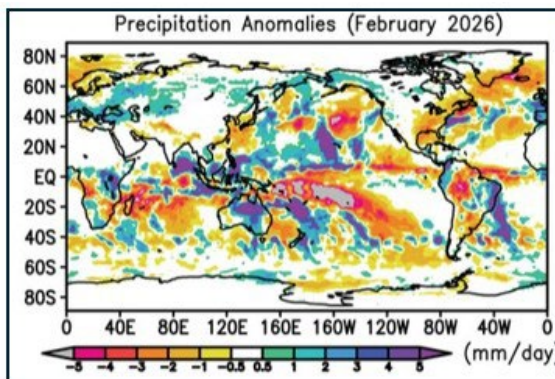


tipping point discovery and early warning forecasting. Sleeman went on to show how this framework was applied to three interacting tipping elements, including the loss of multi-year Arctic sea ice, the collapse of the Atlantic Meridional Overturning Circulation, and critical die-off in coral reef systems. Check [here](#) for a recording of her talk, to be posted at a later date.

*(Jennifer Sleeman, CISESS, [jennifer.sleeman@jhuapl.edu](mailto:jennifer.sleeman@jhuapl.edu); Funding: DRSA)*

### Global Precipitation Summary: February 2026

The La Niña February rainfall pattern was still holding on in the Pacific; the southern tier of the U.S. was dry, with a lack of snow in the Rockies and wildfires on the Plains; conditions were slipping toward neutral Pacific conditions with even some forecasts of El Niño later in the year; and global temperatures were high (above the global warming trend line) even though global precipitation was below the long-term mean (La Niña conditions). These are the headlines in the latest monthly global precipitation summary produced by CISESS Scientist Guojun Gu and ESSIC Research Scientist Robert Adler and [published on the ESSIC website](#). The [in-depth analysis for February 2026](#) provides more details and points out interesting features in precipitation patterns from around the world.



*(Guojun Gu, CISESS, [ggu@umd.edu](mailto:ggu@umd.edu); Funding: COSMIC2)*

*(Maureen Cribb, CISESS, [mcribb@umd.edu](mailto:mcribb@umd.edu), Funding: CISESS Task I)*