

**Weekly Report – March 13, 2026**  
Cooperative Institute for Satellite Earth System Studies (CISESS)  
NOAA/NESDIS/STAR

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**HIGHLIGHTS FOR NESDIS LEADERSHIP**

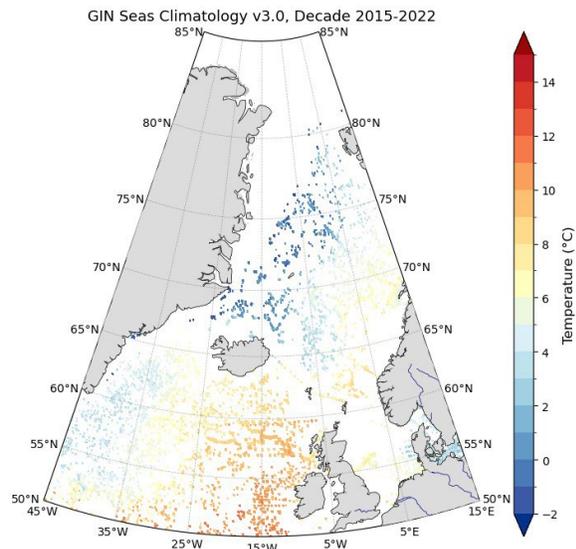
**Data and Information**

**Greenland, Iceland, and Norwegian Seas V3 Dataset Released**

*This (lightly edited) article was written by Cazy Medley, published on the [Earth System Science Interdisciplinary Center](#) website.*

NOAA’s National Centers for Environmental Information has released their third version of the Greenland, Iceland, and Norwegian Seas (GINS) regional climatology product. CISESS Scientist Alexey Mishonov is first author on the database.

The Greenland, Iceland, and Norwegian Seas region is a crucial gateway for water exchange between the North Atlantic Ocean and the Arctic. This region plays a key role in the global climate system. The presence of oil, fisheries, and other natural and material resources has spurred extensive observation and research in this area.



*Figure: Mean sea surface temperature for March.*

[GINS Version 3](#) is based on the 2023 release of the World Ocean Database (WOD23). This version uses updated high-resolution temperature and salinity climatologies that provide a more precise assessment of climate variability in this critical region. This higher resolution data can also improve climate models and provide better baseline comparisons for ocean variability researchers and coastal managers. Version 3 includes supplemental data included in the WOD23 update to past decades.

*(Alexey Mishonov, CISESS, [alexey.mishonov@noaa.gov](mailto:alexey.mishonov@noaa.gov), Funding: NCEI)*

**PUBLICATIONS**

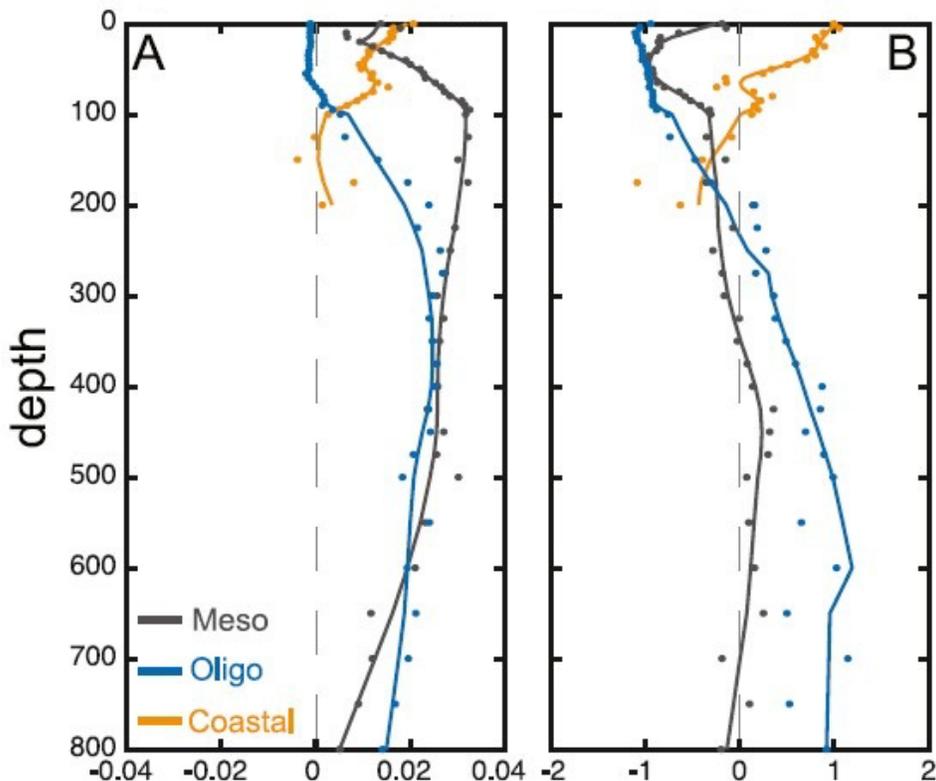
**Shifts in the Distribution of Nutrients in the Planet’s Oceans**

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**Citation:** Martiny, Adam C., 2026: Long-term reorganization of ocean nutrient distribution. *AGU Advances*, 7, e2025AV002080, <https://doi.org/10.1029/2025AV002080>.

**Summary:** The growth of phytoplankton and marine productivity depends on nutrients in the water like nitrate and phosphate. Research has suggested that there are contrasting regional trends in nutrients, such as increases in coastal zones and decreases in the open ocean. However, a global assessment is lacking. Enter CISESS Consortium Institute member Adam Martiny from University of California Irvine and his recently published paper in *AGU Advances*, focused on detecting centennial nutrient trends across biomes and the water column. Martiny tapped into the World Ocean Database and analyzed 9,103,674 phosphate and 4,758,805 nitrate measurements from the top 800 m of the world's oceans covering the period 1925 to 2025. Martiny reports that surface waters in oligotrophic and mesotrophic regions, i.e., regions with low and moderate levels of nutrients, respectively, show significant declines in phosphate. Nitrate levels show slight decreases in oligotrophic regions and increases in mesotrophic regions. In most coastal areas near populated areas, nutrient levels are rising, likely due to pollution and runoff. Martiny also notes that current models do not have a handle on how quickly nutrients are being redistributed throughout the water column. Overall, current trends in nutrient distribution suggest that ocean productivity and ecosystem health are in danger as climate change continues.



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*Figure: Water-column nutrient trends across mesotrophic (black), oligotrophic (blue), and coastal (orange) biomes: long-term trends (A) in nitrate ( $\mu\text{M}/\text{yr}$ ) and (B) in phosphate ( $\text{nm.}/\text{yr}$ ).*

*(Adam Martiny, CISESS, [amartiny@uci.edu](mailto:amartiny@uci.edu); Funding: GOMO)*

### **Updates to a Global Precipitation Product**

**Citation:** Zadeh, Mohammad Bolboli, **Phu Nguyen**, **Kuo-Lin Hsu**, Amir AghaKouchak, Tu Thanh Ung, and **Soroosh Sorooshian**, 2026: A global high-resolution precipitation climate record: PERSIANN-CCS-CDR Version 2.0. *Sci. Data*, **13**, 314, <https://doi.org/10.1038/s41597-026-06625-5>.

**Summary:** CISESS Consortium Institute members Phu Nguyen, Kuo-Lin Hsu, and Soroosh Sorooshian from the University of California Irvine (UCI), along with colleagues from UCI's Center for Hydrometeorology and Remote Sensing, present the new version of the original Precipitation Estimation from Remotely Sensed Information using Artificial Neural Networks-Cloud Classification System-Climate Data Record (PERSIANN-CCS-CDR) near-global precipitation dataset covering almost four decades. This dataset has a spatial resolution of  $0.04^\circ$  and a temporal resolution of three hours. Version 2 of PERSIANN-CCS-CDR overcomes a number of problems identified in Version 1, mainly inconsistencies in input data and the incorrect application of this dataset specifically developed for tasks that required high spatiotemporal resolutions. The paper presents an in-depth evaluation of PERSIANN-CCS-CDR V2.0 and assesses the performance of the dataset for extreme weather events, such as Hurricane Michael (2018). Suggestions on how to best use this dataset and other PERSIANN datasets are also offered. All PERSIANN datasets can be accessed at the [Center for Hydrometeorology and Remote Sensing data portal](#).

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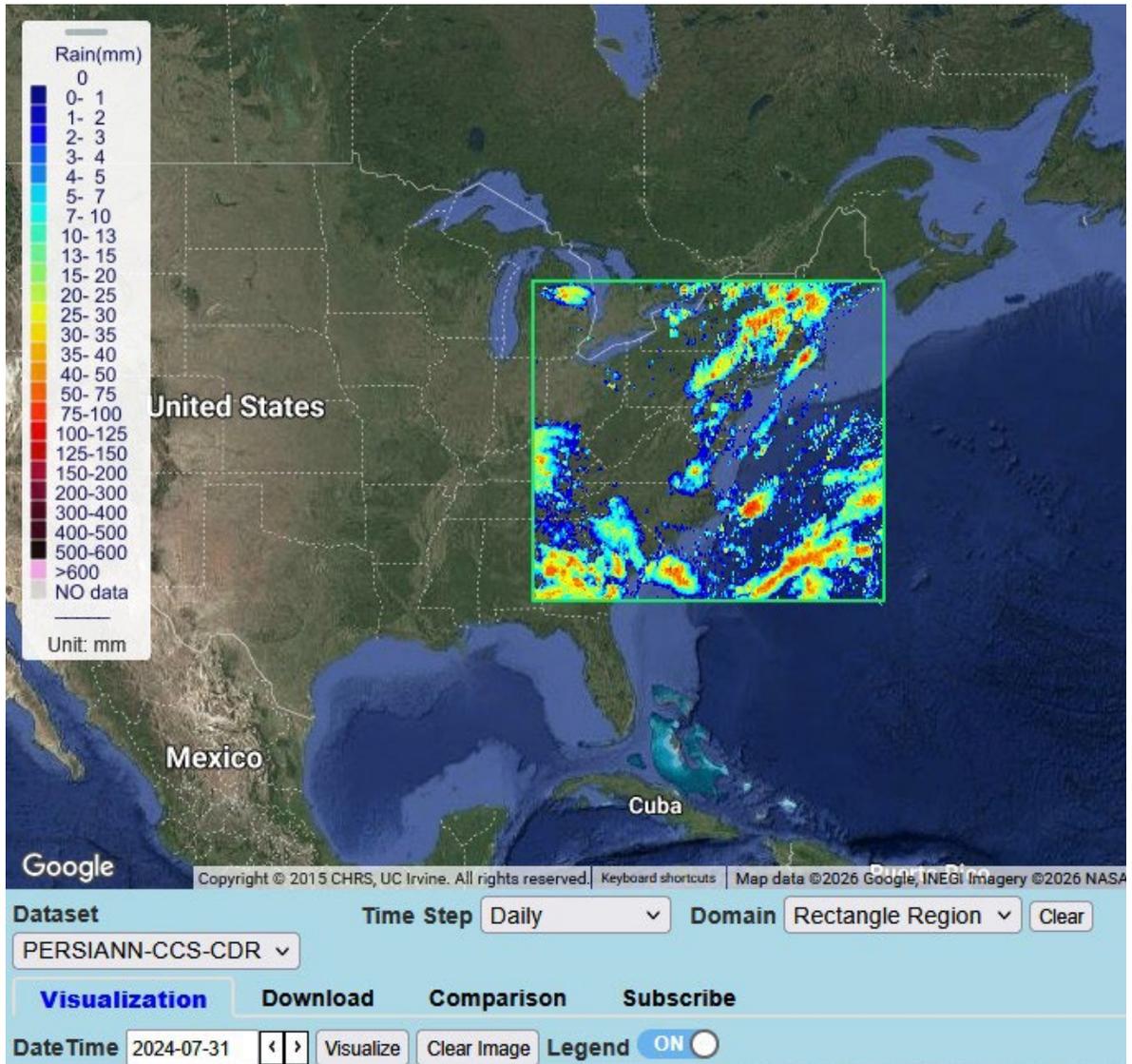


Figure: Sample visualization of daily mean precipitation amounts on 31 July 2024 over a selected region of the world generated from the PERSIANN data portal.

(Phu Nguyen, CISESS, [ndphu@uci.edu](mailto:ndphu@uci.edu), Funding: JPSS PGRR; Kuo-Lin Hsu, CISESS, [kuolin@uci.edu](mailto:kuolin@uci.edu), Funding: LEO; Soroosh Sorooshian, CISESS, [soroosh@uci.edu](mailto:soroosh@uci.edu), Funding: JPSS PGRR)

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