

Weekly Report – March 06, 2026
Cooperative Institute for Satellite Earth System Studies (CISESS)
NOAA/NESDIS/STAR

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HIGHLIGHTS FOR NESDIS LEADERSHIP

People

Adam Martiny Receives Award at OSM26

From moderating and presenting at a Town Hall with the theme of “Establishing an International Program to Deliver Sustained Open-Ocean Biological Data” to contributing to several poster and oral presentations to being recognized by The Oceanography Society (TOS), it was a busy week for CISESS

Consortium Institute member Adam Martiny from University of California Irvine at this year’s Ocean Sciences Meeting. Martin and the international [GO-SHIP](#) team were the recipients of the TOS Ocean Observing Team Award, in recognition of 20 years of

internationally coordinated, high-quality, high-resolution repeat hydrographic measurements, documenting decadal changes in ocean circulation, heat, carbon, oxygen, and nutrients essential for understanding Earth’s climate.



(Adam Martiny, CISESS, amartiny@uci.edu; Funding: GOMO)

TRAVEL AND MEETING REPORTS

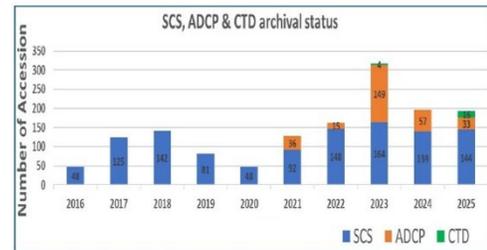
CISESS Scientists Present at OSM26

CISESS Scientists Anna Jersild and Hyelim Yoo report on their participation in February’s Ocean Sciences Meeting held in Scotland. Jersild gave a talk on 27 February titled "Analyzing the Impact of Observational Sources on Air-Sea CO₂ Flux Uncertainty Using Machine Learning", highlighting the influence of data scarcity on the uncertainty in machine-learning systems. She and co-authors from NOAA AOML and Flanders Marine Institute found that variations in observational system sources can cause some regional influences but have a minimal impact on the estimates and uncertainty at global scales (especially when compared to the bias and uncertainty stemming from regions of no data).

On 26 February, Yoo presented a poster describing “Modernizing Access to NOAA Fleet Data: Metadata Integration, NetCDF Standardization, and Cruise Catalog Improvements”. One

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enhancement announced was the conversion of Scientific Computer System (SCS) data to netCDF, facilitating streamlined data accessibility for end users and integration into NCEI's suite of data products. The Data Assembly Center also completed the development of a programmatic framework for generating cruise-level metadata records, ensuring that every cruise-level record is populated with high-fidelity spatiotemporal context and standardized



project identifiers to maximize data discoverability. New data streams to add to the NOAA Ship Cruise Catalog are in the works, such as Conductivity, Temperature, Depth (CTD) sensor data submitted by OMAO.

(Anna Jersild, CISESS, ajersild@umd.edu, Funding: GOMO; Hyelim Yoo, CISESS, hyelim.yoo@noaa.gov, Funding: NCEI)

TRAINING AND EDUCATION

CISESS Scientist Leads Heavy Rain and Flash Flooding Training at Paraguay Severe Weather Workshop

CISESS Scientist Christopher Smith, the GOES-R Satellite Liaison to the National Weather Service's Weather Prediction Center and Ocean Prediction Center, was invited to present virtually at the Paraguay Severe Weather Workshop on 20 February 2026. Smith provided training on geostationary earth orbit (GEO) and low earth orbit (LEO) satellite capabilities for predicting convection and the intensity of heavy rainfall. GEO capabilities allow for timely observations of cloud features and developing thunderstorms, while LEO microwave sensors allow forecasters to analyze variables such as precipitable water that are critical for diagnosing heavy rainfall potential. The tools presented were online accessible so that participants could access the satellite imagery and products following the training. Additionally, packages to display open-source archives of satellite imagery were provided for meteorologists to participate in case-study reviews of past impactful weather events.

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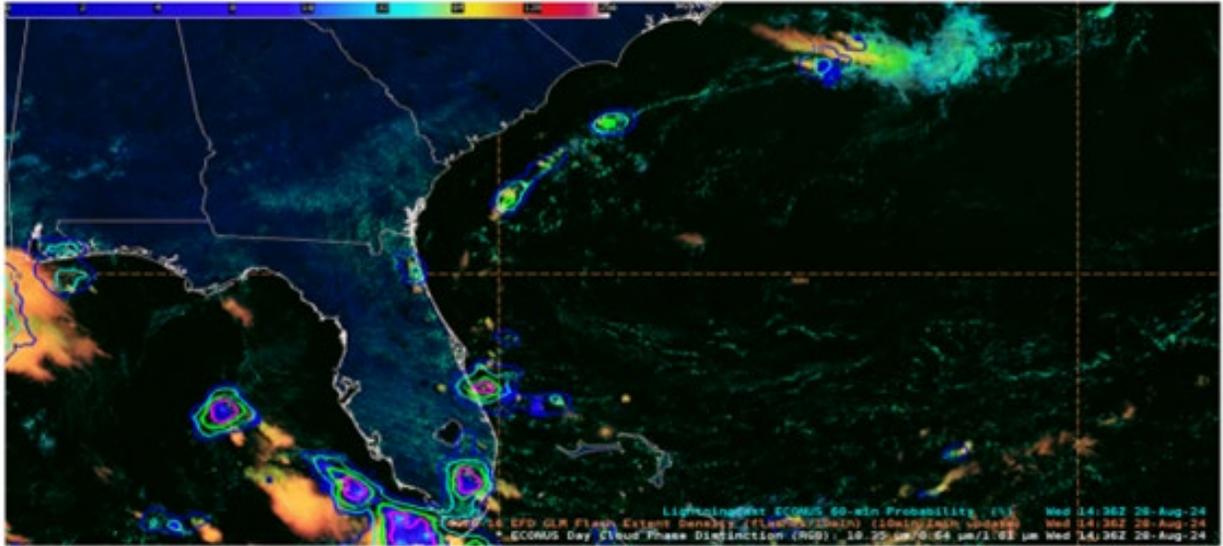


Figure: Example of a useful tool for forecasters to use. GOES-East LightningCast tracks the probability of lightning over the next hour, overlaid on the Day Cloud Phase Distinction RGB and Geostationary Lightning Mapper Flash Extent Density product at 1436 UTC 28 August 2024.

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

SOCIAL MEDIA AND BLOG POSTS

Yet Another Storm System Impacts the Northeast U.S.

The National Weather Service’s (NWS) Weather Prediction Center (WPC) was on top of things when it began issuing reports several days in advance on the potential of an impactful coastal low developing, shares CISESS Scientist Christopher Smith, the GOES-R Satellite Liaison to the NWS WPC and Ocean Prediction Center. Sure enough, from February 22 to 23, a nor’easter took shape, bringing in much snow and high winds, which quickly transformed into a hurricane-force system off the shores of the Mid-Atlantic. Descriptive graphics, especially the movie showing a hurricane-eye-like structure at the center of the transitioning nor’easter, can be seen [here](#).

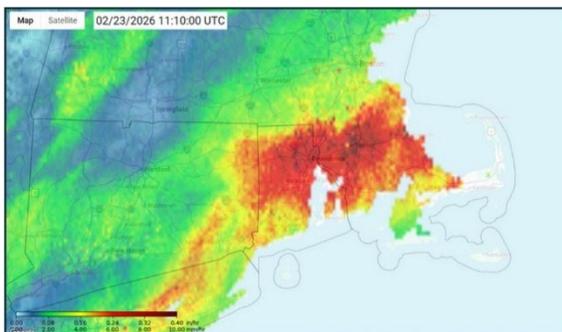


Figure: [NESDIS Merged Snowfall Rate](#) product output at 1110 UTC 23 February 2026. Providence, RI took a snowfall hit, with a record 39 inches of snow.

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

PUBLICATIONS

Earth’s Coral Reefs in Distress

Citation: Eakin, C. Mark, Scott F. Heron, Sean R. Connolly, Denise A. Devotta, Gang Liu, **Erick F. Geiger, Jacqueline L. De La Cour**, and Coauthors, 2026: Severe and widespread coral reef damage during the 2014–2017 Global Coral Bleaching Event. *Nature Commun.*, **17**, 1318, <https://doi.org/10.1038/s41467-025-67506-w>.

Summary: A bleak picture is painted of where the health of the world’s coral reefs is headed. Ocean warming over the past few decades and recurring severe marine heatwaves have had a great impact on these “rainforests of the sea”. Erick Geiger and Jacqueline De La Cour (both no longer at CISESS), along with an international team of researchers, describe the damage done to coral reefs during the 2014–2017 Global Coral Bleaching Event, based on an analysis of the heat stress reefs experienced then. The authors report that over half the world’s reefs experienced moderate or greater bleaching, and 15% experienced moderate or greater mortality during this event, a much more severe scenario than during all prior recorded global coral bleaching events. The extent, frequency, and severity of marine heatwaves on coral reefs and elsewhere are predicted to intensify further, guaranteeing that coral loss and associated reef degradation around the world will likely speed up. Also, that NOAA has had to develop more extreme Bleaching Alert levels does not bode well for the future of the planet’s coral reefs. We are now into the Fourth Global Coral Bleaching Event which started in early 2023.

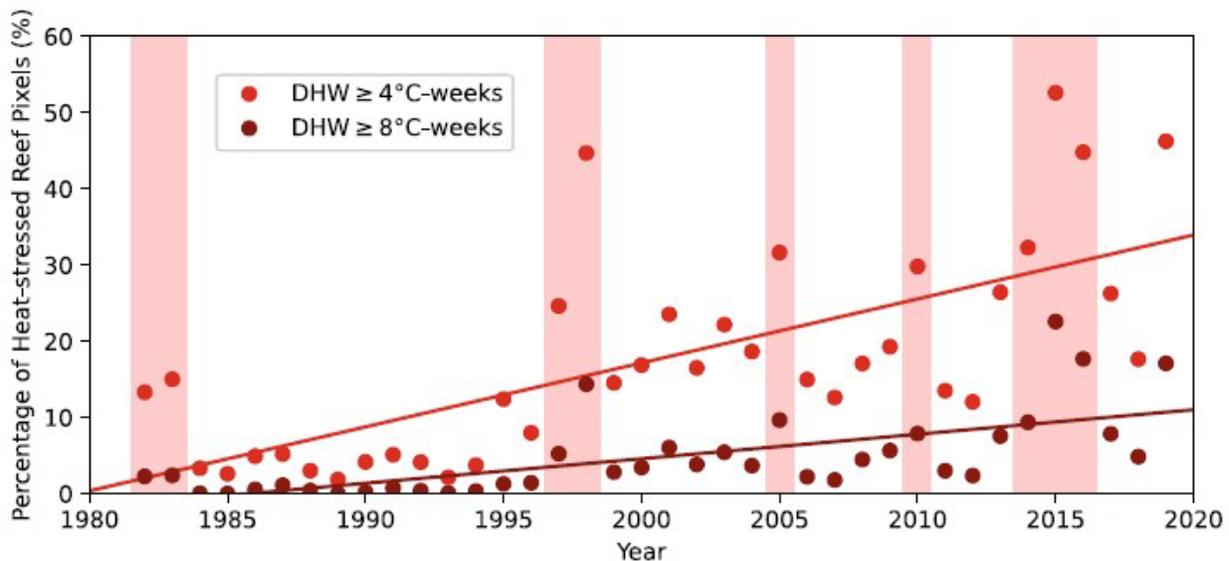


Figure: Percentage of global reef pixels reaching Degree Heating Rate (DHW) ≥ 4 °C-weeks and 8 °C-weeks (lower ends of Bleaching Alert Levels 1 and 2). Years on the horizontal-axis correspond to the first year of each bleaching-year couplet (i.e., 2014 = June 2014–May 2015). Pink boxes correspond to major El Niño-Southern Oscillation events. As a result of record heat stress seen

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during the Third Global Coral Bleaching Event, new Bleaching Alert Levels 3–5 were established, corresponding to the risk of increasingly severe bleaching and mortality of corals across reefs.

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