Weekly Report – November 06, 2026

Cooperative Institute for Satellite Earth System Studies (CISESS)

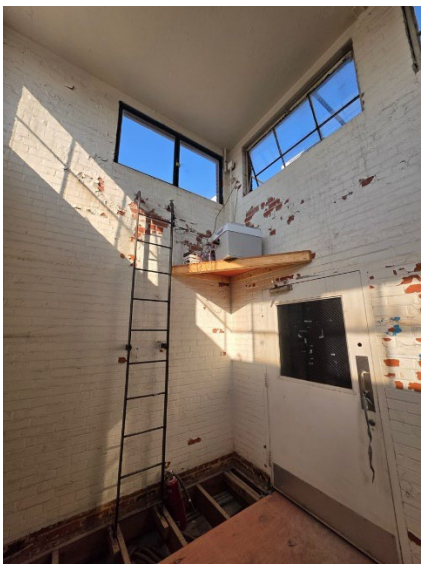
NOAA/NESDIS/STAR

Submitted by: Maureen Cribb
Email: mcribb@umd.edu
Phone: 301-405-9344

Date of Submission: 06 November 2026

TRAVEL AND MEETING REPORTS

Howard University LMA Station Maintenance



On 2 November 2026, CISESS Scientist Guangyang Fang replaced the cellular SIM card at the Howard University Lightning Mapping Array (LMA) station in Washington, DC according to NASA's requirement, and verified normal VHF, GPS, and cellular signal reception. He confirmed that all station processes were running and that both the local and remote login access were functioning properly. Note that the entire building has been emptied for renovations and the Department of Physics and Astronomy has relocated temporarily, which is worth keeping in mind when coordinating future site access and maintenance.

Figure: LMA equipment at Howard University in Washington, DC, during the latest maintenance visit. Photo credit: Guangyang Fang

(Guangyang Fang, CISESS, gfang@umd.edu; Funding: GEO-XO & Seed Grant)

TRAINING AND EDUCATION

Stan Presents at UMD's Department of Atmospheric and Oceanic Science Fall Seminar Series



On 29 October 2026, CISESS Scientist Cristiana Stan gave a talk titled "The Subseasonal and Seasonal Variability of the Northern Hemisphere Latitudes" at UMD's Department of Atmospheric and Oceanic Science. Stan discussed recent advancements in understanding the subseasonal and seasonal variability outside of the tropics. Stan introduced the multi-channel singular spectral analysis method used to isolate the variability in the extra-tropics, presented the oscillatory modes dominating the extra-tropics on these time scales and their relationship with tropical variability and discussed the implications of midlatitude oscillatory modes for the predictability of surface air temperature at subseasonal-to-seasonal timescales. Graduate

students and early-career scientists were invited to engage with Stan during the post-seminar Q&A session, fostering interesting discussions.

(Cristiana Stan, CISESS, cstan@gmu.edu, Funding: OSTI)

SOCIAL MEDIA AND BLOG POSTS

Florida's Flooded East Coast

Up to 20 inches of rain drenched parts of the east coast of Florida on the first day of November as slow-moving storms rolled through, reports CISESS Scientist Christopher Smith, the GOES-R Satellite Liaison to the National Weather Service's (NWS) Weather Prediction Center (WPC) and Ocean and Tsunami Center (OTC). After three days of stormy weather, rainfall totals amounted to 4–8 inches in central and south Florida. Higher rainfall totals (more than a foot) were recorded in the West Palm Beach and Melbourne areas, with over two feet of rainfall measured just north of Melbourne.

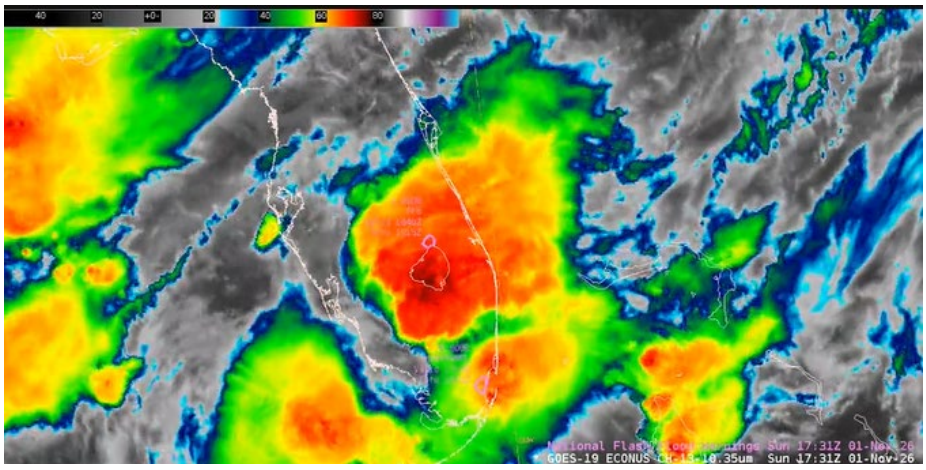
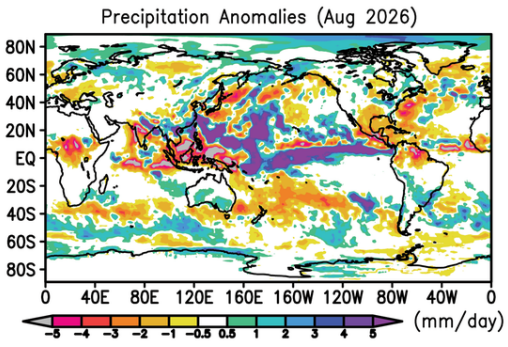


Figure: GOES-East CONUS infrared imagery, overlaid with Flash Flood Warnings (pink - Miami area and northern tip of Lake Okeechobee) at 1731 UTC 01 November 2026.

(Also published on the Satellite Liaison Blog, along with blog posts of interest by other contributors.)

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



Global Precipitation Summary Cited in Forbes

The Global Precipitation Summary put together by CISESS Scientist Guojun Gu and ESSIC Research Scientist Robert Adler was recently cited in an article in Forbes on El Niño. Their August 2026 Precipitation Anomaly global map was featured in the article.

(Guojun Gu, CISESS, ggu@umd.edu; Funding: COSMIC2)

PUBLICATIONS

Machine Learning for More Accurate Global Sea Surface Temperature Records
Citation: Lee, Seonju, **Andrew Harris**, and Thomas M. Smith, 2026: SST bias correction using machine-learning methods. *J. Atmos. Ocean. Tech.*, **43**, 1141–1157, https://doi.org/10.1175/JTECHD-25-0056.1.
Summary: Accurate long-term sea surface temperature (SST) data, important for weather prediction and climate system monitoring, are essential for near-real-time anomaly determination and global trend prediction. Ships and buoys provide in-situ information but are limited in terms of spatiotemporal coverage. Satellite-based SST retrievals from the Advanced Very High-Resolution Radiometer (AVHRR) instrument offer global coverage over the oceans, covering the entire satellite era. However, they are prone to biases from various sources, such as cloud contamination and inaccuracies of sensor calibration, among others. Mitigating these biases is the subject of a paper by CISESS Scientist Andrew Harris and colleagues who explore the use of machine-learning (ML) methods to do this, comparing their performance against traditional linear regression-based SST algorithms (multiple linear regression, sensor-specific error statistics, and empirical orthogonal teleconnections). They use the Level-2 product produced by NOAA's Advanced Clear-Sky Processor for Ocean enterprise system and based on SST data (2007–2018) from the European Space Agency's Meteorological Operational Satellite-A (Metop-A) satellite. The fifth generation European Centre for Medium-Range Weather Forecasts atmospheric reanalysis and Modern-Era Retrospective Analysis for Research and Applications version 2 data are used to estimate atmospheric properties affecting bias, identifying the most important variables for model training purposes. The four non-linear ML methods considered are the random forest, the light gradient boosting machine (LGBM), the deep neural network, and the tabular network. Overall, the authors find that LGBM does the best job of correcting Metop-A SST biases globally during daytime and nighttime, with cost-effective computing time.

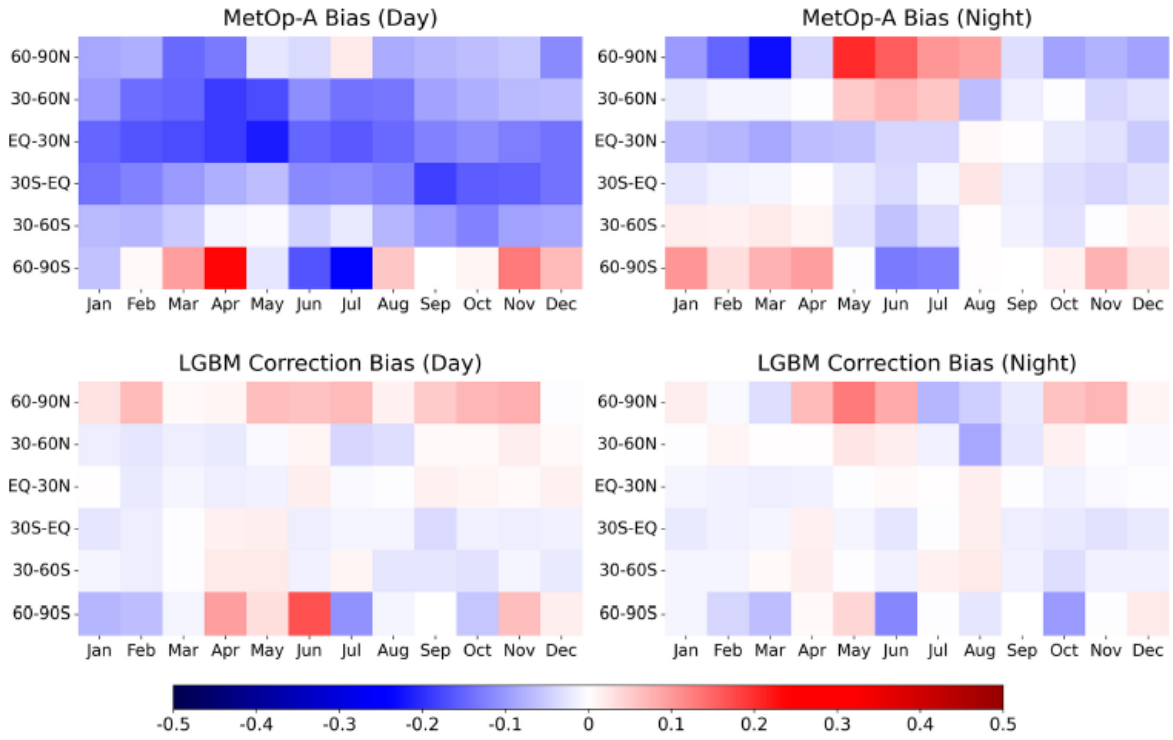


Figure: Monthly heat map of SST bias: original Metop-A (top panels) and corrected by the LGBM method (bottom panels) during daytime and nighttime. Biases after LGBM correction are lower, especially in the tropics and midlatitudes.

(Andrew Harris, CISESS, andy.harris@noaa.gov, Funding: ORS)

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