

Weekly Report – October 09, 2026
Cooperative Institute for Satellite Earth System Studies (CISESS)
NOAA/NESDIS/STAR

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TRAVEL AND MEETING REPORTS

NASA Administrator Visits the Geophysical Institute at the University of Alaska Fairbanks

On 5 October 2026, NASA Administrator [Jared Isaacman visited the University of Alaska Fairbanks \(UAF\)](#). Administrator Isaacman toured the UAF and the Geophysical Institute, the home institution of the Geographic Information Network of Alaska ([GINA](#)). CISESS Scientist and GINA Director Jennifer Delamere had the opportunity to go with the administrator to the roof of the Geophysical Institute, where he had a beautiful view of UAF antenna systems, including GINA's antennas that contribute to Delamere's CISESS project. Although she had only the opportunity to speak a few sentences directly, Delamere highlighted NOAA and NASA efforts in Alaska to deliver innovative wildfire and other products to Alaskans from national satellite assets in "near real-time," as well as efforts to employ students in this research and operations environment. GINA's CISESS funding includes funding for undergraduate students. Official photos of the visit can be seen [here](#).



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Figure: NASA Administrator Jared Isaacman poses for a group photograph with members of the Geophysical Institute at the University of Alaska Fairbanks. Delamere is on the lower right in red.

(Jennifer Delamere, CISESS, jsdelamere@alaska.edu; Funding: IJIA & LEO)

TRAINING AND EDUCATION

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

On 8 October 2026, CISESS Scientist Isaac Moradi gave a talk at the Department of Atmospheric and Oceanic Science titled "Advances in Microwave and Radar Data Assimilation for Improved Atmospheric Thermodynamics and Extreme Weather Prediction". With



high graduate student and faculty attendance, Moradi covered a number of topics in his talk, including the importance of satellite observations from low-Earth-orbit platforms for tropical cyclone prediction, how high-revisit observations from inclined orbits can improve temporal sampling in the tropics, and what are current efforts to advance the assimilation of passive microwave and active radar observations in numerical weather prediction systems. Graduate students and early-career scientists were encouraged to ask Moradi questions during the post-seminar Q&A session, prompting interesting discussions.

(Isaac Moradi, CISESS, imoradi@umd.edu; Funding: LEO)

Geographic Information Network of Alaska (GINA) Products Featured in Two Satellite Book Club Seminars

For the last two weeks, Alaska wildland fire operations (Speaker: Jonathan Chriest, US Wildland Fire Service – Alaska; “*Alaska Wildfires: Satellite Detection to Response*”) and Joint Polar Satellite System (JPSS) products used in these operations (Speaker: Carl Dierking (photo below), GINA, partially supported by a CISESS award; “*LEO Products for IMETs in Alaska*”) were the topics of the National Weather Service Satellite Book Club. The JPSS products shown in the presentation were derived from GINA ground stations and computers. A highlight from Dierking’s talk is the new delivery of JPSS products generated at GINA to NOAA NESDIS SatCave - an Advanced Weather Interactive Processing System in geoTOWR (Total Operational Weather Readiness) Cloud for collaborations - as well as into specialized systems for the National Weather Service Incident Meteorologists (IMETs). This type of cloud



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delivery makes data more accessible to users when they need it and in the format they need it in.

(Jennifer Delamere, CISESS, jsdelamere@alaska.edu; Funding: IJJA & LEO)

SOCIAL MEDIA AND BLOG POSTS

Polo's Parting Punch

Hurricane Polo winded down at the end of September but not without a final hurrah, resoaking the Southwest and creating serious flash-flooding issues, including the near failure of the McLeod Dam in Doña Ana County, NM. 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), presents an [analysis of Polo's remnants](#) in his latest blog post, highlighting the excessive amount of moisture from the surface up to the 500-mb level, fueling the flooding.

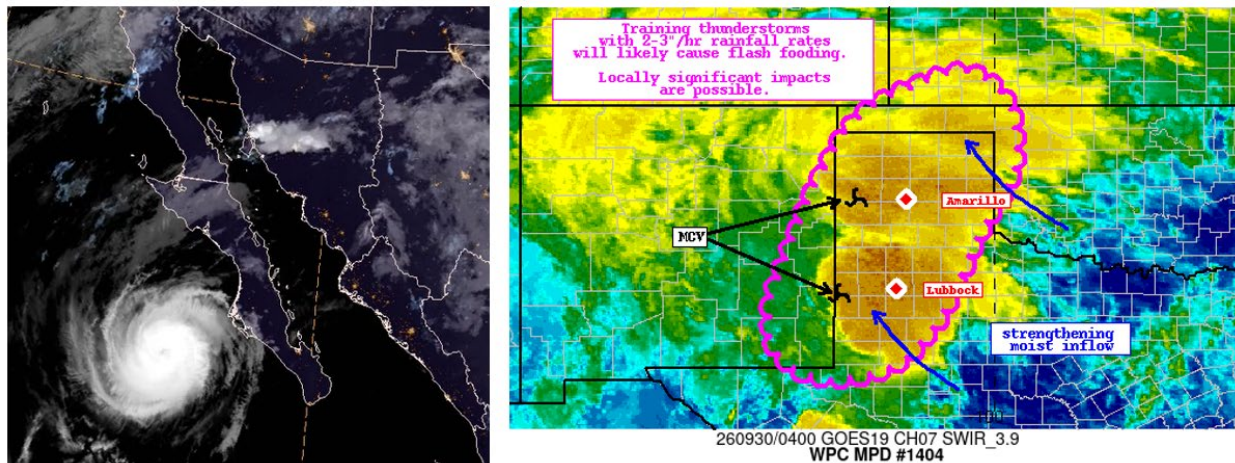


Figure: (left) Snapshot from a video showing Hurricane Polo approaching the Baja California Peninsula, with clouds streaming north from it on the morning of 28 September 2026. (right) NWS Weather Prediction Center Mesoscale Precipitation Discussion issued at 0414 UTC 30 September 2026, overlaid on GOES-East Shortwave Infrared Band 07 imagery. MCV stands for mesoscale convective vortex.

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

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

PUBLICATIONS

Tracking Nutrient Stress in a Warming World

Citation: Martiny, Adam C., Lucas J. Ustick, Toby K. Westberry, and Michael J. Behrenfeld, 2026: Genomic-to-space measurements reveal large-scale ocean nutrient stress. *Sci. Adv.*, **12**, eaed8089, <https://doi.org/10.1126/sciadv.aed8089>.

Summary: Warming waters in a warming world potentially threaten ocean productivity. How this affects phytoplankton, organisms living in the upper ocean that form the base of the marine food chain, is unknown. CISESS Consortium Institute member Adam Martiny from the University of California Irvine and colleagues use a combination of MODIS/Aqua satellite data, in-situ samples of phytoplankton, and genetic analyses of these samples to examine the state of ocean nutrient stress around the world for the period 2002–2021. They propose a nutrient stress metric denoted as Θ' , which is the ratio of Θ_{photo} (a light-dependent photoacclimation element, a function of daily mean solar irradiance) to Θ_{obs} (the satellite-observed cellular carbon-to-chlorophyll ratio). In general, the magnitude of Θ' decreases as the nutrient stress increases. They chose to focus on *Prochlorococcus*, the most abundant kind of phytoplankton between 40°S and 40°N but rare at higher latitudes. This is why the analysis is limited to the subtropical and tropical oceans. The authors report that nutrient stress is highest in the subtropical gyres, with strong seasonal cycles. There is also a correlation with weather cycles like El Niño/Southern Oscillation and the Pacific decadal oscillation. They do note that the picture is more complicated than “warming will increase nutrient stress”, adding that interactions among the nitrogen, phosphorus, and iron cycles are critical.

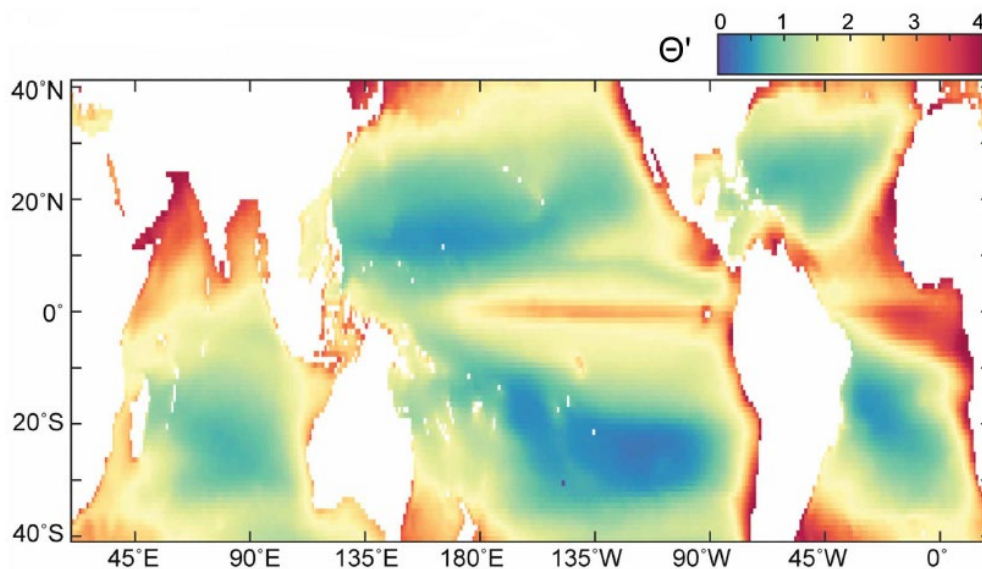


Figure: Mean nutrient stress based on remote sensing retrievals of Θ' . Areas in blue show areas experiencing nutrient stress, namely, the subtropical gyres.

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

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