

Weekly Report

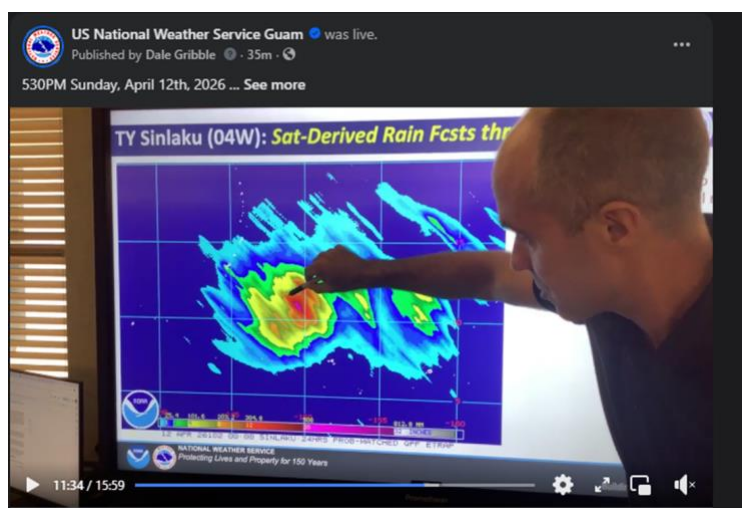
CIRA
STAR/NESDIS
National Oceanic and Atmospheric Administration (NOAA)

Submitted by: Maranda Hutson
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Prepared by: CIRA and STAR contributors

Products and Applications

Ensemble Tropical Rainfall Potential (eTRaP) Used in NWS WFO Guam Weather Briefing for Approaching Typhoon Sinlaku

The NOAA/NESDIS Operational Ensemble Tropical Rainfall Potential (eTRaP), a mostly satellite derived rainfall potential guidance product, developed by International, CIRA, NOAA/NESDIS STAR scientists, Satellite Analysis Branch precipitation and tropical analysts and implemented by government programming staff in the 2000s was used by NWS WFO Guam forecasters from April 10 through at least the 16th as early season Typhoon Sinlaku approached the West Pacific Mariana Islands archipelago. eTRaP uses both Low Earth Orbiting microwave and Geostationary Infrared satellite estimated rain rates along with the official storm speed and direction forecasts to automatically derive four 6-hr and one 24-hr rainfall potential guidance graphical products every 6 hours. One of NWS WFO Guam's Facebook video posts at <https://www.facebook.com/NWSGuam/videos/986555213712847> showed Meteorologist-In-Charge (MIC), Brandon Aydlett, describing the latest 24-hour rainfall potential from eTRaP starting at the 11 minute and 30 second mark and continuing to the 12 minute and 6 seconds. A screen save image of his briefing with eTRaP is below.



POC: Sheldon Kusselson, CIRA and Retired NOAA/NESDIS, sheldon.kusselson@colostate.edu;
Funding: JPSS and GOES-R

Publications (Citation: followed by a short Summary: (Why & so what), & detailed summary):

Awards and Recognition

Media Interactions and Request

Blog Posts and Social Media

Rocket Launch Seen From JPSS Day-Night Band: During the early morning hours of April 21st, 2026, SpaceX launched a Falcon 9 rocket from Cape Canaveral, Florida at 02:53 EDT (06:53 UTC). NOAA-20 was orbiting over the Eastern US right at that time, and managed to capture the bright plume of the rocket launching through the atmosphere using the Day-Night Band.

The imagery can be viewed here on the CIRA Satellite Library:

https://satlib.cira.colostate.edu/weather_media/rocket-launch-at-night-seen-from-jpss-satellites/

The imagery was also shared on the CIRA social media accounts, generating 164 likes and over 8,000 views

(POC: J. Reiter josh.reiter@colostate.edu, CIRA) Funding: GOES-R; JPSS



Travel, Workshops, Conferences, and Meeting Reports

CIRA participation in The 17th International Conference on Mesoscale Convective Systems (ICMCS-XVII) and Forum on AI Application to Severe Weather: Hungjui Yu of CIRA attended the ICMCS-XVII and the following AI Forum, held in Penghu, Taiwan (20-24 April 2026; <https://icmcs17.web.app/>). The ICMCS is a premier platform for atmospheric science exchange across East Asia and the United States. Held every 18 months and rotating among Taiwan, the U.S., Japan, Korea, and China, the conference focuses on typhoons, mesoscale convective systems, Mei-yu fronts, cloud microphysics, and other severe weather processes. The 17th ICMCS (ICMCS-XVII) is hosted by National Taiwan University. Nearly 200 participants from Taiwan, US, Japan, and South Korea participated in the event, with 68 talks and 33 poster presentations (another 8 invited talks in the following AI forum). The conference aims to foster international collaboration, advance scientific knowledge, and support disaster risk reduction. This year's event especially focuses on AI/ML application in atmospheric science. Hungjui Yu presented the work of CAIG project in the High Impact Weather & AI/ML session, titled “ML Ability to Infer Convective Cloud Fraction from Coarse-Resolution Environment” with contributions from Lander Ver Hoef and Imme Ebert-Uphoff of CIRA, and Kristen L. Rasmussen from ATS. Former CIRA employee Yoonjin Lee also attended and presented in the same session.

(POC: Hungjui Yu, CIRA; hungjui@colostate.edu) Funding: NSF/CAIG.



CIRA Participation in the 2026 USINDOPACOM Tropical Cyclone Conference (TCC): M. DeMaria, K. Musgrave and G. Chirokova participated in the virtual TCC, which is a joint Air Force and Navy meeting to discuss tropical cyclone (TC) forecasting for the Indian Ocean, Pacific and Southern Hemisphere regions. This is an annual meeting that brings together meteorologists, weather forecast units, emergency managers and university researchers to develop strategies for operational warfighter support and development of requirements for the INDOPACOM region.

M. DeMaria gave a presentation on a machine learning model for estimating TC forecast uncertainty, K. Musgrave presented verifications of TC forecasts from new Artificial Intelligence Weather Prediction (AIWP) models and G. Chirokova presented the use of microwave data from SmallSats and on new neural network models for TC intensity and wind structure forecasts. (POCs: Mark DeMaria, Mark.DeMaria@colostate.edu; Kate Musgrave, Kate.Musgrave@colostate.edu; Galina Chirokova, Galina.Chirokova@colostate.edu). Funding: GOES, JPSS, NOAA/WPO, NWS/STI.

Training and Education Activities

Future Meetings and Events (dates, meeting/event, location, staff involved)

Other

Manuscript Review: C. Seaman reviewed a manuscript submitted to the *International Journal of Remote Sensing*. (POC: C. Seaman, CIRA; curtis.seaman@colostate.edu)