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

New Products on SLIDER: As part of the Advanced Concepts Enabling Situational and Hazards Awareness via Imagery (ACES-HAI) project at CIRA, we have been developing advanced variations of our flagship *GeoColor* product, including *GeoProxy* (a blend of *GeoColor* with CIRA's ProxyVis to highlight maritime low clouds at night), *GeoDEBRA* (a blend of *GeoColor* with CIRA's DEBRA dust detection algorithm to improve dust detection), and *GeoSST* (a blend of *GeoColor* with NOAA's Advanced Clear Sky Processor for Oceans [ACSPO] sea surface temperature [SST] retrieval product). Now, these products are available from Himawari-9 for the first time on SLIDER (https://rammb-slider.cira.colostate.edu/). An example of Himawari-9 *GeoSST* is shown in the figure below. In addition, *GeoProxy* is available from Geo-KOMPSAT-2a (GK2A). These products are available on the Full Disk sector. These new products are complementary with similar products from GOES-16 and GOES18 that have been available on SLIDER since 2022. A full suite of RGB composite products (e.g. Fire Temperature RGB, Airmass RGB, Day Cloud Phase Distinction RGB, etc.) is also now available on the Himawari-9 "Japan" and "Mesoscale" sectors for the first time, with the addition of the GK2A "Extended Local Area" [ELA] sector imagery coming soon. (POC: Curtis Seaman, Zayd Amundson, Natalie Tourville, CIRA; curtis.seaman@colostate.edu; zayd.amundson@colostate.edu; natalie.tourville@colostate.edu) Funding: GOES-R

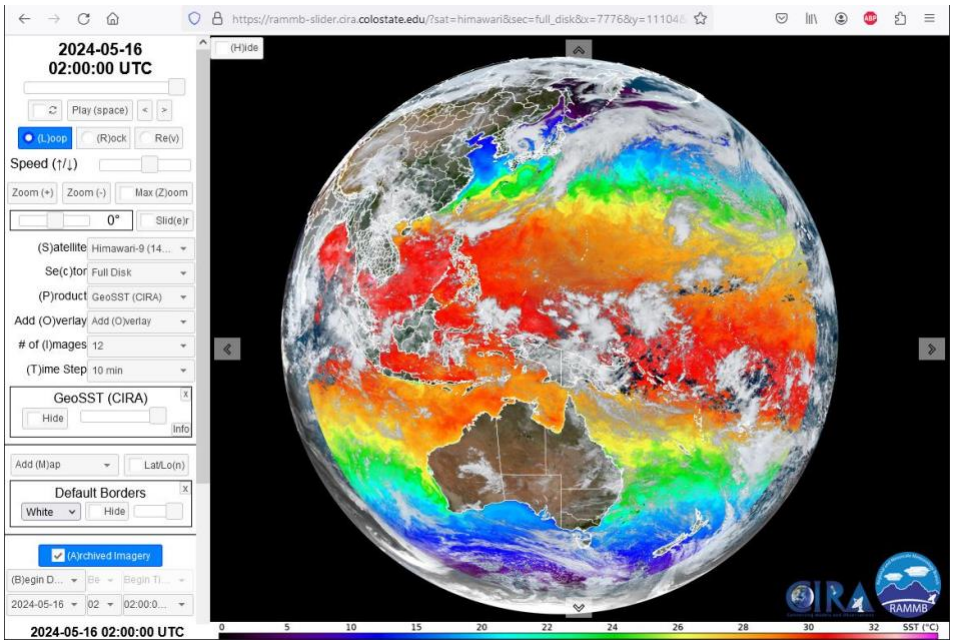


Figure: *Himawari-9 GeoSST as viewed on SLIDER (0200 UTC, 16 May 2024).*

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

Awards and Recognition

Travel, Workshops, Conferences, and Meeting Reports

CIRA at HWT: CIRA scientists J. Apke, D. Bikos and K. Hilburn, and CIRA-affiliated graduate student T. Juliano attended the first week of the 2024 Hazardous Weather Testbed (HWT) in Norman, Oklahoma. J. Apke demonstrated the OCTANE suite (Optical flow Code for Tracking, Atmospheric motion vector, and Nowcasting Experiments). K. Hilburn demonstrated GREMLIN (GOES Radar Estimation via Machine Learning to Inform NWP). (POC: Jason Apke, Dan Bikos, Kyle Hilburn, CIRA, jason.apke@colostate.edu, dan.bikos@colostate.edu, Kyle.Hilburn@colostate.edu; Funding GOES-R)

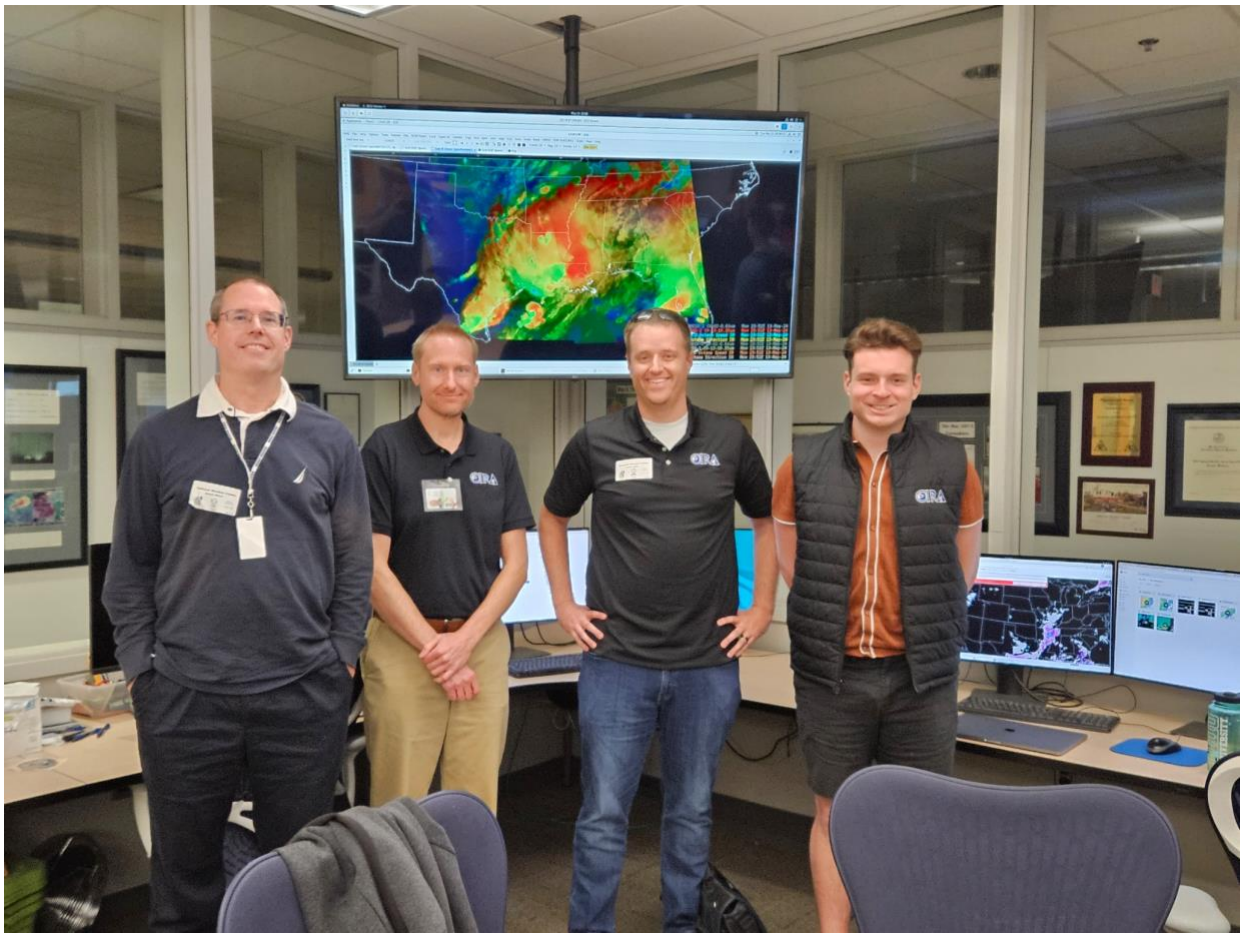


Figure. *D. Bikos, K. Hilburn, J. Apke, and T. Juliano at HWT.*

Training and Education activities

Satellite Liaison Blog Posts: Bill Line published the following blog posts:

- "Late April 2024 Severe". The post shares day and night applications of ABI imagery during a southern plains severe weather event. See Figure below. The link to the post can be found here.
- "Subtle Northern Alaska Low". The post shares how imagery from different satellite sensors can be used together to track the evolution of a developing subtle low pressure system in northern Alaska. See Figure below. The link to the post can be found here.

(B. Line, SMCD/APDB, bill.line@noaa.gov; Funding: PDRA) Submitted to SMCD report

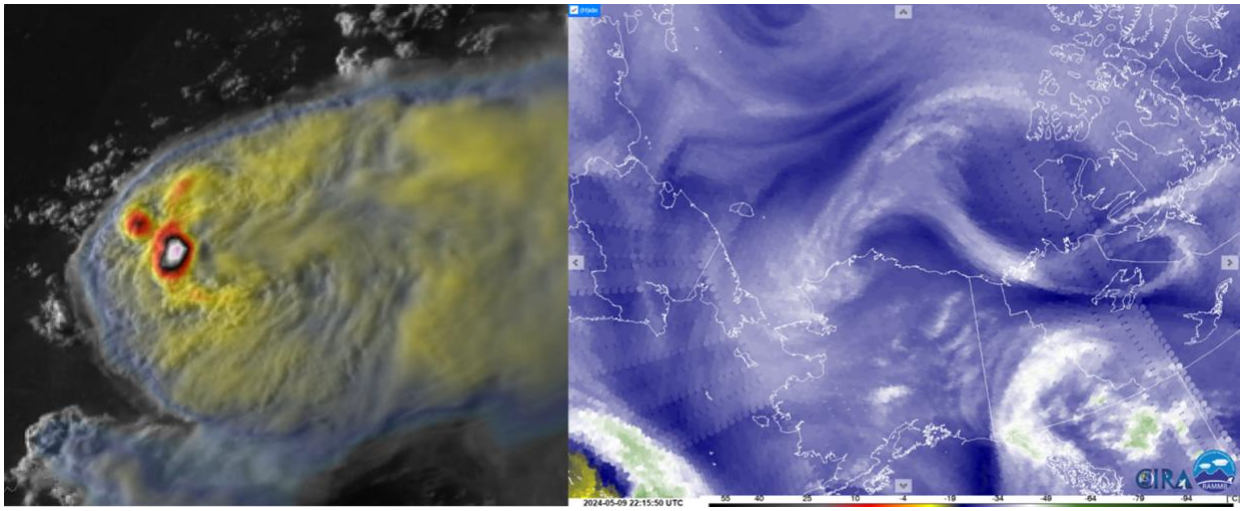


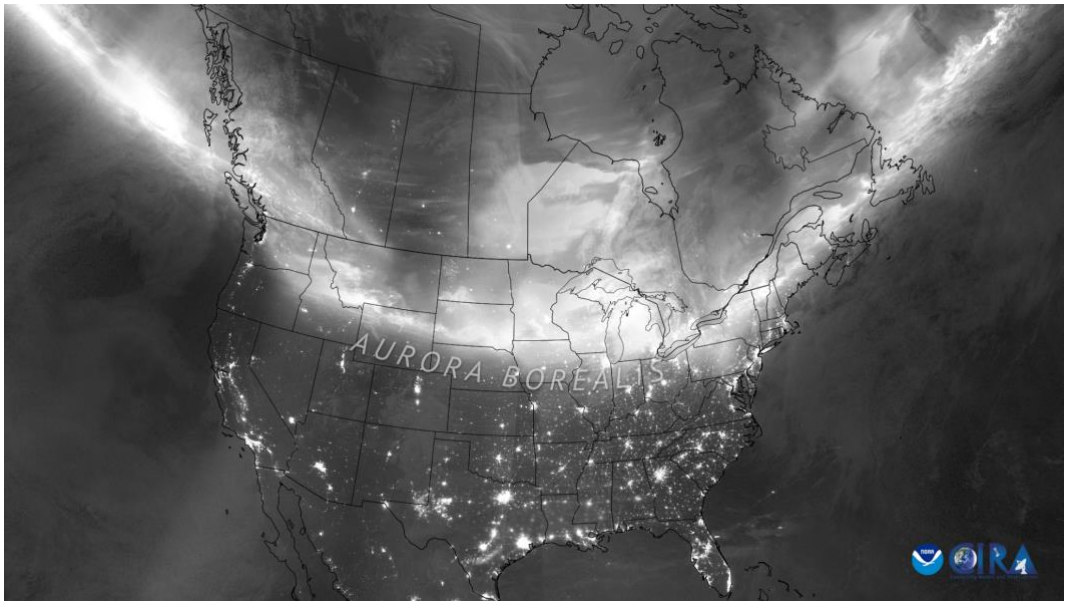
Figure: 30 April 2024 GOES-East VIS/IR Sandwich Imagery over sw Oklahoma supercell thunderstorm (left). 09 May 2024 CrIS Water Vapor Imagery over Alaska revealing developing low over northern AK coast (right).

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

Other

CIRA Aurora Borealis Imagery Used by NOAA and News Organizations: On May 10, 2024, satellite visuals created by the Imagery Production Team made available in CIRA's Satellite Library were used in news organization online articles and in NOAA social media posts. The visuals featured VIIRS Day Night Band imagery of the aurora borealis. More information and links can be found below. (POC: D. Smith, dakota.smith@colostate.edu K. Erickson, kim.erickson@colostate.edu, J. Reiter, josh.reiter@colostate.edu, CIRA) Funding: JPSS.

CIRA Satellite Library: "Extreme Geomagnetic Storm".
https://satlib.cira.colostate.edu/event/extreme-geomagnetic-storm/



*Newsweek: "*Satellite Image Maps Extreme Solar Storm's Stunning Aurora Over US". https://www.newsweek.com/northern-lights-satellite-images-geomagnetic-storm-cme-1901362

Bloomberg: "Dazzling Solar Storm Tests Power Grids. Data Suggests More Are Coming". https://www.bloomberg.com/graphics/2024-aurora-forecast-solar-storms

*NOAA Satellites on social media: "*The sun's fiery temperament unleashed multiple coronal mass ejections last week...". X: https://twitter.com/NOAASatellites/status/1790047549086142857; FB: https://www.facebook.com/NOAASatellites/posts/pfbid023rNch1VbffaKBNe25rqyBLVMki4kTCBxYVS3imT8hBeSxKje7oYHvrVg9YaZy8Xml; IG: https://www.instagram.com/p/C66oxzDrGUF

*NOAA Satellites on social media: "*NOAA's JPSS Program polar-orbiting satellites captured imagery of the stunning auroras...". X: https://twitter.com/NOAASatellites/status/1790782779703410791; FB: https://www.facebook.com/NOAASatellites/posts/pfbid02rdhVuXXJrCzyfs5vLRLmRMnDE5gMpGBDd6gPBA7dUuZ3efvCQLYVNj3quSAusudLl; IG: https://www.instagram.com/p/C6_vtTmxU6P/

*NESDIS News: "*Northern Lights From Over the North Pole". https://www.nesdis.noaa.gov/news/northern-lights-over-the-north-pole