

Weekly Report

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

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Products and Applications

Advanced *GeoColor* products now available at 500 m resolution on SLIDER: CIRA has developed several Advanced *GeoColor* products that blend in additional layers of information to highlight environmental hazards not well captured by the original *GeoColor* algorithm. These include: *GeoProxy*, which blends in CIRA's ProxyVis product to improve low cloud detection at night; *GeoDEBRA*, which blends in CIRA's DEBRA Dust detection algorithm to improve dust detection over desert backgrounds; *GeoFire*, which blends in the Fire Temperature RGB to highlight fire-related hot spots in addition to the smoke information provided by *GeoColor*; *GeoSnow*, which blends information from CIRA's Snow/Cloud-Layers product to identify areas of snow at night; and *GeoSST*, which blends NOAA's ACSPO SST retrievals to aid cyclone forecasting over marine areas. These products, along with the original *GeoColor* product, are now available on the GOES-18/19 CONUS/PACUS sectors on SLIDER at 500m resolution. (Previously, they were available at 1 km resolution.) This now matches the resolution of the CONUS/PACUS/Mesoscale *GeoColor* products in AWIPS and the Mesoscale *GeoColor* products on SLIDER. An example of *GeoFire* from 15 April 2025 is shown in the figure below. Realtime examples of these products are available on SLIDER: <https://rammb-slider.cira.colostate.edu> (POC: C. Seaman, curtis.seaman@colostate.edu; Z. Amundson, zayd.amundson@colostate.edu; S. Finley, steve.finley@colostate.edu, CIRA) Funding source: GEO/GOES-R.

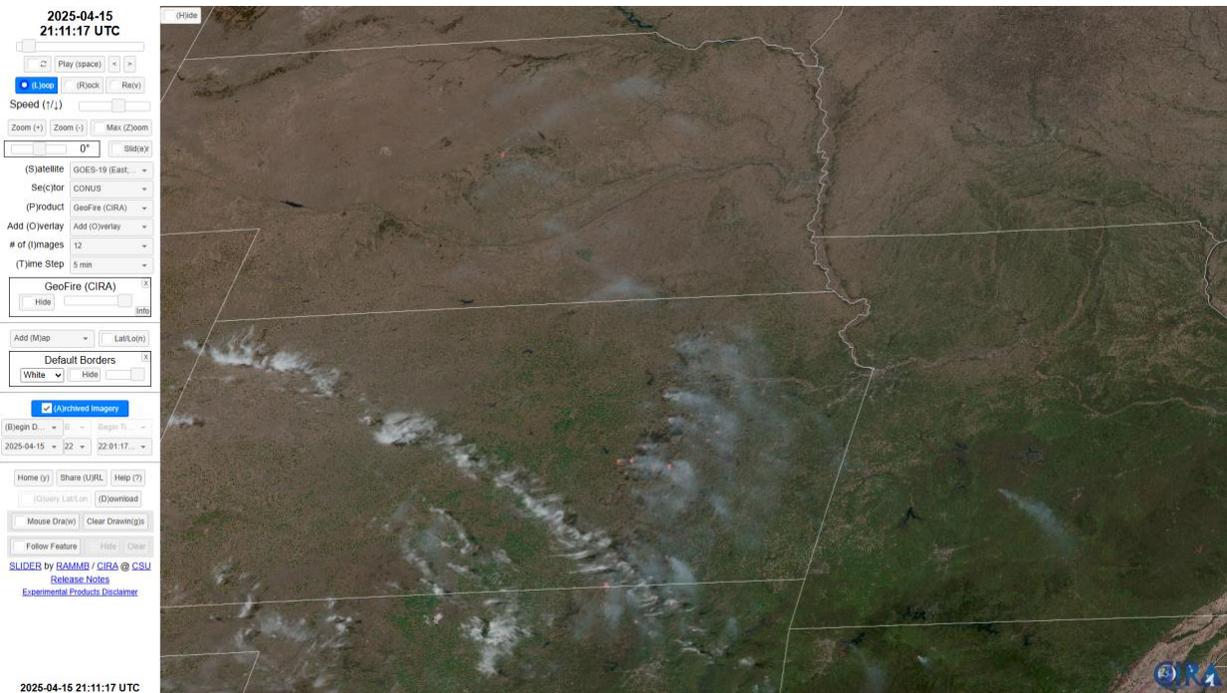


Figure: GOES-19 GeoFire product showing smoke and hotspots from agricultural fires in eastern Kansas (21:11 UTC, 15 April 2025)

GOES-19 Transition to Operations Bring to Light Unique Use Cases for SLIDER: With GOES-19 recently replacing GOES-16 as the operational satellite in the GOES-East position last week, multiple users had questions that they emailed to the general contact address for SLIDER. That led to CIRA finding out about multiple unique use cases. The first was a confirmation of something we'd heard years ago—that some United Airlines flight dispatchers somewhat regularly use SLIDER in operations to augment their main weather data provider, as SLIDER usually updates faster and has better resolution.

Another unique use case that was quite unexpected came from Rick Shema of weatherguy.com. He's serving as a meteorological expert witness in a fatal truck accident, and asked if we had satellite imagery from the date of the accident in 2022 that we could make available. We were able to reprocess some imagery from our archive of the "Day Snow/Fog" product from GOES-16 for him to view.

The final use case came from Chelsea Freas from SeaTactics, a private company that does marine forecasting for racing and other high-performance sailors. She explained that she uses SLIDER daily, saying: "I do briefings with my clients on what to expect on the water that day, and the GeoColor product is invaluable to me since I often do forecasts before sunrise and yet I can get a great nighttime visual of low/mid/high clouds. Today was a good example using the GeoColor! Here's a briefing I did for my clients: <https://youtu.be/7iZNF6PCP0g>". When asked if she's ever used SLIDER on the ocean with satellite internet, she replied that "SLIDER works well when using Starlink offshore". She also said "I wanted to write and let you know how much I value the SLIDER and let you know it gets daily use from me in the private sector!!" (POC: K. Micke, CIRA,

kevin.micke@colostate.edu, Z. Amundson, CIRA, zayd.amundson@colostate.edu, A. Tomar, CIRA, aniket.tomar@colostate.edu, C. Seaman, curtis.seaman@colostate.edu) Funding: GEO/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

Travel, Workshops, Conferences, and Meeting Reports

CIRA Participation in AMS SATMOC Committee: CIRA heavily participated in the Spring Quarterly Meeting of the American Meteorological Society Committee on Satellite Meteorology, Oceanography, and Climatology on 11 April 2025. The committee is chaired by J. Apke and includes G. Chirokova and S. Ortland as members. The meeting brings together volunteer leaders from academia, industry, and federal government partners to provide AMS with subject-matter expertise with a satellite remote sensing focus. The committee regularly is responsible for planning and execution of AMS satellite-based conferences including the Operational Environmental Satellite Systems, Satellite Meteorology and Oceanography, and Joint-Center for Satellite Data Assimilation meetings, as well as maintaining the AMS glossary, reviewing publications with a satellite focus from AMS, and planning and hosting satellite-focused community training events. Within this quarterly meeting, we planned around federal travel restrictions and how it will impact near-term conference plans, including the 27th Conference on Satellite Meteorology and Oceanography planned for Aug 2025 in San Diego, CA and the Conferences hosted at the AMS Annual Meeting in Jan 2026 in Houston, TX. More information for the SATMOC committee can be found on the AMS webpage: <https://www.ametsoc.org/stac/committees/committee-on-satellite-meteorology-oceanography-and-climatology/>. (POCs: J. Apke, CIRA, jason.apke@colostate.edu, G. Chirokova, CIRA, galina.chirokova@rams.colostate.edu, and S. Ortland, CIRA, stephanie.ortland@colostate.edu) Funding: NOAA.

Training and Education activities

WFO Boulder, CO - Spring Workshop: J. Torres (CIRA) virtually attended the WFO Boulder, CO, - Spring Workshop and presented on *'The Advected Layer Precipitable Water (ALPW) Product: Applications and Data Access'* on 17 April 2025. The presentation highlighted an overview of ALPW: the algorithm makeup, the product's applications and limitations, how to access ALPW in AWIPS and via online webpages, described the experimental ALPW products that forecasters can access (i.e., Layered Vapor Transport, Percentile Rankings) and the product training

resources. Forecaster feedback was also collected during the workshop. (POC: J. Torres, jorel.torres@colostate.edu, D. Bikos, dan.bikos@colostate.edu, J. Forsythe, john.forsythe@colostate.edu, and S. Kusselson, sheldon.kusselson@colostate.edu, CIRA). Funding: JPSS.

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

Other