THE
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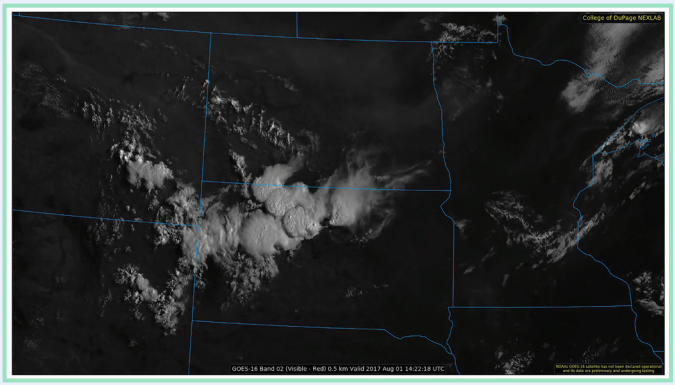
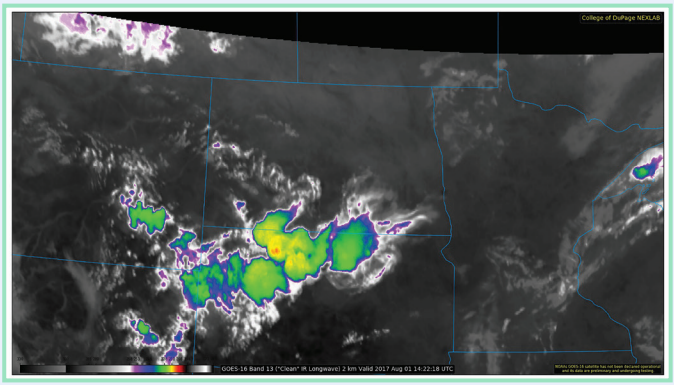
Examining the Atmosphere and Atmospheric Resource Management

The Latest on GOES-16





By Mark D. Schneider

November's launch of the Geostationary Operational Environmental Satellite-R Series (GOES-R or also known as GOES-16) was a success! After initial testing, provisional satellite data is available over the internet to anyone interested in viewing the imagery. There is a disclaimer on the images that the GOES-16 satellite "has not been declared operational" yet. This is a technicality, due to the planned testing period of the satellite's products. The top left photo is a GOES-16 visible satellite image and the top right photo is an example of an infrared satellite image from the same time. Visible and infrared images can be used together during daylight hours to compare cloud and storm features. The advantage of infrared satellite is that it provides the temperature of the clouds and thus can also be used during the night when visible imagery goes "dark."

North Dakota Cloud Modification Project (NDCMP) forecasters and radar meteorologists used GOES-16 images in conjunction with radar data this summer to make real-time weather decisions that supported cloud seeding operations. The true value of GOES-16 satellite imagery can best be described by the National Weather Service (NWS) meteorologists who use it to protect lives and property. Chauncy Schultz, NWS Bismarck Science and Operations Officer commented that "GOES-16's 1-minute imagery allows us to see thunderstorm towers grow in real-time, literally giving us a much clearer picture of when thunderstorm development is taking place, or struggling, than ever before. We've already used GOES-16 imagery to help determine when and where the right time was to issue a severe thunderstorm watch, in collaboration with the Storm Prediction Center, ahead of a significant severe thunderstorm event. GOES-16's fast, high-resolution images are also beneficial to us when making decisions on whether or not to issue warnings for thunderstorms after they've developed."

Patrick Ayd, NWS Bismarck Lead Forecaster shared that, "I think satellite meteorology was for many challenging as the coarse temporal and spatial resolution made it difficult to identify small scale features that influence our weather in a timely manner. However, GOES-16 has really reversed that for many, making it a strength in a short period since launch given its increased resolution and imagery updates, ease of use in diverse forecasting scenarios, and comprehensive training."

For a perspective on other uses of the GOES-16 satellite data, Adam Jones, NWS Bismarck Forecaster explains that, "With the advent of GOES-16 we have a more expansive set of tools to utilize in forecast and decision support operations than ever before. For example, with the increased spatial and temporal resolution of GOES-16 we are able to pinpoint more wildfires, when they start and how they evolve over time. We then provide this critical information to our core fire partners to assist their firefighting decisions."

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