



Aware

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May 2018

IDSS Service Description Document Approved

By [NWS Communications Staff](#), Silver Spring, MD

As of April 20, the NWS now has a critical piece of guidance in place that will drive our collective approach in the provision of Impact-Based Decision Support Services (IDSS) to our core partners. This [Service Description Document](#) details who will be provided IDSS, the levels of service NWS will provide, and our overall approach to offering this critical level of service to fulfill our mission.

The service document also recognizes the growing capacity of America's Weather and Climate Industry and others within the Weather, Water and Climate Enterprise to provide tailored support for an increasing range of customers and describes NWS provision of IDSS in the broader context of Enterprise-wide support for key decision makers.

This approved document is Version 1 and will be updated periodically. NWS will continue to assess and revise its guidance for providing IDSS based on internal input, feedback from our core partners, and input from partners in the Weather, Water and Climate Enterprise.

| Core partner services | Deep relationship core partner services |
|---|--|
| General partner services and added focus on episodic IDSS, such as: <ul style="list-style-type: none"> ✓ NWS initiated calls ✓ Webinars, briefing, and email alerts ✓ NWSChat and iNWS¹ ✓ Spot forecasts, plume modeling, specialized inflow/streamflow forecasts, contingency fcsts, ice analysis ✓ Annual talks/trainings/exercises ✓ Specialized briefings, emails, and graphics for episodic support ✓ Occasional on-site deployments | Core Services plus added focus on recurring IDSS, deployment/embedding <ul style="list-style-type: none"> ✓ Specialized recurring forecasts/briefings/graphics ✓ Multiple pre-event/scenario planning, water resources planning yearly exercises, e.g. table top ✓ Recovery activities ✓ After-action event reviews ✓ Local Emergency Planning Committee (LEPC) exercises/briefings ✓ Collaboration on gauge/obs network placement ✓ Access to hydrologic model results ✓ On-site deployments; embedding |

IDSS

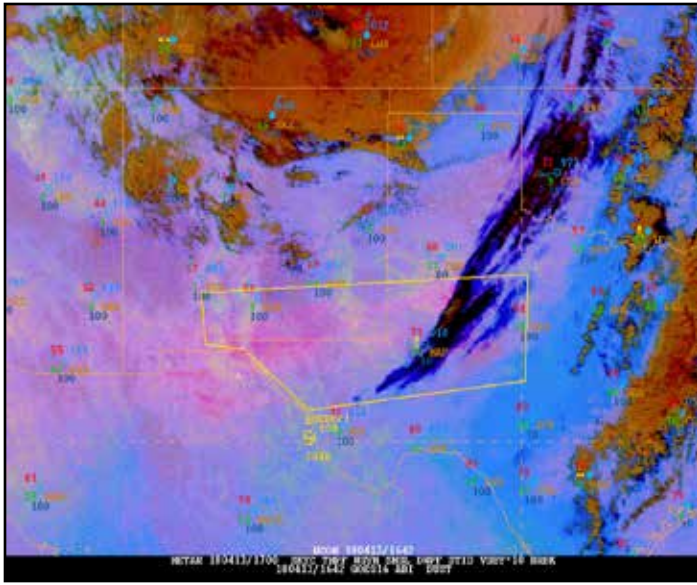
Advanced Satellite Imagery Improves Lead Time on Blowing Dust Warning

By [Amanda Terborg](#), CIRA/AWC Satellite Meteorologist

Spring is a peak season for dust storms in the Southwest. The combination of lingering winter air in the north and slowly encroaching summer-like air masses from the Gulf of Mexico culminate in strong storm systems that often end with powerful winds behind the exiting cold front. These winds quickly loft dust into the air in the arid climates of the Southwest. Meteorologists at the NWS Aviation Weather Center monitor the potential for dust storms closely. Aside from flight delays, diversions and cancellations due to decreased visibility, dust can also cause serious mechanical problems that can lead to false flight speed readings, reduced engine performance, and potential engine flame-out.

Ironically, these dust storms, which are impossible for pilots and air traffic controllers to overlook, are extremely difficult for legacy satellites to observe. The six channels on the legacy Geostationary Operational Environmental Satellite (GOES) satellites were designed to view clouds through visible, infrared and water vapor channels. Neither the infrared nor water vapor channels are sensitive to the unique composition of dust particles, making these particles essentially invisible at those wavelengths. Dust is also difficult to detect with visible channels due to its similarity in color to the surrounding arid ground of the desert.

Fortunately, scientists and engineers have solved this problem with the Advanced Baseline Imager (ABI) satellite sensor aboard the new generation of GOES weather satellites. The ABI was first launched on GOES-16 and



Convective SIGMET issued by an AWC Senior Aviation Meteorologist. The dark magenta coloring clearly identifies the blowing dust.

became operational in December 2017. The ABI was designed with a higher spectral resolution, increasing the number of channels from 6 to 16, compared to the legacy satellites. Not only do the extra channels broaden the scope of meteorological phenomena that can be detected, but meteorologists can now combine these channels into Red-Green-Blue (RGB) composites. The RGB composites take advantage of multiple channels to distinguish a specific feature such as dust from other clouds or surfaces.

In April, AWC took advantage of the new GOES-16 RGB imagery to monitor blowing dust in western Texas. AWC staff knew that high winds and lofted dust were expected across portions of New Mexico and Texas. The RGB imagery clearly showed the first indications of dust around 1630 UTC; AWC issued a SIGMET warning for blowing dust a full 30 minutes before three METAR reports of IFR visibility were issued in the SIGMET area.

The dust RGB imagery was used throughout the event, particularly when the movement of the dust

warranted staff to reissue the SIGMET further east around 2000 UTC. The RGB clearly showed the direction the lofted dust was moving, and guided the points for the new SIGMET area.

Innovative Tropical Training at Effective Hurricane Messaging Course

By [Brooke Bingaman](#), Meteorologist, Master Instructor and [Shannon White](#), NWS Training Center

High impact events such as tropical storms and hurricanes demand that NWS provide high-quality IDSS to decision makers. Last year’s hurricane season is a strong reminder that our mission to save lives helps the United States to be a Weather-Ready Nation.

The Effective Hurricane Messaging Course (EHM) has become an essential training tool for NWS forecasters in tropical cyclone prone areas. This year’s course was held at the National Hurricane Center (NHC) in Miami, April 2-6.

Participants included staff from NWS Eastern, Southern, and Pacific Regions. For its 6th year, EHM facilitators enhanced the course with new approaches to broaden its scope and increase hands-on IDSS activities. Highlights included:



NHC Director, Ken Graham, welcomes the 2018 EHM class along with EHM Facilitators: Shannon White, John Koch, Dan Brown, Dave Sharp, Jen McNatt, Marco Bohorquez, Denise Balukas, Brooke Bingaman, Lance Wood, and Pablo Santos.

- ◆ Inviting participants from eight inland offices so forecasters can better address the hydrologic and wind impacts that reached well inland
- ◆ Including Critical Incident Stress Management
- ◆ Adding simulated requests from emergency managers, concerned citizens, media, and local officials via NWSChat
- ◆ Having non-NWS participants inject questions, take part in Skype interviews, write feedback, and produce clips to help participants evaluate their communication skills
- ◆ Including participants from the NWS Pacific Region

Participants said highlights of the week included effectively teaching them how to message storm surge, wind, inland flooding and tornado impacts along with forecast uncertainty to our partners. Most felt these skills could be applied outside of tropical events. NWS Burlington Warning Coordination Meteorologist Scott Whittier said, "I thought this was the best course that I have attended in my nearly 30 years in the NWS and really strikes home the obstacles we face in getting an effective message to our various partners and audiences." Kudos to the participants, facilitators, and NHC staff for another highly successful EHM course!

NWS Helps Two New Shipping Cranes Arrive Safely at Port of Wilmington.

By [Terry Lebo](#), Journeyman Forecaster/Incident Meteorologist, NWS Wilmington, NC

This spring, two new Neo-Panamax Cranes arrived at the entrance to the Cape Fear River after a 2-month voyage. Each crane weighs over 1,500 tons and costs \$34 million. NWS Wilmington, NC, provided weather support to the Unified Command, which includes the Port of Wilmington, the U.S. Coast Guard and other federal, state and local agencies tasked with managing the arrival and offloading of each crane.

The ship delivering the cranes had to travel 29 miles up the narrow Cape Fear River to the Port of Wilmington. The height of the cranes required utility staff to raise power lines spanning the river. The weather did not cooperate with Duke Energy employees who were tasked with raising the power lines. Winds 25 mph or greater, thunderstorms, and visibility less than 3 miles hampered the progress. Forecasts were an essential part of the process.

Each crane required a full day to unload and position. Due to the size and design of the cranes, an accurate wind and thunderstorm forecast was vital. Winds greater than 15 mph would prevent the cranes from moving up the narrow river or removing them once the delivery ship was docked. Thunderstorms posed significant risks to those docking and offloading the cranes. NWS Wilmington provided forecast briefings and took part in daily conference calls beginning one week before the cranes arrived until the cranes were safely in position on the dock. During this time frame, several cold fronts crossed the area accompanied by thunderstorms and winds gusting between 30 and 40 mph.

It took a little longer than expected due to the weather but each crane was safely offloaded and moved into position during the first week of April.



NWS El Paso Participates in Regional RV Show

By [Connor Dennhardt](#), Meteorologist Intern, NWS El Paso, TX

Outdoor recreation is a popular activity throughout the United States but it can also be dangerous when weather changes. To help keep this difficult-to-reach group weather ready, NWS has reached out to outdoor recreational groups.

Campers in the southwestern United States often stay in isolated areas where there is less access to online information or emergency services. Travelers equipped with knowledge of local weather hazards, useful outdoor tools, and a source of emergency information are much safer while enjoying the natural beauty of the United States.

In March, to better reach this audience, NWS El Paso, TX, attended the El Paso Recreational Vehicle (RV) Show. The show boasts one of the largest displays of RVs and campers for sale under one roof, with hundreds of attendees over a weekend. NWS employees staffed a booth during the 3 day event to introduce the NWS office to new campers and provide information to attendees about what the NWS does and how NWS information can support their weather planning and safety.



NWS employees David Hefner (left) and Jason Laney (right) at the NWS booth.

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NOAA's National Weather Service, Analyze, Forecast and Support Office
Managing Editor: [Melody Magnus](#), Editor: [Donna Franklin](#)
Aware online: www.weather.gov/publications/aware ISSN 1936-8178
Subscribe/Unsubscribe: melody.magnus@noaa.gov