

Aware

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What's New in the National Blend of Models?

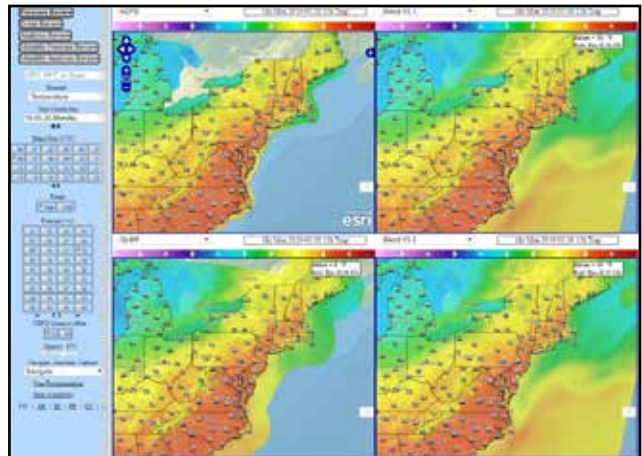
By [Jeff Craven](#), Chief, NWS Statistical Modeling Branch, Silver Spring, MD

The [National Blend of Models](#) (NBM) continues to be upgraded and advanced by the scientists at the Meteorological Development Lab (MDL). The next scheduled upgrade is Version 3.2, proposed for November 2019, bringing several enhancements to the blend.

Thanks in part to feedback from NWS Weather Forecast Offices, requirements from NWS program areas, and access to new data feeds, NBM V3.2 should be the most accurate, advanced and reliable version to date.

The COMET/MetEd program has released a short video giving viewers a closer look at some of the changes coming to the NBM. You can access the video and a more detailed breakdown of the upgrades at the [MetEd website](#).

Additional model inputs and science enhancements will make NBM V3.2 a much more powerful tool than previous NBM versions. Later this year, NWS meteorologists will be not only have the chance to incorporate these new data into their forecast methodology, but they can also begin to explore new ways of collaborating. In the meantime, your [feedback](#) on the blend is critical to the successful development of future versions.



Wildfires and Weather: NWS Tools for Emergency Managers

By [Maureen O'Leary](#), NWS Public Affairs, Silver Spring, MD

Whether it is a prescribed burn, ground fire or crown fire, land managers can use forecasts and products from the NWS to make decisions on how best to combat fires and keep the public safe.

The NWS [Fire Weather Program](#) actively supports land managers and firefighters mitigating and responding to fires. Our mitigation is in the form of weather forecasts designed to highlight times and locations when and where a fire may be exceptionally hard to control. Here are some key products:

- ◆ [Red Flag Warnings](#) alert users to warm temperatures, very low humidities, and stronger winds that are ongoing or expected to produce



an increased risk of fire danger in 12 to 24 hours.

- ◆ [Fire Weather Outlooks](#) forecast the risk of fire weather for the next 8 days.
- ◆ Need a fire weather [spot forecast](#)? Land managers can request a site-specific, localized forecast for wildfires and prescribed burns to assess a potential threat.

For large wildfires, onsite weather forecasting support can be critical. NWS may be able to deploy an [Incident-Meteorologist \(IMET\)](#) to your EM incident command post. IMETs arrive on scene approximately 12 to 24 hours after assignment and can serve up to 14 consecutive days before being relieved by another IMET.

NWS can also help EMs and other government officials disseminate evacuation orders when wildfires threaten a community. Local officials can request NWS issue a Fire Warning. These warnings are written by local officials and typically include evacuation information. Contact your [local NWS forecast office](#) to discuss the procedure for activation. Public safety officials also can apply to use [FEMA's Integrated Public Alert and Warning System \(IPAWS\)](#) to send public alerts and evacuation information.

NOAA's next generation [Geostationary Satellite \(GOES\) satellites](#) are helping fight fire from space. Using GOES data, partners with expertise in modeling and fire behavior are able to identify hot spots, detect rapid intensification of a fire, and predict dangerous wind shifts. The new GOES [lightning mapper](#) is enabling earlier awareness of ground lightning strike hazards.

Wildfire smoke is a real health hazard. NWS's [High-Resolution Rapid Refresh-Smoke](#) (HRRR-Smoke) forecast model predicts where wildfire smoke will go for the next 36 hours. Although it is still experimental, the HRRR-Smoke has been providing fire managers and air quality agencies with valuable decision-making information.

The [Wildland Fire Potential Outlook](#), produced by the National Interagency Fire Center National, provides monthly and seasonal outlooks.

NWS forecasts and products are crucial to the success of the [Wildland Fire Agencies](#) missions. As we ready for the peak of wildfire season, let's hope for the best but plan for the worst. Bookmark these links today for quick access later.

New Video Series: Wave Safe – Respect the Power of the Ocean

By [Deborah Jones](#), Program Analyst, NWS Marine Branch, Silver Spring, MD

Wave Safe is a series of six safety videos produced on location along the coasts of five different U.S. regions and American Samoa. The videos target the types of hazardous waves those playing in the surf in the United States might encounter as well as the “ava,” a dangerous tidal current found in American Samoa.

Working with a globally recognized ocean expert Bruckner Chase, the safety videos target dangers from high surf, shore break and sneaker waves common to these areas. The American Samoa video addresses the cultural and regional differences unique to the Pacific Islands. Onsite filming helped ensure language and visuals reflect local differences, particularly for Hawaiians and Samoans.

Drowning is the third leading cause of unintentional injury-related death worldwide, accounting for 7 percent of all injury-related deaths, according to a 2017 report by the World Health Organization. The U.S. Lifesaving Association reports that between



Riding waves can be fun but it can also be deadly. New NWS videos help beach goers understand the dangers before they go near the ocean.

2011 and 2015, 524 drowning fatalities occurred on U.S. surf beaches. A majority of these fatalities happen because people underestimated the power of the ocean.

The [Rip Current Survival Guide](#) videos, which had garnered nearly 23.4 million views as of the 2017 beach season, proved videos are an effective way to teach life-saving guidelines. To build on its success, the NWS Marine Branch again collaborated with National Ocean Service Ocean Today to produce a series of dangerous wave videos. These videos illustrate the danger some waves present and how beach goers can remain safe while enjoying the ocean. The Wave Safe video series is an important part of the NWS Beach Hazards effort and supports the Weather Ready Nation Preparedness Campaign, “Know Before You Go.” The videos are scheduled for be released June 28, 2019, on the NWS [Beach Hazards](#) site and [Ocean Today](#).

National Winter Weather Annual Meeting Refines Key Products

By [Tim Troutman](#), Acting NWS National Winter Weather Program Lead

The NWS Winter Weather Program held its fourth annual meeting from May 21-23 at the National Center for Weather and Climate Prediction. The 3-day meeting had attendees from NWS portfolios, the Program Management Office (PMO), National Centers, all six NWS Regions and several local Weather Forecast Offices (WFO).

Emphasis was placed on improving the winter weather Collaborative Forecast Process (CFP), continuing consistent messaging, and advancing probabilistic and impact-based tools and products.

A primary discussion topic for the group was planning the testing phase of a proposed Weather Prediction Center (WPC) Probabilistic Winter Storm Outlook (WSO). The goal of this testing phase is to enhance decision making of Winter Storm Watches. This outlook highlights the probability of exceeding local warning criteria involving snow and ice amounts.



Key NWS staff from throughout the weather service met in May to refine winter weather products and messaging.

Discussions also centered on the development of a WSO and watch road map. Breakout sessions were devoted to future operational plans involving the CFP with WPC, the regional and national Operations Centers and WFOs, and sustaining the National Probabilistic Snow Experiment.

Several other critical winter initiatives were discussed and plans were made to move forward via continued experimentation of the Winter Storm Severity Index—one of the NWS’s first impact-based indices. The group further reaffirmed the importance of the Gridded Snowfall Analysis for decision support and verification.

Additional sessions focused on key winter weather messaging, winter weather verification, enhancements in winter weather modeling and winter program training plans involving the National Blend of Models and Convection Allowing Models training for fiscal year 2020.

NWS Director Dr. Louis Uccellini commented on the unique mesoscale challenges winter weather presents and how our services have risen to the challenge through time. He also highlighted the importance of the CFP and teamwork in advancing the program.

Facebook Provides Workshops at Partners in Preparedness Summit

By [Felecia Bowser](#), WCM, NWS Jackson, MS

NWS Jackson, MS, Meteorologist-in-Charge Bill Parker, Warning Coordination (WCM) Meteorologist Felecia Bowser and Meteorologist John Moore as well as the NWS New Orleans, LA, WCM Frank Revitte presented at the annual Mississippi Partners in Preparedness Summit. Presentations ranged from disaster recovery to cyber security and included a Hurricane Hunters Overview. NWS staff presented workshops on the following:

- ◆ Radar Interpretation: Understanding Radar and Identifying Tornado Signatures
- ◆ NWS 101: How NWS Can Help the EM community
- ◆ 50th Anniversary of Hurricane Camille Retrospective
- ◆ NWS Hurricane Outlook for 2019

In addition, a quick, in-person survey was given to attendees who use the experimental NWS Facebook Live Service. The majority of the partners raised their hands. Because this is an experimental service, feedback is crucial.

This week-long summit, comprised of key emergency management partners, enabled participants to gain valuable best practices and network with federal, state, county, private, faith-based, volunteer and non-governmental organizations.



Warning Coordination Meteorologist Felecia Bowser discussing a few common radar limitations during the Radar Interpretation Course.

MetEd Operational Models Encyclopedia for Global Forecast System (GFS) model

The COMET Program has released an update to the MetEd Operational Models Encyclopedia for the Global Forecast System (GFS) model, including the finite volume 3-dimensional (FV3) dynamical core. This GFS upgrade, the first to use the FV3 core, was made operational at 12 UTC 11 June 2019. Besides the new dynamical core, the microphysics scheme was upgraded to directly predict precipitation, and the land surface model (LSM) was altered to reduce a high bias in surface soil layer evaporation.

The intended audience for the MetEd Operational Models Encyclopedia includes operational public and private sector users of numerical weather prediction models. This new entry will be of particular interest to those using GFS in the forecast process. Colleges and universities with synoptic and dynamic meteorology courses may find the content in the Encyclopedia useful as a learning tool as well.

We welcome any comments or questions you may have regarding the content, instructional approach, or use of this lesson. Please e-mail your comments or questions to [Bill Bua](#). For technical support, please visit our [Registration and Support FAQs](#).



Aware

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