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Service Change Notice 26-68
National Weather Service Headquarters Silver Spring MD
320 PM EDT Mon Jul 27,2026

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From: David Michaud, Director
 NWS Central Operations

Subject: Implementation of the Artificial Intelligence Global Forecast System (AIGFS) upgrade (v1.1): Effective on July 27,2026

Effective on Jul 27, 2026, with the 1200 UTC cycle, the NOAA/NWS will implement the upgraded Artificial Intelligence Global Forecast System (AIGFS) v1.1.

The AIGFS was developed by the Environmental Modeling Center (EMC) in collaboration with the NOAA research laboratories and the Earth Prediction Innovation Center (EPIC) in the Office of Oceanic and Atmospheric Research (OAR). The model upgrades include (1) replacing the grid-point Mean Squared Error (MSE) loss function with a spherical harmonic loss function, utilizing wind speed and wind direction in the loss function rather than standard u- and v-components; (2) fine-tuning the model using four years of Global Data Assimilation System (GDAS) analysis; and (3) updating the fine-tuning process to train the model autoregressively to a 72-forecast lead time. Together these changes improve tropical cyclone intensity forecasts, improve forecast precipitation, and reduce the so-called blurring issue found in forecasts at longer lead times.

Data Location:
<https://nomads.ncep.noaa.gov/pub/data/nccf/com/aigfs/prod/>

NWS encourages users to ensure their decoders are flexible and are able to adequately handle changes in content order, changes in the scaling factor component within the product definition section (PDS) of the Gridded Binary (GRIB) files, and any volume changes which may be forthcoming. These elements may change with future NCEP model implementations. NCEP will make every attempt to alert users to these changes prior to any implementations.

Please submit comments, questions, or requests pertaining to this upgrade to:

The Environmental Modeling Center
Products Feedback
emc.products.feedback@noaa.gov

For questions about the dataflow aspects, please contact:

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National Service Change Notices are online at:

<https://www.weather.gov/notification> /

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