NOUS41 KWBC 071805
PNSWSH

Service Change Notice 26-46
National Weather Service Headquarters Silver Spring MD
205 PM EDT Thu May 7 2026

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From: Debra Blondin
Deputy Director
NCEP/Aviation Weather Center

Subject: Implementation of the Graphical Turbulence Guidance Nowcast (GTGN): Effective on or about June 29, 2026

Effective on or about June 29, 2026, beginning at 1200 Coordinated Universal Time (UTC), the National Centers for Environmental Prediction (NCEP) will implement the Graphical Turbulence Guidance Nowcast (GTGN) product. The GTGN product display is available at the following location: https://AviationWeather.gov/gfa/#obs

In the event that the implementation date is declared a Critical Weather Day (CWD), an Enhanced Caution Event (ECE), or other significant weather is occurring or is anticipated to occur, implementation of this change will take place at 1200 UTC on the next weekday not declared a CWD and when no significant weather is occurring.

The GTGN is designed to provide a near real-time analysis of in-flight turbulence every 15 minutes, significantly enhancing support for the aviation community. GTGN uses a short-term (1 or 2-hour) forecast from the Graphical Turbulence Guidance (GTG) as the basis for the nowcast. Recent observations of turbulence are then used to update the GTG forecast and create a blended analysis. The GTGN is not a substitute for the turbulence information contained in the Significant Meteorological Information (SIGMET) product provided by NWS forecasters.

Observational datasets currently used by GTGN include aircraft observations from pilot reports (PIREPs), automated in situ eddy dissipation rate (EDR) reports, EDR estimated from ground-based radar observations via the National Center for Atmospheric Research (NCAR) Turbulence Detection Algorithm (NTDA), estimated EDR from lightning data, and METAR data. The output of GTGN is EDR. EDR is an atmospheric, aircraft-independent metric of turbulence. The GTG forecast is based on NOAA's 3-km High-Resolution Rapid Refresh (HRRR) model over the CONUS; therefore, its domain serves as the horizontal domain for GTGN. The vertical resolution of the nowcast starts at the surface (100 feet) and is output at every 1,000 feet up to 50,000 feet.

Raw GRIB2, 3-km data will be available on the NCEP Server at the following URLs:

https://nomads.ncep.noaa.gov/pub/data/nccf/com/gtgn/prod/gtgn.YYYYMMDD/

ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/gtgn/prod/gtgn.YYYYMMDD/

Where YYYY is the year, MM is the month, and DD is the day of issue.

The filename format is: gtgn.tHHMMz.3km.grib2.

GRIB2 metadata specifications:
Category number: 19
Parameter number: 30
Parameter name: Eddy Dissipation Parameter (EDPARM)
Packing: jpeg2000 compression with bitmap

File size is approximately 31 MB.

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

Robert Hepper
Aviation Weather Center (AWC)
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For questions about the dataflow aspects, please contact:
Margaret Curtis
NCEP Central Operations HPC Dataflow Team Lead
ncep.pmb.dataflow@noaa.gov

National Service Change Notices are online at:
https://www.weather.gov/notification/

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