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Technical Implementation Notice 11-58 Amended
National Weather Service Headquarters Washington DC
330 PM EDT Mon Apr 16 2012

To: National Weather Service (NWS) Offices
Federal Aviation Administration (FAA) Customers
Family of Services (FOS) Subscribers
Other Customers of NWS Aviation Forecasts

From: Cynthia Abelman
Chief, Aviation Services Branch

Subject: Amended: Graphical Turbulence Guidance (GTG) Change: Effective
May 1, 2012

Note: The following changes have no impact on NOAA Weather Wire Service subscribers.

Amended to set the implementation date for Tuesday May 1, 2012. Users are cautioned that if a Critical Weather Day (CWD) designation is in effect on May 1, this implementation will be delayed until the conclusion of CWD. You can monitor the CWD status at the following webpage:

<http://www.nco.ncep.noaa.gov/pmb/cwd/>

See Technical Implementation Notice (TIN) 11-36, issued July 27, 2011, announcing the intention to replace the Rapid Update Cycle (RUC) model with the Rapid Refresh (RAP) model, and the Public Information Statement issued November 9, 2011, proposing to remove some RUC output products.

<https://www.weather.gov/media/notification/tins/tin11-36ruc.pdf>

Effective May 1, 2012 at 1200 Coordinated Universal Time (UTC), the NWS Aviation Weather Center in Kansas City, MO, will update the GTG product in conjunction with the implementation of the RAP model. This change impacts users as follows:

Resolution of the grid spacing will increase from 20KM to 13KM.

As a result of increased resolution, the parameter Grid ID (Product Definition Section (PDS) OCTET 7), internal to the gridded binary (GRIB) file, will change to 130. For more information, see:

<http://www.nco.ncep.noaa.gov/pmb/docs/on388/tableb.html>

This change will affect the following World Meteorological Organization (WMO) headers for GTG:

WMO Header	Flight Level (FL)
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YVW*14 KKCI	FL450
YVW*15 KKCI	FL440
YVW*16 KKCI	FL430
YVW*17 KKCI	FL420
YVW*18 KKCI	FL410
YVW*19 KKCI	FL400
YVW*20 KKCI	FL390
YVW*21 KKCI	FL380
YVW*22 KKCI	FL370
YVW*23 KKCI	FL360
YVW*24 KKCI	FL350
YVW*25 KKCI	FL340
YVW*26 KKCI	FL330
YVW*27 KKCI	FL320
YVW*29 KKCI	FL310
YVW*30 KKCI	FL300
YVW*32 KKCI	FL290
YVW*33 KKCI	FL280
YVW*34 KKCI	FL270
YVW*36 KKCI	FL260
YVW*38 KKCI	FL250
YVW*39 KKCI	FL240
YVW*41 KKCI	FL230
YVW*43 KKCI	FL220
YVW*45 KKCI	FL210
YVW*46 KKCI	FL200
YVW*48 KKCI	FL190
YVW*50 KKCI	FL180
YVW*53 KKCI	170
YVW*55 KKCI	160
YVW*57 KKCI	150
YVW*60 KKCI	140
YVW*62 KKCI	130
YVW*65 KKCI	120
YVW*67 KKCI	110
YVW*70 KKCI	100
ZVW*50 KKCI	Composite

Where:

* = A = 00-Hour Forecast
* = B = 01-Hour Forecast
* = C = 02-Hour Forecast
* = D = 03-Hour Forecast
* = G = 06-Hour Forecast
* = J = 09-Hour Forecast
* = M = 12-Hour Forecast

The GTG graphics are computer-generated four-dimensional forecasts of information related to the likelihood of encountering atmospheric turbulence. The product provides forecasts for the 48 contiguous United States, much of Canada and Mexico, and their respective coastal waters at flight altitudes from 10,000 mean sea level (MSL) to FL450 only; it does not provide forecasts from the surface to 10,000 feet. Users should also be aware that turbulence is a highly dynamic phenomenon and, in case of rapidly changing conditions, the product may not accurately convey a significant hazard. GTG may be used as a higher-resolution supplement to AIRman's METeorological Information (AIRMETs) and Significant Meteorological Information (SIGMETs), but not as a substitute for the turbulence information they provide. GTG-2 graphics are authorized for use as an unrestricted, supplementary weather product. The GTG-2 does not have the capability to be amended. See the definition of primary and supplementary weather products below.

GTG is produced automatically from the 13 KM Weather Research and Forecasting (WRF) Rapid Refresh (RAP) model runs. GTG produces an Analysis, 1-, 2-, 3-, 6-, 9- and 12-hour turbulence forecast every hour in GRIB format. This product also provides a composite field representing the maximum turbulence value between 10,000 and 45,000 feet for each analysis and forecast.

The GTG graphics suite is automatically produced with no human modifications. Information on the graphics is determined from observational data, pilot weather reports, upper air soundings, satellite soundings, automated aircraft reports, and surface weather reports, all of which are integrated with computer model output.

Early- to mid-May 2012, GTG output in GRIB format will be available through:

- NWS FTP servers at:
<ftp://tgftp.nws.noaa.gov/SL.us008001/DC.avspt/DS.fipgb>
- The Family of Services (FOS) High Resolution Data Service and Server Access Service.

Satellite Broadcast Network (SBN) NOAAPort channel.

To obtain sample gridded GTG data, contact:

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Senior Software Engineer
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For questions regarding the new GTG product, contact:

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National Technical Implementation Notices are online at:

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

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