

NOUS41 KWBC MMDDHH AAC
PNSWSH

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

TO: National Weather Service Offices (NWS)
Federal Aviation Administration Customers (FAA)
Family of Services Subscribers (FOS)
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 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.

<http://www.nws.noaa.gov/os/notification/tin11-36ruc.htm>

Effective May 1, 2012, 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:

1. Resolution of the grid spacing will increase from 20KM
to 13KM.
2. As a result of increased resolution, the parameter Grid
ID (PDS OCTET 7), internal to the GRIB file, will change
to 130. For more information, see

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

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This change will affect the following WMO headers for GTG:

WMO FLIGHT
HEADER LEVEL

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 MSL to FL450 only; it does not provide forecasts from the surface to 10,000 ft. 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 AIRMETs and 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 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 Gridded Binary (GRIB) format will be available through:

- NWS FTP servers at:

<ftp://tgftp.nws.noaa.gov/SL.us008001/DC.avsp/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:

Robert Sallee
Senior Software Engineer - Aviation Weather Center
Kansas City, MO 64153
816-584-7256
robert.sallee@noaa.gov

Questions regarding the new GTG product, contact:

M. Pat Murphy
Warning Coordination Meteorologist
Aviation Weather Center
Kansas City, MO 64153
816-584-7239
michael.pat.murphy@noaa.gov

National Technical Implementation Notices are online at:

<http://weather.gov/os/notif.htm>

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