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PNSWSH

Technical Implementation Notice 11-58 Amended
National Weather Service Headquarters Washington DC
1042 AM EST Wed Mar 7 2012

To NWS Offices
Federal Aviation Administration
Family Of Services Subscribers
Other Users of NWS Aviation Forecasts

From Cynthia Abelmann
Chief, Aviation Services Branch

Subject: Amended Graphical Turbulence Guidance To Be Updated
Effective March 20, 2012

The following changes have no impact on NOAA Weather Wire
Service Subscribers

The previous amendment to this change notice contained an
erroneous date. The correct date for this change is March 20,
2012 to coincide with the National Centers for Environmental
Prediction (NCEP) replacement of the Rapid Update Cycle (RUC)
model with the Rapid Refresh (RAP) model. See TIN 11-53 for
details on this change. Graphical Turbulence Guidance is based
on the RUC, and will be based on the RAP effective March 20,
2012.

Effective March 20, 2012, 1200 Coordinated Universal Time (UTC),
the NWS Aviation Weather Center (AWC) in Kansas City, Missouri,
will update The Graphical Turbulence Guidance (GTG) product in
conjunction with the implementation of the Rapid Refresh (RAP)
model. The following changes with potential impact to end users
of this product include:

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

Additional forecast hours valid at 04, 05, 07, 08, 10 and 11
hours

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

* = E = 04 HOUR FORECAST

* = F = 05 HOUR FORECAST

* = G = 06 HOUR FORECAST

* = H = 07 HOUR FORECAST

* = I = 08 HOUR FORECAST

* = J = 09 HOUR FORECAST

* = K = 10 HOUR FORECAST

* = L = 11 HOUR FORECAST

* = M = 12 HOUR FORECAST

The GTG graphics are computer-generated 4-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 Rapid Refresh (RAP) model runs. GTG produces an Analysis, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12-hour Turbulence Forecast every hour in GRIB format. This product also provides a composite field representing the maximum turbulence value between 10 and 45 thousand 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.

On January 24, 2012, GTG output in Gridded Binary (GRIB) format will be available through

1. NWS FTP servers at:

<ftp://tgftp.nws.noaa.gov/SL.us008001/DC.avspt/DS.fipgb>

2. The Family Of Services (FOS) High Resolution Data Service and Server Access Service

3. Satellite Broadcast Network (SBN) NOAAPORT channel

To obtain sample gridded GTG data, contact:

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For questions regarding the new GTG product contact:

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National Technical implementation notices are online at:

<http://www.nws.noaa.gov/om/notif.htm>

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