

NOUS41 KWBC 291845
PNSWSH

Service Change Notice 20-48A
National Weather Service Headquarters Silver Spring MD
245 PM EDT Wed Apr 29 2020

To: Subscribers:
 -NOAA Weather Wire Service
 -Emergency Managers Weather Information Network
 -NOAAPort
 Other NWS Partners, Users and Employees

From: Grant Cooper
 Acting Director
 National Centers for Environmental Prediction

Subject: Replace Global Forecast Systems (GFS) Variables on NOAAPort and
GTS: Effective June 16, 2020

Effective on about June 16, 2020, beginning with the 1200 Coordinated Universal Time (UTC) run, the National Centers for Environmental Prediction (NCEP) will upgrade the Global Forecast System. The upgrade will replace the variables for precipitation and vertical velocity for all World Meteorological Organization (WMO) headed data over NOAAPort and on the Global Telecommunications System (GTS). In the event of a Critical Weather Day (CWD) declaration, the upgrade will move to the next business day once the CWD is over.

GFS version 15.1.0 was implemented into operations at the 12Z cycle on June 12, 2019. It was the first GFS implementation with the finite-volume cubed-sphere (FV3) dynamical core as the NWS Next Generation Global Prediction System (NGGPS). With this upgrade, NCEP added new variables to allow users extended testing periods. Please reference Service Change Notice (SCN) 19-40 to review those changes:

https://www.weather.gov/media/notification/scn19-40gfs_v15_1.pdf

Product changes impact all GFS WMO Headed Data products in gridded binary (GRIB) format to include the following grids:

- a) Global Latitude/Longitude 1 degree Resolution (Grid #3) [YZ]*P*## KWBC
- b) Grid over Alaska polar stereographic 20 km [YZ]*B*## KWBC
- c) Grid over Pacific Mercator 20 km (grid #254) [YZ]*F*## KWBC
- d) Grid over Puerto Rico Latitude/Longitude 20 km [YZ]*E## KWBC
- e) Grid over contiguous U.S. (CONUS) Latitude/Longitude 20 km (grid #215) [YZ]*N*## KWBC
- f) Grid over CONUS Lambert Conformal 80 km (#211) [YZ]*Q*## KWBC
- g) World Area Forecast System (WAFS) Latitude-Longitude 1.25 x 1.25 (#37-44)

1) Changes to replace the vertical velocity variable:

- All levels will remain the same

- Units will be changing from:
VVEL (pascal/s) -> DZDT (m/s)
- The parameter number will be changing from VVEL #8 to DZDT #9
- All WMO headers will be remaining the same.

2) Changes to replace the total and convective precipitation variables:

- Units will be changing from hourly/3-hourly/6-hourly accumulation to total accumulation over the forecast period:
APCP:surface:234-240 hour acc fcst ->
APCP:surface:0-240 hour acc fcst
ACPCP:surface:234-240 hour acc fcst ->
ACPCP:surface:0-240 hour acc fcst
- All WMO headers will be remaining the same.

The replacement of these variables will occur with the exact cycle referenced above. NCEP will not be able to run these variables in parallel. The only impacts from this notice are to WMO headed data, including to NOAAport and the GTS data feeds. All other data sources will continue providing both legacy and new variables in parallel and will not be changing. A static sample of the new output is available on para NOAA National Operational Model Archive and Distribution System (NOMADS):

https://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/gfs_newprecip/

NCEP will evaluate all comments to determine whether to proceed with this upgrade.

For questions regarding these GFS system changes, please contact:

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For questions regarding the data flow aspects of these data sets, please contact:

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National Service Change Notices are online at:

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

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