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PNSWSH

Service Change Notice 18-96 Updated
National Weather Service Headquarters Silver Spring MD
920 AM EST Tue Nov 20 2018

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

From: Dave Myrick
           NWS Office of Science and Technology Integration

Subject: Updated: RTMA/URMA/RTMA-RU upgrade implementation start
         time changed to the 1200z cycle on December 4, 2018

Updated to change the implementation start time to the 1200z
cycle instead of the 1500z cycle on December 4, 2018.

Effective on or about December 4, 2018, beginning with the
1200 Universal Coordinated Time (UTC) cycle, the National
Centers for Environmental Prediction (NCEP) will upgrade the
Real-Time Mesoscale Analysis (RTMA), the Unrestricted Mesoscale
Analysis (URMA) and the RTMA Rapid-Update (RTMA-RU).

This upgrade will include:
- Changes to model components
- Addition of new product fields and changes
- Product removals, including Web Services and Satellite
Broadcast Network SBN/NOAAPORT

1) Changes to Model Components
 - The RTMA-RU system latency is improved such that product
delivery occurs within 15 minutes of the cycle time.
 - Guam RTMA will change from a three-hourly analysis system to
an hourly analysis system.
 - Guam RTMA will change to use a background field from the 3-km
Guam High-Res Window forecast, rather than a 13-km GFS forecast.
The new high spatial resolution background is generally of a
longer forecast length, since the High-Res Window model only
makes forecasts for cycles 00Z and 12Z, while the GFS makes
forecasts for cycles 00Z, 06Z, 12Z and 18Z. In addition, the
first five hours of each High-Res Window forecast are discarded
to avoid noise in the RTMA background.
 - Alaska RTMA and Alaska URMA will change to use a background
field from the 3-km High Resolution Rapid Refresh (HRRR) Alaska
forecast, rather than a 13-km Rapid Refresh (RAP) forecast. The
new high resolution background is generally of a longer forecast
length, since the HRRR-AK model only makes forecasts for cycles
00Z, 03Z, 06Z, 09Z, 12Z, 15Z, 18Z, 21Z, while the RAP model
makes forecasts for hourly cycles.

- The ceiling/sky cover analysis is expanded to all OCONUS domains in support of the National Blend of Models (NBM).
 - The significant wave height analysis is expanded to the OCONUS URMA domains.
 - The ceiling and visibility analysis is improved for all domains through the use of a general nonlinear transformation of variables in the data assimilation algorithm.
 - CONUS RTMA/URMA/RTMA-RU will begin assimilating new visibility observations from Mesonets via a use-list provided by NOAA Earth System Research Laboratory (ESRL).
 - The coastal gaps in the CONUS URMA precipitation analysis are filled via the incorporation of available Multi-Radar Multi-Sensor (MRMS) and the Climate Prediction Center MORPHing Technique (CMORPH) precipitation analysis data.
 - Updates to improve how well the analysis matches observations:
 - For CONUS domains of RTMA, URMA, and RTMA-RU, update the analysis observation selection algorithm to only use the observation closest to analysis time instead of fitting among the full window of reports from a single station.
 - For the CONUS domains of RTMA, URMA, and RTMA-RU, update temperature background error covariance in complex terrain
 - Updated wind Quality Control (QC) lists for Mesonets.

2) Product changes and additions on the NCEP Web Services under rtma/prod and urma/prod:
  http://nomads.ncep.noaa.gov/pub/data/nccf/com/
  http://www.ftp.ncep.noaa.gov/data/nccf/com/
  ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/

 - A new parameter, significant wave height (HTSGW), will be added to URMA GRIB2 files (with pattern 2dvaranl|2dvarges|2dvarerr) over Alaska, Hawaii and Puerto Rico. Significant wave height uses WaveWatch 3 output as a first guess field, and includes observations from buoys and satellite altimeters.
 - A new parameter, ceiling height (CEIL), will be added to RTMA GRIB2 and URMA GRIB2 (with pattern 2dvaranl|2dvarges|2dvarerr) over Hawaii and Puerto Rico, and to RTMA over Guam.
 - A new parameter, sky cover (TCDC), will be added to RTMA GRIB2 and URMA GRIB2 (with pattern 2dvaranl|2dvarges|2dvarerr) over Alaska, Hawaii and Puerto Rico, and to RTMA over Guam.
 - New Hourly Guam RTMA data will become available. Files will be in the same format and have the same naming convention as current three-hourly Guam RTMA files.
   Files under gurtma.YYYYMMDD/ like:
  gurtma.tHHz.[2dvaranl|2dvarges|2dvarerr]_ndfd.grb2
   Where YYYYMMDD is year, month, and day, HH is cycle from 00-23
 - The RTMA and URMA GRIB2 data available on NCEP web services will be increased from 2 days available to 10 days available.
 - URMA's CONUS precipitation grid has been expanded to use the larger "WEXP" grid (pcpurma_wexp.yyyymmddhh.xxh.grb2).
 - CONUS URMA data files with validation time more than 24h ago will have an accompanying data mask

(pcpurma_mask.yyyymmddhh.xxh.grb2; this is a new product)
showing source of coverage (98-CMORPH; 99-MRMS, 150,152-162:
CONUS RFCs [using RFC IDs]). The CONUS precipitation URMA files
sent to NOMADS will be on the WEXP grid, replacing the current
G184 (smaller CONUS Grid) and G188 (NWRFC area) files, while the
files distributed through AWIPS will remain on G184 and G188.

3) Product removals from the NCEP Web Services

- Remove the following RTMA and URMA grids, as originally
announced in SCN 17-105. All of the data within these files
being removed can be extracted from the "_wexp" files.
   [rtma2p5|urma2p5].tCCz.[2dvaranl|2dvarges|2dvarerr]_ndfd.grb2
   [rtma2p5|urma2p5].tCCz.[2dvaranl|2dvarges|2dvarerr]_nwrfc.grb2

[rtma2p5|urma2p5].tCCz.[2dvaranl|2dvarges|2dvarerr]_ndfd.grb2_ex
t
- Remove subsets of CONUS URMA precipitation
   pcpurma_g184.YYYYMMDDCC.HHh.grb2
   pcpurma_g188.YYYYMMDDCC.HHh.grb2
   Where CC = cycle and HH is hour

4) Product Removals from the NWS Web Services at:
http://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.rtma/AR.c
onus/RT.CC
ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.rtma/AR.co
nus/RT.CC

Where CC = cycle

 - Removal of the National Environmental Satellite, Data, and
Information Service (NESDIS) created Total Cloud Cover grid
   ds.sky.bin (LAMA98 KNES)

5) There will be no additions to NOAAPORT

6) The following products will be removed from SBN/NOAAPORT:
 - The 5km (Grid 197) RTMA. These are hourly analysis and error
files which are 14MB in size per cycle. The WMO Headers being
removed are as follows:
   LHMA98 KWBR
   LNMA98 KWBR
   LPMA98 KWBR
   LRMA98 KWBR
   LTMA98 KWBR
   LUMA98 KWBR
   LVMA98 KWBR

More information about the RTMA, URMA and RTMA-RU is available
at:
   https://vlab.ncep.noaa.gov/web/715073/home

A consistent parallel feed of data will be available on the NCEP
server via the following URLs:

http://para.nomads.ncep.noaa.gov/pub/data/nccf/com/rtma/para/
http://para.nomads.ncep.noaa.gov/pub/data/nccf/com/urma/para/

NCEP urges all users to ensure their decoders can handle changes
in content order and volume changes. These elements may change
with future NCEP model implementations. NCEP will make every
attempt to alert users to these changes before implementation.

Questions, comments or requests regarding this change should be
directed to the contacts below. We will review feedback and
decide whether to proceed.

For questions regarding these changes, please contact:

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

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NWS National Service Change Notices are online at:

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

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