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PNSWSH

Technical Implementation Notice 11-35, Amended
National Weather Service Headquarters Washington DC
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Office of Science and Technology

Subject: Amended Changes and Additions to NAM-DNG Products, Including Distribution of New High-Resolution DNG Effective Date of NOAAPORT Activation: December 4, 2012

Amended to set the implementation date to add these products to NOAAPORT to Tuesday, December 4, 2012.

The modifications to the current NAM DNG, as part of the upgrade of the NAM prediction system, were implemented when the NAM upgrade was completed on October 18, 2011. This amended TIN covers the addition of these products to NOAAPORT. No changes are being made at this time to the content of the products. Much of what follows is directly from the original phrasing of TIN 11-35, with some minor wording changes.

Effective with the upgrade of the North American Mesoscale (NAM) prediction system, and inclusion of high resolution nests (see TIN 11-16), the National Centers for Environmental Prediction (NCEP) will modify and enhance the suite of NAM Downscaled Numerical Guidance (NAM-DNG).

The current NAM-DNG products are distributed to the Continental U.S. (CONUS), Alaska, Hawaii and Puerto Rico out to 84 hours over the AWIPS SBN/NOAAPORT and are available on the NCEP server. The new NAM nests are run only to 60 hours but are run at resolutions much closer to the National Digital Forecast Database (NDFD) forecast grids used in the DNG than the 12km NAM, now called the parent grid.

After the modification of existing NAM-DNG is implemented, as stated in TIN 11-16, the first 60 hours (54 hours) of the current 0000 and 1200 UTC (0600 and 1800 UTC), NAM-DNG will come from the NAM nests instead of from the 12km NAM parent.

--CONUS: 4km NAM nest will feed 5km NAM-DNG
--Alaska: 6km NAM nest will feed 5.9km NAM-DNG
--Hawaii, Puerto Rico: 3km NAM nests will feed 2.5km NAM-DNG

In this way, only slight downscaling (or upscaling in the case of CONUS) is required. Currently, all systems downscale from 12km.

After the change, there may be some unavoidable amount of discontinuity between the NAM-nest-based 60-hr (54 hr for 0600 and 1800 UTC) and the NAM-parent-based 63-hr (57 hr for 0600 and 1800 UTC) guidance. These modifications will occur when the NAM upgrade, detailed in TIN 11-16 linked below, is implemented later this summer.

www.weather.gov/os/notification/tin11-16nam_changes_aad.htm

The enhancement of NAM-DNG will come from the addition of NAM-DNG for CONUS and Alaska at double the present NDFD resolution through the 60 hours covered by the NAM nests.

For CONUS, the 4km NAM nest will feed a 2.5km NAM-DNG. For Alaska, the 6km NAM nest will feed a 3km NAM-DNG. Output will be made available every 3 hours from 0-60 hours for all 4 NAM cycles.

These new high-resolution NAM-DNG products will be available on the NCEP server when the NAM upgrade is implemented. In addition, simulated composite reflectivity will be added to output for both the modified and enhanced NAM-DNG. The new high-resolution NAM-DNG products will be made available on NOAAPORT on Tuesday December 4, 2012.

The grids listed below in Table 1 for CONUS and Table 2 for Alaska will be available at double NDFD resolutions.

NCEP will remove the coarser 5km CONUS and 5.9km Alaska NAM-DNG products from NOAAPORT and all other distribution methods once sufficient time has passed to allow software upgrades. A separate announcement will be sent before removing these products.

Table 1: NAM-DNG products available over CONUS at 2.5km resolution and their associated WMO headers

WMO Header	NAM-DNG Parameter
[L|M]AJ*** KWBE	Dewpoint temperature
[L|M]AJ*** KWBE	Cloud Cover
[L|M]AJ*** KWBE	Wind Speed
[L|M]AJ*** KWBE	Wind Direction
[L|M]AJ*** KWBE	Wind Gust Speed
[L|M]DJ*** KWBE	Probability of Precipitation (3, 6 & 12 hourly)
[L|M]EJ*** KWBE	Total Precipitation (3, 6 & 12 hourly)
[L|M]HJ*** KWBE	Boundary layer height or wet bulb zero height

[L|M]KJ*** KWBE Visibility
[L|M]RJ*** KWBE Minimum/Maximum relative humidity(3 & 12 hourly)
[L|M]SJ*** KWBE Snow depth (3 & 6 hourly)
[L|M]TJ*** KWBE Temperature
[L|M]TJ*** KWBE Minimum/Maximum temperature (3 & 12 hourly)
[L|M]UJ*** KWBE U component of wind
[L|M]VJ*** KWBE V component of wind
[L|M]ZJ*** KWBE Simulated composite reflectivity

Table 2: NAM-DNG products available over Alaska at 3km resolution and their associated WMO headers

WMO Header NAM-DNG Parameter
[L|M]AK*** KWBE Dewpoint temperature
[L|M]AK*** KWBE Cloud Cover
[L|M]AK*** KWBE Wind Speed
[L|M]AK*** KWBE Wind Direction
[L|M]AK*** KWBE Wind Gust Speed
[L|M]DK*** KWBE Probability of Precipitation (3, 6 & 12 hourly)
[L|M]EK*** KWBE Total Precipitation (3, 6 & 12 hourly)
[L|M]HK*** KWBE Boundary layer height or wet bulb zero height
[L|M]KK*** KWBE Visibility
[L|M]RK*** KWBE Minimum/Maximum relative humidity(3 & 12 hourly)
[L|M]SK*** KWBE Snow depth (3 & 6 hourly)
[L|M]TK*** KWBE Temperature
[L|M]TK*** KWBE Minimum/Maximum temperature (3 and 12 hourly)
[L|M]UK*** KWBE U component of wind
[L|M]VK*** KWBE V component of wind
[L|M]ZK*** KWBE simulated composite reflectivity

A Website outlining all of the NAM-DNG WMO headers is online at:

www.nco.ncep.noaa.gov/pmb/changes/nam_dng_wmoheaders.shtml

The NAM-DNG grids are made available from the NCEP server at:

ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/nam/prod/

or

http://www.ftp.ncep.noaa.gov/data/nccf/com/nam/prod

There are files for the four nests: smartconus, smartak, smarthi and smartpr followed by the two-digit forecast hour. The CONUS files will be named smartconus for the 5km and smartconus2p5 for the 2.5km. Similarly Alaska files will be smartak for the 6km grids and smartak3 for the 3km grids.

For questions regarding the NAM-DNG, please contact:

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National Technical Implementation Notices are online at:

http://www.weather.gov/os/notif.htm

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