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PNSWSH

Technical Implementation Notice 10-61
National Weather Service Headquarters Washington DC
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To: Subscribers:
         -Family of Services
         -NOAA Weather Wire Service
         -Emergency Managers Weather Information Network
         -NOAAPORT
         Other NWS Partners...Users and Employees

From: Timothy McClung
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          Office of Science and Technology

Subject: Upgrade to HIRES Window: Effective March 1, 2011

Effective March 1, 2011, beginning with the 1200 Coordinated
Universal Time (UTC) run, the National Centers for Environmental
Prediction (NCEP) will upgrade the High-Resolution Window
Forecast System (HIRESW). The upgrade includes:

-Changes to the model components
-Addition of a Guam domain run
-Changes to the Puerto Rico grid domain
-Addition of new products and a new output grid for Guam
-Change to the directory location on the NCEP server

These changes will not be implemented on NOAAPORT or the
Advanced Weather Interactive Processing System (AWIPS) at this
time. A separate TIN will be issued for the future activation
of the HIRESW changes on AWIPS and NOAAPort.

Model Changes:
The HIRESW model will be updated from Weather Research and
Forecasting (WRF) version 2.2 code to WRF version 3.2 code for
both the Advanced Research WRF (ARW) and the Nonhydrostatic
Mesoscale Model (NMM) members of the system. Both the ARW and
NMM models will use better conserving moisture advection after
this upgrade.

Domain Changes:
The Puerto Rico domain will be expanded by approximately 50% to
provide full coverage to Hispaniola. A new domain will be added
to run over Guam twice daily at 00 and 12 UTC. The model grid
spacing will remain unchanged at 5.15 km for ARW and 4.0 km for
NMM for all domains. With the addition of Guam, the revised run
schedule will be:

00 UTC: East, Hawaii, Guam

06 UTC: West, Puerto Rico
12 UTC: East, Hawaii, Guam
18 UTC: Alaska, Puerto Rico

These runs may be cancelled by hurricane model runs during the
tropical season.

New Products:
BUFR-formatted point forecasts for select locations will become
available with this implementation.

The new gridded output fields that will become available for all
domains are:
  Echo top height from simulated radar reflectivity
  Planetary Boundary Layer height (Richardson number based)
  Hourly max updraft helicity
  Hourly max updraft speed
  Hourly max downdraft speed
  Hourly max 10 m above ground level (AGL) wind speed
  Hourly max 1000 m AGL simulated radar reflectivity
  Hourly max/min 2 m AGL temperature
  Hourly max/min 2 m AGL relative humidity
  Ventilation rate
  Transport wind
  80 m AGL wind, temperature, moisture, and pressure

In addition, NCEP will generate a set of new high-resolution,
hybrid ensemble output that combines uncertainty information
from the Short Range Ensemble Forecast (SREF) with deterministic
forecasts from the HIRES. Output products from this HIRES
ensemble will include mean, spread, and probabilistic guidance.

Data Availability:
The HIRESW data is currently available on the NWS FTP server,
the NCEP server, and in NOMADS. The directory name of the
location of the HIRESW output on the NCEP server and in NOMADS
will change from:

  .../com/nam/prod/hiresw
To
  .../com/hiresw/prod/hiresw

The location of the data on the NWS FTP server will not change.

Product delivery timing of the HIRESW products is not expected
to change as a result of this implementation. More information
regarding the HIRESW and associated products can be found at:

http://www.emc.ncep.noaa.gov/mmb/mmbpll/nestpage_4km

A consistent parallel feed of data will become available on the
NCEP server once the model is running in parallel on the NCEP
Central Computing System by mid-January. The parallel data will
be available via the following URLs:

http://www.ftp.ncep.noaa.gov/data/nccf/com/hiresw/para

ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/hiresw/para

NCEP encourages all users to ensure their decoders are flexible
and are able to adequately handle changes in content order,
changes in the scaling factor component within the product
definition section (PDS) of the GRIB files, and also any volume
changes which may be forthcoming. These elements may change with
future NCEP model implementations. NCEP will make every attempt
to alert users to these changes prior to any implementations.

For questions regarding these changes, please contact:

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For questions regarding the dataflow aspects of these data
Sets, please contact:

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NWS National Technical Implementation Notices are online at:

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

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