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Technical Implementation Notice 10-50, Amended
National Weather Service Headquarters Washington DC
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From: Timothy McClung
Chief, Science Plans Branch
Office of Science and Technology

Subject: Amended: Changes to the North American Ensemble
Forecasting System (NAEFS): Effective January 18, 2011

Amended to postpone the effective date from January 11th to
January 18th to allow for sufficient evaluation.

Effective Tuesday, January 18, 2011, beginning with the 1200
Coordinated Universal Time (UTC) run, the National Centers for
Environmental Prediction (NCEP) will make modifications to the
North American Ensemble Forecasting System (NAEFS). The current
NAEFS output is derived by combining the NCEP Global Ensemble
Forecast System (GEFS) and the Canadian Meteorological Center's
GEFS. Starting January 18, the global ensemble system run by the
Fleet Numerical Meteorology and Oceanography Center (FNMOC) will
also be included in the NAEFS.

The NAEFS output is disseminated only via the NCEP server.
Products are available for http and ftp download at the
following URLs:

<http://www.ftp.ncep.noaa.gov/data/nccf/com/gens/prod/>
and
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/gens/prod/>

In addition to including the FNMOC data in the NAEFS ensemble
calculations, NCEP will also be modifying the output available
from the NCEP GEFS, CMC GEFS, and the NAEFS. These
modifications include:

Adding the following 13 bias-corrected elements to the NCEP
GEFS and NAEFS output for all probabilistic products:

- 10 hPa(mb) geopotential height
- 10 hPa(mb) temperature
- 10 hPa(mb) u component of wind
- 10 hPa(mb) v component of wind

- 50 hPa(mb) geopotential height
- 50 hPa(mb) temperature
- 50 hPa(mb) u component of wind
- 50 hPa(mb) v component of wind
- 100 hPa(mb) geopotential height
- 100 hPa(mb) temperature
- 100 hPa(mb) u component of wind
- 100 hPa(mb) v component of wind
- 850 hPa(mb) vertical velocity

The directory location of the raw CMC GEFS data will be changed. Starting on January 18, the GRIB2 output for the individual member and ensemble means and spreads will be online in the following directories, where YYYYMMDD is the date and CC is the model cycle:

<http://www.ftp.ncep.noaa.gov/data/nccf/com/gens/prod/cmce.YYYYMMDD/CC/pgrb2a>
and
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/gens/prod/cmce.YYYYMMDD/CC/pgrb2a/>

In addition, the following 28 variables will be added to the CMC output:

- 10 hPa(mb) geopotential height
- 10 hPa(mb) temperature
- 10 hPa(mb) relative humidity
- 10 hPa(mb) u component of wind
- 10 hPa(mb) v component of wind
- 50 hPa(mb) geopotential height
- 50 hPa(mb) temperature
- 50 hPa(mb) relative humidity
- 50 hPa(mb) u component of wind
- 50 hPa(mb) v component of wind
- 100 hPa(mb) geopotential height
- 100 hPa(mb) temperature
- 100 hPa(mb) relative humidity
- 100 hPa(mb) u component of wind
- 100 hPa(mb) v component of wind
- 850 hPa(mb) vertical velocity
- Convective inhibition (CIN 180-0 hPa)
- Latent heat net flux
- Sensible heat net flux
- Downward shortwave radiation flux at surface
- Downward longwave radiation flux at surface
- Upward shortwave radiation flux at surface
- Upward longwave radiation flux at surface
- Upward longwave radiation flux at top of atmosphere
- Volumetric soil moisture (0-10cm)
- Water equivalent of accumulated snow depth
- Snow depth (surface)
- Soil temperature (0-10cm down)

Data delivery timing is not expected to be impacted by the

implementation. There will only be a minor increase in the data volumes of existing files due to the addition of new variables.

A sample dataset for this NAEFS implementation is available at:

ftp://ftp.emc.ncep.noaa.gov/gc_wmb/yzhu/1q2011

Specific information regarding the NAEFS and scientific implementation is online at:

http://www.emc.ncep.noaa.gov/gmb/yzhu/html/imp/201012_imp.html

By early December, once the model is running in parallel on the NCEP Central Computing System, a consistent parallel feed of data will be available on the NCEP server. The parallel data will be available via the following URLs:

<http://www.ftp.ncep.noaa.gov/data/nccf/com/gens/para/>
and
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/gens/para/>

NCEP urges all users to ensure their decoders can handle changes in content order, changes in the scaling factor component within the product definition section (PDS) of the GRIB files, 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.

For questions regarding these changes, please contact:

Yuejian Zhu
NCEP/Global Modeling Branch
Camp Springs, Maryland
301-763-8000 X 7052
Yuejian.Zhu@noaa.gov

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

Rebecca Cosgrove
NCEP/NCO Dataflow Team
Camp Springs, Maryland 20746
301-763-8000 X 7198
ncep.pmb.dataflow@noaa.gov

NWS National Technical Implementation Notices are online at:

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

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