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PNSWSH

Technical Implementation Notice 10-xx

National Weather Service Headquarters Washington DC

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From: Timothy McClung

Chief, Science Plans Brach

Office of Science and Technology

Subject: Changes to the North American Ensemble System (NAEFS):

Effective January 11, 2010

Effective Tuesday, January 11, 2010, beginning with the 1200 Coordinated Universal Time (UTC) run, the National Centers for Environmental Prediction (NCEP) will make modifications to the North American Ensemble System (NAEFS). The current NAEFS output is derived by combining the NCEP Global Ensemble Forecast System (GEFS), and the Canadian Meterological Center’s GEFS. Starting January 11th, the global ensemble system run by the Fleet Numerical Meteorology and Oceanography Center (FNMOC) will also be included in the NAEFS system.

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/>

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

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

1) 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

2) The directory location of the raw CMC GEFS data will be changed. The GRIB2 output for the individual member and ensemble means and spreads will now be available in the directories

<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/>

where YYYYMMDD is the date and CC is the model cycle.

The following 28 additional 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, and there will only be a small 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 can be found at the link below:

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

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-November.  The parallel data will be available via the following URLs:

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

<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/gens/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:

      Yuejian Zhu

      NCEP/Global Modeling Branch

      Camp Springs, Maryland

      Phone: 301-763-8000 X 7052

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For questions regarding the dataflow aspects of these data

sets... please contact:

     Rebecca Cosgrove

     NCEP/NCO Dataflow Team

     Camp Springs, Maryland 20746

     Phone:  301-763-8000 X 7198

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NWS National Technical Implementation Notices are online at:

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

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