

NOUS41 KWBC 191219 CCA  
PNSWSH

Technical Implementation Notice 14-04, Corrected  
National Weather Service Headquarters Washington DC  
815 AM EDT Wed Mar 19 2014

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

From: Tim McClung  
Chief, Science Plans Branch  
Office of Science and Technology

Subject: Corrected: Addition of GEFS/NAEFS Bias-Corrected  
Products and Downscaled Products for Alaska and CONUS:  
Effective March 27, 2014

Corrected an error in the WMO headers provided: the third digit (A1) in the WMO header should be A, not E. Also amended to change the effective date from March 18 to March 27, 2014.

Effective on or about Thursday, March 27, 2014, beginning with the 1200 Universal Coordinated Time (UTC) run, the National Centers for Environmental Prediction (NCEP) will upgrade the Global Ensemble Forecast System (GEFS) and the North American Ensemble Forecast System (NAEFS). The upgrade will include:

- Adding variables to bias-corrected products globally and downscaled probabilistic products for CONUS and Alaska from the Global Ensemble Forecast System (GEFS) and the North American Ensemble Forecast System (NAEFS)
- New product generation of calibrated CONUS precipitation
- Consolidation of the "early" and "late" runs of the NAEFS jobs into one operational run. Today, NCEP disseminates "early" NAEFS output files that only contain output from the GEFS members, followed 2 hours later by a re-dissemination of these same NAEFS files now populated with the combined GEFS and CMC output. With this upgrade, the files will be posted only one time, roughly 20 minutes after the current early delivery time, but they will be these final GEFS/CMC combined output products.

In addition, on or about Wednesday, April 9, 2014, beginning with the 1200 UTC run, NCEP will begin disseminating total precipitation and 2 meter bias-corrected temperature grids from the individual members of the GEFS ensemble forecast. This

product will be sent on NOAAPORT and the Satellite Broadcast Network (SBN) to support the Eastern Region River Forecast Centers (RFCs) Ensemble River Forecast System, also known as Model Ensemble River Forecasts (MMEFS)

<http://www.erh.noaa.gov/mmeefs/index.php>

There will be no change to the current GEFS and NAEFS output file names. NCEP will only be modifying the output variables from the NCEP GEFS and the NAEFS.

More information about the GEFS and NAEFS upgrade is available on the NCEP server at:

[http://www.emc.ncep.noaa.gov/gmb/yzhu/html/imp/201204\\_imp.html](http://www.emc.ncep.noaa.gov/gmb/yzhu/html/imp/201204_imp.html)

All filenames given below can be located on the NCEP server via the following URLs (yyymmdd is the year, month, and day):

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

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

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

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

Addition of New Variables:

## is the number of the ensemble member

CC is the cycle

FFF is the forecast hour

1. Adding the following two bias-corrected elements:

2-meter relative humidity

2-meter dew point temperature

Ensemble products with the two new variables listed include:

NCEP bias-corrected GEFS forecast for each member

GEFS filenames pgrb2a\_bc/gep##

NCEP bias-corrected GFS forecast

GEFS filenames pgrb2a\_bc/gegfs

10% probability forecast

GEFS filenames pgrb2a\_bc/ge10pt

NAEFS filenames pgrb2a\_bc/naefs\_ge10pt

50% probability forecast

GEFS filenames pgrb2a\_bc/ge50pt

NAEFS filenames pgrb2a\_bc/naefs\_ge50pt

90% probability forecast

GEFS filenames pgrb2a\_bc/ge90pt  
NAEFS filenames pgrb2a\_bc/naefs\_ge90pt  
Ensemble mean forecast  
GEFS filenames pgrb2a\_bc/geavg  
NAEFS filenames pgrb2a\_bc/naefs\_geavg  
Ensemble mode forecast  
GEFS filenames pgrb2a\_bc/gemode  
NAEFS filenames pgrb2a\_bc/naefs\_gemode  
Ensemble spread forecast  
GEFS filenames pgrb2a\_bc/gespr  
NAEFS filenames pgrb2a\_bc/naefs\_gespr

2. Adding the following six new variables for CONUS products:

2-meter maximum temperature  
2-meter minimum temperature  
2-meter relative humidity  
2-meter dew point temperature  
10-meter wind speed  
10-meter wind direction

Ensemble products with the six new variables listed include:

10% probability forecast  
GEFS filenames ndgd\_gb2/ge10pt.tCCz.ndgd\_conus  
NAEFS filenames ndgd\_gb2/naefs\_ge10pt.tCCz.ndgd\_conus  
50% probability forecast  
GEFS filenames ndgd\_gb2/ge50pt.tCCz.ndgd\_conus  
NAEFS filenames ndgd\_gb2/naefs\_ge50pt.tCCz.ndgd\_conus  
90% probability forecast  
GEFS filenames ndgd\_gb2/ge90pt.tCCz.ndgd\_conus  
NAEFS filenames ndgd\_gb2/naefs\_ge90pt.tCCz.ndgd\_conus  
Ensemble mean forecast  
GEFS filenames ndgd\_gb2/geavg.tCCz.ndgd\_conus  
NAEFS filenames ndgd\_gb2/naefs\_geavg.tCCz.ndgd\_conus  
Ensemble mode forecast  
GEFS filenames ndgd\_gb2/gemode.tCCz.ndgd\_conus  
NAEFS filenames ndgd\_gb2/naefs\_gemode.tCCz.ndgd\_conus  
Ensemble spread forecast  
GEFS filenames ndgd\_gb2/gespr.tCCz.ndgd\_conus  
NAEFS filenames ndgd\_gb2/naefs\_gespr.tCCz.ndgd\_conus

3. Adding the following two new variables for Alaska products:

2-meter relative humidity  
2-meter dew point temperature

Ensemble products with the two new variables listed include:

10% probability forecast  
GEFS filenames ndgd\_gb2/ge10pt.tCCz.ndgd\_alaska  
NAEFS filenames ndgd\_gb2/naefs\_ge10pt.tCCz.ndgd\_alaska  
50% probability forecast  
GEFS filenames ndgd\_gb2/ge50pt.tCCz.ndgd\_alaska

NAEFS filenames ndgd\_gb2/naefs\_ge50pt.tCCz.ndgd\_alaska  
90% probability forecast  
GEFS filenames ndgd\_gb2/ge90pt.tCCz.ndgd\_alaska  
NAEFS filenames ndgd\_gb2/naefs\_ge90pt.tCCz.ndgd\_alaska  
Ensemble mean forecast  
GEFS filenames ndgd\_gb2/geavg.tCCz.ndgd\_alaska  
NAEFS filenames ndgd\_gb2/naefs\_geavg.tCCz.ndgd\_alaska  
Ensemble mode forecast  
GEFS filenames ndgd\_gb2/gemode.tCCz.ndgd\_alaska  
NAEFS filenames ndgd\_gb2/naefs\_gemode.tCCz.ndgd\_alaska  
Ensemble spread forecast  
GEFS filenames ndgd\_gb2/gespr.tCCz.ndgd\_alaska  
NAEFS filenames ndgd\_gb2/naefs\_gespr.tCCz.ndgd\_alaska

New Products Available: there will be one file per forecast hour that contains all forecasts for all ensemble members:

1. 1.0 degree GEFS bias-corrected 6-hourly precipitation projections for forecast hours 00 through 384  
NCEP bias-corrected GFS Quantitative Precipitation Forecast (QPF) and NCEP bias-corrected GEFS QPF for each member  
GEFS filenames prcp\_gb2/geprcp.tCCz.pgrb2\_bc\_06h  
NCEP bias-corrected GEFS Probabilistic QPF (PQPF) for 14 thresholds  
GEFS filenames prcp\_gb2/gepqpf.tCCz.pgrb2\_bc\_06h
2. 5.0 km NDGD grid GEFS 6-hourly precipitation projections for forecast hours 00 through 384  
NCEP downscaled GFS Quantitative Precipitation Forecast (QPF) and NCEP downscaled GEFS QPF for each member  
GEFS filenames  
ndgd\_prcp\_gb2/geprcp.tCCz.ndgd\_conus\_06h  
NCEP downscaled GEFS PQPF for 14 thresholds  
GEFS filenames  
ndgd\_prcp\_gb2/gepqpf.tCCz.ndgd\_conus\_06h

Directory Changes:

To maintain consistency, NCEP will move the existing GEFS 24-hour accumulated PQPF files into the new prcp\_gb2 directory:

prcp/gepqpf.tCCz.pgrb2\_24hfFFF will now be found in prcp\_gb2/

New Products Available on NOAAPORT and SBN:

The GEFS products being added will be on a Global Latitude/Longitude grid with 1.0 degree resolution. Forecast cycles are 4 times daily (00Z, 06Z, 12Z and 18Z), with forecast projections at 6-hourly increments from 00 through 180 hours for each 20 members and the control. The total volume throughput will be 252MB/day. The data will be transmitted in GRIB2 with the following WMO header format:

T1T2A1A2ii cccc where

- If T1=L

Then A2 is: A=00, B=06, C=12, D=18, E=24, F=30, G=36, H=42,  
I=48, J=60, K=72, L=84, M=96, N=108, O=120, P=132, Q=144,  
R=156, S=168, T=180

- If T1=M

Then A2 is: M=54, N=66, T=78, U=90, V=102, W=114, Z=126,  
Z=138, Z=150, Z=162, Z=174

- T2 specifies the parameters as follows

E = Total precipitation (APCP)

T = Temperature 2 m above ground (TMP)

- A1 = A Grid ID #3 (Global Lat/Lon 1 degree resolution)

- ii specifies the levels as follows: 98 = surface of Earth

- cccc = KWBK

1. Bias-corrected 2 meter temperature headers:

[LM]TE[A-WZ]98 KWBK

2. 6 hour accumulating total precipitation headers:

[LM]EE[A-WZ]98 KWBK

NCEP will offer a consistent parallel feed of both GEFS and  
NAEFS data 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:

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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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