

NOUS41 KWBC 291927
PNSWSH

TECHNICAL IMPLEMENTATION NOTICE 09-34
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
330 PM EDT TUE SEP 29 2009

TO: SUBSCRIBERS:
-FAMILY OF SERVICES
-NOAA WEATHER WIRE SERVICE
-EMERGENCY MANAGERS WEATHER INFORMATION NETWORK
-NOAAPORT
OTHER NWS PARTNERS...USERS AND EMPLOYEES

FROM: TIM MCCLUNG
SCIENCE PLANS BRANCH CHIEF
OFFICE OF SCIENCE AND TECHNOLOGY

SUBJECT: GLOBAL ENSEMBLE FORECAST SYSTEM/NORTH AMERICAN
ENSEMBLE FORECAST SYSTEM CHANGES:
EFFECTIVE DECEMBER 15 2009

EFFECTIVE DECEMBER 15 2009...BEGINNING WITH THE 1200
COORDINATED UNIVERSAL TIME /UTC/ RUN...THE NATIONAL CENTERS
FOR ENVIRONMENTAL PREDICTION /NCEP/ WILL UPGRADE THE GLOBAL
ENSEMBLE FORECAST SYSTEM /GEFS/. CHANGES INCLUDE MODEL
UPGRADES...CHANGES TO THE GRIB ENCODING OF CURRENT
PRODUCTS...INCLUSION OF NEW PARAMETERS AND CHANGES TO THE
LOCATIONS OF SOME EXISTING PARAMETERS CURRENTLY AVAILABLE ON
THE NCEP AND NWS FTP SERVERS. THESE CHANGES WILL ALSO IMPACT
THE PRODUCTS GENERATED AS PART OF THE NORTH AMERICAN ENSEMBLE
FORECAST SYSTEM /NAEFS/.

THE MODEL CHANGES INCLUDE:

-INCREASE RESOLUTION OF THE GEFS FROM T126 TO T190
/ROUGHLY 70 KM/ FOR ALL CYCLES OUT TO 16 DAYS
-INTRODUCE EARTH SYSTEM MODELING FRAMEWORK /ESMF/ V3.1.0RP2
TO GEFS
-ADD STOCHASTIC PERTURBATION SCHEME TO ACCOUNT FOR RANDOM
MODEL ERRORS

THE PRODUCT GENERATING PROCESS ID IN THE GRIB ENCODING OF THE
GEFS AND NAEFS PRODUCTS AVAILABLE ON THE NCEP AND NWS FTP
SERVERS WILL BE CHANGED FROM 80 TO 107 FOR THE GEFS PRODUCTS
AND FROM 80 TO 114 FOR THE NAEFS PRODUCTS. FOR INFORMATION
SEE /USE LOWERCASE/:

WWW.NCO.NCEP.NOAA.GOV/PMB/DOCS/ON388/TABLEA.HTML/

THE GEFS PRODUCTS DISSEMINATED ON THE SBN/NOAAPORT WILL NOT
BE AFFECTED BY THIS CHANGE. THIS CHANGE TO THE GRIB ENCODING
MAY NECESSITATE THE MODIFICATION OF USER PROCESSES THAT
DECODE THESE GEFS AND NAEFS GRIB FILES.

THREE NEW PARAMETERS WILL BE ADDED TO THE GEFS OUTPUT FILES AND 24 PARAMETERS WILL BE MOVED FROM THEIR CURRENT DIRECTORY LOCATIONS ON THE NCEP FTP SERVER TO NEW DIRECTORY LOCATIONS AS PART OF THE NAEFS DATA EXCHANGE BETWEEN THE NWS AND THE METEOROLOGICAL SERVICE OF CANADA /MSC/.

THE FOLLOWING THREE NEW PARAMETERS WILL BE ADDED TO THE GEFS OUTPUT ON THE FTP SERVERS:

10HPA (MB) RELATIVE HUMIDITY
50HPA (MB) RELATIVE HUMIDITY
SNOW DEPTH

THE FOLLOWING PARAMETERS CURRENTLY AVAILABLE IN THE PGRB2B AND PGRB2BLR DIRECTORIES ON THE NCEP FTP SERVER WILL NOW BE AVAILABLE IN THE PGRB2A AND PGRB2ALR DIRECTORIES.

10HPA (MB) GEOPOTENTIAL HEIGHT
10HPA (MB) TEMPERATURE
10HPA (MB) U COMPONENT OF WIND
10HPA (MB) V COMPONENT OF WIND
50HPA (MB) GEOPOTENTIAL HEIGHT
50HPA (MB) TEMPERATURE
50HPA (MB) U COMPONENT OF WIND
50HPA (MB) V COMPONENT OF WIND
100HPA (MB) GEOPOTENTIAL HEIGHT
100HPA (MB) TEMPERATURE
100HPA (MB) RELATIVE HUMIDITY
100HPA (MB) U COMPONENT OF WIND
100HPA (MB) V COMPONENT OF WIND
850HPA (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 SHARTWAVE RADIATION FLUX AT SURFACE
UPWARD LONGWAVE EADIATION FLUX AT SURFACE
UPWARD LONGWAVE RADIATION FLUX AT TOP OF ATMOSPHERE
VOLUMETRIC SOIL MOISTURE (0-10CM)
WATER EQUIVALENT OF ACCUMULATED SNOW DEPTH
SOIL TEMPERATURE (0-10CM DOWN)

DATA DELIVERY TIMING WILL NOT BE IMPACTED BY THIS IMPLEMENTATION. A SMALL INCREASE IN DATA VOLUMES IS EXPECTED. THESE CONTENT CHANGES WILL IMPACT THE NWS PUBLIC FTP SERVER AND THE NCEP PUBLIC FTP SERVER.

TEST DATA IS AVAILABLE AT /USE LOWERCASE/:

FTP://FTP.EMC.NCEP.NOAA.GOV/GC_WMB/YZHU/GEFS_1Q2009/COM/GENS/
PROD/

A CONSISTENT PARALLEL FEED OF DATA WILL BECOME AVAILABLE ON THE NCEP FTP SERVER ONCE THE MODEL IS RUNNING IN PARALLEL ON THE NCEP CENTRAL COMPUTING SYSTEM ON NOVEMBER 3 2009. AT THIS TIME THE PARALLEL DATA WILL BECOME AVAILABLE VIA THE FOLLOWING URL /USE LOWERCASE/:

[FTP://FTP.NCEP.NOAA.GOV/PUB/DATA/NCCF/COM/GENS/PARA](ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/gens/para)

SPECIFIC INFORMATION REGARDING THE DATA CHANGE CAN BE FOUND AT /USE LOWERCASE/:

[WWW.EMC.NCEP.NOAA.GOV/GMB/YZHU/IMP/I200811/DATA-EXCHANGE.PDF](http://www.emc.ncep.noaa.gov/gmb/yzhu/imp/i200811/data-exchange.pdf)

SPECIFIC INFORMATION REGARDING THE NAEFS AND SCIENTIFIC IMPLEMENTATION COULD BE FOUND AT /USE LOWERCASE/:

[WWW.EMC.NCEP.NOAA.GOV/GMB/YZHU/HTML/IMP/200811_IMP.HTML](http://www.emc.ncep.noaa.gov/gmb/yzhu/html/imp/200811_imp.html)

USERS SHOULD ENSURE THEIR DECODERS ARE FLEXIBLE AND ARE ABLE TO ADEQUATELY HANDLE CHANGES IN CONTENT ORDER...PARAMETER FIELDS CHANGING ORDER...CHANGES IN THE SCALING FACTOR COMPONENT WITHIN THE 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 MODEL CHANGES...CONTACT:

YUEJIAN ZHU
NCEP...GLOBAL MODELING BRANCH
CAMP SPRINGS MARYLAND
PHONE: 301-763-8000 X 7052
EMAIL: YUEJIAN.ZHU@NOAA.GOV

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
EMAIL: NCEP.LIST.PMB-DATAFLOW@NOAA.GOV

NWS NATIONAL TECHNICAL IMPLEMENTATION NOTICES ARE ONLINE AT /USE LOWERCASE/:

[HTTP://WWW.NWS.NOAA.GOV/OS/NOTIF.HTM](http://www.nws.noaa.gov/os/notif.htm)

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