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PNSWSH

TECHNICAL IMPLEMENTATION NOTICE 09-34 AMENDED
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
200 PM EST TUE JAN 19 2010

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: AMENDED: GLOBAL ENSEMBLE FORECAST SYSTEM/NORTH AMERICAN ENSEMBLE FORECAST SYSTEM CHANGES: EFFECTIVE FEBRUARY 23 2010

AMENDED TO POSTPONE THE IMPLEMENTATION DATE UNTIL TUESDAY FEBRUARY 23 2010.

EFFECTIVE TUESDAY FEBRUARY 23 2010...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 GRIDDED BINARY /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 FILE TRANSFER PROTOCOL /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 LOWER CASE/:

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

THE GEFS PRODUCTS DISSEMINATED ON THE SATELLITE BROADCAST NETWORK /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 SHORTWAVE 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 LOWER CASE/:

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 DECEMBER 21 2009. AT THIS TIME...THE PARALLEL DATA WILL BECOME AVAILABLE VIA THE FOLLOWING URL /USE LOWER CASE/:

FTP://FTP.NCEP.NOAA.GOV/PUB/DATA/NCCF/COM/GENS/PARA

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

WWWT.EMC.NCEP.NOAA.GOV/GMB/YZHU/IMP/I200811/DATA-EXCHANGE.PDF

SPECIFIC INFORMATION REGARDING THE NAEFS AND SCIENTIFIC IMPLEMENTATION CAN BE FOUND AT /USE LOWER CASE/:

WWWT.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 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 IMPLEMENTATION.

FOR QUESTIONS REGARDING THESE MODEL CHANGES...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 DATA SETS...PLEASE CONTACT:

REBECCA COSGROVE
NCEP/NCO DATAFLOW TEAM
CAMP SPRINGS MARYLAND
301-763-8000 X 7198
NCEP.LIST.PMB-DATAFLOW@NOAA.GOV

NATIONAL TECHNICAL IMPLEMENTATION NOTICES ARE ONLINE AT /USE LOWER CASE/:

HTTPS://WWW.WEATHER.GOV/NOTIFICATION/ARCHIVE

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