TECHNICAL IMPLEMENTATION NOTICE 09-33
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
855 AM EDT THU SEP 24 2009

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

FROM: JASON TUELL
SCIENCE PLANS BRANCH CHIEF
OFFICE OF SCIENCE AND TECHNOLOGY

SUBJECT: NAM/DGEX MODIFICATIONS:
EFFECTIVE NOVEMBER 3 2009

EFFECTIVE NOVEMBER 03 2009...BEGINNING WITH THE 1200
UNIVERSAL COORDINATED TIME /UTC/ MODEL RUN...THE NATIONAL
CENTERS FOR ENVIRONMENTAL PREDICTION /NCEP/ WILL MODIFY THE
NORTH AMERICAN MESOSCALE /NAM/ MODEL. THE CHANGES WILL IMPACT
THE RESULTING NAM AND DOWNSCALED GFS BY NAM EXTENSION /DGEX/
PRODUCTS.

THE FORECAST MODEL AND POST-PROCESSING CHANGES AND THEIR
RESULTING IMPACTS INCLUDE THE FOLLOWING:

-FIX BUG IN HORIZONTAL ADVECTION OF VERTICAL VELOCITY AND
HEIGHT IN NON-HYDROSTATIC MODEL RESULTING IN SLIGHTLY
IMPROVED VERTICAL PROFILES OF VERTICAL VELOCITY ASSOCIATED
WITH FLOWS OVER MOUNTAINS
-MAKE FIX TO RADIATION PHYSICS RESULTING IN CLOUDS BEING LESS
OPAQUE TO SHORTWAVE AND LONGWAVE RADIATION AT GRID POINTS
WHERE RAIN IS FALLING IN THE COLUMN
-CHANGE MICROPHYSICS PARAMETER TO INCREASE THE NUMBER OF
SMALL NON-PRECIPITATING ICE PARTICLES RESULTING IN MORE
REALISTIC NAM GOES LOOKALIKE BRIGHTNESS TEMPERATURES AND
IMPROVED UPPER LEVEL RH BIAS AND ROOT MEAN SQUARE /RMS/
ERRORS VERSUS RAOBS
-CHANGE MICROPHYSICS TO ENFORCE A MINIMUM NUMBER
CONCENTRATION FOR LARGE ICE PARTICLES AT ALL TEMPERATURES
RESULTING IN THE ELIMINATION OF TINY VALUES OF ICE REACHING
THE GROUND WHICH CREATED SPURIOUS ACCUMULATING SNOW IN THE
NAM DURING SPRING/SUMMER
-FIX BUG IN THE ROUTINE THAT DETERMINES CATEGORICAL WEATHER
TYPE RESULTING IN A SLIGHT CHANGE IN THE CATEGORICAL
PRECIPITATION TYPE FOR SOME GRID POINTS

IN ADDITION RADAR ECHO TOP HEIGHT IS BEING ADDED TO ALL NAM
OUTPUT GRIDS CONTAINING SIMULATED RADAR REFLECTIVITY AVAILABLE ON THE NCEP OR NWS FTP SERVERS. THE RADAR ECHO TOP HEIGHT WILL NOT BE ADDED TO THE PRODUCTS DISSEMINATED VIA THE SBN/NOAAPORT WHICH ARE AVAILABLE IN AWIPS.

DATA DELIVERY TIMING WILL NOT BE IMPACTED BY THIS IMPLEMENTATION. EXPECT A 0.1 TO 0.5 PERCENT INCREASE IN DATA VOLUME FOR GRIDS TO WHICH RADAR ECHO TOP WILL BE ADDED.

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 VOLUME CHANGES. THESE ELEMENTS MAY CHANGE WITH FUTURE NCEP MODEL IMPLEMENTATIONS. NCEP WILL ATTEMPT TO ALERT USERS TO THESE CHANGES BEFORE IMPLEMENTATION.

FOR MORE DETAILS ABOUT CHANGES TO NCEP/S MESOSCALE MODELS PLEASE SEE /USE LOWERCASE/

HTTP://WWW.EMC.NCEP.NOAA.GOV/MBB/MMBPLL/ERIC.HTML#TAB4

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

GEOFF DIMEGO
NCEP...MESOSCALE MODELING BRANCH
CAMP SPRINGS MARYLAND
301-763-8000 X 7221
GEOFF.DIMEGO@NOAA.GOV

OR

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

HTTP://WWW.NWS.NOAA.GOV/OS/NOTIF.HTM

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