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TECHNICAL IMPLEMENTATION NOTICE 05-68...AMENDED
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
1054 AM EDT TUE JUN 13 2006

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS...NOAA WEATHER
WIRE SERVICE /NWWS/ SUBSCRIBERS... EMERGENCY MANAGERS
WEATHER INFORMATION NETWORK /EMWIN/ SUBSCRIBERS...
OTHER NATIONAL WEATHER SERVICE /NWS/ CUSTOMERS AND
PARTNERS...NWS EMPLOYEES

FROM: PAUL HIRSCHBERG
CHIEF...SCIENCE PLANS BRANCH
OFFICE OF SCIENCE AND TECHNOLOGY /OST/

SUBJECT: UPDATED: REPLACEMENT OF NCEP ETA MODEL WITH THE NON-
HYDROSTATIC MESOSCALE MODEL POSTPONED TO JUNE 20 2006
DUE TO CRITICAL WEATHER DECLARATION

REFER TO: TECHNICAL IMPLEMENTATION NOTICE /TIN/05-68 TRANSMITTED
ON OCTOBER 3 2005 AND TIN 05-68 UPDATED TRANSMITTED ON
MARCH 20 2006

DUE TO THE DECLARATION OF CRITICAL WEATHER FOR THE TROPICAL STORM
IN THE GULF OF MEXICO...THE EFFECTIVE DATE FOR THE REPLACEMENT OF
THE NCEP ETA MODEL WITH THE NON-HYDROSTATIC MESOSCALE MODEL HAS
BEEN DELAYED FROM JUNE 13 2006 UNTIL JUNE 20 2006.

THE ORIGINAL MESSAGE WITH AMENDED EFFECTIVE DATE FOLLOWS:

ON JUNE 20 2006...BEGINNING WITH THE 1200 COORDINATED UNIVERSAL
TIME /UTC/ RUN...THE NATIONAL CENTERS FOR ENVIRONMENTAL
PREDICTION /NCEP/ WILL REPLACE THE FORECAST MODEL CURRENTLY RUN
IN THE NORTH AMERICAN MESOSCALE SYSTEM. THE 12 KM HORIZONTAL
RESOLUTION ETA MODEL IS CURRENTLY USED IN THIS SYSTEM. THE MODEL
WILL BE REPLACED WITH A 12 KM HORIZONTAL RESOLUTION WEATHER
RESEARCH AND FORECASTING /WRF/ VERSION OF THE NON-HYDROSTATIC
MESOSCALE MODEL /NMM/ MODEL.

THE DIFFERENCES BETWEEN THE NCEP ETA AND WRF NMM SYSTEMS ARE AS
FOLLOWS:

1. MODEL CHANGES

- REPLACE ETA PREDICTION MODEL WITH WRF VERSION OF THE NON-
HYDROSTATIC MESO MODEL (WRF-NMM)
- EXTENDED MODEL TOP PRESSURE FROM 25 MB TO 2 MB
- REPLACE ETA STEP-MOUNTAIN VERTICAL COORDINATE WITH NMM HYBRID
SIGMA-PRESSURE VERTICAL COORDINATE
- REFINED/RETUNED NUMEROUS ASPECTS OF THE ETA MODEL PHYSICS FOR
USE IN THE NMM

2. ANALYSIS CHANGES

- REPLACE ETA 3DVAR ANALYSIS SYSTEM WITH THE NEW UNIFIED GSI ANALYSIS SYSTEM THAT HAS BEEN ADAPTED FOR APPLICATION TO THE WRF-NMM
- REPLACE NEXRAD LEVEL II.5 DATA IN ETA 3DVAR WITH NEXRAD LEVEL II RADIAL WIND DATA IN GSI
- GSI USES BACKGROUND ERRORS BASED ON WRF-NMM FORECASTS; ETA 3DVAR USED BACKGROUND ERRORS BASED ON GFS FORECASTS
- USE OF DYNAMICALLY RETUNED OBSERVATIONAL ERRORS

3. DATA ASSIMILATION CHANGES

- IMPLEMENT DIRECT USE OF OBSERVED PRECIPITATION ANALYSIS VALUES IN THE LAND-SURFACE PHYSICS MODULES – THIS REPLACES PRIOR USE OF NUDGING /TO PRECIPITATION AND GOES CLOUD TOP PRESSURES/

THERE WILL BE NO NAME CHANGES ASSOCIATED WITH THIS MODEL REPLACEMENT. PRODUCTS AVAILABLE ON NOAAPORT WILL ALSO REMAIN UNALTERED WITH THIS CHANGE. ALL CURRENT NAM GUIDANCE PRODUCTS WILL CONTINUE TO BE AVAILABLE AT THE SAME TIME IN THEIR CURRENT RESOLUTIONS AFTER THIS CHANGE IS IMPLEMENTED.

NCEP CENTRAL OPERATIONS /NCO/ HAS BEGUN PARALLEL TESTING OF THE NAM WITH THE WRF NMM MODEL. THE OUTPUT FROM THIS PARALLEL RUN WILL BE AVAILABLE BEGINNING THE WEEK OF MARCH 20 AT THE FOLLOWING FTP LOCATION /USE LOWER CASE LETTERS/:

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

AND AT AN ADDITIONAL FTP LOCATION /USE LOWER CASE LETTERS AND FOLLOW URL WITH DATE /YYYYMMDD/:

[FTP://FTPPRD.NCEP.NOAA.GOV/PUB/DATA/NCCF/COM/NAWIPS/PARA/NAM.](ftp://ftpprd.ncep.noaa.gov/pub/data/nccf/com/nawips/para/nam)

ADDITIONAL INFORMATION ON THIS CHANGE... INCLUDING PARALLEL DATA AVAILABILITY...FTP SERVER PRODUCT CHANGES...AND OTHER SCIENTIFIC INFORMATION CAN BE FOUND AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.NCO.NCEP.NOAA.GOV/PMB/CHANGES/](http://www.nco.ncep.noaa.gov/pmb/changes/)

FOR QUESTIONS CONCERNING THESE CHANGES...PLEASE CONTACT:

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OR

ERIC ROGERS
NCEP...MESOSCALE MODELING BRANCH

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OR

BRENT GORDON
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THIS AND OTHER NWS TECHNICAL IMPLEMENTATION NOTICES ARE AVAILABLE
AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM](http://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM)

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