

NOUS41 KWBC 091150 AAA
PNSWSH

TECHNICAL IMPLEMENTATION NOTICE 09-29 AMENDED
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
750 AM EDT FRI OCT 9 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
CHIEF...SCIENCE PLANS BRANCH
OFFICE OF SCIENCE AND TECHNOLOGY

SUBJECT: AMENDED: UPGRADE TO SHORT RANGE ENSEMBLE FORECAST SYSTEM:
EFFECTIVE OCTOBER 27 2009

AMENDED TO POSTPONE THE IMPLEMENTATION DATE UNTIL TUESDAY OCTOBER 27 2009.
ALSO INCLUDES CLARIFICATION ON AVAILABILITY OF AVIATION ELEMENTS.

THE INFORMATION IN THIS NOTICE IS BEING PROVIDED AS A COURTESY. THIS
NOTICE IS OUTSIDE THE SCOPE OF NWS INSTRUCTION 10-1805.

ON OCTOBER 27 2009 AT 1500 COORDINATED UNIVERSAL TIME /UTC/...THE NATIONAL
CENTERS FOR ENVIRONMENTAL PREDICTION /NCEP/ WILL UPGRADE THE SHORT RANGE
ENSEMBLE FORECAST SYSTEM /SREF/.

SREF MODELING SYSTEM CHANGES INCLUDE:

- THREE OF THE FOUR MODELS USED IN THE SREF /NMM...ARW AND RSM/ WILL BE
UPGRADED IN MODEL VERSION /NMM AND ARW FROM WRF V2.0 TO WRF V2.2...RSM
FROM V2003 TO V2008/ AND INCREASED FROM 40/45KM TO 32/35KM IN HORIZONTAL
RESOLUTION.

THE UPGRADE AND INCREASED RESOLUTION SIGNIFICANTLY IMPROVE THE PERFORMANCE
OF EACH INDIVIDUAL MEMBER...FOR EXAMPLE REDUCING THE TEMPERATURE BIAS FOR
WRF MEMBERS AND ADDING MORE SPATIAL DETAIL. AS A RESULT...BETTER BEHAVED
PROBABILITIES ARE ALSO ACHIEVED BY INCREASING FORECAST SHARPNESS FOR THE
ENSEMBLE AS A WHOLE.

- INCREASE OF WRF MEMBERSHIP /NMM FROM THREE TO FIVE...ARW FROM THREE TO
FIVE/ AND REDUCTION OF ETA MEMBERSHIP /FROM 10 TO SIX...MEMBERS
N3...N4...P3 AND P4 ARE REMOVED/.

- MORE PHYSICS DIVERSITY BY SWITCHING FROM ZHAO CLOUD SCHEME TO FERRIER
CLOUD SCHEME IN THREE OUT OF FIVE RSM MEMBERS.

- FORECAST OUTPUT /GRIDDED BINARY /GRIB// FREQUENCY WILL INCREASE FROM 3-
HOURLY TO HOURLY FOR THE FIRST 39 HOURS IN THE INDIVIDUAL MEMBERS OUTPUT
ON THE CONTIGUOUS U.S. /CONUS/ GRID.

- FOUR NEW AVIATION PRODUCTS WILL BE ADDED TO ENSEMBLE PRODUCTS:

ICING /PROBABILITY PRODUCTS ONLY/
CLEAR AIR TURBULANCE /PROBABILITY PRODUCTS ONLY/
CEILING /MEAN AND PROBABILITY PRODUCTS/
FLIGHT RESTRICTION /PROBABILITY PRODUCTS ONLY/

- THREE NEW PRODUCTS WILL BE ADDED TO THE INDIVIDUAL MEMBER OUTPUT FOR SOME MEMBERS:

PLANETARY BOUNDARY LAYER /PBL/ HEIGHT /RICHARDSON NUMBER = 0.25/
SIMULATED COMPOSITE REFLECTIVITY
ECHO TOP /= 18.3DBZ/

- EACH SREF MEMBER BINARY UNIVERSAL FORM FOR THE REPRESENTATION OF METEOROLOGICAL DATA /BUFR/ OUTPUT WILL BE BROKEN OUT INTO INDIVIDUAL STATION TIME SERIES.

A CONSISTENT PARALLEL FEED OF DATA WILL BECOME AVAILABLE ON THE NCEP FILE TRANSFER PROTOCOL /FTP/ SERVER ONCE THE MODEL IS RUNNING IN PARALLEL ON THE NCEP CENTRAL COMPUTING SYSTEM SEPTEMBER 15 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/SREF/PARA](ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/sref/para)

THE ENVIRONMENTAL MODELING CENTER /EMC/ MESOSCALE MODELING BRANCH /MMB/ HAS A PUBLIC WEBSITE PROVIDING USERS MORE INFORMATION CONCERNING THE SREF MODELING SYSTEM AS WELL AS OTHER NCEP REGIONAL MODELING SYSTEMS /USE LOWER CASE/:

[HTTP://WWW.EMC.NCEP.NOAA.GOV/MMB/MESOSCALE.HTML](http://www.emc.ncep.noaa.gov/mmb/mesoscale.html)

DATA DELIVERY TIMING/VOLUME/CONTENT CHANGES:

NOAAPORT DATA:

- AT THE CURRENT TIME...THE FOLLOWING DOMAINS ARE DISSEMINATED TO NOAAPORT/ADVANCED WEATHER INTERACTIVE PROCESSING SYSTEM /AWIPS/ USERS: CONUS...ALASKA...EASTERN PACIFIC.

- NO DATA CONTENT CHANGES ARE EXPECTED.
- NO CHANGE IS EXPECTED IN THE CONTENT DELIVERY TIME.
- NO SIGNIFICANT CHANGES IN DATA VOLUMES ARE EXPECTED.
- NO CHANGE IN GRIB PRODUCT DEFINITION SECTION CONTENT IS EXPECTED.

NWS FTP SERVER /USE LOWER CASE EXCEPT FOR SL...ST...MT... RD...AND...CY. WHERE THE HH REFERS TO THE CYCLE: 03...09...15...21 WHERE THE YYYYMMDD REFERS TO THE CURRENT DATE/:

[FTP://TGFTP.NWS.NOAA.GOV/SL.US008001/ST.OPNL/MT.SREF CY.HH/RD.YYYYMMDD](ftp://tgftp.nws.noaa.gov/sl.us008001/st.opnl/mt.sref cy.hh/rd.yyyymmdd)

- AT THE CURRENT TIME...THE CONUS DOMAIN IS DISSEMINATED TO USERS.
- NO CHANGE IS EXPECTED IN THE CONTENT DELIVERY TIME.
- THE FOUR FIELDS LISTED ABOVE WILL BE ADDED TO ENSEMBLE GRIB FILES.

- A SMALL INCREASE IN DATA VOLUME CAN BE EXPECTED DUE TO THE NEW FIELDS.
- NO CHANGE IN GRIB PRODUCT DEFINITION SECTION CONTENT IS EXPECTED FOR THE CURRENT DATA SETS WHICH ARE DELIVERED.

NCEP FTP SERVER: /USE LOWER CASE/:

[FTP://FTP.NCEP.NOAA.GOV/PUB/DATA/NCCF/COM/SREF/PROD](ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/sref/prod)

- AT THE CURRENT TIME...THE FOLLOWING DOMAINS ARE DISSEMINATED:
CONUS...ALASKA...EASTERN PACIFIC.

- NO CHANGE IS EXPECTED IN THE CONTENT DELIVERY TIME.
- NO CHANGE IN PRODUCT DEFINITION SECTION CONTENT IS EXPECTED FOR THE CURRENT DATA SETS WHICH ARE DELIVERED.
- THE THREE FIELDS LISTED ABOVE WILL BE ADDED TO THE OUTPUT FILES FOR SOME OF THE INDIVIDUAL MEMBERS.
- THE FOUR FIELDS LISTED ABOVE WILL BE ADDED TO ENSEMBLE GRIB FILES.
- THE TEMPORAL RESOLUTION FOR THE CONUS DOMAIN OF THE INDIVIDUAL MEMBERS WILL INCREASE FROM 3-HOURLY TO HOURLY OUT TO 39 HOURS.
- THE ADDITIONAL ELEMENTS AND INCREASED TEMPORAL RESOLUTION WILL RESULT IN A SIGNIFICANT INCREASE IN DATA VOLUME.
- THERE WILL BE NO DIRECTORY STRUCTURE CHANGES.
- THE NEW BUFR OUTPUT FOR INDIVIDUAL STATIONS WILL BE AVAILABLE.
- MEMBERSHIP CHANGE IS EXPECTED: ETA/S N3...P3...N4...P4 MEMBERS WILL BE GONE. NMM N2...P2 AND EM N2...P2 MEMBERS WILL BE ADDED.

NCEP ENCOURAGES ALL USERS TO ENSURE THEIR DECODERS ARE FLEXIBLE AND ARE ABLE TO ADEQUATELY HANDLE:

- CHANGES IN CONTENT
- PARAMETER FIELDS CHANGING ORDER
- CHANGES IN THE SCALING FACTOR COMPONENT WITHIN THE PRODUCT DEFINITION SECTION /PDS/ OF THE GRIB FILES
- VOLUME CHANGES.

THESE ELEMENTS MAY CHANGE WITH FUTURE NCEP MODEL IMPLEMENTATIONS. NCEP WILL MAKE EVERY ATTEMPT TO ALERT USERS TO THESE CHANGES PRIOR TO IMPLEMENTATIONS.

FOR QUESTIONS REGARDING THE SCIENTIFIC CONTENT OF THE MODELING SYSTEM...PLEASE CONTACT:

GEOFF DIMEGO
NCEP/EMC
CAMP SPRINGS MARYLAND
301-763-8000 X 7221
GEOFF.DIMEGO@NOAA.GOV

OR
JUN DU
NCEP/EMC
CAMP SPRINGS MARYLAND
301-763-8000 X 7593
JUN.DU@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](https://www.weather.gov/notification/archive)

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