

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  
SCIENCE PLANS BRANCH CHIEF  
OFFICE OF SCIENCE AND TECHNOLOGY

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

REFER TO: TECHNICAL IMPLEMENTATION NOTICE /TIN/ 09-29 TRANSMITTED  
ON SEPTEMBER 9 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 3 TO 5...ARW FROM 3 TO  
5/ AND REDUCTION OF ETA MEMBERSHIP /FROM 10 TO 6...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 /GRIB/ FREQUENCY WILL INCREASE FROM 3-HOURLY TO HOURLY FOR THE FIRST 39 HOURS IN THE INDIVIDUAL MEMBERS OUTPUT ON THE 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:

- PBL HEIGHT /RICHARDSON NUMBER =0.25/
- SIMULATED COMPOSITE REFLECTIVITY
- ECHO TOP /=18.3DBZ/

-EACH SREF MEMBER BUFR OUTPUT WILL BE BROKEN OUT INTO INDIVIDUAL STATION TIME SERIES.

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 SEPTEMBER 15 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/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 LOWERCASE/:

[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/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 GRIDDED BINARY /GRIB/ PRODUCT DEFINITION SECTION CONTENT IS EXPECTED.

NWS FTP SERVER /USE LOWERCASE 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

- 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 LOWERCASE/

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 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 20746  
301-763-8000 X 7221  
GEOFF.DIMEGO@NOAA.GOV

OR

JUN DU  
NCEP/EMC  
CAMP SPRINGS MARYLAND 20746  
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 20746  
301-763-8000 X 7198  
NCEP.LIST.PMB-DATAFLOW@NOAA.GOV

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

[HTTP://WWW.WEATHER.GOV/OS/NOTIF.HTM](http://www.weather.gov/os/notif.htm)

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