

## Minutes from CHPS Forcing Team Call

Wednesday January 07, 2009

Mark Glaudemans, OHD

### Participants:

ABRFC – Mike Boehmke, Mike Pierce

CNRFC – Art Henkel, Alan Haynes

NERFC – Ron Horwood, Jeff Oullett

NWRFC – on operations

OHD – Mark Glaudemans, Paul Tilles, Dave Miller, David Kitzmiller

OCWWS – Mary Mullusky

### Next Call:

Wednesday 01/21/2009 12:00 Eastern

number: 866-614-2988; participant passcode: 7565560

[note: CHPS Preparation Workshop at OHD 1/27-29]

### **1) AWIPS2 Grid Form:**

Mark discussed AWIPS2 grid form plans. Confusion of Raytheon plans for usage of netCDF but seems AWIPS-2 will continue through initial AWIPS-2 at least. Mark shared information about new version of netCDF (version 4) being linked with HDF5.

### **2) Forcings Grid Form:**

Reviewed each RFC's response. NERFC sent their response after the meeting but had some preliminary discussion. All (4) responses have now been collated into single file and are posted with this message. Thanks to all RFCs for sharing this on short notice.

The information on grid forms was added to an expanded version of the "matrix", used previously for only identifying the application/method planned for creating the gridded forcing. This updated matrix is also posted.

Refer to the posted matrix for details, but in rough summary... NE, CN, and AB plan to stay with the HRAP (4-km polar stereographic projection), with NW preferring a 2.5 km resolution and not having a preference on the grid projection. Most offices are fine with GRIB1, but both NE and NW mentioning use of netCDF.

The precise interaction between netCDF used in GFE and GRIB may need some attention. Currently offices using GFE create temporary xmrq format files in order to get to GRIB.

### **3) QPE/QPF Grids**

Discussed activities related to QPE grid development. MPE/DQC is planned for use by NWRFC and NERFC. Since last week, NWRFC recently sent more comments on the OB9 MPE/DQC. OHD is actively reviewing all comments. A few issues have been identified as bugs and are fixed. Others will need to be discussed and may be partly related to unique DailyQC implementations at the different Western Region RFCs.

NERFC has started basic review of MPE/DQC with more activity expected soon.

(No real discussion of QPF grids)

### **4) QTE/QTF Grids:**

Continued discussion regarding how to replace the to-be-retired MAT preprocessor.

MikeB mentioned AB development of GFE smart tools for QTE which makes use of MSAS data to create new element TAVG. Mike noted that they do not expect to edit these data sets within GFE. MikeB described planned use of ISC/NDFD data for QTF. They are only interested in first 5 days.

Ron discussed NE interest in AB method for QTE and may even consider RTMA and RUC data, beyond MSAS. There is still some concern with abandoning use of stations for which the basins are calibrated.

Art described their area's issues with strong topographic effects that would discount use of MSAS. They plan to continue their MM use. Art also described their office developing software working with MM (DQC and specify) to adapt to loss of MAT preprocessor. Mark mentioned that OHD is considering similar development of non-interactive methods for same purpose. Coordination among OHD and CN is necessary. Art clarified previous minute's notes by stating that while they currently are QC'ing with instantaneous 6-hr data, methods would be modified to send mean QC values to CHPS.

Repeating some information for previous minutes...some possible solutions involving OHD software support are:

- a) modify MPE/DQC to handle hourly temperature data, even if indirectly. Currently it only handles 6-hour instantaneous and 24-hour max/min temperature data. The DQC preprocessor could be changed to use the hourly instantaneous values to determine a 6-hour mean and the mean values would be what DQC operates upon. It is not clear if this approach would produce results which are scientifically valid. As noted by Don/NWRFC, discussion with Dave/HSMB could help in understanding the implications of following this approach.
- b) add post-processor after MPE/DQC to replicate the functionality of the existing MAP preprocessor, but modify it to produce gridded fields. This approach would be complicated by the fact that precipitation data outside of the 24-hour window being considered is needed, as noted by Don/NWRFC.

DaveK mentioned possible use of RTMA (Real-Time Mesoscale Analysis) for QTE, which DaveK noted are basically augmented RUC analyses, accounting for terrain variations down to 5km.

## **5) QZE/QZF Grids:**

Discussed freezing level QZE data available from RUC. Dave Miller reported that the freezing level derivation method used by DailyQC will probably still be necessary. Earlier optimism on using RUC freezing level data directly was countered upon learning that the RUC freezing level gives two levels actually (one "starting" at the ground and one at the upper atmosphere). This results in information that is not directly usable...so the derivation method will probably continue.

DaveM is still looking at the RUC13 versus RUC80. There may be some implications with performance when using higher resolution data.

Art described how they produce SHEF HGIF reports for use in RFS. Since these are defined for a basin, and in the future grids will be used, the planned grids may need to already have their basin averaged values within them. Otherwise, FEWS methods presumably would compute the basin/zone average values, which may not be desirable.

## **6) PET Grids:**

MikeB discussed how they are looking at GFE to generate observed PET grids using MSAS for wind, temperature, and dew point data. Sky cover is not available in RTMA and may need to use satellite data [did I state this right?].

For forecast PET, ISC/NDFD grids can provide the necessary data.

#### 7) **GSD Support:**

Mary mentioned that GSD is not on any sort of “retainer”. Special needs beyond basic inquiries will need to be coordinated through OHD to allow any necessary funding of GSD. One possible project is GSD support of grid transformation.

#### **Other Notes:**

- 1) **RFC Tracking:** CAT RFCs are asked to report on their progress towards generating their grids beginning with the 1/21 call. This is part of the need for RFCs to create actual grids using their planned methods. RFCs can initially display these grids within FEWS, and then, FEWS must extract data from these grids for use in model operations.
- 2) **Deltares Coordination:** Mark will also begin initial coordination with Deltares to identify specific methods for ingesting the grids.
- 3) **Post-BOC vision:** During the CAT Preparation workshop on 1/21, there will be discussion of the longer-term vision. This would cover the period after BOC-1 when the other (9) RFCs implement CHPS, and also the period beyond that BOC-2 period. One desire is to get away from the xmrq format. Also, any inconsistencies among RFC w.r.t. grid forms provided to CHPS should be reviewed. Lastly, consideration of improved methods/applications for generating grids should be considered, such as implementing MPE within GFE.
- 4) **ESP Forcings:** This is still an area that needs more investigation and discussion.