Minutes from CHPS Forcing Team Call
Wednesday February 11, 2009
Mark Glaudemans, OHD

Participants:
ABRFC – Mike Boehmke
CNRFC – Alan Haynes
NERFC – Ron Horwood
NWRFC – Don Laurine
OHD – Mark Glaudemans, Paul Tilles, Jingtao Deng, David Miller
OCWWS – Mary Mullusky

Next Call:
Wednesday 02/25/2009 12:00 Eastern [no call planned for 02/18]
number: 866-614-2988; participant passcode: 7565560

1) **OHD Status**

   a) **Grid Transition**

   Mark and DaveM discussed activities for OHD grid translator to convert GFE output into GRIB1
   input for use in FEWS and NPVU. This task will take 2.5 and 4 km polar stereographic grids in
   the GFE netCDF style and create GRIB1 files in either 2.5, 4, and 10 km. polar stereographic.
   Special software to handle the GFE output is needed because it does not use standard netCDF
   conventions. The 10km form is intended for NPVU. It is expected that this will not be necessary
   after the NPVU system implements GFE, planned for summer 2009.

   We will try and avoid use of the term 2.5 km HRAP, since HRAP inherently implies 4 km. The 2.5
   km grid is used by NWRFC and uses the same longitude and standard latitude of the HRAP 4 km
   projection.

   Work is ongoing to identify the specifics of the GFE netCDF convention and to determine the best
   combination of existing software libraries and new custom code in order to develop a software
   solution.

   b) **MPE/DQC Support/Adaptation**

   OHD is working to support NERFC and NWRFC in their use of MPE/DQC. For NERFC, we are
   working to address issues with use for QPE. Recently reported problems include issues with
   coop reported daily precipitation not being processed and problems displaying gridded fields.
   OHD is working on these problems.

   For NWRFC, OHD is coordinating changes planned for the MPE/DQC interpretation of the
   hydrologic day with respect to the MPE/DQC time periods processed based on the current time of
   day. OHD is also working on adding the ability to save MPE/DQC grids in netCDF and GRIB
   format. Lastly, OHD is working on assorted items noted in the NWRFC recent review of
   MPE/DQC.

   c) **Temperature Grid Generation -**

   Mark reported on recent discussion with NWRFC and CNRFC. OHD is beginning work on a new
   application which will extract instantaneous hourly station data from the local hydrologic
   database, perform automated DQC-style QC, and create a QTE grid from this data using DQC
   grid generation methods. The DQC grid algorithm uses values from up to 20 neighboring grids,
   and applies a lapse rate and PRISM-data adjustment.

This approach would not use the 24-hour max/min values in the grid generation, but would try and incorporate them into the QC checks applied to the hourly instantaneous values. As time permits, some level of interactive QC methods are hoped to be added to the application. The application would make any attempt to blend the initial 6-hour forecast QTF data with any generated QTE data. This is something that may need to be considered in the future.

CNRFC is working to develop solutions for QTE using a combination of pre- and post-processors added to their MM/DQC processing. The post-processing component would retain features of the current MAT RFC pre-processor, which is being retired. CNRFC will communicate their approaches to OHD, with the possibility of OHD incorporating their methods into some sort of nationally provided solution.

Don mentioned some GFE tools developed by Tim Barker/BOI which handle temperature data, using max/min values and the 10-day history of data to fit a sine-style curve for the future. Mark did some searches in the Smart Tools repository. The tool may be Diurnal_from_Obs, but some more research is needed.

2) RFC Status

a) ABRFC – Continue working on GFE methods for generating PET grids.
b) CNRFC – No updates.
c) NERFC – Continue working on GFE methods, which are to be used for QPF, QTE, and QTF. Particular attention is focusing on the temperature grids.   Checkout of MPE/DQC for QPE use is continuing.
d) NWRFC – GFE operations stables. Working on hourly grid methods, including generation of QPF and QTF at hourly time steps. NWRFC is willing to share their methods with other interested RFCs.

Other Notes:

1) RFC Tracking: CAT RFCs are asked to verbally report on their progress towards generating their grids.   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) ESP Forcings: This needs later investigation and discussion.