Minutes from CHPS Forcing Team Call
Wednesday November 26, 2008
Mark Glaudemans, OHD

Participants:

ABRFC –Mike Boehmke
CNRFC –Art Henkel, Alan Haynes
NERFC – Ron Horwood
NWRFC – Don Laurine, Harold Opitz, Ray Fukunaga, Brad Gillies, Joe Intermill
OHD – Mark Glaudemans, Jingtao Deng, Paul Tilles

Reference Documents:
"InitialSurveySummary", dated 11/26/2008

1. Review minutes from 11/19/2008

   1.1. Solicited verbal comments; none received.
   1.2. Clarified comment stating "ESP does not currently use any forcings data." When written, this comment meant to imply that ESP only uses historical forcings data, but does not use "real-time" forcings. Upon discussion, Don noted that NWRFC uses 10-days of forcings data for ESP. [am I stating that correctly?]

   ACTION: Mark will check with HSMB to determine how forcings data planned for CHPS could support this continued data need for ESP in the CHPS era.

   1.3. The survey noted "Evapotranspiration". The omission of the word "Potential" preceding this term was not intended to imply that this term is concerned with anything other that traditional Potential Evapotranspiration.

2. Discussion of survey responses. Each CAT RFCs provided feedback to the survey sent out last week. These responses are a major step in identifying current methods and proposed future methods. A blank survey and the responses from the (4) CAT RFCs are posted on the list server. These responses serve to mostly satisfy the first step (a) of the team activities, by identifying current methods. Details/adjustments may be added later.

   A brief summary of the responses regarding future methods was assembled in a spreadsheet and sent in an email a few hours before the call. This summary, with typo corrections made to the QTE row, is posted on the list server.

   The majority of the meeting was spent discussing the future methods for each of the (8) forcing element-domain combinations at each of the (4) RFCs. This information will be used to provide an updated spreadsheet of proposed methods for BOC, in order to begin determining proposed grid properties and methods [steps (b), (f), and (g)].

   For each of the (4) forcing elements, minute's notes are given below, often combining the discussion of the observed and forecast domains.

3. Precipitation

3.1. QPE - The CAT RFCs wish to use a combination of local apps and MPE/DailyQC. Local apps include P3 at ABRFC and Mountain Mapper version of DailyQC (MM/DQC) at CNRFC. CNRFC noted that they will no longer use the OFS MAP preprocessor, and that there is a need to verify validate and verify their usability in the models.

NERFC and NWRFC expressed desire to use the integrated, baselined MPE/DQC for creating gridded QPE. OHD/HSEB has been in discussion with both these offices for some time, especially NWRFC, in supporting their transition to and usage of MPE.

ACTION: OHD/HSEB will actively work with NERFC and NWRFC to support their establishment of operations using MPE/DQC for QPE purposes.

Discussion between Art and Harold on form of output. It is likely that GRIB1 will be used, not just for QPE but for QPF and possibly temperature data also. There is still a problem with encoding QPF in GRIB using the OHD gribit application. This is a known issue involving NPVU use of 10-km QPF grids and is the subject of a white paper discussion from OCWWS/HSD and is also part of a request made to the AHPS FY09 budget process. Mary Mullusky is managing this project. It is important to define a common grid format for use by as many forcings elements as possible.

ACTION: Mark will discuss the status of this project on QPE/QPF external forms with Mary and share the information. Possibly changes to gribit are needed, in addition to planned software changes at the NPVU. Discussion with NWRFC may also be needed to coordinate planning for GRIB encoding.

3.2. QPF - The CAT RFCs wish to use a combination of local apps and GFE. CNRFC plans to continue use of the MM-Specify local application. Other RFCs wish to use GFE. As mentioned above, there is a strong need for improved translation of GFE grids into a common grid form with a consistent resolution. For BOC, the current focus is on GRIB1 format grids using the HRAP grid scale. This should be coordinated with the NPVU, as noted above.

RFCs wishing to use GFE are encouraged to immediately begin working with GFE with the focus on generating QPF grids, if they have not started doing so already. This will prepare for the full transition to GFE for QPF, etc., pending resolution of grid form or other issues.

4. Temperature

4.1. QTE – Similar to QPE, CAT RFCs plan to use a mix of local applications and MPE/DQC. ABRFC mentioned use of a “re-engineered” MAT preprocessor. There may a misunderstanding at ABRFC as the OFS preprocessors will not exist in the FEWS era and there are no plans to provide a re-engineered MAT preprocessor.

ACTION: ABRFC will clarify their comments regarding their expectations for the QTE needs. MPE/DQC or local apps may be able to provide the solution to their needs.

CNRFC will use the Mountain Mapper version of DQC, but without the MAT preprocessor so there is a need to validate and verify these inputs within the FEWS model implementations. NERFC and NWRFC wish to make use of the MPE/DQC with possible support from local apps or GFE.

ACTION: OHD/HSEB will actively work with NERFC and NWRFC to support their establishment of operations using MPE/DQC for QTE purposes.

4.2. QTF – Similar to QPF, CNRFC plans to use Specify and the other (3) RFCs wish to use GFE. RFCs wishing to use GFE should start to immediately begin working with GFE with the focus on generating QTF grids, if they have not started doing so already.

NWRFC mentioned that GFE has a limitation on the number of points it can process. Therefore they limit the number of points they define in Canada. They would prefer to use MOS (Model Output Statistics) data, but MDL has not defined the data for Canada. OCWWS should encourage MDL to extend their coverage into Canada.

4.3. Duration for Temperature Data – There was extended discussion on the type of temperature grids to produce – namely, whether hourly instantaneous grids should be produced and/or whether 6-hour mean or max/min duration data should be produced. [Folks – please correct me on this subject as I may be misstating details – e.g. how does this discussion differ for observed vs. forecast data]

Some folks mentioned concerns regarding the scientific validity of the models making proper use of hourly data. Some folks wondered what FEWS can do with respect to deriving necessary temperature information for model use.

ACTION: Mark will determine what the FEWS operations require in terms of the form of temperature data. This will possibly depend on the HSEB implementation of these operations and their interaction with the FEWS-provided functions. DaveK may be able to provide guidance on any science implications of the hourly temperature data.

5. Freezing Level.

Previous call discussion noted that these grids are not used just in developing the precipitation grids; they are also used in certain operations, including the RAIN-SNOW operation and in plotting routines.

ABRFC does not use freezing level data.

CNRFC mentioned use of MM-DQC [in previous call, I thought CNRFC mentioned use of Specify to handle this requirement. – did I misunderstand?] CNRFC mentioned use of the RSNWELEV operation. Mark confirmed that this operation is one of the operations being directly migrated into FEWS by HSEB, so it will still be available. CNRFC uses RUC model data, with a choice of alternate RUC data. CNRFC realizes that the MAT preprocessor they use will not be available in CHPS.

NERFC does not use freezing level, but would consider GFE or MPE for forecast freezing level. They have no active plans to use observed freezing level data.

NWRFC mentioned usage of MPE/DQC for observed and GFE for forecast freezing level info.

6. Potential Evapotranspiration

6.1. ABRFC mentioned use of OFS preprocessor for observed PET. As noted above in the temperature discussion, maybe ABRFC did not realize that this preprocessor will not exist in CHPS. For forecast PET, they mentioned usage of GFE.

ACTION : ABRFC will clarify their wishes for observed PET in CHPS.

6.2. CNRFC uses a static grid of monthly climatological data for PET

6.3. Both NERFC and NWRFC do not plan use of PET grids directly. They will continue to have the PET represented in the applicable, calibrated SAC-SMA parameters.

7. Matrix of Proposed Forcings

As noted above, there was discussion of the different proposed methods for each CAT RFCs. This information will be used to update the matrix stating desired properties/methods of the gridded forcings data for each forcing and for each RFC.

ACTION: Mark will update the matrix of proposed methods for forcings generation. This will done before the next call.

Next Call:
Wednesday 12/3/2008 12:00 Eastern
number: 866-614-2988
participant passcode: 7565560