<u>Minutes from CHPS Meeting Thursday September 22, 2009</u>

Attendees:

ABRFC – Billy Olsen
CNRFC – Scott Staggs
NERFC – Rob Shedd, Tom Econopouly
NWRFC – (absent)
NOHRSC – John Halquist
Deltares – Edwin Welles
OCWWS – (absent)
OHD – Jon Roe, Joe Gofus, Chris Dietz

Pre-reading:

- Support log distributed on 9/21/09 via email to the chps_migration infolist.

1. Review Support Log

> **There are no major blocking issues**.

> Action: none.

2. Mods transfer list from Lee

> Micha says FMAP is already covered because FEWS ingests it as SHEF time series; Edwin pointed out that we may need an extra utility to convert the NWSRFS Mods into SHEF first.

> ABRFC and CNRFC both requested that CHGBLEND be moved up to the 1st group.

> What is the time between Lee's proposed releases? Believe it's monthly or so – Chris will check.

> There are 2 distinct requirements for "Mods transfers":
> - NWRFC has a requirement to import Mods from external partners, with a focus on regulated segments.
> - The second requirement (NWRFC as well as others) is to transfer Mods from NWSRFS to CHPS during parallel operations.

> The second requirement prompted the question: "what is the vision/purpose of parallel operations?" Will RFCs forecast twice (unlikely, as this would present a big burden); or do RFCs continue to forecast on NWSRFS and move the information (Mods, model states) from NWSRFS to CHPS? If so, will it be critical to keep both systems completely sync'd?

NERFC can't synchronize their system on a daily basis. Both ABRFC and NERFC view parallel operations as a period for getting forecasters used to forecasting in CHPS. Other RFCs have different goals. ABRFC feels that since the forcings for each system will be different, and the infrastructure is different, it makes no sense to compare outputs because they're bound to be different. Potential problem: underlying issues could be masked since they will only check for "reasonableness". The only real way to compare results is to experience some real events and make sure everything looks OK, with results within given tolerances.

The group believes NWRFC's goal is to have complete synchronization, and conduct detailed comparisons.

The situation is comparable to the AWIPS conversion from HP-UX to Linux (the big/little-endian problem). For that conversion NCRFC froze both systems, used a mechanism to automatically synchronize Mods between the two systems, and then spent a couple of weeks comparing results. Results were a little off but acceptable. They didn't want to overwrite the model states because that would have guaranteed the same results. Can we use the same approach here?

We will discuss this further next week during the CAT workshop; for the time being the recommendation was to ask Lee to start with the 1st group of Mods, but add CHGBLEND and WECHNG; we'll provide additional guidance to Lee's group after next week.

Action: Chris to check with Lee on spacing between proposed Mods transfer releases.
Action: Chris to provide Lee with updated priority list of Mods to begin the transfer utility.

3. Out brief on SAT

Chris summarized findings from the SAT. There were a couple of hundred tests, most passed except a few. These included:
- enspost – seems to be a configuration issue
- incorrectly colored icon in the live system – a GUI problem
- UHGCHNG mod hung – another GUI problem
- HEC-RAS hung on the Kennebec river – this has now been fixed
- ADJUST-Q for negative flows – differences are acceptable (CHPS performs better than NWSRFS)

More notes on HEC-RAS:
- Some misunderstanding wrt configuration for this SAT. Matthijs didn't realize he needed to provide a configuration to test the DWOPER blend transformation for the Lower Columbia. Matthijs will create one and provide to NWRFC, who will then use it as an example to prepare other segments with similar needs.
- The model run, displays, communication between RAS and FEWS, and the Mods all work fine. However the Linux version of HEC-RAS always outputs a complete month of data and pads with 0's; it's supposed to write partial months only. Jon has asked HEC when we can expect to receive a corrected version. The task order (OHD-HEC) has not been closed out yet.

Other:
- GRIB2 ingest works. FEWS ingests and displays SREF data correctly as ensembles.
- Deltares demonstrated a simple arithmetic operation (multiplication) on a grid using PCRaster.
- Issue with T0 being different than 12Z is now fixed – models can now start at different times than 12Z.
- Successfully tested ResSim; however it was with the "alpha-II" version currently running at CNRFC. Jon is working with HEC to get a newer version (warm start) for testing in December.
- Performance testing – numbers are looking good. Peter has a presentation for next week. We'll need to make some design decisions – the best performance requires the most system maintenance.
- Deltares is using upgraded hardware for their performance tests; Chris will find out when NHDR is scheduled to receive new AWIPS workstations. Deltares believes this is why they haven't been able to reproduce the UNIT-HG Mod problem.
- NHOR configuration isn't standard (using re-cycled AWIPS machines) so we couldn't do the MC-to-MC test. NHOR is due to get new CHPS hardware soon; Chris will check on the status.

Action: Chris to check on the status of CHPS prototype hardware deliveries.
Action: Chris to find out when NHDR is scheduled to receive new AWIPS workstations

4. Other

Workshop agenda: are there any sessions during the CAT (or CAT-II) workshop next week which should involve others in OHD (such as HSMB)?

- Dave Kitzmiller said Harold suggested he sit in on the QTE discussion; Chris will try to make that happen. There's some concern, because it can be disruptive for someone to call in during ongoing discussions, and our agenda tends to be highly "fluid" so it's difficult to stop mid-conversation for a pre-arranged session especially when the conversation is unrelated.

- Should someone attend the FFH discussion on Tuesday at 11:00 am CT? The legacy (NWSRFS) calculations 6hour-to-3hour-to-1hour don't consistently yield credible results. So much so that CNRFC doesn't even use it. ABRFC's recent experiments with averaging FFG values to generate FFH have yielded mixed (therefore unreliable) results, so we now need an alternative solution for BOC. We can generate the 6-hour numbers fairly easily in FEWS, but it can't convert to 3-hour or 1-hour. Do we need a "post-processor" to complement the FEWS piece? NERFC has been looking into precip distribution relationships, for example; or we could try a fixed % relationship. We still don't know about snow.

  Unfortunately over the years numerous external customers/partners have developed dependencies on the existing FFH, so we can't simply create a new algorithm without doing major damage.

We're therefore in the disagreeable situation of having to recreate something we know to be bad.

Perhaps we should ask Ernie Welles to attend the FFG/FFH session? He has been attending most of the national FFG calls. OCWWS should at least speak for requirements. John Halquist offered to discuss the request with Tom Graziano, who's at NOHRSC this week.

- John Halquist would like a few minutes to go over the data transfer topic

- Some notes for next week: we must be out of the room on Thursday by 5:00 pm, because the room will be used for a 6:00 pm class. If we arrive any day before 7:00 am we must ring up to gain entrance. Billy needs a total head count for the CAT-II workshop; Chris will provide.

Action: Chris to arrange for Dave Kitzmiller to attend the QTE session at 1:00 pm CT on Monday.
Action: Subject to Tom Graziano's approval, Chris to arrange for Ernie Welles to attend the FFG/FFH session at 11:00 am CT on Tuesday.
Action: Chris to get a head count for the CAT-II workshop to Billy.

Next meeting: No CAT call next week (we'll be at the workshop).