

HMT-2010 Wrap-Up Telecon

2 April 2010

Agenda and Meeting Notes

Agenda

1. Welcome, introductions, purpose of call (10 min Rob C.)
2. Instrument observations and weather summary (15 min Rob C.)
3. HMT Legacy and HMT-NW (15 min Allen W.)
4. WRF results (15 min Isidora J. and Huiling Y.)
5. Verification results (15 min Ed T. and Tara J.)
6. ALPS overview and future plans (15 min Woody R.)
7. Discussion of next steps (20 min Tim)
 - Spring-summer analysis efforts
 - Annual meeting (tentatively planned for Aug/Sep time frame)
 - Strategies to engage in coming months

Meeting Notes

1. Welcome, introductions, purpose of call

Rob C. and Tim S. gave a brief overview of the goals for the call: summarize the work accomplished during HMT-2010 season and discuss next steps between now and the start of HMT-2011. The agenda was reviewed with no adjustments/additions proposed.

2. Instrument observations and weather summary

Rob summarized the status of the instrument network during the field season (see slides). It was noted that this year was a high water mark in terms of the number of instruments deployed. Overall, the network performed well with very few outages or instrument problems. QC over the next few months will be required to better understand differences in precipitation accumulation at sites where more than one instrument is used (e.g., tipping bucket vs hot plate).

2010 was a “near normal” season in terms of the total number of events (16) and snow pack (compared to 30-yr avg). 3 “big” events were noted for producing significant precipitation in the ARB: October 13-14, December 11-14, and January 17-21. Rob will provide a summary report of the HMT-2010 within the next month or so.

A relatively new product was highlighted and noted: precip types identification at Big Bend and Norden

Actions: In off season ensure that the “field data -> Madis -> field offices” pathway is functioning, & enhance.

3. HMT Legacy and HMT-NW

Allen W. provided an update on EFREP (HMT-legacy) activities, including an overview of the new FM-CW snow level radars deployed during HMT-West 2010 (see slides). He also gave a brief overview HMT’s deployment in WA this year as part of HMT-NW.

4. WRF results

Isidora J. talked about the WRF activities that were conducted during the field season (see slides). It was noted that the ensemble runs covered all of the HMT-2010 events with the exception of a minor event in February (WRF down due to Jet backups). Plans to do model calibration, verification of the 3 km data and cases study analyses were noted. Huiling Y. mentioned the work being done on PQPF – calibration of the models using historical data.

The immediate focus is to obtain results in time for the USWRP workshop in early May. Plans to collaborate with DTC on verification analyses are in the works.

There was some discussion about the WRF ensemble plots, showing qualitative indications of the mean value and spread in model solutions across the HMT domain. It was noted that these plots could be very useful to forecasters if the uncertainty were quantified.

The question was raised as to whether the ensemble needs to be re-configured or if the current setup is OK. Isidora noted that it was too early to tell – verification work must be done first to address model performance.

Tim S. noted that field training and interactions will be a high priority in the coming season (and perhaps through the summer, as opportunities arise).

Actions: Zoltan Toth noted that Roman Krzysztofowicz will be visiting ESRL in May. This is an opportunity to discuss ensemble processing. Zoltan will alert the HMT community regarding the schedule (VTC possibility will be explored).

5. Verification results

Ed T. and Tara J. provided an overview of the DTC-GSD verification work accomplished this season and a list of work to be done in the coming months (see slides). New products to be added to the web interface include: ensemble based probabilistic (PQPF) scoring, scenario specific verification, a fully interactive GUI for scoring, and real time forecast verification.

It was noted that interpretation of ETI and MAE scores are complicated by precipitation amount and fractional coverage, respectively.

There was discussion about how forecasters could assess the WRF model performance in real time (how the models did with the last event could say a lot about how they might do with the current event). There was further discussion about how best to compare the operational GFS (40 km resolution) with the WRF (9 km resolution).

A point was raised about the ability to assess verification in complex terrain: maximum precipitation values in a watershed are the most important issue for forecasters (as opposed to full domain statistics). It was noted that the tradeoff with watershed assessments is that there are fewer points and this impacts the resulting statistical scores.

Another verification test suggested: can models replicate the orographic enhancement from coast to mountains (are models getting right answer for right reasons)?

As a wrap-up to this topic, it was noted that there has been great progress in the verification work accomplished to date but that there is still a lot more to do.

Actions: Tim Schneider suggested that a mini-workshop on verification activities (including operational and research people) could be very useful. It was noted that a workshop is already planned for Sept. 14-16 at ESRL to engage researchers with NWS SOO's and this might be an appropriate venue for verification discussions. Tim S. will discuss this with Sandy MacDonald.

6. ALPS overview and future plans (15 min Woody R.)

Woody R. discussed progress with ALPS over the HMT 2010 season. He noted that, although there were a few server glitches, Monterey and Eureka were both well supported with data available from all 9 WRF members. Bill R. mentioned that the SAC WFO would be interested in working with the WRF ensembles through ALPS in the coming season. In addition to SAC, Woody noted that an installation goal for the coming season included getting ALPS up and running in the RNO WFO.

There was discussion about advantages of keeping the ensemble members (and ALPS boxes) up and running during the warm season – this provides an opportunity for training and ability to catch “off season” events like the October 2009 storm. Zoltan T. mentioned that GSD is working with NCAR to develop a DTC Ensemble Testbed (DET) which may be a vehicle to get ensemble members into other offices.

There was discussion about problems with integrating HMT data into MADIS (missing data re-assigned to zero produces doughnut holes in precip maps). It was noted that MADIS has difficulty with “episodic” sites because a new site number has to be issued each time.

Woody then discussed some future update plans for ALPS (some of these are already in development):

- Interactive ensemble tools (there needs to be training for these tools)
- Smart push capability to make ensemble grids available in GFE
- Flux tool display
- Real time verification statistics
- “warn on forecast” display

Tim S. noted 2 other desirable upgrades include:

- AR tool (histogram display)
- Snow level information

Actions: Everyone – provide feedback to Woody on the above list (regarding prioritization and other possible items for the list). Steve Albers will develop a check list of what HMT data is currently getting into MADIS. We’ll need to identify and prioritize additions to this list (other data sets currently not getting into MADIS).

7. Discussion of next steps

The last portion of the meeting was devoted to the issue of next steps for HMT over the coming months. Tim S. mentioned plans for an HMT annual meeting this coming Aug/Sept and that an important goal of this meeting will be to show results from our HMT activities (demonstrate what have we learned over the last 5 years). It was noted that it was a requirement to set a date compatible with Marty R. and Gary C.’s schedules so they could attend.

In an effort to prepare for the upcoming meeting, it was suggested that we continue periodic telecons over the next several months to keep the HMT community engaged and provide motivation to achieve the results-oriented goals of the upcoming annual meeting. These telecons will emphasize “work in progress”. There was consensus that monthly telecons were about the right frequency.