DOH/RDM Science Workshop — Panel Questions

Wednesday, June 16, 2004

QPF/GFE	1.	We have seen plans that call for RFCs to use NDFD QPF grids operationally. Based on recent experience with NDFD QPF grids, issues such as discontinuities at political boundary and uncoordinated forecasts still exist and may be more problematic than during the WinQPF era. Some of our WFOs tell us they do not have time to coordinate QPF grids and some never look at HPC QPF. In addition, there are training and operational overhead issues related to RFCs implementing GFE. What is OHDs position in the matter of QPF and what support role will they play with GFE?
QPE/MPE	2.	The NPVU posts 6-hrly and 24-hrly gridded QPE on their website. Inspection of this information reveals significant problems with methods used to produce QPE at some RFCs. The national dataset is an embarrassment to the NWS and use of the dataset for research, development and various tasks would be problematic. OHD has been improving PPS algorithms for over ten years yet other applications such as QPESUMS, Mountain Mapper and P3 are still in use and are producing more realistic precipitation fields. How is OHD addressing the problems with MPE and where is NWS going in the future as far as QPE is concerned?
MPE	3.	Are there plans to incorporate QPESUMS into MPE?
Long range probabilistic forecasts	4.	AHPS baseline service implementation mandates long term ESP forecasts be produced for all forecast points. In our area, except for river forecasts from high elevation snow melt, we cannot generate any interest in long term ESP forecasts. Recognizing that we are supposed to be meeting customer requirements, why are we mandated to implement long-range probabilistic forecasts for points without a customer requirement? Could these valuable resources (AHPS funds and RFC staff) not be utilized more effectively?
FFMP Site Specific	5.	There appears to be a disconnect between the fielding of WFO hydrologic forecasting tools and the capability of the RFCs to support these tools. The two obvious ones are FFMP and the Site Specific. While the RFCs continue to struggle to produce worthwhile FFG values, the WFOs are ready to use the FFMP and the current FFG values,

		poor as they may be. Producing gridded FFG requires both gridded modeling as well as an accurate field of gridded threshold runoff values. Where do we stand in making these capabilities available to the RFCs?The Site Specific capability at the WFOs is coming along yet nobody has figured out how the RFCs are supposed to interact with, or support, this program.
Flash Flood	6.	What current plans are in place for making significant scientific improvements to the FFGS?
Requirements	7.	Is the hydrologic program going in the right direction to meet the field hydrologic requirements? How is this determined?
Requirements	8.	What is the status of the requirements process? I have not seen any lists to prioritize for several years, which I thought was supposed to happen every 6 months. The recent status report indicated that a lot of items that were on the "top 50" are still unscheduled.
Hydraulics	9.	With declining budgets and with the pressure for inter- and intra-agency cooperation, why does OHD continue with FLDWAV development when many (or most) RFCs have found USACE HES-RAS & HEC-GeoRAS to be much more advanced, much easier & less costly to implement, physically more realistic, support is much more responsive, documentation is far more superior, and training much more accessible. Economies of scale would suggest that money to support FLDWAV development would be better spent supporting the USACE HEC to meet NWS requirements.
Software Development	10.	There are countless examples of community based software development internationally of open source software. Why is it that OHD can not use this model for software development with RFCs? The world?
NWSRFS, Database	11.	We have heard from OHD in the past about sweeping changes to NWSRFS including its possible replacement. However, up to this time, changes have been in the patching category more than in the fundamental shift realm. How can the problems which have prevented these major changes from occurring in the past be avoided in the future so that proposals on a grand scale have an improved chance for success? What is the timetable for converting NWSRFS to informix?
SCH	12.	The creation of a Service Coordination Hydrologist (SCH) position at each RFC has been recommended. What is the status of this proposal?

AHPS Web	13.	The AHPS web page hydrographs have been available for quite some time now. It has long been established that there are numerous deficiencies with the display of these hydrographs and related quality control issues. These problems make hydrographs hard to read/comprehend and also can be quite confusing. It seems the team that works on these issues are moving at a snail's pace. What plans are there to speed up the process of improving the hydrographs, quality control and other issues to clean up this embarrassing display of information to the public?
AHPS Web	14.	Some of us have long contended that the best way to provide AHPS services would be for the RFCs to make the model runs and database the results and for the customers to be provided a user interface so that they can tailor the analysis of those results to satisfy their own particular needs. Please describe the progress currently being made in this arena?
Training	15.	One action item from the last DOH meeting, and also elevated thru the SFA process was to have OHD deliver periodic teletraining for the RFCs. When will this happen? This would be useful for new NWSRFS releases, new AWIPS releases, and general science topics. Potentially, you could even take sections of existing workshops and make them available via teletraining.
AHPS Budget	16.	The AHPS budget is rapidly becoming depleted by non-RFC offices and non-hydrologic programs. What steps are being taken to ensure that future AHPS funds will be equitably distributed to all RFCs?
General timelines	17.	There have been promises of *new science*: Distributed Modeling, SSHP (model state updating), Verification, etc. When will the RFCs see these? A realistic timeline is needed for OHD credibility.
WFO/RFC Development Priorities	18.	It seems that a disproportionate number of OH resources have gone towards the development of hydrologic software for the WFOs. What will it take to modernize the RFC applications for data presentation, calibration, forecasting?
Distributed Modeling	19.	Currently, the DMS testing has been limited to head-water basins. Also, the current method for integrating DMS simulations into our operational system is "clunky" and deficient with regard to making real-time operational modifications necessary for quality controlled forecasts. What is the time frame for developing an "IFP-like" system for integrating DMS simulations with routing

		techniques to allow flow simulations throughout an entire stream system? As DMS is transitioned into the RFCs, it will be necessary to calibrate many basins. A-priori estimates of SAC-SMA parameters are a great start in the calibration process, but trial-and-error calibration alone is slow and tedious. Are there any plans to incorporate parameter estimation algorithms or optimization techniques as a tool to enhance and speed the calibration process for DMS?
GIS	20.	What is HSD/OHD's position on the GIS platform issue… GRASS vs ESRI? And what is the discussion flavor at the Corporate Board level regarding this issue? What are the long range prospects of using ARCGIS and ARCHYDRO?
GIS	21.	GIS software/support: What is the time frame for the NWS to make a decision on the adoption of GIS software for agency-wide use and application. Is the NWS conferring with other federal agencies (ie. USGS, COE) that are years ahead in GIS experience to find what is working for them? USGS has an enterprise agreement with ESRI and has established a GIS support team at headquarters level for dealing with internal GIS issues and contacting ESRI for support. This type of structure has worked well for them.