

**Notes from URGWOM Steering Committee Meeting;
April 11, 2002; 10:00 AM; Corps of Engineers Conference Room,
Albuquerque**

In Attendance:

Cyndie Abeyta, USFWS	Bill Miller, WJM Engineering, Inc./Corps
Steven Bowser, USBR	Marc Sidlow, Corps
Mike Buntjer, USFWS	Gail Stockton, Corps
Lawrence Cata, Pueblo of San Juan	Carole Thomas, USGS/URGWOM Technical Team
Ellen Dietrich, SAIC/Corps	Jack Veenhuis, USGS
Conrad Keyes, Jr., Consultant to Corps	Mark Yuska, USBR/URGWOM Technical Team
Colleen Logan, Weston/Corps	
Steve Markstrom, USGS	

- ❖ Gail Stockton opened the meeting and introduced Steve Markstrom of the USGS who gave a slide presentation on MMS (Modular Modeling System) and its Rio Grande application. His presentation and some of the discussion are summarized below.
 - MMS was developed with funding from WaRSMP—Watershed River System Management Program—in cooperation with the Bureau of Reclamation. To date, models have been developed for 5 basins.
 - MMS is a precipitation/runoff model that gets and uses data derived from and input to HEC-DSS through an object user interface.
 - Real-time data used include precipitation and air temperature.
 - Water and energy balance of snowpack and snowmelt are calculated on a daily timestep.
 - The GIS Weasel (or module) generates homogeneous hydrologic response units from Digital Elevation Models and other GIS coverages such as land use and land cover, to predict surface water runoff.
 - The object user interface has enabled the development of standard ways of running MMS in which the user can specify the watersheds and dates, and the model routes the runoff and generates the values that go into DSS and RiverWare (URGWOM).
 - In forecasting, MMS uses historic data plus real-time climatic conditions and generates outputs for high, medium, and low precipitation years.
 - Research plans for MMS include the following.
 - Connect to MODFLOW possibly this summer (Yakima basin).
 - Connect to water quality models.
 - Couple MMS with atmospheric and hydraulic models.
 - Conduct uncertainty analysis and risk analysis.
 - Improve hydraulic and ecosystem process simulations.

- The Rio Grande MMS model is running and the USGS staff plan to evaluate the model and train the URGWOM Tech Team in its use.
- Questions from the Steering Committee:
 - How do MMS forecasts compare to NRCS predictions? Mark Yuska explained that the URGWOM Tech Team is just beginning to evaluate that so he cannot provide an answer yet.
 - How do subbasins compare to the URGWOPS subwatersheds? They are subdivided differently. MMS only covers 4 Compact gages in the upper basin. It does not include the San Luis valley.
- Mark Yuska followed with some slides that showed the steps to obtain the forecasts from MMS and input them into RiverWare. They are currently using the NRCS forecasts, but plan to replace with those from MMS eventually.
- ❖ Quality Assurance/Quality Control Plan
 - The subcommittee met on April 3 to discuss an outline prepared by Dave Wilkins. The purpose is to add information to the QA/QC Plan to describe protocols for checking model data and testing.
 - **Bill Miller will expand the outline based on the decisions made at the meeting and distribute to the subcommittee for review and comment. The outline will be discussed at the next Steering Committee meeting.**
- ❖ Gail led a discussion of a letter she received from Principia Mathematica Inc. on behalf of the Rio Chama Acequias Association (RCAA) requesting that the Steering Committee authorize the release of the URGWOM Accounting Model.
 - Mark explained that he and other Technical Team members attended a meeting with the Principia engineers, hosted by the NMISC, to discuss how URGWOM works and what data are used and generated. They agreed that they could provide accounting data to RCAA for the years used in calibration, 1995, 1996, and 2000, with approval from USBR who is the responsible agency. Some of these data are available from the URGWOM web site.
 - The 2001 and 2002 accounting data requested in the letter is not available to the public as raw data, only in summary reports such as the Annual Operating Plan. The Steering Committee agreed that it cannot provide raw data, unless it is available to the general public, especially if that data is the responsibility of a specific agency, in this case, USBR. The accounting data requested by Principia has not been made available to URGWOM cooperating agencies, and it would be unfair to those agencies if it were provided to an outside group first.
 - Steve Bowser related his understanding that the daily accounting data will never be in the public domain. They would be treated the same as the data in the Green Books that has been determined not to be available to the public under FOIA.
 - Principia has requested URGWOM and its data before, and the decision of the Steering Committee, documented in the August 9, 2001 notes, was that the current version cannot be released until it has been tested by the cooperating agencies. If RCAA wants to become a cooperating agency, they may do so. This would enable them to have early access to the URGWOM model and data for testing, but would require a commitment of resources.

- **It was the consensus of the Steering Committee members present that the latest version of URGWOM should not be released to anyone except the cooperating agencies until it has been tested and is ready for public use. Raw accounting data cannot be released at all without permission from the USBR. Gail will check with the other Steering Committee members not present to see if they concur with this decision.**
- **Gail will prepare a letter response to the request and provide a copy to the RCAA.** In the letter, it was recommended that she again suggest that RCAA become a cooperating agency and include the list of commitments required to participate at that level.
- ❖ Steve Bowser gave a brief update on the revision of HDB.
 - There was a meeting of the HDB steering committee and a decision that making HDB useful for accounting is not a priority for this year.
 - Other updates to HDB will be completed and will be available by the end of this fiscal year.
- ❖ Technical Team Activities and URGWOM Status
 - Mark distributed a summary of Technical Team activities and issues that is appended to the end of these notes.
 - Mark will give a presentation on the updated physical model to the Steering Committee at their June 13 meeting.
 - Bill distributed a revised draft of Rio Grande Compact Commission rules for releases from Elephant Butte that the Technical Team hopes to use in modeling. He will send the letter to the engineer-advisors for review.
- ❖ Other items
 - CADSWES is adding a water quality component to RiverWare using seed money from USBR and possibly from the Corps.
 - The Middle Rio Grande Bosque Initiative conference and field trip will be held on May 14 and 15 at the Hispanic Cultural Center. Some topics to be presented will include the UNM ET study, Flo-2D model development, and exotic plant removal. There will also be visits to restoration sites.
- ❖ The next meeting of the URGWOM Steering Committee will be held on May 9 at 10:00 a.m. at the Corps.

STATUS OF URGWOM TECH TEAM ACTIVITIES

Activities:

- Brad Vickers (RiverWare Modeling & Rules) and Steve Markstrom (MMS) are here.
- Working on Annual Operating Plan (AOP) with new Water Operations Model. RG Conservation release decisions still manual, but model works pretty well.
- Installed Forecast and Water Operations Models at USBR.
- MMS runs are promising! MMS runs here and in Denver, and provides numerous point streamflow forecasts. Comparing results with Forecast Model, with AOP runs.

- Continued adjustments and calibration. Average standard deviation is 195 cfs, at San Marcial Floodway, from Cochiti. Average standard deviation is 128 cfs for flow at San Marcial, from San Acacia.
- We have received 2001 Rio Chama Acequia diversion and some middle valley wastewater data.
- Per our request, the ET Toolbox now displays evapotranspiration rates (as well as consumptive use) for individual crops, urban and riparian, land-use categories.
- Adding Rio Grande Conservation account to WaterOps model and developing rules to set inflows and releases from the Rio Grande Conservation account in conjunction with inflow and outflow from the regular Rio Grande account. Has been partially implemented.
- Modified Forecast model to include new slots required for new middle valley methods (accounting for river leakage and riparian CU together).
- Continued to work on a modified Albuquerque basin ground-water flow model.
- Updated El Paso wastewater numbers for 97-99 in HEC-DSS.
- Developed a first-draft URGWOM models and shellscripts (process/data-flow) flowchart.
- Developed a draft URGWOM model data input and model testing quality control report outline and met with the quality control committee.

Meetings:

- The tech team met with Rio Chama Acequia Association representatives Willem Schreuder and his associate Hydrologist, Devraj Sharma 3/18 to discuss specifics of Accounting and Water Operations Models.
- Roberta Ball and Mark Yuska did a 3/20/02 conference call with Steve Markstrom, USGS, Denver, on running the MMS model.
- Mark Yuska represented URGWOM at the WaRSMP meeting in Reno, 4/2/02-4/3/02.
- The Web-Data subcommittee met 4/3/02 to talk about data quality control.
- The team met 4/4/02 to discuss some unresolved technicalities with Net-RG losses versus physical RG losses, and the possible provision of Methods Code and Accounting Models to RCAA.
- The team also met 4/4/02 with Doug Wolfe of Tetra-Tech to talk about middle valley physical modeling sharing with their Flo2D model.
- The team met 4/9/02 to discuss issues and decisions.

Issues:

- WaRSMP may have some funding available for extra S&T technical work to be specified by URGWOM. We don't yet have specific work targeted, but will meet to do so.
- We need from URGWOPS, operators, and biologists, the logic for storing and releasing RG Conservation water, on the long-term planning horizon, to build rules and constraints from in the models.
- We are asking for some RG Compact rules in our Planning Model. USBR and the RGCC must approve.

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- Some RCAA Hydrologists (Willem and Devraj) have asked for Accounting Models and Methods Code. We don't object to public release of these items, but recognize need for proper approval by Steering Committee and USBR.