

Memorandum

To: URGWOM Technical Team Members
Date: August 17, 2018
Subject: Notes of August 14, 2018 URGWOM Technical Team Meeting

These notes summarize the salient matters discussed during the August 14, 2018 Upper Rio Grande Water Operations Model (URGWOM) Technical Team meeting. The meeting began at 9:00 am in the New Mexico Interstate Stream Commission Office in Albuquerque, NM. An attendance list is included on the last page of these meeting notes.

The principal meeting Agenda topics include a report on RiverWare Large Aquifer Groundwater Modeling, Colorado Rules Documentation and a report on the status of the Physical Model Documentation.

Kyle announced that he has accepted a research position with the NRCS office in Fort Collins Colorado, and that this meeting might be his last URGWOM Technical Team meeting. He introduced Dave Moeser with the USGS office in Albuquerque, who will serve as the USGS member on the Technical Team after Kyle leaves. The other Team members in attendance and those participating via telephone introduced themselves.

David presented to the Team a report on CADSWES's progress in the development of a prototype object for the simulation of large aquifer groundwater, which would be used to simulate water levels in the deep aquifers in the URGWOM models. The new approach, which would be developed in a new "aquifer" object, would replace the use of the existing MODFLOW groundwater models. Dave reported that only layers 1-4 of the existing MODFLOW model would be simulated in the new object, that it would operate on a monthly time step with the monthly data distributed equally among the individual days of each month. The new aquifer objects would be located below the existing groundwater objects and aquifer objects could be located adjacent to the aquifer objects located below the groundwater objects. Equations governing the movement of water, similar to the equations used in the existing groundwater objects, would be used in the aquifer objects.

Dave stated that CADSWES is currently testing the aquifer object and he is continuing to analyze the existing MODFLOW models in order to develop a proof of prototype. The CADSWES task does not include investigation into the fluctuations in groundwater levels caused by the differing time step (explicit solution). David also realizes that placing additional objects on the workspace could result in a cluttered workspace and CADSWES is exploring ideas to address this issue.

Jesse reported to the Team on the status of his efforts to develop URGWOM rules documentation for the Colorado portion of the model. Jesse proposes to set up a rules document structure that could be used for the middle valley and lower basin portions of the model. He presented the specifics of the rules to be included in the document as well as appendices. An Appendix A would show flow charts of individual policy groups such as rules pertaining to Compact Article VII, water right diversions, flood control, etc. A separate Appendix B would include a copy of the ruleset itself. Each rule policy group has a section in Appendix B. The text in the policy group description would be included in the Appendix. An HTML file created from the rule set would be updated when rules are changed and then placed in the documentation so that the documentation is always current with the model. The draft of the Colorado rules documentation is nearly complete and will be circulated for review by Team members.

David commented that Jesse could organize the report groups in RPL, and to import the HTML file and updated changes to the Word.doc when it is opened. A similar process could be applied for the Physical model documentation.

Miller Reported that he has incorporated Marc's May 9, 2018 and Nick Mander's June 18, 2018 comments into the draft Physical model documentation. He encouraged Team members to review the document and submit their comments as soon as possible. Nick observed in his comments that simulation of the "prudent operating space" at Elephant Butte Reservoir and the IBWC flood control operating rule is not included in the model. These features may have been inadvertently dropped from the model when the lower basin model was connected to the middle valley model. The Team deferred action on these matters for the time being.

Kenneth reports that Al Brower has advised him that the ET Toolbox is computing effective precipitation based on the CN method and generating ET data. The lower basin model is operating and undergoing final shakedown testing. The crop curves used in the lower basin model are also being updated. He encouraged Team members to review the ET Toolbox web page.

Marc reported that the Technical Team is working on AOP run files for use in creating RiverWise files for use by interested stakeholders. He also stated that CADSWES is working on a method whereby stakeholders could change multiple slot values based on a variable percentage.

The next meeting of the Team has been scheduled for September 11, 2018.

The meeting adjourned at about 10:40 am.

ATTENDANCE LIST
URGWOM TECHNICAL TEAM MEETING
August 14, 2018

<u>NAME</u>	<u>REPRESENTING</u>
Dave Moeser	USGS
Jesse Roach	Tetra Tech / USACE Contractor
Curtis McFadden	USACE
Kyle Douglas-Mankin	USGS
Kenneth Richards	USBR
Shalamu Abudu	NMISC
William Miller	WJM Engineers/USACE Contractor
Lucas Barrett	USBR
Carolyn Donnelly	USBR
Andrew Gelderloos	USBR
Cindy Stokes	NMISC
Molly Magnussen	NMISC
Marc Sidlow	USACE

Those participating via telephone conference included:

Brian Westfall	K-B Engineering / BIA Contractor
David Neumann	CADSWES
Conrad Keyes, Jr.	EPdNWC