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TO: Colorado Water Conservation Board Members

FROM: Andy Moore, Water Resources Engineer
Interstate, Federal and Water Information Section

DATE: January 26-27, 2015 Board Meeting

AGENDA ITEM: 26. Colorado's Decision Support Systems - Overview and Update

Introduction

Colorado's Decision Support Systems (CDSS) are a joint effort of CWCB and DWR, with the purpose of providing data and analytical tools to aid in water resources planning and management in the State. CDSS development began with the Colorado River Decision Support System (CRDSS) in the early 1990s. CRDSS includes the Colorado mainstem, the Yampa, White, Gunnison and San Juan/Dolores river basins within Colorado. The Rio Grande DSS (RGDSS) was developed next, primarily in the late 1990s, and the South Platte DSS (SPDSS) was started in the early 2000s. While the feasibility study for the Arkansas River DSS (ArkDSS) has been completed, the actual development of the ArkDSS will begin this year.

Background

There are numerous ongoing activities relating to CDSS. For the second phase of the Colorado River Water Availability Study (CRWAS), the consumptive use and surface water planning models within CRDSS are being updated, and they will be used in similar modeling scenarios as in the first phase of CRWAS, with the addition of the newer climate projections from CMIP5.

In the South Platte, the development of the surface water planning model will be completed later this year. The SPDSS alluvial groundwater model, which was completed in 2013 for the original study period of 1950 to 2006, is being updated with more recent data, primarily to assist in the analysis of the high groundwater issues that have occurred in the last several years.

In the Rio Grande, the groundwater model developed for RGDSS has been updated and significantly enhanced in recent years and is currently being utilized to simulate groundwater flow in the major basin aquifers. In addition, response functions derived from the model have been generated to predict stream depletions caused by groundwater withdrawals for the Groundwater Subdistrict No. 1 Annual Replacement Plan. It is anticipated that the RGDSS groundwater model will continue to be updated and will have an important role in future groundwater administration in Division No. 3.

A Request for Proposals (RFP) will be released soon for the ArkDSS. This RFP will include both the consumptive use and surface water components, ultimately leading to a surface water planning model for the basin.

Another RFP will be released in the near future for moving the CDSS analytical tools and models to an open source platform. In addition to transitioning to and implementing the open source platform, this RFP will include providing ongoing software enhancements and support. With

this new approach, the State will continue to retain the copyright to all CDSS-generated software and will continue to be involved in software development, maintenance and support.

The newest CDSS tool is a completely new online Map Viewer. This Map Viewer is an impressive tool, with increased functionality compared to the old map viewer, which was based on a platform that is no longer supported. The new Map Viewer will eventually include the content of both the old CDSS Map Viewer and DWR's AquaMap tool. There will a a live demo of the Map Viewer at the Board Meeting.

Staff Recommendation

This item is informational only, and there is no action required by the Board.