



South Platte Decision Support System
Colorado Water Conservation Board and Colorado Division of Water Resources

Technical Peer Review Process for SPDSS

Purpose of SPDSS

State agencies, water providers, and water users are continually evaluating management of water resources in response to increases in population and demand, droughts, endangered species issues, and reductions in federal water program funding. The South Platte Decision Support System (SPDSS) is a comprehensive decision support system (DSS) being developed for the South Platte Basin under the direction of the Colorado Water Conservation Board (CWCB) and Division of Water Resources (DWR) with review and input by users in the form of a core advisory group and specific technical Peer Review Committees (PRCs).

The overall purpose of SPDSS is to provide all water users - from farmers, to water providers, to Colorado agencies - a better means for accessing, organizing, and evaluating a wide range of information and alternative strategies for making decisions about developing, managing, and preserving the water resources of the South Platte River Basin.

Development of SPDSS began in 2000, is now in Phase 4, and is transitioning into the final Phase 5. Components of SPDSS include consumptive use, spatial display and visualization of data, an evaluation of the bedrock and alluvial aquifers, a groundwater model of the alluvial aquifer, a website which includes a searchable database of all work products, and the custom MapViewer tool to view spatial data, and will include a surface water model in Phase 5.

Definition of Technical Peer Review for SPDSS

Obtaining technical peer review of SPDSS data and tools is essential to meet the purpose of assisting water managers and water users to make more informed decisions about the management of water resources of the South Platte River Basin. CWCB and DWR aim to develop technically sound tools, and to use the technical peer review process to uncover any significant issues during the development of SPDSS. For the purpose of this paper, a more detailed discussion of technical peer review is presented.

For SPDSS, technical peer review is an interactive and documented review of major technical inputs, decision criteria and work products. The peer review is conducted by the SPDSS team and members of the technical peer review committees (PRCs). The peer review is conducted to solicit feedback from technical members of the water community that will help improve the process resulting in SPDSS products, ensuring that they are technically adequate, competently performed, properly documented, and that they satisfy established quality requirements.

CWCB and DWR encourage participation in the PRCs, but understand that participation does not imply any obligation to or approval of the approach, process or technical components on the part of the PRC member.

Components of the Technical Peer Review Process for SPDSS

The technical peer review process for SPDSS is described in detail below.

Technical Peer Reviewers

There are two main mechanisms for technical peer review for SPDSS. The first mechanism is through the SPDSS team review that occurs for each component of SPDSS. The SPDSS team review is conducted by technical State staff and as appropriate, other paid SPDSS contractors performing the work.

The second mechanism for technical peer review is through the technical PRCs that are organized for each major component of SPDSS. Technical PRC membership consists of members of the South Platte water community identified as technical experts who are invited to join the PRC, including engineers, water resource experts, and hydrologists. In addition to these invited members, the PRC meetings are open to and attended by other members of the water community who wish to participate.

Scope of Peer Review

The SPDSS team, as described above, conducts detailed technical peer review of all work products prior to making them available to the public.

For Technical PRC members, committee meetings are intended to present recent progress, propose next steps, and hear feedback from the PRC members, covering both validation of the approach and results as well as suggestions for improvement. Open discussion and questions are encouraged at PRC meetings.

PRC members are encouraged to examine and question whether or not the datasets and tools being developed through SPDSS are meeting objectives. Potential questions that are intended to solicit an in-depth assessment, and resources to help answer those questions, include the following:

- ❑ Did the tool, study or dataset meet the project objectives? (Information on project objectives can be found in consultant scopes of work, posted on the website for Colorado's Decision Support Systems [CDSS] <http://cdss.state.co.us/>.)
- ❑ Are there sufficient metadata provided for each dataset that describe the data source, the procedures and assumptions used to develop the dataset? (Detailed information is provided in technical memoranda developed during each stage of development, posted on the CDSS website.)
- ❑ Were development, calibration, sensitivity analyses, and documentation procedures performed within professional and technical standards? (Detailed information is provided in technical memoranda developed during each stage of development, posted on the CDSS website.)
- ❑ Do models adequately represent the regional properties and processes for the physical settings that were modeled and for the intended uses? (Some regional data collected can be accessed through the custom MapViewer tool on the CDSS website.)

Peer Review Schedule and Tracking

The team of SPDSS contractors provides detailed technical peer review of one another's work routinely throughout the development of SPDSS data and tools, as described above.

PRC meetings in the early phases of SPDSS development were held approximately annually to provide status updates and an opportunity for input on data collection and initial model development. Beginning in 2008, PRC meetings will be held more frequently, potentially on a quarterly cycle.

Comments from PRC meetings and other sources are maintained in the form of an ongoing comment log for each SPDSS component. The comment log is a detailed record of feedback provided and of the response or follow-up action to the feedback.

Distributing Information

Information from each state DSS is readily available on the CDSS website: <http://cdss.state.co.us/>. Technical memoranda, models and data can be downloaded from the website for public review.

The CDSS website was reorganized in 2006 to allow for faster posting of documents and improved categorization and search features. There are ongoing efforts to make the website more user-friendly.

Benefits of Technical Peer Review

- ❑ Provide opportunity for expert community to enhance tools.
- ❑ Provide a structure for involvement that is open to all members of the South Platte water community.
- ❑ Make process transparent and documented.
- ❑ Promote knowledge of, and use of, the tools.