Surface Water Supply Index Tool

The Customer

Colorado Water Conservation Board (CWCB) and Division of Water Resources (DWR) [2013]

The Challenge

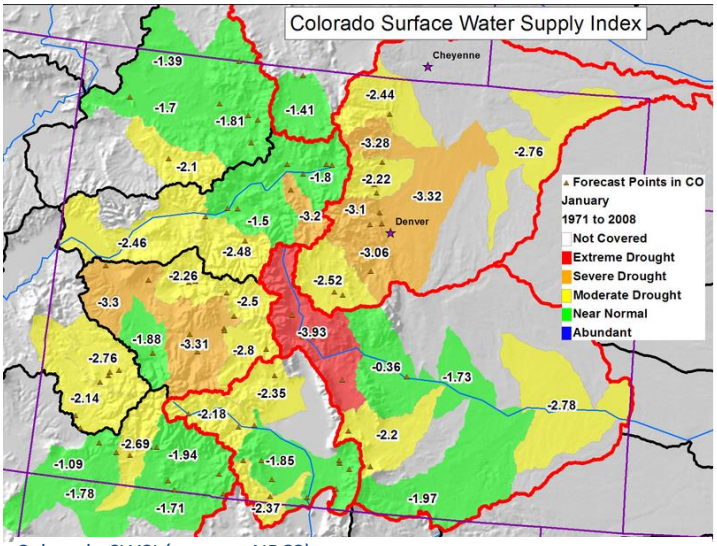
DWR has been working with the Natural Resources Conservation Service (NRCS) to update the Surface Water Supply Index (SWSI) tool, which provides information about water supply conditions in the state, similar to a drought index. A coarse approach has been utilized in Colorado to provide water supply information for major river basins. The new approach provides the SWSI for smaller basins and uses an updated methodology. The NRCS analysis is implemented in Microsoft Excel and is difficult to maintain and scale to more basins.

The Solution

Colorado's Decision Support System (CDSS) TSTool software, enhanced to perform SWSI calculations.

The Impact

This project will result in a SWSI tool that can be run by the State of CO and NRCS staff and can scale to implementation for all areas where SWSI is calculated in the Western USA, resulting in a more automated, efficient, and transparent process.



Colorado SWSI (source: NRCS)

The Implementation

The Open Water Foundation is enhancing the TSTool software to automate calculation of the SWSI for Colorado as an alternative to the current Microsoft Excel solution. One reason for this approach is that the NRCS is interested in an open source solution using Java. OWF is providing the following services:

- Configuring SWSI input as lists of basins, stations, etc., that can be saved in simple Excel worksheets or database tables, either of which can be read by TSTool to control processing
- Implementing full support for NRCS web services to retrieve streamflow, reservoir, and water supply forecasts for the SWSI analysis
- Implementing SWSI calculation functionality in TSTool
- Creating automated tests and working with NRCS and DWR staff to confirm functionality

This project started in 2013 and will be completed in early 2014 in order to test the tool with water year 2014 data.