South Platte Decision Support System - System Integration

COLORADO WATER CONSERVATION BOARD

PROJECT SUMMARY

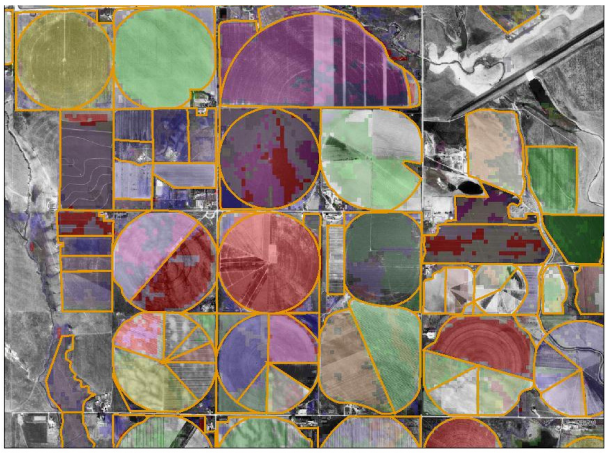
The Colorado Water Conservation Board needed a means to make informed decisions about the water resources in the South Platte River Basin. Riverside Technology, inc. enhanced software components in Colorado's Decision Support Systems to meet the South Platte needs.

LOCATION
Colorado, U.S.A.

PERIOD
2002 – Present

PROJECT DETAILS

Riverside Technology, inc. (Riverside) has worked with the Colorado Water Conservation Board (CWCB) for several years creating and enhancing Colorado's Decision Support Systems (CDSS). Riverside is currently focusing on the implementation of the South Platte Decision Support System (SPDSS) for the South Platte Basin. The objective of the SPDSS is to provide data and tools to support making informed decisions about South Platte water resources. Riverside's tasks focus on performing irrigated lands assessment within the basin, creating a spatial database, enhancing existing CDSS database and modeling tools, enhancing the existing data products and website, and providing system integration and support services to State of Colorado staff and consultants who are working on the project.



Irrigation classification using GIS and satellite imagery

Riverside is developing the spatial systems component of the SPDSS, beginning with a comprehensive Geographic Information System (GIS) database and spatial analysis tools. The GIS database includes a seamless, high resolution, digital orthophoto base for the entire study area. This image base is being prepared in a compressed digital format to allow archive and rapid display of the images, which have a ground resolution of less than two meters. This base is being used with 30 multi-temporal satellite images to map an estimated 1.5 million acres of irrigated lands in the basin and to estimate the consumptive water use for each irrigation diversion and for irrigation wells in the basin. The mapping is being completed in consultation with State of Colorado water resource managers, water conservancy districts, and hundreds of irrigation ditch companies and water users. In addition, Riverside is developing a number of specialized GIS data generation and visualization tools for use in maintaining the extensive water resources database and for using the SPDSS for managing the water resources of the South Platte River.

Riverside previously implemented decision support systems for the Colorado and Rio Grande basins, starting in 1994. Building on these efforts, Riverside is enhancing the system to migrate to newer technologies, increase re-use of system components, and streamline data processing. The resulting system will offer StateView as the viewing tool for the State's HydroBase database, StateDMI as a tool to prepare model data sets from HydroBase, TSTool to view and analyze time series data, and the StateMod graphical user interface (GUI) to display and edit model data sets. The data in HydroBase and the spatial data layers are being used in an integrated fashion to simplify data review and processing for modeling. Riverside is also updating the Colorado Water Rights Administration Tool (CWRAT) to current technologies and include new display features to aid water administrators. All enhancements are occurring in a way that allows the tools to be used on all CDSS efforts. The SPDSS project will continue to be a focus at Riverside for several years.

RELATED PROJECTS

- Colorado's Decision Support Systems
- South Platte Decision Support System
- Rio Grande Decision Support System - System Integration
- South Platte Decision Support System Spatial Information Systems Component

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