

SECURE Reservoir Operations Pilots

Lower Colorado: *Salt River Project, Salt and Verde Rivers*



Photo: Horseshoe Dam north of Phoenix, Arizona, Courtesy of Reclamation.

Background: The Salt River Project provides storage for agricultural, municipal and industrial water supply, power production, recreation, and flood control. The pilot has identified the impact of extreme precipitation or drought events, impacts to water quality (e.g., forest fires and rising water temperatures) on infrastructure, and increased reservoir sedimentation reducing storage capacity as the main risks to reservoir operations under future climate scenarios.

Study Area: This pilot study will focus on the reservoirs managed by the Salt River Project located on the Salt and Verde rivers in Arizona. The Salt River Project system includes C.C. Cragin Reservoir on East Clear Creek, Horseshoe and Bartlett reservoirs on the Verde River and Roosevelt, Apache, Canyon, and Saguaro lakes on the Salt River. Total storage capacity of SRP-operated reservoirs is 2,306,690 acre feet. Salt River Project P has funded and participated in climate change impact studies in the past; however, results of those studies have not all comprehensively translated into operational decision making.

Pilot Objectives: The main objectives of the pilot study are to identify and evaluate observed and projected changes to surface water availability within the current operating limits of the system, explore the projected impacts of climate change on extreme rainfall events, drought and consider rates of reservoir sedimentation in the basin for incorporation in long-term planning.

The study is also being performed to compare historical and projected system variability to determine if climate change impacts are within the historical variability range experienced by the system. The study is expected to provide insights into potential operational alternatives that would ensure the continued operability of Salt River Project facilities under projected conditions. Alternatives might include better indicators to identify extreme weather for short-term operations or to identify long-term drought earlier.

Coordination: The pilot will require the coordination between Reclamation and SRP. The Phoenix Area Office will oversee the project management aspect of the study and will work closely with Salt River Project and Reclamation's Technical Service Center staff to ensure the accomplishment of the study's objectives.