

# Pima County Regional Flood Control District Monthly Brown Bag Series

Source: National Park Service

## Lower Santa Cruz River Basin Study: A Summary of Climate and Hydrology Projections, Adaptation Strategies and Trade-off Analysis

**Dr. Eve Halper**  
Reclamation Phoenix Area  
Office  
Program Development Division

This seminar will present a high-level overview of the Lower Santa Cruz River Basin Study, a collaboration between Reclamation and local and state-wide partners. The study projects future surface and groundwater levels, accounting for climate change and other factors, such as population growth.

This study used innovative scientific techniques as part of a collaboration between University of Arizona researchers and Reclamation Technical staff. These include the use of a dynamically downscaled climate projection and the development of a three-season weather generator to simulate current and future climate variability. The study also used a complex model developed by the Central Arizona Water Conservation District (also known as CAP), to project future growth patterns.

The results of these analyses were combined for input into the Arizona Department of Water Resources Tucson Active Management Area Groundwater Flow Model to identify areas where groundwater levels may decline without active adaptation measures. Adaptation strategy concepts were brainstormed at two workshops and further developed for technical detail. Fifteen strategies were rated according to criteria developed by participants in a trade-off analysis. The Study results can provide site-specific information to organizations looking to integrate climate change into their planning, or project concepts to consider for adaptation to climate change and other stressors.