

Tri-State Consortium Innovation Working Group

Paleo-rainfall and Groundwater Recharge in Southern Nevada over the Past 11000 Years
from Cave Calcite Deposits

Activity Lead: Matthew Lachniet, University of Nevada, Las Vegas
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Problem Statement

Southern Nevada is one of the driest regions in North America, yet is host to a large and expanding population in Las Vegas and Clark County that relies upon distant snowmelt to feed the water supply of the Colorado River. Currently, 12-15% of the Las Vegas Valley's water supply comes from shallow groundwater in alluvial fans, much of which is derived from high-altitude recharge from snowmelt in the Spring Mountains which border the Las Vegas Valley to the west. This groundwater and that from other basins in southern and central Nevada may become increasingly relied upon to provide freshwater resources to the Clark County urban areas. Despite the region's arid location, little is known of the past precipitation history in the Mojave Desert, without which it is difficult to reliably predict future water availability.

The purpose of this IWG was to initiate inter-state collaboration to review and discuss the paleoclimatic scientific literature for southern Nevada and the Mojave Desert. IWG participants met at the Walking Box Ranch and held a day-long meeting on scientific objectives, priorities, possible field sites, and discussions of climate records in southern Nevada. This established a conceptual foundation for development of a full proposal to the National Science Foundation's (NSF) PaleoPerspectives on Climate Change Program (P2C2) for an October, 2010 submission.

Attendees

Matthew Lachniet	University of Nevada, Las Vegas
Victor Polyak	University of New Mexico
Yemane Asmeron	University of New Mexico
Steve Deveny	Southern NV Grotto, National Speleological Society
Kristine Deveny	Southern NV Grotto, National Speleological Society
Rick Bowersox	Southern NV Grotto, National Speleological Society
Faye Bowersox	Southern NV Grotto, National Speleological Society
Tom Madsen	Southern NV Grotto, National Speleological Society