

CWEST Seminar
Wednesday, March 7th, 2018
11-12pm
SEEC Sievers Room S228

Dr. Gregory McCabe
Chief Scientist of Hydroclimatic Processes and Hazards Project
U.S. Geological Survey

Factors Affecting Risks of Water Supply Shortages in the Colorado River Basin

The high demand for water, a recent multiyear drought, and projections of global warming have raised questions about the long-term sustainability of water supply in the southwestern United States (U.S.). Issues related to water supply and demand are particularly acute in the Upper Colorado River basin (UCRB), which is one of the primary sources of water for the southwestern U.S. UCRB streamflow varies on a range of temporal scales and paleo-climate reconstructions of UCRB flow indicate that the past century has been one of the wettest centuries of the past 1000 years. During this anomalously wet century the demand for water has increased steadily. Additionally, although variability in water-year precipitation explains most of the variability in water-year UCRB streamflow, since the late 1980s, increases in temperature in the UCRB have caused a substantial reduction in UCRB runoff and runoff efficiency (the ratio of streamflow to precipitation). These factors (i.e. natural climatic variability, water demand, and increases in temperature) have substantial effects on the reliability of surface water supplies in the UCRB and increase the risks of future water supply shortages in the UCRB.