

Colorado River Basin Climate and Hydrology—State of the Science Report

Project Overview

Effective water resources management in the Colorado River Basin relies on using science to inform operational and planning activities. While this is true at any time, the ongoing historic drought and recent scientific advancements provide additional motivation for the Bureau of Reclamation (Reclamation) and stakeholders to better understand opportunities to incorporate and advance climate and hydrology research.



Due to the large volume of scientific activity relating to the climate and hydrology of the Colorado River Basin, an important step in strategically integrating new science into practice is to assess the current state of knowledge. To this end, the Upper and Lower Colorado Regions of Reclamation and a work group of state and local water management agencies are partnering with Western Water Assessment (WWA) and Climate Assessment for the Southwest (CLIMAS) to synthesize progress in climate and hydrology research in the Colorado River Basin. The resulting report will establish a common scientific foundation on which to base future management and research efforts.

The report will primarily focus on the hydroclimatic inputs to Reclamation's short-, mid-, and long-term operations and planning tools. The report will describe research on the methods, models, concepts, and datasets that currently, or may in the future, contribute to Reclamation's and other stakeholders' activities, as well as remaining knowledge gaps, uncertainties, and opportunities. The report is expected to be available in the fall of 2019.

Reclamation is a federal agency whose mission is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Together the Upper and Lower Colorado Regions of Reclamation oversee reservoir operations, water deliveries, and planning in the Colorado River Basin.

The work group is a self-organized group consisting of more than a dozen federal, state, and local water management agencies and other ad hoc participants. The goal of the work group is to advance scientific understanding to improve the accuracy of hydrologic forecasts and projections, to enhance the performance of predictive tools, and to better understand the uncertainty related to future supply and demand conditions in the Colorado River Basin.

[WWA](#) and [CLIMAS](#) are applied research programs that address societal vulnerabilities to climate variability and climate change. They are two of 11 [Regional Integrated Sciences and Assessments](#) (RISA) teams sponsored by NOAA. WWA is part of the [Cooperative Institute for Research in Environmental Sciences](#) (CIRES) at the University of Colorado-Boulder. CLIMAS is housed at the University of Arizona's (UA) Institute of the Environment and is a collaboration between UA and New Mexico State University.

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