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Presentation Abstract: Modeling risk in the Colorado River Basin

The Bureau of Reclamation provides routine updates for mid-term (2-10 year) risks to the Colorado River Basin. These updates rely on assumptions for future uncertainties including hydrology, demands, and operations, but are most sensitive to the choice of future hydrology. Reclamation most commonly presents results that rely on the historical record from 1906-present or a subset of the historical record, e.g., the 1988-2015 “stress test”, to represent future hydrology. However, Reclamation has also employed other methods, including using the paleo record or projections from GCMs, to understand how the risks may change depending on assumptions, i.e., scenarios, for future hydrology. The 2012 Colorado River Basin Water Supply and Demand Study not only compared risks for different combinations of future hydrology and demand scenarios, but also introduced techniques to help identify vulnerabilities and characterize risks to the Basin. This talk will review Reclamation’s various methods for modeling future uncertainties and how these different assumptions affect risk.