



Southwest US Water Supply: How it became Depleted and What's Likely to Happen Next

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Wednesday, October 13, 2021 | 11:30 AM | [ECCE 1B41](#) &

Zoom: <https://cuboulder.zoom.us/j/93058839188>

(passcode: water)

Abstract:

The first two decades of the 21st century have witnessed severe reductions in surface water supply over the American Southwest. Most visibly evidenced by the infamous “bathtub ring” demarcating a greater than 50% decline in Lake Mead water storage, and now water use curtailments imposed on the States of the Colorado River Compact, the region has experienced a period of abnormally low precipitation, below normal snowpack, and record-breaking heat. How did this condition come to be? This talk will in particular explore the question of how and by how much, the dire water supply conditions over the American Southwest are symptoms of a warming world. It will explore how water availability (specifically, annual flows of the Colorado River) is sensitive to precipitation and temperature change, exploring the physics of streamflow generation on the principal river supplying the American Southwest.

Speaker Bio: Dr. Martin Hoerling is a meteorologist in NOAA's Earth System Research Laboratory in Boulder, Colorado. He is co-Editor of the Special Supplement to the Bulletin of the American Meteorological Society on Explaining Extreme Events from a Climate Perspective. Dr. Hoerling, a Fellow of the American Meteorological Society, has published over 100 scientific papers exploring climate dynamics. These include studies on African and Indian monsoons, middle latitude variability linked to the El Niño phenomena, causes for drought and extreme climate events, and climate predictability assessments. His recent work has been focused on the problem of dwindling water resources in the Colorado River Basin.