

Brad Udall and Jonathan Overpeck, 2017: *The Conversation*, “Climate change is shrinking the Colorado River”

Brad Udall is a Senior Research Scientist at the Colorado Water Institute. Jonathan Overpeck Is a distinguished professor at the University of Arizona and the director of their Institute of the Environment.

“The nation’s two largest reservoirs, Lake Mead and Lake Powell, have not been full since 2000. While water overuse has played a role in their decline, a major cause has been an ongoing drought that has led to substantial reductions in river flows. Most droughts are caused by a lack of precipitation, but our research shows that about $\frac{1}{3}$ of the Colorado River’s decline was probably due to higher temperatures in the Upper Basin, which come from climate change. This matters because climate change is causing long-term warming that will continue for centuries. Warming from climate change has the potential to make all droughts more serious.

“Knowing the relationship between warming temperatures and river flow, we can predict how the Colorado will be affected by future climate change. By 2050, warming could reduce water flow in the Colorado by at least 20 percent compared to what it was like in the 1900s. By 2100, it could decrease by as much as 40 percent. Reducing emissions could make this drop less dramatic.

“States, cities, and major water users should start to plan now for significant river flow declines. Failing to act on climate change means accepting the very high risk that the Colorado River Basin will continue to dry up into the future.