

# Deseret News

## Warming may take toll on Colorado River

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LAS VEGAS — Federal scientists and Western water managers will call Congress' attention today to the potentially devastating effects of climate change on the Colorado River, warning that an expected warming trend would reduce the amount of water in the river.

All told, the Colorado is a water source for more than 25 million people in seven states and Mexico. The volume of the river is particularly critical for southern Nevada because the Colorado feeds Lake Mead, which supplies 90 percent of the Las Vegas Valley's water.

At today's congressional briefing, research scientist Gregory McCabe will present a study that shows even a 1.5-degree increase in the overall temperature of the Southwest will decrease the river's flow. It will also increase the likelihood that it will fall short of the amount needed to meet the annual allocations upon which Nevada and the other members of the Colorado River Compact rely.

"I live in the West. I worry about water supply," McCabe said. "We have lived in an anomalously wet century. A shift to a much drier climate coupled with additional warming spells trouble for the future.

"Because the water usage is so large in the (Great) Basin, it is very sensitive to even small warmings," McCabe said.

McCabe's study estimated the effects of 0.86-degree Celsius warming, which is 1.548 degrees Fahrenheit — the same amount as the climate has changed in the past century — and the 2-degree Celsius, or 3.6-degree Fahrenheit, warming of the climate that scientists say is possible in the next century.

He analyzed these changes against the backdrop of tree ring records used to estimate river flows going back more than 500 years, as well as more than 100 years of data from the river.

Today's hearing comes on the heels of a recent release of a report detailing effects of warming on fish, forests, rangelands and arid lands. The U.S. Agriculture Department report predicts dwindling rivers, an increase in extreme weather — droughts and floods — and the death of plant life.

None of these conclusions should come as a surprise, said Eric Kuhn, general manager of the Colorado River Water Conservation District. Kuhn said he hopes today's briefing will impress upon congressional staffers that continued funding for scientific studies and river-flow monitoring is crucial.

But Tim Barnett, author of a controversial study published in February that predicted a 50 percent chance that Lake Mead would go dry by 2021, said Wednesday that no matter how much new science is done, the future is clear.

A professor at the Scripps Institution of Oceanography, he said every credible Southwest water study has concluded that serious water shortages will hit in the 2020s.

If global climate models are anywhere close to correct, Barnett said Wednesday, "we've got a real problem coming." The time line is so short that preventing global climate change before the predicted water shortages become reality is impossible, so it's time to plan, instead, for how we'll deal with the inevitable deficits when they arrive, he said.

Shortage guidelines agreed upon in December by state and federal water management agencies, designed to cut water deliveries to Western states if river flows and reservoir storage dip below certain

levels, won't cut it, he said.

We are heading toward a future in which water will probably be rationed, Barnett warned.

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