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Valley agencies split over water forecast

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A new study warning that climate change could dry out Colorado River reservoirs by mid-century met with mixed reactions Tuesday from Coachella Valley water agencies, many of which rely on the river as a key water source.

The study, released earlier this month by researchers at the University of Colorado at Boulder, projects a one-in-two possibility of the river's reservoirs drying by 2057, depending on the extent of climate change.

After nine years of drought, major reservoirs such as Lake Mead and Lake Powell are at only 59 percent of capacity, said researcher Balaji Rajagopalan, a professor of civil and environmental engineering at the university.

He predicts that if climate change reduces the river's flow by 10 percent, the reservoirs have a one-in-four chance of depletion by 2057.

A 20 percent reduction would increase that risk to more than one-in-two for the same time period.

The river, which runs 1,450 miles from Colorado to Southern California, provides irrigation and drinking water for about 30 million people.

But David Luker, general manager of the Desert Water Agency, contests Rajagopalan's findings.

“There are many ways to look at the data sets available,” Luker, wrote in an e-mail to The Desert Sun. “The study says we must rethink our use of Colorado River water, but we are already doing that by implementing conservation programs to hit every type of water user in our area.”

Rajagopalan's projections echo those in a study published earlier this year from the Scripps Institution of Oceanography, predicting a 50 percent chance that Lake Mead could run dry by 2021.

That, in turn, could cut close to nine out of 10 deliveries of Colorado River water by 2050, the Scripps study said.

Kevin Kelley, spokesman for the Imperial Irrigation District, doesn't doubt that climate change is occurring but like Luker, said his agency is also ahead of the curve.

Kelley pointed to IID's 2003 agreement with other regional water districts on apportionment of Colorado River water.

The agency gets more than 3 million acre-feet of water per year from the Colorado River, part of which is transferred to other agencies, including the Coachella Valley Water District.

An acre-foot is the amount of water needed to cover an acre of land with a foot of water, about 325,851 gallons.

“That water transfer is contingent on efficiency-based water measures being installed in the ground of the Imperial Valley,” Kelley said.

Richard Minnich, a professor of earth sciences at University of California, Riverside, agrees the river

is threatened, but more from increasing demand than climate change.

The Coachella Valley's golf courses and green lawns are huge water wasters, he said.

“If you had a lawn, a sea of grass, one year of evaporation from grass into the air is 10 feet of water,” he said. “It's like 100 inches going out, and that's what you're putting into irrigation.”

“Until 2027, the risk for water depletion is relatively low,” Rajagopalan said. “After 2027 this risk escalates seven to eight times. It's better for water managers to start talking and not put it off, to really put a dent in the risk.”

He said more aggressive strategies for water conservation, such as reducing demand by as much as 8 percent, should be started now.

The study is in press and will be published next month in the American Geophysical Union journal, Water Resources Research.

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Additional Facts

Model problems

The problem with studies that predict the impact of climate change is that they are based on computer models of atmospheric change, said Richard Minnich, a professor of earth sciences at University of California, Riverside.

“If you've got to worry about what global climate change is going to do in the long run, the heat storage is in the ocean,” Minnich said. “There is more carbon dioxide in the oceans than in the atmosphere. This is a complex planet.”

Another problem with computer models is they don't always provide a clear picture of the amount of climate change that will produce specific impacts.

Balaji Rajagopalan of the University of Colorado at Boulder said the computer models in his study predicting the drying of Colorado River reservoirs can't tell how high temperatures will have to rise to trigger the drying.

“Eighty-five percent of the water (in the river) is coming from snow melt in 10 to 15 percent of the watershed, in elevations above 9,000 feet,” Rajagopalan said.

“These models they are not very good at what will happen to snow fall,” he said. “So let us say climate change doesn't do anything in higher elevations, you might not see a dramatic decline in flow.”