



### ***Climate change, drought to strain Colorado River***

**12/07/2008** Seven Western states will face more water shortages in the years ahead as climate change exacerbates the strains drought and a growing population have put on the Colorado River, scientists say.

"Clearly we're on a collision course between supply and demand," said Brad Udall, director of the Western Water Assessment at the University of Colorado.

Although there is some disagreement about when the most dire conditions will materialize, scientists at a conference in Salt Lake City said Thursday they expect less water to be available in the coming decades.

Without fundamental shifts in water management, the result will be shortages and difficult decisions about who in the seven states the river serves will get water and who will go without, said Dave Wegner, science director for the Glen Canyon Institute, which organized the one-day conference at the University of Utah.

"To me, it's not going to be a pretty debate," Wegner said.

The changes are already being seen in reduced water flows, higher air temperatures and an unrelenting demand on the Colorado, which snakes across more than 1,400 miles and provides water for farms, businesses, cities and homes. The river serves Arizona, California, Colorado, Nevada, New Mexico, Wyoming and Utah, an area where 30 million people live.

Last year, officials from the seven states and Interior Secretary Dirk Kempthorne signed a far-reaching agreement aimed at conserving and sharing scarce Colorado River water. The 20-year plan formalized rules for cooperating during the ongoing drought.

A study released in February by the Scripps Institution of Oceanography in San Diego said there's a 50 percent chance that Lake Mead, which straddles the Arizona-Nevada state line, could run dry by 2021.

Several models by different scientists have made predictions about the future flow of the Colorado, all of which forecast less water, said Tim Barnett, one of the Scripps study's authors. The prospect of warming temperatures only increases the strain on an already strained system, he said.

"The current usage is simply not sustainable," Barnett said.

Udall quibbled with Barnett's prediction about 2021 but not the overall speculation that water in the Colorado River basin will become more scarce.

"It's a question of when," he said.

Even if the West's climate doesn't get as warm as predicted, the river system will likely be faced with shortages, said Gregory McCabe, a project chief at the U.S. Geological Survey's water resources division in Denver.

Building more reservoirs to store water probably won't be enough to mitigate the effects of changes to the system \_ especially warming temperatures, he said.

One of the best approaches will be to drive down demand by finding better and more ways to conserve water, McCabe said.

The Colorado has long been the source of controversy as thirsty states fight for their share to quench growing economies.

The 20th century was one of the wettest going back several centuries. But it shouldn't be assumed that water levels will remain as plentiful in the future, researchers said.

Connie Woodhouse, a University of Arizona scientist, said tree rings in the basin indicate that the amount of moisture has fluctuated widely over hundreds of years, but has tended to be drier than was seen in the last 100 years.

It's time to consider a "new normal" for shrinking water supplies in the Colorado River basin, Wegner said. That will require a sweeping re-evaluation of allocations, use, conservation, dams and legal obligations, he said.

Last update: 12/07/2008



(© 2005 Associated Press. All rights reserved. This material may not be published, broadcast, rewritten, or redistributed.)