

Climatologist offers sobering water outlook for Wyoming

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LOVELL, Wyo. (AP) -- Wyoming needs to consider global warming when looking ahead to how much water the state might have available decades from now, State Climatologist Steve Gray say.

Most long-term climate models predict an average regional temperature that will be 3 to 7 degrees warmer by 2050. That doesn't necessarily mean Wyoming will get less precipitation. But right now, most of Wyoming -- 71 percent -- is much drier than average, according to Gray.

"We need to be thinking about a changing climate in all of the planning we're doing," Gray told a group looking at ways to address Wyoming's water shortage. "Not only global changes, but also the fact that climate changes naturally from year to year and decade to decade."

Wyoming already is the fifth-driest state, behind New Mexico, Utah, Arizona and Nevada.

Gray said even a small rise in average temperatures could mean huge changes for the state's water outlook. That's because much of the spring snow that collects in the high country falls at temperatures just below freezing. With a slightly warmer average temperature, rain would fall instead, and less snow would be stored at higher elevations to melt and run off throughout the spring and summer.

The result could be water shortages later in the year. Also, high country forests would become drier and more prone to beetle infestations, making them prone to large wildfires.

Historically such a long-term scenario wouldn't be unusual. Gray said an analysis of tree rings around the Bighorn Basin showed severe and extended dry spells occurring fairly regularly over the last 700 years.

"When we take the driest year in the 20th century, 1936, that kind of drought has been equaled or exceeded on numerous occasions," he said.

"Severe and sustained drought is part and parcel to life in the western United States, and we better make sure that whatever work we're doing takes that into account."

Meanwhile, he said, growing populations and changing land use are shaping water demand.

In the Bighorn Basin, he said, a water dispute between boaters and fishermen on Bighorn Lake and river fishermen downstream in Montana breaks the mold of typical water disputes involving agriculture.

"Agriculture has always been such a huge player in Western water, but with the increases in recreation, that's another fundamental change shaping the demands for water," he said.

Another changing factor is growing demand in states downstream of Wyoming.

"There are more people in one Las Vegas suburb than in all of the state of Wyoming, and when you look at it from that economic or sociopolitical reality, being a headwater state in the new West makes us vulnerable in ways we haven't been in the past," Gray said.

He said planners and residents can take steps to make the most of the state's water.

"The first is we can work on our infrastructure, and that includes things like concrete, dams, pipes and ways to store water and move it where we need it," he said.

"Second is conservation of water, and getting rid of the inefficiencies and losses in our water system. Finally, we need to get a better handle on how water availability and climate change over time," he said.