

From the September 1, 2004 edition of the Missoulian newspaper (Missoula, MT)

## **Report details global warming's role in wildfire risk**

*By Sherry Devlin*

Of all the Western states, Montana's wildfire season could be most affected by the warmer temperatures associated with global climate change, according to a new report.

Published in Conservation Biology magazine, the research suggests the acreage burned each summer in Montana could increase five-fold by the end of the century.

And more frequent, more extensive wildfires would likely reduce the number and size of the state's already patchy old-growth forests, in turn threatening the existence of old growth-dependent species, said researchers at the U.S. Forest Service's Pacific Northwest Research Station in Portland, Ore., and the Pacific Northwest Climate Impacts Group at the University of Washington.

Overall, the area burned by wildfires in 11 Western states could double by 2100 if the summertime climate warms by 1.6 degrees, the scientists said.

"We are dealing with an environment that is changing pretty quickly," said Donald McKenzie, the paper's lead author and a researcher at the Forest Service's Pacific Wildland Fire Science Lab. "We can't just plan for the status quo. We have to plan for the future."

"The take-home message," he said Tuesday, "is that because we are pretty sure global temperatures are increasing and will continue to increase - because we continue to put carbon dioxide in the air - we can expect, on average, more wildfires."

And Montana seems particularly sensitive to the change, McKenzie said, perhaps because its forests are "on the edge between dry forests and wetter, more moist forests."

"In Arizona, all the forests are pretty dry all the time," he explained. "On the western side of Washington, all the forests are pretty wet all the time."

So when researchers throw slightly warmer temperatures into those ecosystems, there's not as much of a response. Arizona is still pretty dry; Washington is still fairly wet.

"But Montana forests are kind of in the middle," McKenzie said. "So they are more sensitive to temperature changes. It's like you are sitting on top of a hill wearing roller skates. If you're pushed over to one side just a little bit, you'll skate all the way down the hill."

"Montana's forests could go in either direction pretty easily. But that's speculation on my part. I wouldn't go to the governor of Montana and say, 'Your state is really in trouble.' "

Instead, McKenzie said, he would suggest a nationwide call to attention: Global temperature increases are real, and they will have an effect on wildfires in the western United States.

In their article, "Climatic Change, Wildfire and Conservation," the scientists said their analysis of climate and fire histories showed the most important variable is summertime temperatures - not precipitation - in most cases.

Using what is considered a low-end climate-change scenario - a 1.6-degree increase in summer temperatures between 2070 and 2100 - the acreage burned by wildfires will increase by 1.4 to five times in the 11 Western states.

Only California and Nevada will have lesser impacts.

"Fire in California and Nevada appears to be relatively insensitive to changes in summer climate, and the total area burned in these states may not respond strongly to changed climate," the researchers said.

In Southern California, for example, almost all wildfires are caused by humans and the combination of high temperatures and dry winds associated with the Santa Ana winds - not by temperature alone, McKenzie said.

Montana, Wyoming and New Mexico were the most affected states, with Montana at the high end.

Much of the Conservation Biology article, though, was devoted to the potential impact of the future fires.

"We have to think about this in terms of species conservation," McKenzie said. "We'll have to make some difficult choices about species that are endangered by having their habitat burned.

"With more fire, we could lose some species."

Although saying he is not part of the "policy realm," and in fact is not allowed to be, McKenzie said there will have to be a wide-ranging public discussion of how best to address the impacts of climate change on Western forests.

"On average, across the West, we are going to have more area burned by fires - more acres," he said. "And that means we'll need more firefighting resources to put them out. And if we want to reduce forest fuels to lessen the severity of the fires, we'll have to treat more acres to have the same results in the future."

No one, McKenzie said, should come to the table asking for or expecting the status quo.

"The point is, you have to establish a dialogue between all the interested parties," he said. "Because there is no quick fix for the issues that come out of climate change - and we can't fix things, assuming everything is going to stay the same. The changes are already happening. The status quo is already gone."

Reporter Sherry Devlin can be reached at 523-5268 or at [jkelly@missoulian.com](mailto:jkelly@missoulian.com)