

# Lab kills trees to learn how to save them

By David Gilkey, NPR

The droughts that have parched big regions of the country are killing forests.

In the arid Southwest, the body count is especially high. Besides trying to keep wildfires from burning up these desiccated forests, there's not much anyone can do. In fact, scientists are only now figuring out how drought affects trees.

Park Williams studies trees at the Los Alamos National Laboratory in New Mexico, but not the way most scientists do. "We're interested in trees that die," he says – specifically, death by heat and drought.

Sure, lack of water kills trees, but which ones die first, how long does it take, how long can they go without water? "That's a part we don't understand very well as ecologists," says Craig Allen, an ecologist with the U.S. Geological Survey. "We don't know what it takes to kill trees."

Allen and Williams have tracked droughts through the centuries. They know there've been bigger droughts than the one we're in now, but not many. And Williams says this one is different. "In past droughts, temperatures always rebounded and precipitation rebounded and went to a wet time," he explains. "What we have now is a gradual trend toward warmer temperatures."

Climate change is making the region ever hotter. And when you have consistently hotter weather, the atmosphere gets thirsty – it sucks water out of the ground and out of plants. You get more droughts, and deeper droughts. There's less water for

everything.

Computer models of climate change predict that this region will warm by several degrees before the century is out, and Allen says the “new normal” will look like the worst of the past. “So it suggests basically that the main tree populations on our mountains will die,” Allen says. “They will not be able to survive there. It doesn’t mean there won’t be any trees anywhere on these landscapes, but it means the current dominant trees will die.”

Which ones survive, and how many, is the subject of research at the Los Alamos lab.

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