

Study: Water stress takes toll on Calif.'s large trees

By Taylor Goldenstein, Los Angeles Times

Drought, fire-suppression techniques and changes in land use have made California forests denser with smaller trees and more susceptible to fast-moving wildfires, a study to be released Tuesday has found.

Researchers at UC Berkeley, UC Davis and the U.S. Geological Survey compared tree surveys conducted between 1929 and 1936 with surveys conducted between 2001 and 2010. They found that large tree density fell across California, with declines of as much as 50% in the Sierra Nevada highlands, the south and central Coast Ranges and Northern California. At the same time, the density of smaller trees increased dramatically.

The firemen are faced with this notion of when a fire is reported and started, do they go out and ... put the fire out, or do they let it burn?

– Mark Schwartz, professor of environmental science and policy at UC Davis

Drier conditions caused by drought reduce water available for trees to grow while making it easier for fires to start and spread. Scientists say the changes raise crucial questions about how California manages its forest land to prevent and control wildfires as temperatures increase.

“The current drought in California highlights our need to understand the role of water balance in these systems and how it will be affected by global temperature rise,” said the study’s lead author, Patrick McIntyre. “Forests and woodlands cover a third of California, so this has important implications for our state.”

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