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KU team assists climate study

Weather changes taking harsh toll on vegetation

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High temperatures combined with the recent drought in the Southwest led to the widespread die-off of pinyon pines, and new research suggests global climate change may have a similar speedy impact on other ecosystems.

Kansas University researchers were among 13 scientists conducting the research that will be published this week in the Proceedings of the National Academy of Sciences.

“The research demonstrates that vegetation communities can be changed very dramatically with global climate change,” said Kevin Price, a Kansas University geography professor and associate director of the Kansas Applied Remote Sensing Program within the Kansas Biological Survey.

The researchers examined the die-off of pinyon pines and juniper trees in Colorado, Arizona, New Mexico and Utah. The recent drought saw comparatively higher temperatures than a drought in the 1950s. The research indicates the high temperatures were a major factor in the die-off. And that suggests similar conditions in the future could lead to similar dramatic changes in vegetation, Price said.

Price worked with Jude Kastens, a KU doctoral student in the math department and senior research assistant for the Kansas Applied Remote Sensing Program. The team also included researchers from the University of Arizona, Northern Arizona University and Los Alamos National Laboratory.

The KU researchers analyzed information gathered by satellite that captured the massive die-offs. Without such work, Price said, ecologists would have had to monitor what happened to the trees by physically touring the lands and attempting to record the changes — not a simple feat given that the studied area spanned four states.