

Center for Space and Earth Science (CSES)

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Tamarack in Trouble?

Climate change and altered population dynamics of eastern larch beetle in North America

Wednesday, July 13, 2016

11:00 AM

TA-51 Conference Room
(TA-51, Building 25, Room 102)

Abstract. Eastern larch or tamarack *Larix laricina* is an important lowland conifer of northern boreal and peat ecosystems found from Alaska to the Canadian maritimes. Its primary bark beetle, the eastern larch beetle *Dendroctonus simplex*, has been documented by entomologists for over 100 years, but rarely kills trees for more than 3-5 years at a time. Over the past 15 years, a severe outbreak of eastern larch beetles has been decimating tamarack along its southern range margin in the Great Lakes region in the absence of usual predisposing factors. We have found that expanded growing seasons have facilitated a switch from one generation to two generations per year for the insect, which was previously thought to be physiologically impossible. This presentation mixes natural history with multiple lines of evidence to lead to the unfortunate conclusion that the range of tamarack may be pushed northward by this insect in a warming climate.

Biography. Brian Aukema is a McKnight-Land Grant Professor and Associate Professor in the Department of Entomology, University of Minnesota. His research group studies the ecology of forest insects, linking patterns across space and through time to individual- and community-level processes. His group work across plant-insect and predator-prey interactions, landscape ecology, population dynamics, chemical ecology, and biometry, the application of statistical tools to novel ecological questions therein. Linking pattern and process across scales touches on a number of topics in resource management, such as insect outbreaks and disturbances, dispersal, sampling, changing climate, invasion biology, and biological control.

For more information, contact the technical host, Chonggang Xu, 665-9773, cxu@lanl.gov.