

*Co-sponsored by
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Frontiers in Geoscience Colloquium

Monday, October 17, 2016

3:00pm – 4:00pm

**New Location: EES-DO Conference Room
(TA-3, Bldg 215, Room 275)**

*Exploring spatial and temporal connections between climate,
vegetation dynamics and wildland fire potential*

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Wildland fire potential is controlled by interconnections between fuels, weather and topography. Seasonally, weather is the most variable of these three factors and it is also the most significant determinant of where wildland fires will ignite and once ignited, how they will behave. Here we explore how weather interacts with vegetation to either limit or enhance wildland fire potential. We explore these connections across a range of spatial scales from individual conifer needles to global biomes and temporal scales from days to decades. We demonstrate direct linkages between plant carbon dynamics and weather to dispel long-held myths about the key factors that dominate seasonal variations in both live fuel moisture and conifer crown fire potential. We summarize this knowledge into a new theory of live fuel flammability variations that integrates both physical and plant physiological processes to explain seasonal ignitability variations in live and dead fuels. Finally, we explore how climatic changes over the past three and half decades have interacted with fuels to lengthen global fire seasons. This body of work has led to a more complete understanding of how weather and fuels interact to limit or enhance wildland fire potential locally, regionally and globally.

Host: Rod Linn, EES-16, 665-6254