**Running Head**

*Functional traits and forest fire regimes*

**Title**

The biogeography of forest fire regimes: a trait-based approach

**Authors**

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**Abstract**

**Introduction**

Mapping of fire regimes has long been a useful tool to describe spatial variation in characteristic fire behavior across a landscape. Such descriptions are generally based on information regarding historical fire return intervals, climate, predominant vegetation, and biophysical models which link these parameters together (cite LANDFIRE). Implicit in these models is a recognition that there is variation in functional traits across species that confers different degrees of resistance to fire to different species.

Future/Novel fire regimes

**Methods**

We assembled functional trait data on five fire-adaptive traits that contribute to fire resistance of a suite of conifer species. We compiled traits for 25 widespread conifer species of western North America. Our trait database included bark thickness, tree height, degree of self-pruning, flame length and flame duration. We estimated the bark thickness of a 25.4 cm (10 in) tree using the species-specific bark thickness multiplier provided in the Fire and Fuels Extension of the Forest Vegetation Simulator ([Reinhardt and Crookston 2003](#_ENREF_5)). Maximum tree height was derived from the TRY plant trait database ([Kattge et al. 2011](#_ENREF_4)). Degree of self-pruning was assigned on a qualitative 1-10 following the methods and data for genus *Pinus* from [Schwilk and Ackerly (2001)](#_ENREF_6), supplementing with data for other genera with the Fire Effects and Information System ([FEIS 2013](#_ENREF_1)). Flammability data on mean flame lengths and flame durations were obtained from [Fonda (2001)](#_ENREF_2), [Fonda et al. (1998)](#_ENREF_3), and Banwell and Varner (unpublished data).

Something

**Results**

Something

**Discussion**

Something

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