

## **REVISION OF THE FIRST ORDER FIRE EFFECTS MODEL - FOFEM 5.0**

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### **ABSTRACT**

The revision of FOFEM, a national fire effects model, is described. FOFEM 5.0 will incorporate the predictions of fuel consumption, tree mortality and smoke production along with the addition of soil heating and an updated user interface. The revised version of FOFEM will model consumption and emissions of surface and crown fires. A new, mechanistic model (BURNUP) of fuel consumption will be included. Emission rate will be predicted as well as heat release rate, producing output suitable for modeling dispersion. It will also predict tree mortality for many economically and ecologically important tree species and include a module to predict soil heating. Links to spatial databases to allow mapping of outcomes and treatments will also be added. The revision of FOFEM will require an exhaustive literature search for available fuel information by vegetation types. Fuel characteristics will be linked to existing vegetation classifications, including the U.S. National Vegetation Classification System at the alliance level, The Society of American Forester's Forest Cover Types of the United States and Canada and The Society for Range Management's Rangeland Cover Types of the United States. Links to Fuel Characterization Classes used by CONSUME may also be included. Funding for this effort has been provided by the Joint Fire Science Plan. The revised edition is expected to be released on CD and posted to the Web by October, 2000.