

Computer Models For Fire and Smoke

<i>Model Name:</i>	Fuel Characteristic Classification System
<i>Version:</i>	2.2
<i>Date:</i>	2-3-2014
<i>Model Actively Supported?:</i>	No
<i>Classification:</i>	
<i>Very Short Description:</i>	The Fuel Characteristic Classification System (FCCS) is a software module that records wildland fuel characteristics and calculates potential fire behavior and hazard potentials based on input environmental variables.
<i>Modeler(s), Organization(s):</i>	Roger D. Ottmar, U.S. Forest Service, Pacific Northwest Research Station, Fire and Environmental Research Applications Team
<i>User's Guide:</i>	www.fs.fed.us/pnw/fera/fccs/fccs_2_2_user_guide.pdf
<i>Technical References:</i>	www.treesearch.fs.fed.us/pubs/45283
<i>Validation References:</i>	None
<i>Availability:</i>	www.fs.fed.us/pnw/fera/fccs/downloads.shtml
<i>Price:</i>	Free
<i>Necessary Hardware:</i>	n/a
<i>Computer Language:</i>	Java 1.6 or higher
<i>Size:</i>	25.2 MB
<i>Contact Information:</i>	None
<i>Detailed Description:</i>	The flexible design of FCCS allows users to represent the structural complexity and diversity of fuels created through natural processes (e.g., forest succession and disturbance) and management activities (e.g., forest harvesting and fuels reduction). Each fuelbed is organized into six strata, including

canopy, shrubs, herbaceous vegetation, woody fuels, litter-lichen-moss, and ground fuels. Strata are further divided into categories and subcategories. Fuelbeds representing common fuel types throughout much of North America are available in the FCCS reference library. Users may select an FCCS fuelbed to represent their specific project or customize a fuelbed to reflect actual site conditions.

The FCCS reports the following results: (1) fuel characteristics by fuelbed, stratum, category and subcategory; (2) surface fire behavior (i.e., reaction intensity, rate of spread, and flame length); and (3) FCCS fire potential ratings of surface fire behavior, crown fire behavior, and available fuels. With its large fuels data set and ability to represent a wide variety of fuel conditions, the FCCS has numerous applications, from small-scale fuel reduction projects to large-scale emissions and carbon assessments.