International Journal of Wildland Fire, 2001, **10**, 381–387

Characterizing fuels in the 21st Century

David V. Sandberg[A], *Roger D. Ottmar*[B] *and Geoffrey H. Cushon*

USDA Forest Service, Pacific Northwest Research Station, 3200 SW Jefferson Way, Corvallis, OR 97331, USA.
[A]Corresponding author: Telephone: +1 541 750 7265; fax: +1 541 758 7760; email: dsandberg@fs.fed.us
[B]Telephone: +1 206 732 7826; email: rottmar@fs.fed.us

This paper was presented at the conference 'Integrating spatial technologies and ecological principles for a new age in fire management', Boise, Idaho, USA, June 1999

Abstract. The ongoing development of sophisticated fire behavior and effects models has demonstrated the need for a comprehensive system of fuel classification that more accurately captures the structural complexity and geographic diversity of fuelbeds. The Fire and Environmental Research Applications Team (FERA) of the USDA Forest Service, Pacific Northwest Research Station, is developing a national system of fuel characteristic classification (FCC). The system is designed to accommodate researchers and managers operating at a variety of scales, and who have access to a variety of kinds of input data. Users can generate fuel characteristics by accessing existing fuelbed descriptions (fuelbed prototypes) using generic information such as cover type or vegetation form. Fuelbed prototypes will provide the best available predictions of the kind, quality and abundance of fuels. Users can accept these default settings or modify some or all of them using more detailed information about vegetation structure and fuel biomass. When the user has completed editing the fuelbed data, the FCC system calculates or infers quantitative fuel characteristics (physical, chemical, and structural properties) and probable fire parameters specific to that fuelbed. Each user-described fuelbed is also assigned to one of approximately 192 stylized fuel characteristic classes.

Keywords: fuel classification, fuel models, fuel characteristics, FCC, fire management, fire modeling, fire behavior, fire effects, United States, Alaska.

***International Journal of Wildland Fire*: www.publish.csiro.au/journals/ijwf**
Published by **CSIRO** PUBLISHING for CSIRO and the Australian Academy of Science
Enquiries: The Managing Editor, International Journal of Wildland Fire, **CSIRO** PUBLISHING, PO Box 1139 (150 Oxford Street), Collingwood, Vic. 3066, Australia. Telephone +61 3 9662 7644; fax +61 3 9662 7579; email ijwf@publish.csiro.au

10.1071/WF01036abs 1049-8001/01/030381