

Science Applications

BehavePlus - The BehavePlus fire modeling system is a PC-based program that is a collection of models that describe fire behavior, fire effects, and the fire environment.

Coarse-Scale Spatial Data for Wildland Fire and Fuel Management - These data are intended for national, programmatic and strategic planning, and will be used by federal land managers, states, and other non-governmental organizations in fire and fuel management planning, assessments of ecosystem health, and risk assessments. **Delayed Tree Mortality** - This project analyzes fire injury data on more than 19,000 trees from 82 wild and prescribed fires from 5 western states. **Douglas-fir Beetle Mortality** - Douglas-fir (*Pseudotsuga menziesii*) were monitored for four years following three wildfires to predict probability of Douglas-fir beetle (*Dendroctonus pseudotsugae*) attack and probability of Douglas-fir mortality.

Duff Mounds - Burning when duff moistures are low can lead to root mortality and basal girdling from consumption of the duff mounds, which may then lead to tree mortality.

The **Fire Effects Information system (FEIS)** synthesizes research about living organisms in the United States—their biology, ecology, and relationship to fire. More than 1,100 taxa are reviewed, including 100-plus nonnative plant species. **FARSITE** - FARSITE is designed for use by trained, professional wildland fire planners and managers familiar with fuels, weather, topography, wildfire situations, and the associated concepts and terminology. **FARSITE Simulator Core** - Take the Graphical User Interface (GUI) away from FARSITE and what do you have left? The FARSITE Simulator Core. This code is meant for use in non-Microsoft Windows environments and currently works under (at least) the Linux operating system.

FFE-FVS - The Forest Vegetation Simulator (FVS) is a forest growth model that is widely used by forest managers and the research community to provide predictions of how the primary vegetation in forests will change over time (Crookston and Dixon 2005).

FFI (FIREMON/FEAT Integrated) - FFI is an ecological monitoring software application developed through the complementary integration of FIREMON and the Fire Ecology Assessment Tool (FEAT).

Fire Weed Project - The goal of the Fire-Weed Project is to study the impact of wildfire, prescribed fire, and post-fire management activities on understory vegetation.

FireFamily Plus - FireFamily Plus, initiated in 1998, replaced 5 independent DOS-based programs, resolved Y2K issues and provided modern access to both the fire weather and occurrence data and analysis routines.

FIREMON - The Fire Effects Monitoring and Inventory System is an agency independent plot level sampling system designed to characterize changes in ecosystem attributes over time.

FireWorks - FIREWORKS is a trunk of educational materials and Curricula for grades 1-12 that provides hands-on learning about wildland fire.

FlamMap - FlamMap is a fire behavior mapping and analysis program that computes potential fire behavior characteristics (spread rate, flame length, fireline intensity, etc.) over an entire FARSITE landscape for constant weather and fuel moisture conditions.

FOFEM - The First Order Fire Effects Model (FOFEM) is a computer program for predicting tree mortality, fuel consumption, smoke production, and soil heating caused by prescribed fire or wildfire.

Forest Vegetation Simulator Presentation Guidelines - Public land managers frequently invite the public to discuss the condition and future of federal and state wildlands. How can managers prepare the public to assess and use predictions from mathematical models? **FUELDYN** - This data set contains the semi-annual measurements for litterfall and decomposition on 28 plots established in seven stands on common forest types in the Northern Rocky Mountains, USA.

Historical wildland fire use: lessons to be learned from twenty-five years of wilderness fire management - This project took place in four large Wilderness areas in the western United States. which encompass some of the most fire-prone forests in the western United States.

Landfire Prototype Project - The objectives of this project were to develop the methods, tools, and protocols for producing consistent and comprehensive digital maps of current vegetation composition and structure, wildland fuel, historical fire regimes, and fire regime condition class (FRCC) to be applied across the entire United States at a 30-meter spatial resolution.

Lightning and Fire Occurrence (LFC) in Two, Large Rocky Mountain Wilderness Complexes - This report describes an analysis of fire and lightning occurrence databases in the 317,000-ha Gila/Aldo Leopold Wilderness Complex (GALWC) in New Mexico and the 547,000 ha Selway-Bitterroot Wilderness Complex (SBWC) in Idaho/Montana.

Climate drivers of fire and fuel in the Northern Rockies: Past, Present and Future- This project inferred the climate drivers of years when fires were widespread across the US Northern Rockies (e.g., 2000) using digital polygon fire atlases for modern fires (1900-2003) and tree rings for past fires (1605-1900).PHOTOLOAD - This product presents a new method of estimating fuel loadings by visually comparing field observations with downward-looking and oblique photographs depicting sequences of graduated fuel loadings for six surface fuel components.Protecting Your Home from Wildfire- Homeowners can easily do fuel reductions that can potentially save their home.

Quantifying Canopy Fuels - This study will develop, evaluate, and compare methods or approaches to measure crown fuels and incorporate the crown fuel information into landscape-scale land use and planning processes.

Southern Utah Fuel Management Demonstration Project - This project will develop fuel and vegetation data layers to model fire behavior and effects within the landscape.

WRF - Smoke Dispersion System - The Weather Research and Forecasting (WRF)- Smoke Dispersion system is used to predict the concentrations of particulates and gas phase pollutants downwind from large wildfires in United States and Canada.