

JFSP Project Highlights

Research Supporting Sound Decisions

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The JFSP, a partnership of six federal wildland fire and research organizations, provides scientific information and support for fuel and fire management programs.

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New Release of FEPS (Fire Emission Production Simulator) Replaces and Enhances the Emissions Production Model

A new PC-based Visual Basic software program called FEPS version 1.0 (Fire Emission Production Simulator) is now available on the Web. It is a user-friendly computer program, designed to predict emissions and heat release characteristics from prescribed or wildfires using system defaults, user templates, specific event information or conjectural input at any spatial scale or level of specificity. Algorithms are included to predict fuel consumption that partitions outputs among flaming, smoldering and residual combustion stages based on fuel moisture inputs. Approximate plume rise is also predicted by FEPS.



FEPS replaces and enhances the functionality of the original EPM (Emission Production Model). In updating EPM, a significant number of improvements were made, to the usability, applicability, and accuracy of the model. The calculation approach was totally redesigned.

FEPS can be used for most forest, shrub and grassland types in North America and around the world. The program allows users to produce reasonable results with very little information by providing default values and calculations. Advanced users can customize the data they provide to produce very refined results. FEPS version 1.0 produces emission and heat release data for prescribed and wildland fires. Total burn consumption values are distributed over the life of the burn to generate hourly emission and release information. Data managed includes the amount and fuel moisture of various fuel strata, hourly weather, and a number of other factors.

The basic steps for the program are:

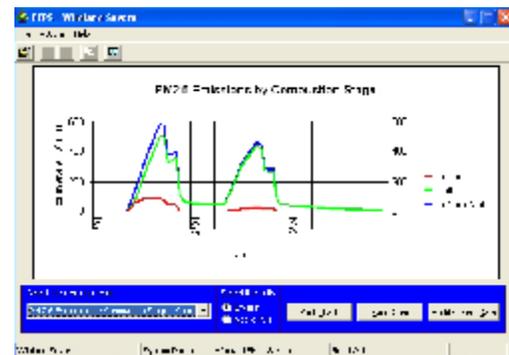
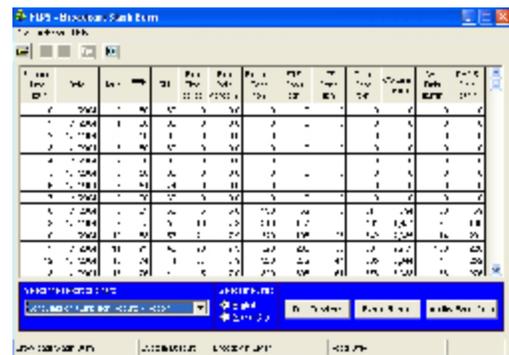
1. **Describe an event.** This description includes the name, location, start date, end date, and other miscellaneous properties.
2. **Specify up to five unique fuel profiles.** Each profile includes fuel loading and moisture information.
3. **FEPS calculates total fuel consumption for each profile.**
4. **FEPS determines flaming, short-term smoldering and long-term smoldering involvement and consumption.**
5. **Indicate how the event behaves over time.**
6. **FEPS calculates emissions and heat release parameters on an hourly basis.** Fuel characteristics for each hour are managed by distributing the fire across the user-specified fuel profiles.

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You can obtain further information, download the software and obtain a complete FEPS User's Manual at: <http://www.fs.fed.us/pnw/fera/feps/index.html>. [Click here](#) to download a printable version of the JFSP Project Highlight Newsletter. [Click here](#) to download previous JFSP Project Highlight Newsletters.