F V S   N e w s l e t t e r

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Forest Vegetation Simulator

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In This Issue

Highlights

Welcome to the seventh issue of the Forest Vegetation Simulator (FVS) Newsletter! In this issue we discuss FVS highlights and the upcoming instructor led trainings. We also highlight any major updates since our last FVS version release in June 2018.

Our goal is to keep FVS users up-to-date on recent changes and new additions to the software. For more information on FVS, or to find past issues of our Newsletters or Bulletins, please visit our website.

Feel free to let us know how we are doing. You can pass along any advice, ideas, or any other input that you think will help to our email.

Upcoming Trainings

Fiscal year (FY) 2019 FVS training registration is now open! Please check out our Instructor-Led Training webpage for more details and learn how you can register.

There will be three basic level courses offered throughout the year. The following sessions have been scheduled:

- Sacramento, CA: Dec 03 – 07, 2018
- Fort Collins, CO: Feb 04 – 08, 2019
- Asheville, NC: Feb 25 – Mar 01, 2019

The objective of the basic FVS training is to introduce vegetation growth and yield modelling through the use of FVS and its extensions. Training will emphasize the capabilities of FVS in simulating forest management and impacts on forest structure, growth, fire behavior, and carbon accounting.

We will also be offering an advanced-level FVS course in 2018. Course content is preliminarily planned to cover topics pertaining to specific management scenarios and model modifications.

Students participating in this course are expected to have previously taken the basic training and/or have a good working knowledge of FVS. The following advanced session has been scheduled:

- Fort Collins, CO: Nov 06 – 08, 2018

Please sign up early if you are interested in any of the courses. Space is limited and priority will be given to Forest Service and National Advanced Silviculture Program (NASP) applicants.

FVS Online/Onlocal

Starting in the upcoming trainings in FY19, the FVS staff will be allocating a portion of the agenda for introducing students to the current beta-version of the new interface: FVS Online/Onlocal. This is slated to ultimately become the successor to Suppose in FY20. The interface was designed to run in a true client/server configuration, whereby the data and software are stored on a server and the user interaction is through a web browser. However, the software can also be installed on personal computer or in a Citrix (or similar) system. The interaction is still through a web browser, but the software, inputs and outputs, are all stored on the "personal computer". This configuration is called FVS Onlocal. The system was built using R, Shiny, SQLite3, and many other R packages.

If you're interested in trying out the interface software in its current form, contact the FVS helpdesk. Specify if you're interested in the Online and/or Onlocal (Windows only) configuration, and we will provide access, as well as training information, and other useful informational links to get you started. Note: Users will be working with under development software that has limited resources available to help the user. Any feedback you are willing to provide will be valued.

AK Variant

The FVS staff is currently in the process of revising and expanding the variant that is available for Alaska. The updated variant will provide coverage for coastal forest types as well as for boreal forest types within interior Alaska. To date, the staff has developed a majority of the underlying equations that compose a variant. Once this process has been completed, the equations will be programmed into FVS and the variant will undergo a period of evaluation. The staff is tentatively planning to have the variant released to the public in May of 2019.

Insect and Disease Extensions

The following Insect and Disease (I&D) extensions are no longer included in FVS: Douglas-fir Beetle (DFB),

Douglas-fir Tussock Moth (DFTM), Lodgepole Mountain Pine Beetle (LPMPB), White Pine Blister Rust (WPBR) and Western Spruce Budworm (WSBW). These extensions are not compatible with some of the newer capabilities of base FVS. Only Dwarf Mistletoe (DM) and Western Root Disease (WRD) in variants where they are currently present are included the current release. If the deleted extensions are made fully compatible, the FVS staff will again incorporate them.

FVS Updates

FVS Variant Map

Variants affected: All

The FVS variant map is a GIS shapefile that can be used to assign a suggested variant and location code to a stand. Assignments are based solely on latitude and longitude. The map covers the conterminous United States and Alaska. Several edits have been made to the map. A portion of the Nez Perce National Forest that was previously assigned the CI variant is now assigned IE. Several islands that previously did not appear on the map have been added. Alaska has had many corrections made. Also, three location codes have been updated (refer to the New Locations Code section below).

Impact on users: Data translation processes that use the variant map to create FVS-ready data files should incorporate the new version. This change will not affect simulations that use existing data files. The Forest Service FSVeg DB_Link translator does not use the variant map, so data files created with that tool are unaffected by this update.

SDI Calculations

Variants affected: AK, CA, CI, CR, CS, LS, NC, NE, SN, SO, TT, UT, and WS

Species Stand Density Index (SDI) maximums have been updated based on an analysis of Forest Inventory and Analysis (FIA) data (Shaw, unpublished) and regional review. For these variants, the default SDI calculation method has been changed to Zeide (1983) from Reineke (1933), as described in section 7.3.2.1 in Essential FVS: A User's Guide to the Forest Vegetation Simulator. Users may use the SDICALC keyword to switch calculation methods as desired. This update was not applied to projections with Region 1 and Region 6 location codes.

Impact on users: Users will likely see differences in simulation results because SDI is used in various algorithms affecting stand dynamics. For the CA, NC, and SO variants, only simulations using Region 5 location codes are affected. For the CI variant, only simulations using Region 4 location codes are affected.

Region 1 Habitat Type Codes

Variants affected: EM, IE, and KT

Coordination between Region 1 and the FVS staff has been ongoing to map habitat type codes, found in Common Stand Exam (CSE) data, to existing FVS habitat codes. Habitat type codes play an important role in determining modeling characteristics such as SDI maximum, crown ratio, and tree growth. When an unrecognized habitat type code comes into FVS, the code is mapped to the default for that variant. New cross-walks have been developed to ensure habitat type codes go to the most similar code available in FVS.

Users can find the most up-to-date list of cross-walked codes on the FVS User Guides page of our website. Check out the Variant Overview Supplemental Information section at the bottom of the page.

Impact on users: Users now have more habitat type codes mapped and more reliable habitat code cross-walks.

New Location Codes

Variants affected: AK, SO, and NC

A location code is typically a 3 or 4-digit code that represents the Forest Service Region and Forest where a stand is located. For example, 511 refers to Region 5 (Pacific Southwest) and Forest 11 (Plumas NF). Recently, it was discovered that two location codes had duplicates contained within the FVS variant map. Therefore, three location codes were updated to unique values.

The following are the name, variant, and assigned location code:

Location code 701

- Dept. Of Defense, Fort Bragg Military Reservation (SN): remains 701
- Industry Lands/BLM Lakeview (SO): now 702
- British Columbia/Makah Indian Reservation (AK): now 703

Location code 800

- Quinalt Indian Reservation (PN): remains 800
- Simpson Timber (NC): now 715

This change ensures that every location has a unique location code, which was desirable for the FVS variant map. FVS will interpret either the new or the old location code correctly. For example, a simulation using the SO variant will interpret a location code of 701 as the same physical location as a code of 702. In other words, data files do not need to be updated to include the new location codes.

Impact on users: No impact to FVS simulations. Users should be aware that three codes are updated on the FVS variant map. Please see the applicable variant guide for further information on the assignment and mapping of location codes.

Regional coordinators for information specific to your geographic area.

Region	Name	Phone Number	Email Address
1 - Northern	Renate Bush	406-329-3107	renatebush@fs.fed.us
2 - Rocky Mountain	Laurie Swisher	970-385-1305	lswisher@fs.fed.us
3 - Southwestern	James Youtz	505-842-3428	jayoutz@fs.fed.us
4 - Intermountain	Pat Murphy	435-636-3320	patmurphy@fs.fed.us
5 - Pacific Southwest	Joe Sherlock	707-562-8686	jsherlock@fs.fed.us
6 - Pacific Northwest	Robyn Darbyshire	503-808-2668	rdarbyshire@fs.fed.us
8 - Southern	Janet Hinchee	404-347-7475	jhinchee@fs.fed.us
9 - Eastern	Carrie Sweeney	414-297-1898	csweeney@fs.fed.us
10 - Alaska	George Panek	907-586-7915	gpanek@fs.fed.us