USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

FVS Release

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Forest Vegetation Simulator

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Update

Highlights

We are pleased to announce the September release of the Forest Vegetation Simulator (FVS). The latest version is now available for download via our website or from the Forest Service Software Center.

In this bulletin we describe the major updates since our last FVS version release dated July 2023.

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 may email us with any advice, ideas, or other input that you think will help.

Release Info

Version: 2023.4

Revision: 20230929

Base FVS Updates

This section highlights the main updates to the base FVS code.

FIA Damage Agent Codes for Dwarf Mistletoe and Root Disease

Update affects all western US variants that include the Dwarf Mistletoe and Root Disease extensions.

FIA Damage Agent codes for the specific agents recognized by the Dwarf Mistletoe model and the Western Root Disease model are now acknowledged by these FVS extensions.

FIA datasets prepared for FVS input contain FIA Damage Agent codes for dwarf mistletoe and root disease. The damage code processing for the Dwarf Mistletoe and Western Root Disease has been updated to recognize the appropriate codes. The reference for these codes is the FIA website document Forest Inventory and Analysis Database: Database Description and User Guide for Phase 2 (version 9.0.1). Details of the damage code processing are:

DWARF MISTLETOE

When a FIA dwarf mistletoe damage code representing Arceuthobium is encountered, severity codes of 1-6 will be retained; otherwise, the severity code will be set to 3. The specific FIA codes recognized from pages H-29 and H-30 are: 23005, 23006, 23007, 23008, 23009, 23010, 23011, 23012, 23013, 23014, 23015, 23016, 23017, 23021, 23023, 23024.

Species hosts of DM differ by FVS variant and estimated infection is controlled by the model to stay with specific host species when dwarf mistletoe is encountered in the input data. If species is not specified as a host in the model, damage codes will be ignored. A significant difference with the handling of FVS

codes (30-34) is that the severity code of 0 is interpreted as the tree was inspected for dwarf mistletoe and none was found; therefore, no default severity code is assigned, whereas the FIA specific codes receive an automatic severity code of 3. This is to follow the historical field sampling protocols as opposed to the FIA codes that are recorded if dwarf mistletoe is found but severity is not recorded.

WESTERN ROOT DISEASE

FIA damage agent codes for root disease have been added to FVS. When reading root disease damage codes, FVS codes are checked first and then FIA codes. There are far more root disease agent codes in the FIA list than represented by the Root Disease Model and only the specific FIA codes are recognized. The RD model does recognize a non-specific disease type and that is paired with the FIA code 21000. The severity code associated with root/butt disease with the FIA datasets are always a 2. The specific FIA codes recognized are: 21000 (unspecified root/butt disease), 21001 (*Armillaria spp*.), 21010 (*Heterobasidion annosus* both P-type and S-type) and 21017 (*Phellinus weirii*).

Correction to SN Variant dgf.f Subroutine for Ft Bragg NC

It was recently noted that Ft Bragg (SN Variant location code 701) only estimated diameter growth for loblolly and longleaf pine, all other were assigned a 5-year diameter growth of 0.1. This routine has been modified to calculate the change in diameter squared (DDS) for all species using default equations and will calculate a new DDS only for longleaf and loblolly if on the Ft Bragg location (20).

FVS Interface Updates

This section highlights the updates and improvements made to the FVS interface which are intended to provide an improved user experience.

Addition of Ability for Users to Save and Open projects from Directories Other than Software Installation Directory

To decrease the complexity of file management, FVS was initially designed to automate file management, and limit the ability of users to store and access files in non-default locations. However, this entails that FVS uses the software installation location as the default file space for project information. For some users, such as those running FVS in a Virtual Desktop Infrastructure (VDI), this project management style may not be functional, due to drive access, storage space, or non-persistent C drive memory. We have added a new button to the ‘Manage Projects -> Manage project’ tab that will allow users to change their current working project directory to a location separate from the software installation, such as a network drive.

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