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

Forest Vegetation Simulator

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Update

In This Issue

Highlights

Welcome to the sixth issue of the Forest Vegetation Simulator (FVS) Newsletter! In this issue we discuss FVS highlights and our recent fiscal year (FY) 18 instructor led trainings. We also highlight any major updates since our last FVS version release in January 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.

Completed Trainings

We recently completed our basic level FVS trainings for FY18. The training for Regions 5/6/10 was completed in Central Point, OR from Feb 26 to Mar 02 and the Region 8/9 training was held in Milwaukee, WI from Apr 16-20.

The Central Point, OR training was a success. Thanks to Blakey Lockman and Mike Johnson for their presentations on insects and disease and to Robyn Darbyshire for her regional perspective on silviculture.

Thanks to all those who participated in the Milwaukee, WI training…especially the students. Their presentations were outstanding and highlighted many different uses for FVS. Special thanks to Robert Cooke, forester with Forest Health Protection, for traveling from New Hampshire to give a lecture on insects and disease modeling in the northeast. Also, a big thank you to Carrie Sweeney and Ellen Jungck for their support and help with logistics and setup.

The advanced-level FVS course has been temporarily postponed, however, it is our intent to still offer the course sometime in the fall of 2018. Please check out our

Instructor-Led Training webpage for more details and to hear about any new course offerings for FY19.

As always, if you are interested in any course offering please sign up early. Space is limited and priority will be given to Forest Service and National Advanced Silviculture Program (NASP) applicants.

FVS Steering Team Meeting

The FVS Group recently completed our annual Steering Team meeting on Apr 24 and 25. This meeting allowed the FVS staff a chance to report out to members on our accomplishments over the past year and to update the status of ongoing projects. It also gave the FVS staff an opportunity to receive input and feedback from key FVS users in various departments across the Forest Service as well as the Bureau of Land Management and the Bureau of Indian Affairs.

AK Variant

The FVS staff is in the process of revising and expanding the current version of the Alaska (AK) variant to provide coverage for more forested areas in Region 10. During the fall of FY18, the FVS staff put together a comprehensive growth sample tree dataset using data provided by several collaborators in Region 10. Equations are now being developed for species represented in the current version of the AK variant as well as for new species in the boreal forest region of Alaska. Equation development is expected to be completed around the beginning of FY19 and will be followed by a period of extensive validation.

Insect and Disease Extensions

The following Insect and Disease extensions will no longer be included after this FVS release: 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. Future releases will only include Dwarf Mistletoe (DM) and Western Root Disease (WRD) in variants where they are currently present. If the deleted extensions are made fully compatible with base FVS at a later date they will again be included.

FVS Updates

Diameter Growth

Variants affected: CS and LS

In 2017, the large tree diameter growth equation in the CS and LS variants was replaced with an equation developed with Michigan Technological University. Implementation of this equation resulted in errant calibration of the large tree diameter growth model, and possibly errant diameter growth estimates for trees greater than 1.5" in diameter. These have been corrected.

Impact on users: Improved large tree diameter growth. Users of the CS and LS variants should obtain a new executable.

Curtis Relative Density Added to SPMCDBH Function

Variants affected: All

Bryan Lu (WA State Dept. Natural Resources) provided an addition/update of the Curtis relative density value to the SpMcDBH Event Monitor function. His code is now integrated into the model. This will now be option #14 for field 1 of the SPMCDBH function. It behaves like all of the other options and uses the same controlling parameters.

Impact on users: The addition of partitioned Curtis relative density to the capabilities of the SpMcDBH Event Monitor function can be used for computed variables and conditional scheduling.

Stagnation Effect and Crown Ratio Dubbing

Variants affected: CR, TT, and UT

Stand density is used to compute a stagnation multiplier. This multiplier is applied to the diameter and height growth estimates when turned on using field 7 of the SDIMAX keyword. The stagnation multiplier can be applied to all species in the Central Rockies variant; species 15 = narrowleaf cottonwood and 18 = other hardwoods in the TT variant; and species 17 = Great Basin bristlecone pine, 18 = narrowleaf cottonwood, 19 = Fremont cottonwood, and 22 = boxelder in the UT variant.

The SDIMAX keyword was not allowing the stagnation multiplier to be turned on in the TT or UT variants. The stagnation multiplier was also not being applied during

large tree diameter growth calibration. Both of these problems have been fixed.

A potential problem with crown ratio dubbing in the second or subsequent stands in multi-stand runs when certain other conditions existed. This issue was also fixed.

Impact on users: Better growth estimates when using the SDIMAX keyword. Users of the CR, TT, and UT variants should obtain a new executable.

SN Unreported Error

Variants affected: SN

It was possible for a particular numerical error to occur in the volume calculations even though the simulation was running to completion. This has been fixed.

Impact on users: All SN users should obtain a new executable.

SO Height Growth

Variants affected: SO

The SO variant was crashing in runs that had tree records taller than the height at which the species site index curve topped out. This problem has been fixed.

Impact on users: All SO users should obtain a new executable.

Minimum Sprout TPA

Variants affected: All

The minimum trees per acre (TPA) for sprout records was changed to 0.001. This was to address the occurrence of negative TPA values being returned by the model and the addition of tree records of insignificant TPA representation to the projection.

Impact on users: This change will have minor impacts on projections because the TPA values of affected records are so small that it may not be noticed in summary values.

ORGANON Mortality

Variants affected: OC and OP

Mortality rates estimated by ORGANON were not being adjusted to the cycle-length.

Impact on users: Mortality rates will be different when using cycle lengths other than 5-years in a projection. Users of these two variants should obtain a new executable.

New Event Monitor Function Related to Climate-FVS

Variant affected: All variants that support the Climate Extension

A new Event Monitor function, Climate Species Viability (CLSPVIAB), returns the species viability score for the time period when the function is called. The function requires one argument, FVS species code. The function is undefined if there is no score for the species.

Impact on users: Anyone requiring the new function should obtain a new executable.

Regional coordinators for information specific to your geographic area.

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