



# FVS Newsletter

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## Forest Vegetation Simulator



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## Highlights

Welcome to the twenty-second issue of the Forest Vegetation Simulator (FVS) Newsletter. In this newsletter we describe the major updates since our last FVS version release dated July 2022.

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: #####

Revision: #####

## New Website Homepage

Please update your bookmarks to [https://www.fs.usda.gov/fvs/!](https://www.fs.usda.gov/fvs/)

The home page for the Forest Vegetation Simulator has moved. The FVS website, previous hosted at <https://www.fs.fed.us/fvs/>, has been migrated to <https://www.fs.usda.gov/fvs/>. Any traffic to the old address will not be forward to the new site! Please be sure to update your bookmarks and links to the new <https://www.fs.usda.gov/fvs/> address to keep up with our latest news, updates, and releases.

## Open-Source Repository Update

FVS has moved its online open-source repository. FVS will no longer be maintained or updated on the repository hosting platform <https://sourceforge.net/projects/open-fvs/>. Instead, future updates and releases will be managed through GitHub (<https://github.com/USDAForestService/ForestVegetationSimulator>). This change will allow FVS to be better integrated and available within a library of other USDA Forest Service open-source projects.

## Call for Papers for the Sixth Forest Vegetation Simulator (FVS) Conference

*Tentative Dates: March 7-9, 2023 Fort Collins, CO*

The 2023 Forest Vegetation Simulator Conference is the sixth in a series of conferences dating back to 1997. It is dedicated to bringing together developers and users of the forest vegetation simulator and has an overall goal of providing the medium to share our experiences, our lessons learned, our triumphs, and our failures.

The objective of the conference is to synthesize the knowledge gained from over forty-five years of using the Forest Vegetation Simulator for project-level planning, landscape analysis, forest health assessments, forest plan revisions, inventory updates, habitat evaluation, and all other purposes. A second objective is to improve modeling technology through sharing ideas and recent developments in software related to the forest vegetation simulator, and to report on the calibration and validation of its components.

You are invited to submit papers for the 2023 Forest Vegetation Simulator Conference. Papers are solicited on all topics in the use of the Forest Vegetation Simulation. Subject areas include, but are not limited to, the use of FVS for: project level planning, landscape analysis, forest planning, climate change, carbon estimation, restoration, regional assessments, habitat modeling, fire risk and management planning, health assessments, forest inventory, visualization, GIS, and other special tools. Papers are also solicited on the development, calibration, and validation of the forest vegetation simulator and its components. Please submit your Abstract (250 words or less) using the link below by October 31, 2022.

### [ABSTRACT SUBMISSION FORM](#)

For further information please see the [FVS Conference webpage](#) or contact Erin Smith-Mateja, Conference Coordinator at (202) 579-2926 or [SM.FS.fvs-support@usda.gov](mailto:SM.FS.fvs-support@usda.gov).

## Base FVS Updates

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

### PN and WC Mortality Adjustment

A minimum annual mortality rate of 0.1% has been set for all species in the PN and WC variants. This modification was implemented to avoid situations where stand density was exceeding maximum basal area (BA) and/or stand density index (SDI) values. Maximum BA and SDI should no longer be exceeded when running simulations with the PN and WC variants. In addition, users can expect to see higher mortality rates for non-valid ORGANON tree records when using the OP variant.

### Updated Volume Computation

FVS volume functions, across all variants, have been updated to provide improved consistency between FVS volume estimates and the National Volume Estimator Library (NVEL).

Users may notice modest volume differences when comparing volume estimates to previous releases as some of the NVEL routines may have been modified. However, no changes have been made to the volume equations being used for calculation.

## FVS Interface Updates

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

### Improvement to Replicate Removal Functionality

When simulating runs with more than 50 stand replicates, users will now be able to properly delete the replicates from the second page of the run contents without the run becoming corrupted.

### Increased Ability for Replicate Weight Customization

When utilizing multiple stand replicates, the weights (stand acres) represented by each added replicate is, by default, automatically recalculated internally by FVS using the DESIGN keyword record for each stand replicate. Now, flexibility has been added to the keyword generation logic to allow users more control and ability to include their own DESIGN keyword record input when working with replicates. Specifically, when a user adds in their own DESIGN keyword record to a stand replicate (i.e., for specifying stand acreage of replicates) FVS will now correctly use that user-added DESIGN keyword record instead.

### Expanded Event Monitor Support

Previous FVS releases lacked dropdown selection support for the AGECOMP Event Monitor variable, as well as the INDEX() and POINTID() Event Monitor functions. These variables and functions have been added to selectable dropdown menus for improved serviceability when working with the Event Monitor. For more information regarding these and other variables and functions of the Event Monitor, please see Chapter 5.5 of the [Essential FVS Users Guide](#).

### Internal Enhancement of Disk Space Management

In certain scenarios, temporary output databases created during FVS runs were not removed from the project folder at the completion of the run. This had the potential for creating unnecessary clutter within the project folder as well as taking up disk space. The cause of this behavior has been identified and modifications have been made to prevent the retention of temporary databases, thereby resulting in cleaner project folders and less usage of disk space.

### Support for Longer Term Regeneration Table Outputs

When using partial establishment models, regeneration tally tables were restricted to reporting only the next cycle following establishment. Reporting functionality has been restored to provide outputs encompassing the full 20-year sequence.

In the full establishment models, regeneration tally table output was limited to planned regeneration activities following a thinning activity. This functionality has been modified to support the output of regeneration tables regardless of the presence of a thinning activity preceding the regeneration.

### Site Preparation Field When Planning Regeneration Only Applicable to Full Establishment Model Variants

When using the planting and natural regeneration management option, the site preparation input block is only applicable to variants that use the full establishment model. The site preparation information has been removed from this management input when using variants with the partial establishment models.

### Improvements to Time Menu Input Validation

Input validation routines have been improved to prevent users from inadvertently omitting required timing inputs thus preventing potential crashes and resulting in an improved user experience.

### Improvement to Keyword Generation When Using IF/ENDIF Conditionals Followed by a Compute Keyword

When using an IF conditional statement, followed by a COMPUTE statement, an "NA" was being written to the keyword file which would result in an "Unknown Keyword Error". The keyword generation logic has been improved, preventing the inappropriate write to the keyword file.

### Website Links Updated

As noted earlier, the URL for FVS has been migrated to <https://www.fs.usda.gov/fvs/>. References to the old URL in the help menus and describe tables links have been updated to ensure user are directed to the appropriate areas of the new site.

**Regional coordinators for information specific to your geographic area**

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