BioSum 5.9.0 Release Notes  
3 May, 2022

**Current Release Notes (5.9.0)**

1. **New FICS (FIA Integrated Computation System) module for calculating biomass and volume**: This version of BioSum is the first to use the java-based FICS biomass and volume calculator developed by FIA in 2022. This calculator requires that a Java SDK (v1.8 or later) be installed on the computer. AS explained in the Setup Instructions for this release, Forest Service users should run the ‘Java Update’ from the Software Center to ensure that the Java client on their computer is current. The FICS jar has been tested with both the Oracle SDK and OpenJDK. If Java was not previously installed, log out and restart the computer, after installing Java to ensure that all the Java paths are set correctly.  
     
   The FICS biomass and volume calculator has four required components that need to reside in the BioSum AppData (settings) directory. BioSum will copy these components to this directory the first time BioSum is executed. Clicking on the ‘Settings’ menu item at the top of the BioSum window will display the directory path to the BioSum settings folder. The components are BioSumComps.jar, BiosumSpeciesConfig.db, fcs\_tree.db, and fcs\_tree\_calc.bat.

**Important note for previous Forest Service users**: Extant (pre-5.9.0) versions of these files in the BioSum settings directory must be deleted, moved or renamed before running v5.9.0 for the first time so that BioSum has access to versions of these components that are compatible with v5.9.0.

Note for all previous BioSum users: v5.9.0 no longer requires Oracle XE or Oracle 12c! If Oracle was previously installed to support BioSum, it can be uninstalled at your leisure.

1. **Integration with FVSOn\***: We’re pleased to report that this is the first version of BioSum that is compatible with FVSOn\*; however, it is no longer compatible with FVS Suppose, a legacy interface to FVS that is no longer supported by the FVS Support Team. FVS Suppose users can still use BioSum v5.8.10. BioSum versions prior to 5.9 created separate FVSIn.accdb files for each variant, a workflow that continues in 5.9. However, v5.9.0 now utilizes the FVS STANDINIT\_COND and TREEINIT\_COND tables distributed by the FIA Data Mart in FIADB SQLite downloads, then adds some customizations based on data in other FIADB tables so that the data can be integrated with the rest of the BioSum workflow. v5.9.0 also adds mistletoe and cull damage codes to the FVS input files and offers the user options to granularly include or exclude data on DWM (down wood and surface fuels), crew-observed surface fuel model, seedlings and GRM (growth data), all of which can affect predictions made by FVS, sometimes substantially.

FVSOn\* generates output only in SQLite, in one large output database for all variants and silvicultural sequences, unlike the MS Access databases produced by Suppose. BioSum 5.9.0 provides a process for automatically converting those SQLite databases to the MS Access databases required for the current workflow by which BioSum ingests FVS output.

1. **Cumulative SQLite POP tables**: This version of BioSum includes the maintenance of cumulative POP tables making it compatible with generating BioSum output via designed estimation using workflows developed for this purpose, such as the PNW-FIA’s python-based OKTabler. Contact BioSum support for assistance in recreating POP tables for projects created prior to v5.9.0.
2. Several additional minor enhancements are described in the BioSum GitHub release documentation at https://github.com/USFS-PNW/Fia-Biosum-Manager/releases/tag/5.9.0.