**Running FVS through Python (on a Mac)**

Downloading FVS and variants onto a Mac

* Create a new git repository after forming a new fork from the ForestVegetationSimulator GitHub repository from FVS folks
  + <https://github.com/cchambe12/ForestVegetationSimulator.git>
  + In terminal, go to ~/Documents/git/ForestVegetationSimulator/bin/
  + Go here to download zip: <https://github.com/FMSC-Measurements/VolumeLibrary/tree/2ea0c7094e5a9eedb4938176c3bd330e69f78682>
  + Unzip and move to ../volume/NVEL folder
  + Then type gmake into terminal
  + It will build all the variants in place
  + Once those have built, create a copy and put it in the git repo that you are using to run the FVS models

\*\* Notes: if gmake fails partway through, you might have to adjust the FVS\*\_sourceList.txt files - particularly the ../volume or ../volume/NVEL directories. You don’t have to rerun gmake and start from the beginning, you can just adjust the error variant and type in gmake again

Key Steps

1. Download [Visual Studio Code](https://code.visualstudio.com/) onto your computer
2. Build a new folder on your computer (recommended in OneDrive, Box or DropBox since the files can be very large)
   1. [Use this as a template](https://tnc.box.com/s/p8babpbi1gmpd9r96fsr3xx0yf9atdqe)
   2. You will need a main folder (e.g., “gmf”) with the following additional folders and code:
      1. Folders
         1. Empty “input” folder
         2. Empty “output” folder
         3. “db” folder filled will [all state FIA dbs](https://apps.fs.usda.gov/fia/datamart/datamart.html) (e.g., label as “FIA\_VA.db”)
         4. “templates” folder will all templates (e.g., use the “oak-gmf25.txt”, “oak-grow.txt”, and “oak-bau.txt” as example templates)
      2. Files
         1. Fia.py
         2. Fvs.py
         3. Main.py
3. Open VS Code
4. Open up to the main folder (“gmf”) you just created in Step #2
5. Make sure to have Python on your computer with the following packages
   1. from **dataclasses** import **dataclass**, **field**
   2. import **os**
   3. import **sqlite3**
   4. from **typing** import **NamedTuple**
6. In fia.py, update lines 41, 42 and 79 onwards
7. In fvs.py, update the FVS variant path on line 68
8. In main.py, update to reflect the states and forest types of interest