

Recommended Do's and Don'ts for ArcGIS and ArcSWAT

Do I need administrative privileges/full permission to install the ArcSWAT software?

Yes. It is recommended to install the ArcSWAT software on your Hard Drive other than C: drive because you need to have full control/permission to the installation folder.

Where should I create my project?

Preferably on your local hard drive (other than C: Drive or operating system disk) and NOT on a network drive, because you do not want your data and project to conflict with the operating system disk space or drop network connection due to busy network traffic. Keep in mind that the project will take up a large amount of space (up to 500 GB depending on the size of the modeled area and number of iterations for calibration and validation runs as well as scenarios).

What are the common problems with ArcSWAT project creation?

As soon the project setup is done, please save the project, exit the ArcGIS program. Go to the directory where the project folder resides in windows explorer and right click to open the properties; under the security tab, for all users make sure the permission is full control. If this is not set right, there will be several issues throughout the project setup/creation with ArcSWAT. In other words the user of the software has to have full control and privileges in the folder where the project is getting created.

Can I share my SWAT project?

Absolutely - Yes, because the project is stored in a geo-database (a form of access database) under a user-specified project folder, it can be easily shared (email; file transfer protocol (ftp) site, etc.) by packaging this folder together (i.e. zip). In addition to the project folder, you may also want to share the same swat exe file from your ArcSwat installation folder and the swatxxx.mdb (swat model specific geodatabase) if you have modified since you installed the ArcSWAT.

Also, if you expect to make significant additions to the SWAT database, it would be a good idea to copy the swatxxx.mdb into the project folder. This will allow the project to be more readily transferable to other users and ensure modifications to the SWAT database stay with the project.

How should I name and save my SWAT project?

- When creating your project, keep the directory level no more than 3 folder levels (e.g. d:\projects\watershedA)

- Do not use the following characters when naming and saving your SWAT Project: (question mark; pound sign; space; comma; ., ?, -, _ , * , & , ^ , % , \$, # , @ , ! , ~ , ` , ' , " , : , ; , / , \ , |)

- Keep the filename and folder name simple (no more than 8 characters)

- Always start the file name with a letter – do NOT start the filename with a number

(e.g.: project1 and NOT 1project).

Will ArcSWAT project my data automatically?

No. ArcSWAT will not project your data automatically; you must project your data before you begin your project. The following must be in the same projection:

- DEM
- Landuse
- Soil
- Climatic input files

Data can be projected in any projection system with any datum, but not the geographic (latitude, longitude) projection.

In what format should my input GIS data be?

DEM should be a raster file; land-use/soils can be shape or grid files (grid file is generally recommended).

- Raster datasets should be in ESRI GRID format

BACKUP OFTEN

- Backup often - after every major process – for example, after watershed delineation; after landuse and soils; etc.)

To backup, just go to the folder where the project has been stored in a windows explorer, then copy the entire folder and save it as another name.

What is the best method to create dbf formatted input files needed for ArcSWAT?

To create dbf based input files for ArcSWAT, please format the data in excel and save it as excel file. Then open this excel file in ArcGIS and export the table by opening the table in ArcGIS to dbf format.

What do I do if I do not have all of the required information in my soils file?

Undefined values can have a value of '0'. The user soil table should not have any NULL values.

Should I be concerned about my project geodatabase file size getting too large?

Yes, if you are using 32-bit operating system. The file size should be kept less than 2GB. If the file size gets close to 2GB, use ArcCatalog to compress the geodatabase to reduce the size.

ArcCatalog can reduce as much as 50% or more. Currently the limit for 64-bit operation system is large and nothing to worry about at this time.

Should my input (keyboard) language settings be in English?

Yes. The input – or keyboard – language settings should be in English (U.S.). Settings can be modified in the control panel under the 'regional and language options' menu.