Program Setup:
# Application of HEC-HMS using Gridded Precipitation in Watersheds Outside of the United States

Overview

The workshop exercise on using gridded data in HMS outside of the Contiguous US uses some utility programs external to HMS and GeoHMS. This supplemental document is intended for users who are not already familiar with setting up and running command-line programs in Windows.

In addition to the command-line programs gageInterp and asc2dssGrid, the workshop uses HEC-DSSVue to display precipitation grids and their metadata. At the time of this writing the version of DSSVue that can be downloaded from HEC's website (HEC-DSSVue v 2.0.1) cannot display the type of DSS record that holds the UTM grids used in this workshop. This document describes a workaround that will allow you to use the HEC-DSSVue v 2.5 that is embedded in HEC-SSP v 2.1, which can be downloaded from the HEC website. This version of DSSVue can display the new grid data type.

Command-Line Utilities

The hecexe folder included with the workshop holds three executable files for asc2dssGrid, dss2ascGrid, and gageInterp. These can be placed anywhere on the file system where the user has read and write access. It is convenient to have a short directory path to the executables, so if it's possible, placing the three executables and the "sup" folder in a directory located at the root of a drive makes for a simple configuration. An example is shown below.
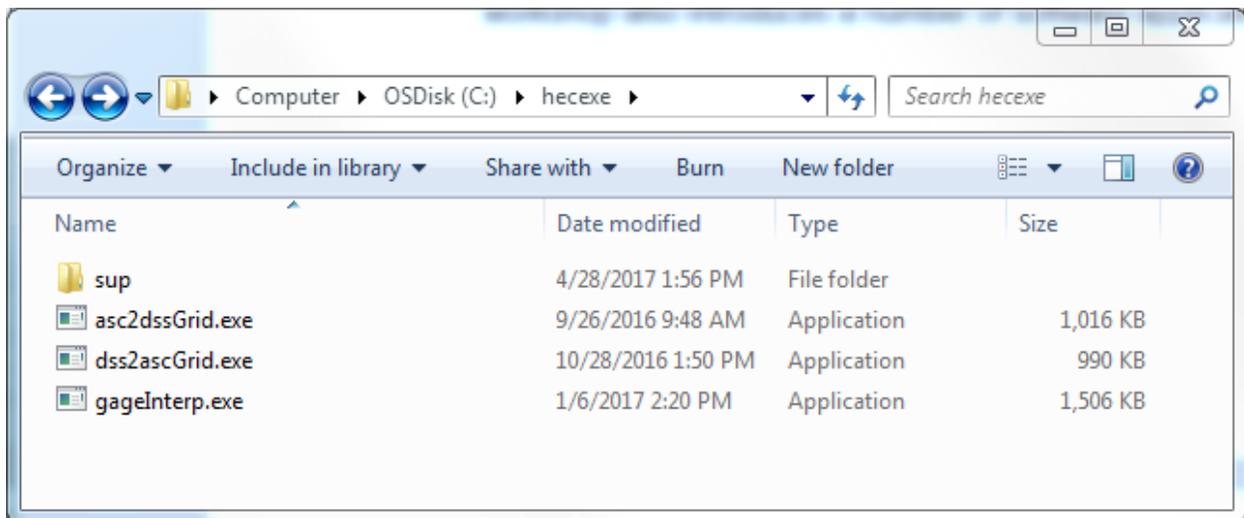
To run the commands, it is necessary to launch a command prompt, which can be done in several ways from the Windows system. For the workshop, the easiest approach is to open the folder where you'll be

working, place the windows cursor in the address bar and type "cmd" as though you were replacing the folder name. This will open a command window in that directory.

Setting the PATH Environment Variable

To make the programs accessible from the command prompt, it is necessary to add the directory where they are located to the PATH environment variable. For a single command session, you can use the following "set" command (substituting your actual directory name for "C:\hecexe\").

        set PATH=C:\hecexe\;%PATH%

The PATH variable tells the Windows operating system where it can find executable programs. The command shown above (and in the figure below) preserves the old path, and places the directory where we've placed gageInterp and asc2dssGrid at the front of the path. Since that directory doesn't hold any other programs, it shouldn't interfere with the normal operation of your computer.
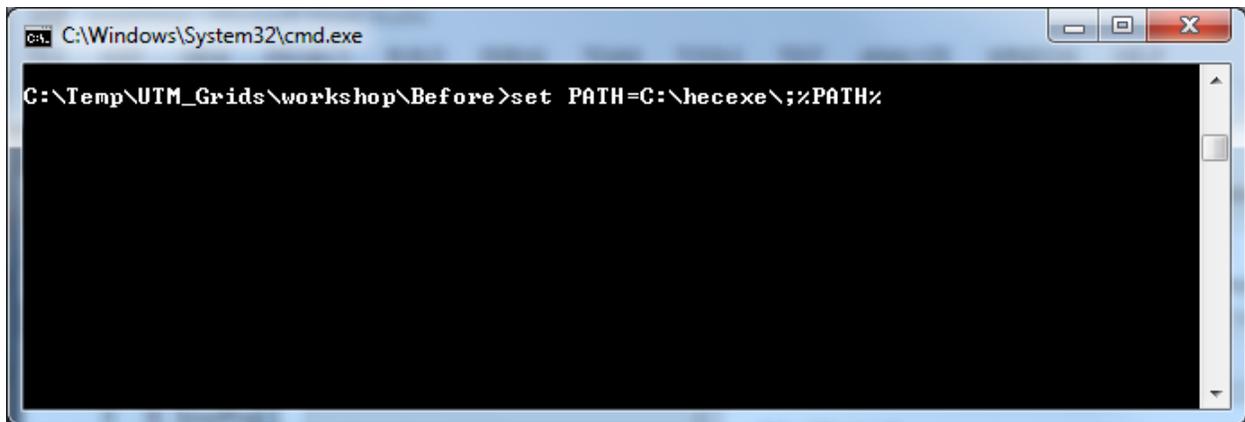
Once this "set" command has been issued, typing "gageInterp" at the command prompt will cause Windows to execute the gageInterp executable located in this directory.

You can also use the "Environment Variables" control panel to add a directory to the PATH permanently.

Setting the PROJ_LIB Environment Variable for GageInterp

The "sup" folder holds data that gageInterp needs to carry out some types of coordinate transformations. In order to find that data, the program relies on an environment variable named "PROJ_LIB". Ordinarily if the necessary data files are in a "sup" folder adjacent to the gageInterp executable, the program will set the PROJ_LIB variable itself, and no additional user action is needed. If the gageInterp program

If the gageInterp program fails to run, and you see a message that says "Environment variable PROJ_LIB is not defined," you can set the PROJ_LIB environment variable with this command.

        set PROJ_LIB=C:\hecexe\sup

HEC DSSVue Workaround

The DSS record type that is used to store UTM grids is not supported in older versions of HEC-DSSVue. At the time of this writing (May 2017) the version of DSSVue that can be downloaded from the HEC website is v 2.0.1, which does not have the features required to display the UTM grids.

DSSVue is included as a utility under the "Tools" menu of a number of HEC programs that have been released more recently that DSSVue 2.0.1. For example, the version of HEC's statistical software package available on the HEC website at the time of this writing (HEC-SSP v 2.1) includes DSSVue v 2.5, which can display UTM grids.

To access this newer version of DSSVue, the user can install the SSP program, launch the program, and select "HEC-DSSVue" from the tools menu.

If you have write access to the directory where HEC-SSP is installed, you can copy the two files in the "DSSVue Workaround" folder ("HEC-DSSVue.exe" and "HEC-DSSVue.config") into the HEC-SSP folder (parallel to the .exe and .config files for HEC-SSP). The HEC-DSSVue executable should launch version 2.5 of the program. You can make a shortcut to this HEC-DSSVue and place it on your Windows desktop, or another convenient location.

NOTE: This is not a complete installation of DSSVue and some plug-ins or scripting features may not be available.