STEAD: Version 5.50

Program "STEAD" (**S**ummarization **T**ool to **E**valuate **A**nnAGNPS **D**ata) is a stand-alone utility tool for AnnAGNPS (v5.50). It was written to allow the user to request, extract, and summarize specific information from the gaging station output files generated by AnnAGNPS. The program is a default-value driven program meaning that a successful execution can be made by simply supplying the input data file as described below.

Input data file:

The input data file is the only required file to successfully run the STEAD program. The input data file is one of two possible gaging station output files from AnnAGNPS. One is a hydrograph-based gaging station file called "AnnAGNPS_TBL_Gaging_Station_Data_Hyd.txt" and the other, "AnnAGNPS_TBL_Gaging_Station_Data_Evt.txt", is an event-based gaging station file.

Control file:

The control file is an optional formatted file that allows the user to specify a number of parameters to request specific extractions from the input file. The control file must be called "STEAD.fil". Built-in default values will be used by STEAD if the control file is not present at the time of execution.

There are two required keyword and seven optional keywords allowed within the control file:

Keyword	Status	Description
"VERSION"	Required	Must be "5.50" to coincide with the gaging station output files produced by AnnAGNPS version "5.50".
"INPUT"	Optional	Allows for a user specified path/filename to input file
"OUTPUT"	Optional	Allows for a user specified path/filename to output file(s)
"FORMAT"	Optional	Allows for comma separated value files (.csv) or formatted text files.
"LOAD"	Optional	Allows user to specify an additional amount of bed and bank load.
"CALIBRATE"	Optional	Allows user to force a calibration of total streamflow.
"COMMENT"	Optional	Allows user to add comments to the control file.
"DATA"	Required	Allows user to specify extraction criteria.
"ENDDATA"	Optional	Specifies the end of "DATA" records to be processed. Any records beyond and "ENDDATA" will be ignored.

Output data file:

The output data file, "AnnAGNPS_TBL_Gaging_Station_Data_Hyd_Summary.csv" or AnnAGNPS_TBL_Gaging_Station_Data_Evt_Summary.csv" by default, contains the requested extracted data for the single output file option. If multiple extractions were requested then the output data file will contain each extraction in the same order as the requests.

There are five possible tables contained within an extraction. There is one daily event table containing the daily events for the user-requested reach or outlet. There are three monthly tables: 1.) average annual per month; 2.) monthly accumulated totals for all years; 3.) individual monthly totals by year. The last is a yearly table showing the yearly accumulated totals and the average annual.

Each table, regardless of the time interval, contains the following information: requested dates, reach ID, reach location, watershed precipitation, watershed effective rainfall, drainage area, maximum peak discharge, runoff, sediment, nutrients, and pesticides.

Log file:

The log file, "STEAD.log", is automatically generated and is a log of the processing as the program continues its execution. The log file should be the first point of troubleshooting should the output not contain the expected data. The log file, as it is being written, is also displayed to the screen. The log file contains processing information as well as error and warning messages.

Note: Please review the STEAD User Manual for a complete description of the usage of STEAD.