USGS Flow Loader

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Thank you for using the USGS Flow Loader application. This application is designed to automatically download stream flow data from United States Geological Survey (USGS) monitoring stations, which can save users a great deal of time and effort when acquiring stream flow data from large numbers of stations.

Using the application

The application can download stream flow data from a list of stations specified in a text file (.txt extension) or csv file (.csv extension), or by manually entering station IDs. Along with a list of stations, several parameters must be specified to download the data in the desired format. The following sections outline the parameters that must be specified to run the application.

Select Stations

"From File" Mode - When wishing to specify a list of stations by file, users should choose this mode.

File (.csv or .txt): The first parameter is the file that contains the list of stations. This can be either a text file (.txt extension) or csv file (.csv extension).

Input Delimiter: Since text and csv file types are delimited, users will also need to specify the input file's delimiter to correctly parse the input file. The default delimiter is a comma "," but other delimiters are possible, including tabs, spaces, etc. When specifying a delimiter, the delimiter must be enclosed by double quotations.

Does file have headers?: It is likely that the columns of the chosen file will have column headers (labels or names at the top of the column to specify the data contained in that column), but some files may not. It is important to know if the input file has headers or not. When this parameter is checked, the first row of data is ignored, which would correspond to the headers of a file with headers. However, if a file does not have column headers and this parameter is checked, the first row of data will be ignored, which would correspond to the first station.

Station ID Field: Once a file is selected, the Station ID Field parameter will automatically be populated by the column headers, if the file has headers. If the file does not have headers, the first row of data will populate this parameter. Users must then choose which column contains the station IDs.

Station Name Field: Once a file is selected, the Station Name Field parameter will automatically be populated by the column headers, if the file has headers. If the file does not have headers, the first row of data will populate this parameter. Users must then choose which column contains the name of each station. The station names are only used when giving names to output files, so this parameter may be specified to any column the user desires.

"Enter Manually" Mode - When wishing to specify a list of stations manually, users should choose this mode.

Station IDs: This parameter should be entered as a list of station IDs, separated by commas.

Station Names: This parameter should be entered as a list of station names, separated by commas. The station names are only used when giving names to output files. Names should be specified in the same order as their corresponding station in the Station IDs parameter.

Download Settings

Start Date (yyyy-mm-dd): This parameter specifies the earliest possible starting date that data records will be retrieved for at each station. If a starting date is specified that is earlier than the first record in the data for a given station, the data for that station will be downloaded from the first record onwards. This parameter must be specified in the 'yyyy-mm-dd' format, including hyphens.

End Date (yyyy-mm-dd): This parameter specifies the latest possible ending date that data records will be retrieved for at each station. If an ending date is specified that is later than the last record in the data for a given station, the data for that station will only be downloaded up to the last record. This parameter must be specified in the 'yyyy-mm-dd' format, including hyphens.

Conversion: Stream flow data from the USGS will be downloaded in units of cubic feet per second (ft^3/s) by default. Users may choose to leave the data in this format by setting this parameter to "ft^3/s." However, users may also convert the data to meters cubed per second (m^3/s) or millimeters cubed per second (mm^3/s) by selecting the desired conversion units.

Output Format: One output file will be written for each station, including a column of dates and a column of stream flow data. Users may choose to have files written in text format (.txt extension) or csv format (.csv extension).

Output Delimiter: Users may specify the delimiting character of the output files. The default delimiter is a comma "," but other delimiters are possible, including tabs, spaces, etc. The output delimiter must be enclosed by double quotations.

Commands

Help: This command will open the USGS Flow Loader Manual (this file) so that users may review the help documentation. The application will search in the directory where the application is stored for a file called *USGSFlowLoaderManual.pdf*. If this file has been deleted or moved to a different directory, the application won't be able to open the help documentation.

Set Working Directory: Users are required to set a working directory where the output files will be saved to. This command opens a file dialogue so that users may select a working directory.

Open Working Directory: Once the application has finished downloading data, users may open the directory where the output files were saved to review the data. This command opens the working directory.

Run: This command will run the application. The application will first attempt to check the input parameters to ensure that they are correct. If they are not correct, users will receive a warning to correct the data before attempting to run the application again. If the parameters are correct, the application will begin downloading the data and writing each station's data to its own output file in the working directory. If an error occurs while downloading a station's data, users will receive a notification in the text box informing them which station data could not be downloaded so that these stations can be downloaded manually. Additionally, users should double-check the output data once the download has complete to ensure all data was downloaded in the correct format; if there are any issues with any downloaded data, users should try and download those stations manually. On occasion the user interface will appear to be unresponsive as it runs ("Not Responding" may appear at the top of the application window), but this is no cause for concern; the application is still running in the background and will complete eventually.