

Groundwater Toolbox Tutorial

Miscellaneous Updates

Most Recent Update: May 26, 2017 (Version 1.3.1 release)

This document describes miscellaneous updates and enhancements made to the functionality of the Groundwater Toolbox.

Version 1.3.1 Release

“Get Newest” functionality

When an existing project is opened, the Groundwater Toolbox will read time-series data that have been previously saved in the project directory. Those data will not include any data that have been added to the data site(s) since the previous project save. The user can re-download the latest updates from the online data sources by use of the “Get Newest” functionality, in the **“File>Download Data”** menu option:

Download Data

Region to Download: Enter Coordinates of Rectangle

Station Locations from US Geological Survey National Water Information System

☐ Daily Groundwater ☐ Periodic Groundwater ☐ Discharge Min Count: 10

☐ Precipitation

Data Values from US Geological Survey National Water Information System

☐ Daily Groundwater ☐ Periodic Groundwater ☒ Daily Discharge

☐ Precipitation ☐ Instantaneous Discharge

BASINS

☐ GIRAS Land Use ☐ Met Stations] DEM Grid

☐ Met Data

National Hydrography Dataset Plus

☐ All ☐ Catchments

☐ Elevation Grid ☐ Hydrography

National Land Cover Data from National Map

☐ 2011 Land Cover ☐ 2006 Land Cover ☐ 2001 Land Cover ☐ 1992 Land Cover

☐ 2011 Impervious ☐ 2006 Impervious ☐ 2001 Impervious ☐ 2001 Canopy

☐ Clip to Region ☒ Get Newest

Help Cancel Download

Each time the user downloads data, a copy of the data will be placed under the 'cache' subdirectory under the 'USGS-GWToolbox' directory. The download process by default will look for available data files in the cached folder first, so as to skip downloading them again to save time. However, these cached data can become outdated over time. Hence, when the user needs to download the latest data from online sources, the "Get Newest" checkbox should be checked before starting the data-download process by clicking the "Download" button. When the "Get Newest" option is checked, the Toolbox will disregard cached data files and re-download the latest full period of record for the sites selected. After the data download, the new data will be saved in the project directory and in the 'cache' directory.

Persistence of Output Generated by the Base-Flow Separation Functionality

As described in the 'Updated_TimeSeries_Functionality' tutorial, base-flow, base-flow percentage, and runoff time-series output that is generated in the Interactive Mode of the Base-Flow Separation functionality is available for graphing and other analyses within the Toolbox, as in the following "Graph" dialog box for streamflow station 01117500:

Select Data To Graph

File Attributes Select Help

Select Attribute Values to Filter Available Data

Scenario	Location	Constituent
OBSERVED	01117472	BFPCT_BFIStandard
~Missing~	01117500	BFPCT_BFLOW
	01117600	BFPCT_PART
	01118000	BFPCT_TwoPRDF
	01118010	BF_BFIStandard

Matching Data (13 of 22)

Scenario	Location	Constituent
OBSERVED	01117500	Streamflow
	01117500	BF_PART
	01117500	RO_PART
	01117500	BFPCT_PART
	01117500	BF_BFIStandard
	01117500	RO_BFIStandard
	01117500	BFPCT_BFIStandard
	01117500	BF_BFLOW

Selected Data (0)

Date Range of Selected Data

All Common

Start none none

End none none

☒ Include Provisional Data

☐ Subset, Split, or Filter Selected Data

Ok Cancel

In previous releases of the Toolbox, it was not possible for the user to easily reopen the calculated base-flow, base-flow percentage, or runoff output when restarting the Toolbox in a new working session. This problem has been addressed starting with version 1.3.1. Now, the Toolbox will automatically open the 'fullspan_Daily.csv' file that has been created for the project in a previous working session and reload the base-flow, base-flow percentage, and runoff time series that have been saved in that file. This allows the user to resume working from a previous point without having to reread files back into the Toolbox. The user is encouraged to read the 'Hydrograph_Separation_Updates' tutorial for an explanation of the 'fullspan' CSV files that are created in Interactive Mode.

Helpful Tips

1. Note in the screenshot above that 'Location' has been selected as one of the attributes to filter the data. It is necessary for the user to include the 'Location' and (or) 'StaNam' (short for station name) attributes in the attribute set that is used as the filter criteria to view and select the base-flow, base-flow percentage, and runoff time series from all available datasets.