

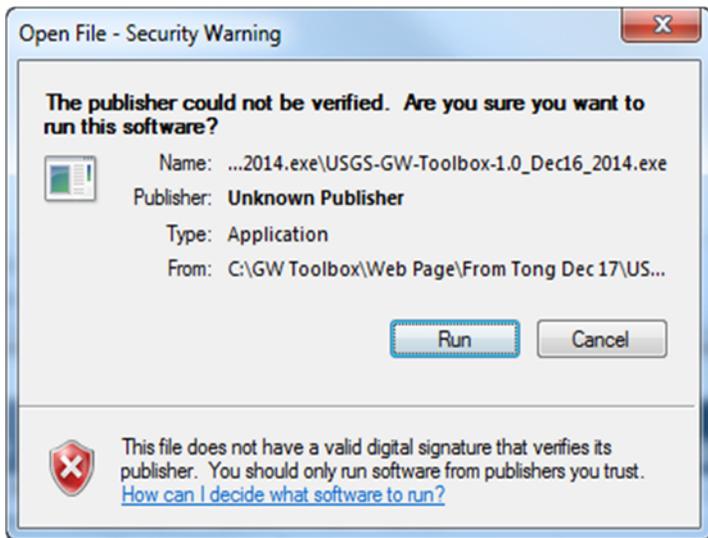
Installation instructions, File Structure, and Hardware and Software Requirements for Groundwater Toolbox, version 1.3.1 (May 2017)

The Groundwater (GW) Toolbox is a customized MapWindow GIS application that integrates environmental data and analysis tools. Version 1.3.1 of the GW Toolbox has a build date of May 26, 2017.

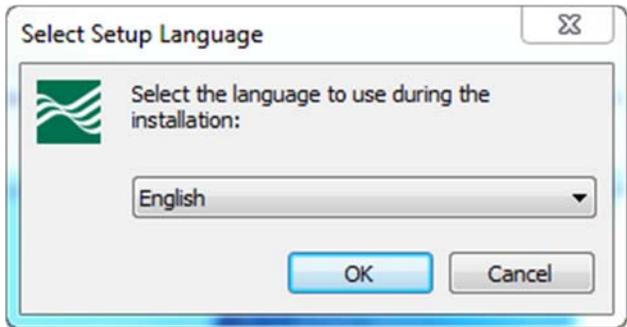
This file describes (A) the installation process for the GW Toolbox, (B) the file structure of the distribution, and (C) the hardware and software requirements for the GW Toolbox. The installation instructions below are for Microsoft Windows 7 and 8.x. It is assumed that users have some familiarity with Microsoft Windows and geographic information system (GIS) concepts.

(A) Installation

- The GW Toolbox is available as one installation file from the USGS Groundwater Toolbox webpage (<http://dx.doi.org/10.5066/F7R78C9G>).
- The installation file has been compressed into a zip file, which is named ‘USGS-GW-Toolbox-1.3.1.exe.zip’ on the USGS webpage.
- Once the zip file has been downloaded, the .exe file should be extracted from the zip file (using the Windows’ command ‘Extract All...’).
- **Important:** Users must have Administrator privileges to install (and uninstall) the GW Toolbox. If a previous version of the GW Toolbox is already installed on your computer, you will need to first uninstall that version before installing a new version. You can uninstall the current version using the ‘unins000.exe’ program in the ‘USGS-GW Toolbox’ directory or by use of the uninstall program function on the Windows’ Control Panel. However, before uninstalling the program, the user may want to rename the ‘USGS-GWToolbox’ directory so that datasets in the directory are not overwritten by the new installation.
- As an Administrator, double-click on the executable file ‘USGS-GW-Toolbox-1.3.1.exe.’ Then, when the dialog box shown below appears, click ‘Run.’
- Some of the screen shots below show the date and version number (1.0) for the initial release of the GW Toolbox; the screen shots are correct even though the release date and version number have been updated for this release.



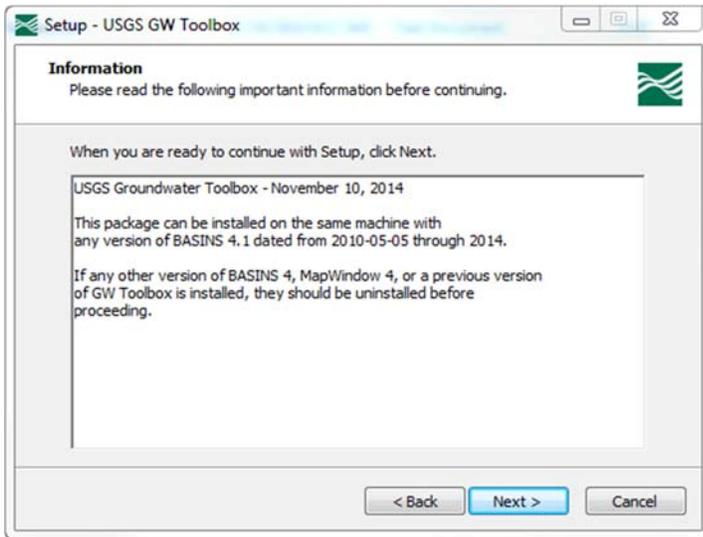
- The screen below will result; click 'OK.'



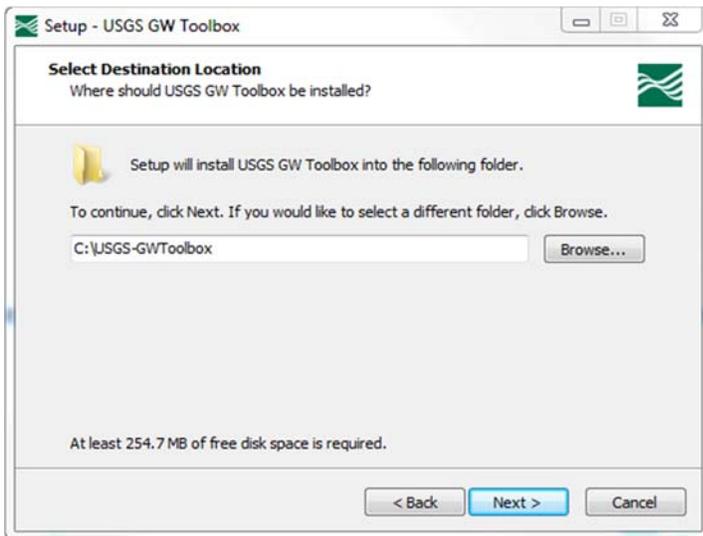
- You are now in the Groundwater Toolbox installation Wizard. Click 'Next' in the screen below:



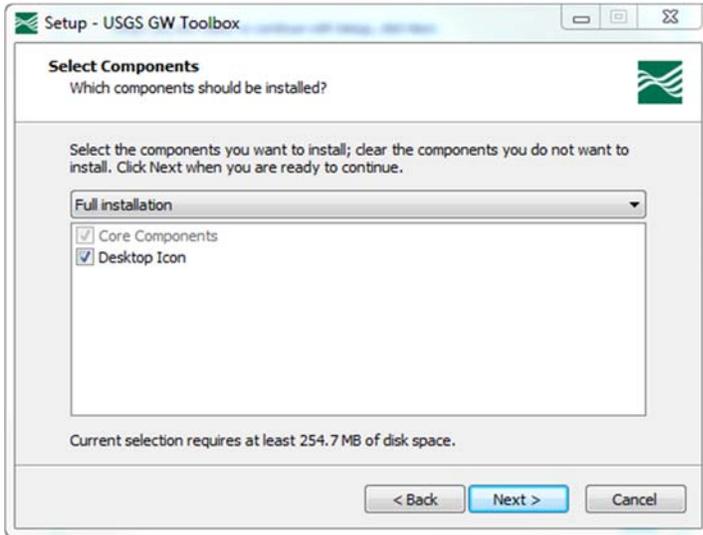
- Click 'Next' again in the screen below:



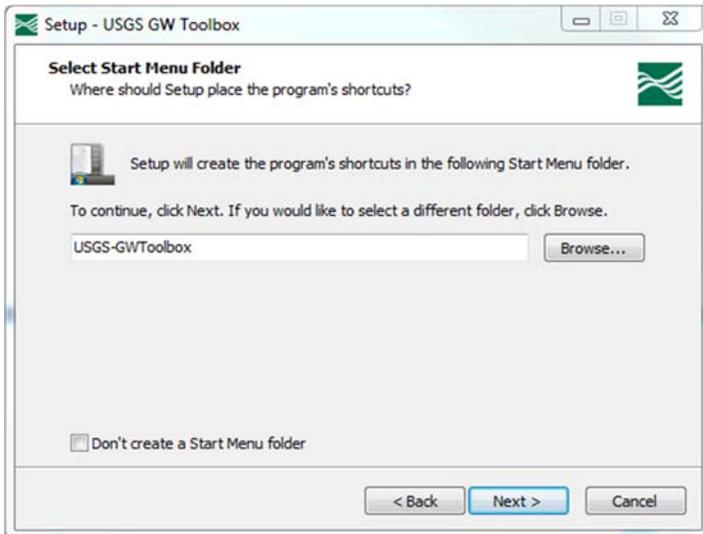
- It is recommended that the GW Toolbox be installed at the root of a drive. The default directory (C:) is used to store the program and supporting files. Again click 'Next.'



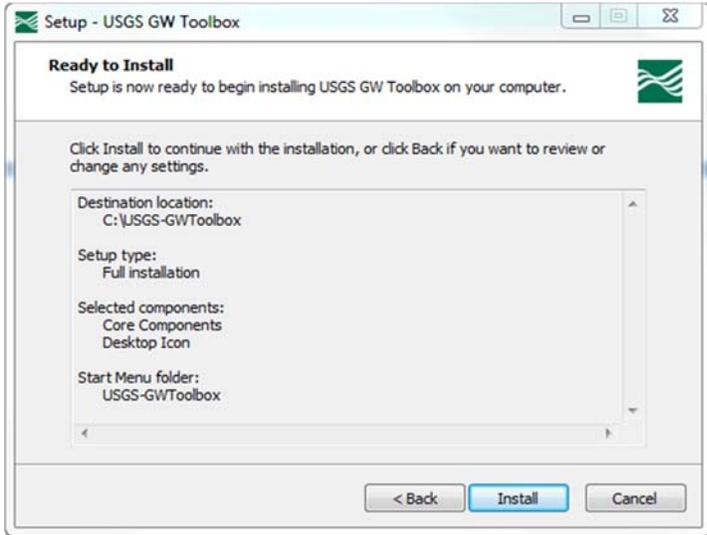
- Select default 'Full installation' in the screen below and again click 'Next.'



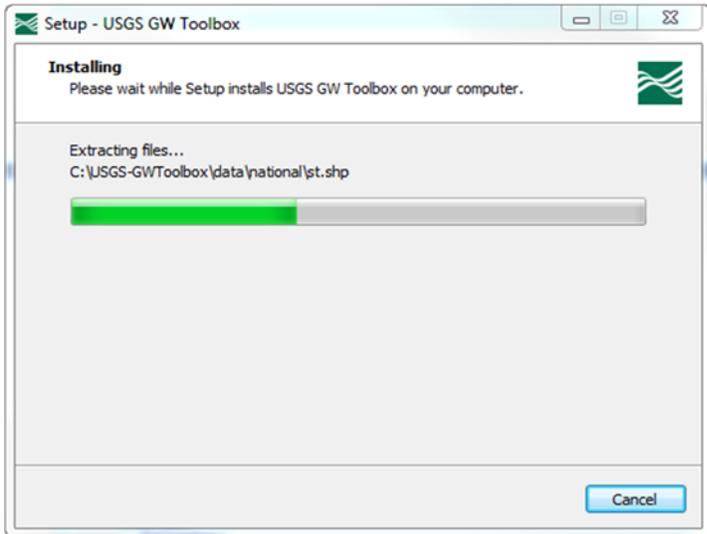
- By default, a Start Menu Folder named 'USGS-GWToolbox' will be created in the C: directory. Again click 'Next.'



- Click 'Install' in the screen below:



- The screen below shows progress of the installation:



- There can be a delay of several seconds as the installation process proceeds. When prompted, click 'Finish' to complete the installation:



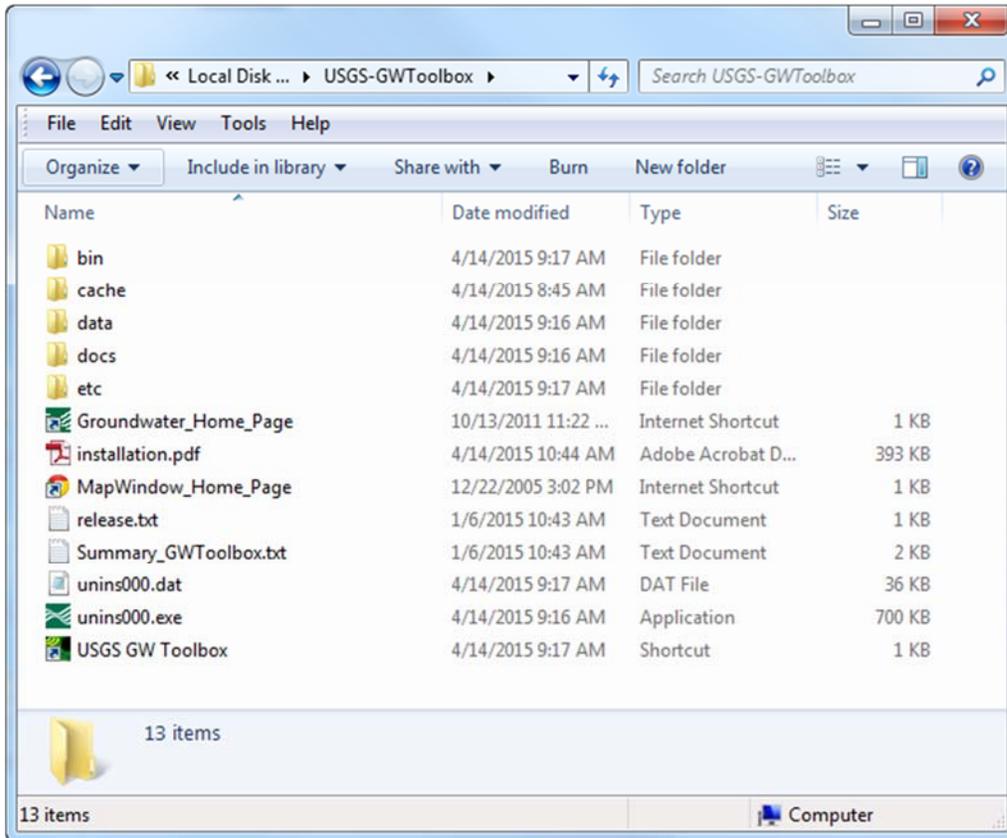
- The following icon will show on your desktop:



- Double-click on the icon to initiate the GW Toolbox.
- For additional information on the installation process, see the Installation section the 'Help' menu item ('GW Toolbox Documentation').

(B) File Structure of the Groundwater Toolbox distribution

- The directory 'C:\USGS-GWToolbox' will have the following file structure:



- The 'bin' directory contains the compiled GW Toolbox executable program ('USGSToolbox.exe') and all of its supporting programming libraries (various dynamic link libraries—DLLs—and auxiliary GIS files). The files under this directory are needed for the normal and stable functioning of the software. Users are strongly advised NOT to remove or modify the files in this directory.
- The 'cache' folder is used by the GW Toolbox to hold some preprocessed (or zipped) data files when users download data using the data-download utility in the program. These data include EPA BASINS' HUC8-based GIS data, NHDPlus data, and others. The program, when creating a new project, first checks to see if the data for this new area already exist in this folder so as not to download the data from the Internet again (hence the name 'cache'). This can save users' time and bandwidth to ensure reuse of core data in their use of the software. Users can delete some or all of the cached download data from this folder such that the program will download a fresh copy of the core data the next time the software requires the data. This directory also contains a 'log' subdirectory,

into which software run-time logs are written; these logs can be used to help debug problems that might arise during use of the software.

- The ‘data’ folder is the main folder to hold users’ data that are organized by projects. Each time users create a new project, a new sub-folder will be created under the ‘data’ folder. All GIS and other hydrologic data downloaded for the newly created project will be saved in the project folder. These data include the data that are from the ‘cache’ download folder, but in unzipped format (that is, the native data format). A subdirectory of ‘national’ data are provided with the download.
- The ‘docs’ folder contains help documentation for the GW Toolbox program; the documentation can be accessed directly within the program from the ‘**Help**’ menu item (‘GW Toolbox Documentation’). The directory also contains the USGS documentation report for version 1.0 of the GW Toolbox (‘USGS-tm3-b10.pdf’) and a subdirectory of Tutorials for the GW Toolbox.
- The ‘etc’ folder contains additional supporting data and parameter files for certain functions of the GW Toolbox. Usually, users are not advised to modify the files under this folder.
- The ‘unins000.exe’ is the uninstall program. Users with Administrator privileges can either double-click this program directly to start uninstall process or run it by use of the uninstall program function via Windows’ Control Panel.
- There are also links to the USGS Groundwater Software webpage (‘Groundwater_Home_Page’), to the MapWindow webpage (‘MapWindow_Home_Page’), and to run the GW Toolbox (‘USGS GW Toolbox’).

(C) Hardware and Software Requirements

- The hardware requirements for GW Toolbox are, at a minimum, similar to those of the PC-based MapWindow software. There are no additional software requirements for GW Toolbox because all software components integrated into the program are open source. GW Toolbox can be installed and operated on IBM-compatible personal computers (PCs) equipped with the software, random access memory (RAM), virtual memory, and hard disk space presented in the table below. Because the performance (response time) under the minimum requirements option might be too slow for some users, especially when dealing with large datasets, a preferred set of requirements is also included.
- GW Toolbox version 1.1 is built for the 32-bit version of Windows but also will work on the 64-bit version of Windows, albeit as a 32-bit program.

Groundwater Toolbox hardware/software requirements:

Hardware/Software	Minimum Requirements	Preferred Requirements
Processor	1 GHz processor	2 GHz processor or higher
Available hard disk space	2.0 Gb	10.0 Gb
Random access memory (RAM)	512 Mb of RAM plus 2 Gb of page space	1 Gb of RAM plus 2 Gb of page space
Color monitor	16 bit color, resolution 1024 x 768	32 bit color, resolution 1600 x 1200
DVD/Compact disc reader/writer	Optional	Optional
Internet connection (*)	WiFi	DSL or better
Operating systems	Windows XP, Vista, or Windows 7, Windows 10 (as a 32-bit program)	Same

*Internet connection, which is necessary to download data, is not necessary to work with data that have been previously downloaded.