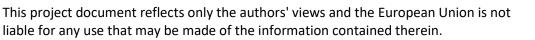


FREE and Open Source Software Tools for WATer Resource Management

FREEWAT Installation Guide

Version 1.0 September 30th, 2017

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CHAPTER 1

FREEWAT Installation & Requirements

1.1 Installing QGIS

The first step in order to use FREEWAT is to install QGIS.

It is strongly recommended to download the last stable and Long Term Release (LTR) version of *QGIS*, which is at present version 2.14 *Essen*, or later.

FREEWAT has been tested so far within the following QGIS versions:

- 2.8 Wien;
- 2.10 Pisa;
- 2.12 Lyon;
- 2.14 Essen;
- 2.16 Nodebo;
- 2.18 Las Palmas.

In order to install QGIS, please refer to the official documentation available at the QGIS web site.

Note: In order to avoid conflicts during *FREEWAT* installation, having ONLY ONE VERSION OF *QGIS* installed is highly recommended. Furthermore, having *QGIS* and *ArcGIS* jointly installed on the same pc is strongly discouraged for the same reason.

1.2 Installing the FREEWAT plugin

In all the Operative Systems, once QGIS is run for the first time, the .qgis2 folder is created.

On *Windows* machines you can find this folder under C:\Users\your_name\.qgis2, while on *Linux* machines it is located in your home folder (/home/user/.qgis2).

Note: Spaces and/or special characters (e.g., accents) must be avoided in the C:\Users\your_name\.qgis2 or /home/user/.qgis2 folders.

• Step 1. In order to install the *FREEWAT* plugin, you have to extract the **provided plugin folder** (its name is freewat) in C:\Users\your_name\.qgis2\python\plugins (for *Windows* machines) or /home/user/.qgis2/python/plugins (for *Linux* machines). Sometimes the plugins folder could not exist. In such case, you can just create it (its name must be exactly plugins, lower case letters).

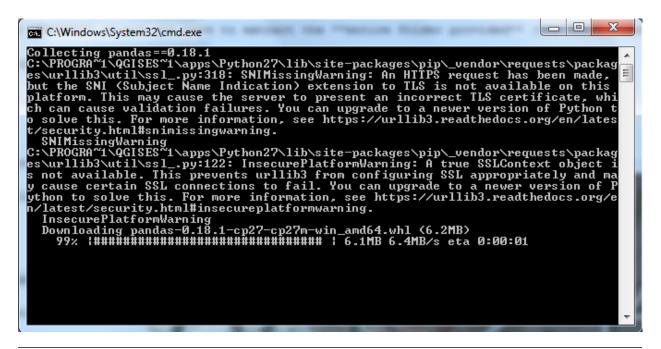
- Step 2. You must now run QGIS.
- Step 3. The Installer window appears, reporting that the following dependencies are needed:
 - *pip*;
 - flopy;
 - *numpy*;
 - pandas;
 - requests;
 - isodate;
 - seaborn;
 - xlwt;
 - xlrd.

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	Install	tall missing dependencies						
	In order t	In order to run the FREEWAT plugin is necessary to install some dependencies:						
	pip,flopy, numpy, pandas, requests, isodate, seaborn, xlwt, xlrd							
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Note: Installing all the libraries listed above requires connection to the Internet.

Note: If the checkbox *Use proxy* is checked, you can insert all the information related to any proxy set on your machine.

• Step 4. Once you click *OK*, several pop-up windows will appear and all the missing dependencies will be automatically installed:



Note: Installing each missing dependency requires authorization, so you will be asked to enter a password so that each pop-up window is run as administrator.

1.3 Starting FREEWAT

After QGIS and all the needed dependencies have been correctly installed, run QGIS.

FREEWAT should appear as a drop-down menu in the toolbar of the QGIS Graphical User Interface (GUI).

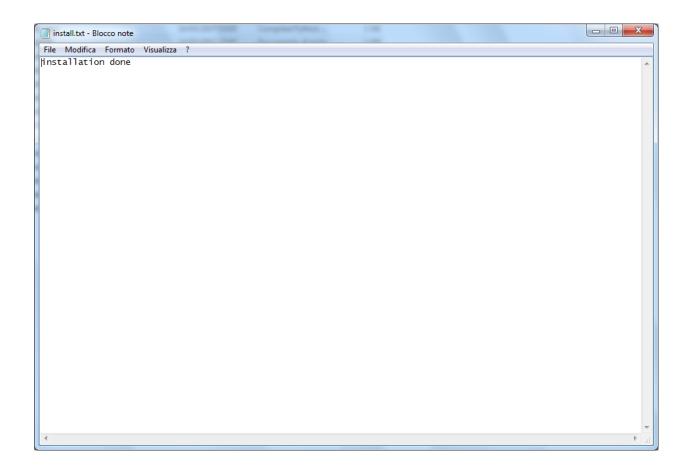
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If not, just go to *Plugins -> Manange and Install Plugins..*, type **FREEWAT** in the *Search* bar and click on the checkbox to activate the plugin, as shown in the picture below:

🧭 Plugins All (544)		2 ×
ali 💦	Search freewat	8
Installed	🗶 📂 Freewat	All Plugins
Not installed Settings		On the left you see the list of all plugins available for your QGIS, both installed and available for download. Some plugins come with your QGIS installation while most of them are made available via the plugin repositories. You can temporarily enable or disable a plugin. To <i>enable</i> or <i>disable</i> a
		plugin, click its checkbox or doubleclick its name
		Plugins showing in red are not loaded because there is a problem. They are also listed on the 'Invalid' tab. Click on the plugin name to see more details, or to reinstall or uninstall this plugin.
		Upgrade all Uninstall plugin Reinstall plugin
		Close Help

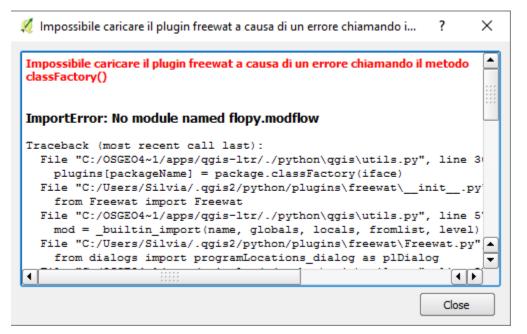
The FREEWAT platform can now be used by following the logical workflow presented in the following Chapters.

Note: It can happen that, even if all the needed dependencies have been correctly installed (and *FREEWAT* appears in the toolbar of the *QGIS* GUI), installation procedure starts each time you re-run *QGIS*. If this happens, a txt file renamed install.txt must be created manually in C:\Users\your_name\.qgis2\python\plugins\freewat\install or /home/user/.qgis2/python/plugins. This txt file must contain only the sentence installation done.



1.4 Manual installation procedure

Should you experience any error when you open *QGIS* or when you try to activate the FREEWAT plugin through the *Plugins -> Manange and Install Plugins.*. menu (see, e.g., the following figures), please try the manual installation procedures described below.



Tutto	Cerca			
Installati Non valido	 ★ Cattura coordinate ★ [*]₀ Convertitore Dxf2Shp ★ DB Manager ★ E eVis ★ FREEWAT 	Questo plugin è corrotto No module named flopy.modflow		
Impostazioni	FTools GalTools Geometry Checker	FREEWAT		
	Geometry Snapper Georeferenziatore raster (GDAL) Grafo strade	GIS integrated simulation environment for water management.		
	Grain Strate MetaSearch Catalogue Client Grain Strate OffineEditing Grade Spatial GeoRaster	FREEWAT is an open source and public domain GIS integrated environment for the simulation of water (surface- and ground quantity and quality in surface water and groundwater with a integrated water management and planning module.		
	X \mathcal{mathca	Etichette: hydrology, groundwater, modeling, MODFLOW, Farr AKVA GIS, OAT, calibration, UCODE, MT3DMS, SEAWAT Autore: FREEWAT (FREE and open source tools for WATer reso management) project has received funding from the Europear Horizon 2020 research and innovation programme under gran agreement n. 642224 (www.freewat.eu). The project is Cooroc Rudy Rossetto (Scuola Superiore Sant'Anna). This plugin devel has been performed within Work Package 2 (Software develo integration - Lead partner TEA SISTEMI spa, Iacopo Borsi). Ma contributors: Iacopo Borsi, Massimiliano Cannata, Laura Fogli Giovanna De Filippis, Matteo Ghetta, Stephen Mehl, Rudy Ross Violeta Velasco-Mansilla. Further info in About. Versione installata: BETA 1.5 (in C:\Users\userregtosc\.qgis2\python\plugins\freewat)		
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		Aggiorna tutto Disinstalla il plugin Reinstalla plugin		

Manual procedure

• Close *QGIS* if it is open;

- From the START button search OSGeo4W Shell -> right click on it and open as administrator;
- Type the following instructions one by one (each time you click Enter wait some seconds until the installation of the library is completed):
 - python -m pip install numpy==1.11.0 -> press Enter
 - python -m pip install pandas==0.18.0 -> press Enter
 - python -m pip install setuptools -> press Enter
 - python -m pip install isodate -> press Enter
 - python -m pip install requests -> press Enter
 - python -m pip install matplotlib -> press Enter
 - python -m pip install flopy==3.2.6 -> press Enter
 - python -m pip install xlrd -> press Enter
 - python -m pip install xlwt -> press Enter
 - python -m pip install seaborn -> press Enter
- A txt file renamed install.txt must be created manually in C:\Users\your_name\.qgis2\python\plugins\freewat\install or /home/user/.qgis2/python/plugins. This txt file must contain only the sentence installation done;
- Open QGIS and you should see FREEWAT as a drop-down menu in the toolbar of QGIS;
- If not, just go to *Plugins -> Manange and Install Plugins..*, type **FREEWAT** in the *Search* bar and click on the checkbox to activate the plugin.