



FREEWAT

Free and Open Source Software Tools for Water Resource Management
EU HORIZON 2020 Project

FREE and Open Source Software Tools for WATER Resource Management

FREEWAT Installation Guide

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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

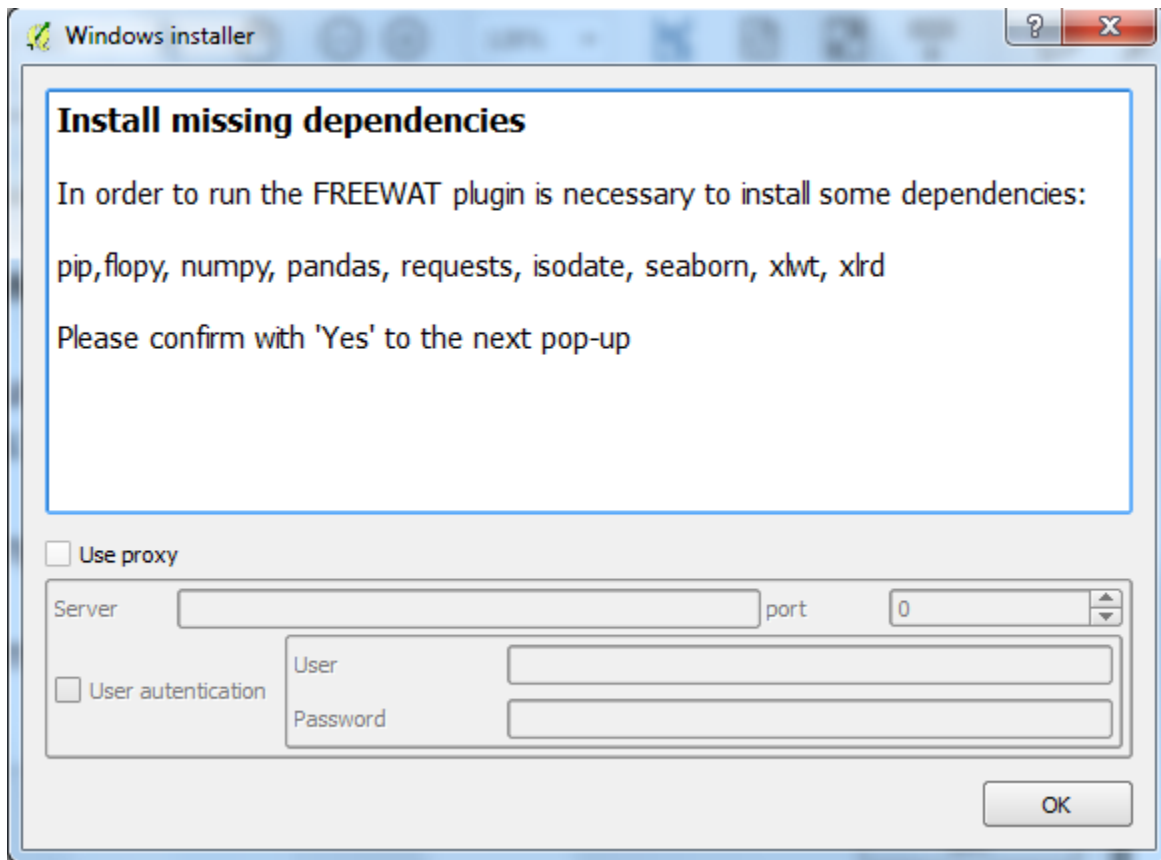
In all the Operative Systems, once *QGIS* is run for the first time, the `.qgis2` folder is created.

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).

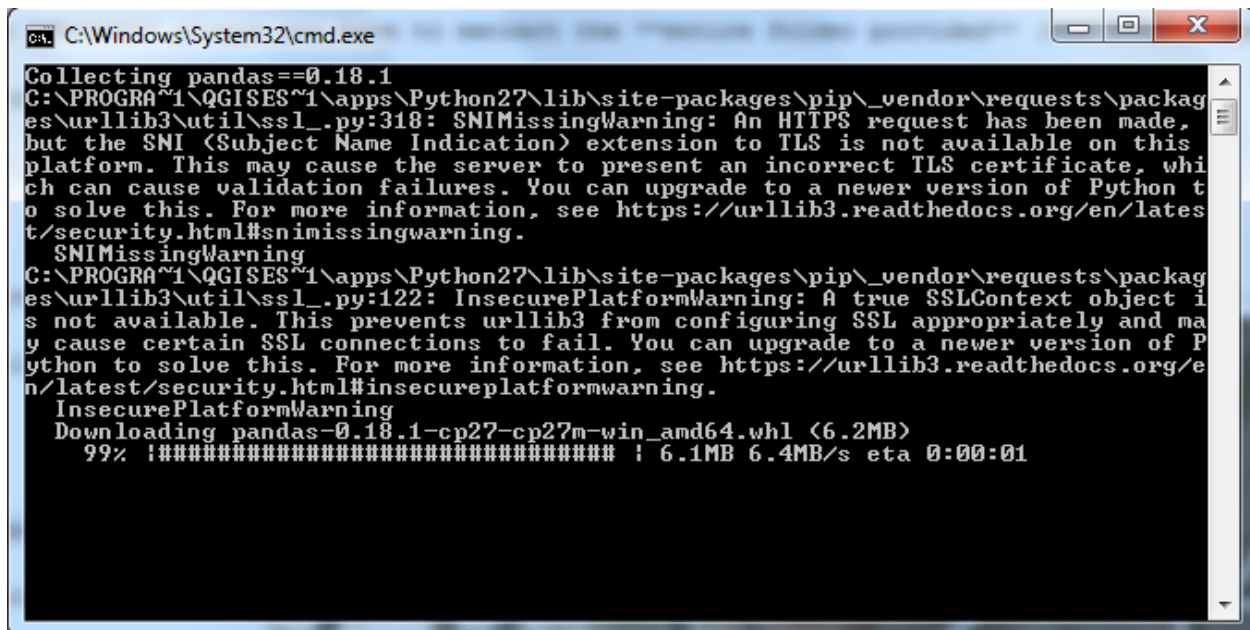
- **Step 2.** You must now run *QGIS*.
- **Step 3.** The **Installer** window appears, reporting that the following dependencies are needed:
 - *pip*;
 - *flopy*;
 - *numpy*;
 - *pandas*;
 - *requests*;
 - *isodate*;
 - *seaborn*;
 - *xlwt*;
 - *xlrd*.



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:



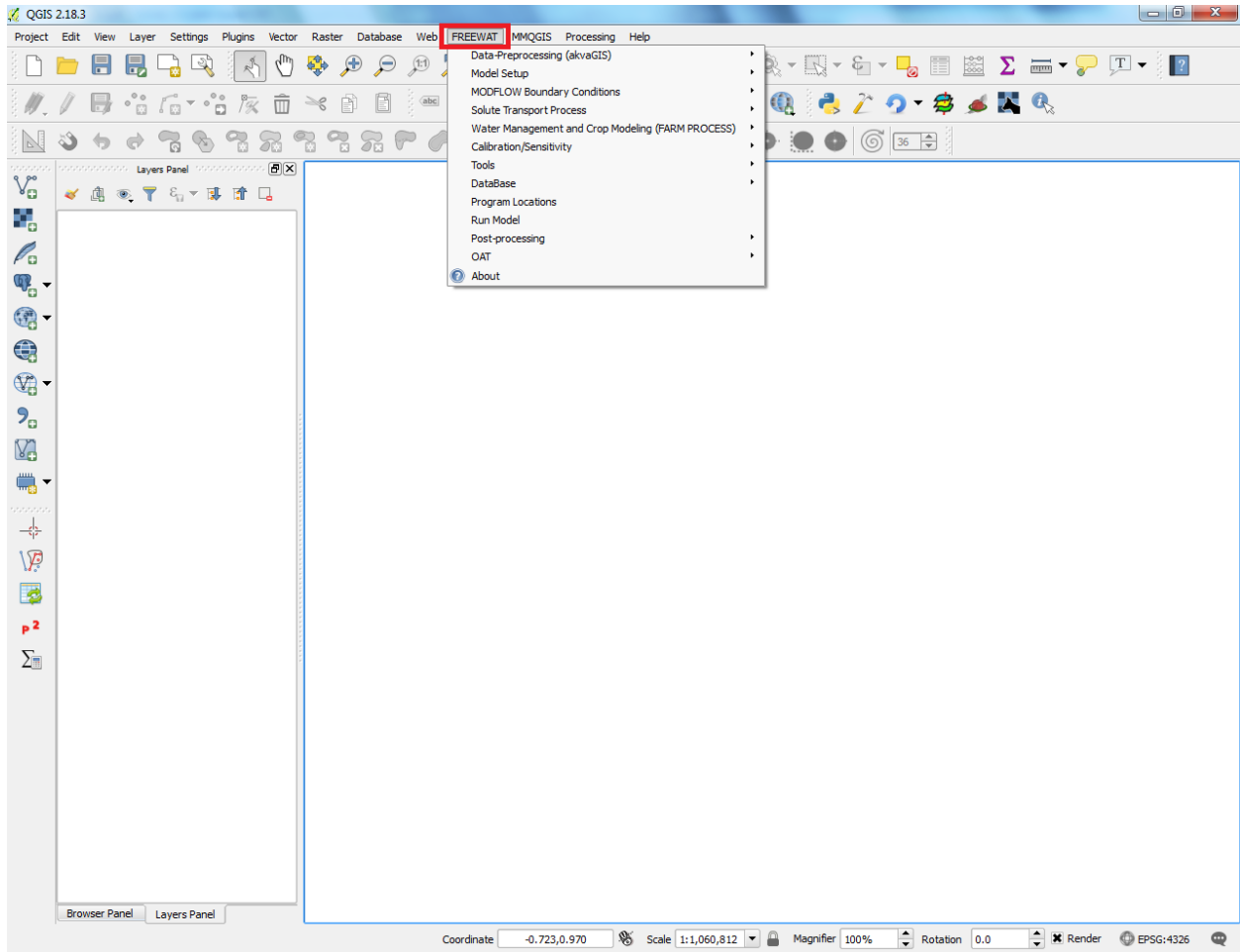
```
C:\Windows\System32\cmd.exe
Collecting pandas==0.18.1
C:\PROGRAM~1\QGIS\apps\Python27\lib\site-packages\pip\_vendor\requests\packag
es\urllib3\util\ssl_.py:318: SNIMissingWarning: An HTTPS request has been made,
but the SNI (Subject Name Indication) extension to TLS is not available on this
platform. This may cause the server to present an incorrect TLS certificate, whi
ch can cause validation failures. You can upgrade to a newer version of Python to
solve this. For more information, see https://urllib3.readthedocs.org/en/lates
t/security.html#snimissingwarning.
  SNIMissingWarning
C:\PROGRAM~1\QGIS\apps\Python27\lib\site-packages\pip\_vendor\requests\packag
es\urllib3\util\ssl_.py:122: InsecurePlatformWarning: A true SSLContext object i
s not available. This prevents urllib3 from configuring SSL appropriately and ma
y cause certain SSL connections to fail. You can upgrade to a newer version of P
ython to solve this. For more information, see https://urllib3.readthedocs.org/e
n/latest/security.html#insecureplatformwarning.
  InsecurePlatformWarning
Downloading pandas-0.18.1-cp27-cp27m-win_amd64.whl (6.2MB)
 99% !##### ! 6.1MB 6.4MB/s eta 0:00:01
```

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.

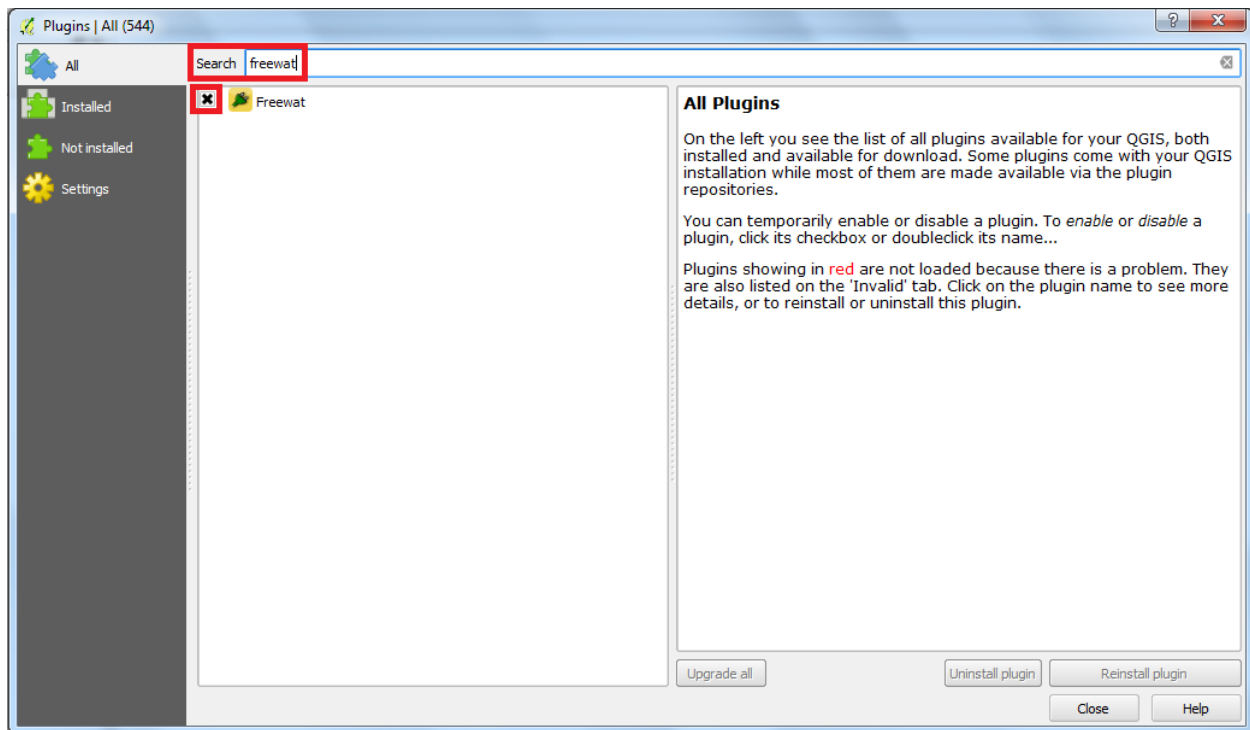
1.3 Starting FREEWAT

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).

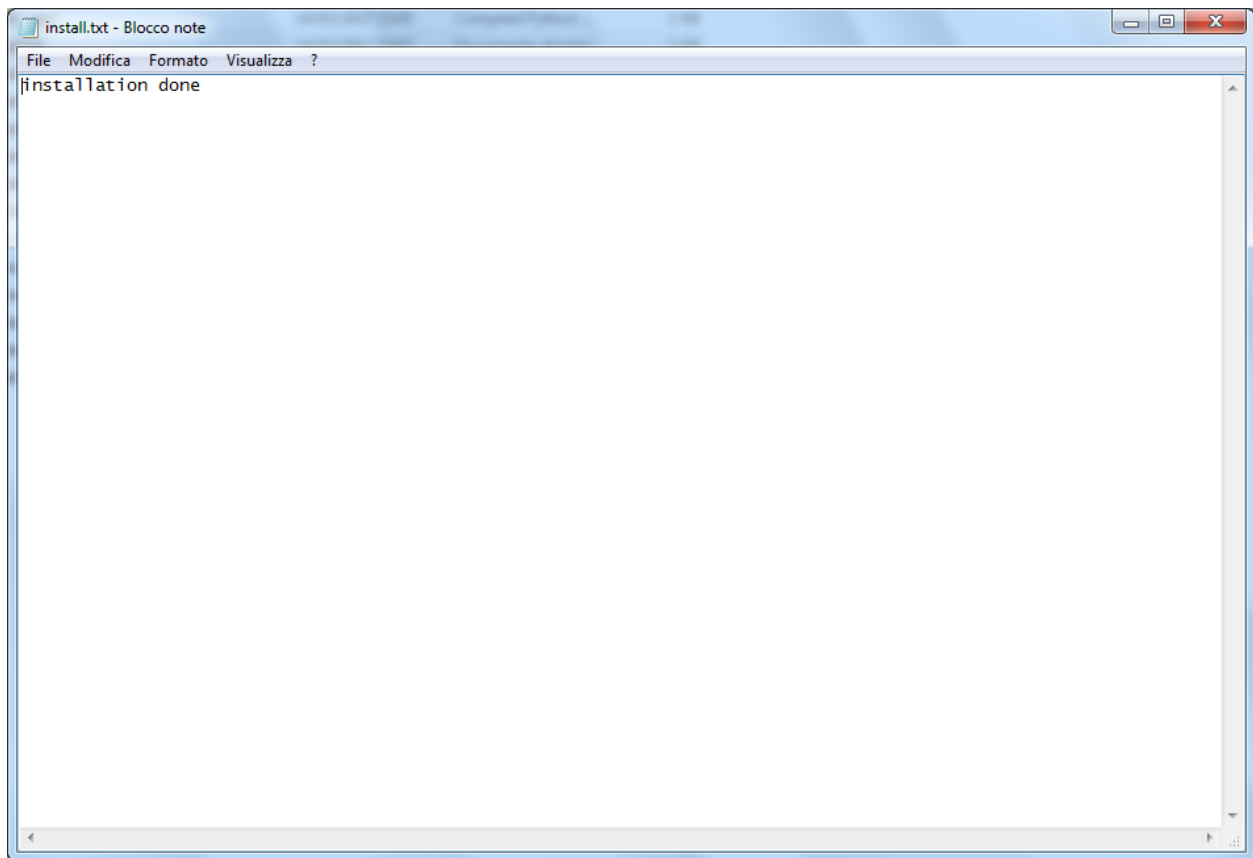


If not, just go to *Plugins -> Manage and Install Plugins...*, type **FREEWAT** in the *Search* bar and click on the checkbox to activate the plugin, as shown in the picture below:



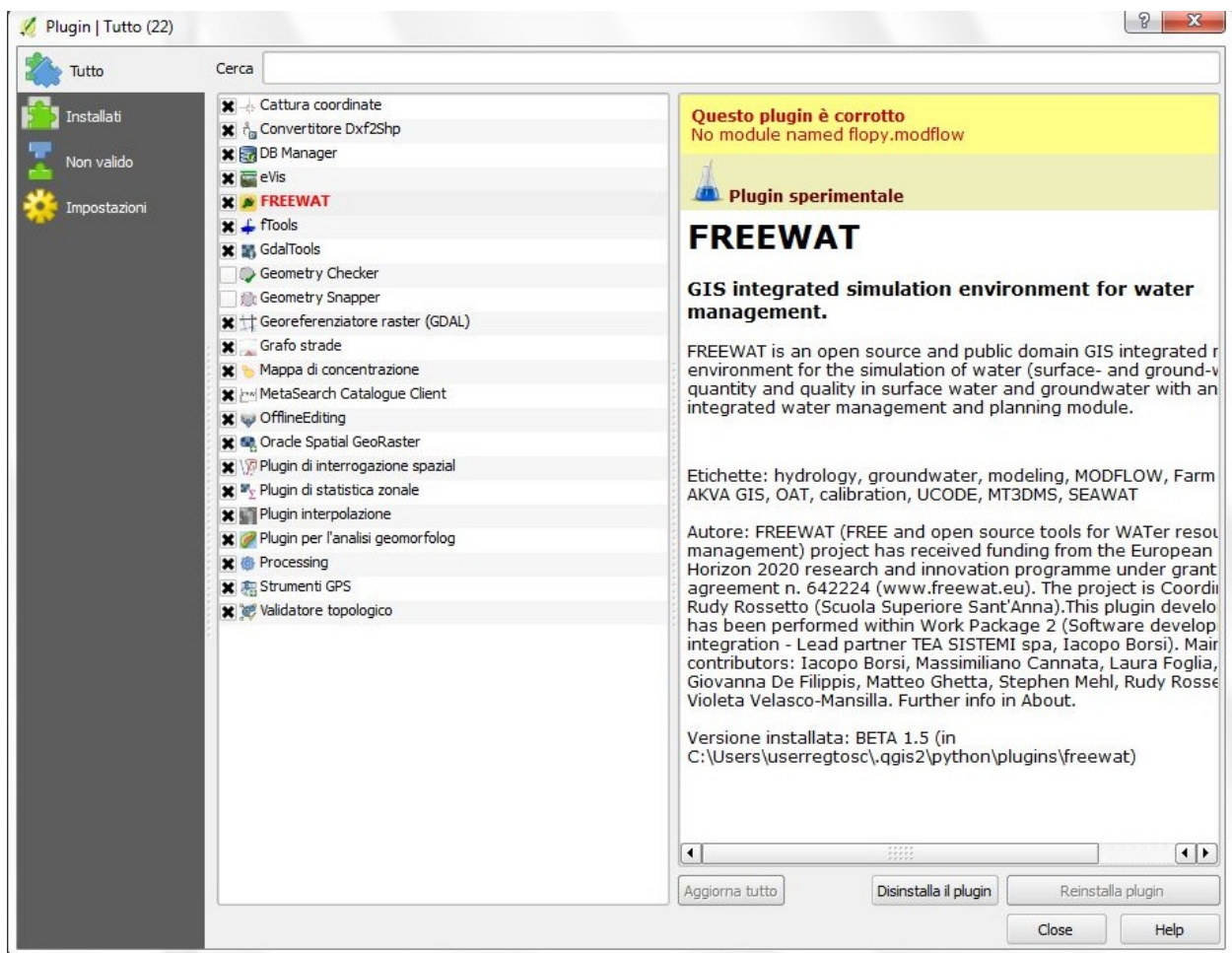
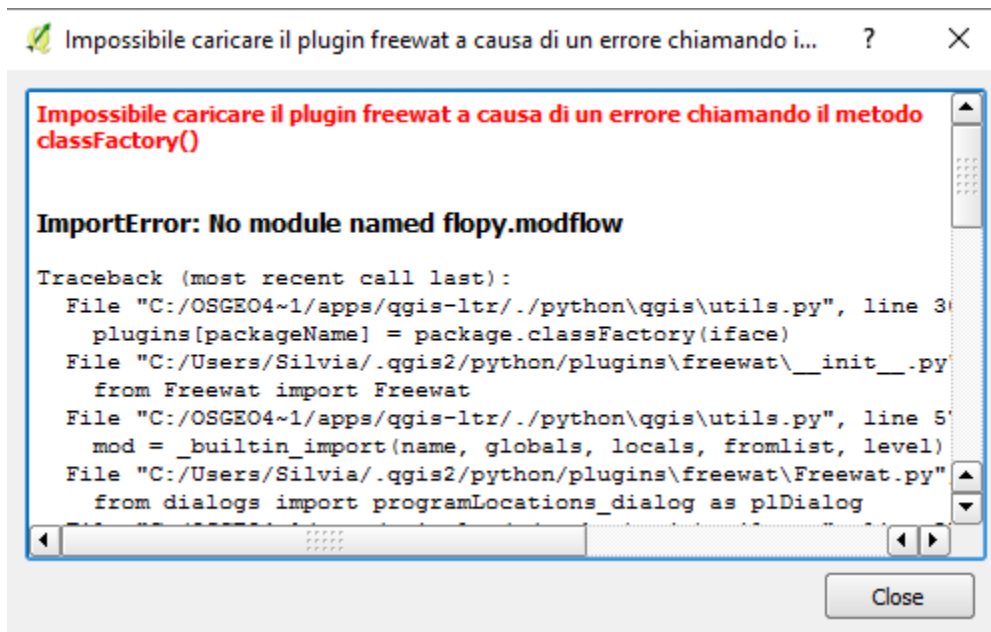
The *FREEWAT* platform can now be used by following the logical workflow presented in the following Chapters.

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 -> Manage and Install Plugins..* menu (see, e.g., the following figures), please try the manual installation procedures described below.



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 -> Manage and Install Plugins..*, type **FREEWAT** in the *Search* bar and click on the checkbox to activate the plugin.