

Installing Quantum GIS 1.8.0 on a Mac

Overview

This tutorial shows you how to download and install Quantum GIS (QGIS) on a MacOS X computer. QGIS is a free, open source program that allows you to visualize, manage, edit, analyze data, and compose printable maps that are compatible with multiple operating systems, including Linux, Mac OS X, Windows and Android. This tutorial focuses on the installation of QGIS on a 10.5 Leopard version MacOS X system.

Getting Started

1. Go to www.qgis.org and click the 'Download Now *Free!*' icon on the right of the page or the download tab at the top of the screen.

2. Click on MacOS X in the tan box and select the **KyngChaos Download Archive** link. This link has all the frameworks (see definition), plug-ins, and QGIS packages for Mac systems 10.3 to 10.7. For 10.6 and 10.7 system users, single installer packages are available via the master and release links.
3. Before you install QGIS, you must set up the GDAL Complete 1.8 and GSL frameworks. GRASS 6.4 and Python Modules are optional additions. framework

Definition:

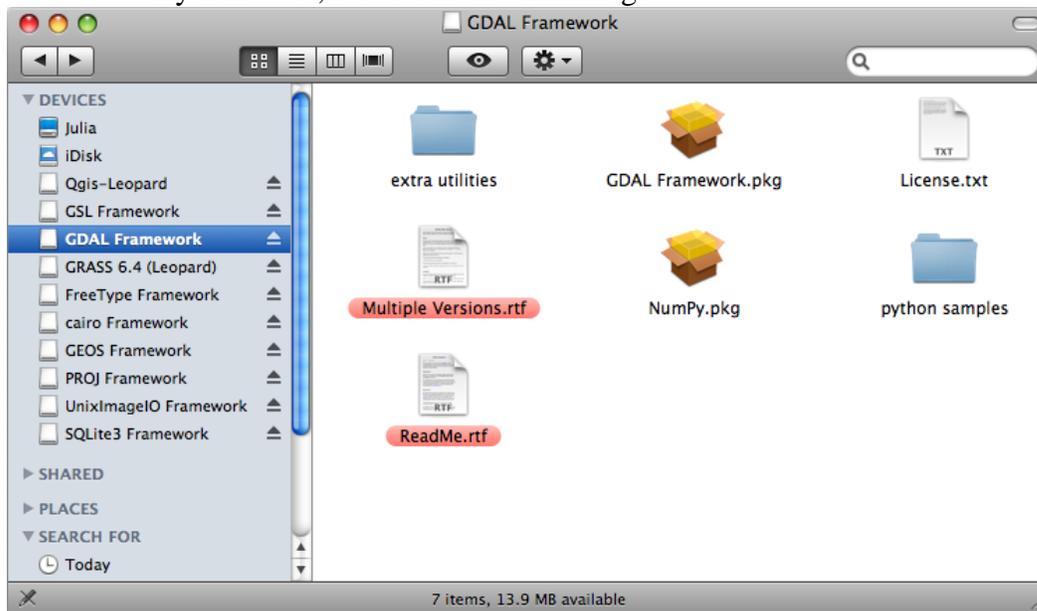
Frameworks provide an outline for the software's structure in the form of objects. These objects work together to perform essential functions.

Downloading and Installing the Required Frameworks

GDAL stands for the Geospatial Data Abstraction Library and is the framework version of GIS data translation library. It also includes Python libraries and tools. The GDAL Complete framework package allows you to download all current versions of the required frameworks in one step. However, advanced users may choose to install individual frameworks under the GDAL umbrella to include extra features. Both installation methods are outlined below.

Simple Installation:

1. GDAL complete framework package includes the UnixImageIO, GEOS, PROJ, and SQLite3 Frameworks. It also requires a more recent version of the NumPy extension to make use of the Python tools. This installer is included in the GDAL disk image.
2. Download GDAL version 1.8.1-1 for Leopard from <http://www.kyngchaos.com/software/qgis>
3. In the Mac OS Finder window, double-click the GDAL Complete.pkg to install GDAL. Follow the instructions in the installer window.
4. Once completed, double-click the NumPy.pkg to install the update for the Python tools, located in the disk image.



5. Go back to the KyngChaos QGIS homepage and click on “GSL framework” to download the most current version. Double-click the GSL framework file in Finder to begin the installation process.
6. Follow the step-by-step instructions in the Installer to complete the installation.

Advanced Installation:

1. Starting from the main KyngChaos QGIS page, click on “GDAL Complete framework” and scroll down to view the individual frameworks. FreeType, GSL, PROJ, and GEOS frameworks do not require any additional plug-ins so they are installed first (in no particular order). Use the Table of Contents on the right-hand side of the page to automatically scroll to the desired framework package.
2. Click on the most recent FreeType package your computer version will satisfy, in this case version 2.4.6-1.

FreeType

Version	Date	Size	10.3	10.4	10.5	10.6	10.7
 FreeType 2.4.6-1	2011-8-3	1.2MiB				✓	✓
Leopard support dropped, minimum now 10.6							
 FreeType 2.4.6-1	2011-8-3	709KiB			✓		
 FreeType 2.4.5-1	2011-6-27	1.8MiB			✓	✓	✓
 FreeType 2.4.4-1	2010-12-29	1.8MiB			✓	✓	?
 FreeType 2.4.2-2	2010-9-30	1.7MiB			✓	✓	?
 FreeType 2.4.1-1	2010-7-26	1.7MiB			✓	✓	?
 FreeType 2.3.12-1	2010-3-8	1.7MiB			✓	✓	?
 FreeType 2.3.11-1	2009-10-26	1.7MiB			✓	✓	?
 FreeType 2.3.9-2	2009-9-12	1.7MiB			✓	✓	?

3. The FreeType framework will automatically begin downloading and will open in Finder once completed. Double-click the FreeType Framework.pkg to begin the installation process.



4. Follow the step-by-step instructions in the Installer to complete the installation.
5. Repeat for the GSL, PROJ, and GEOS frameworks, choosing the most recent Leopard versions, in this case GSL 1.15-1, PROJ 4.7.0-2, and GEOS 3.3.0-1.

Tip:

Additional information about the framework can be found by double-clicking the ReadMe.rtf file within the disk image. The licenses are listed in the other .txt files.

6. The UnixImageIO (UIIO) framework is next in the installation process. UIIO requires the PROJ framework that was just installed. It is important to install the frameworks in this order because they will not run properly, even though they may install without checking for all necessary requirements. Once again, select version UnixImageIO 1.3.0 for MacOS X 10.5.
7. Follow the step-by-step instructions to complete installation.
8. SQLite3 is the next framework that needs to be installed. It requires GEOS and PROJ to run. Install version SQLite3 3.7.6.3-1 for Leopard.
9. Follow the step-by-step instructions to complete installation.
10. Cairo version 1.10.2-3 Leopard is the last additional framework to be installed. Cairo requires the UnixImageIO and FreeType frameworks. Just as above, double-click the framework.pkg to complete the installation.
11. You're now finished downloading the additional plugins needed for the GDAL and GRASS frameworks!

Downloading and Installing Optional Frameworks

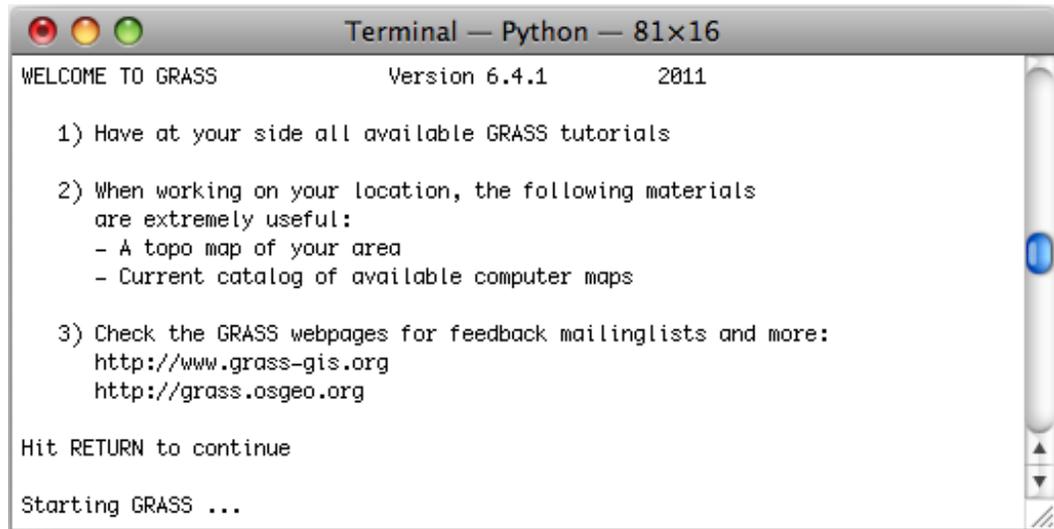
1. Lastly and optionally, GRASS can be installed from the KyngChaos QGIS homepage. GRASS requires the GDAL, FreeType, and Cairo frameworks to be previously installed (as outlined above), and an additional GDAL plugin included in the disk image.
2. First, double-click the GRASS-6.4.pkg to complete the installation. Then, install the GDAL plugin. You can now run the GRASS application!

Tip:

The GRASS plugin provides access to GRASS GIS databases and functions. This includes

- viewing GRASS raster and vector layers,
- digitizing vector layers,
- editing vector attributes,
- creating new vector layers and
- analyzing GRASS 2D and 3D data with GRASS modules.

3. To run GRASS, double-click the GRASS.app within your applications folder. It will open in Terminal. Hit the “Return” key to start GRASS.



```
Terminal — Python — 81x16
WELCOME TO GRASS                Version 6.4.1        2011

1) Have at your side all available GRASS tutorials

2) When working on your location, the following materials
   are extremely useful:
   - A topo map of your area
   - Current catalog of available computer maps

3) Check the GRASS webpages for feedback mailinglists and more:
   http://www.grass-gis.org
   http://grass.osgeo.org

Hit RETURN to continue

Starting GRASS ...
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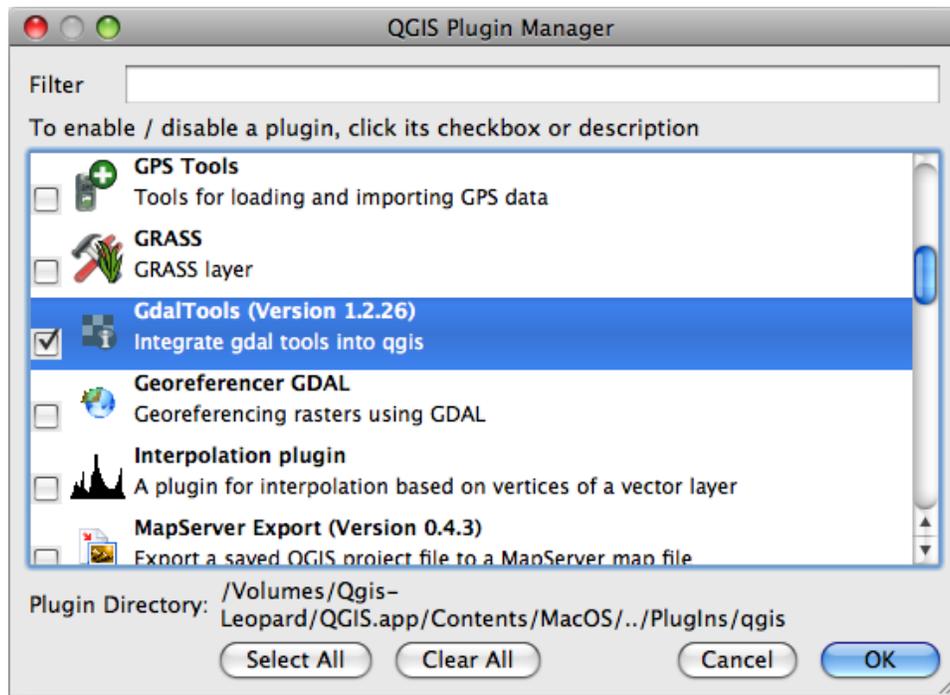
4. Once GRASS is open, you will be prompted to create a directory to store your GIS data (referred to as the database). Projects are organized within the database based on location as defined by the coordinate system, projection, and geographical boundaries. Once you choose the project **LOCATION** and **MAPSET** you can start using GRASS.

Downloading and Installing QGIS

1. The final step is to install the Quantum GIS 1.8.0 package. Click on Quantum GIS under the Software Menu on the left hand side of the page to download the package. Unlike the above frameworks, there is no installer. Simply, drag the ‘Q’ icon into the Applications folder or any other preferred folder.



2. Double-click the  icon to run the program.
3. The GDAL plugin will need to be configured in order to run properly within the program. First, go to **Plugins>Manage Plugins** from the top menu. Select **GdalTools** and press “OK.” This will enable the Raster menu.



Tip:

The Plugin Manager lists all the available plugins and their statuses (loaded or unloaded), including all core plugins and all external plugins that have been installed. Those plugins that are already loaded have a check mark to the left of their names. When you exit the application, a list of loaded plugins is preserved, and the next time you run QGIS these plugins are automatically loaded.

4. Select **Raster>GdalTools** Settings and enter the path to the Gdal binaries. The path can be found in the QGIS readme file and looks something like this:

/Library/Frameworks/GDAL.framework/Programs:/usr/bin

This step guarantees that the GDAL framework tools that are Python programs will launch properly.

5. Congratulations! Now you are all ready to use Quantum GIS!

Tip:

To start QGIS, simply double click on the application icon within the folder. When prompted to open the application from the Internet, click "OK."