

Exercise 16: Making Maps in GIS

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1. Intro-fossgis-umass

1.1. Author Attribution

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1.2. Module Licensing Information

Version 1.0.



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1.3. Reviewed by

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2. Making maps in QGIS

2.1. 1. Introduction:

The goal of this demo is to show how to prepare printable maps with QGIS. In general (but not always!) hard copy maps consists of the following elements:

- the map itself
- a legend
- a title
- some descriptive text (data sources, metadata, authors, disclaimers, etc).
- a north arrow
- copyright notes
- a scale bar
- a locus map

We will demonstrate how to develop/design a map which includes these elements. At first we will create a thematic map for Amherst. Then we will add a north arrow, a scale bar and a copyright mark to the digital map. We will use the map composer to design a printable map. Let's start QGIS!

2.2. 2. Lab Settings:

Please download and extract the lad demo dataset into your working directory:

- download data set from this location (~5.3Mb):
http://linuxlab.sbs.umass.edu/introFossgisUmass/datasets/lab_intro/IntroQGISClassDemo.zip
- unzip the data set into your working directory (e.g C:\temp\yourdir\)
- This Data set includes GIS layers for the town of Amherst, Massachusetts.

2.3. 3. Demo Guildlines:

- **Create a thematic map (it doesn't matter what, for this exercise)**
 - Add landuse layer (a vector layer called lus8) , orthophoto (a raster called 2_117902.tif) and a road layer (a vector rd5k) to QGIS.
 - Change name of layer in TOC to "Land Use", "Orthophoto" and " Roads" respectively.

- Save project (intermediate, but important step). Call it "yourname_map" (with your name, and without the quotes).
- Set map units (Click "Settings > Project Properties" and set "Map units" as meters).
- By this step you should have something like this:

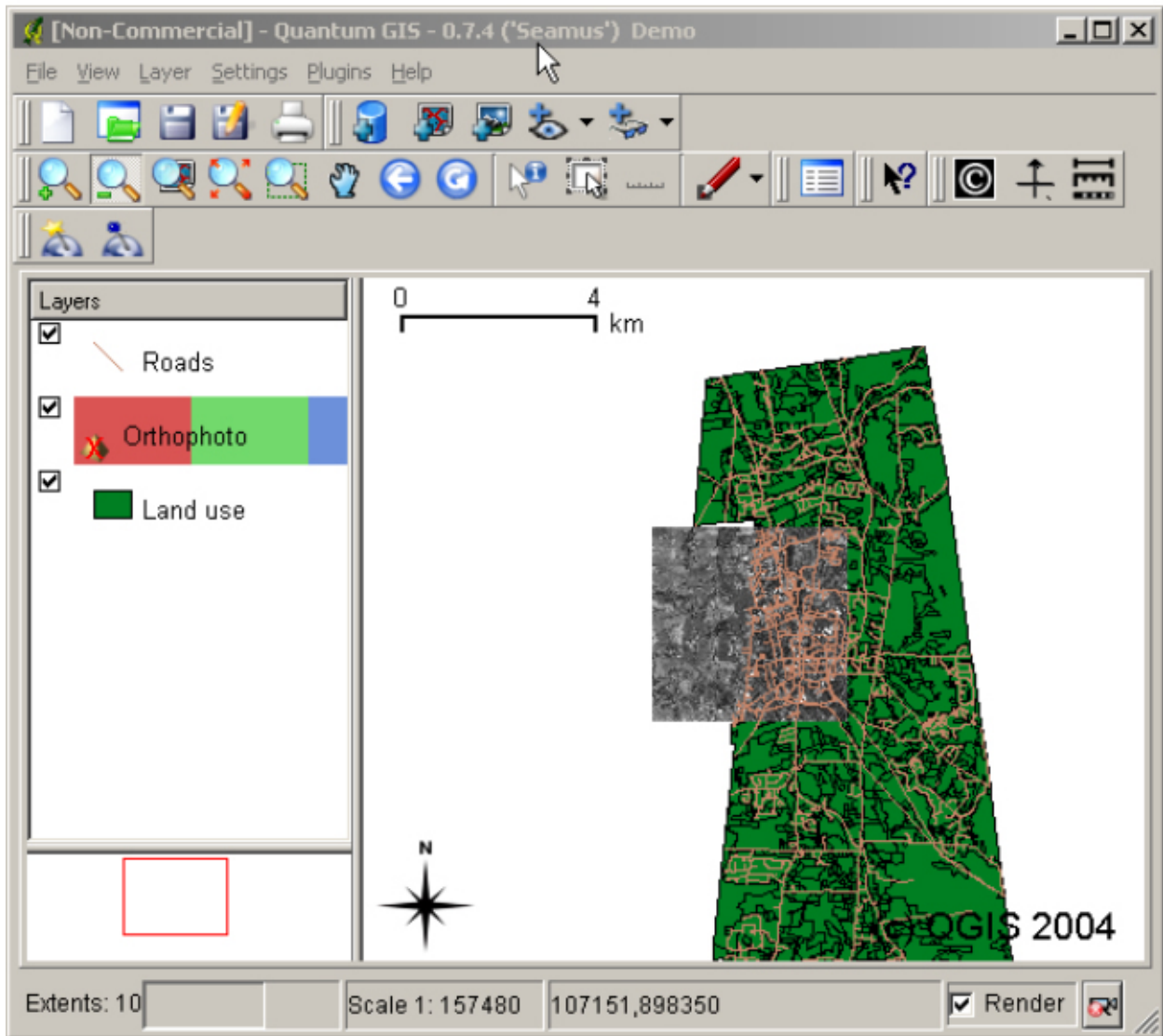


Figure 1: Ref

- Add "north arrow" and "copyright sign" (available as plug-ins)
 - Make this plug-ins available: Click "Plug-ins > Plugins Manager" and make "CopyrightLabel", "NorthArrow" and "ScaleBar" plugins available.
 - To insert north arrow symbol to a thematic map, click "Plugins > Decorations > NorthArrow". Specify


element's properties, location and angle. As you see the symbol was added to the map. You can also add a scale bar and copyright symbol.

- **Design a publishable map (printable map).**

- Start a print composer. Click “File > Print”. The map composer window will appear.
- Click the add new map button. Create a box at the location and of the size you would like the map to appear.
- Set paper size/page properties. For this demo we will use landscape letter size paper.
- Please spend some time studying the toolbar (enlarge the image below by clicking on it).



Figure 2: Ref

- The functions of tools (from left to right)
 - Open Template (not available initially)
 - Save Template (also not available yet)
 - Export as Image
 - Export as SVG (scalable vector graphics)
 - Print map
 - -----
 - Zoom in, zoom out, zoom to full extend and refresh
 - -----
 - Add new map
 - Add an image
 - Add new label
 - Add new vector legend
 - Add new scale bar
 - Select/Move item
-  **Add new map** : Click on the tool. Map element will appear in the layout. Please note that “Item” bar become active. Set parameters of the map such as a spatial extent, scale and dimensions.
-



Add a legend : Click on the legend tool . Legend will be added to the layout. Click on “Item” tab and

specify properties of the legend. Please note that legend includes only vector layers and doesn't include the orthophoto (which is questionable solution?).



Add a scale bar : Click on the scalebar tool . Allocate the scalebar on the map layout. Specify detail

parameters at the “Item” tab on the right side of the map composer window.



Add title : Click on the label tool . Change/specify text of the label at “Item” tab.

It seems that the map is ready. After this, your map should look like this

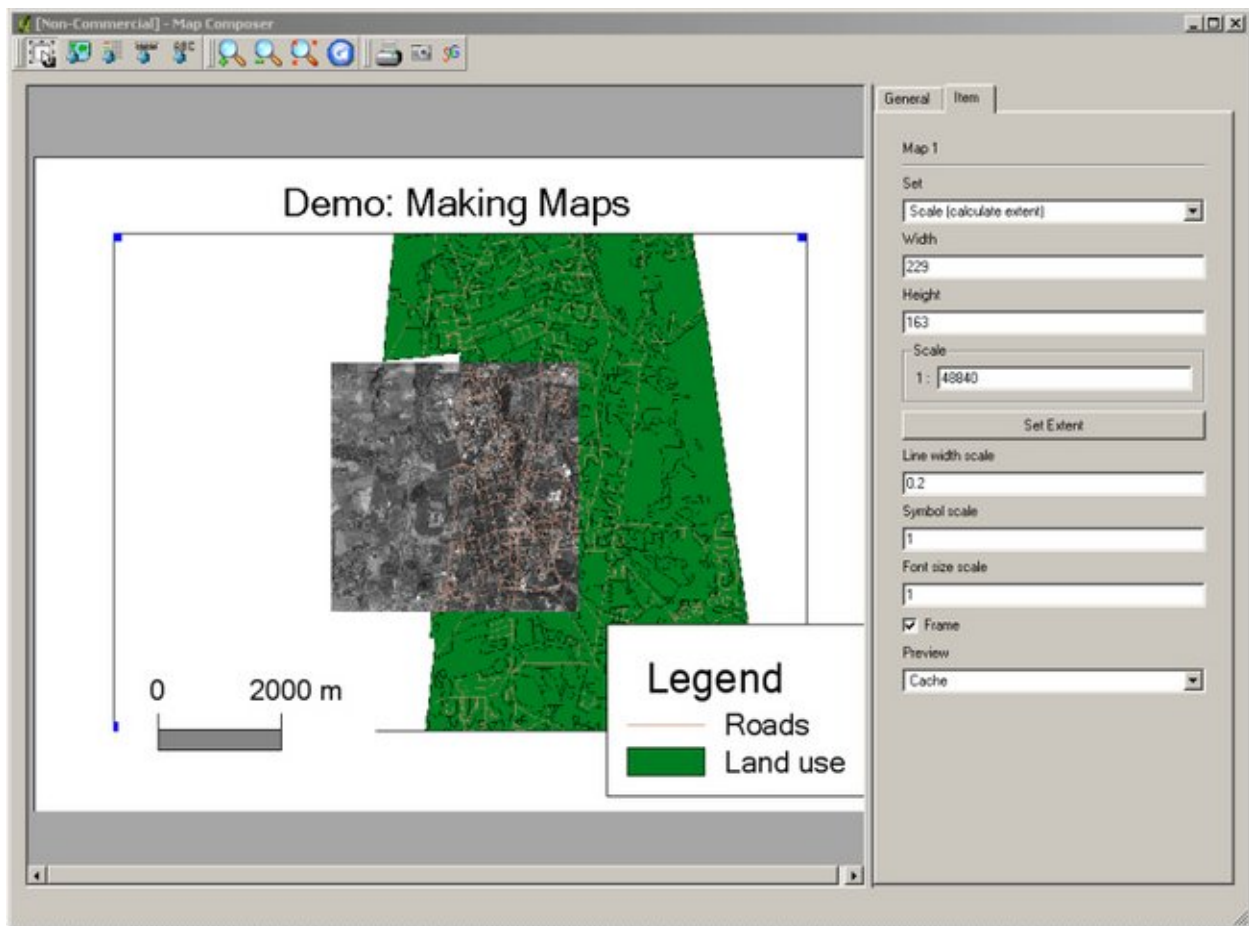



Figure 3: Ref

• **Save or print your map.**

- The preferable solution is to save the map as an image, as you can edit it later with some image processing application, such as Gimp, Photoshop, Fireworks, etc.

-  Click on the “Save as image” button.
- Specify name and location of the image.
- Try to open this image with external image editor/viewer or import the image into a word processor.