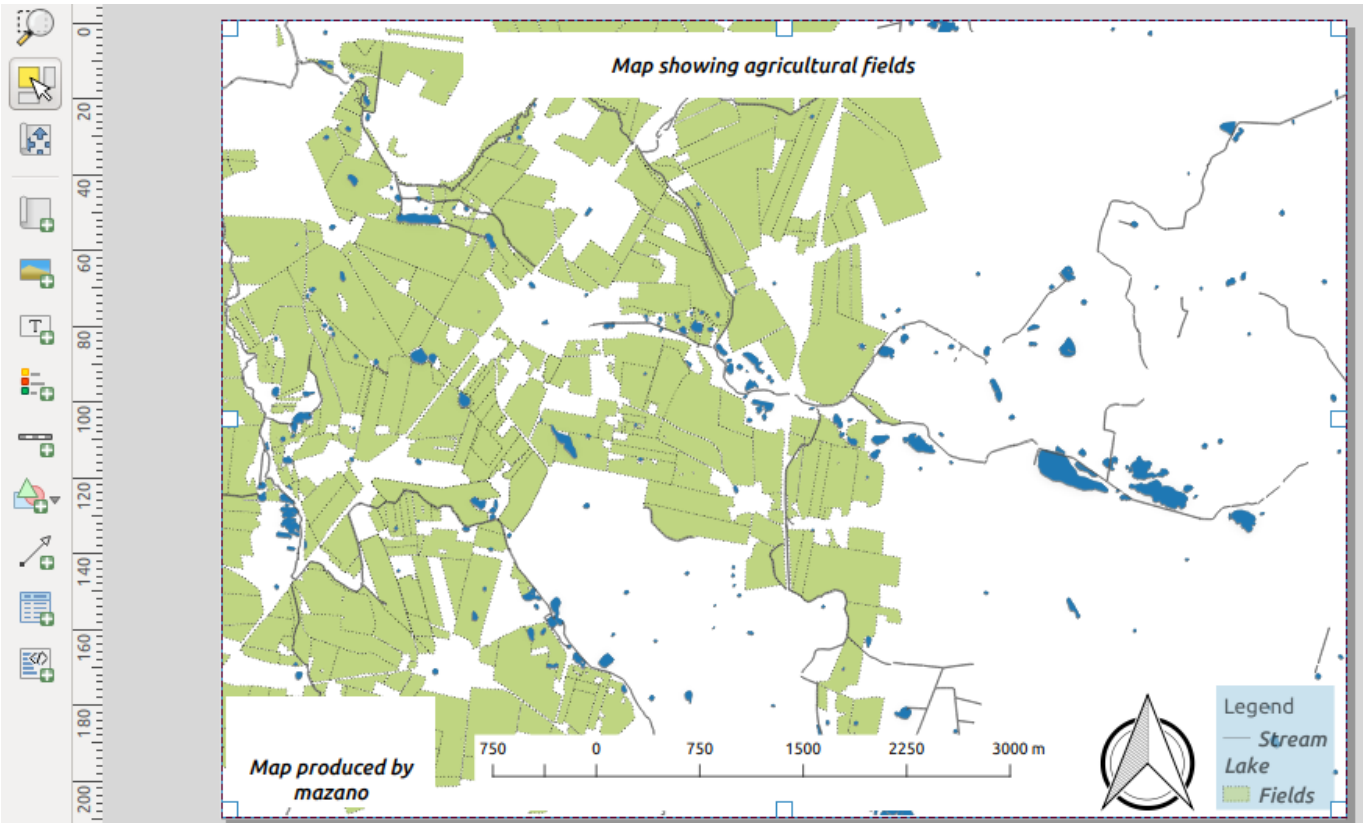
Section : . Composer

Module : . Scale Bar

Scale Bar in Context

"A map is a measuring product so the scale bar has to be a true reflection of the distance on the ground."

The functionality of maps is not limited to giving directions only; distances between two places can also be calculated on a map. A scale bar is labelled with its ground length, usually in multiples of map units, such as tens of kilometres or hundreds of miles.
In this module, we look at how to produce a map with an accurate scale that ensures distances can be correctly measured from the maps.



You try:

Goal: To produce a map from which measurements can be taken.

- Add the layers from the exercise folder.
- Change the projection of the layer to *EPSG:4326*
- Change the map scale to 1:25000.
- Using map composer add a map.
- Add a scale bar using the Map scale properties

Does the scale bar look correct, If not what is wrong?

- Activate the map.
- Navigate to QGIS and change the CRS of the project to the specified CRS.
- In map composer click Update Preview.

Why does the map disappear? How do you get it centred again, Is the scale bar still correct?

- Click set map to canvas extent. And set the scale to 25.000
- Change the scale bar from metres to km by using the Km scale.
- Why is it wrong to measure from the map where the scale is a ratio?

Name	Expectation
CRS	25832
Map scale	Style:Line ticks up
Km scale	Label multiplier: 1unit label:km

More about scale bar

Maps are extensively used around the world for direction but many cartographers also use them for measuring distances between different places. The distance between two places is affected by the coordinate reference system the map is produced in. Making a map for measuring distances should not be done in an unprojected coordinate system like EPSG:4326.

Check your knowledge:

1. What do you understand by the term projected data:
   a. *Data that you have been given by a client as part of a project.*
   b. *Data that has been acquired from a GPS and used in a GIS.*
   c. *A GIS dataset that has units in metres.*
2. Why does a map not show when you change the map projection in composer:
   a. *The GIS software becomes confused and there is no algorithm to edit that.*
   b. *The map extent changes between the different data sources and the scale will be wrong.*
   c. *The scale will be wrong and unusable in QGIS.*
3. Can a map be used as a measuring tool:
   a. *True*
   b. *False*

Module video tutorial:

- https://youtu.be/igF2qCI2t0g

Further reading:

- Print composer: https://docs.qgis.org/2.14/en/docs/user_manual/print_composer/print_composer.html
- Working with projections: https://docs.qgis.org/2.18/en/docs/user_manual/working_with_projections/working_with_projections.html
- Composer scale bar: https://docs.qgis.org/2.14/en/docs/user_manual/print_composer/composer_items/composer_scale_bar.html

Download the sample data for the lesson from http://changelog.qgis.org/media/images/lesson/worksheet/external_data/c901d7e28f58728aa1473e4aeaf2678a709a250c.zip.