

Documentation Draft – Map-Me

Introduction to Map-Me

Map-Me is a system for collecting ‘fuzzy’ spatial data from the public, to collect opinion on questions such as “where is good for...?”, “where do you feel...?” or “where do you find...?”. The system permits you to design a survey website, which can collect demographic information regarding your users, and then permits them to answer a number of spatial questions using the “spraycan” map interface within Google Maps.

The data that you collect will relate to a number of spatial ‘topic’ questions that users will answer by ‘spraying’ data onto the map, along with a number of aspatial questions which the user may respond to with text answers, in order to provide context to the patterns that they spray on the map.

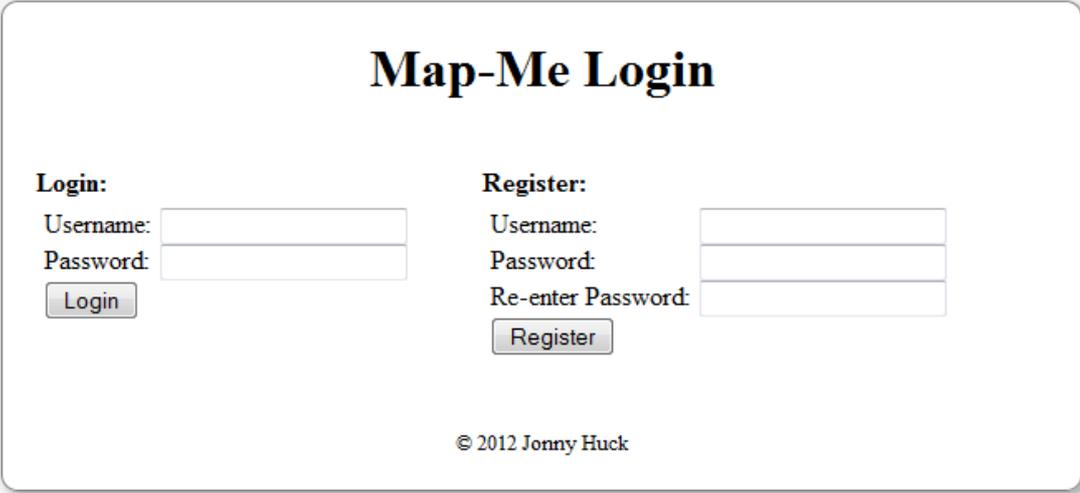
This document will demonstrate how to create an account with Map-Me, build your own Map-Me survey site, download your results, and then import those results into a variety of software for analysis.

Creating an account

In order to get started with Map-Me, the first step is to create a user account. This is very simple; all that is required is to go to:

<http://map-me.org>

Where you will be presented with the following form:

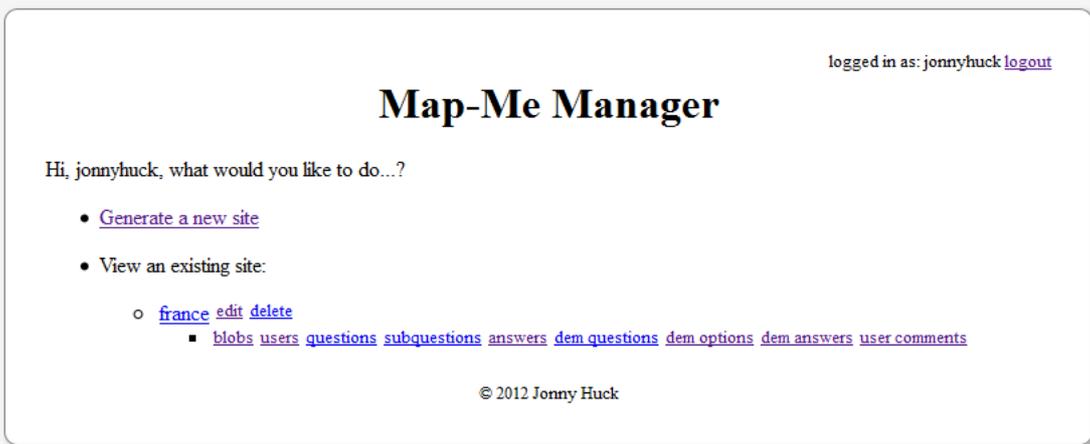


The image shows a web form titled "Map-Me Login". It is divided into two columns. The left column is for logging in, with fields for "Username:" and "Password:", and a "Login" button. The right column is for registering, with fields for "Username:", "Password:", and "Re-enter Password:", and a "Register" button. At the bottom center, there is a copyright notice: "© 2012 Jonny Huck".

If you have previously created an account, then you can simply log in to Map-Me using the “Login” form to the left. Otherwise, you can create yourself an account by writing your desired username into the “Username” box in the “Register” form, and

then adding your required password into the Password boxes and pressing “Register”.

This will create a user account for you in Map-Me, and forward you on to the “Map-Me Manager” which is your homepage. Here will be listed all of the sites that you have created, and a link allowing you to “Generate a new site”. Along with the list of sites, are links allowing you to edit or delete a site, and also to download various tables of data relating to your Map-Me sites. If you click on the name of one of your sites, it will take you to the site itself.



The screenshot shows the "Map-Me Manager" interface. At the top right, it says "logged in as: jonnyhuck [logout](#)". The main heading is "Map-Me Manager". Below this, it says "Hi, jonnyhuck, what would you like to do...?". There are two main bullet points: "Generate a new site" and "View an existing site:". Under "View an existing site:", there is a sub-bullet for "france" with links for "edit" and "delete". Below "france" is a list of links: "blobs", "users", "questions", "subquestions", "answers", "dem questions", "dem options", "dem answers", and "user comments". At the bottom center, it says "© 2012 Jonny Huck".

Creating a site

To create a site, click on the “Generate a new site” link in your “Map-Me Manager”. This will take you to the “Map-Me Generator”, which is the form that you fill in in order to create a new Map-Me site.



The screenshot shows the "Map-Me Generator" interface. At the top right, it says "logged in as: jonnyhuck [logout](#)". The main heading is "Map-Me Generator".

The first question relates to map data:

Would you like to include a KML data file on your map?

Filename:

If you want to add a KML data file to your map, then click on “Browse”, and select the relative file. Then press “Upload KML”. This will add the file to the Google Map (halfway down the page), and will zoom the map to the data.

You are then given the opportunity to write the “Title” for your welcome page, and to add some introductory text to your organisation and study.

What would you like to say on the welcome page?

Welcome Title:

Welcome Text:

Following this, you have the opportunity to load an image (normally your organisation’s logo), which will be displayed in the “welcome” and “thank you” pages of your websites. Simply click on “Browse”, and select an image file for the image you would like to use. The image will be displayed in the dimensions and resolution at which it is provided, so it is simple for you to control exactly what the image will look like on your site, by altering the image to your exact specifications using image processing software such as GIMP (available at <http://www.gimp.org/downloads/>) prior to uploading.

What logo / image would you like to use for your welcome & thank-you pages?

Filename:

The next step is to create questions relating to the demographic information that you would like to collect from your users (age, sex, occupation etc.). These questions will be presented to the users in a form on your welcome page, and come in two forms, free text entry, or radio buttons.

If you want to create a free text entry question, then simply enter your question, and leave the “Option” blank.

If you would like to create a radio button question, then simply fill the question into the “Question” box, and then your first option into the “Option” box. You can then click on the “add another option” link to add as many options as you like. Note that a “Not Given” option will be added to the start of your form, so you do not need to add a ‘null’ option yourself.

You can then click on the “add another question” link in order to add further questions (either free-text or radio button) until your demographic form is complete.

What demographic information would you like to collect?

A question with blank options will give a text box, a question with options will give radio buttons. Radio buttons will always have the "not given" option first, followed by the options you specify.

Question 1:

If you want this to be a radio button question, add your options here...

Option 1:

[add another option](#) [remove an option](#)

[add another question](#) [remove a question](#)

Next, it's time to set up the map as you want it to look on the page in your survey. Simply use the Google Maps controls in order to set up the map to the location and zoom level that you would like it to be set at when your users see it. If you elected to load in a KML data file at the start of this form, then you will see that the map will already be set to view the loaded data.

If you want to zoom to a specific place name or coordinate location, then simply type the name or coordinate pair into the text box immediately below the map, and click on "Go to Location".

Please set this map how you would like it to appear on your site...



Once you have set up your map, it is time to select a title and URL for your site. You can set the title of your site to anything that you like, but the URL name needs to be 10 characters or less, contain no spaces, and must not have been already taken by any other Map-Me Site.

Your URL name will be the name used in the address of the site that you are creating, in the form:

http://map-me.org/sites/[YOUR_URL_NAME]

So, for example, if you set your name to “test1”, then the web address of your site would be:

http://map-me.org/sites/test1

If you select a URL name that has been taken, then it will appear in red, available URL names will appear in green. It should also be noted that the address you choose here will not be editable in future, so choose carefully!

What would you like to call your website?

Page Title:

URL Name: *(no spaces, less than 10 characters)*

Next it is time to set up what the spray ‘paint’ will look like when users spray it on the map. To do this, simply move the ‘sliders’ up and down their scales to make the ‘blobs’ of paint larger or smaller (“Blob diameter”), and make the spread of ‘blobs’ larger or smaller (“Spray diameter”).

What would you like the spray to look like?

Blob diameter:



12

Spray diameter:



30

Now it is time to add your questions to the site. This interface is essentially the same as the one used to add the demographic questions. The main difference is the addition of the “What colour spray?” text box.

This time, your questions are divided into two sets; “Topic Questions”, which should be the spatial questions that users are answering by spraying on the map, and sub-questions, which should be specific questions that the users can answer with text input, in order to explain and contextualise their spray patterns.

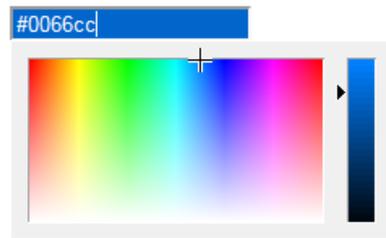
First, add your topic question (e.g. “where is...?”) to the “Topic Question” text box, and then click in the “What colour spray?” text box and select a colour from the colour picker that appears. This will be the colour that the ‘paint’ is for this question on your site. Then you simply add your text-based “subquestions”, by filling in the “Subquestion” text box, and then by clicking the “add another subquestion” link to add as many additional subquestions as are required. It is recommended that 3 or

fewer subquestions are used per question, though there is no limit on how many you can have.

When you have finished adding your subquestions, click the “add another topic question” question to add further questions as required. Empty question or subquestion text boxes will be ignored by the system, though they can be removed with their respective “remove” links.

What would you like to ask?

Topic Question 1: What colour spray?



Now add your sub questions...

Sub-Question 1:

[add another sub-question](#) [remove a sub-question](#)
[add another topic question](#) [remove a topic question](#)

When you have finished adding your questions, you can add a “thankyou” page that your users will see once they have completed the survey. As with the welcome page, you have the ability to add a title, and a main text entry, that may be used to thank your users, and perhaps to give some information regarding what will be done with the results of your survey.

What would you like to say on the thank-you page.

Thank-you Title:

Thank-you Text:

The last setting to determine is what will be done with the user once they leave your “Thankyou” page. You have the opportunity here to include a forwarding web address where the user will be sent to. If you leave it blank, then the user will be returned to the start of your site. Please note, that the full valid web address (starting `http://...` or `https://`) is required.

Where would you like the user to be taken to after they finish?

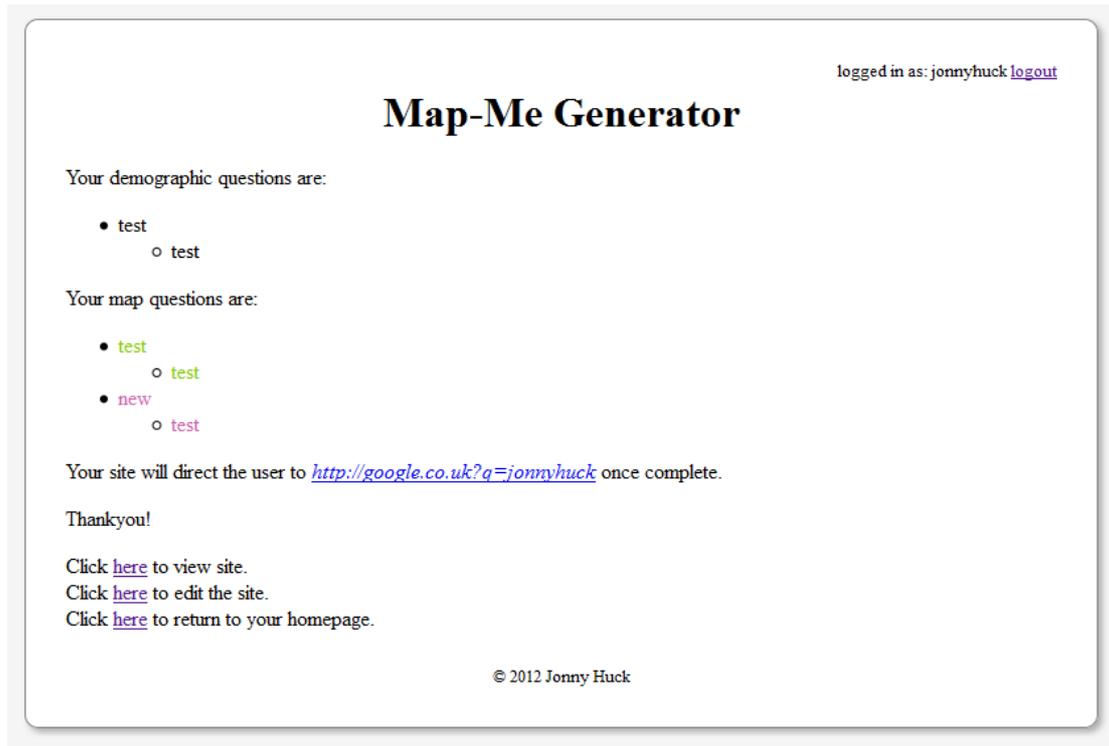
Web link: (remember to check that this works!! It should start with **'http://'** or **'https://'**)

Finally, when you are happy with your site, just click on the “Create Website” button.

Create Website

This will take you through to the “Review” page, which lists the demographic and survey questions that you have set in their respective colours.

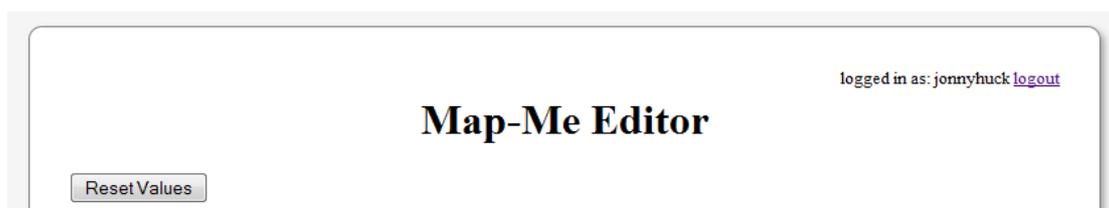
This page also gives you the choice to view your site, edit it, or return to your homepage, as well as test the address that your users will be forwarded to after they have completed your survey.



The screenshot shows the 'Map-Me Generator' interface. At the top right, it says 'logged in as: jonnyhuck [logout](#)'. The main heading is 'Map-Me Generator'. Below this, it lists 'Your demographic questions are:' followed by a bulleted list: '• test' with a sub-item '◦ test'. Then it lists 'Your map questions are:' followed by two bulleted items: '• test' with sub-item '◦ test', and '• new' with sub-item '◦ test'. Below the questions, it states 'Your site will direct the user to <http://google.co.uk?q=jonnyhuck> once complete.' It then says 'Thankyou!' and provides three links: 'Click [here](#) to view site.', 'Click [here](#) to edit the site.', and 'Click [here](#) to return to your homepage.' At the bottom center, it says '© 2012 Jonny Huck'.

Editing a site

You may make changes to a site, including adding or removing questions by clicking on the “Edit” button to the right of the site name in your sites list in the “Map-Me Manager”, or on the link at the bottom of the review page. This will take you to the “Map-Me Editor”, essentially a filled in version of the “Map-Me Generator”.



The screenshot shows the 'Map-Me Editor' interface. At the top right, it says 'logged in as: jonnyhuck [logout](#)'. The main heading is 'Map-Me Editor'. Below this, there is a button labeled 'Reset Values'.

You can use this Editor to change any part of your site except for the URL (which must remain the same). If you are unhappy with your changes, you may click on the

“Reset Values” button to return them to your saved values. When you are happy with your edits, click on “Update Website”.

[Update Website](#)

This will take you through to the “Review” page, as in the Generator, which gives you the choice to view your site, edit it again, or return to your homepage.

Deleting a site

You may delete a site by clicking on the “delete” link to the right of the site name in your list of sites, which will remove it from the Map-Me Manager.

Analysing Results

This section will walk you through how to download the data that has been generated within your Map-Me website. Some brief examples will then be provided as to how to import this data into some database, statistical, and GIS software for analysis.

In order to be as inclusive as possible, the examples given here will relate to free, open-source software packages that will operate across a multitude of different operating systems.

Downloading your results

When viewing your homepage, each site listed is followed by a number of links (below), relating to tables of data that may be downloaded from Map-Me.

- View an existing site:
 - [france](#) [edit](#) [delete](#)
 - [blobs](#) [users](#) [questions](#) [subquestions](#) [answers](#) [dem questions](#) [dem options](#) [dem answers](#) [user comments](#)

These links relate to:

- Blobs: all of the ‘blobs’ of paint that have been sprayed onto your map.
- Users: all of the people that have viewed your site.
- Questions: the spatial ‘topic’ questions that you set within your site.
- Subquestions: the specific questions set for each question within your website.
- Answers: the text answers that users submitted to your subquestions.
- Dem Questions: the demographic questions that you set to be answered by users prior to them proceeding to your map.
- Dem Options: the options relating to those demographic questions that you set that are radio buttons as opposed to text boxes.

- Dem Answers: the answers that users submitted to your deographic questions.
- User Comments: the comments users left relating to your website on the thankyou page (after they have finished).

Each link will download all of your data in a comma separated *.CSV file, which is a convenient format for data to be imported into a variety of database, statistical and GIS software. The following sections will describe how to add these data to some example software, including a spreadsheet application, a database application, and a GIS.

Introduction to LibreOffice

In their own words:

“LibreOffice is the power-packed free, libre and open source personal productivity suite for Windows, Macintosh and GNU/Linux, that gives you six feature-rich applications for all your document production and data processing needs.”

For the purposes of analysing data from Map-Me, the *Calc* and *Base* (similar in functionality to Microsoft’s *Excel* and *Access* packages respectively) applications from within LibreOffice will be used.

Further information is given at:

<http://www.libreoffice.org/>

Downloading LibreOffice

Operating system specific downloads and instructions are available at:

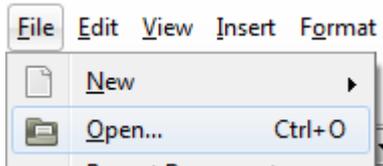
<http://www.libreoffice.org/download/>

Importing in to Calc

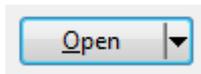
Calc is a spreadsheet application, similar to (and completely inter-operable with) Microsoft Excel. As such, CSV files can be opened natively. All that you need to do is to click on the open button:



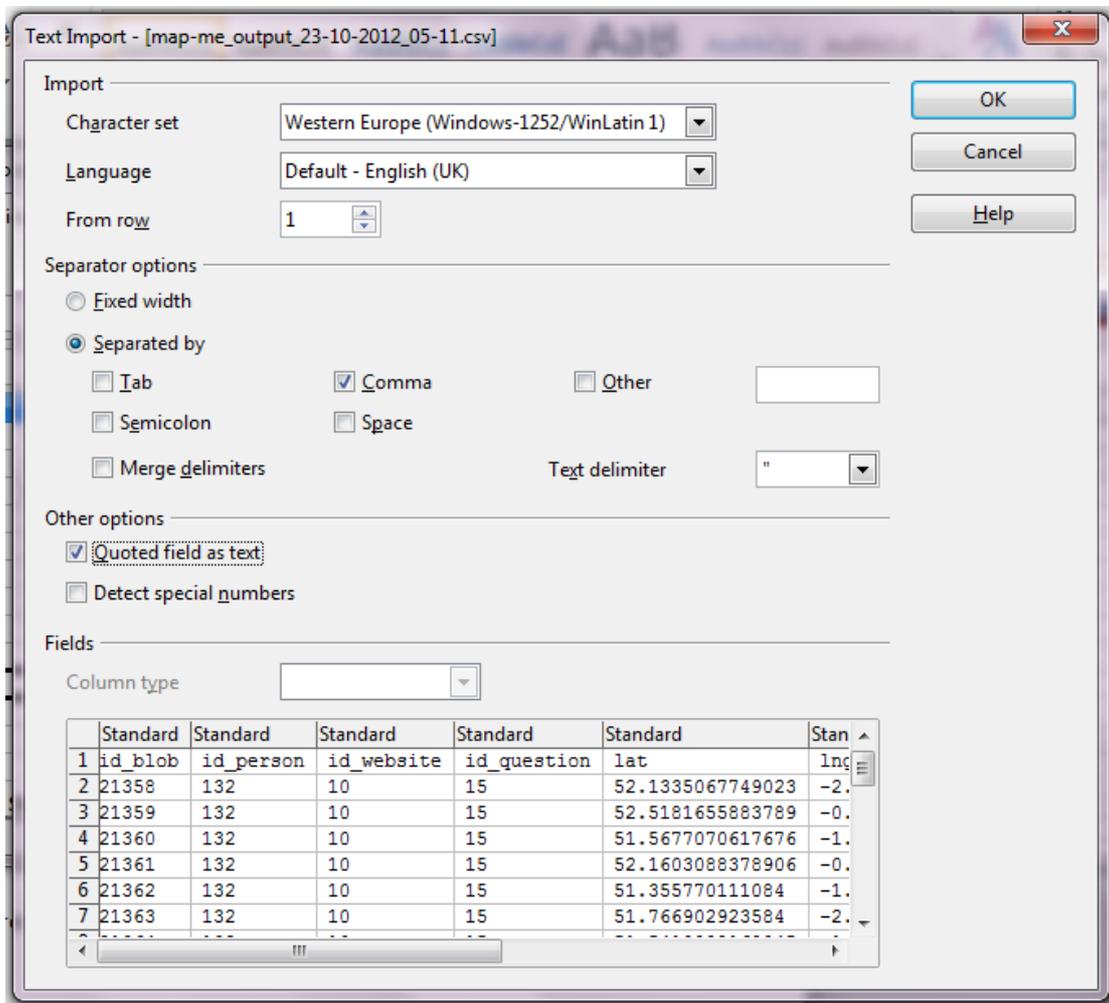
Or alternatively click on “Open” in the “File” menu.



This will open a standard “Open” dialogue, simply select your file downloaded from Map-Me, and press “Open”.



This will open the “Text Import” dialogue, which should be set up with the “Separated by” option selected, and the “Comma” checkbox ticked. Under “Other Options”, also check “Quoted field as text”, and then press “OK”.

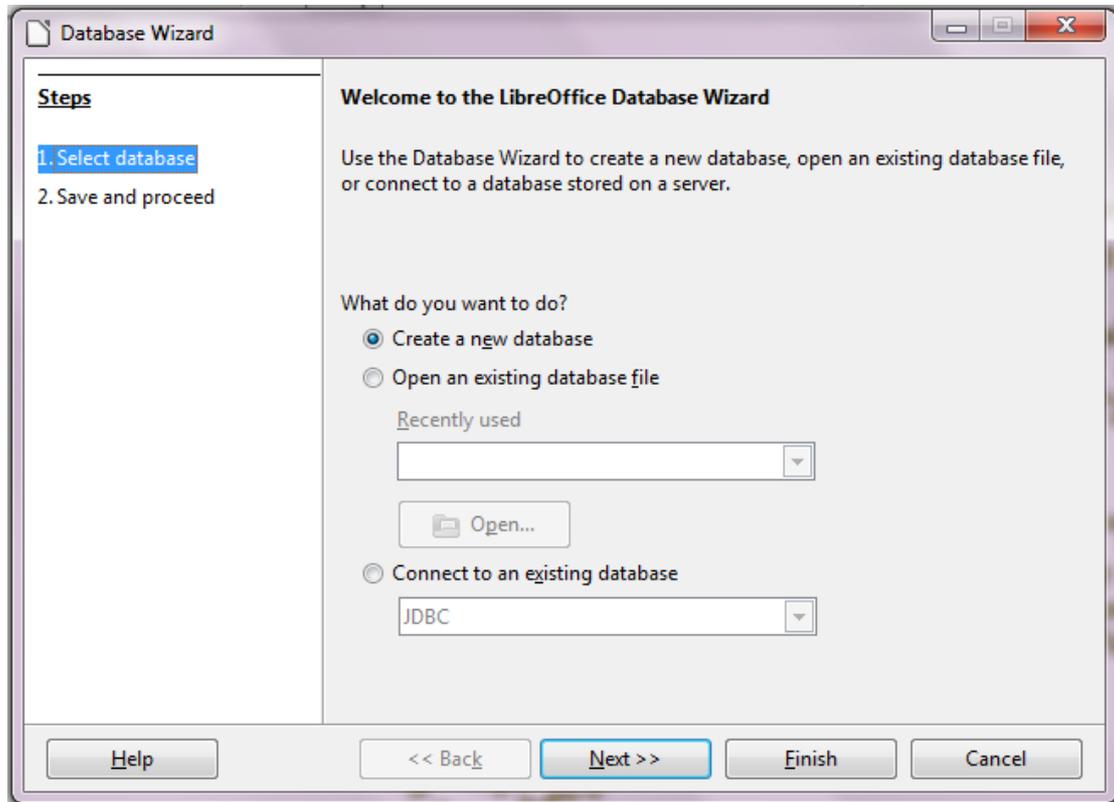


This will open the file in Calc for analysis.

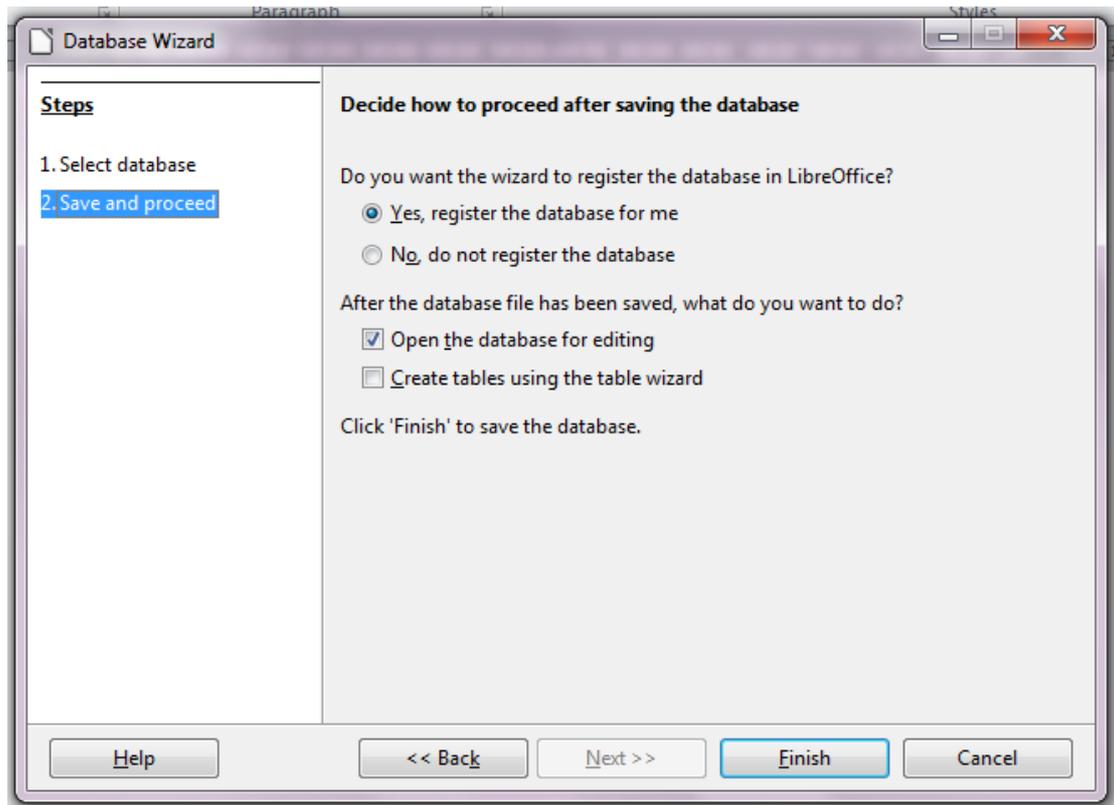
Importing into Base

Base is a database application, similar to Microsoft Access. It is possible to load all of the tables downloaded from Map-Me into a database file, and perform a multitude of queries upon them for analysis, or to create new CSV files to be used for analysis in Calc, QGIS or another application.

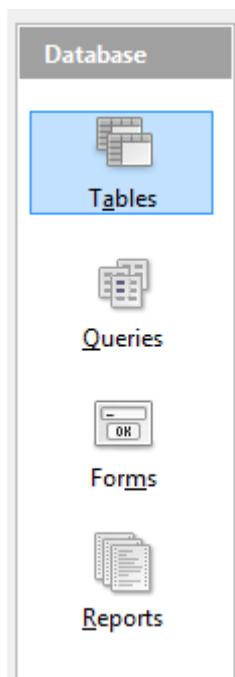
When you open Base, you are faced with the below “Database Wizard” dialog:



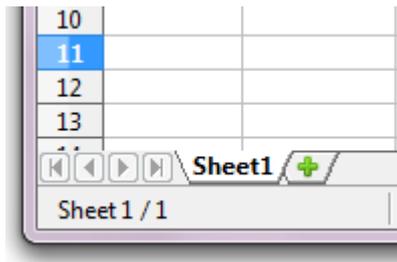
Leave the wizard set to “Create a new database”, and Click “Next”. This will move you onto page 2 of the wizard. Select “Yes, register the database for me” and “Open the database for editing”, then press “Finish”.



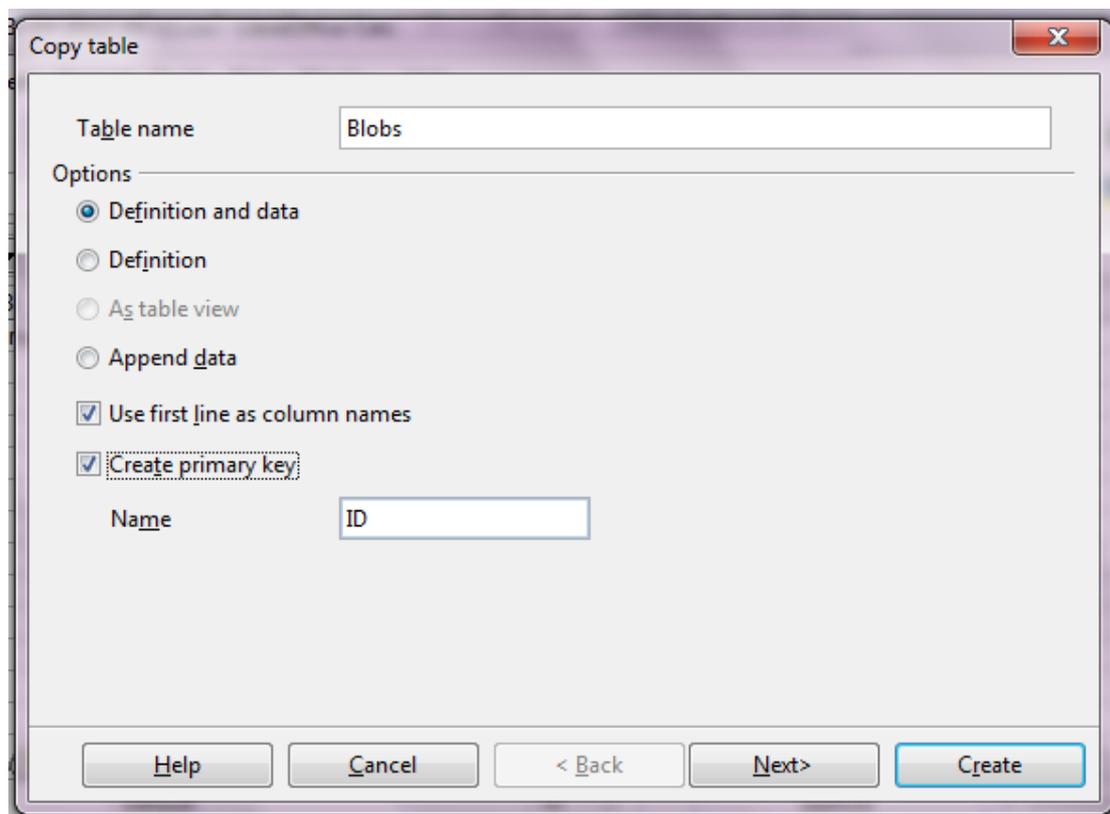
This will open Base with an empty database. Select “Tables” from the menu on the left.



Base does not currently have a text import facility, so the easiest way to open your data in Base is to first open it in Calc as above. Once it is open in Calc, click on the tab (labelled “Sheet 1”) in the bottom right hand corner, and drag it into the “Tables” box in Base.

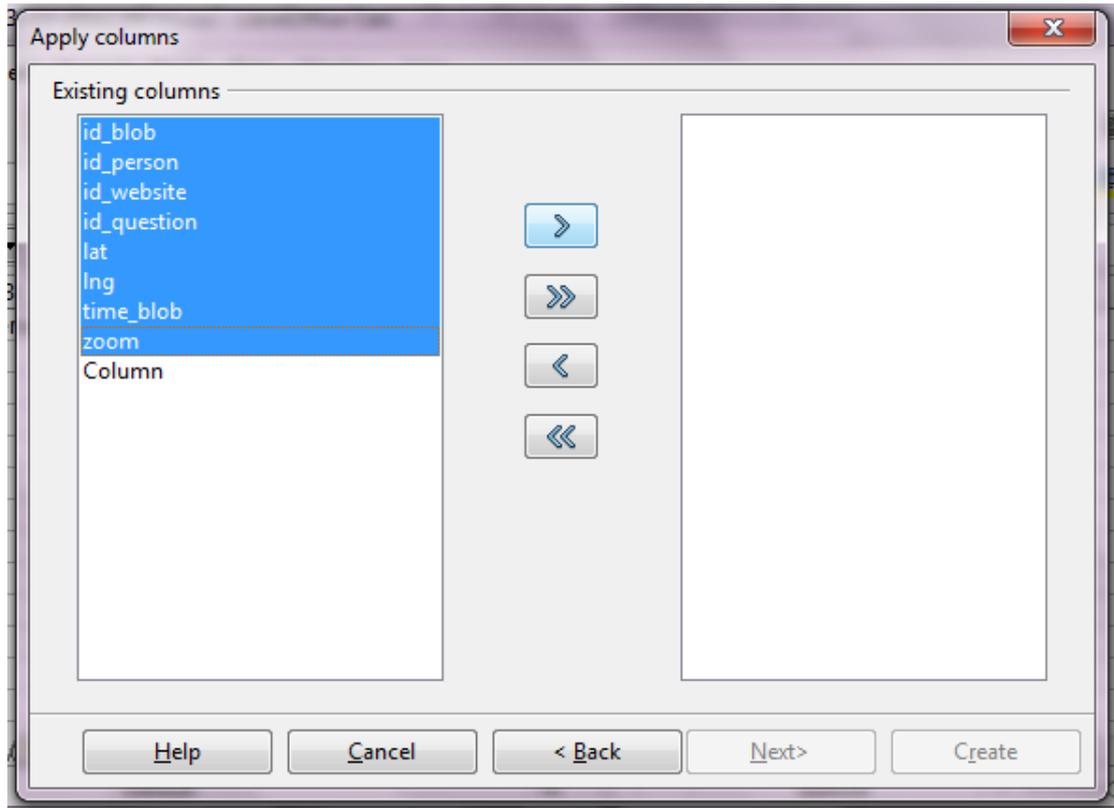


This will open the “Copy Table” dialogue:

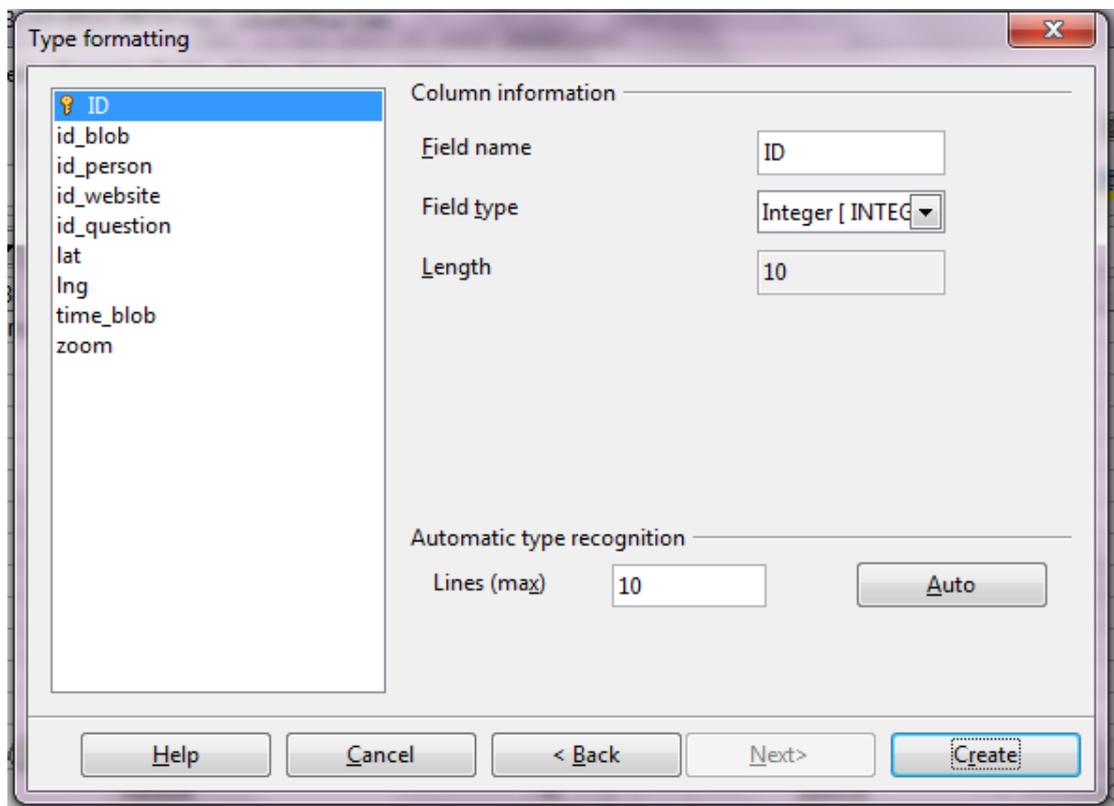


Name the table as you would like it to be referred to by Base, and Set the option to “Definition and Data” and check the boxes for “Use first line as column names” and “Create Primary Key”. Then press Next, which will move you to the “Ad Columns” dialogue.

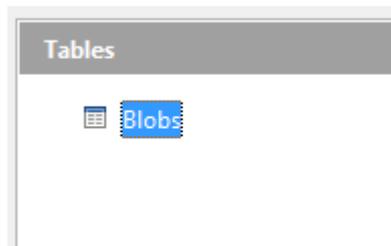
Here, you should move all of the columns (“Column” is not part of your data) into the table, by selecting them and pressing the top “arrow” button. Then press “Next”.



This will move you to the “Type Formatting” dialogue, where you must set the data type for each column.

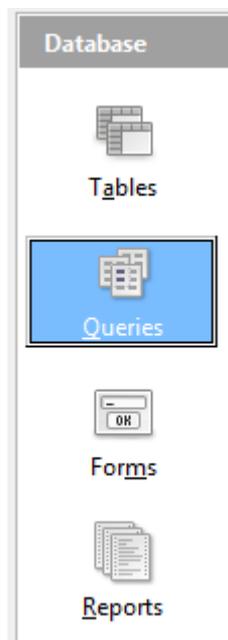


Once this is complete, click “Create”, and the table will be added to Base, as you can tell as it is listed in the “Tables” box.

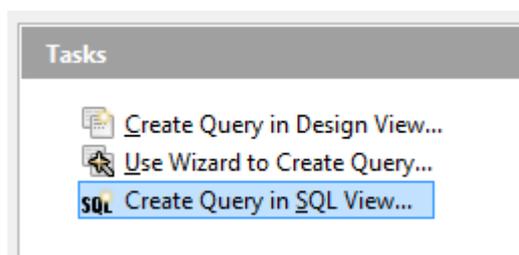


Working with data in Base

Once your data is loaded into Base, all that is required is to select the “Queries” option to begin subsetting and joining data.



There are options to create queries with a wizard or graphical designer, but it is recommended for full control that the SQL interface is used. In order to access this, simply click on the “Create Query in SQL View...” link in “Tasks”.



This will open an editor from which you may type in SQL commands, and run them by clicking on the “Run Query” button.



The results will be displayed above the query.

	ID	id_blob	id_person	id_website	id_question	lat	lng	time_blob	zoom
▶	1	21358	132	10	15	52.133	-2.4609	135059563032	5
	2	21359	132	10	15	52.518	-0.6873	135059563034	5
	3	21360	132	10	15	51.567	-1.1619	135059563038	5
	4	21361	132	10	15	52.160	-0.2350	135059563039	5
	5	21362	132	10	15	51.355	-1.1695	135059563042	5
	6	21363	132	10	15	51.766	-2.2389	135059563042	5
	7	21364	132	10	15	51.541	-1.5046	135059563043	5
	8	21365	132	10	15	51.589	-1.1905	135059563044	5

Record 1 of 41 *

```
select * from Blobs;
```

Queries can be saved by pressing the “Save” button.



Introduction to QGIS

In their own words:

“Quantum GIS (QGIS) is a user friendly Open Source Geographic Information System (GIS) licensed under the [GNU General Public License](#). QGIS is an official project of the [Open Source Geospatial Foundation](#) (OSGeo). It runs on Linux, Unix, Mac OSX, Windows and Android and supports numerous vector, raster, and database formats and functionalities.”

Further information is given at:

<http://www.qgis.org/>

Downloading QGIS

Information regarding how to download QGIS for a wide variety of operating systems is given here:

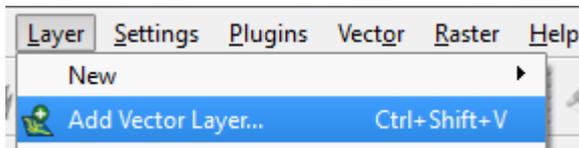
<http://hub.qgis.org/projects/quantum-gis/wiki/Download>

Importing into QGIS

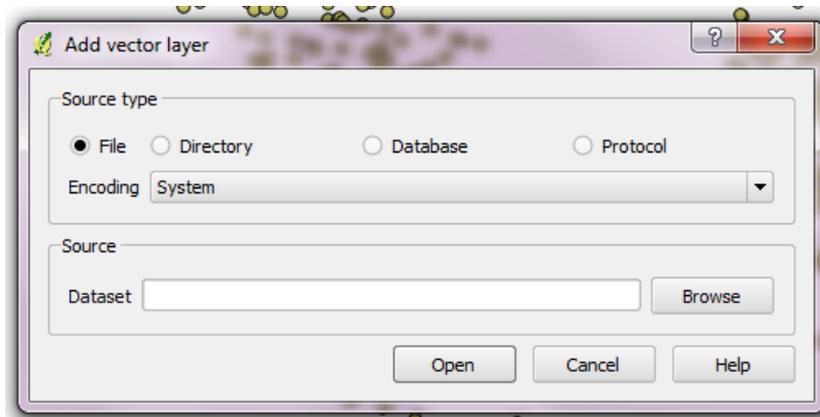
Any GIS can normally open or import a CSV file with ease, and QGIS is no different. If the CSV represents spatial data, there is a plugin available within QGIS that will handle the import for you. If the data is not spatial, then QGIS can simply open the table natively, by simply clicking on the “Add vector layer” button:



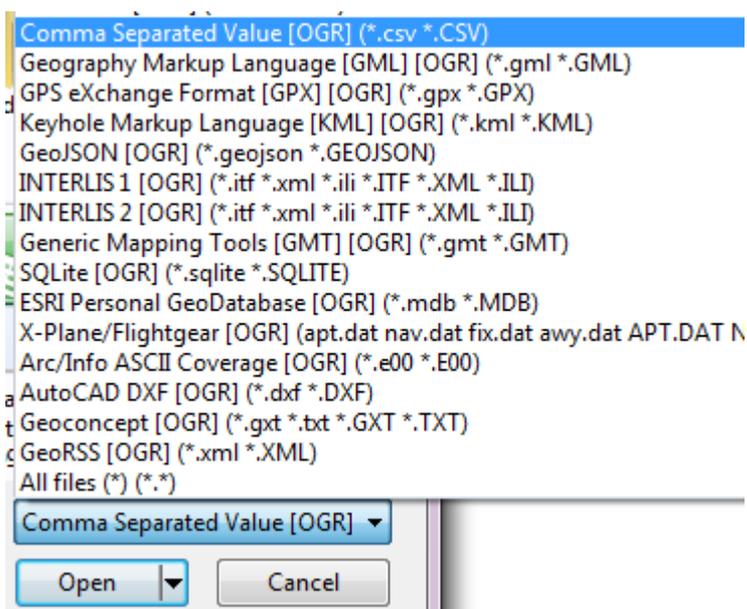
Alternatively, this can be achieved by selecting “Add Vector Layer” in the “Layer” menu.



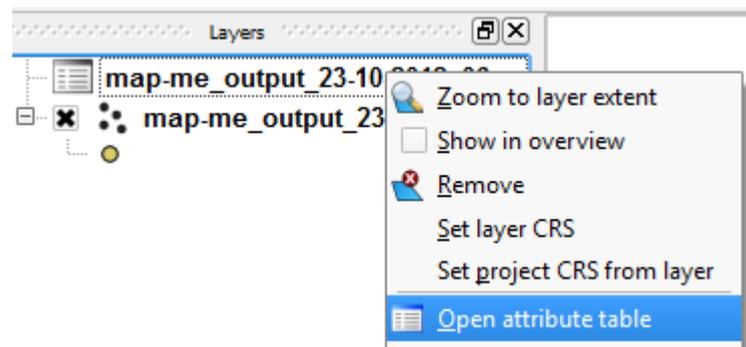
This will open the “Add Vector Layer” dialogue, simply click on “Browse” in order to open the “Open” dialogue.



In the “Open” dialogue, set the file type to “Comma Separated Value”, and select the file that you wish to open. Once selected, then click on “Open”.

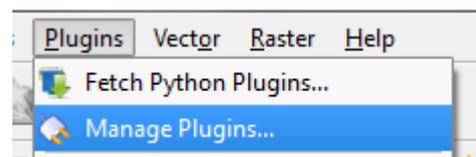


This will add the non-spatial dataset to the “Layers” list on QGIS. The data can be viewed by right clicking on the layer in the “Layers” list, and select “Open attribute table”.

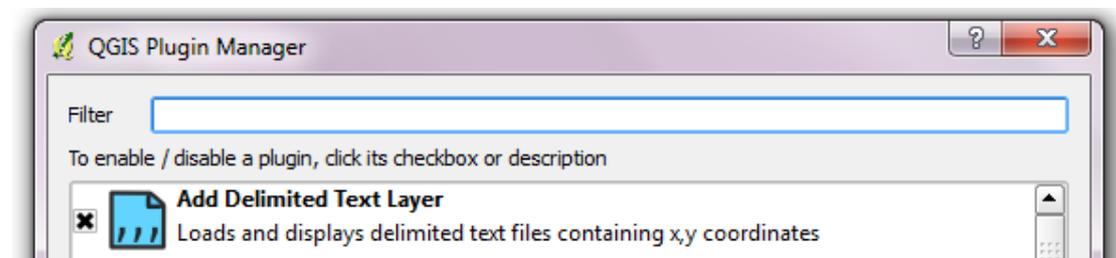


Activating the Plugin

If you have yet to use this plugin, then the first step is to turn it on. In order to do this, simply go to the ‘Plugins’ menu at the top of the screen, and click on the ‘Manage Plugins’ option.



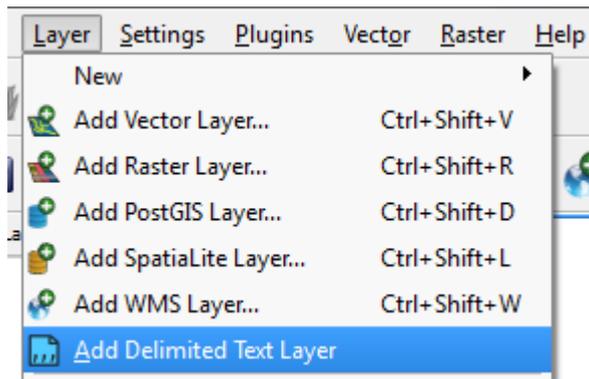
This will provide you with the below dialogue:



And all you need to do is add click on the checkbox to the left of “Add Delimited Text Layer”, and then press “OK”. Once you have pressed “OK”, the dialogue will disappear and an icon will have been added to the toolbar.

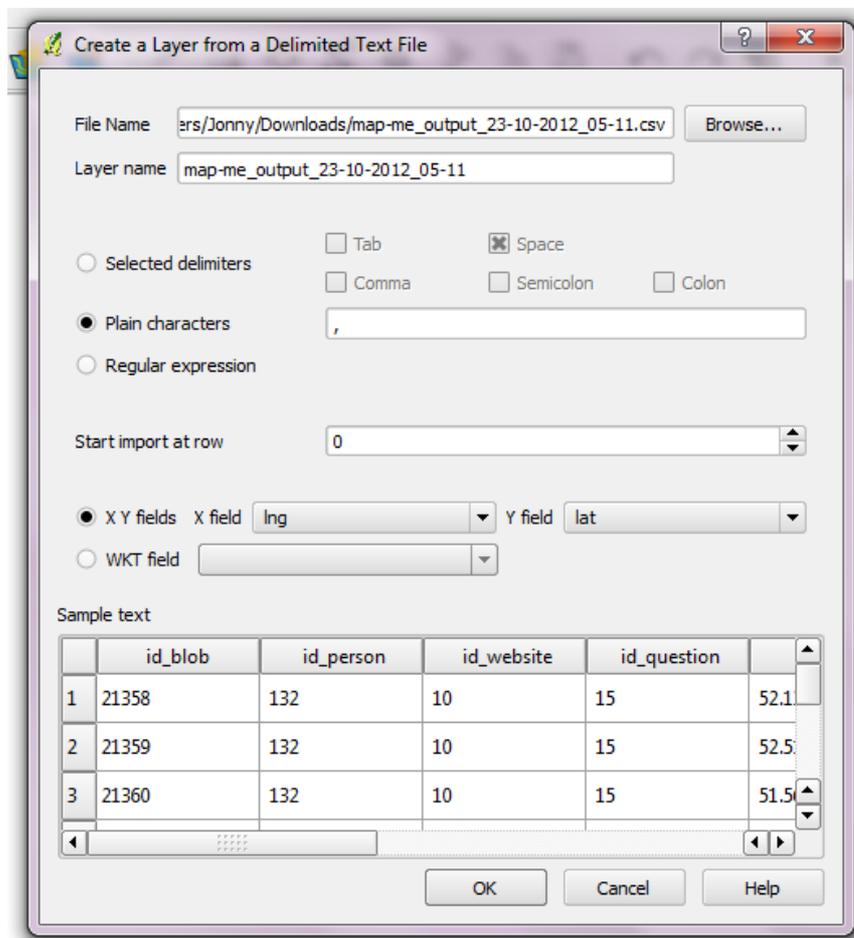


You will also notice that if you go to the “Layer” menu at the top of the screen, an extra option called “Add Delimited Text Layer”, with the same blue icon has been added.



Adding your CSV data

Now that this is complete, all that you need to do is click on the blue button in the toolbar, or on the “Add Delimited Text Layer” option in the “Layer” menu. This will open the below dialogue:

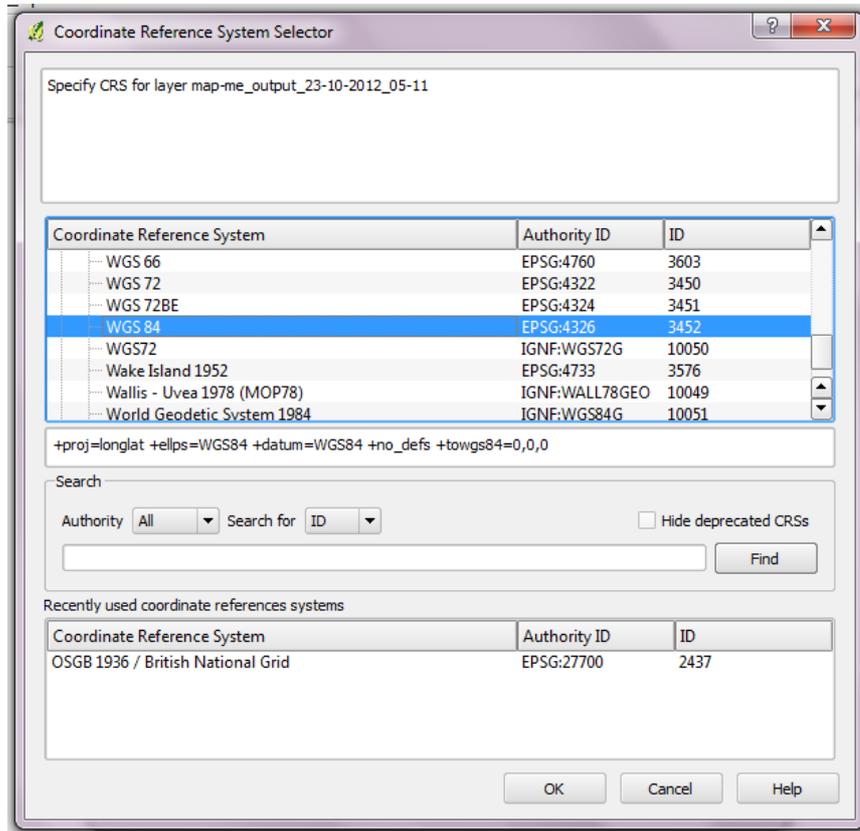


This will initially be blank, and the first thing to do is click on “Browse” and select your downloaded map-me file. QGIS will then populate as many of the fields in the dialogue as it can, which may be adjusted by you as required:

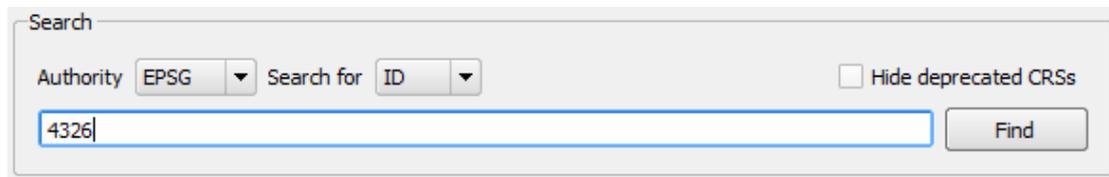
- **Layer name:** should contain the by which the GIS will refer to your data.

- Select **Plain Character**, and set to “,”.
- Set **“Start import at row”** to 0
- Select **“X Y Fields”** and set “X field to “lng” and Y field to “lat”.

Then press “OK”. This will open another dialog called “Coordinate Reference System Selector”. This should be set to WGS84, and it is likely that QGIS will set it to this for you. If this is the case then simply press “OK”.



If the Coordinate System is not set to “WGS84”, then go to the “Search” section of the dialogue, and set “Authority” to “EPSG”, “Search for” to “ID” and then type “4326” into the text box and press “Find”.



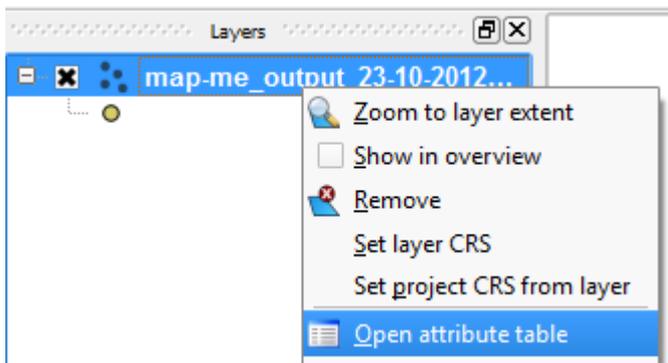
This will set the “Coordinate Reference System” to “WGS84. Then just press “OK”.

Once you have pressed “OK”, then QGIS will open the layer, which should appear in the “Layers” list using the name that you specified.



Viewing the data

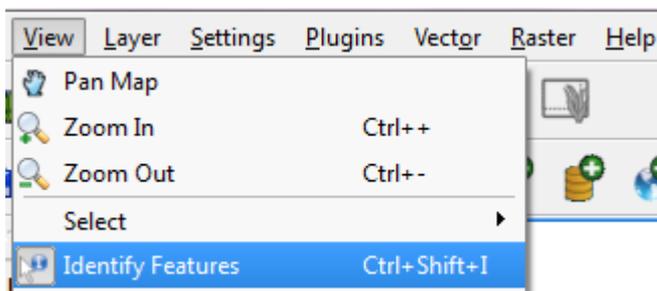
Now the layer is fully registered within the GIS for analysis. Right clicking on the layer and then clicking on “Open attribute table” will allow you to view the whole “Attribute table” of data.



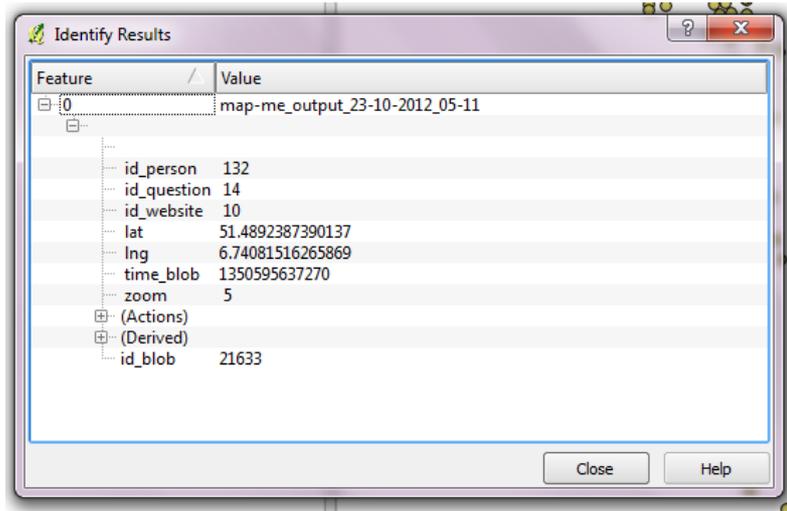
Attribute table - map-me_output_23-10-2012_05-11 :: 0 / 596 feature(s) selected

	id_blob	id_person	id_website	id_question	lat	lng	time_blob	zoom
0	21358	132	10	15	52.1335067749023	-2.46093726158...	1350595630320	5
1	21359	132	10	15	52.5181655883789	-0.68737363815...	1350595630340	5
2	21360	132	10	15	51.5677070617676	-1.16194665431...	1350595630382	5
3	21361	132	10	15	52.1603088378906	-0.23508188128...	1350595630390	5
4	21362	132	10	15	51.3557701111084	-1.16952061653...	1350595630421	5
5	21363	132	10	15	51.766902923584	-2.23896288871...	1350595630428	5
6	21364	132	10	15	51.5419998168945	-1.50465893745...	1350595630435	5

Alternatively, you can click on the “Identify feature” tool in the toolbar, or the “Identify Feature” option in the “View” menu at the top of the screen.

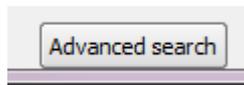


If you then click on any one of the ‘blobs’ of data in the map window, you will be able to see the data associated with that particular data point.



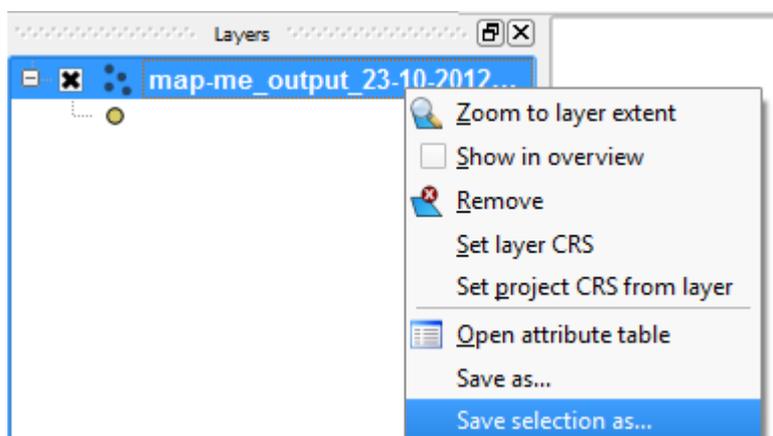
Sub-setting the data

It may be the case that you only want to view some of the data that you have analysed. In this case, you can select the data that you are interested in by entering the “Attribute Table” (as above), and click on the “Advanced” button in the bottom right-hand of the table.



This will open a dialog that will allow you to build up an SQL query in order to determine exactly what subset of data you would like to view. It is beyond the scope of this document to demonstrate SQL queries here, but an internet search will provide a multitude of examples and tutorials.

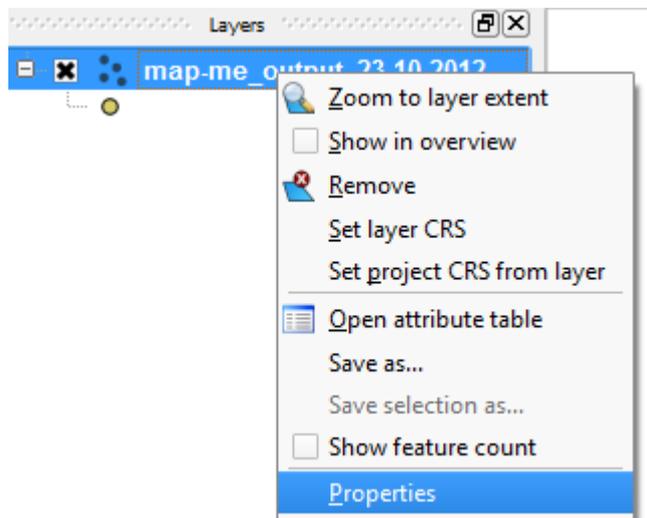
Once selected, you can then right click on the layer in the “Layers” list, and select “Save selection as” if you wish to export your selection to a GIS layer for later use.



Joining multiple tables of data

For some more complex analyses, you may wish to join together two or more of the tables downloaded from Map-Me, in order, for example, to compare the answers to your questions that were given by a specific user, and where they sprayed.

In this case, all that you need to do is right click on the layer in “Layer Control” and select “Properties”.



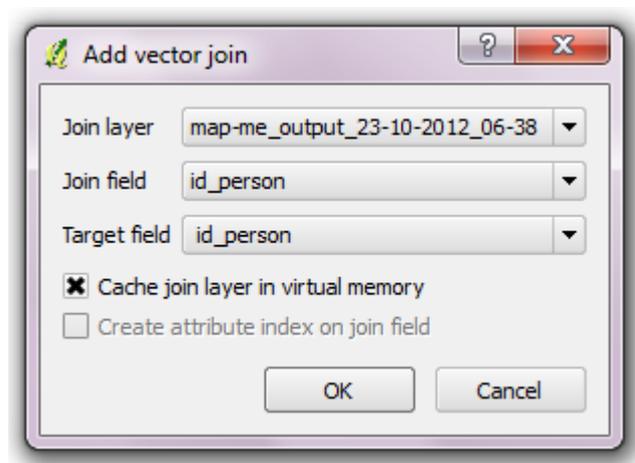
This will open the “Properties” dialogue, and you should go to the “Joins” tab:



Then click on the “+” button:



This will open the “Add Join” dialogue:



All that is required is to select the fields upon which you would like QGIS to join the data, and select these in Join field, and Target field. In order to assist with this, all of the ID's within Map-Me data are named by the convention 'id_[table]', and so the names of corresponding fields will always match between tables. Then press "OK", and "OK" again on the "Properties" dialogue.

If you then open the attribute table of the table that you joined the second table to, then you will see that it now contains all of the fields of both tables.

Creating KML data

Downloading Google Earth

Google Earth is a virtual globe, map and geographical information program. It is free to download the standard version, and it is compatible with a wide variety of operating systems. If you do not already have Google Earth installed on your machine, it can be downloaded from:

<http://www.google.com/earth/index.html>

Simply download and run the installer.

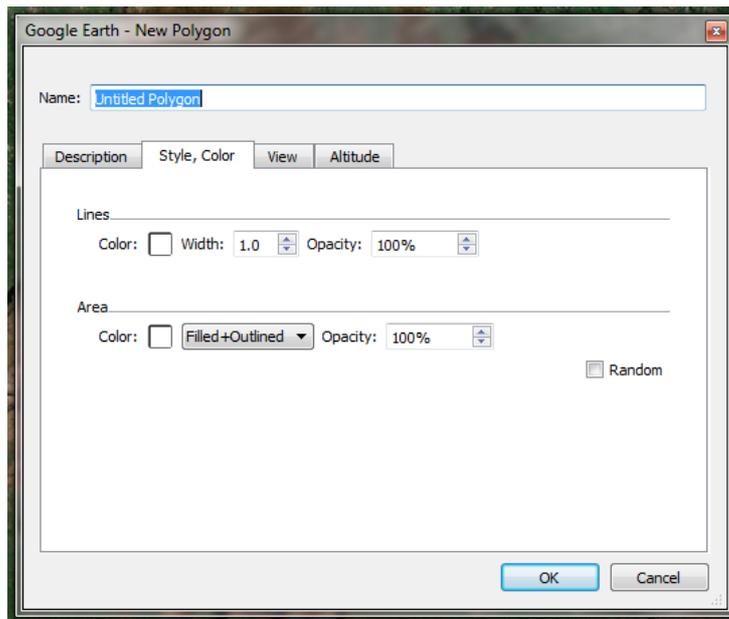
Digitising KML data using Google Earth

KML (Keyhole Markup Language) is the native format of Google Earth, and as such it is very simple to create KML data from within Google Earth.

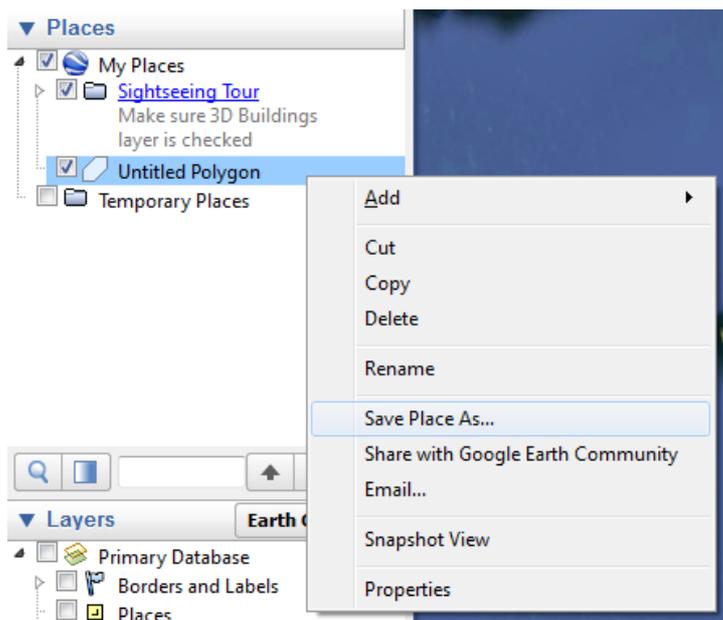
Simply navigate the map to your required location, and press one of the "digitize" buttons to create either a point, line or polygon shape on the map:



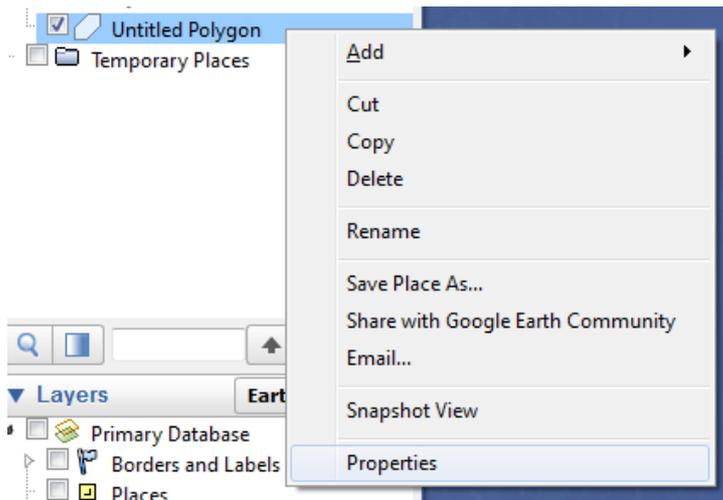
Simply draw the required data onto the map, and set the name and colours / symbols required for your data in the "Style, Color" tab of the "Properties" window that opens.



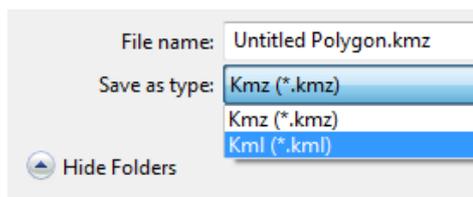
Once you have finished, simply press “OK” and your data will appear in the “Layers” list to the left of the screen.



If you want to make any adjustments to the style of your layer, simply right-click on it in the “Layers” list, and click on “Properties”, which will re-open the “Properties” dialogue.



To export the data to a KML file, right click on the layer in the “Layers” list, and click on “Save Place As”. This will open a standard “Save As” dialogue, simply select the location and name of your file, and change the “File Type” to KML (*not* KMZ, which is the default).



Click “Save”, and this will create a KML file ready to upload to Map-Me.

Converting data to KML using QGIS

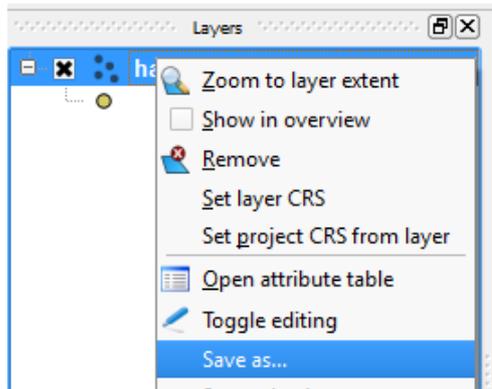
If you already have GIS data in a different format to KML (e.g. an ESRI Shapefile, or MapInfo TAB), then it is simple to convert using QGIS.

The first step is to load the data to QGIS, by clicking on the “Add Vector” button.

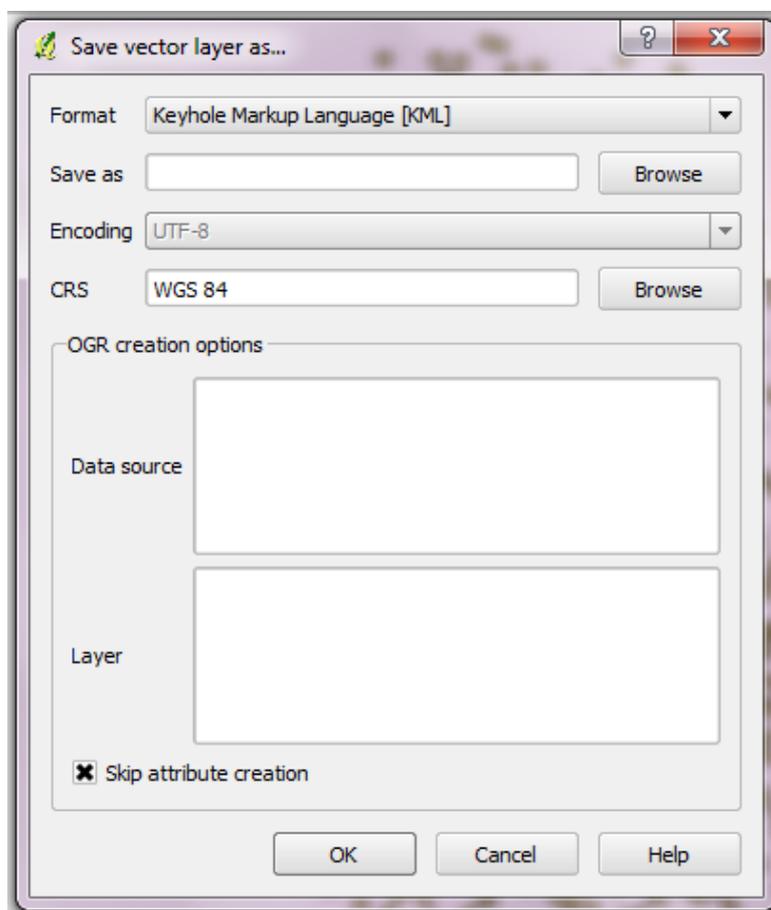


This will provide you with a standard “File Open” dialogue, within which you are able to select your data and click “Open” to load it into QGIS. The layer will now be listed in the “Layers” list.

All that is then required is to right-click on the layer, and click on “Save As”.



This will open the “Save vector layer as...” dialogue. Set “Format” to “Keyhole Markup Language [KML]”, CRS to “WGS 84”, check the box next to “Skip attribute creation” and click on the “Browse” button for “Save as” and select the location and name for the KML file. Finally press “OK”.



A file suitable for uploading to Map-Me will then be created. It is recommended to add any required styles to this file in Google Earth prior to uploading.