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Labs for prototyping future mobility data sharing solutions in the cloud

Data Access Services D.4.6

Renee OBREGON, AKKODIS

MobiDataLab is funded by the EU under the H2020 Research and Innovation Programme (grant agreement No 101006879)

Access via QGIS

Access mobility data and learn about available basic tools.

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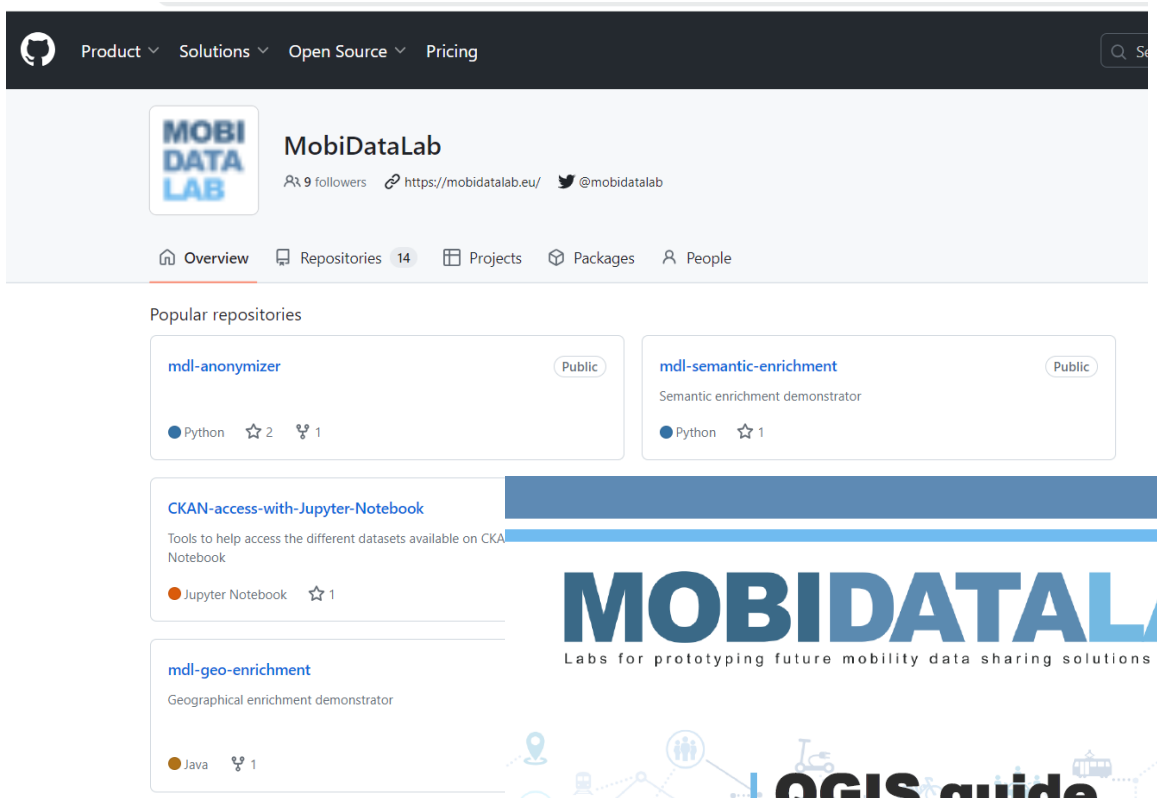
GitHub:

https://github.com/MobiDataLab



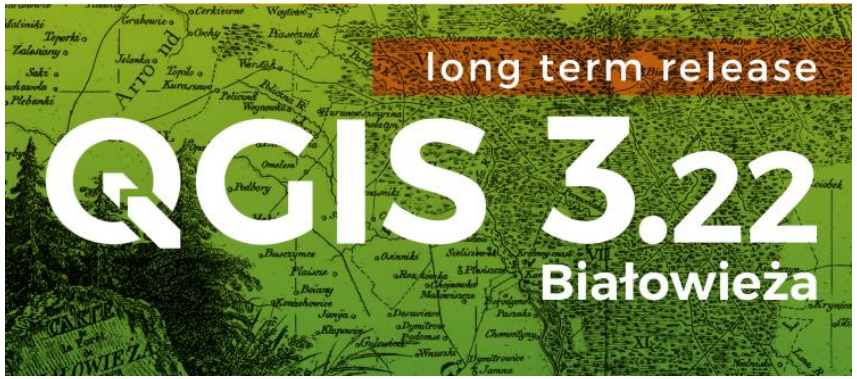
- QGIS guide
  - Guide to access mobility data and learn about available basic tools on QGIS. It provides information about how to access the CKAN and the GeoNetwork catalogues of MobiDataLab.

QGIS

QGIS is a user-friendly Open Source Geographic Information System (GIS) that runs on Linux, Unix, Mac OSX, and Windows. QGIS supports vector, raster, and database formats. QGIS is licensed under the GNU General Public License. QGIS lets you browse and create map data on your computer. It supports many common spatial data formats (e.g. ESRI ShapeFile, GeoTIFF). QGIS supports plugins to do things like display tracks from your GPS. QGIS is free of cost.

QGIS Installation

1. Download QGIS
   (it is recommended to select the long-term release : currently 3.28 LTR)
2. Follow the installation instructions
3. Launch the program
   QGIS DESKTOP 3.28



Catalogue Services for the Web (CSW) & GeoNetwork access

GeoNetwork opensource

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MetaSearch

MetaSearch is a QGIS plugin to interact with metadata catalogue services, supporting the OGC Catalogue Service for the Web (CSW) standard. MetaSearch provides an easy and intuitive approach and user-friendly interface to searching metadata catalogues within QGIS.

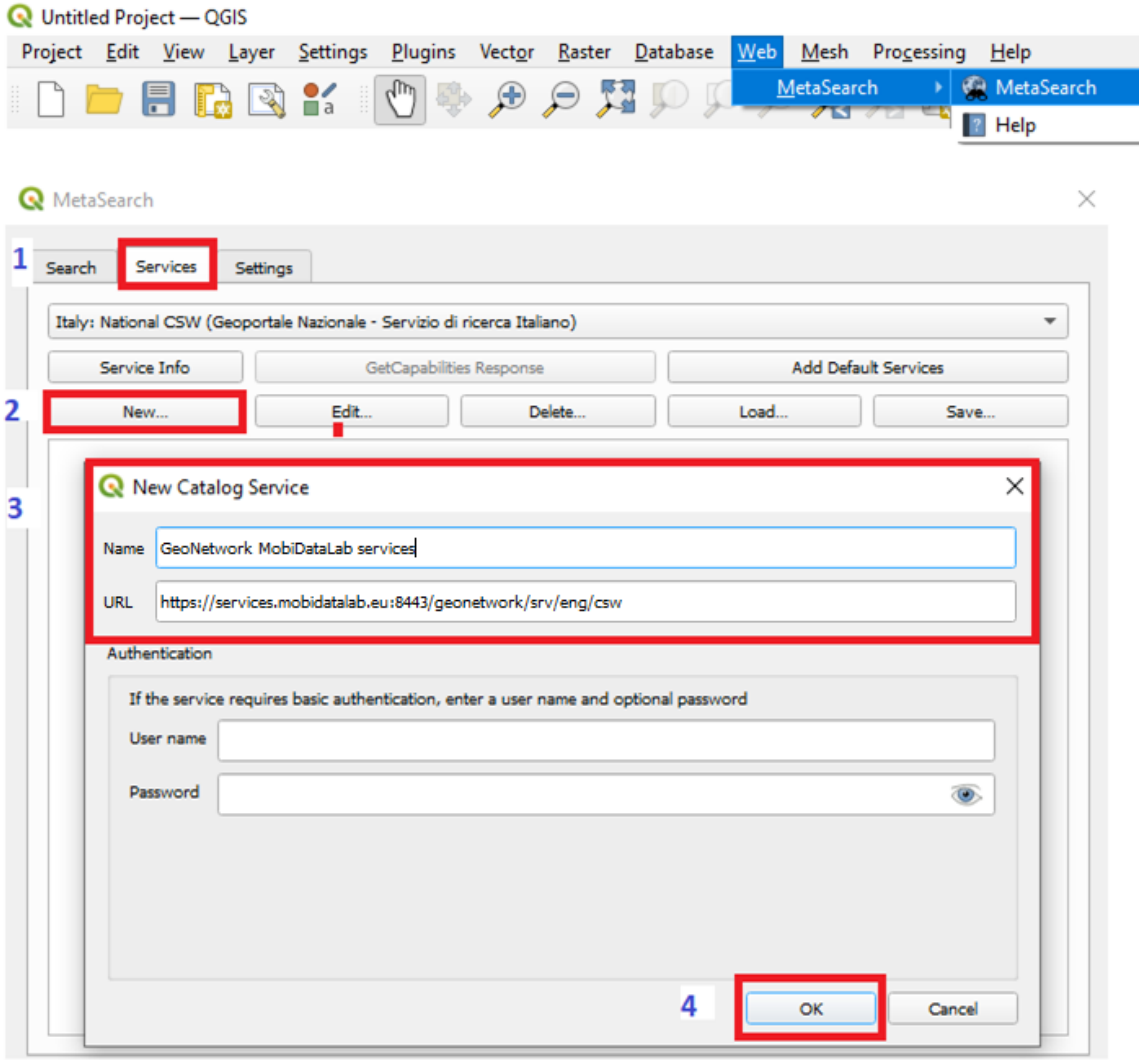
Qgis built-in tool for MetaSearch

Launch the MetaSearch tool

1. Consult the “Web Menu” (on top of the Qgis menu) and select MetaSearch and then MetaSearch again.

Add the Catalog Web Service (CWS)

1. Click on the “Services” tab
2. Click on “New”
3. Add the CWS URL (https://geonetwork.mobidatalab.eu/GeoNetwork-4.0.5-0/srv/eng) on the “Service” tab, assign a name to the portal and save it.
4. Click on “OK”



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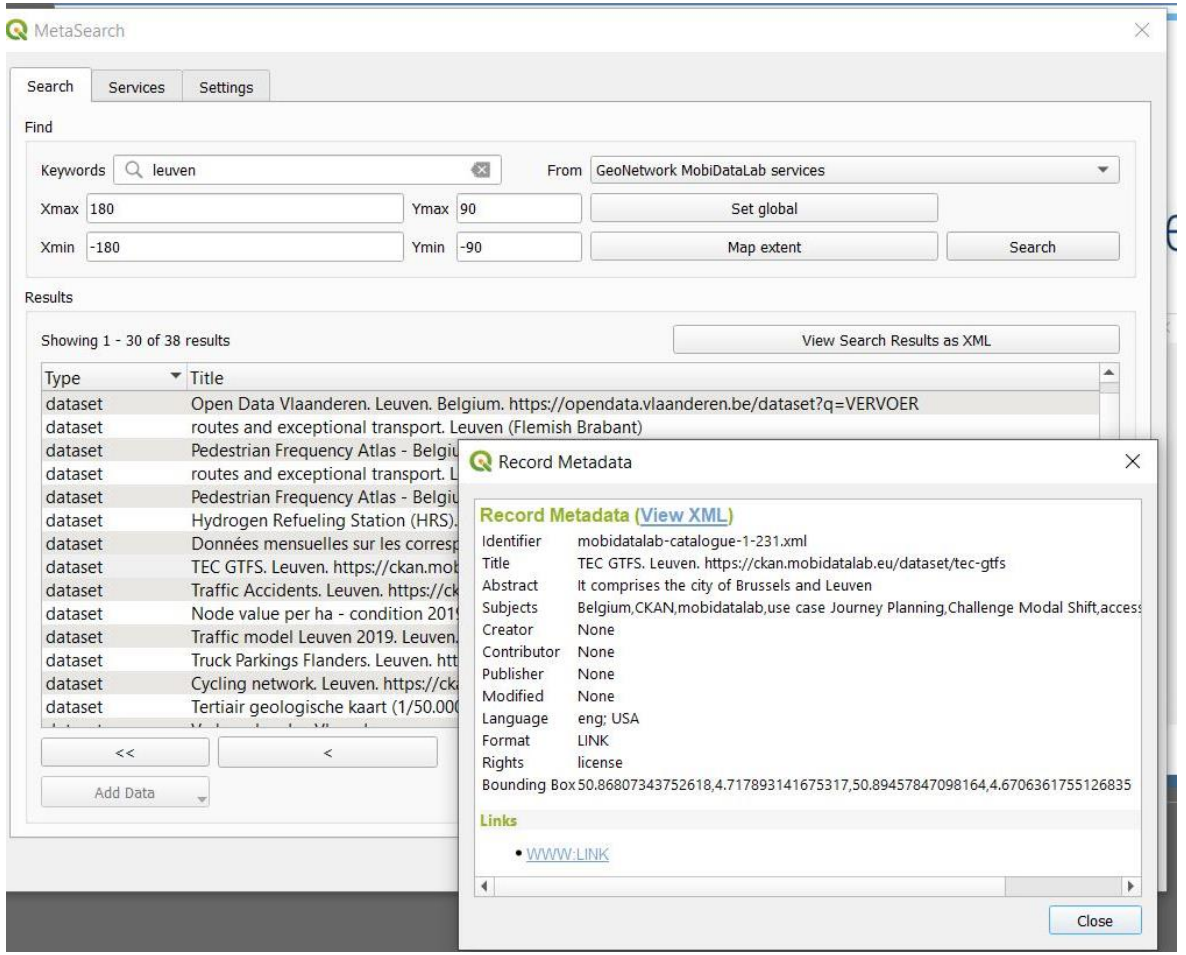
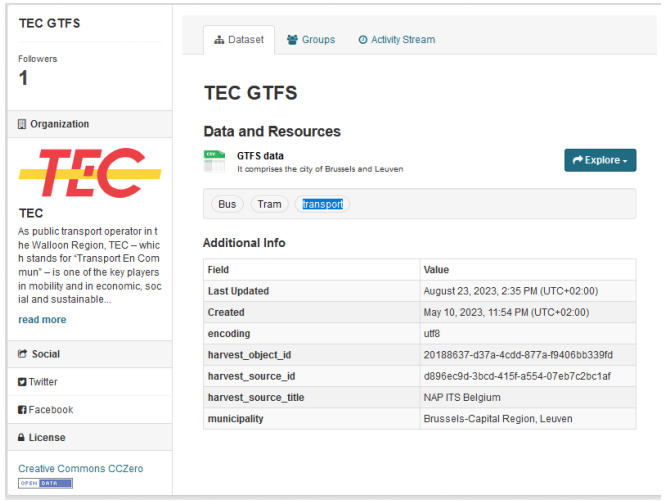
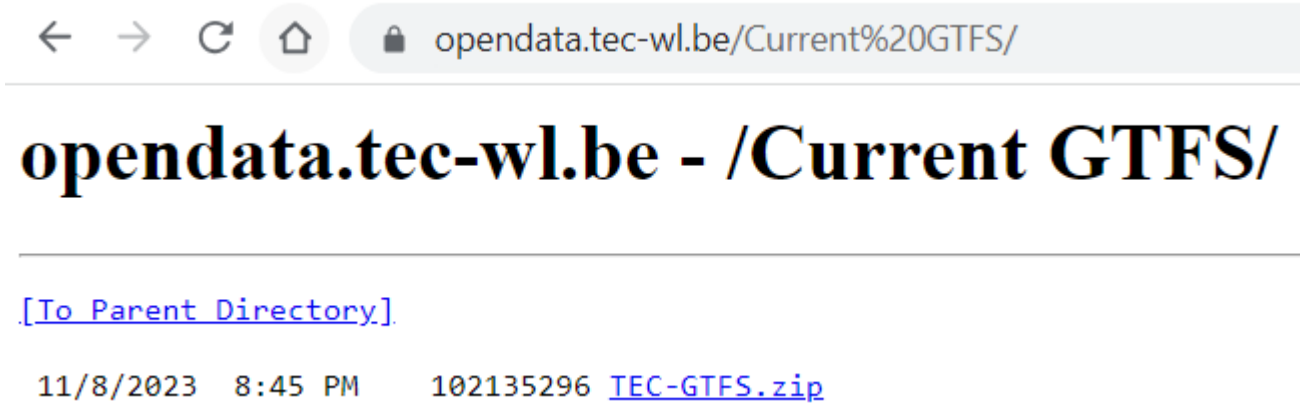
Search for Metadata

- To search for specific keywords (type them on the search bar and click on search) or to see all the available datasets on the portal (leave the search bar empty and click on search).
- To filter your data on a particular area of the world, change the map coverage according to the area on which your QGIS project is focused with the button “map extent” or access the metadata all over the world by using the “set global” button.
- It is possible to download the results as XML.
- When selecting a service or a dataset, it is possible to get the metadata record, which provides the link to access the source of the data.
- If the service or the dataset is in the right format to be read by QGIS, it will be possible to load the data.



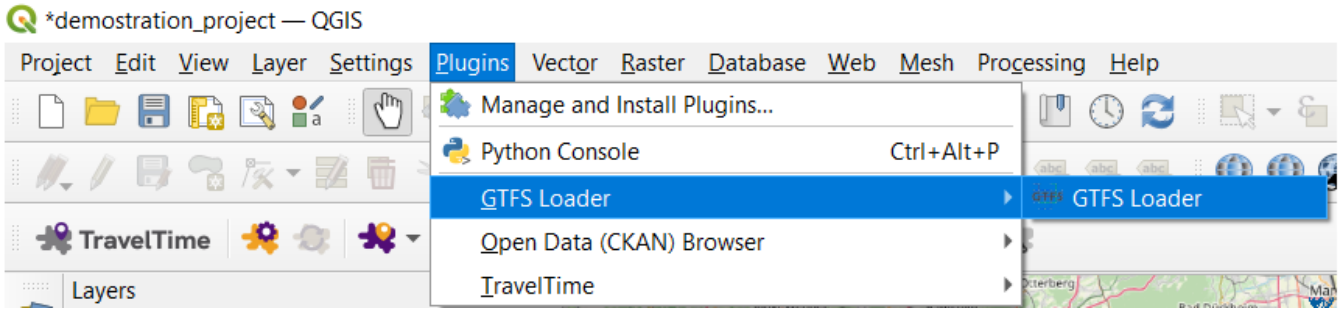
Example TEC dataset

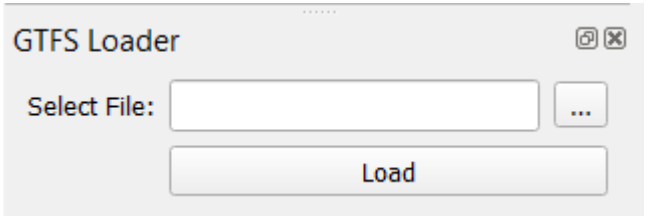




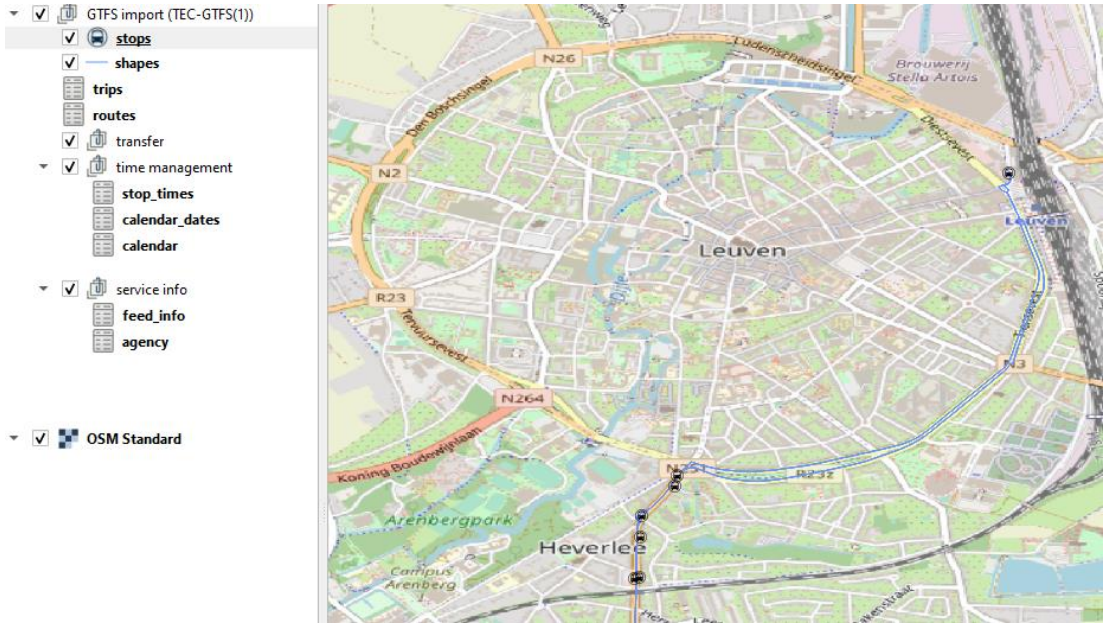
GTFS Loader plugin

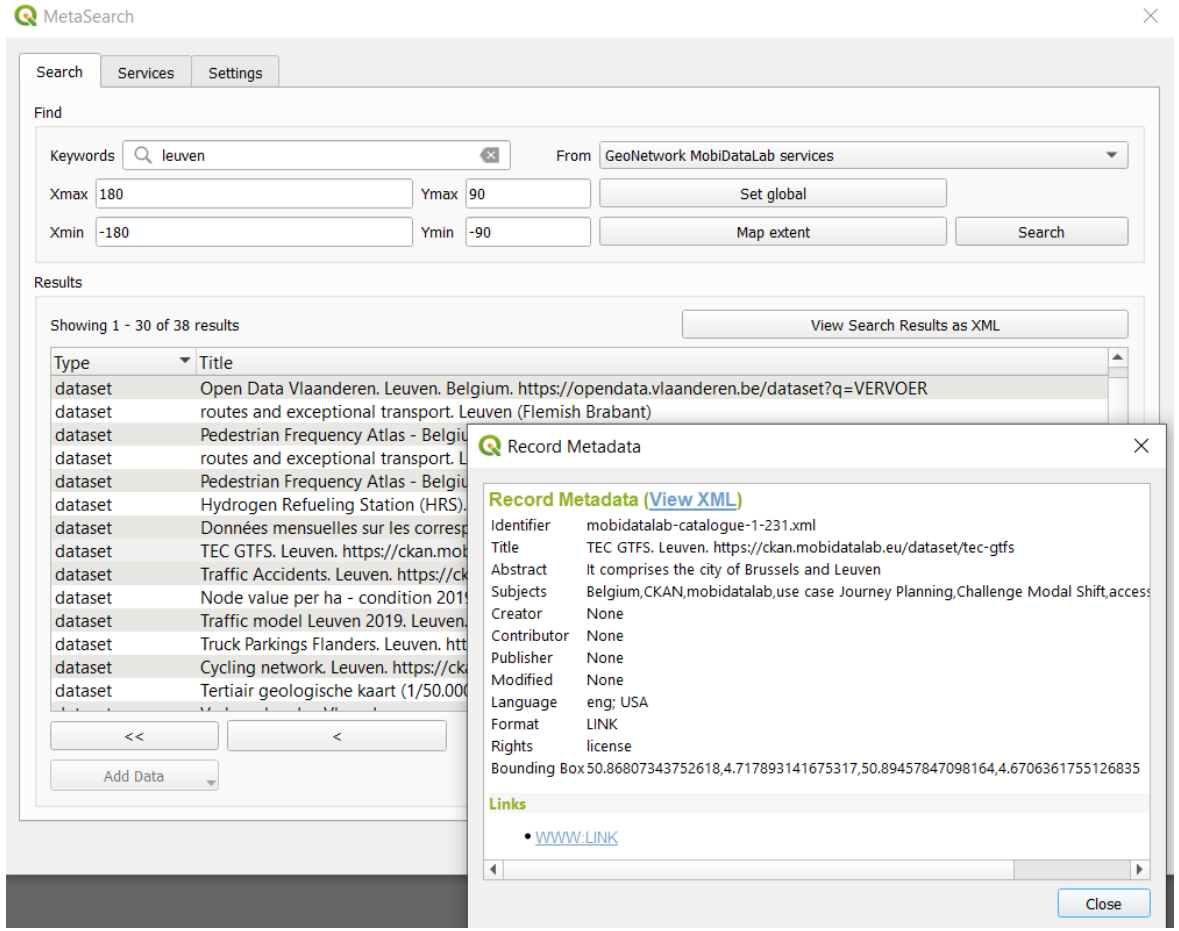
1. Via the “Plugins” Menu, install the GTFS Loader plugin
2. Open the plugin by going to the plugins Menu
3. Search for the folder containing a GTFS file
4. Load the file





GeoNetwork opensource





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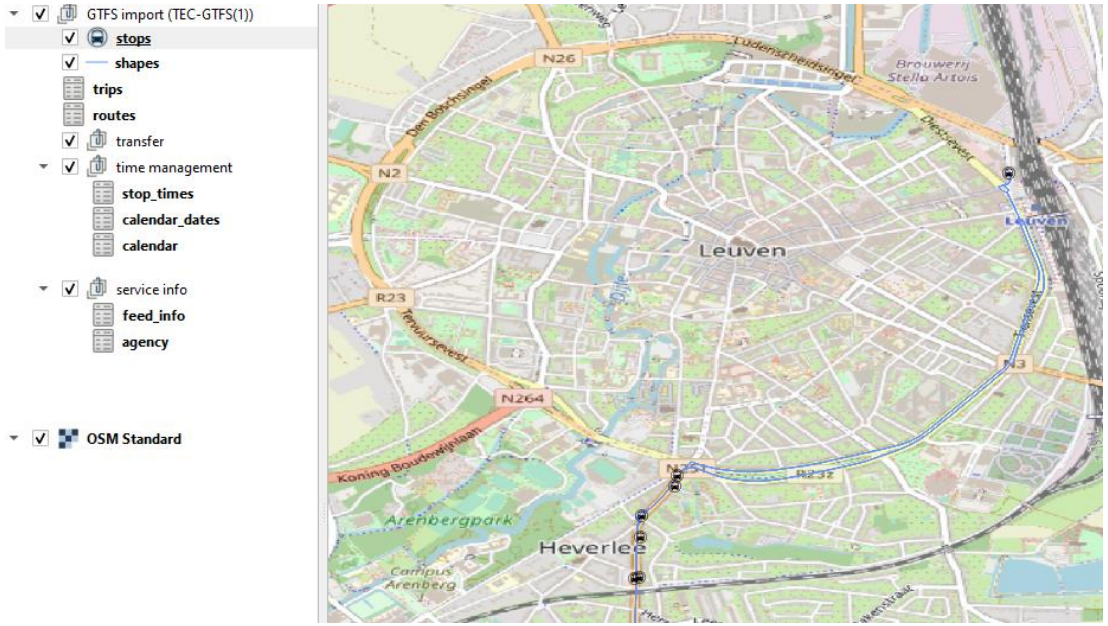
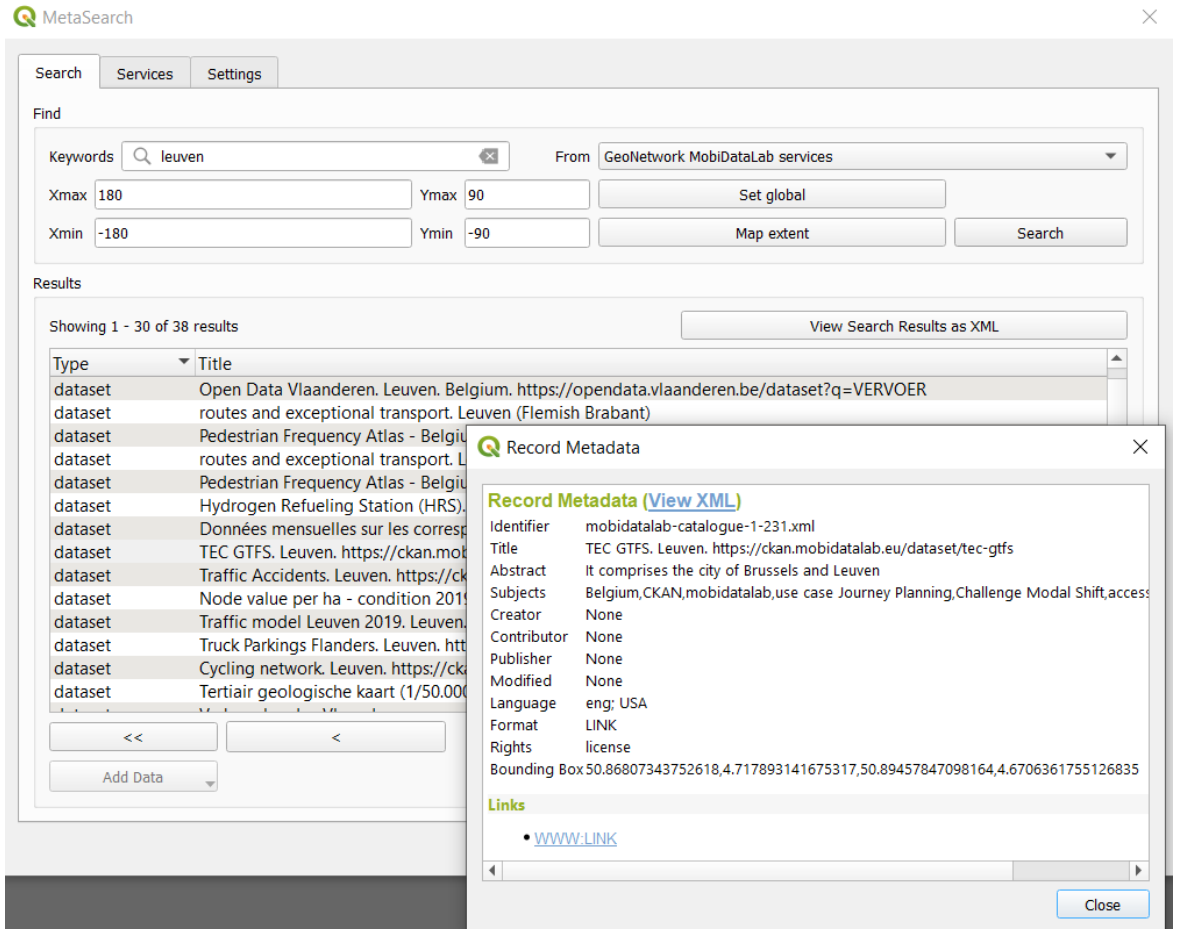
GeoNetwork opensource

The Search tab allows the user to query Catalog Services for data and services, set various search parameters and view results.





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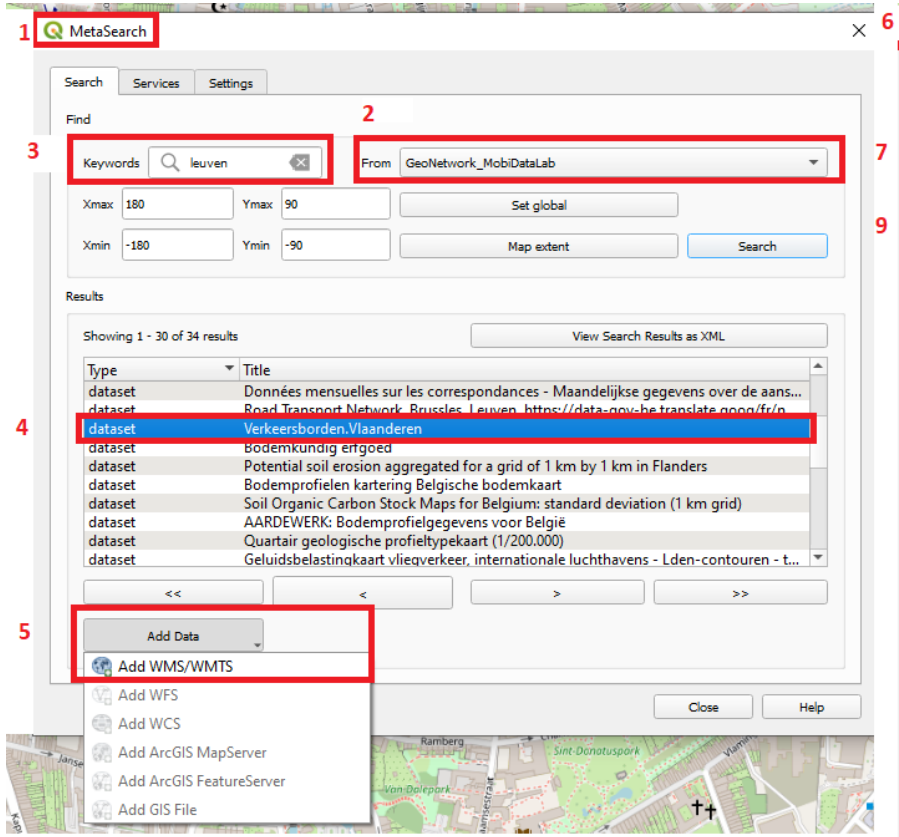
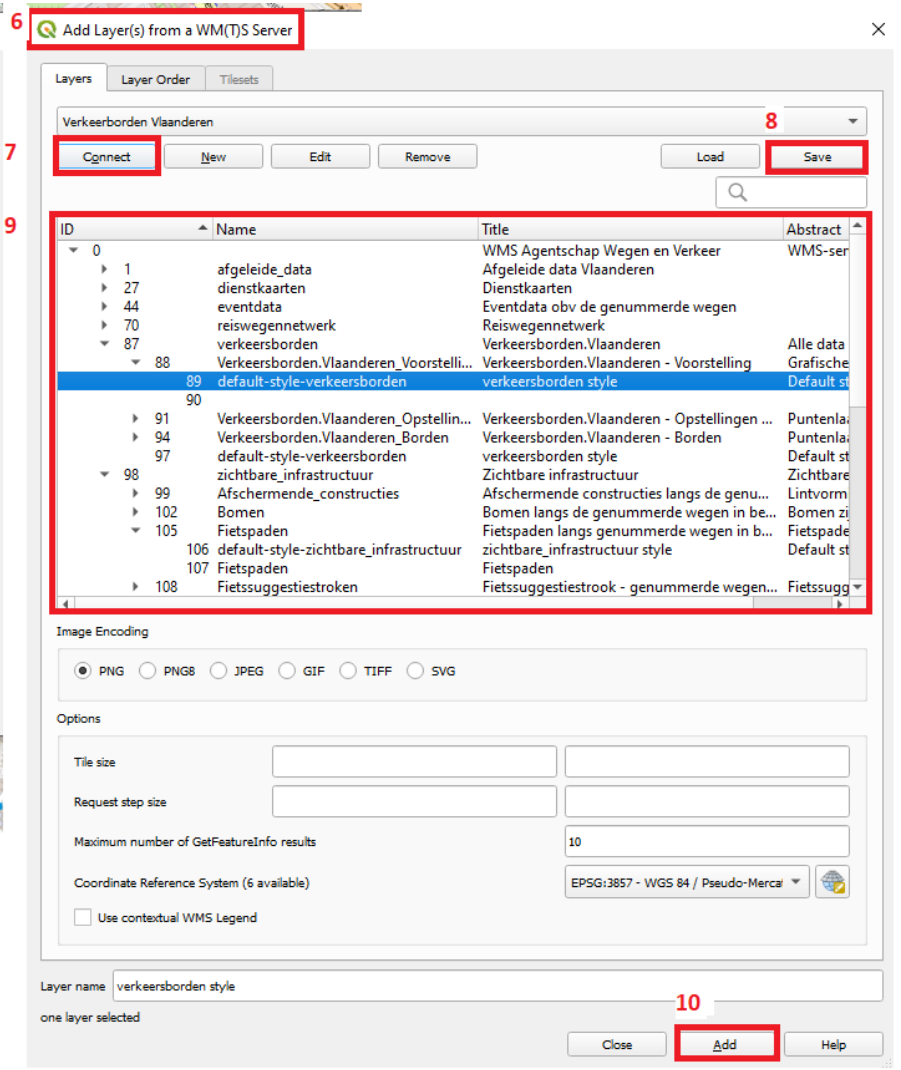
Add a WMS/WMTS via the Metasearch

1. Open the Metadata search
2. Select the desired CSW
3. Search for a keyword
4. Select a dataset in WMS/WMTS format
5. Add data
6. On the layer from WMTS Server
7. Connect
8. Save it (optional)
9. Select it
10. Add it





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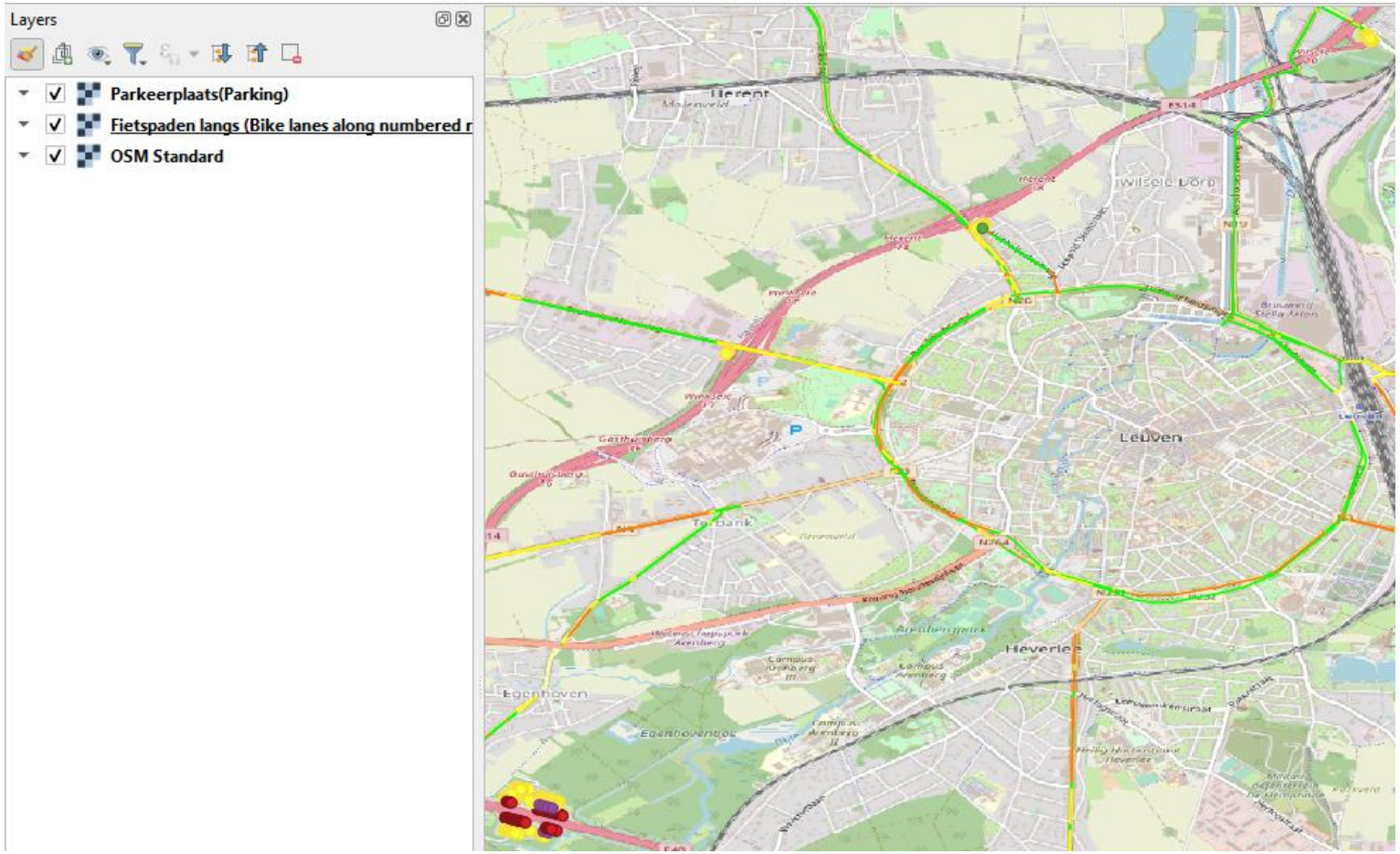
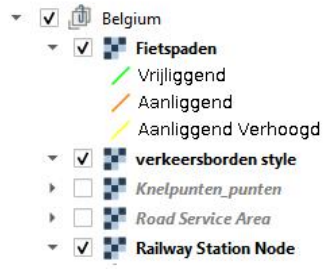
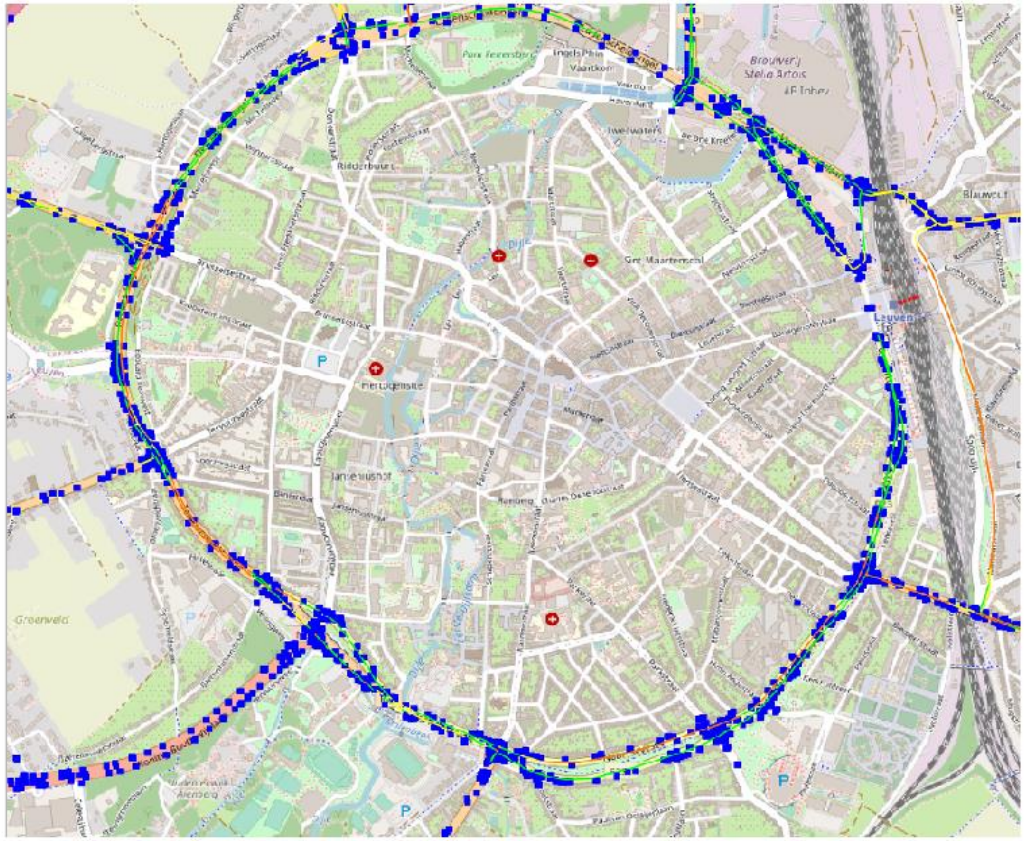
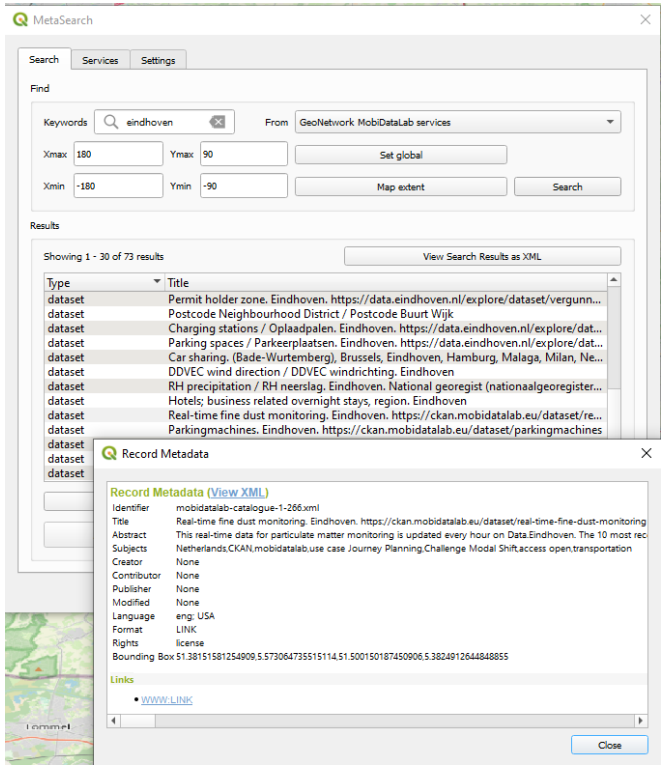
WMS of bike lanes around and parking around Leuven

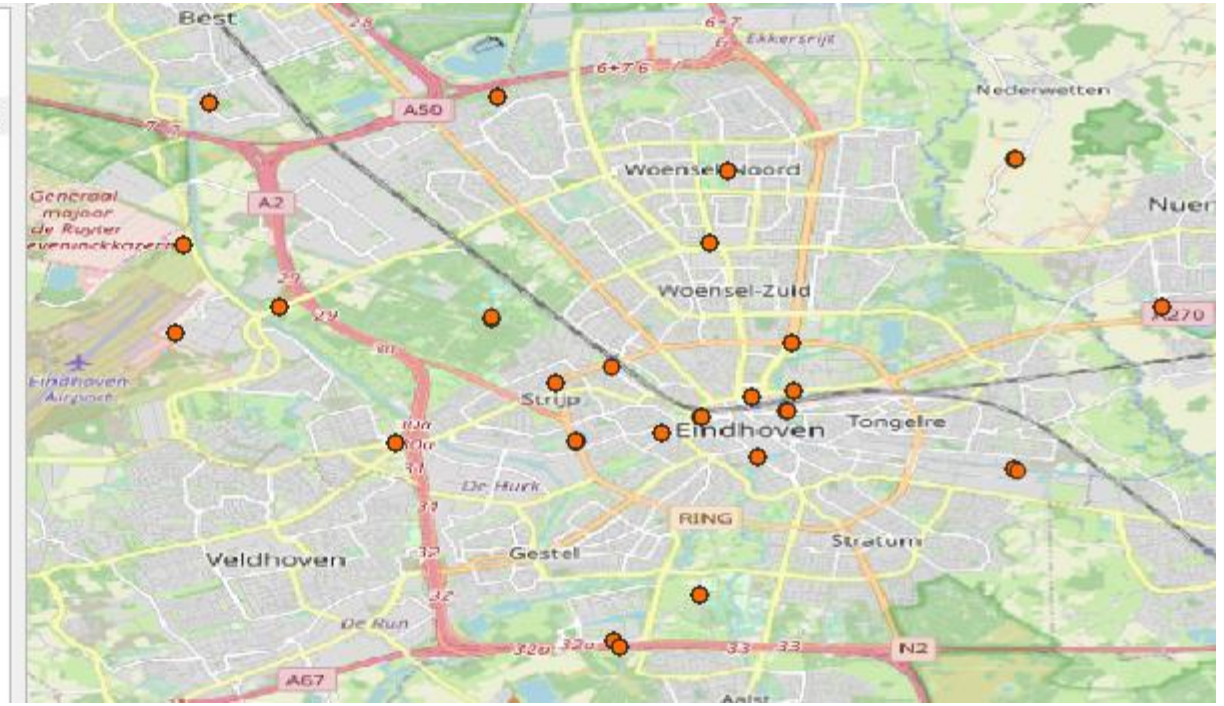


WMS of bike paths, road signs and railway nodes around Leuven









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Access CKAN metadata catalogue

CKAN plugin

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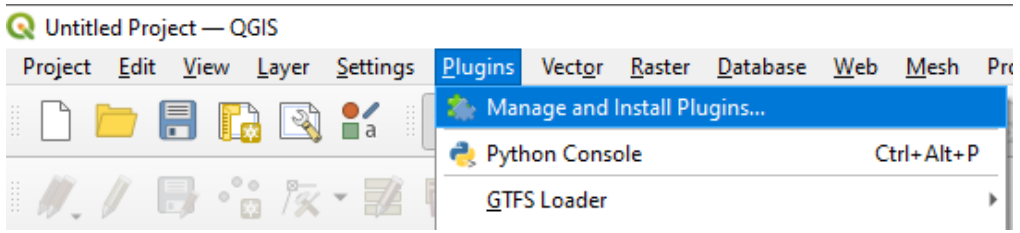
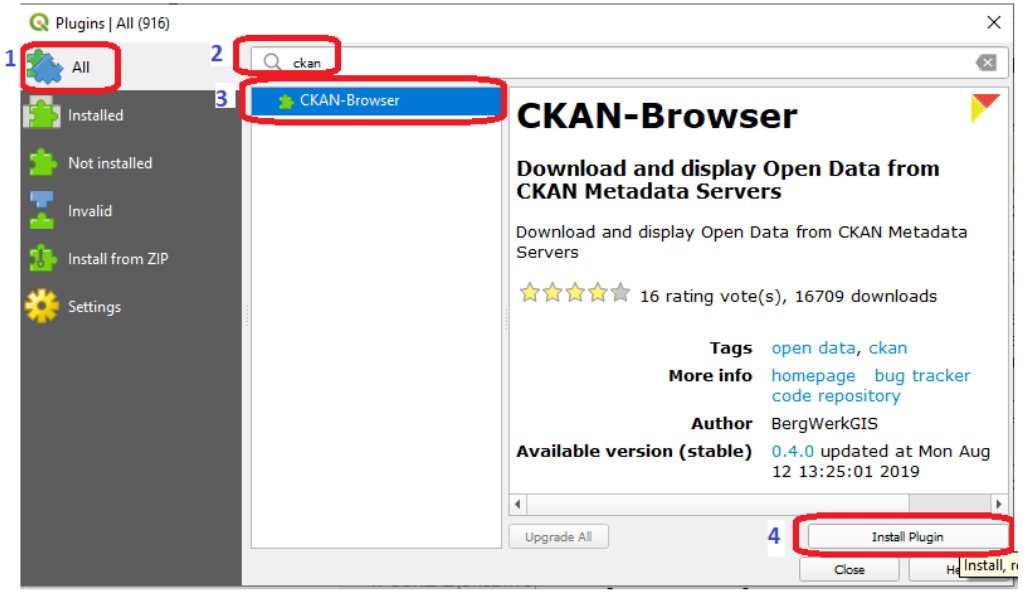
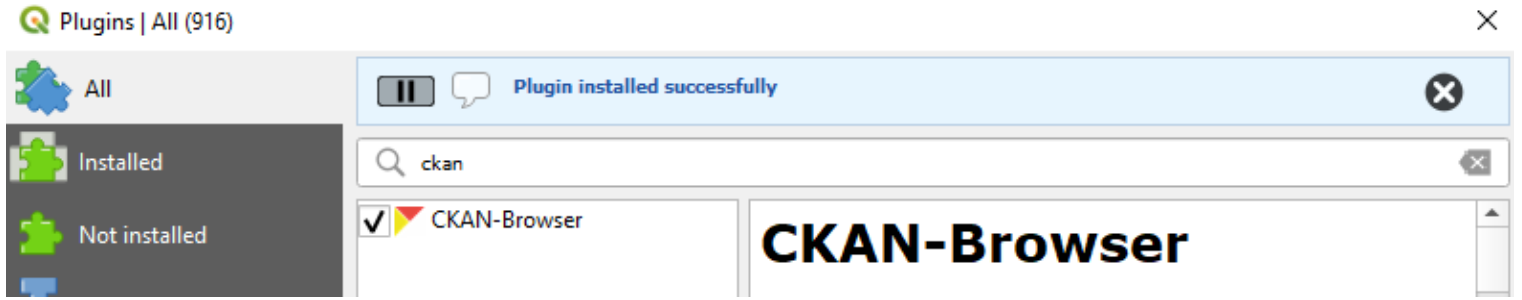
CKAN browser plugin installation

1. Do a left click on the “Plugins” menu (on the QGIS menu bar)
2. Select “Manage and Install Plugins”
3. Search for the CKAN-Browser
4. Install the plugin





Ckan browser plugin installation



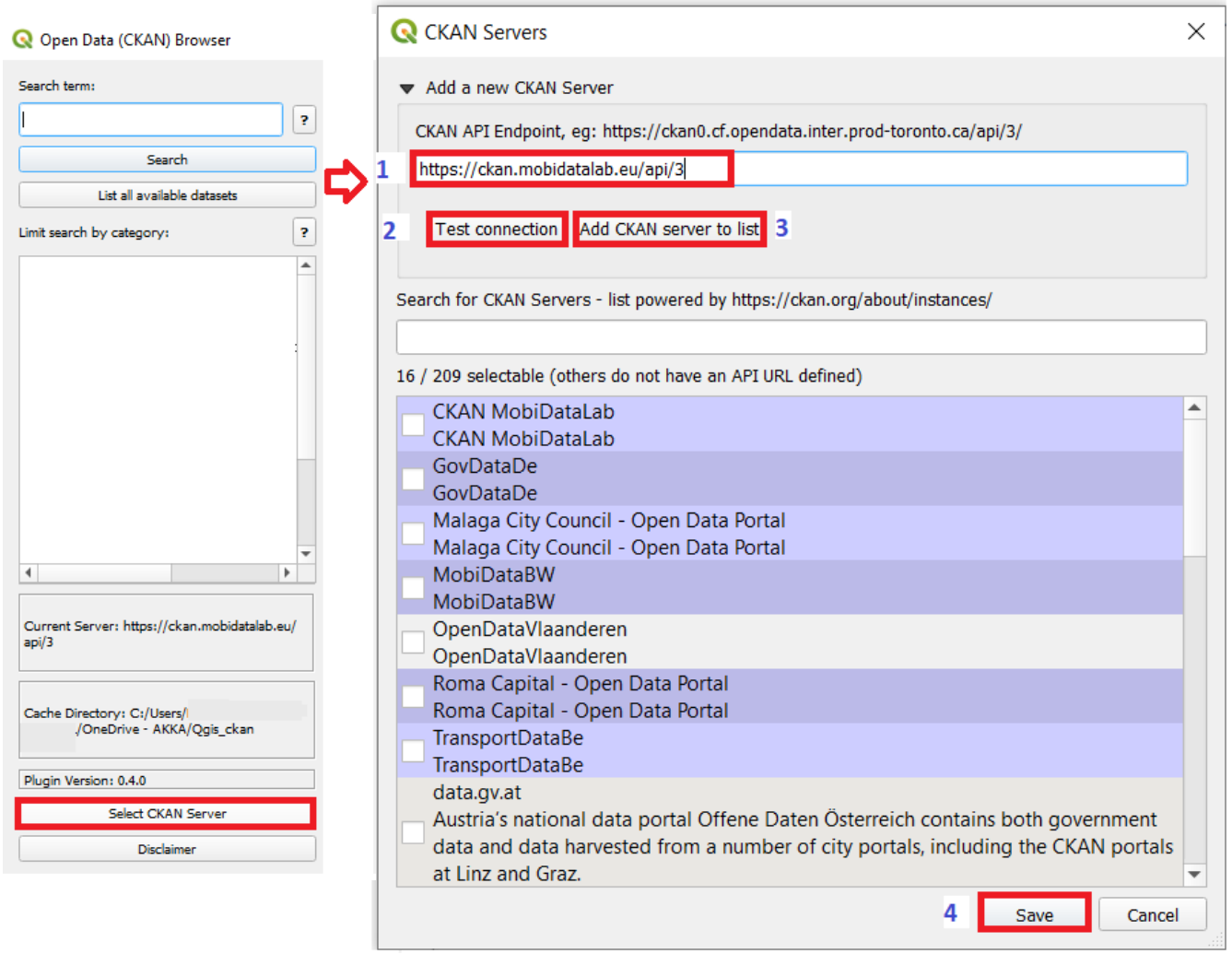
Find and access available metadata on CKAN

Launch the CKAN Browser

1. Clicking on the CKAN icon (on the QGIS toolbar)

Select “CKAN Server”

1. Enter the URL of the CKAN instance (in this case https://ckan.mobidatalab.eu/api/3/).
2. Test the connection, to make sure that the right URL was used
3. If the connection was successful, add it to the CKAN server list. Otherwise verify the URL entered before.
4. Save the link to the server on the list.



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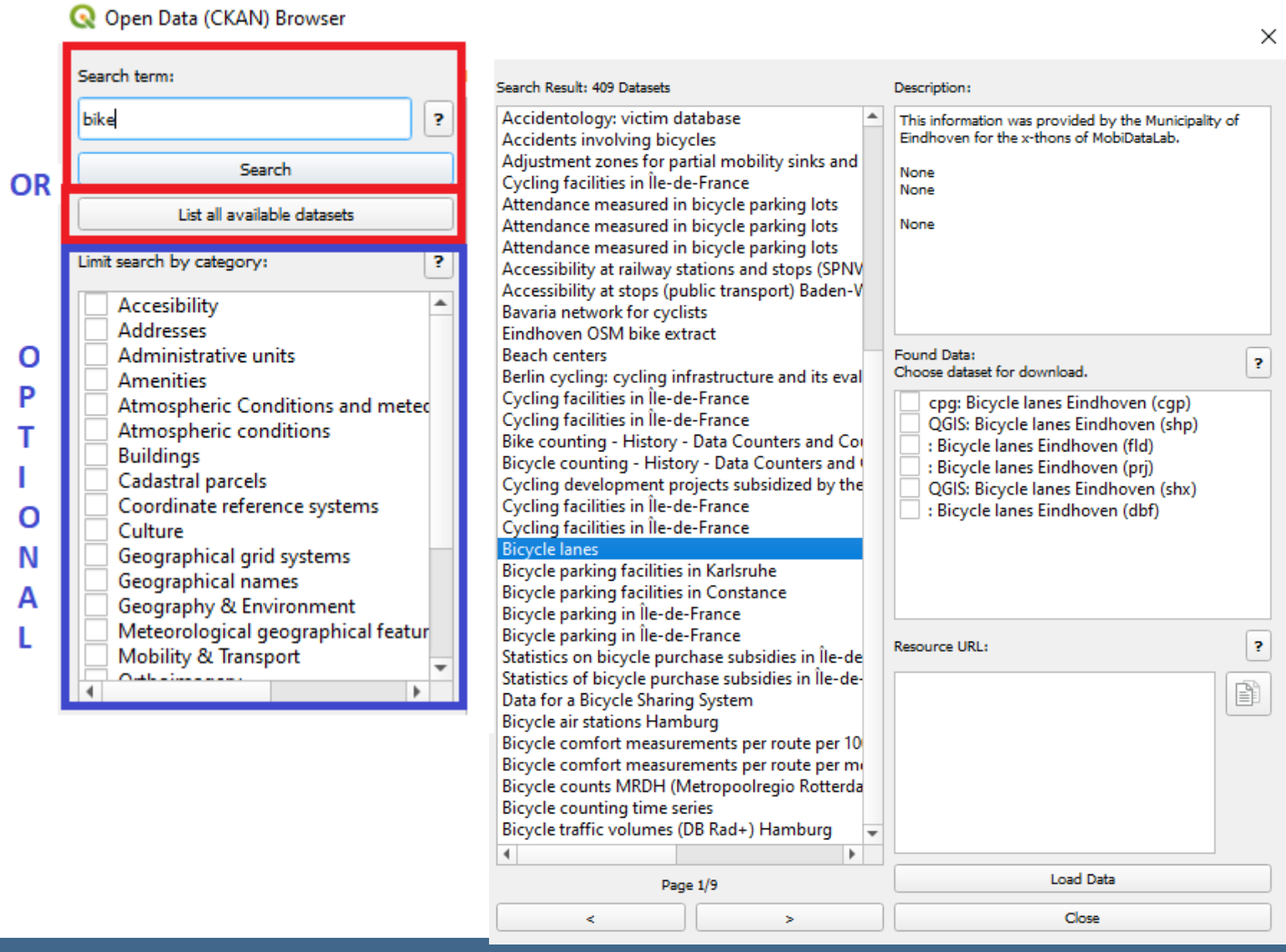
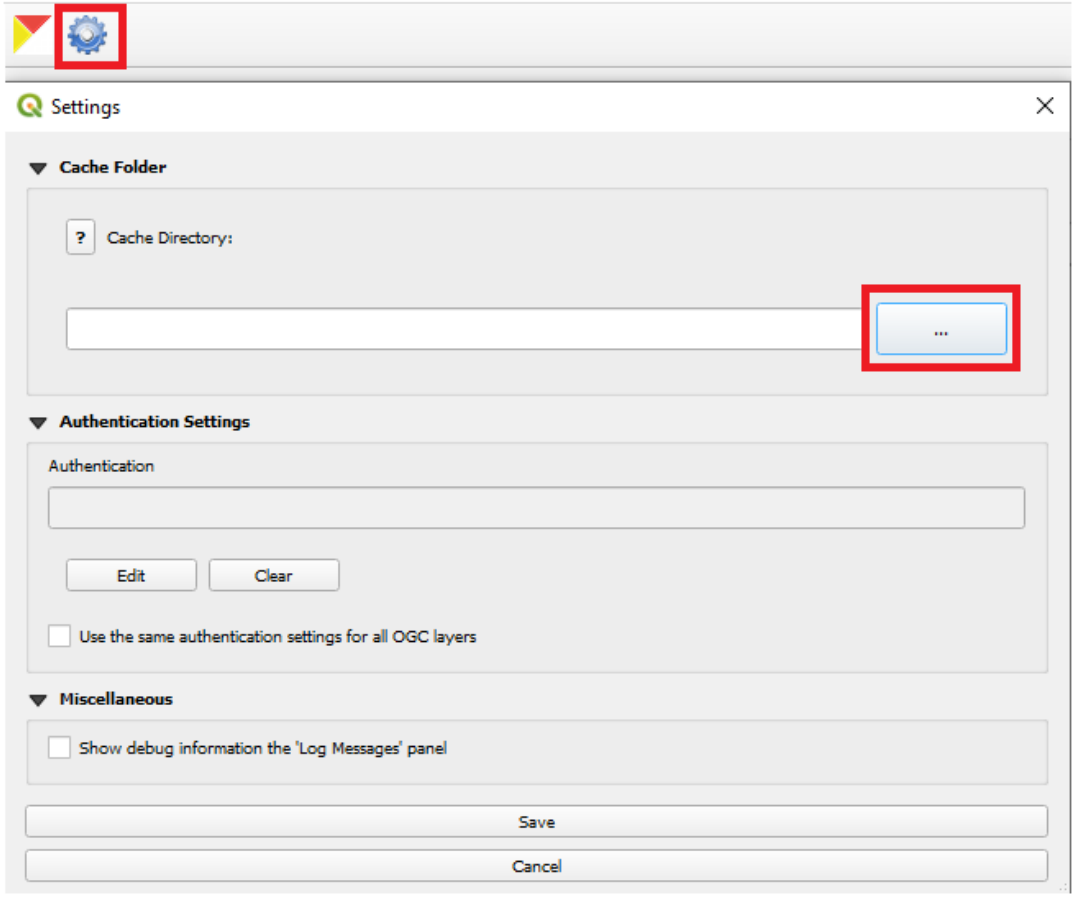
Download and display Open Data

- Search for a particular term or for all the datasets available on CKAN.
- The categories assigned on CKAN can be found here as well, to filter the datasets according to the CKAN group categories. When selecting a particular dataset, the description and the format will be showed o the right boxes.
- When the datasets are in a format that can be read directly by QGIS, it will be possible to select them and load them. Otherwise, there is often the possibility to download the data to consult it by other means.



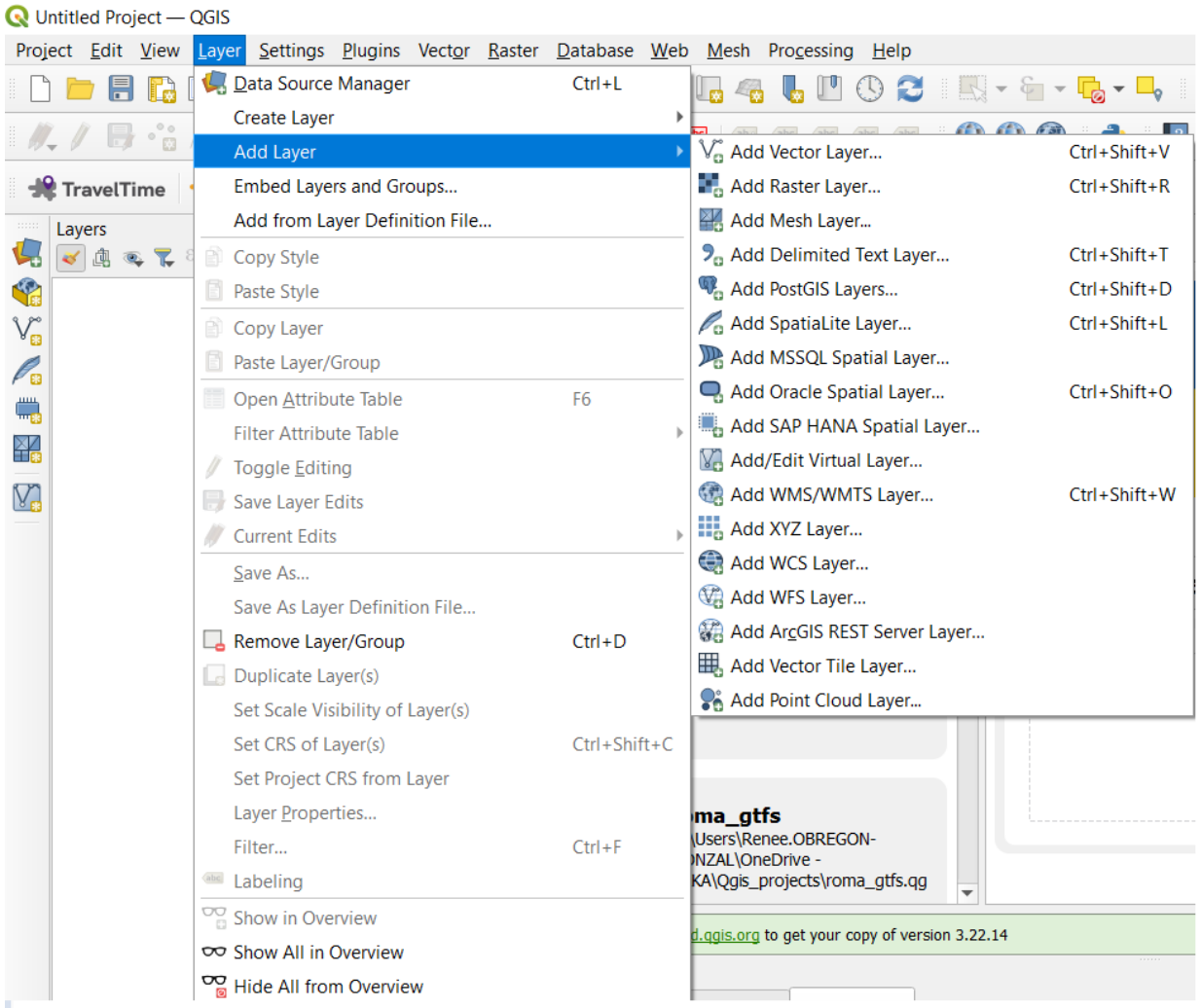
Save the downloaded datasets

1. Go to the CKAN plugin settings
2. Create or select a folder “cache directory” where the downloaded data will be stored.
3. Save



Add a layer to QGIS or connect to a web service

To add or access a web service layer on QGIS manually, it is possible to connect to it via the “Layer” Menu ➡ “Add Layer”.



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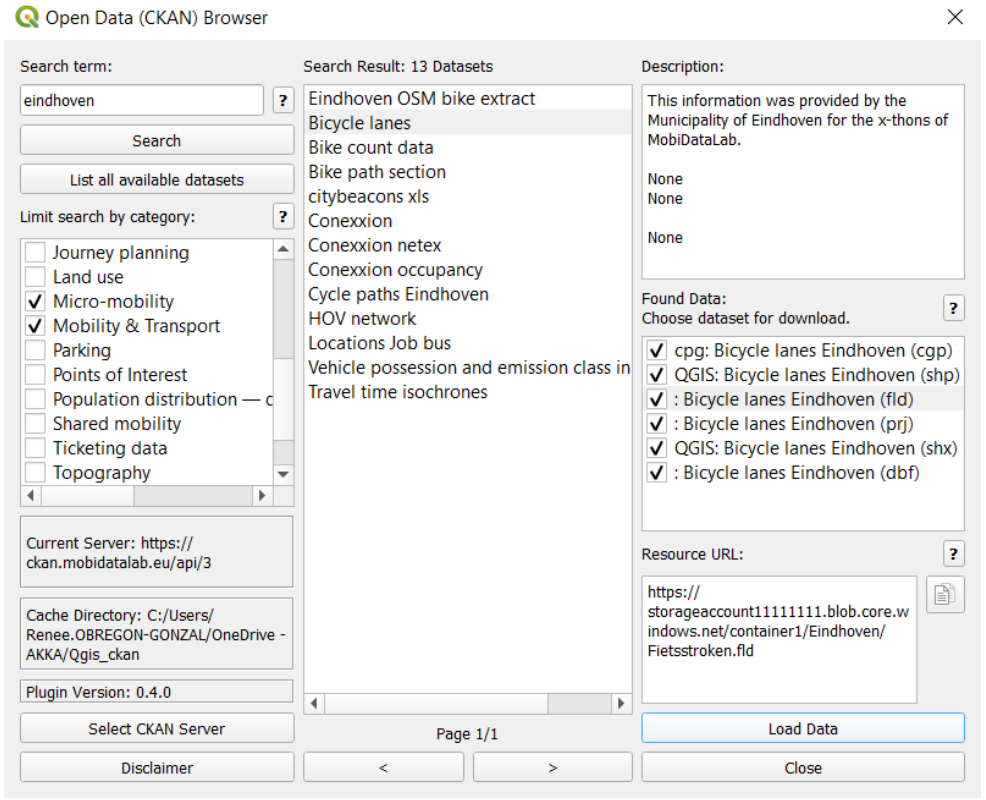
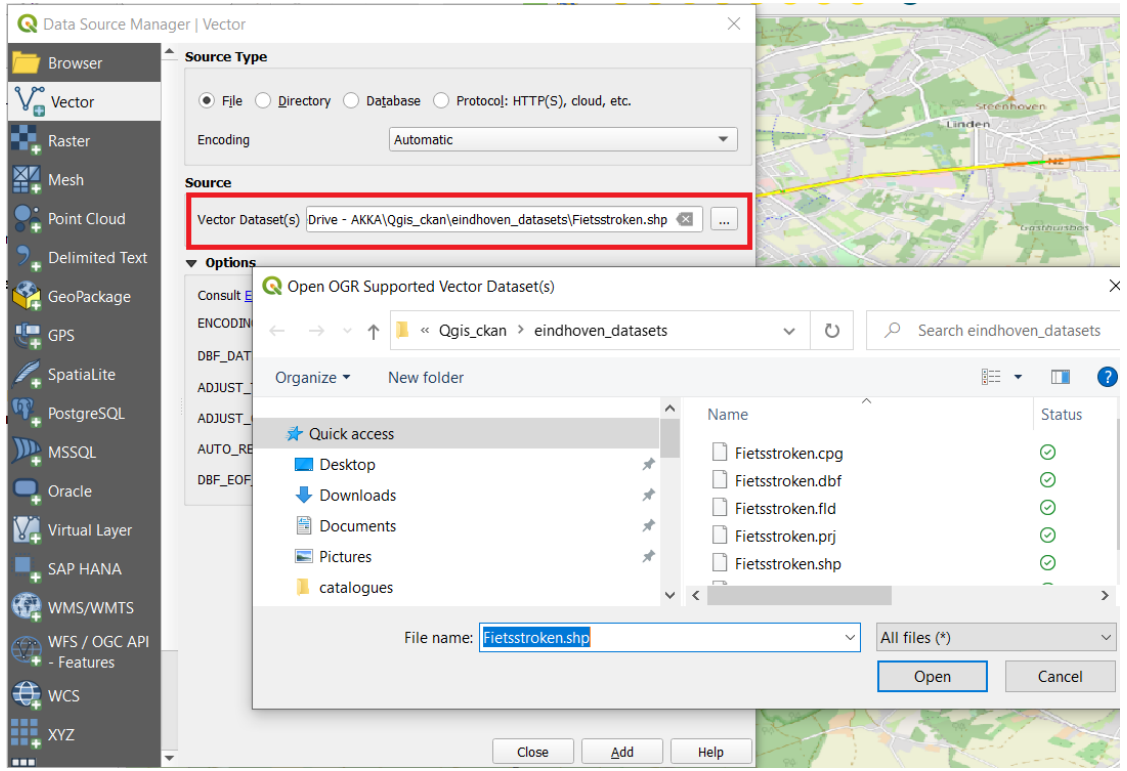
Load data from the CKAN browser



1. Load the data from the CKAN browser
2. If you downloaded the data, slide it into the Qgis project or add the layer via the “Layer” menu, select “Add Vector Layer” and search on the cache directory the downloaded shape file



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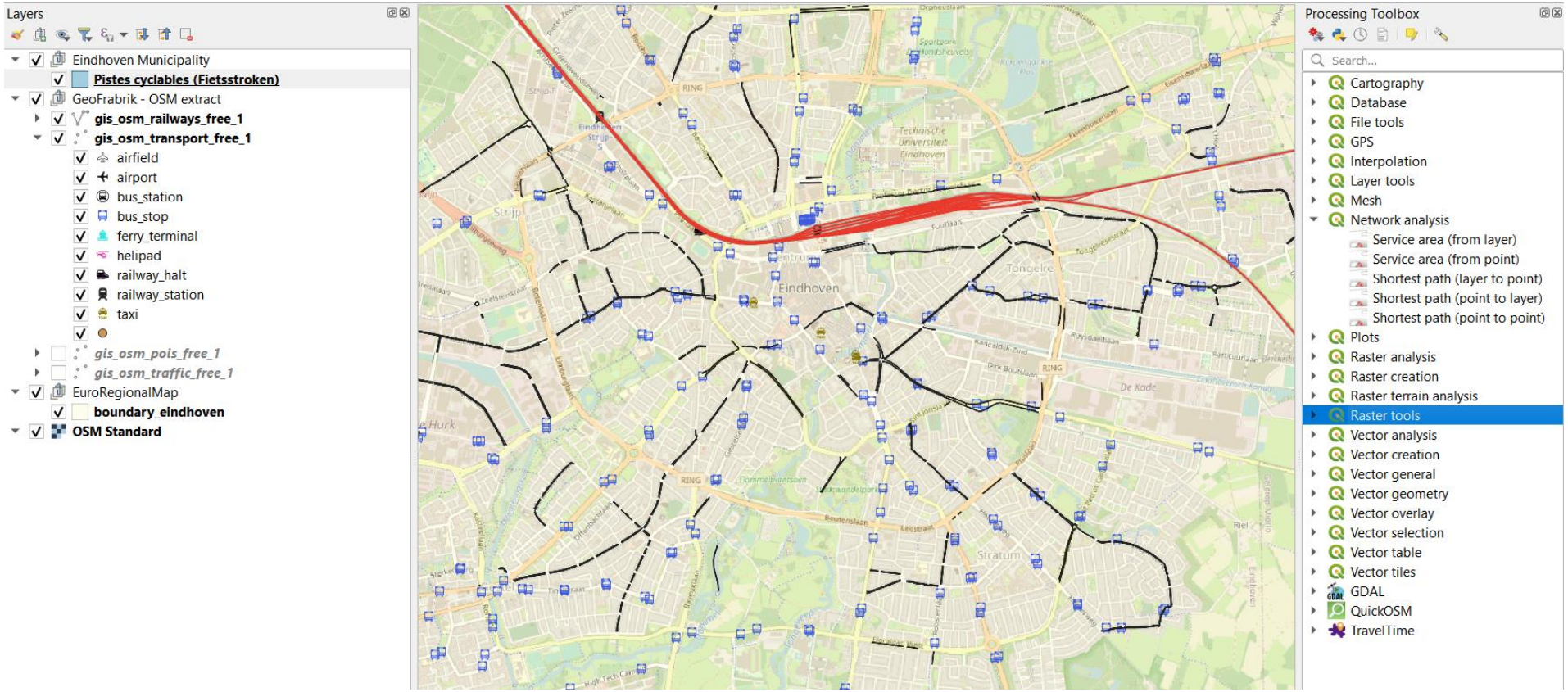
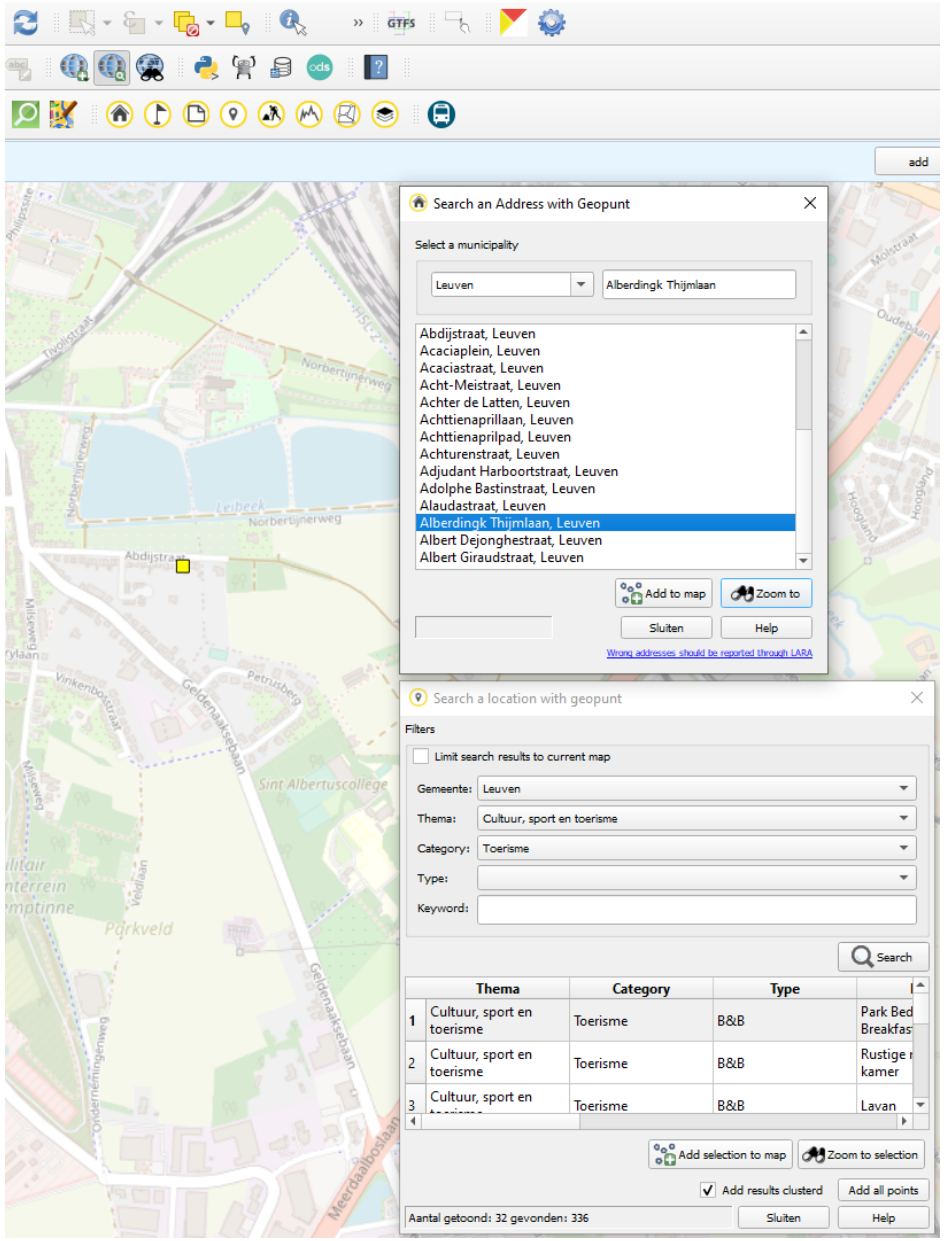
Processing Toolbox



Plugins and other portals

Flemish geoportal : geopunt4Qgis

- Geopunt for QGIS is a plugin for the QGIS open source desktop GIS, which opens the web services of the Flemish geoportal Geopunt users. The Flemish Geoportal Geopunt offers several geographic services (web services) that may be used by third parties such as other governments and companies.
  - Geocoding [regular, batch and reverse] based on the address registry of Flanders
  - Search for POI in geopunt
  - Search for traffic obstructions in GIPOD
  - Draw elevation profiles
  - Search for Parcels
  - Search for layers in the geopunt catalog



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GeoPortal.rlp Metadata Search

- This plugin uses the REST search interface of GeoPortal.rlp for searching spatial datasets and services. It has also an option to search in remote CSW-based catalogues (e.g. in the INSPIRE Geoportal Catalogue and the German Geodatenkatalog.DE). WMS/WFS and OGC API Features interfaces can directly be loaded into the QGIS Browser.

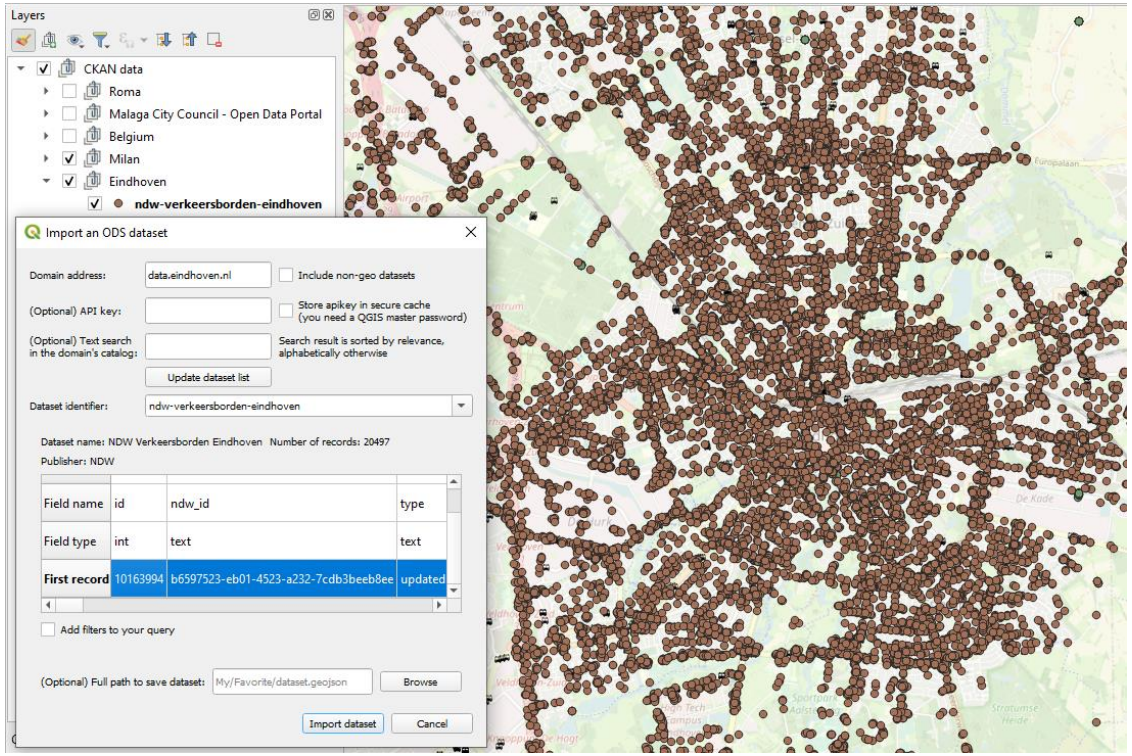
- All technical data can be found on Github : https://www.vlaanderen.be/geopunt/plug-ins/qgis-plug-in

Opendatasoft plugin

Download datasets from Opendatasoft-powered data catalogues.

- This plugin allows one to directly import, in the GeoJSON format, any dataset from a private or public Opendatasoft portal. It uses the web Explore API v2 to fetch the data, thus you will find this plugin in the web menu.

NDW transport information of Eindhoven



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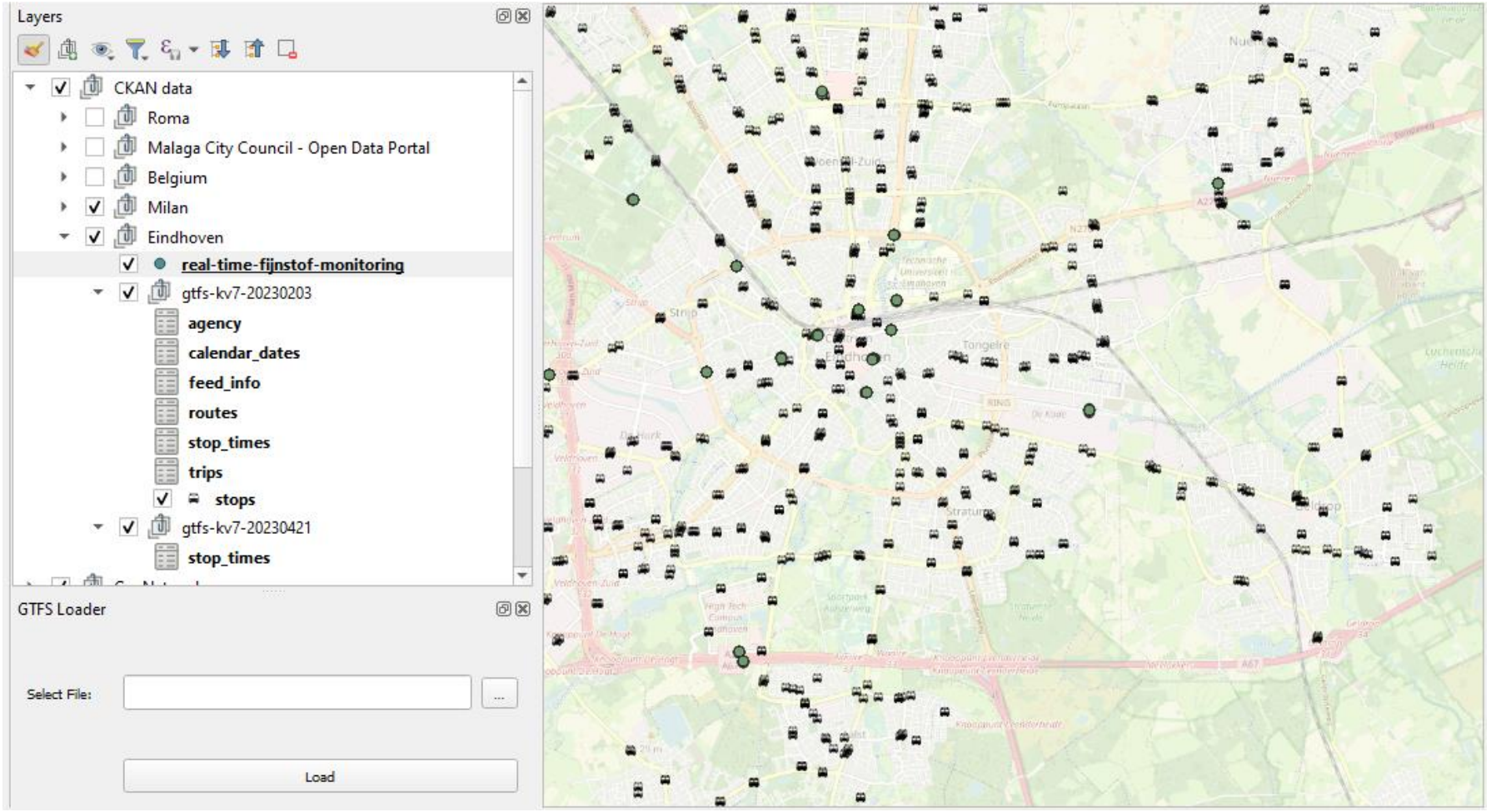
GTFS of transports in Eindhoven



Here Route API Plugin

- Hqgis ➡ Routing, Geocoding, POI search, Isochrones with the HERE API.
- Impact toolbox ➡ This plugin automates access to the ANYWAYS API by :
  - Taking a set of Points of Interest (POIs) and returning routings between all of them based on a given routing profile
  - Taking two sets of POIs as Origins and Destinations and returning routings from all origins to all Destinations based on a given routing profile

Other plugins to explore

- Travel Time
- Mobility Areas
- PosiView
- GBFS-NOW
- QGIS Cloud Plugin
- Networks
- OpenTripPlanner
- Tempus
- MapTiler
- QuickOSM
- OSMDowloader
- Pelias Geocoding
- Valhalla
- OSM place search
- QBan(o)
- AdressesFr
- Google Maps geocoder
- OS search for addresses
- OS Translator II
- GeoPortal.rlp Metadata Search
- Qweather
- XYZ Hub Connector : Connect QGIS to your personal space on HERE Data Hub and to your Interactive Map Layer inside the HERE Platform.
- Greek Data

Thank you for listening

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