



## QGIS Plugins Must-Haves, Fachlösungen und Geheimtipps

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# • Das QGIS Projekt

- › **Intuitives, komplettes Desktop GIS**
- › **Erweiterbar mit Python und C++ Plugins**
- › **QGIS Server**
- › **Basiert auf C++, Qt und Python**
- › **Open Source / GNU GPL**
- › **Plattformen Windows, Linux, Mac OS**
- › **Umfangreiche Dokumentation**
- › **GUI ist übersetzt in mehr als 40 Sprachen**

**[plugins.qgis.org](https://plugins.qgis.org)**



# Plugin Manager

The screenshot shows the QGIS Plugin Manager window. On the left, there is a sidebar with filter buttons: 'Alle' (selected), 'Installiert', 'Nicht installiert', 'Aktualisierbar', and 'Einstellungen'. The main area is divided into a search bar, a list of plugins, and a details pane for the selected plugin, 'Accuracy Assessment'.

**Suchen** [Suchfeld]

- Accuracy Assessment (selected)
- AccurAssess
- Affine Transformations
- AniMove for QGIS
- ArcGIS REST API Connector
- ArcGIS REST API Connector
- ArcheoCAD
- Area Along Vector
- Arrows
- Astrogeology POW
- Attribute painter
- autoSaver
- AutoTrace
- Azimuth and Distance Calculator
- Azimuth and Distance Plugin
- BLN Exporter
- Buffer by Percentage
- Bulk vector export
- cadastre
- CADDigitize
- CadInput
- CadTools

**Accuracy Assessment**

Generate an error matrix and measures of mapping accuracy for raster and reference data.

★ ★ ★ ★ ☆ 14 Bewertung(en), 24949x heruntergeladen

Elemente: confusion matrix,map comparison,error matrix,accuracy assessment,remote sensing  
Weitere Informationen: [Homepage](#) [Fehlerverfolgung](#)  
[Quellcode-Repositorium](#)

Autor: Jared Kibble

Verfügbare Version 0.4.2 (in Offizielles QGIS-Erweiterungsrepositorium)

Alle aktualisieren Erweiterung installieren

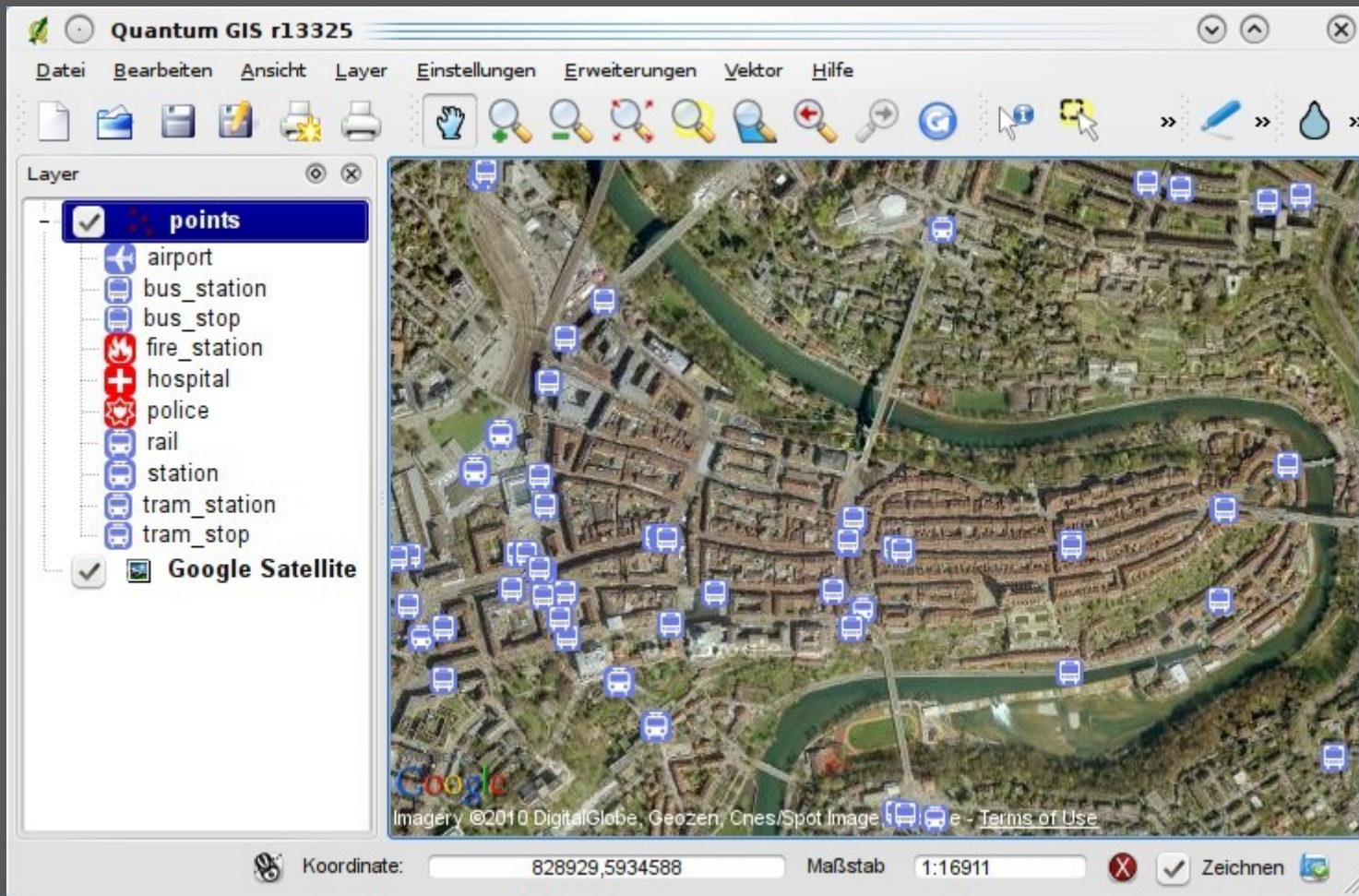
Hilfe Schließen

› “Erweiterungen verwalten und installieren”

# Top Downloads



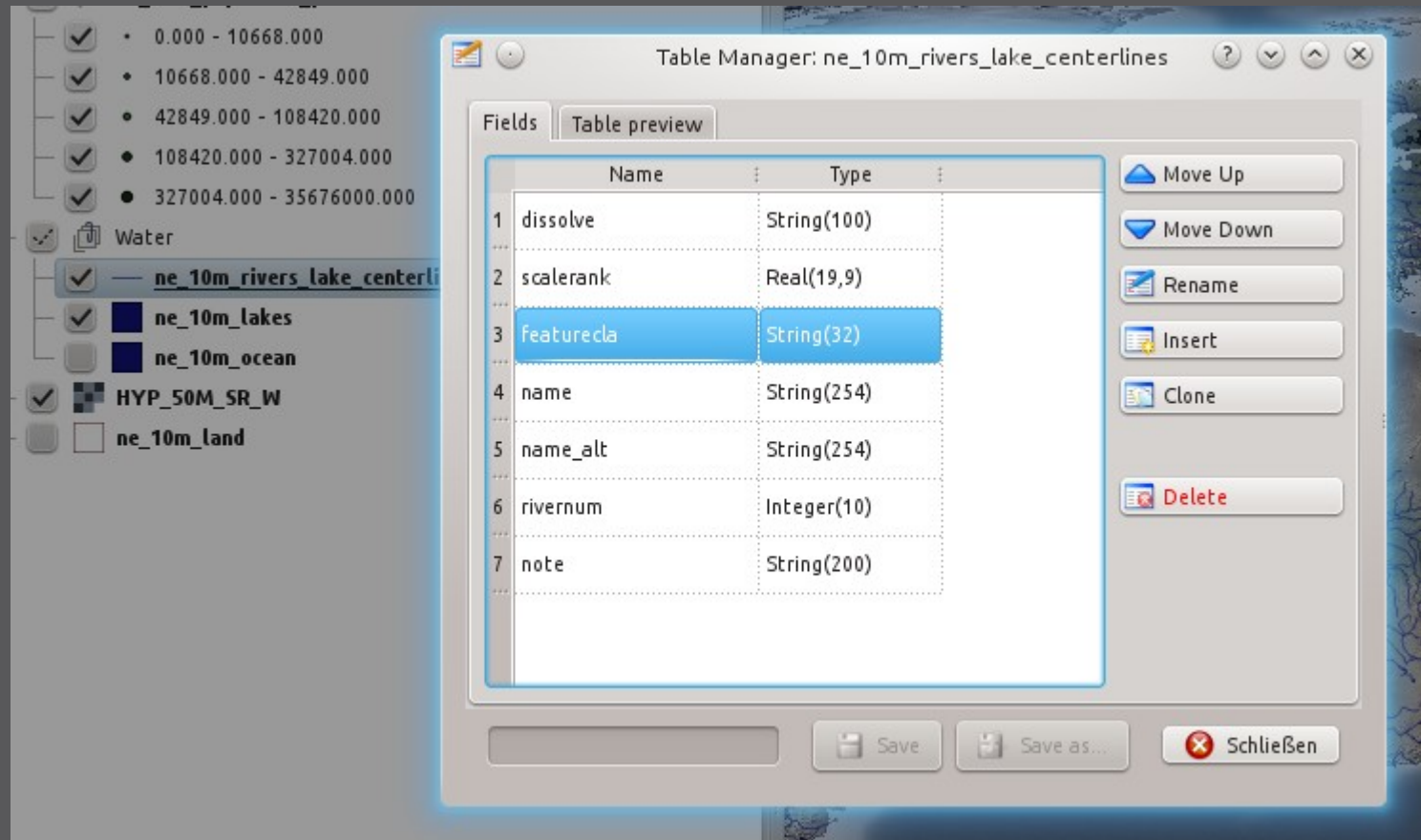
# #1: OpenLayers Plugin



- Google Maps, Bing, OSM Hintergrundkarten
- 320'000 Downloads



# #2: Table Manager



## ➤ Änderungen Tabellenstruktur



# #3: mmqgis



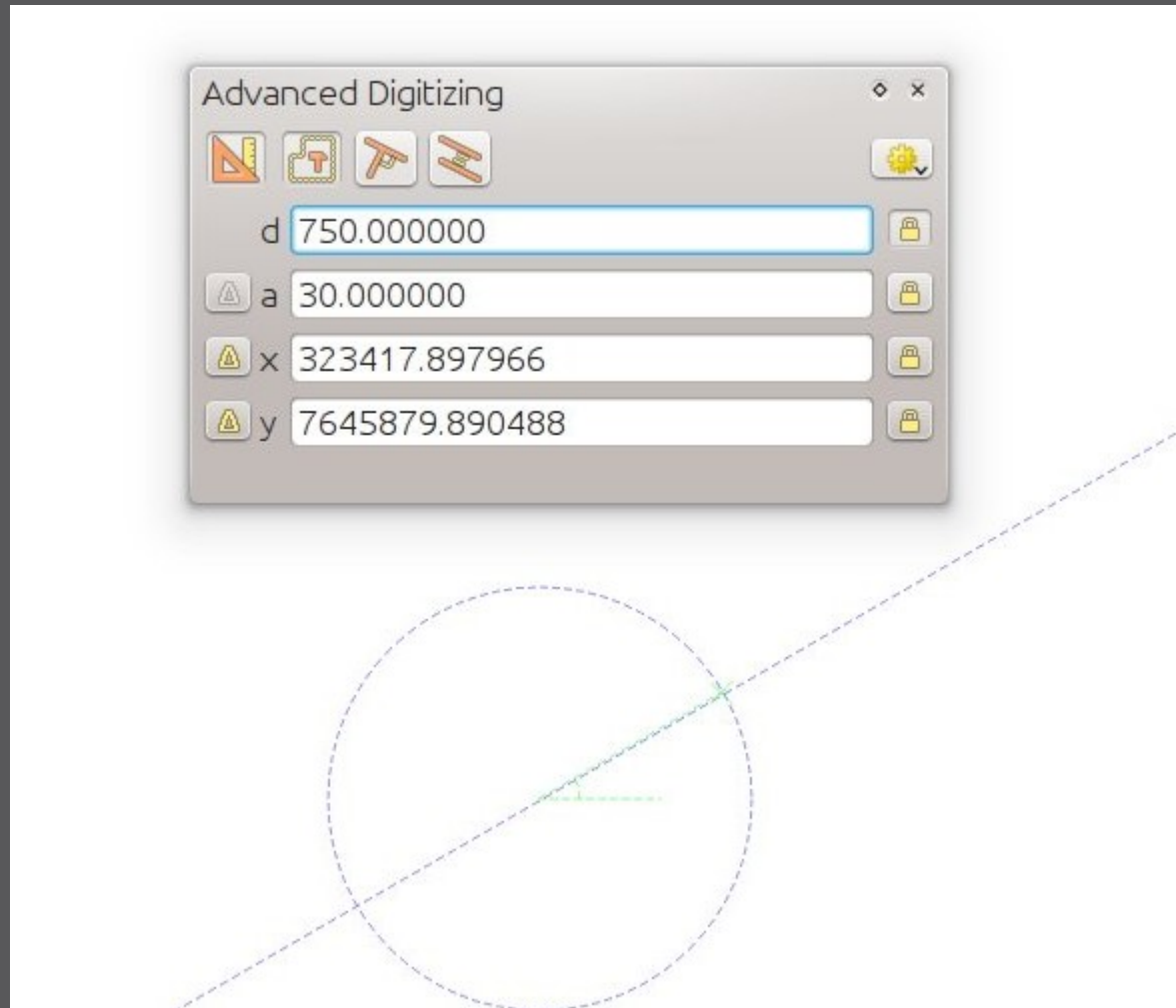
- **Sammlung von Funktionen für Verarbeitung, Analyse, u.a.**



# **Digitalisierung**



# CAD Tools et al

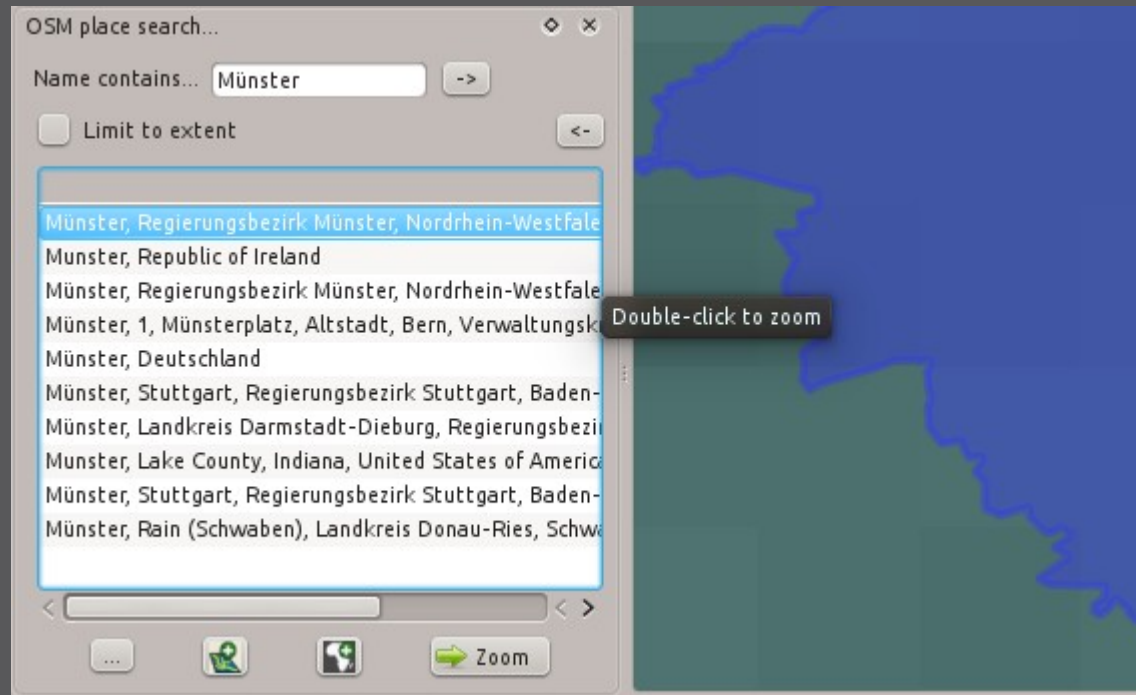


- › Integriert seit QGIS 2.8
- › Plugins: CAD Tools, CADDigitize u.a.

# Daily Helpers

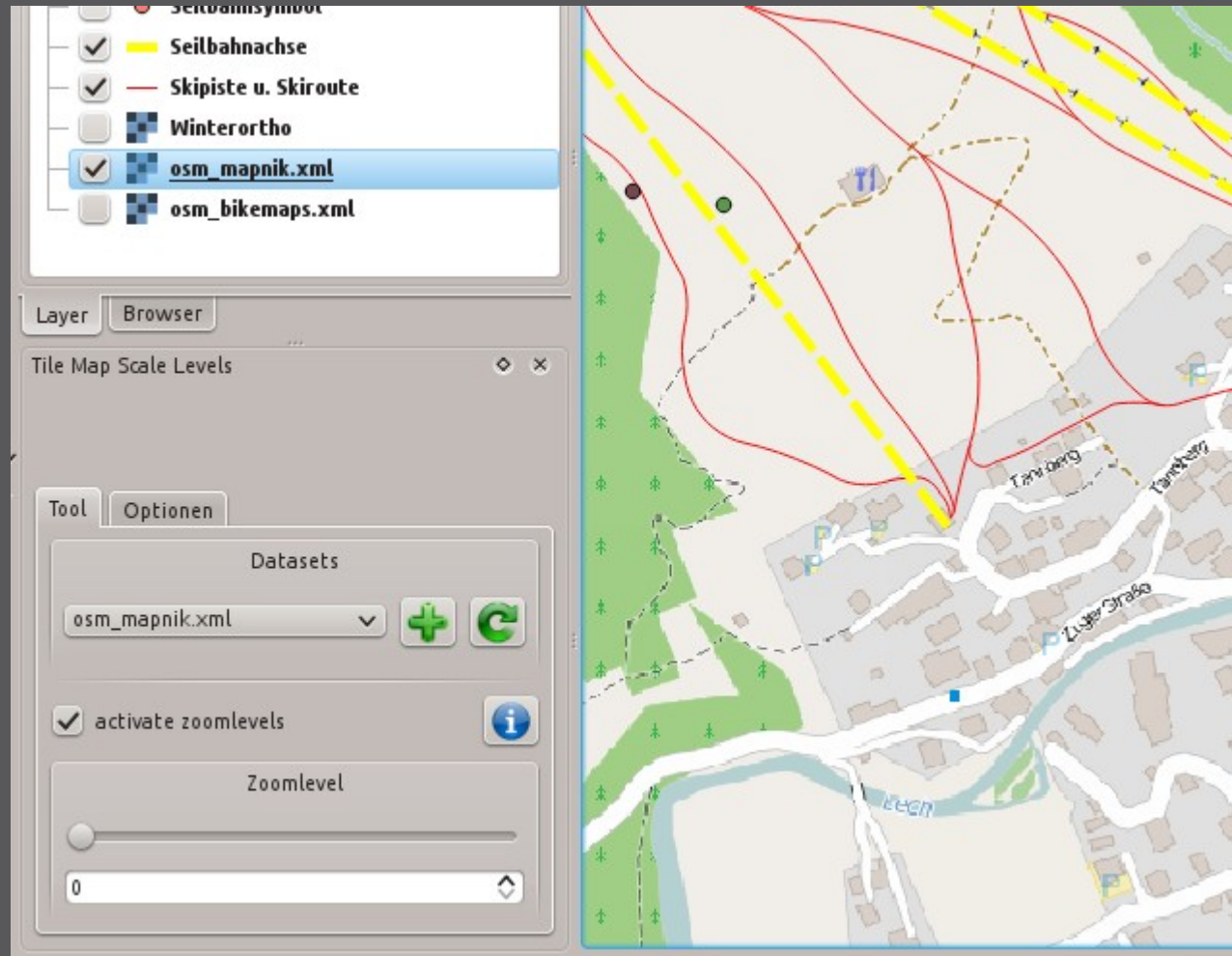


# OSM place search et al



- › Ortssuche mit OSM Daten (Exp.)
- › Alternativen: GeoCoding, QuickFinder

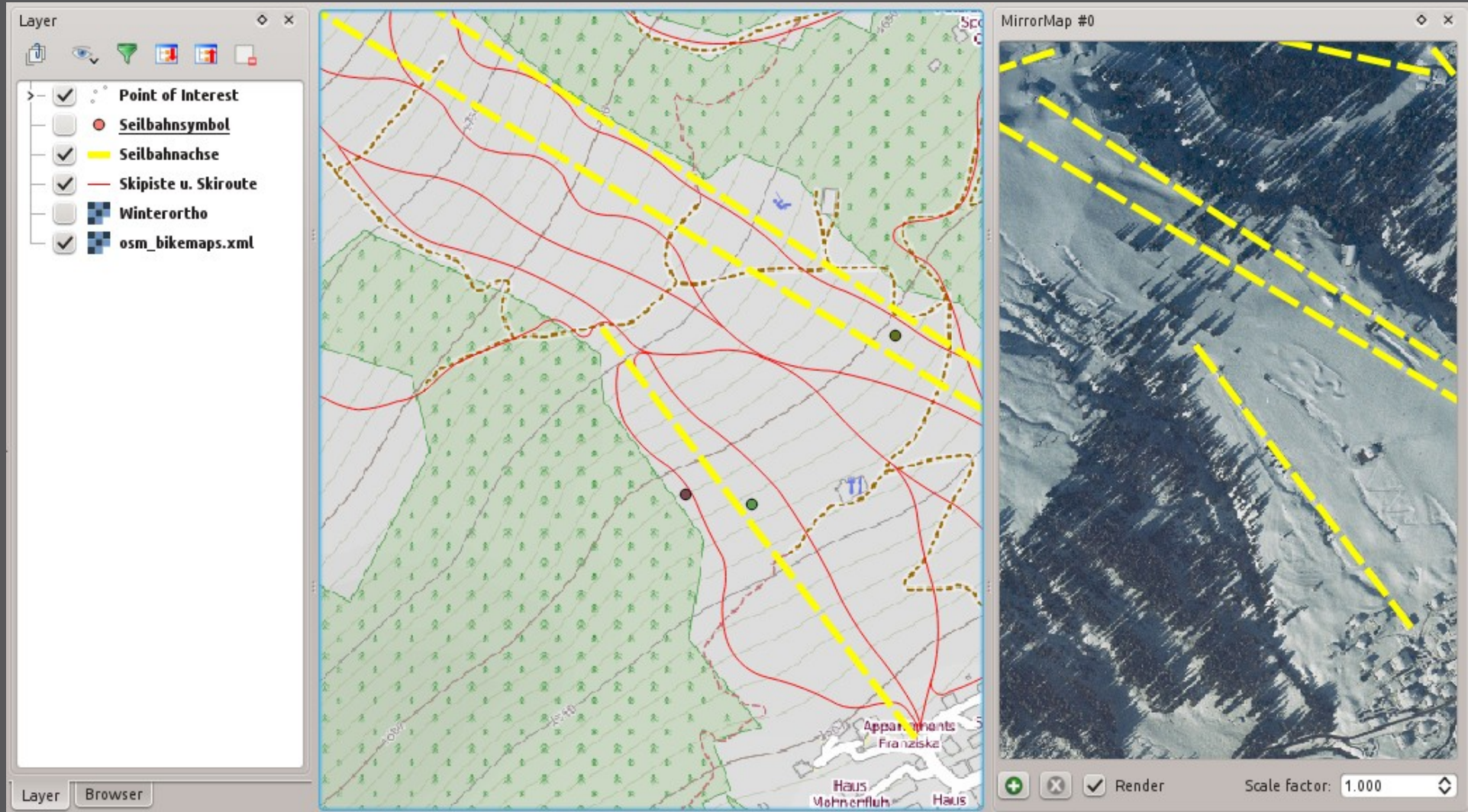
# Tile Map Scale Plugin



- › OSM und andere XYZ-Layer als Hintergrund
- › Alternativen: OpenLayers, TileLayer Plugin



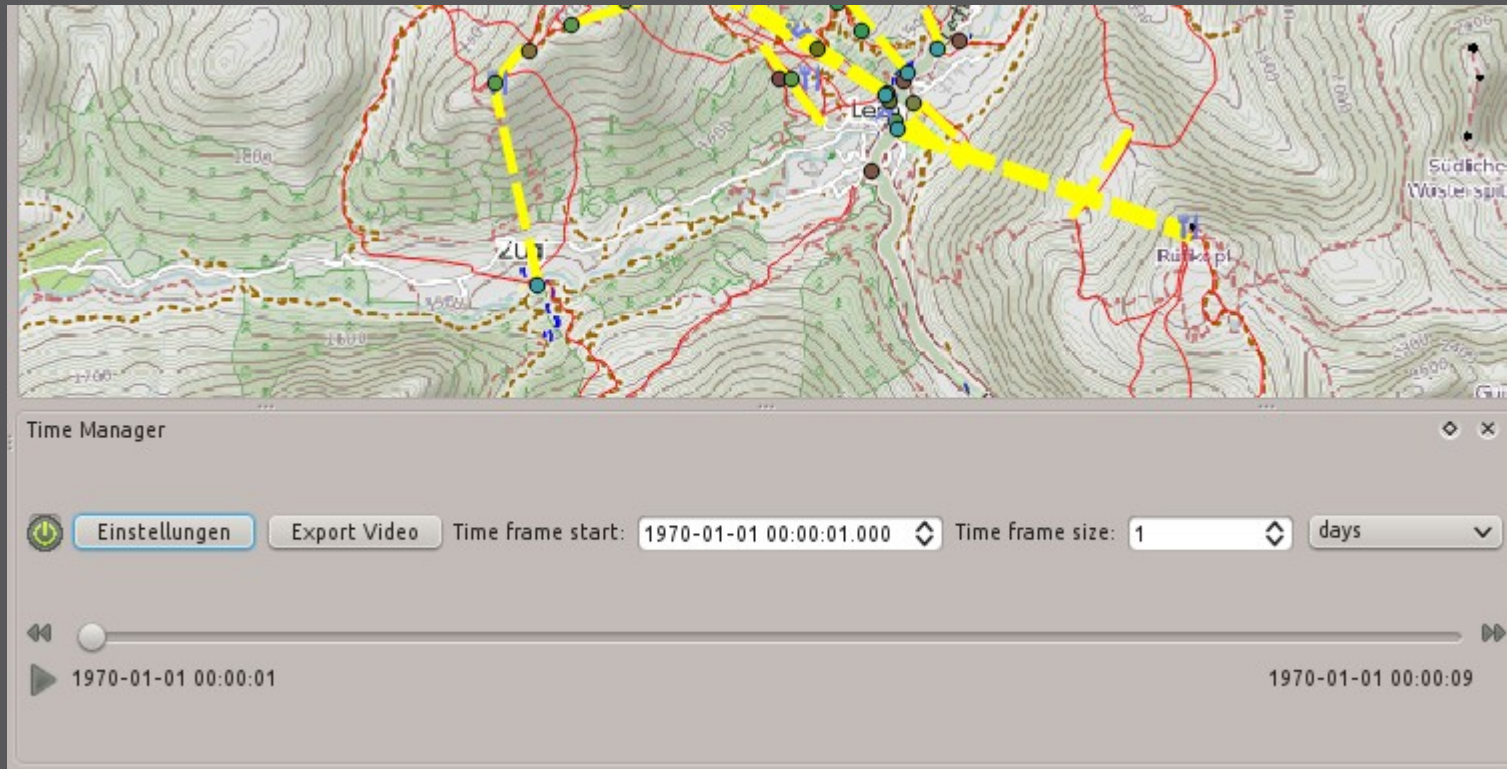
# Dockable MirrorMap



› Synchronisierte Kartenfenster



# Time Manager



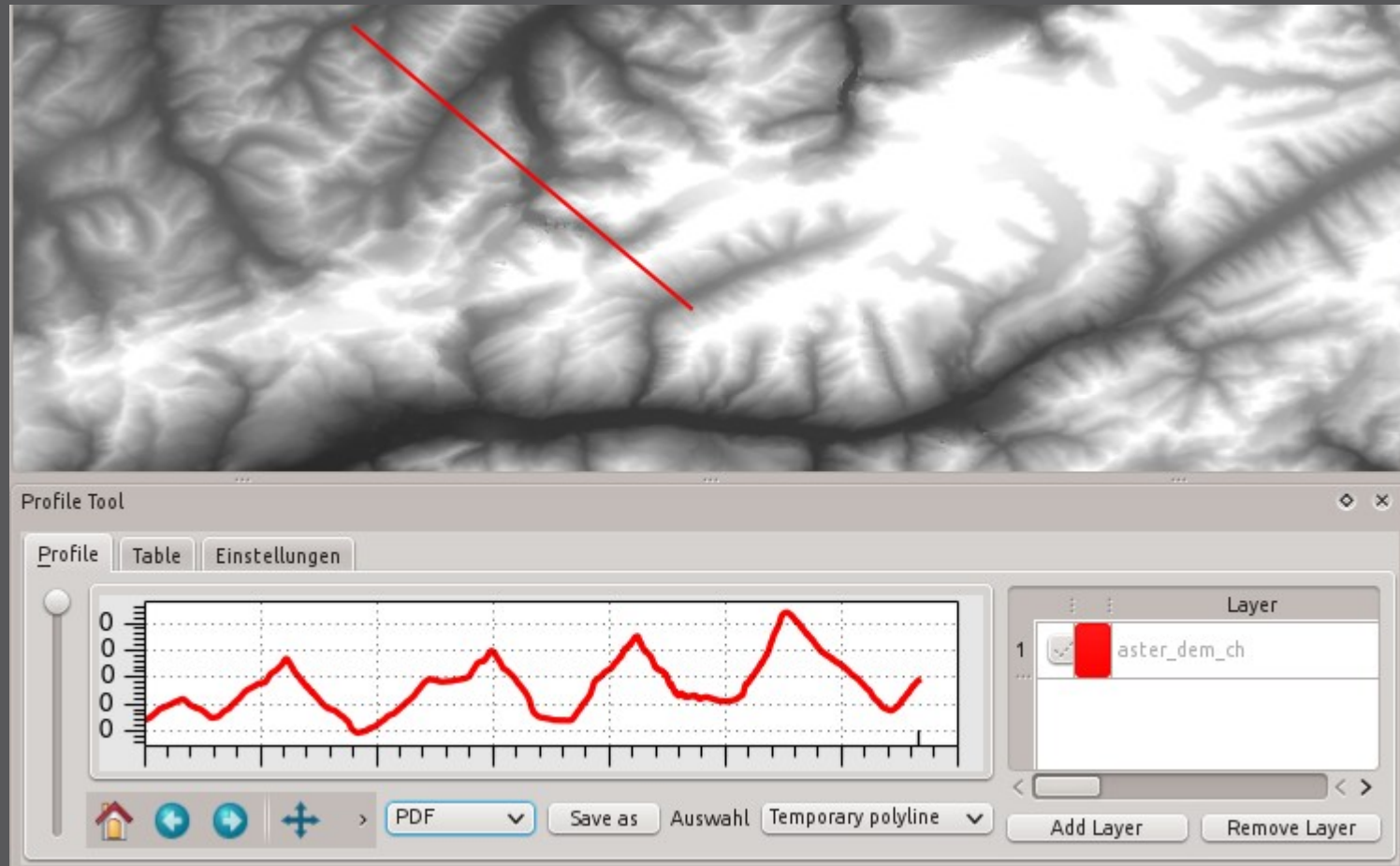
## Animation temporalen Daten (Exp.)

**Raster**





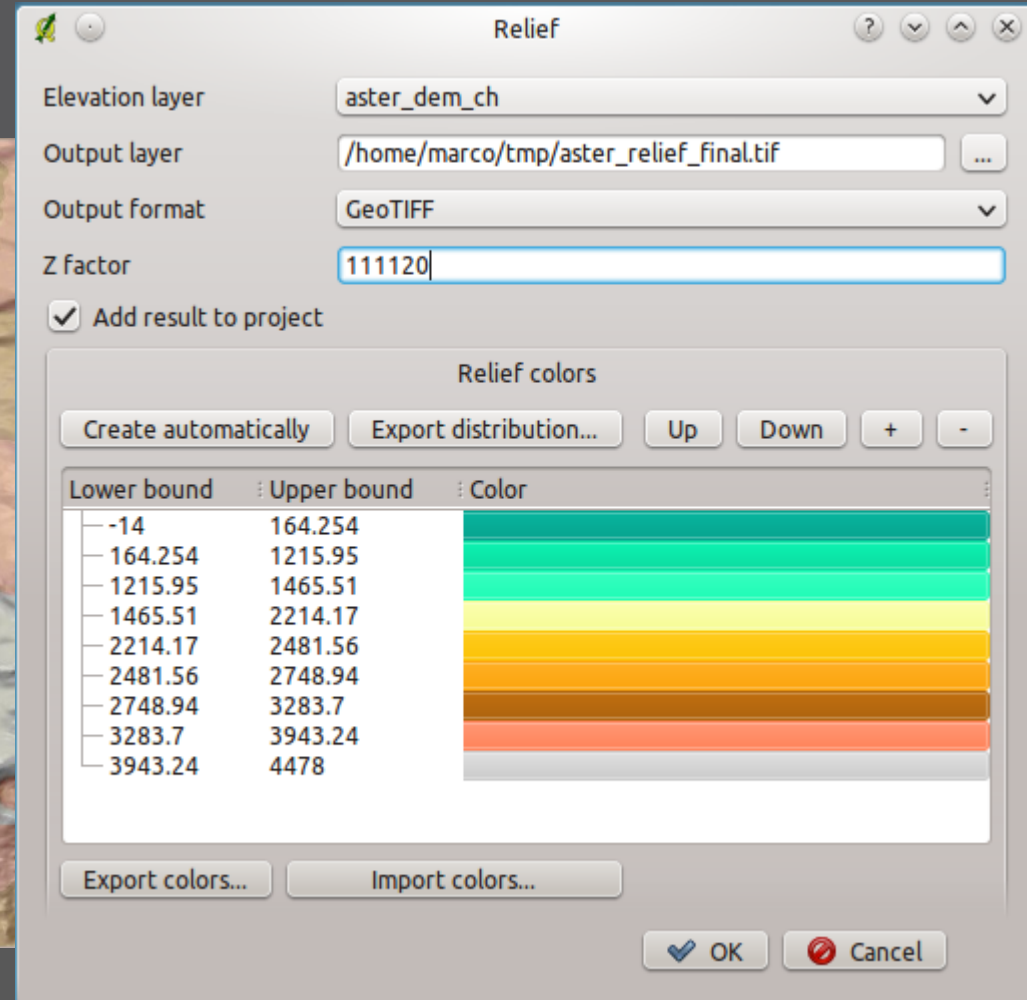
# Profile tool



➤ Höhenprofil, Layervergleich, Export, ..

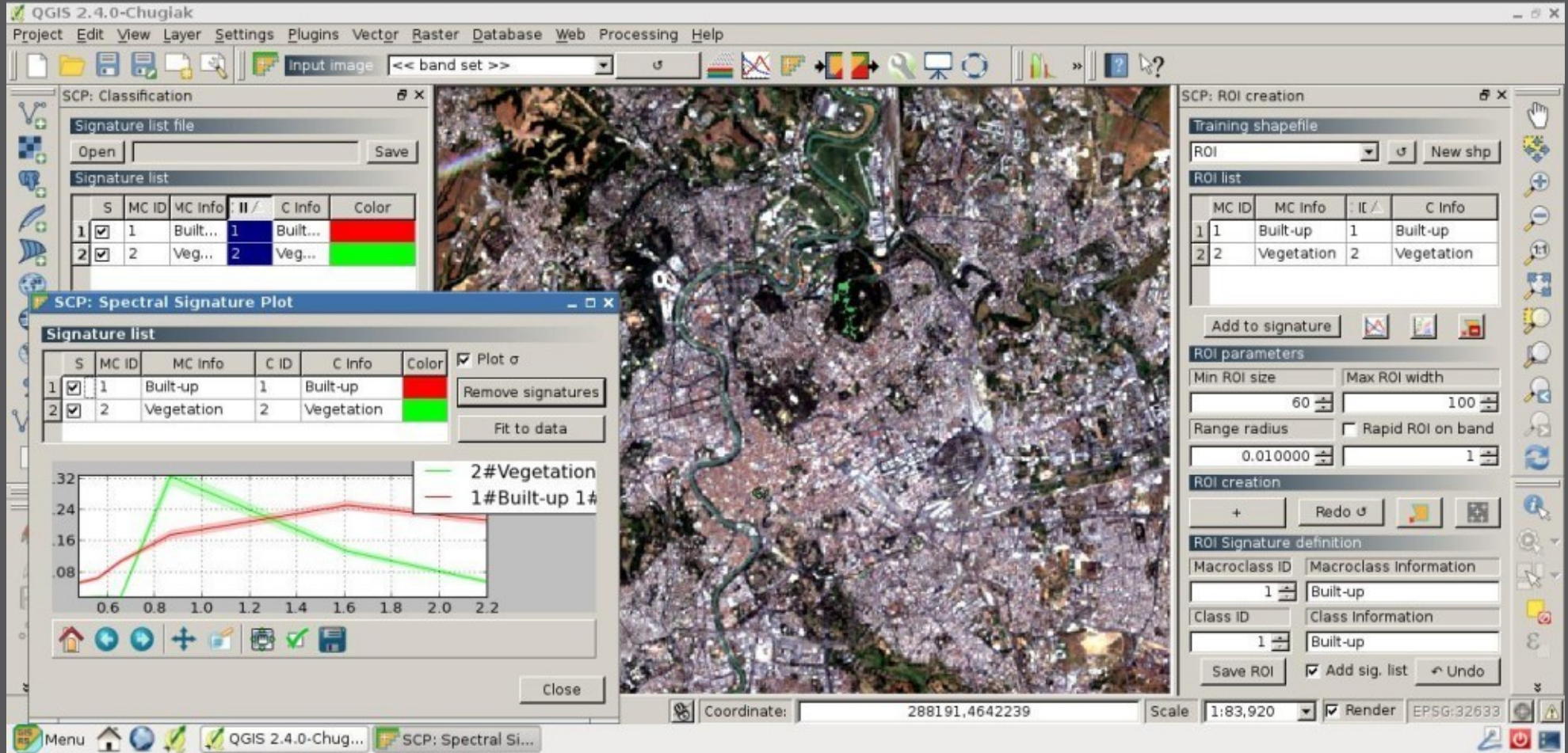


# Rastergeländeanalyse



- Rasterbasierte Geländeanalyse (C++ Core Plugin)
- Neigung, Perspektive, Schummerung, Relief, Rauigkeitsindex

# Semi-Automatic Classification Plugin



QGIS 2.4.0-Chugiak

Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help

SCP: Classification

Signature list file

Open Save

Signature list

S	MC ID	MC Info	II /	C Info	Color
1	1	Built...	1	Built...	Red
2	2	Veg...	2	Veg...	Green

SCP: Spectral Signature Plot

Signature list

S	MC ID	MC Info	C ID	C Info	Color	Plot $\sigma$
1	1	Built-up	1	Built-up	Red	<input checked="" type="checkbox"/>
2	2	Vegetation	2	Vegetation	Green	<input checked="" type="checkbox"/>

Remove signatures

Fit to data

Close

SCP: ROI creation

Training shapefile

ROI New shp

ROI list

MC ID	MC Info	II /	C Info
1	Built-up	1	Built-up
2	Vegetation	2	Vegetation

Add to signature

ROI parameters

Min ROI size Max ROI width

60 100

Range radius Rapid ROI on band

0.010000 1

ROI creation

+ Redo

ROI Signature definition

Macroclass ID Macroclass Information

1 Built-up

Class ID Class Information

1 Built-up

Save ROI Add sig. list Undo

Coordinate: 288191,4642239 Scale: 1:83,920 Render EPSG:32633

## Klassifizierung von Rasterdaten



# Georeferenzier Plugin

on/off	id	srcX	srcY	dstX	dstY	dX[pixels]	dY[pixels]	residual[pixels]
<input checked="" type="checkbox"/>	0	594324.70	4925379.62	594323.07	4925378.72	-0.07	0.66	0.67
<input checked="" type="checkbox"/>	1	600163.35	4925580.09	600162.18	4925582.35	-0.16	-0.90	0.92
<input checked="" type="checkbox"/>	2	608468.69	4924874.29	608468.40	4924874.14	-0.17	0.27	0.32

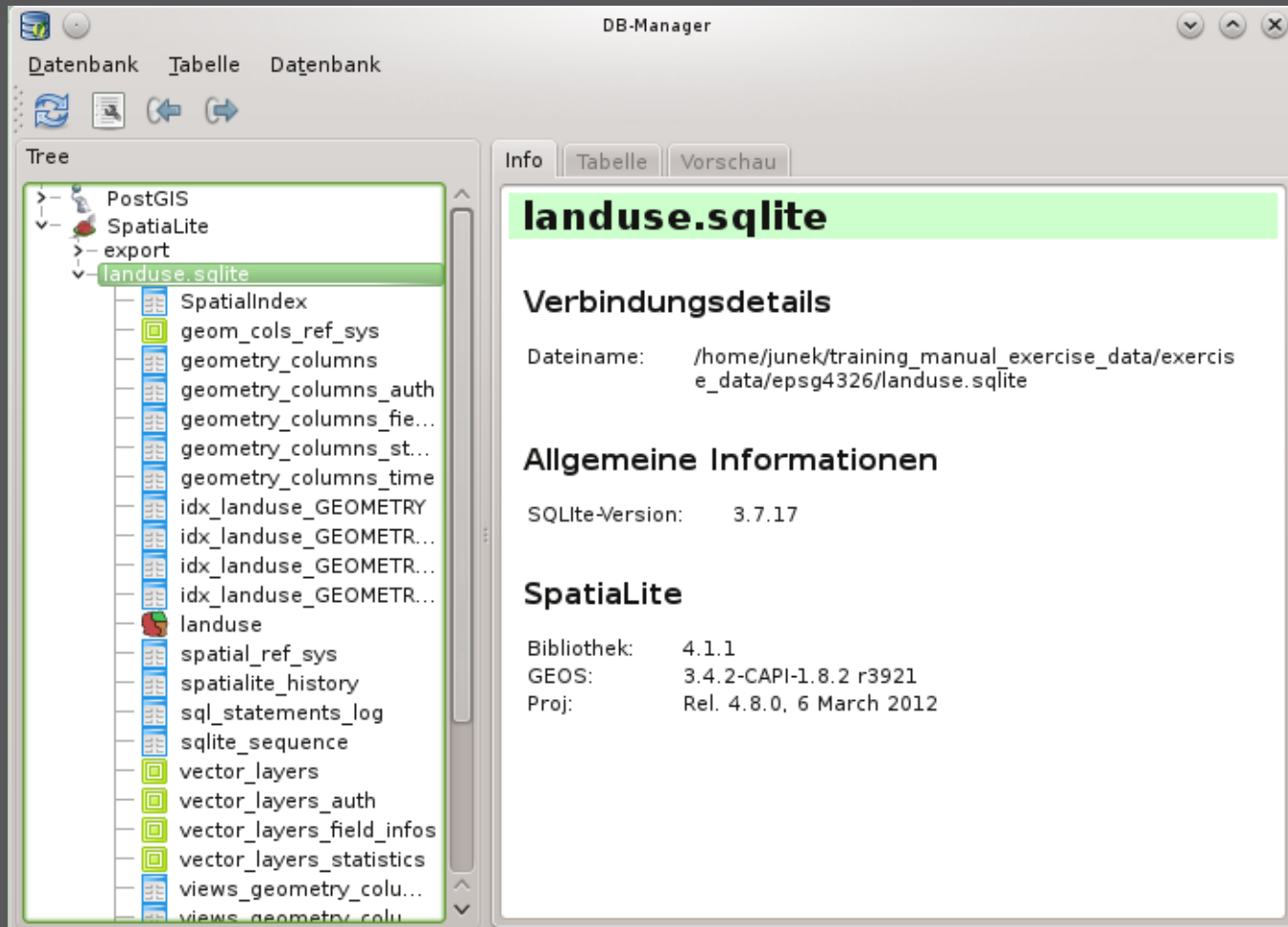
n: Linear Translation (589998, 4.928e+06) Scale (2.00019, 2.00019) Rotation: 0 Mean error: ( 98113,492324)

- Georeferenzierung und Entzerrung von Rastern
- C++ Core Plugin

**DB**



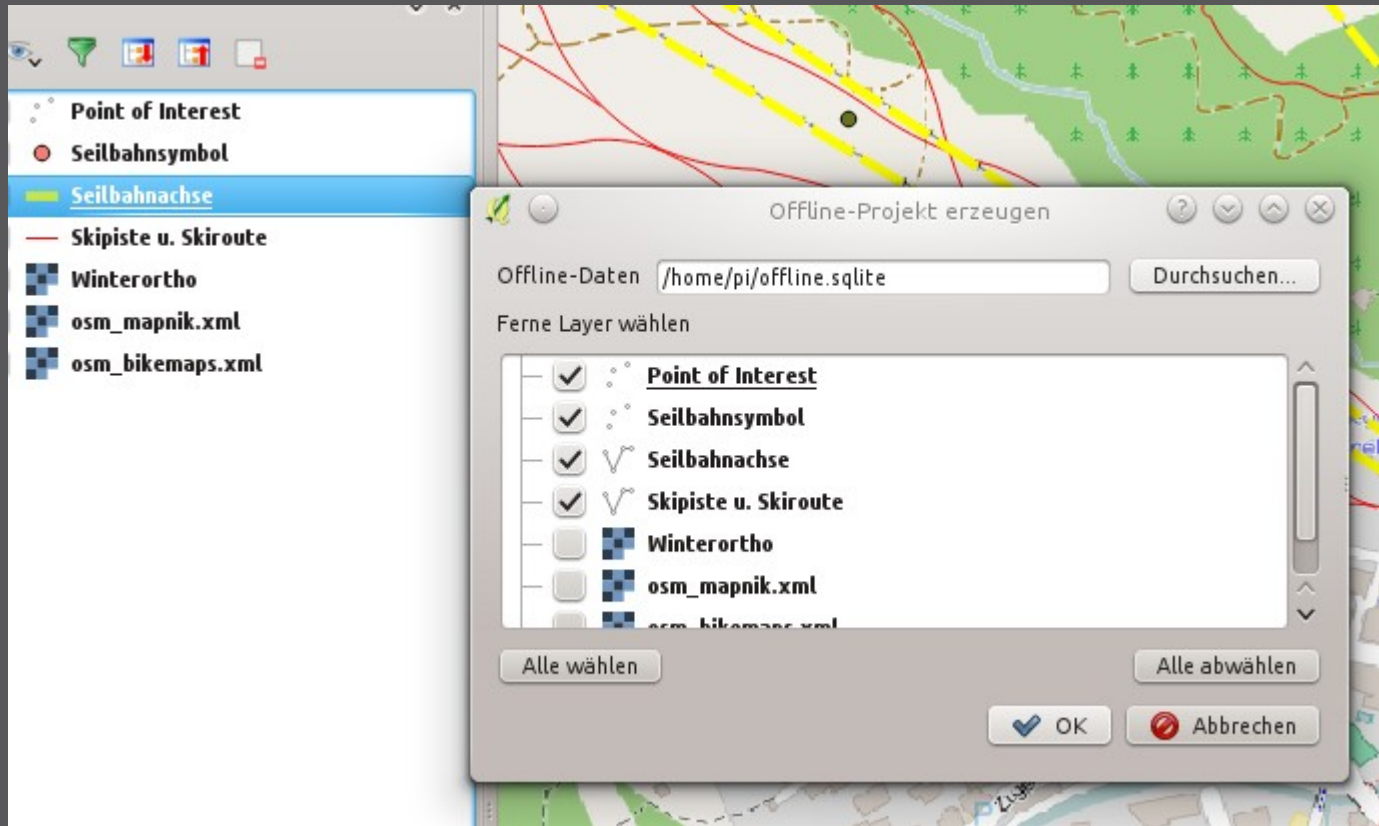
# DB Manager



- › Datentransfer und Schemabearbeitung
- › Core Plugin

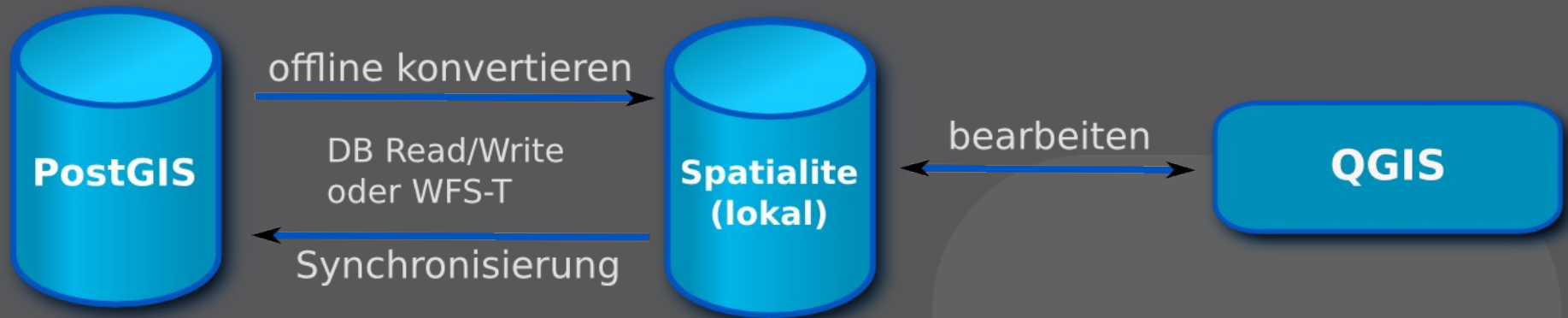


# Offline Editing



- Offline-Bearbeitung und Datenbanksynchronisation
- C++ Core Plugin

# Offline Editing



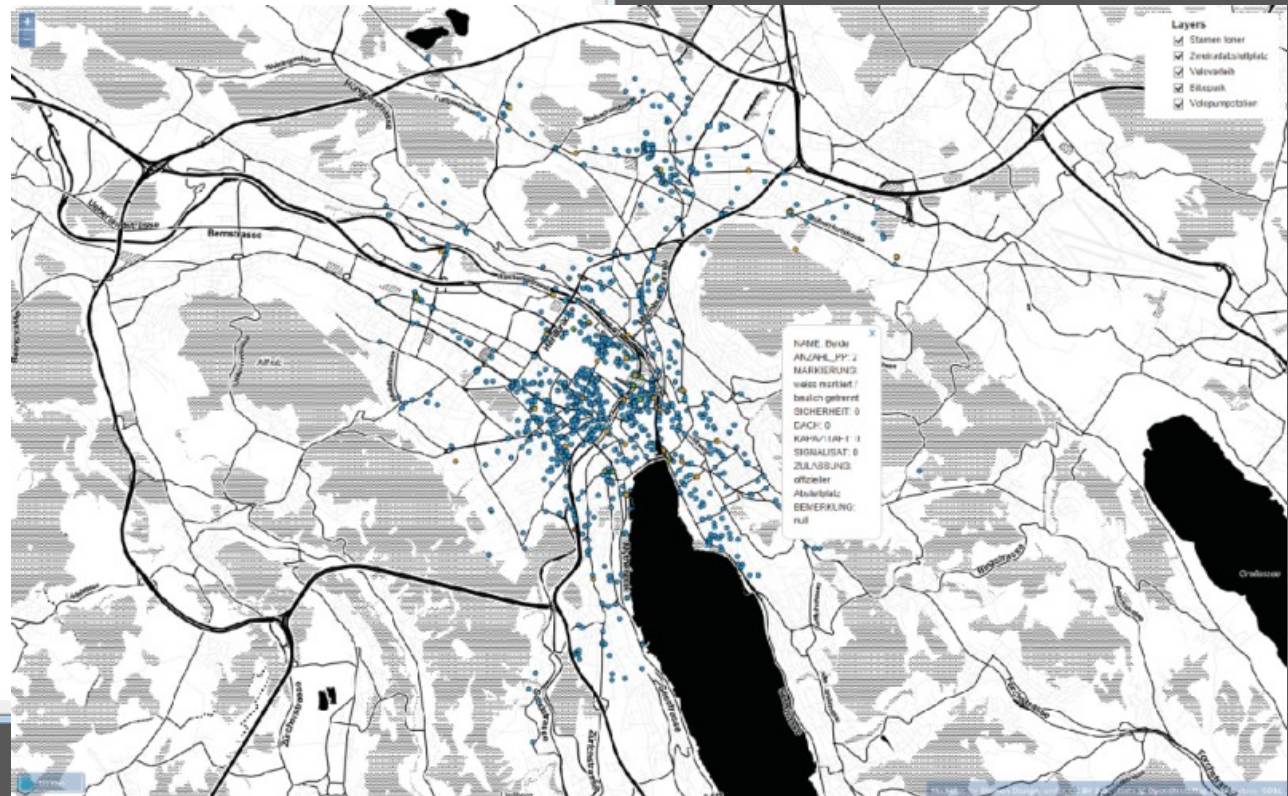
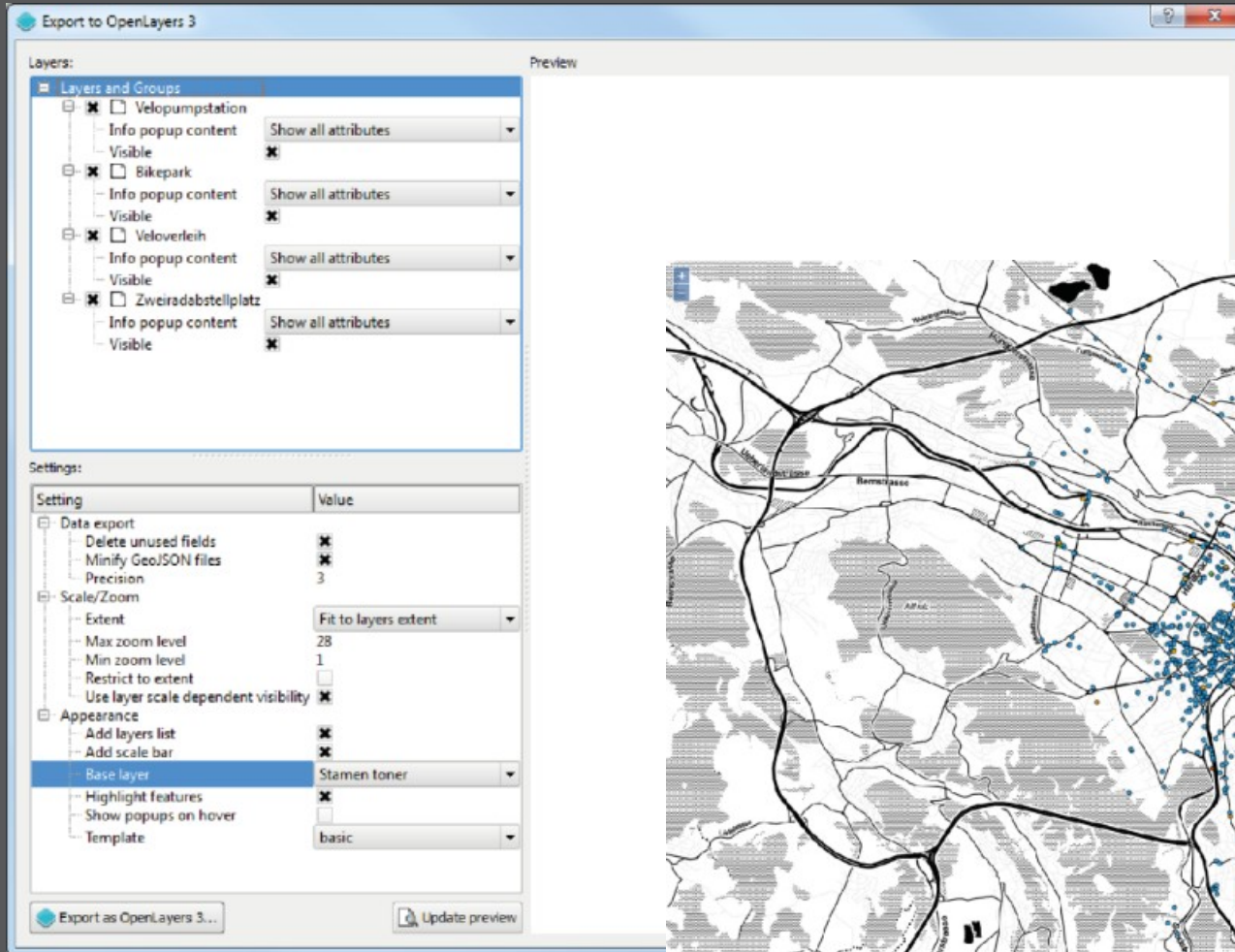
- › Kopie der Layerdaten in lokale Spatialite DB
- › Synchronisierung mit ursprünglicher DB



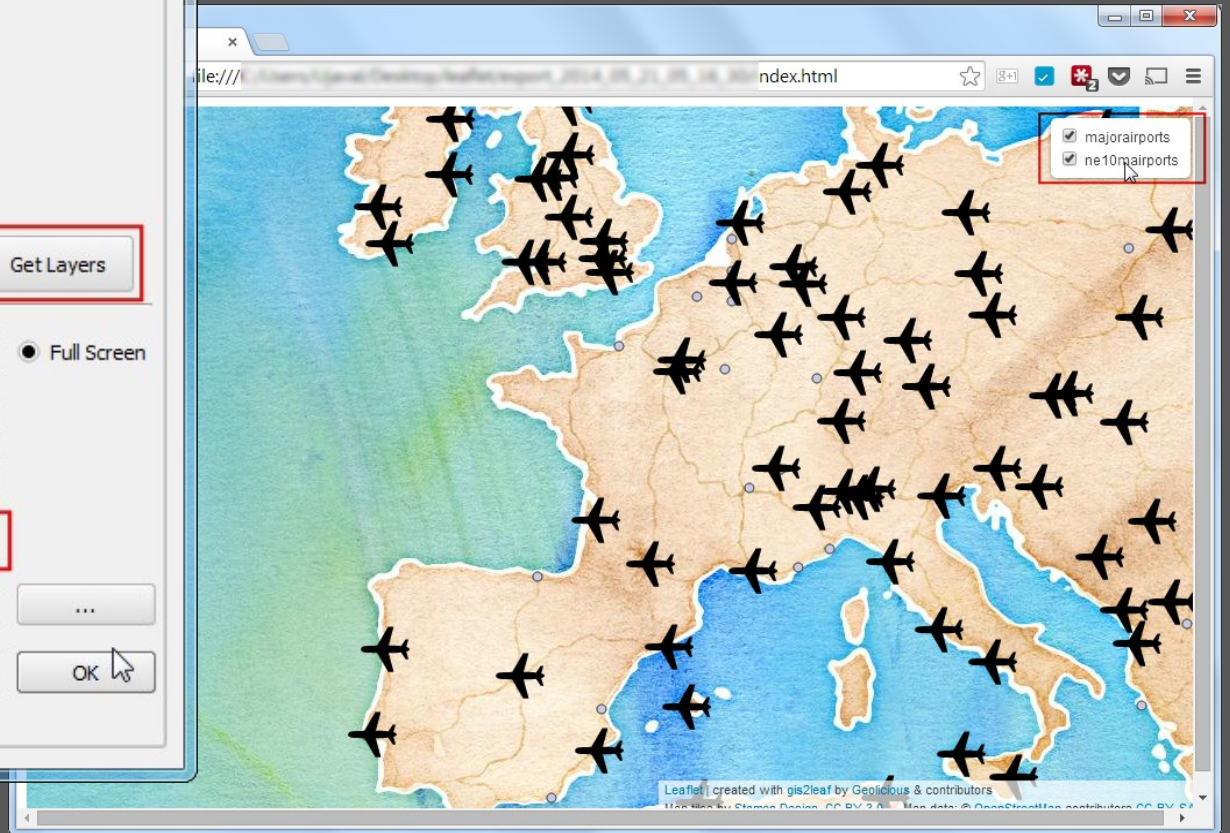
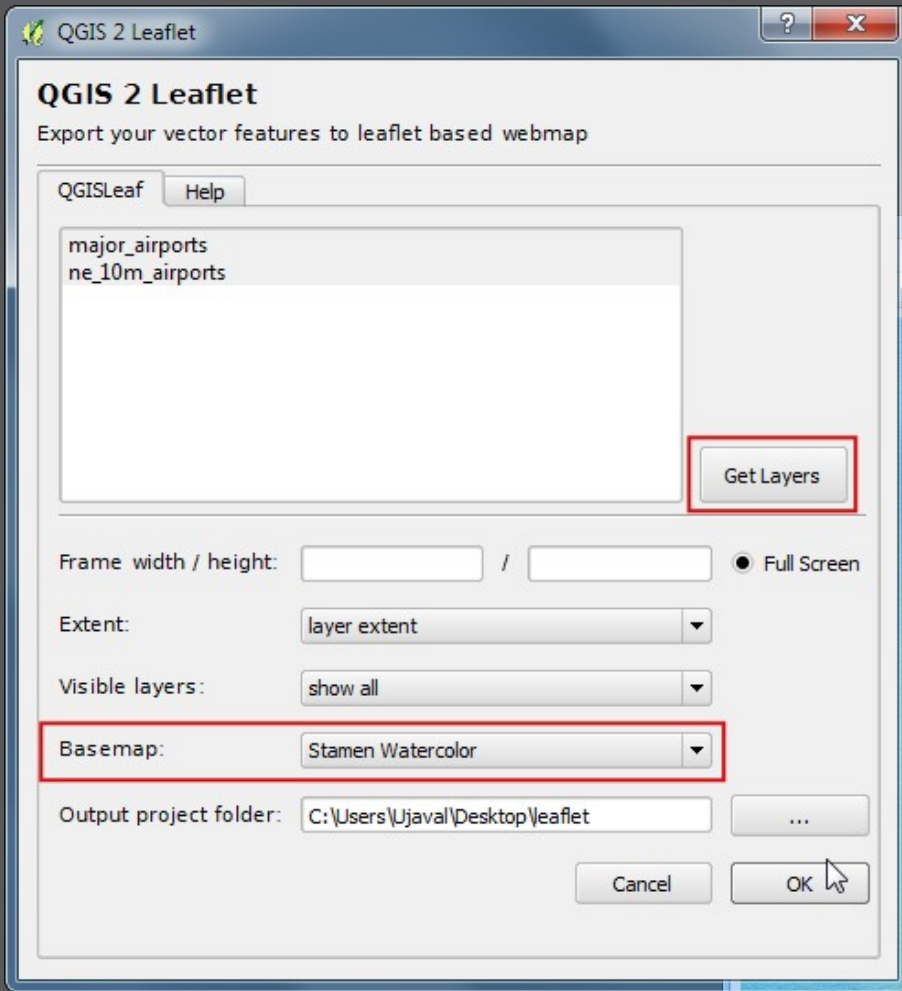
# Web-Karten



# Export to OpenLayers 3



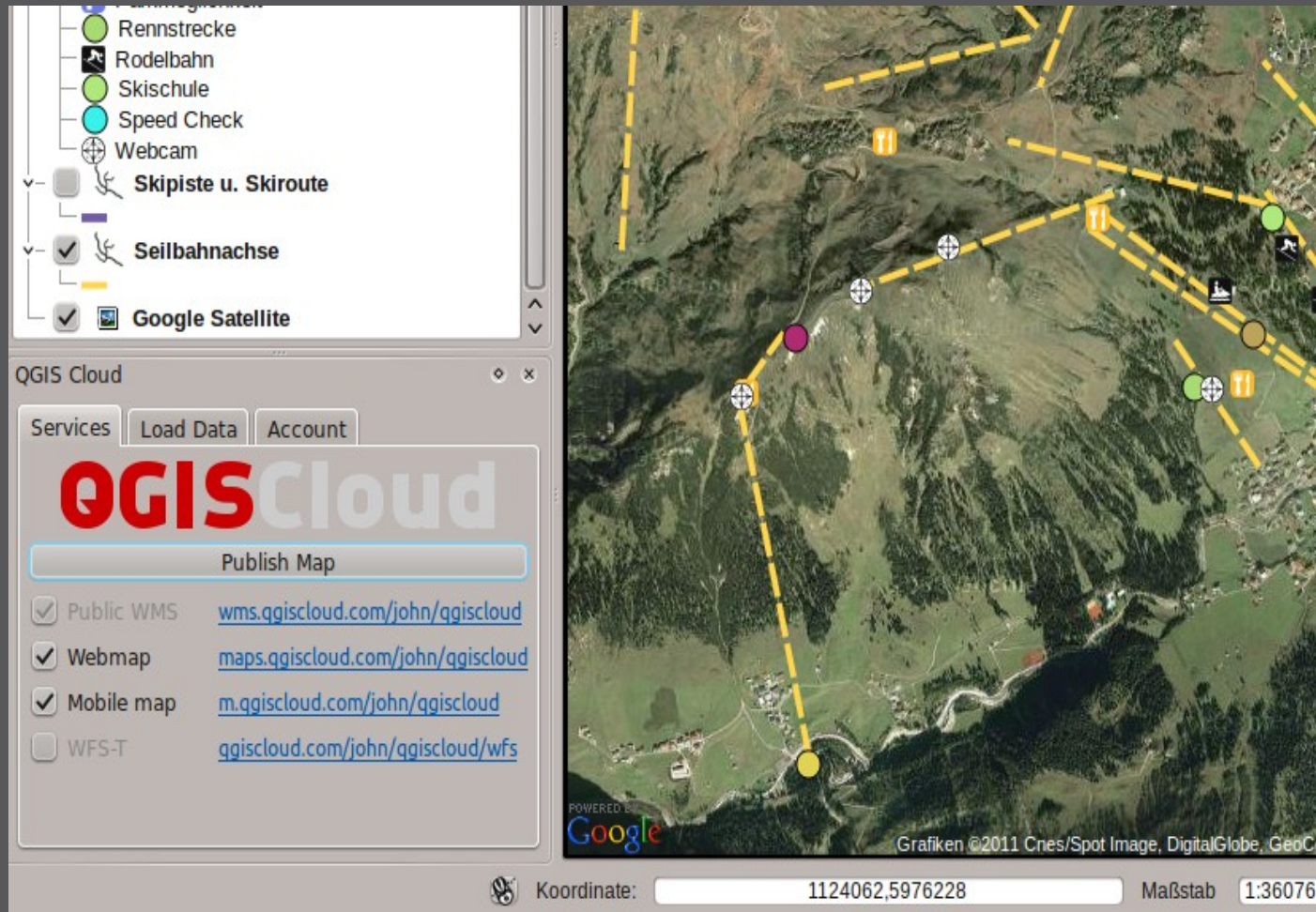
➤ HTML/Javascript-Erzeugung für OL 3



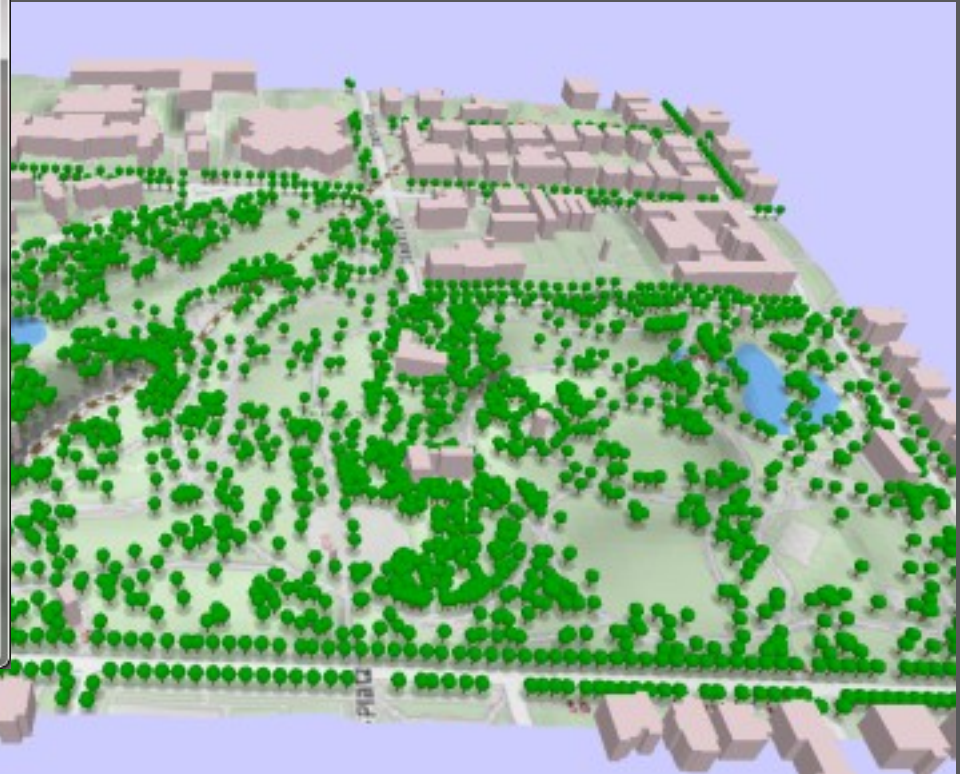
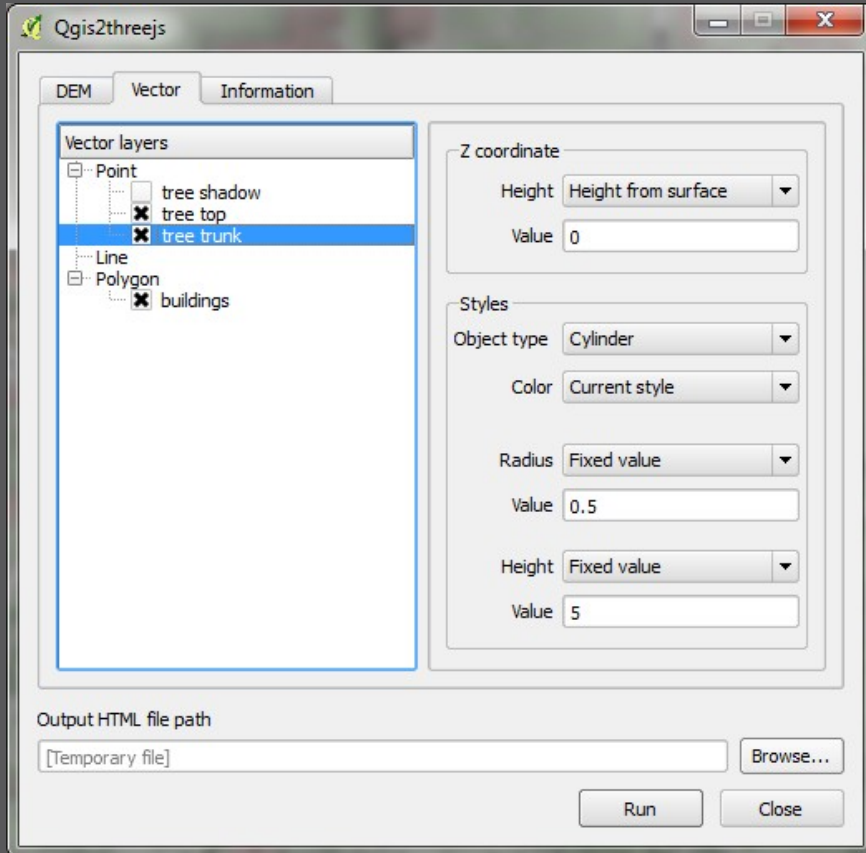
## ➤ HTML/Javascript-Erzeugung für Leaflet



# QGIS Cloud Plugin

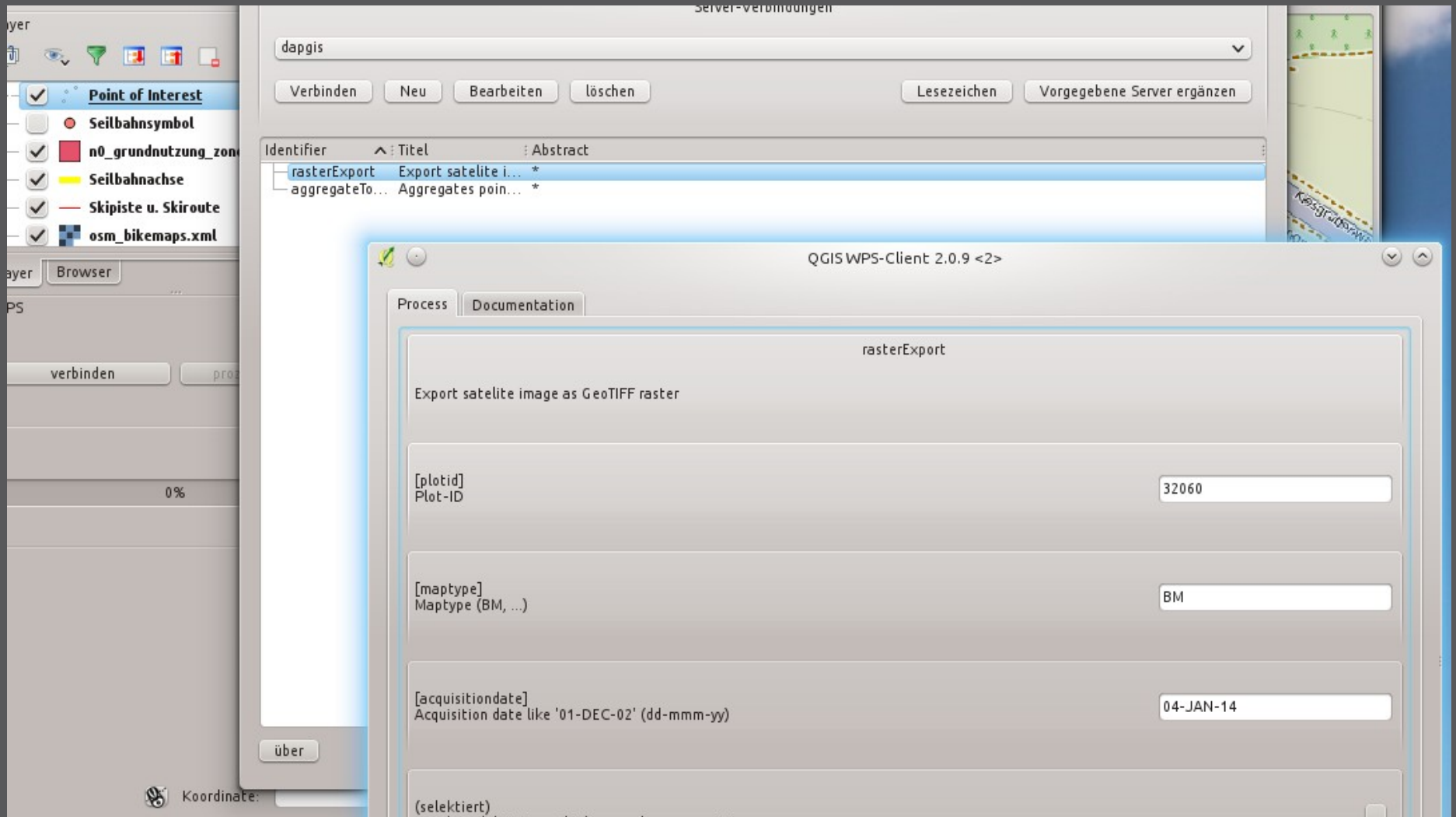


## ↳ Publikation von QGIS-Karten in Cloud



## ➤ HTML/Javascript-Erzeugung für threejs

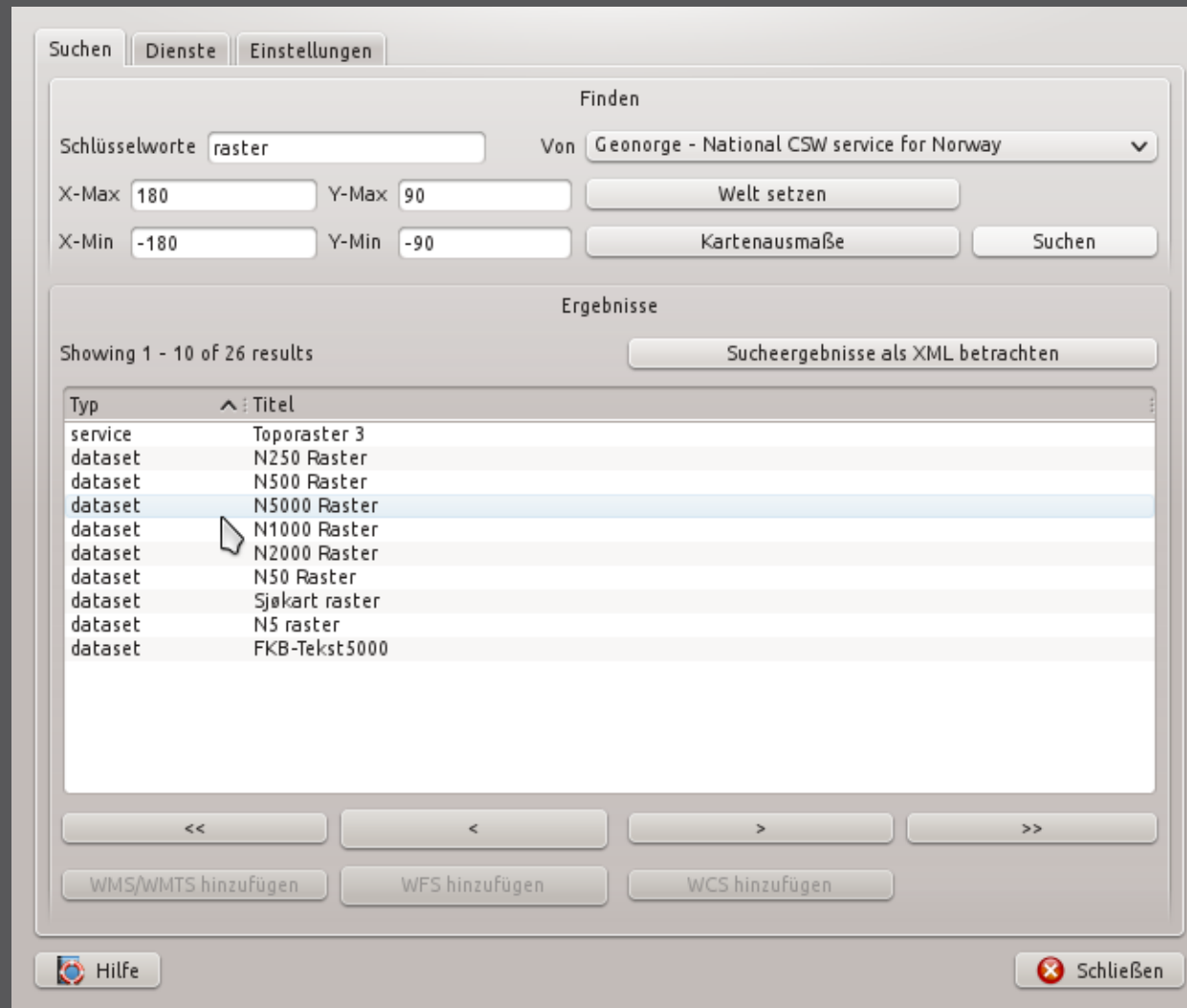
# **OGC services**



## ➤ Aufruf von Web Processing Services



# MetaSearch Catalogue Client



➤ Suche in CSW Katalogdiensten (Core Plugin)





# WFS 2.0 client

**WFS 2.0 OnlineResource**

Authentication required

**StoredQueries**

▼

CRS  string

DataSetIdCode  string

DataSetIdNamespace  string

Language  string

➤ Ergänzt WFS-Provider mit WFS 2 Funktionen

# Fachlösungen



MOLUSCE

Inputs | Evaluating correlation | Area Changes | **Transition Potential Modelling** | Cellular Automata Simulation | Validation | Messages

▼ Define Samples

Mode: Random | Number of samples: 2000 | Save Samples... |  Add to canvas

Method: Artificial Neural Network (Multi-layer Perceptron)

Neighbourhood: 1 px

Learning rate: 0.001

Maximum iterations: 100

Hidden Layers: 12

Momentum: 0.001

Δ Overall Accuracy: -0.00353

Min Validation Overall Error: 0.08819

Current Validation Kappa: 0.81642

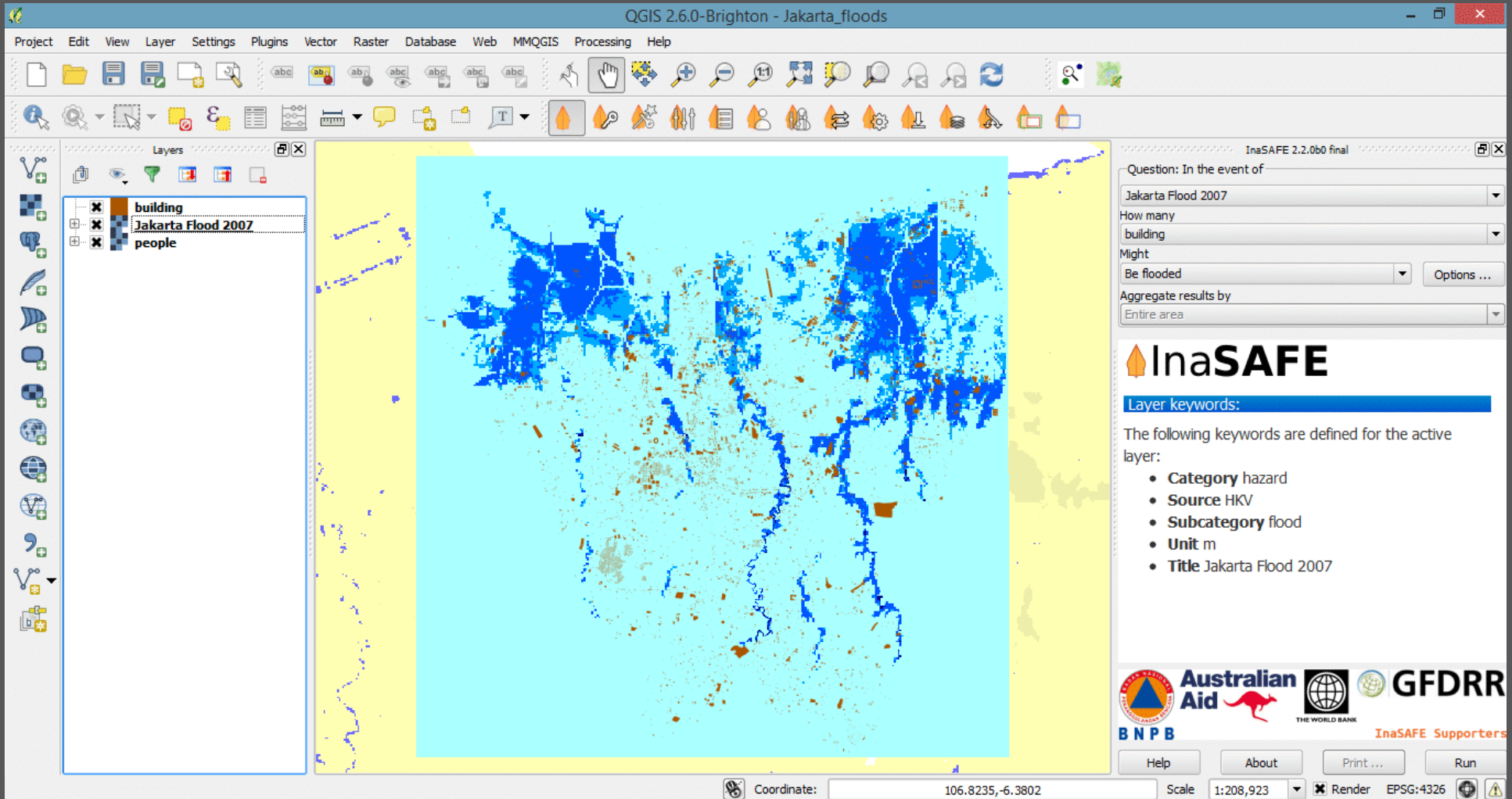
Train neural network | Stop

Neural Network learning curve

The graph displays the training and validation performance of a neural network. The x-axis represents iterations from 0 to 100, and the y-axis represents a performance metric from 0.06 to 0.18. The training curve (green line with dots) starts at approximately 0.18 and decreases steadily to about 0.05. The validation curve (red line) starts at approximately 0.18, drops to about 0.12 by iteration 10, and then fluctuates between 0.09 and 0.11 for the remainder of the training process.

0%

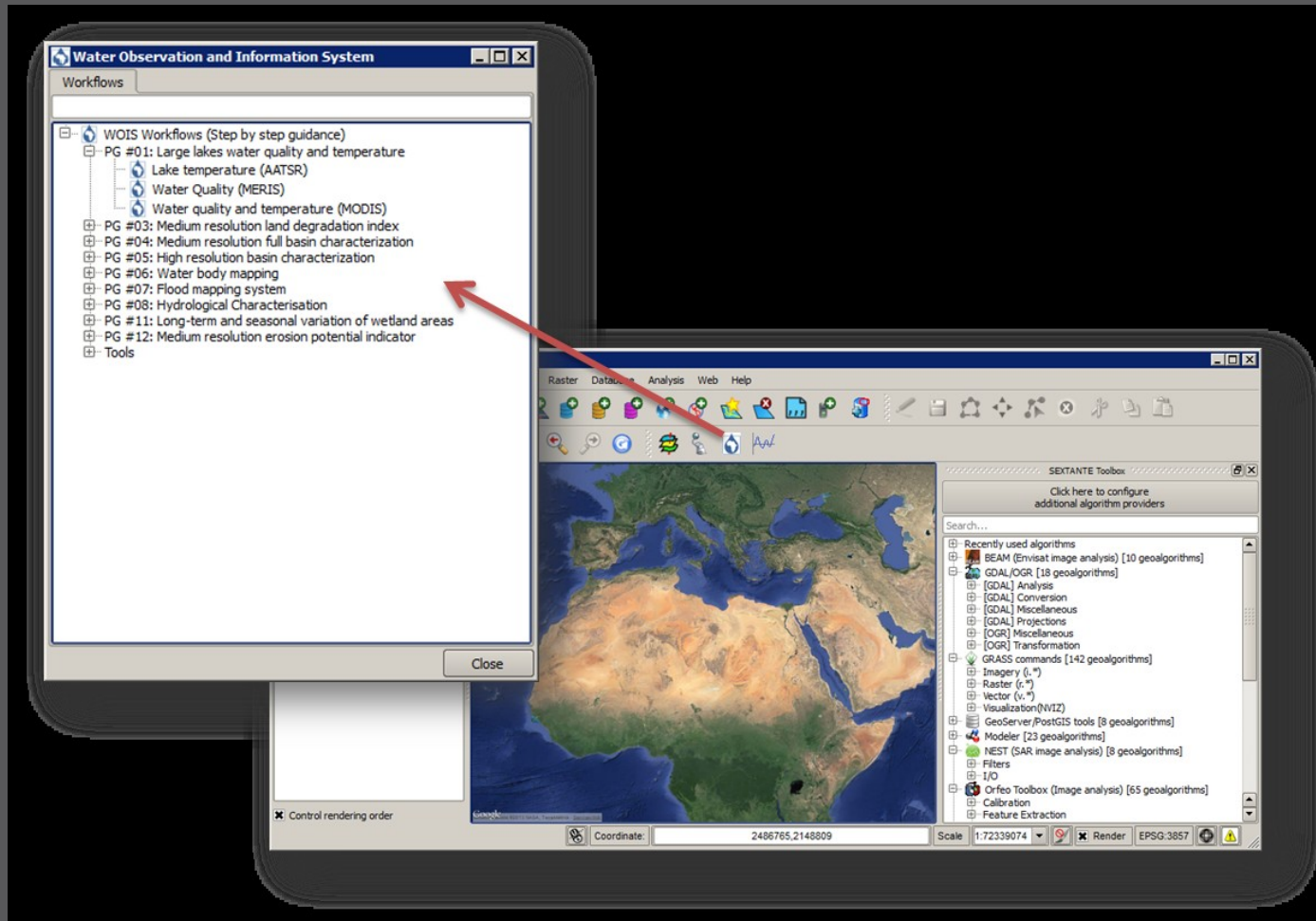
## ➤ Analyse und Modellierung von Landnutzung



# ➤ Naturgefahrenszenarien zur Massnahmenplanung



# TIGER-NET Water Observation and Information System (WOIS)



➤ Satellitendatenauswertung zum Management von Wasserressourcen in Afrika (ESA)

# Plugin-Entwicklung



# Plugin Builder

QGIS Plugin Builder – Version 2.8.1

**QGIS Plugin Builder**

Class name

Plugin name

Description

Module name

Version number

Minimum QGIS version

Text for the menu item

Author/Company

Email address

Menu

**Recommended Items**

Bug tracker

Home page

Repository

Tags  ...

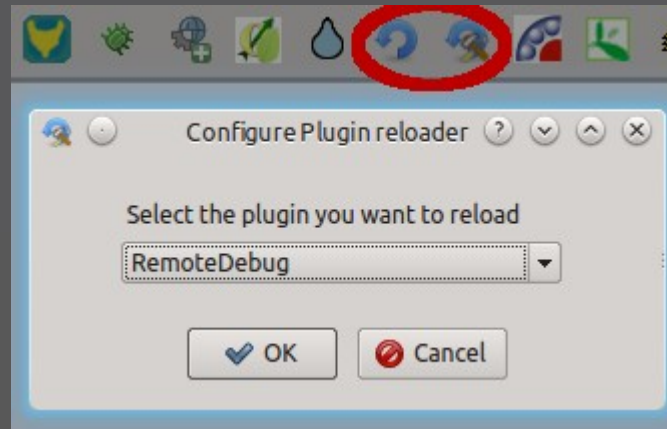
Flag the plugin as experimental

Help Cancel OK

## ➤ Erzeugung einer Plugin-Vorlage



# Plugin Reloader

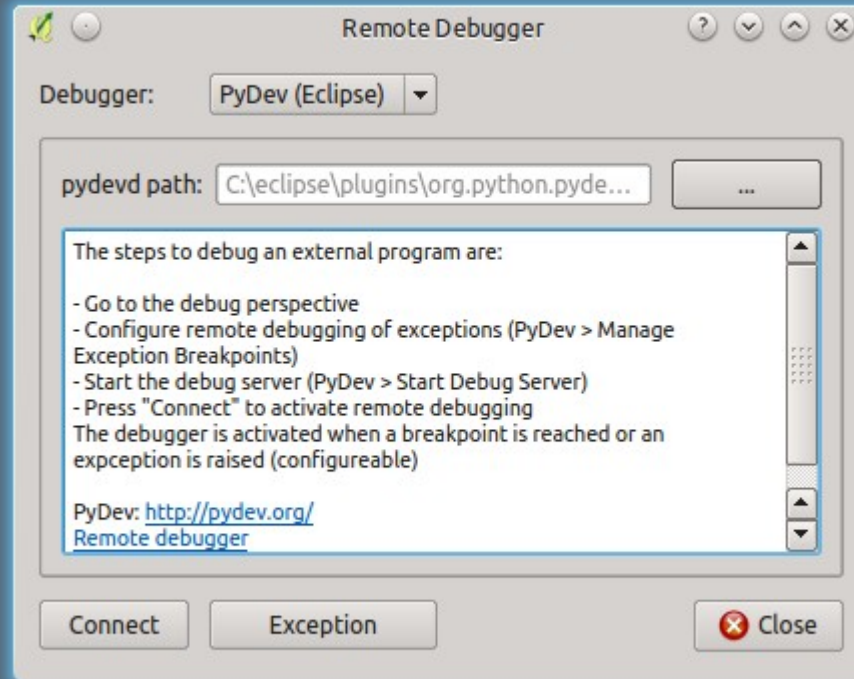


- Neuladen eines Plugins nach Code-Änderung (Exp.)





# Remote Debug



- Remote Debugging von QGIS plugins (Exp.)
- Bonus Tipp: [geoapis.sourcepole.com](http://geoapis.sourcepole.com)



# Tipps

## › News-Quellen:

- › Blogs: planet.qgis.org
- › Twitter #qgis

## › plugins.qgis.org

- › Letzte Updates?
- › Tickets?

## › Links:

- › <http://sourcepole.ch/qgis-plugins-fossgis2015>



## Danke!



@PirminKalberer  
@sourcepole