QGIS is dead! Long live QGIS!

The very best new features of QGIS 3.x

Based on previous presentations by @AndiNeum and @geomenke

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@mbernasocchi?

- QGIS Co-Chair

- QGIS on Android dad

- OPENGIS.ch director

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OPENGIS.ch LLC

Opensource geospatial experts at your doorsteps


David

Matthias

Marco

Denis

Mario
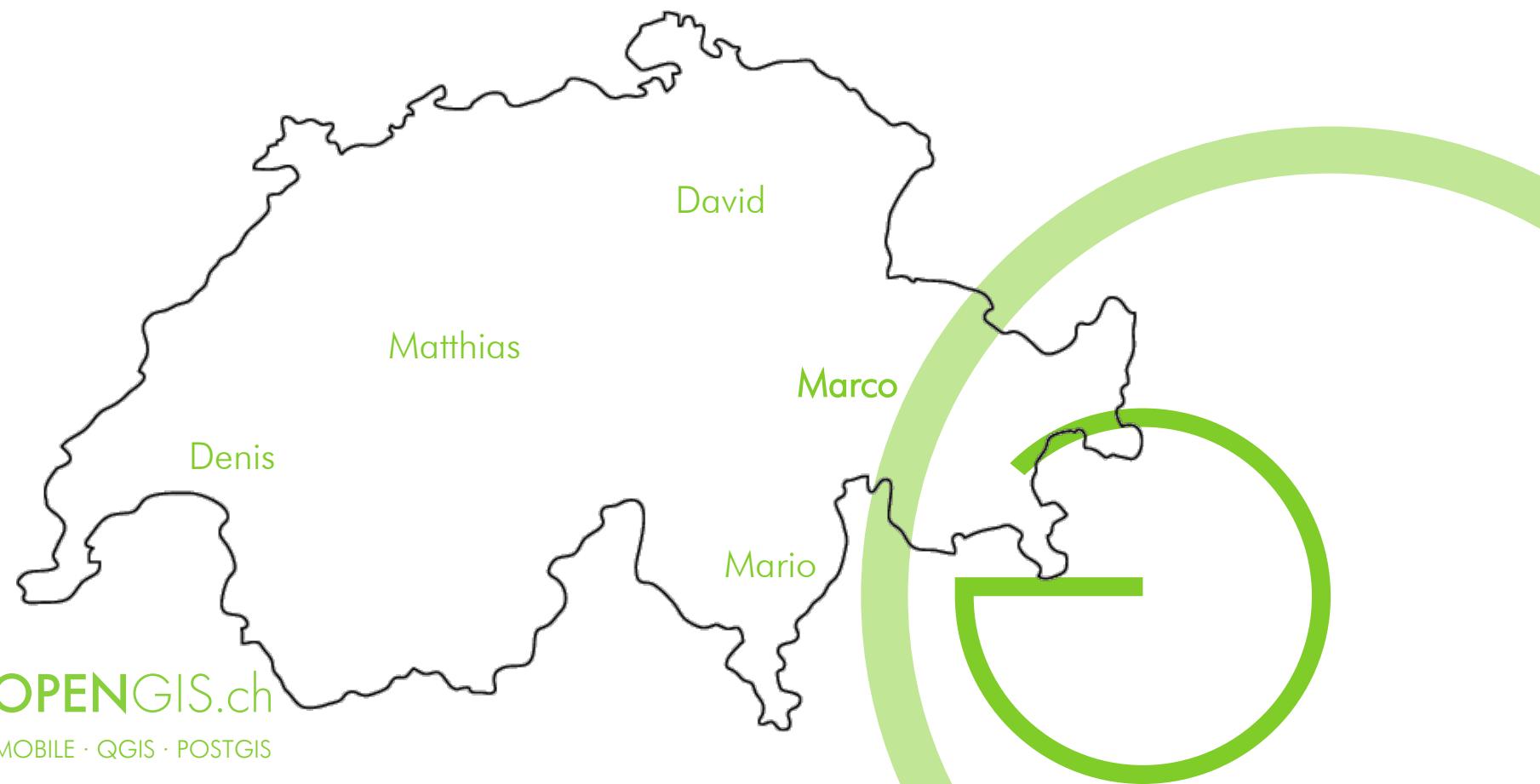
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QGIS Evolution

- QGIS 0.0.1: 2002

- QGIS 1.0 "Kore": 2009

- QGIS 2.0 "Dufour": 2013

- QGIS 2.18 "Las Palmas": 2016 (October)

- QGIS 3.0 "Girona": 2018 (February)

- QGIS 3.4 "Madeira" (LTR version): 2018 (October)

- QGIS 3.6 "Noosa": 2019 (February)

- QGIS 3.8 "Zanzibar": 2019 (June)

- QGIS 3.10 "A Coruña (?)": 2019 (October) - LTR (2020 February)

- QGIS road map: https://www.qgis.org/en/site/getinvolved/development/roadmap.html#release-schedule
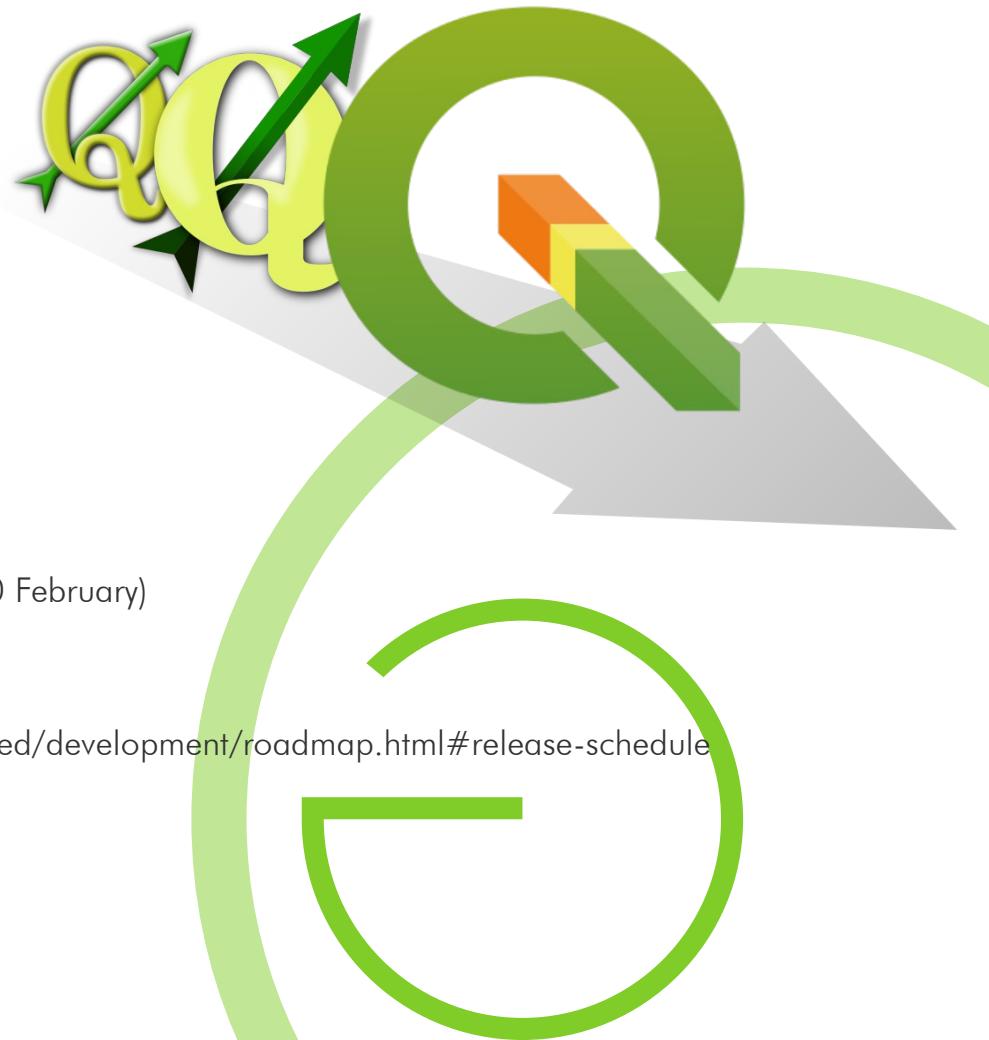
2.18 LTR → 3.4 LTR

- 2.18 End of life

  - No more releases

  - No more bugfixes

- 3.4.8 Current LTR

  - Time to upgrade (and upgrade your plugins)

- 3.10.4 Next LTR (21.02.20)

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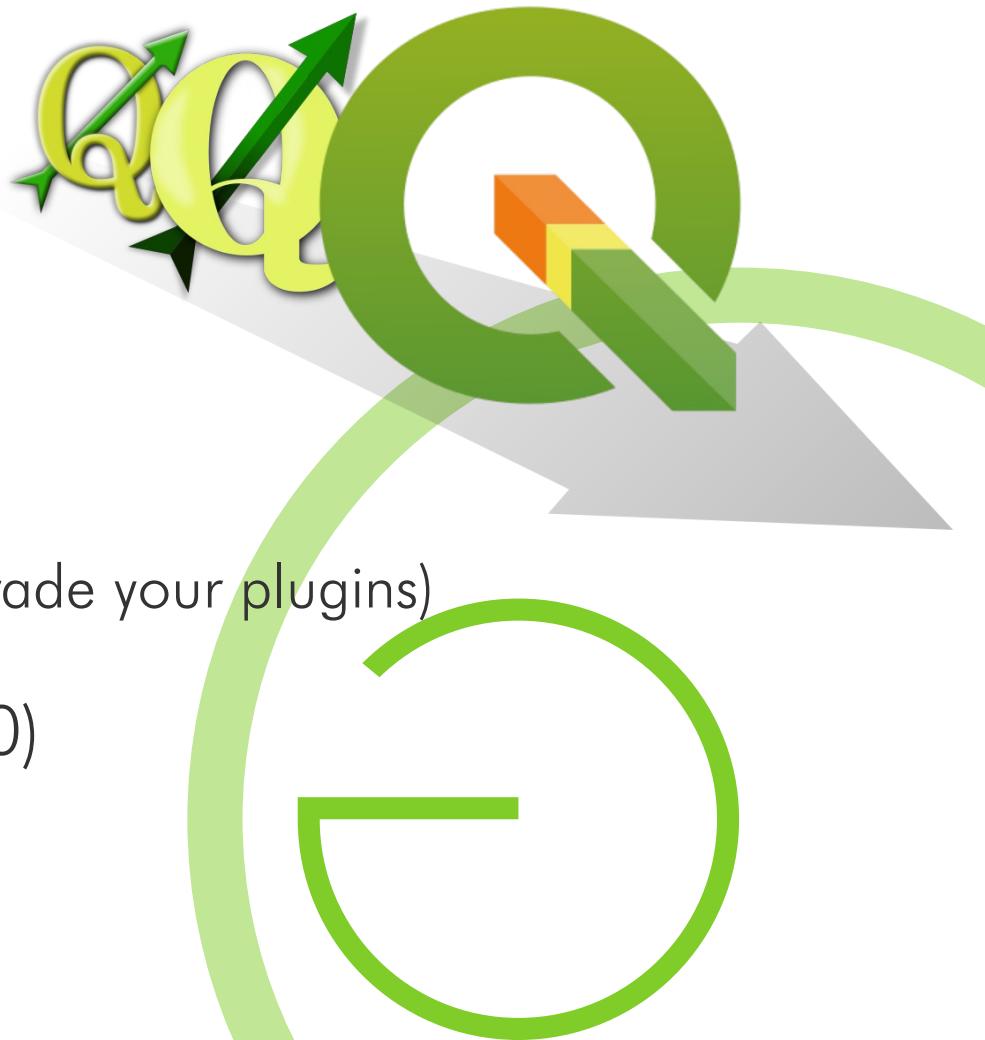
QGIS visual changelogs

- When you install a new QGIS version, always have a look at the visual changelogs:

- https://www.qgis.org/en/site/forusers/ visualchangelogs.html

3.2.2
2.18.23 LTR

DISCOVER QGIS   FOR USERS   GET INVOLVED   DOCUMENTATION   English ▼

Feature: FULL screen Map via Ctrl-Shift-Tab

Besides Ctrl-Tab you can now do Ctrl-Shift-Tab, which will show you the Map and ONLY the Map, no more toolbars or buttons (or even without Window Title, in combination with F11). Great for Full Screen Map projection via Beamer or on Big Screens. You can still zoom and pan! (Based on work of Mathieu Pellerin)

This feature was developed by Richard Duivenvoorde

QGIS vs ArcGIS
2004 - 2019

Google trends 12.06.19

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QGIS vs ArcGIS
2014 - 2019 Worldwide

Google trends 12.06.19

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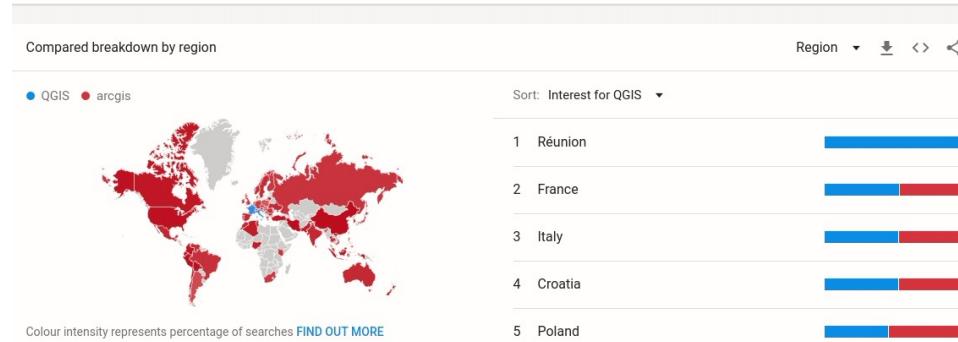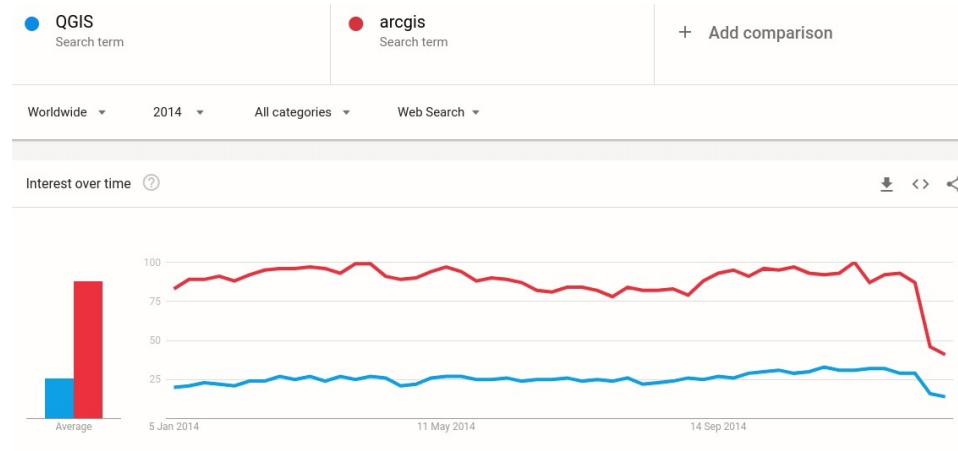
QGIS vs ArcGIS
2014 - 2019 USA

Google trends 12.06.19

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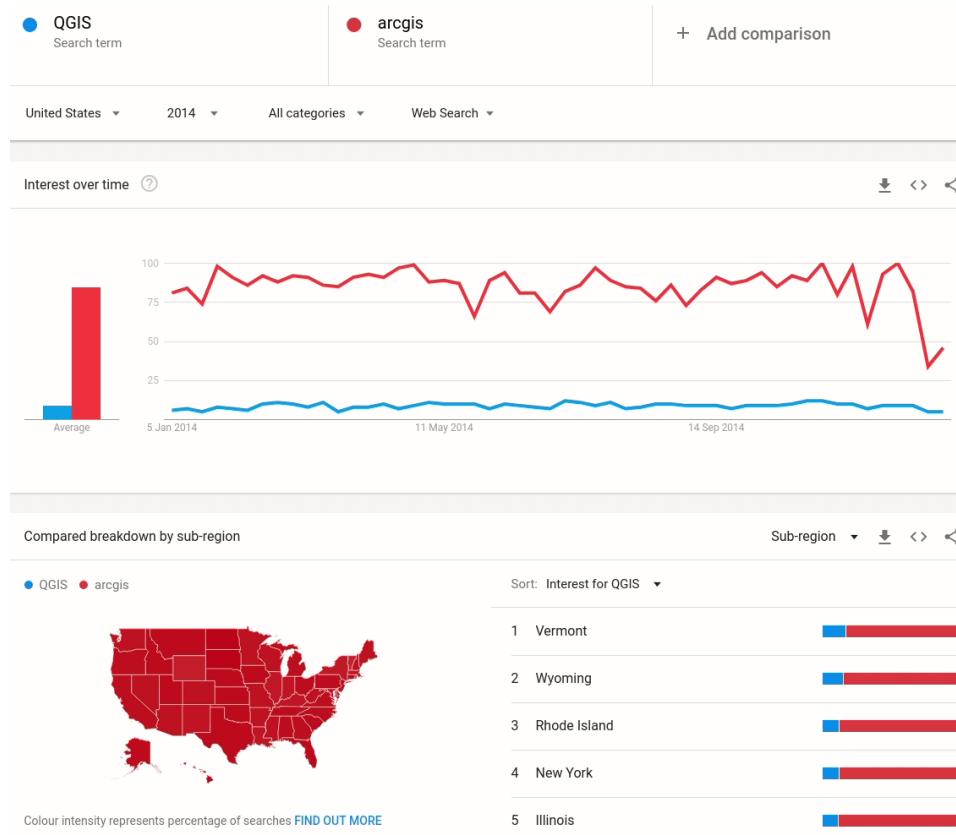
QGIS vs ArcGIS
2014 - 2019 Switzerland

Google trends 12.06.19

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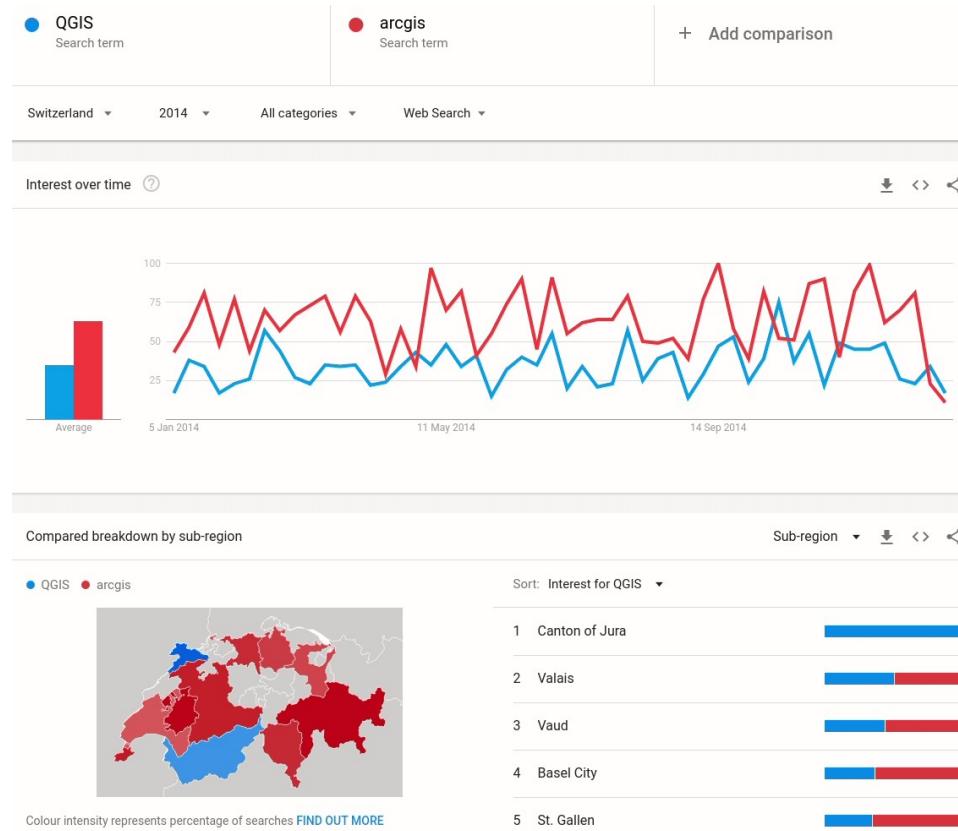
QGIS vs ArcGIS
2010 - 2019 France

Google trends 12.06.19

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MOBILE · QGIS · POSTGIS
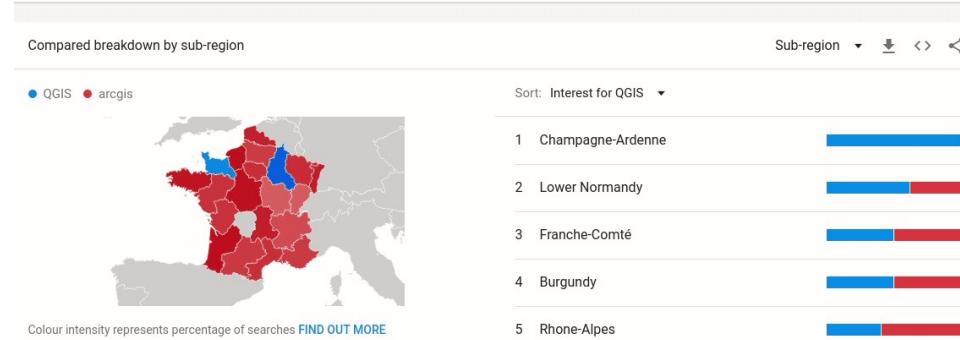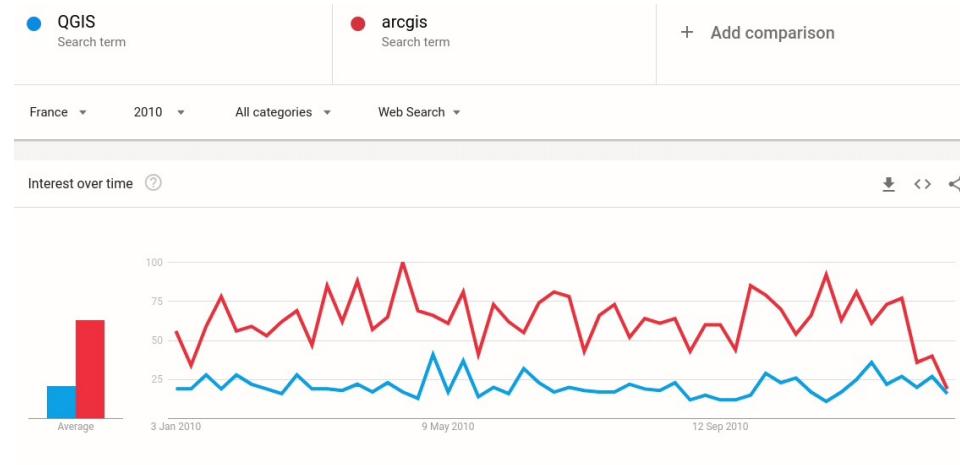
Infrastructure improvements:
Issue tracker on GitHub

Infrastructure improvements: Plugin Ecosystem Back

- DataPlotly
- GroupStats
- Map Swipe Tool
- MMQGIS
- QGIS2ThreeJS
- QGIS2Web
- QuickMapServices
- QuickOSM
- Semi-Automatic Classification
- Sentinal Hub
- ShapeTools
- TauDEM
- Time Manager
- Whitebox
- QGIS Hats

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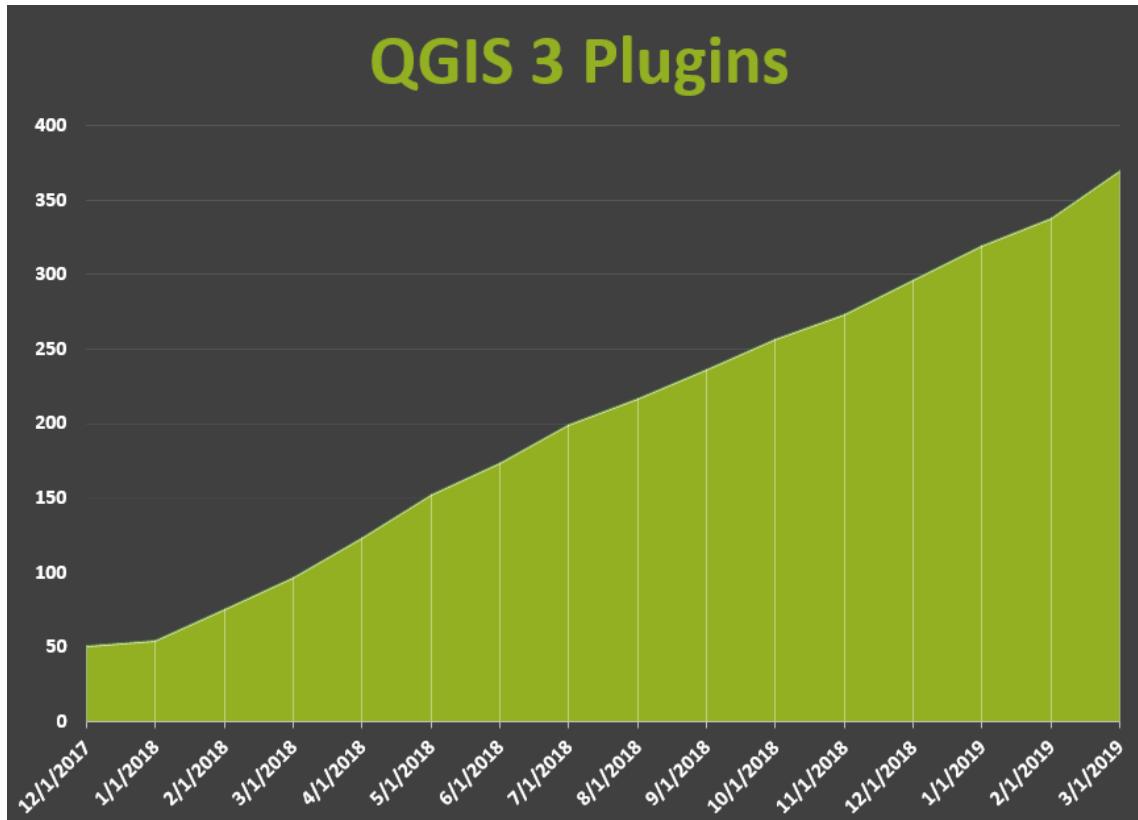
Infrastructure improvements: Mac one-click installers (dmg)

User Profiles
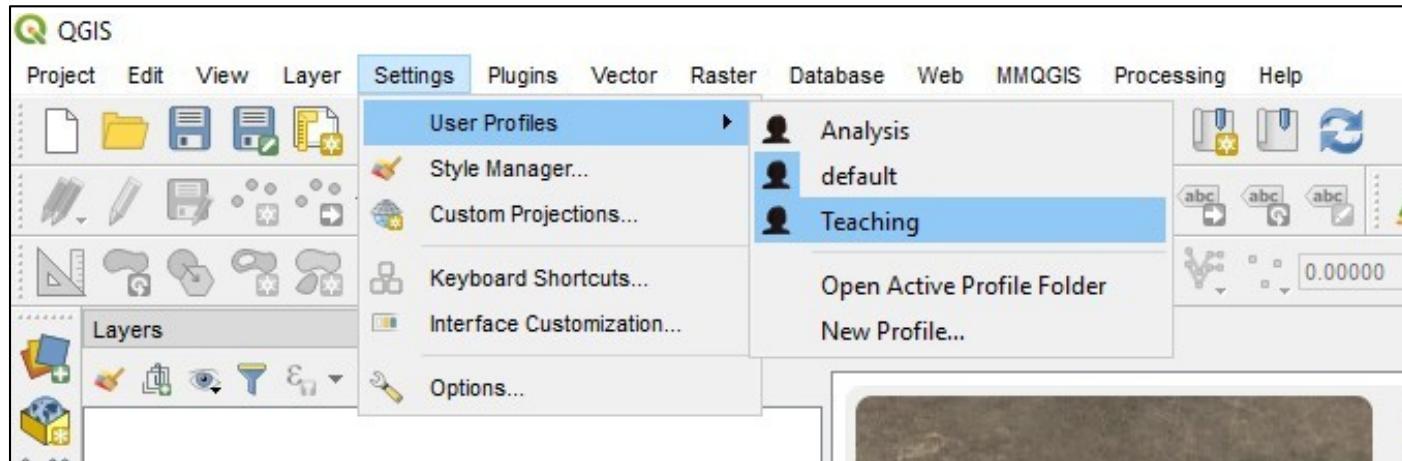
Set up GUI for different activities
- Plugins
- Toolbars/Panels
- Symbols

NOTE
- Stored in QGIS3 folder
- QGIS 3 folder has moved to a more standard location for your OS

Linux:
.local/share/QGIS/QGIS3/profiles/default
Mac OS X:
Library/Application Support/QGIS/QGIS3/profiles/default
**Windows:** AppData\Roaming\QGIS\QGIS3\profiles\default

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New UI Themes
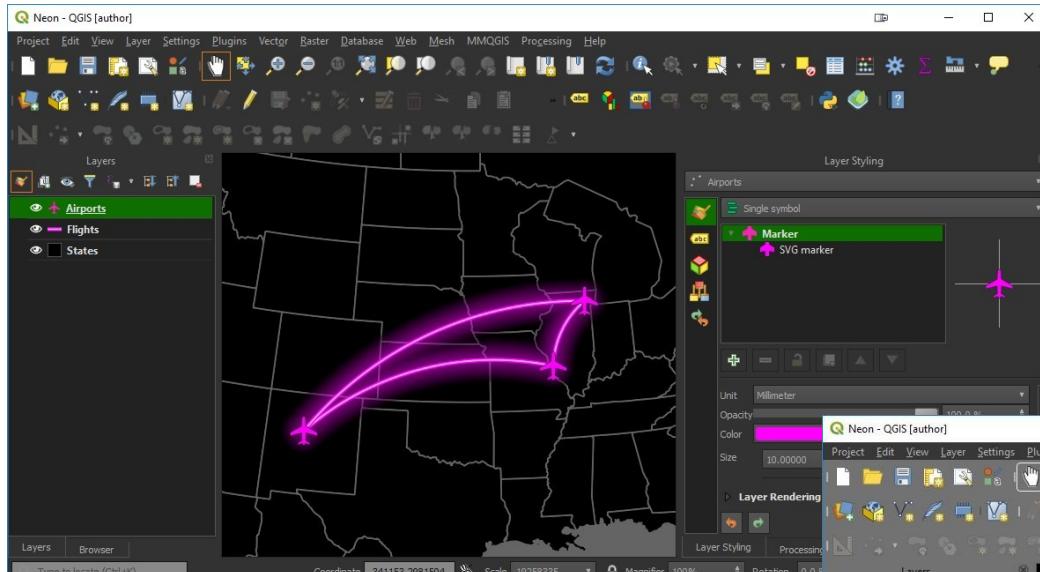
Night Mapping

Blend of Gray

QGIS 3.6 Noosa
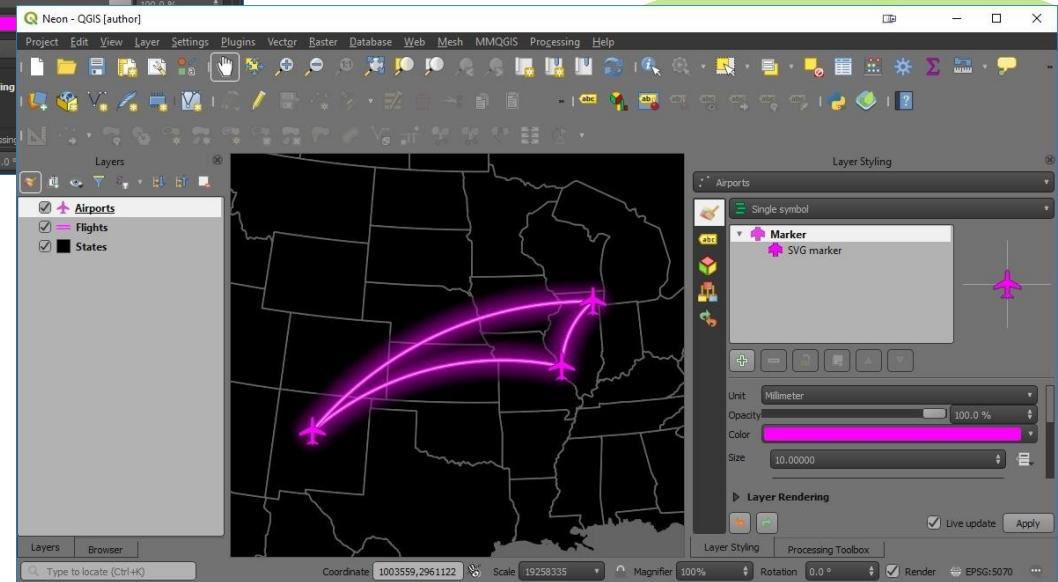
Lots of UI Improvements

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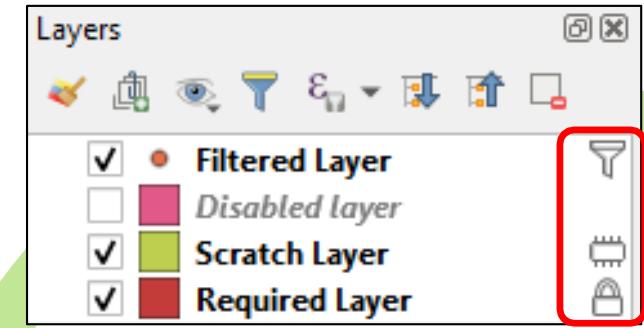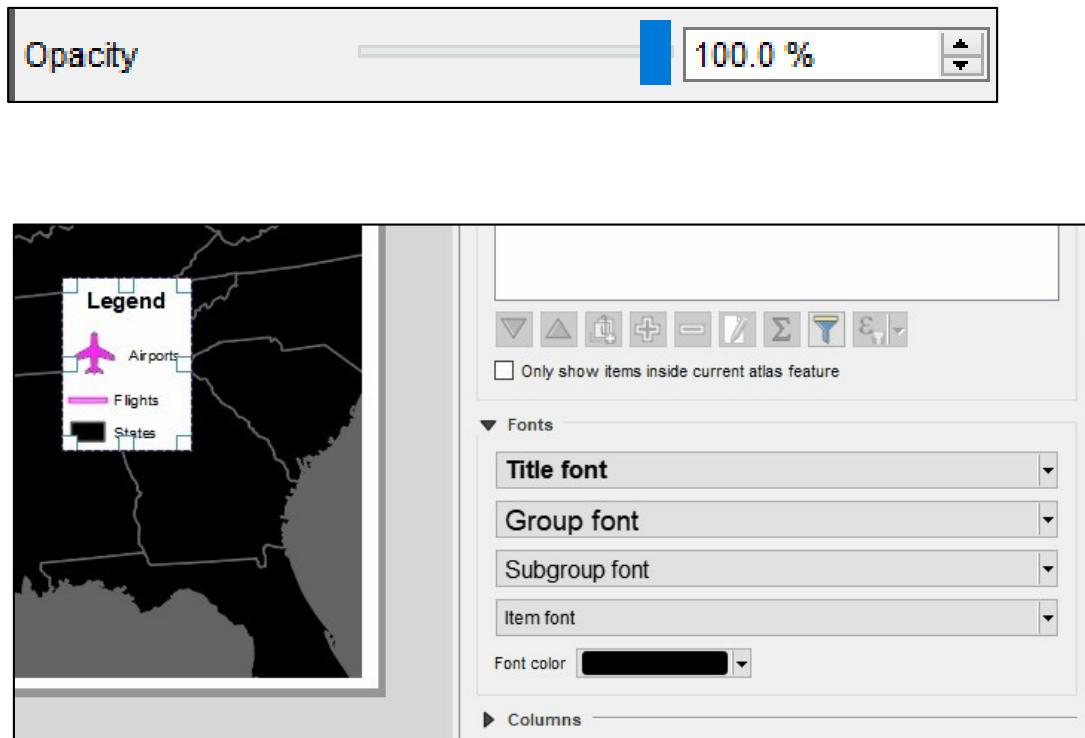
# Optionally show/hide Panels and GUI

Ctrl-Tab
Hide/Show all Panels
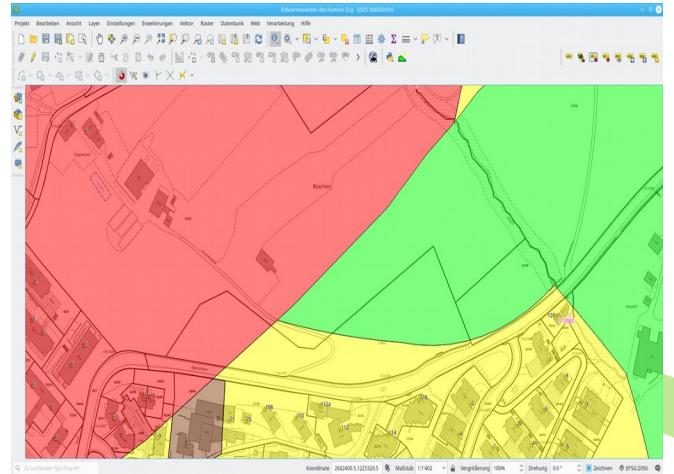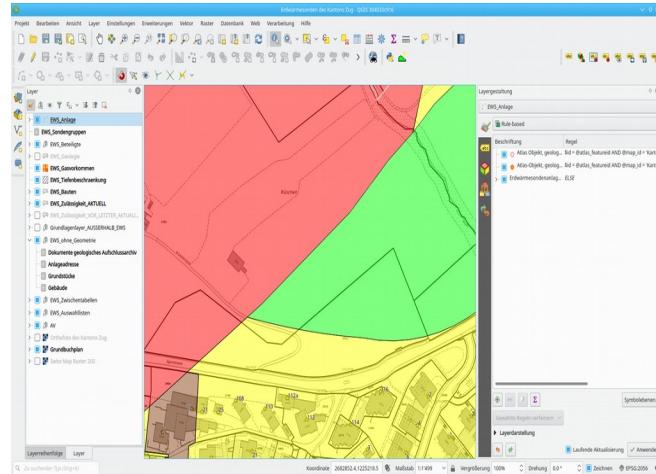
Ctrl-Shift-Tab
Hide/Show all of the GUI

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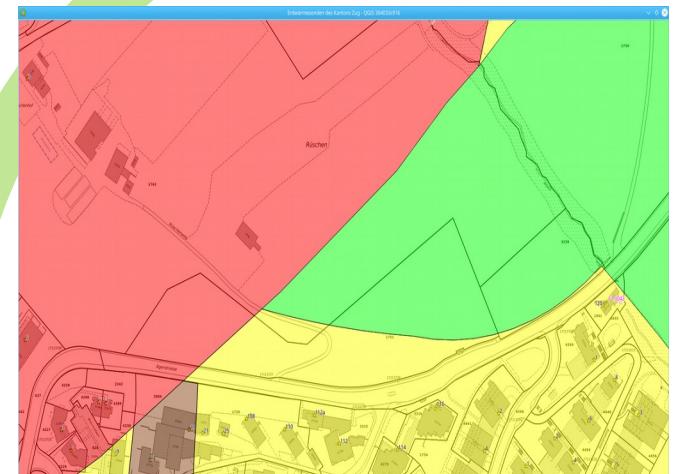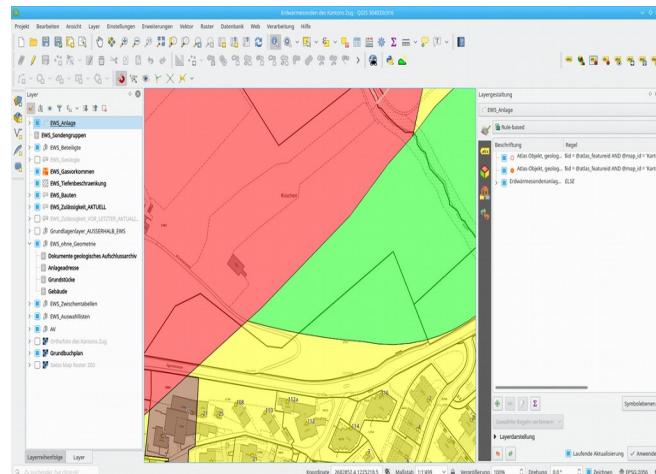
Multiple Map Views

- Dockable panels
- Honor Themes
- Can link to main view
- Set scale

- Each canvas can have its own visibility preset
- Each canvas can have different CRS
- Optionally show annotations
- Show cursor locations and extent
- Each canvas can show magnified or rotated views
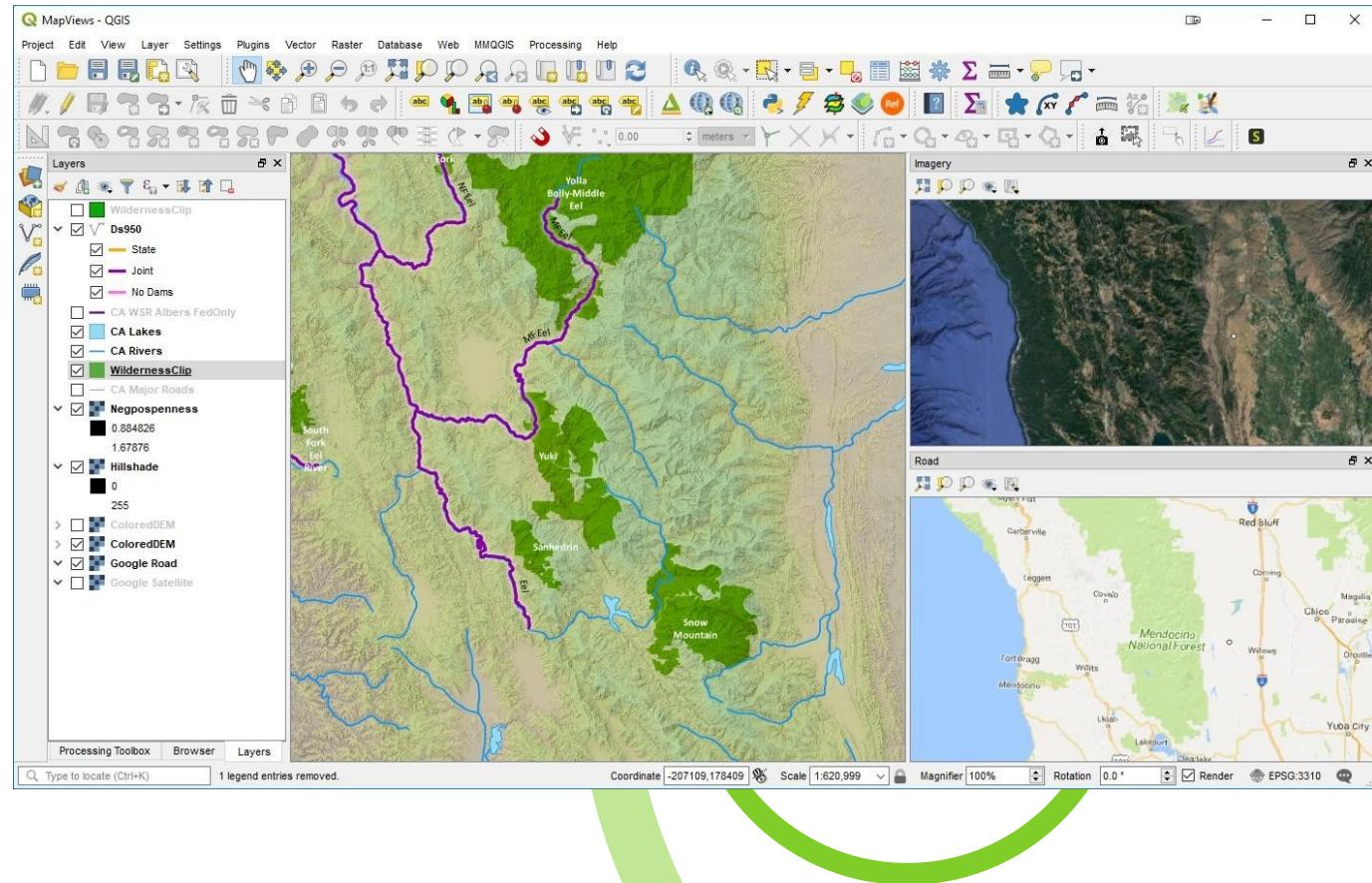
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Multiple Map Views

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Locator Bar

- Autocompletes

- Processing Tools

- Layers

- Features

- Actions

- Calculator
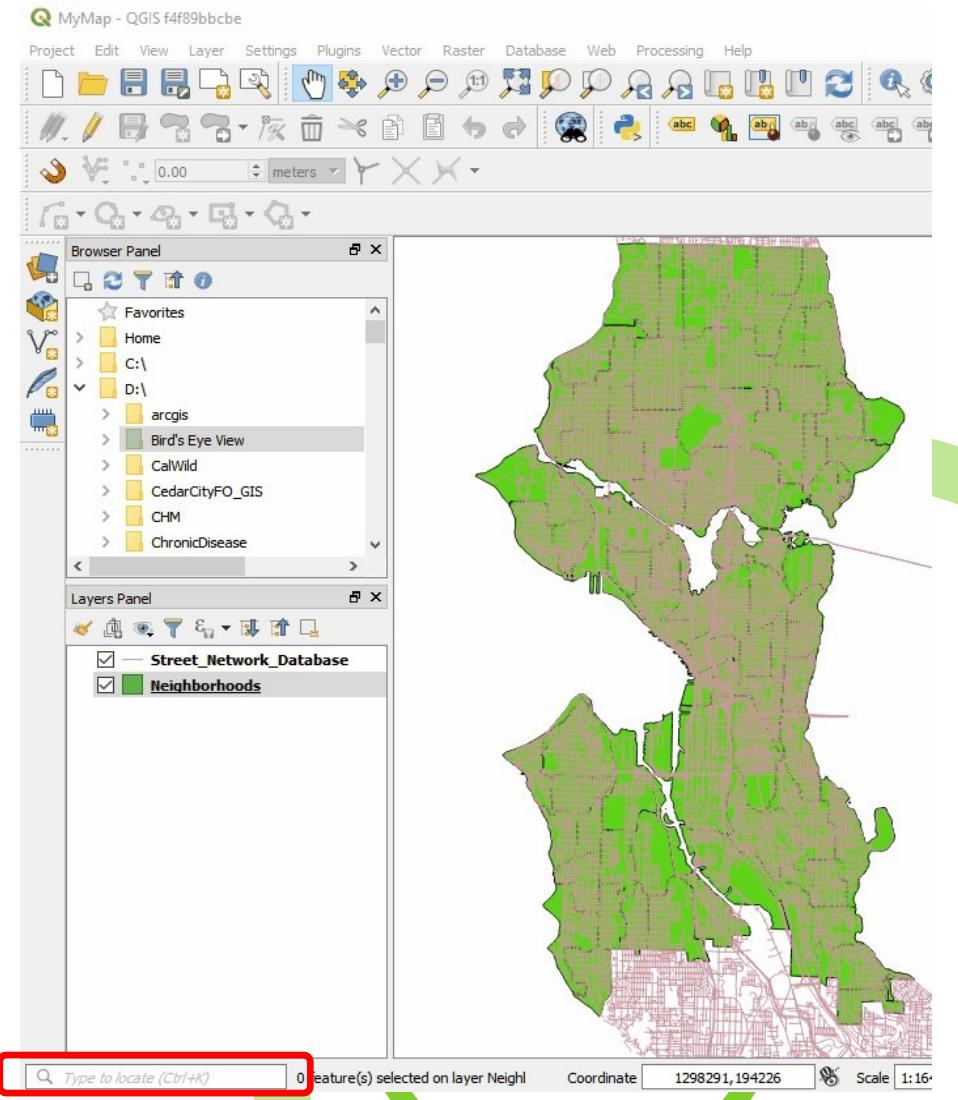
Autocomplete Search Boxes Everywhere

- Processing Toolbox

- Project Settings

- Layer Properties

- Plugin Manager

- CRS's

- Functions

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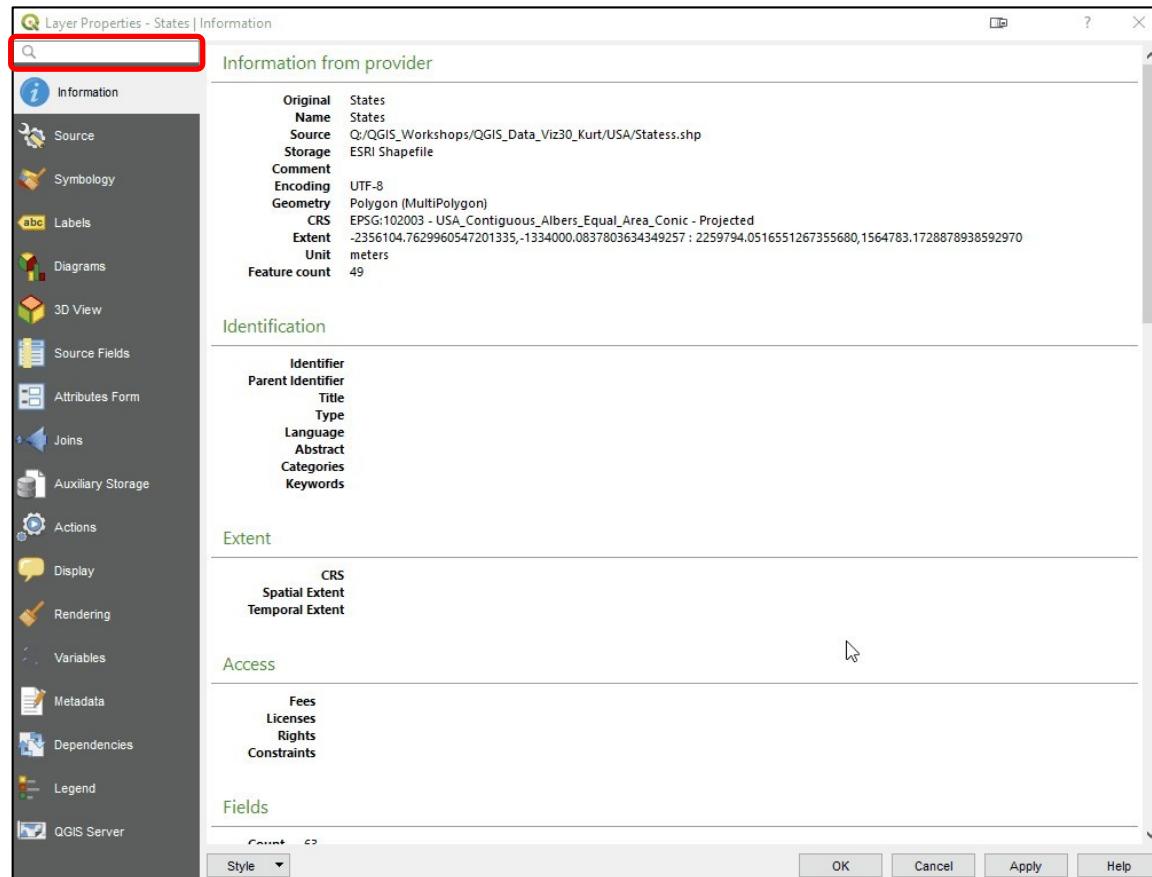
Unified Data Source Manager
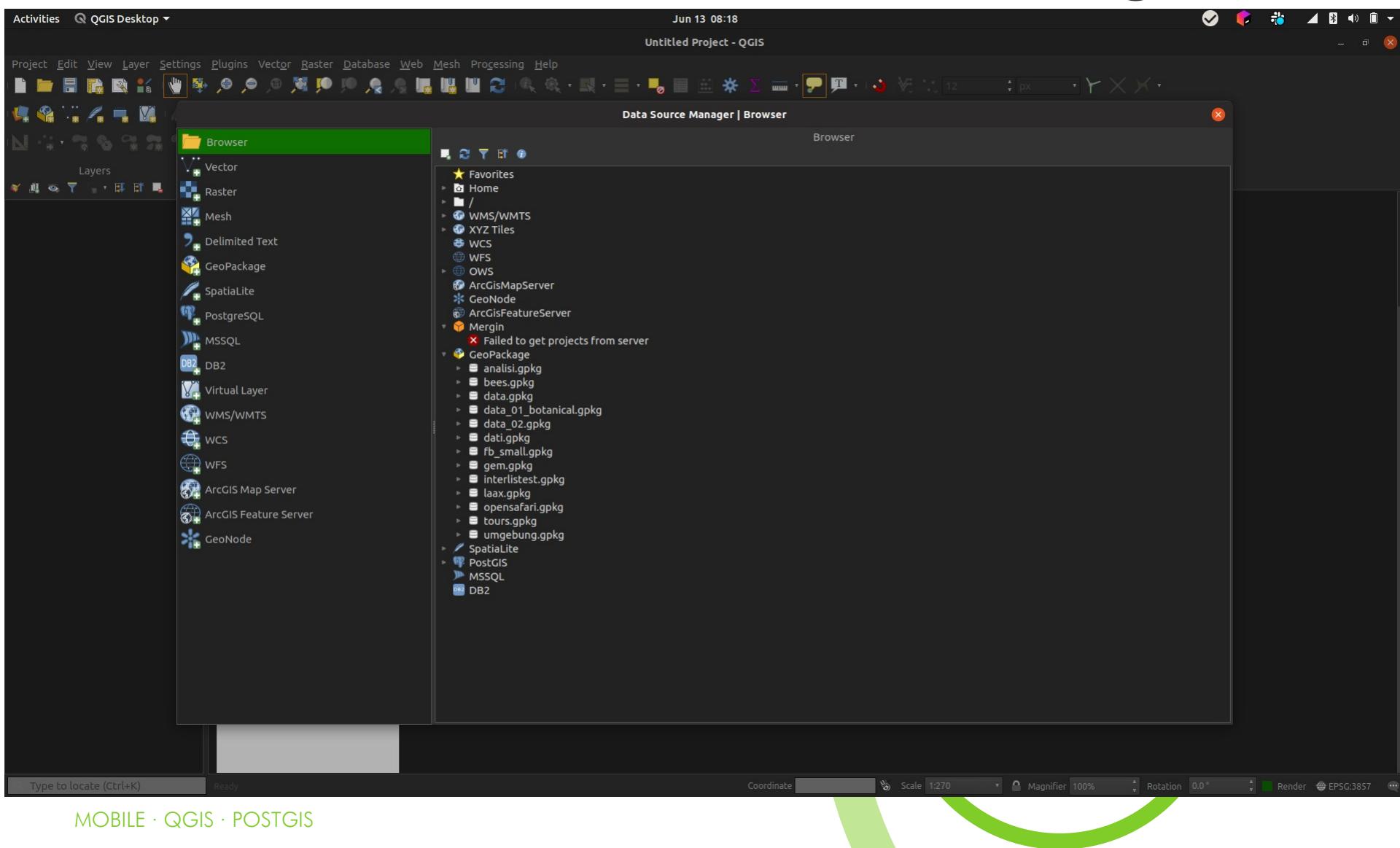
Valid CRS Extents Preview
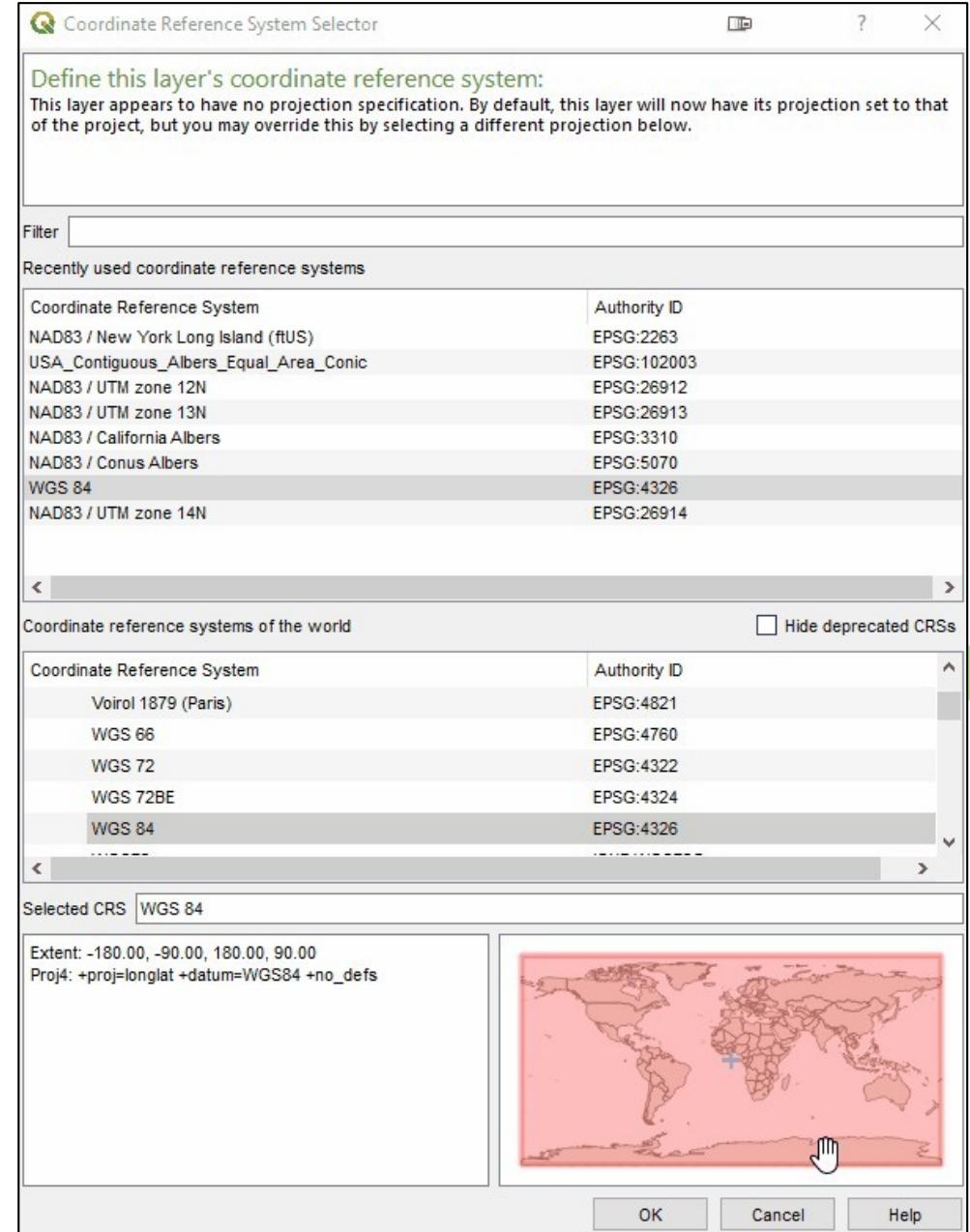
Geopackage Improvements

- Standard format for processing and "Save As"

- Easier to save additional tables into existing Geopackages

- Integration in DB-Manager

- Save styles in GPKG

- http://switchfromshapefile.org/
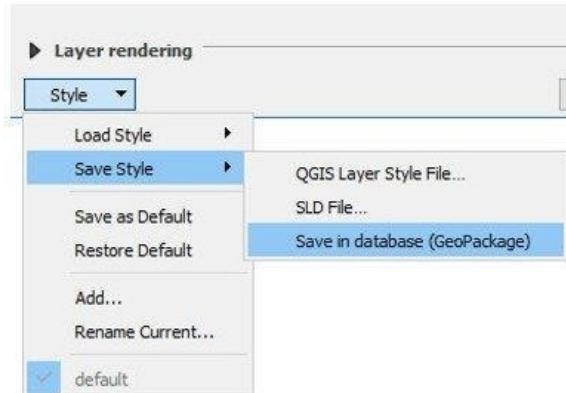
Projects Translation using Qt Linguist
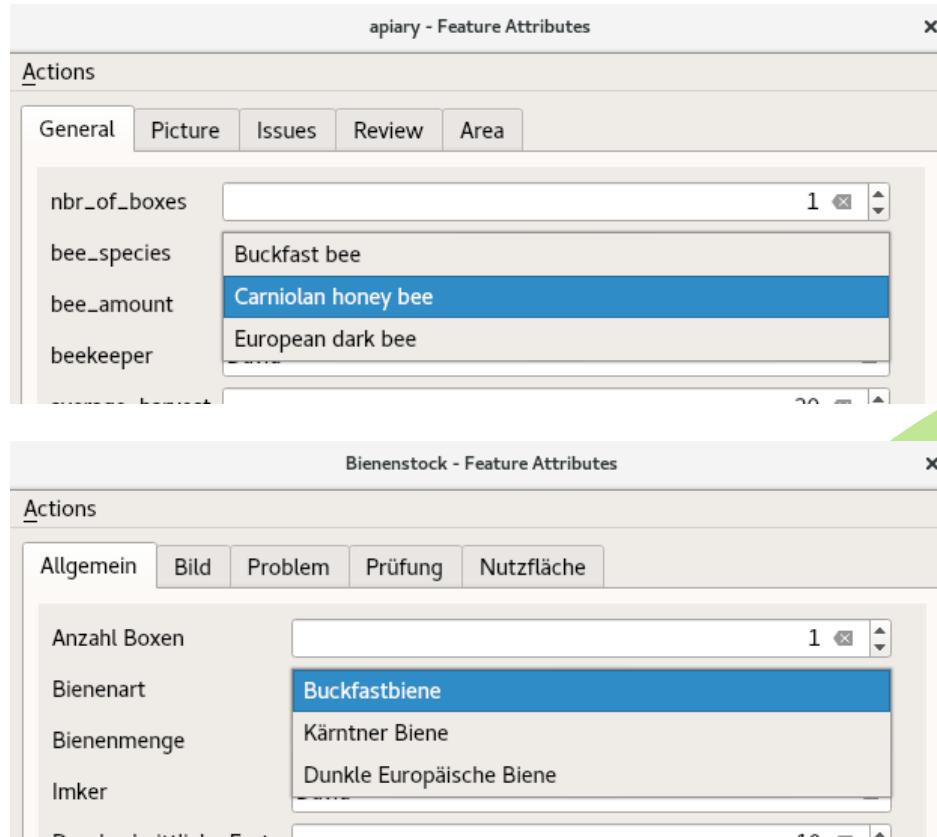
JSON/JSONB Type support

- JSON Data can be displayed in the widgets as "Key/Value" (maps), as "List" (arrays) or as text.

Processing Improvements

- Processing was rewritten in c++

- Many tools now native c++ algs

  – Optimized

  – Faster

- All tasks Run in Background!

- Many new tools

- Better Documentation

- Automatic reprojection of layers in processing algorithms

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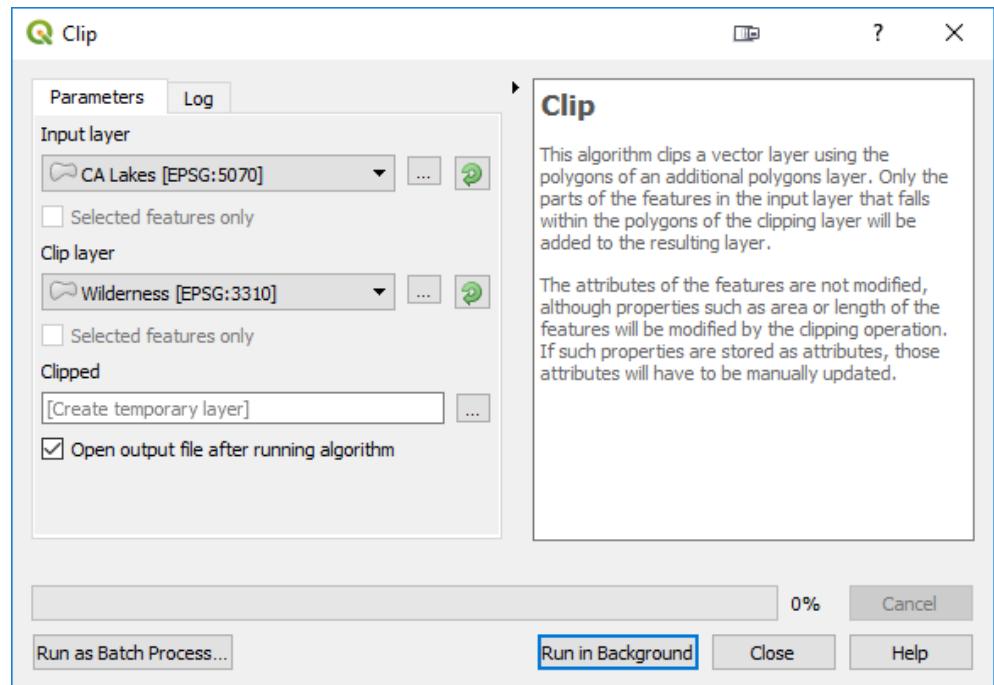
Processing Toolbox

- Native QGIS algs

- 3rd Party Providers will become plugins

- Graphical Modeler

- Models can again be exported to Python

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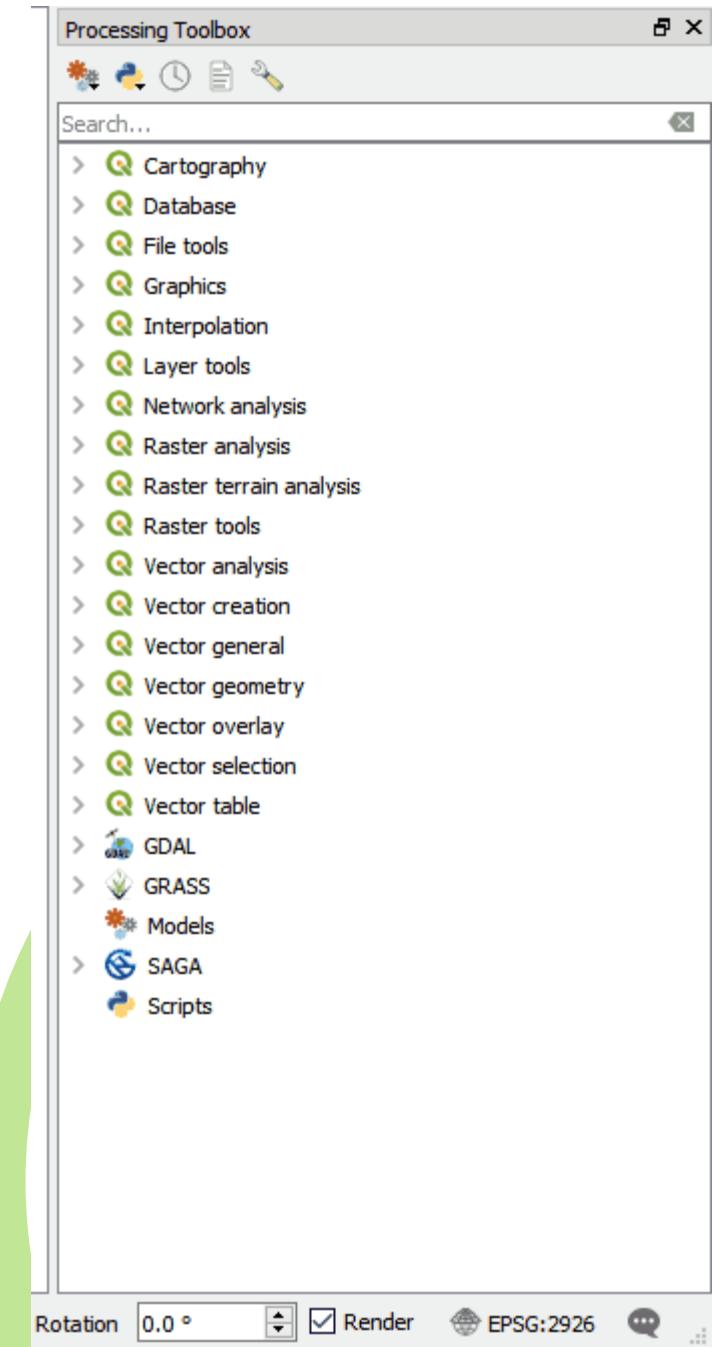
Package Layers tool
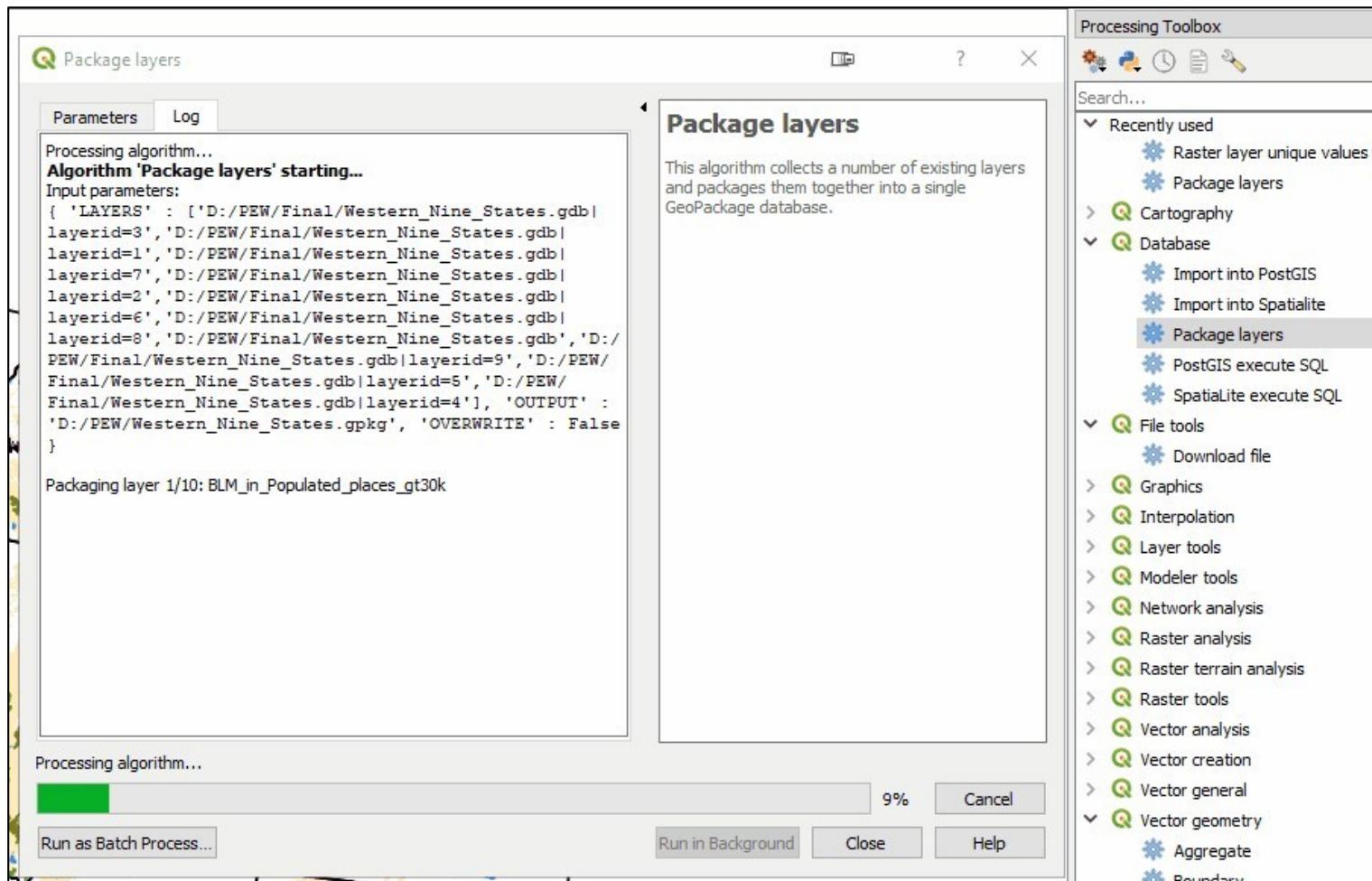
Import Geotagged Photos

- Processing Toolbox → Vector Creation

Easy Custom Labeling



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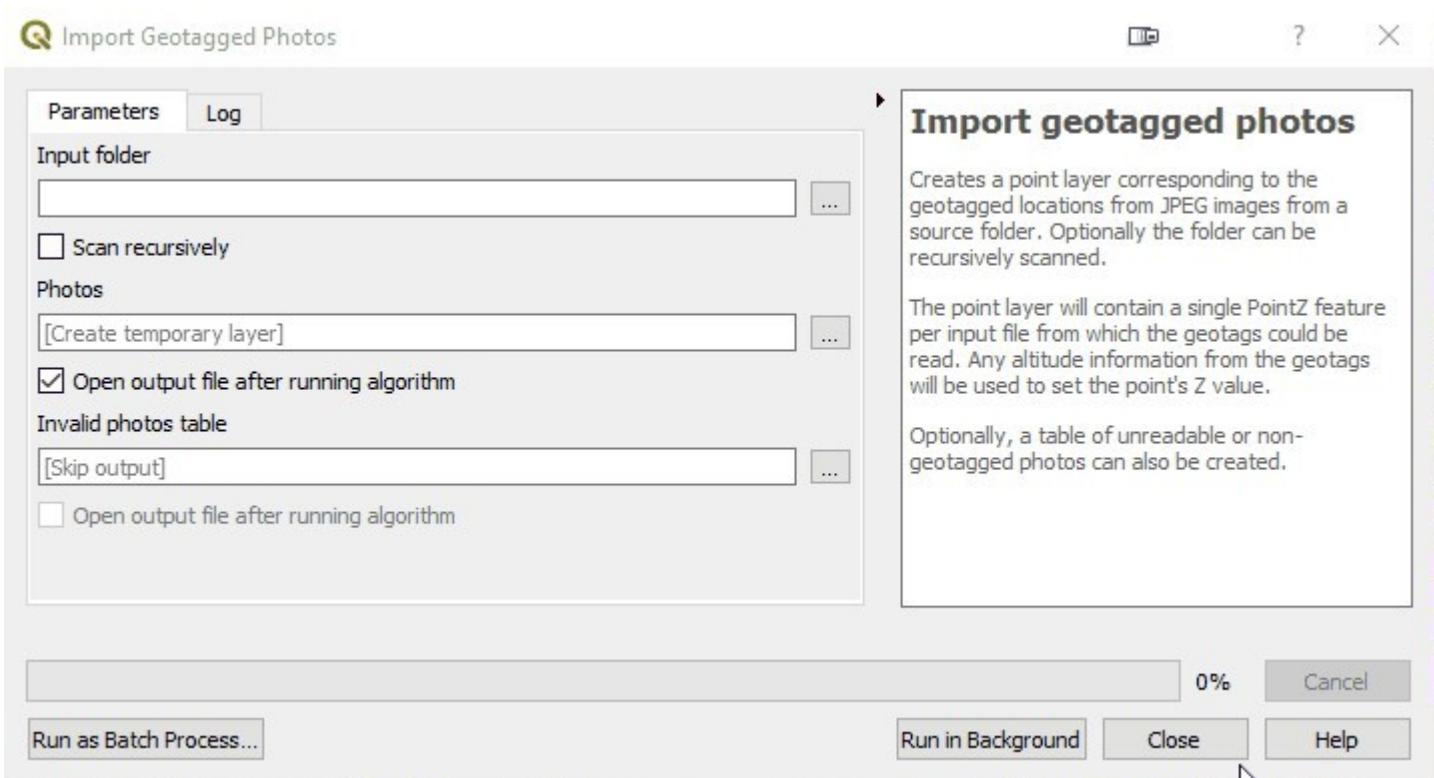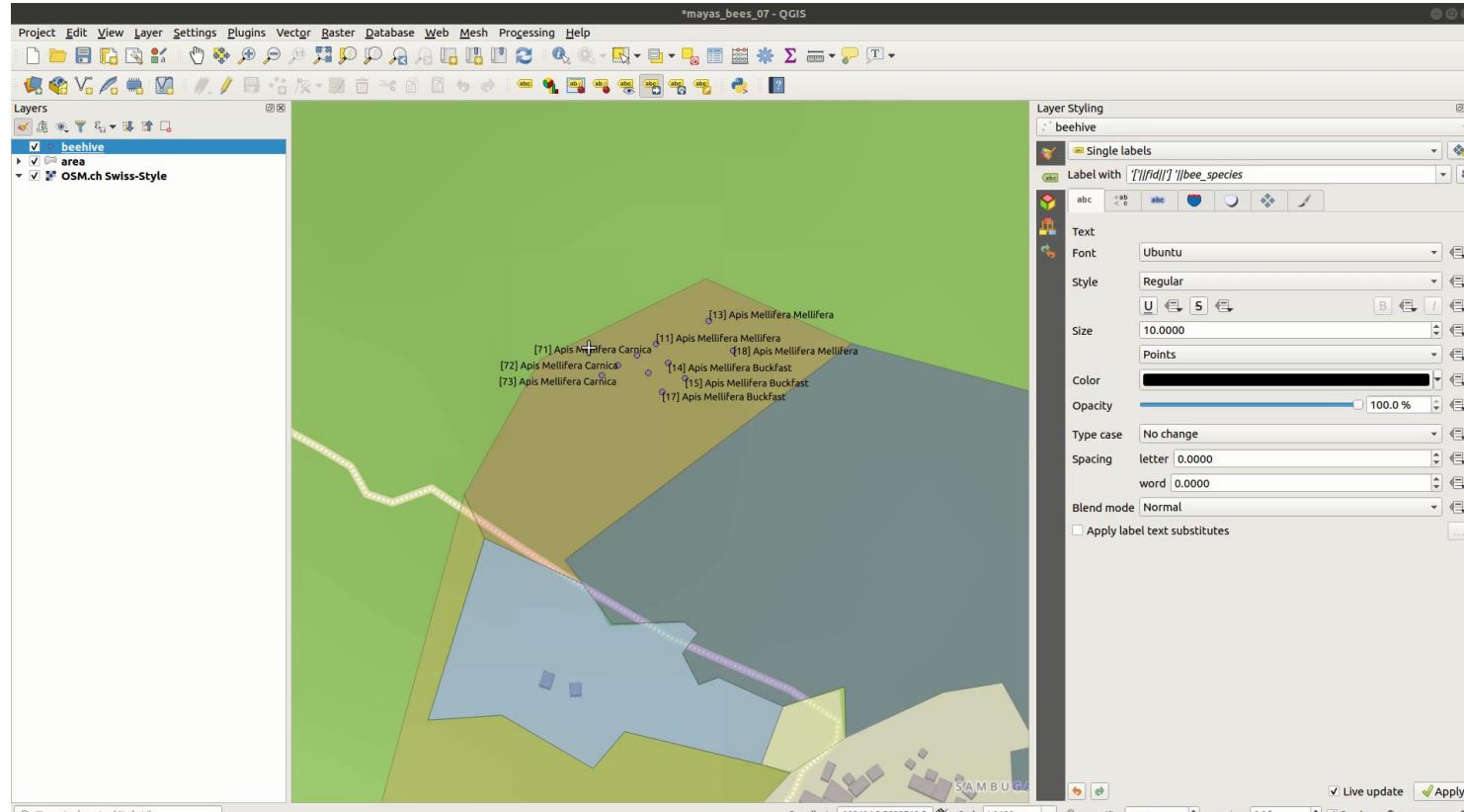
Made Possible by Auxiliary Storage

States.qgd

States.qgs
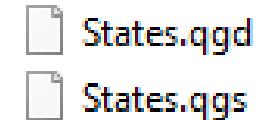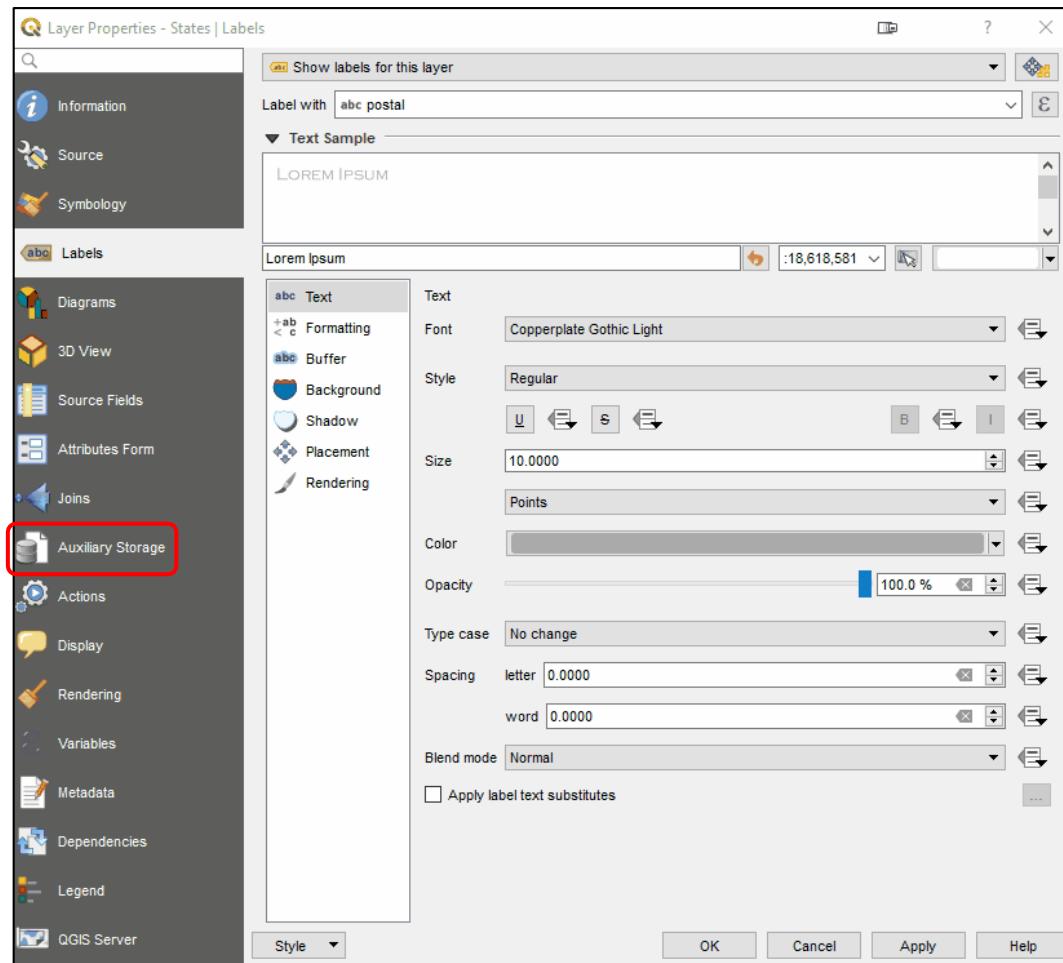
- SQLite db
- Stored as*.qgd file with QGIS project
- Identify primary key for the join
- QGZ files – combine both qgs and qgd

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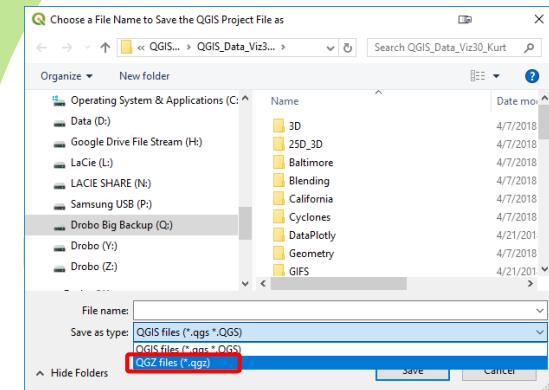
Editing Improvements

- New Vertex Tool
- CAD Tools
- Tracing at offsets
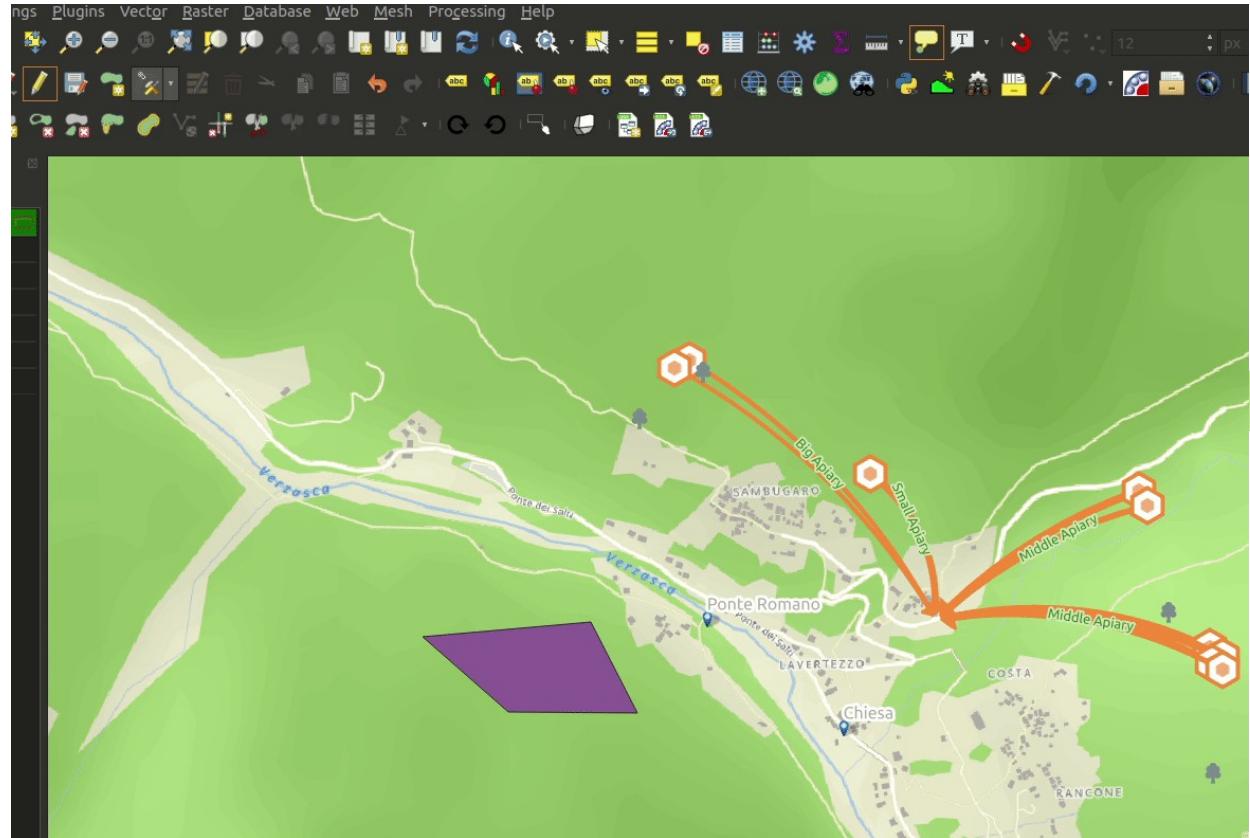
Editing Improvements

Editing Improvements - CAD

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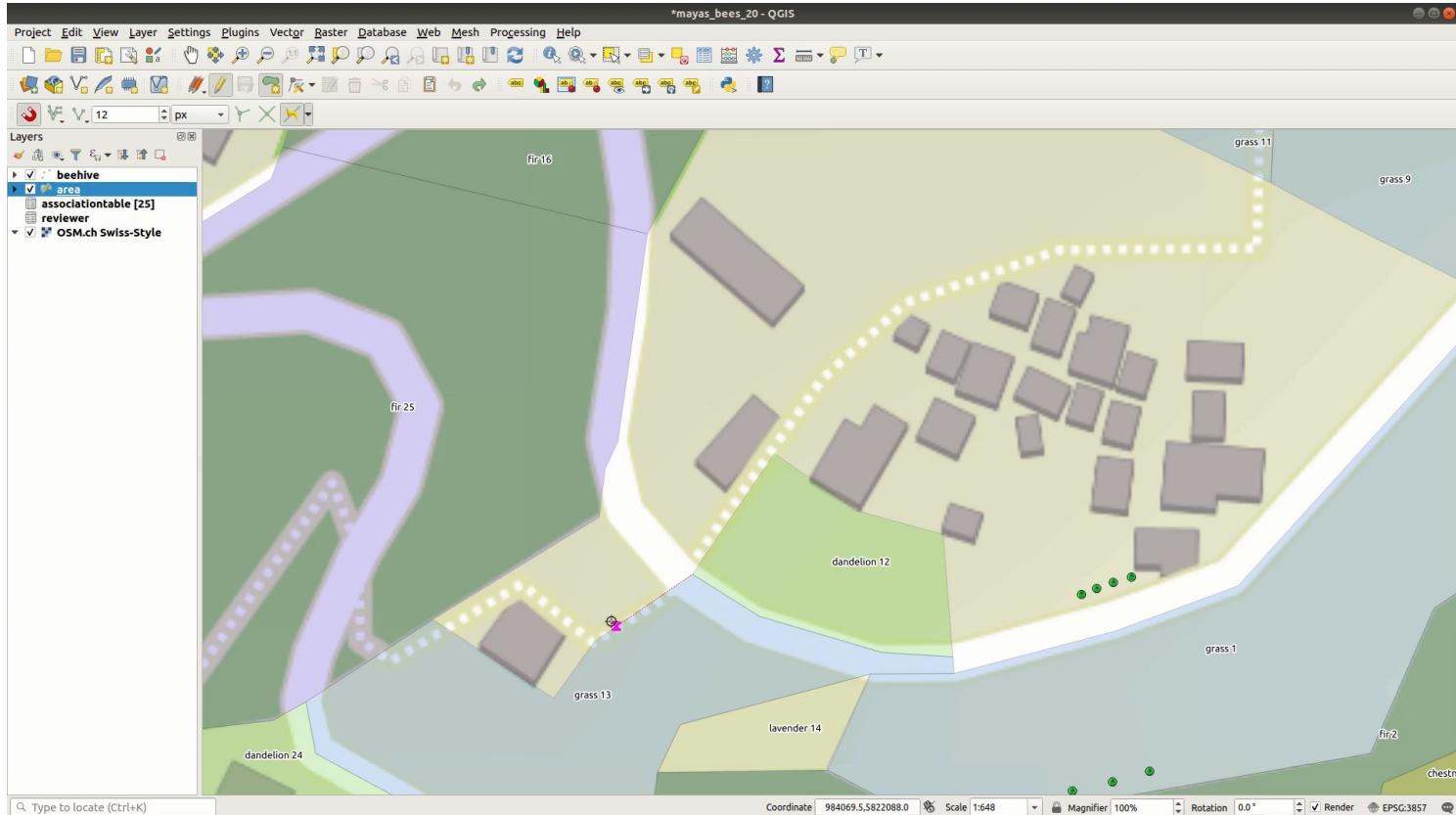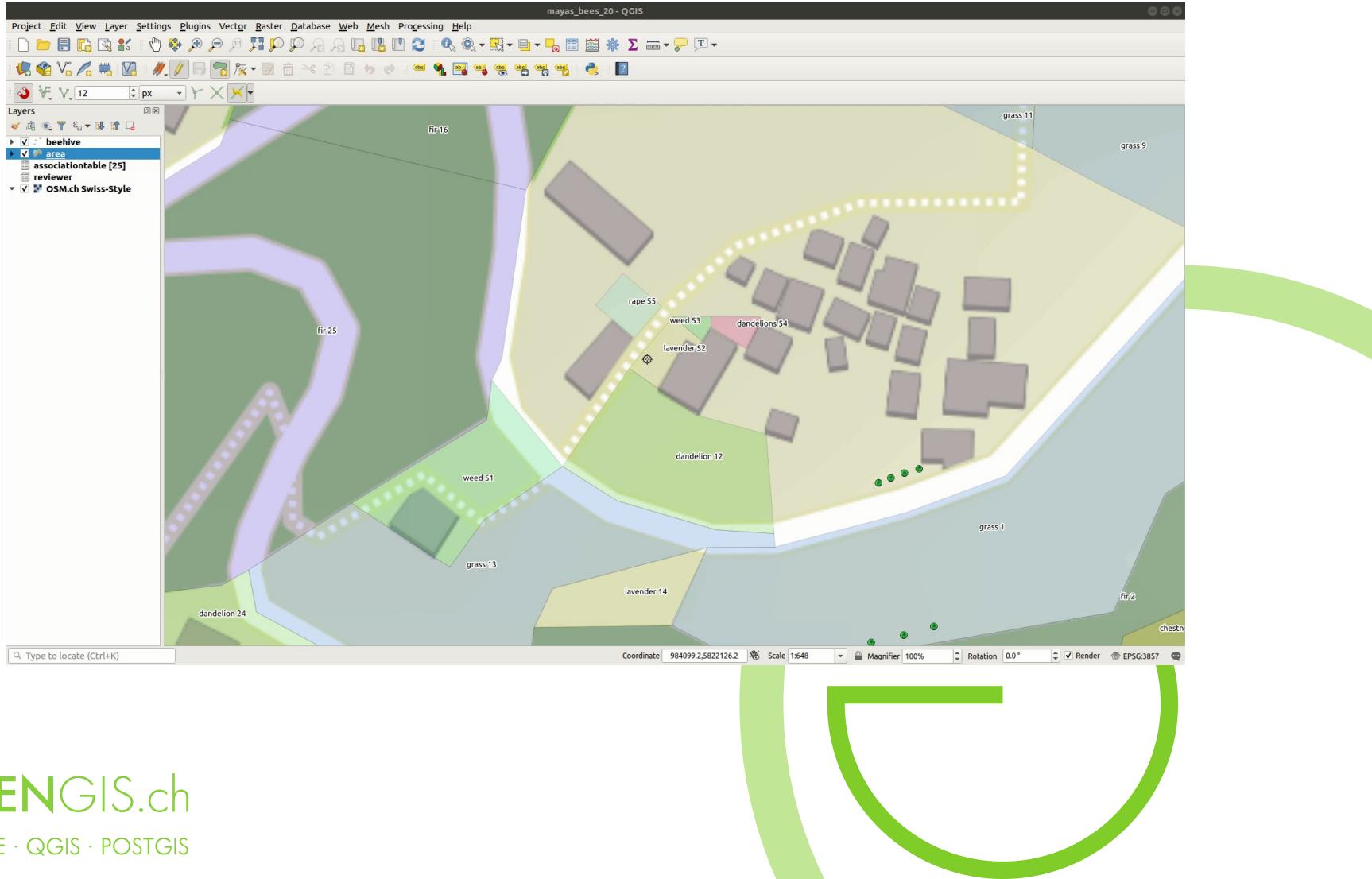
Editing tools enhancements

- MultiLayer or SingleLayer editing modes

- Edition of vertices of polygons and linestring

- Change from click-drag to click-click mode in order to allow numeric input

  - Range vertex selection in node tool (Shift-R). Selects all vertices between start and end-point

  - New modes to create mid-point vertices and to extend lines at the ends

- Node tool can be combined with "advanced digitizing" (construction) tool for precise placement of vertices

- Tracing now allows offset for parallel lines

- Snapping settings are available in toolbar

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Editing In Place

- Run processing tools against layers without having to produce a new output layer.

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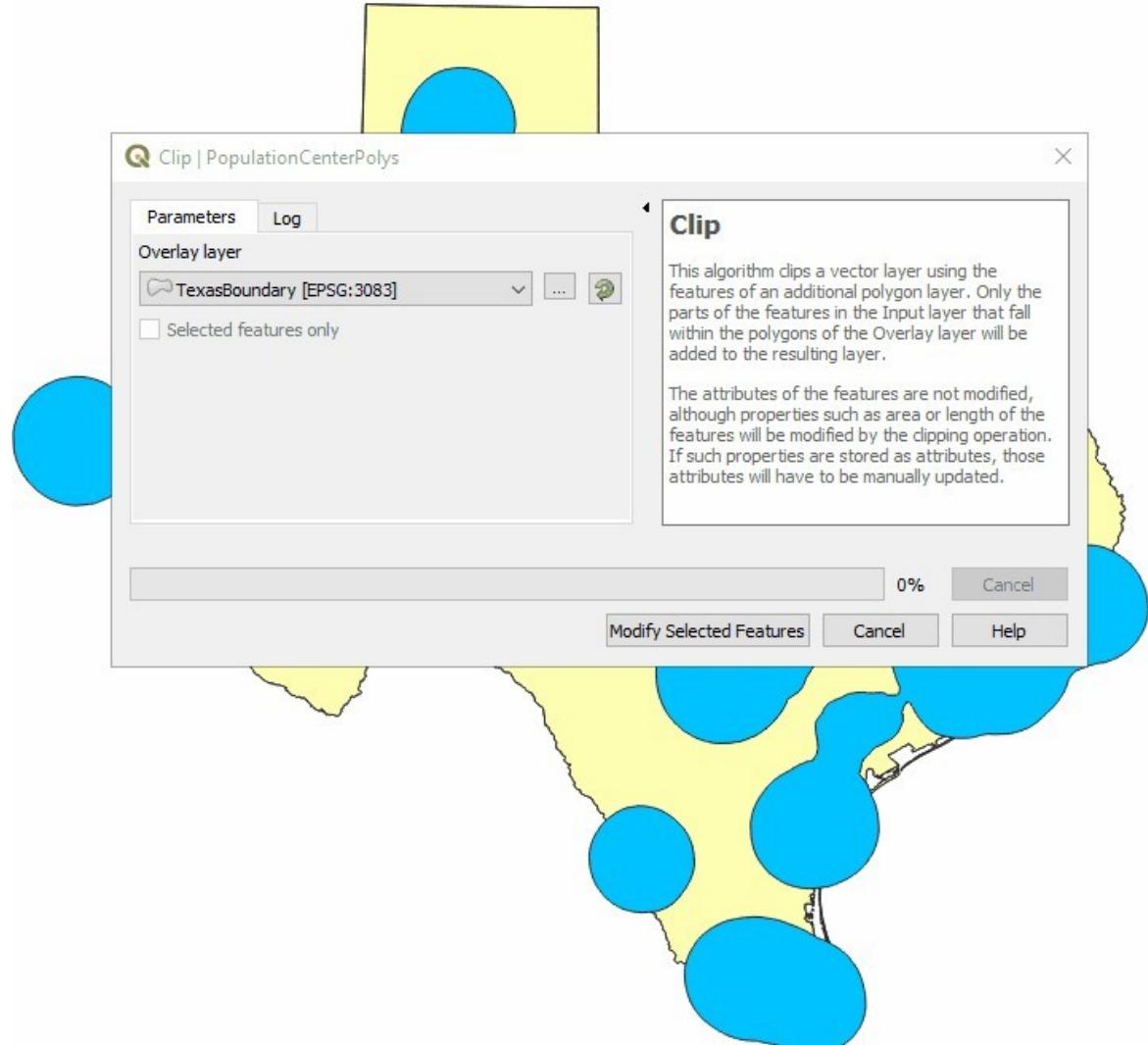
Select Features By Value

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Autocompletes

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Select Features based on existing polygon
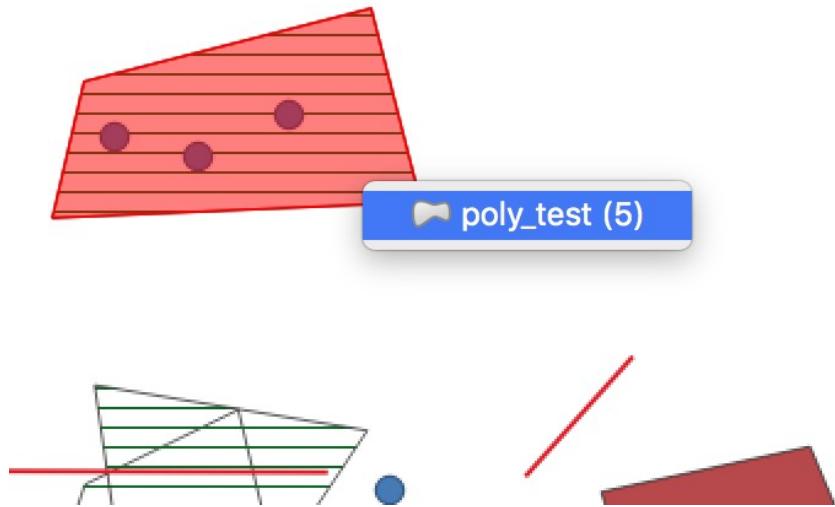
- allows user to right click on the map and pick an existing polygon feature at that location from popup menu - that polygon will be used as input for selection or identification.

poly_test (5)
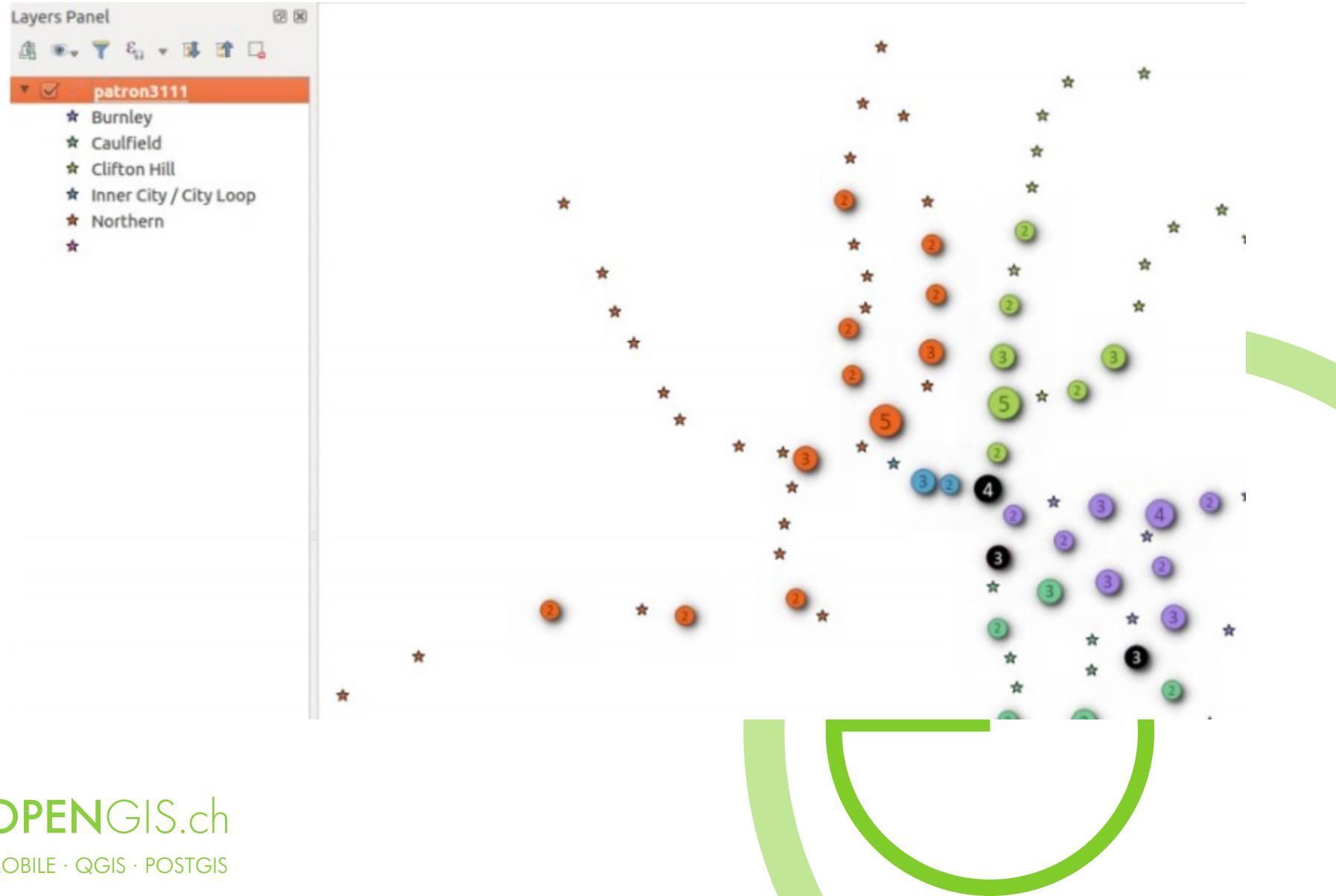
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Autocompletes

Point Cluster Renderer

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QML widget

Live layers

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Raster Image Marker

QGIS 3.6 Noosa
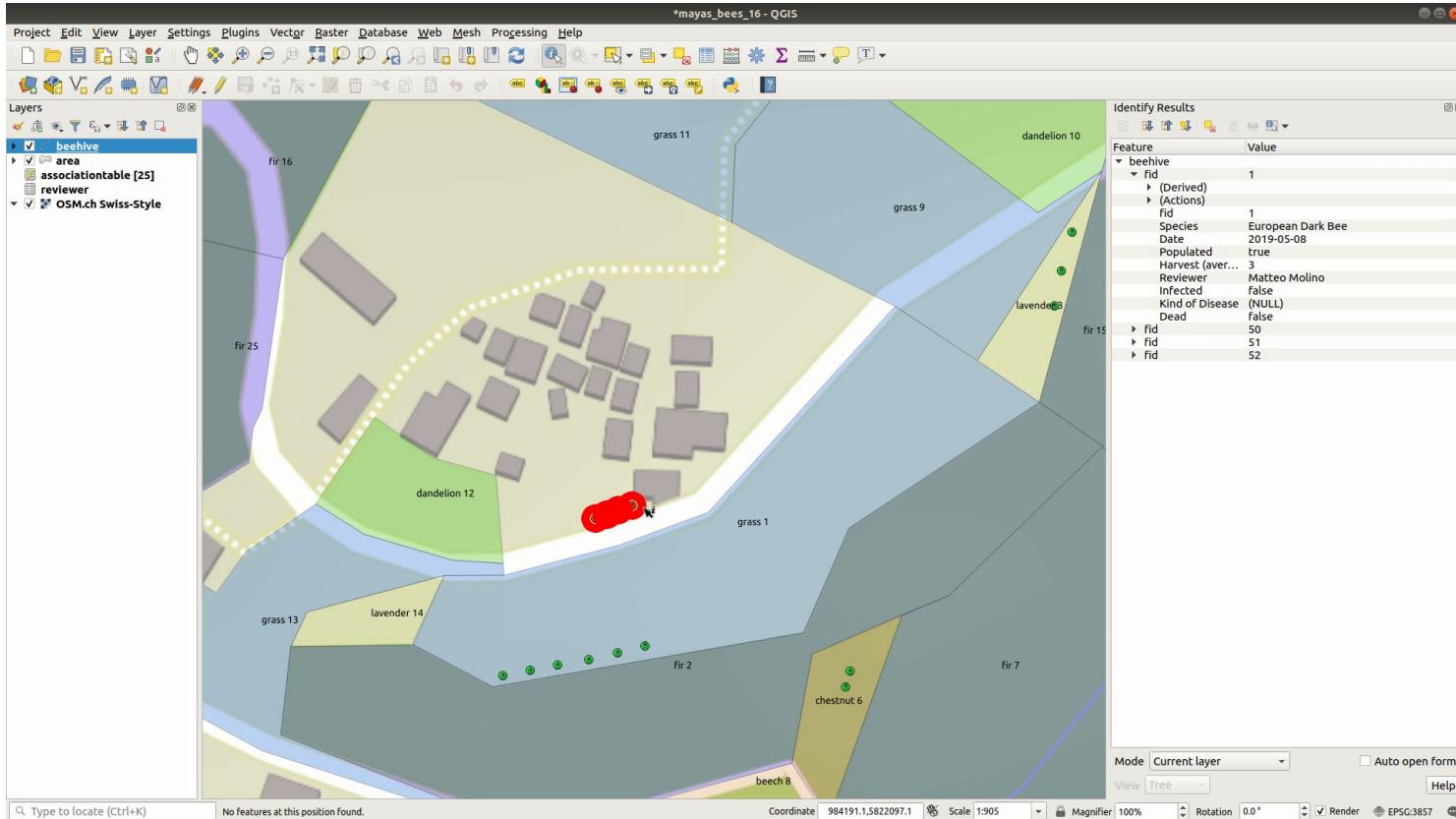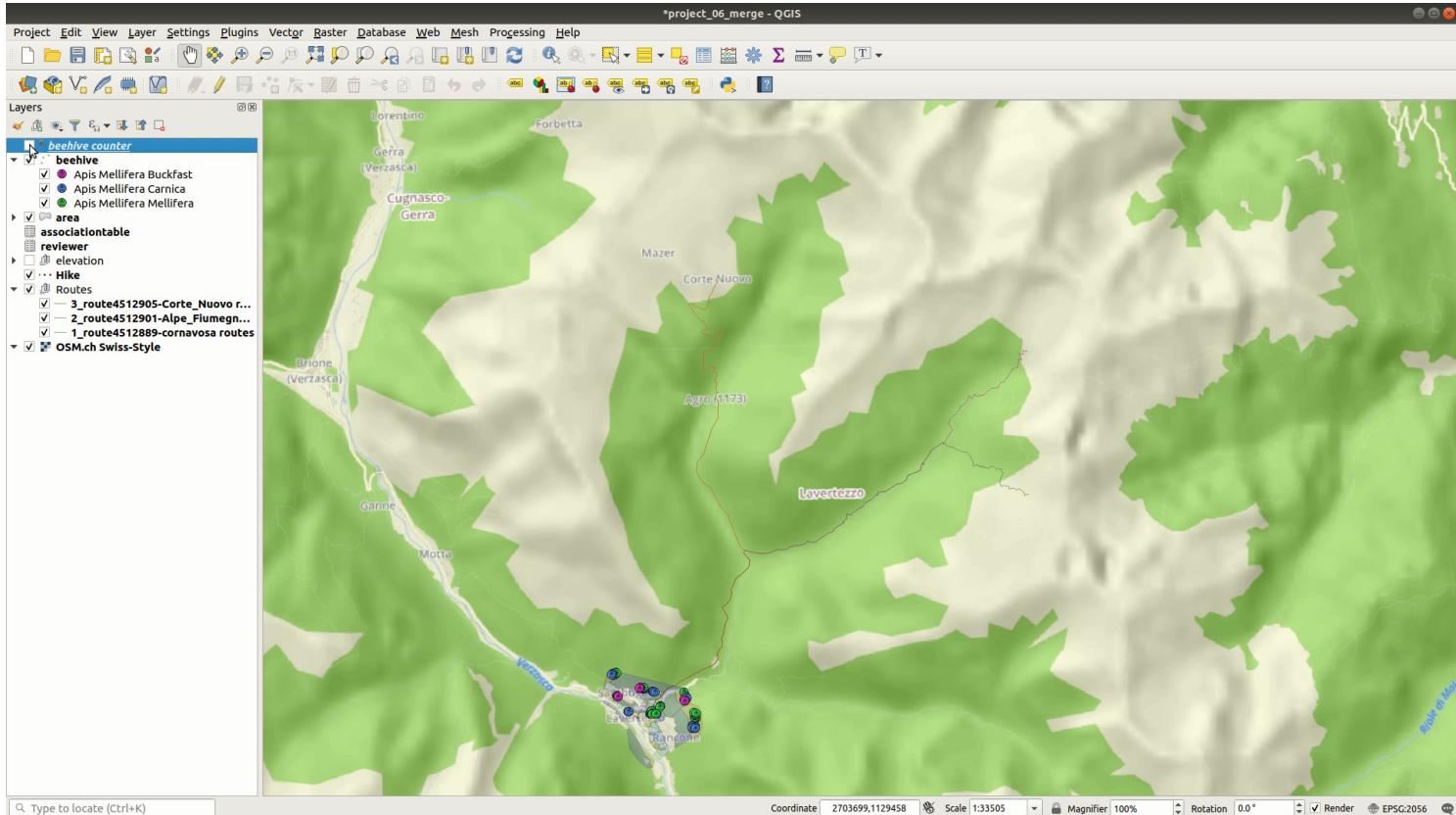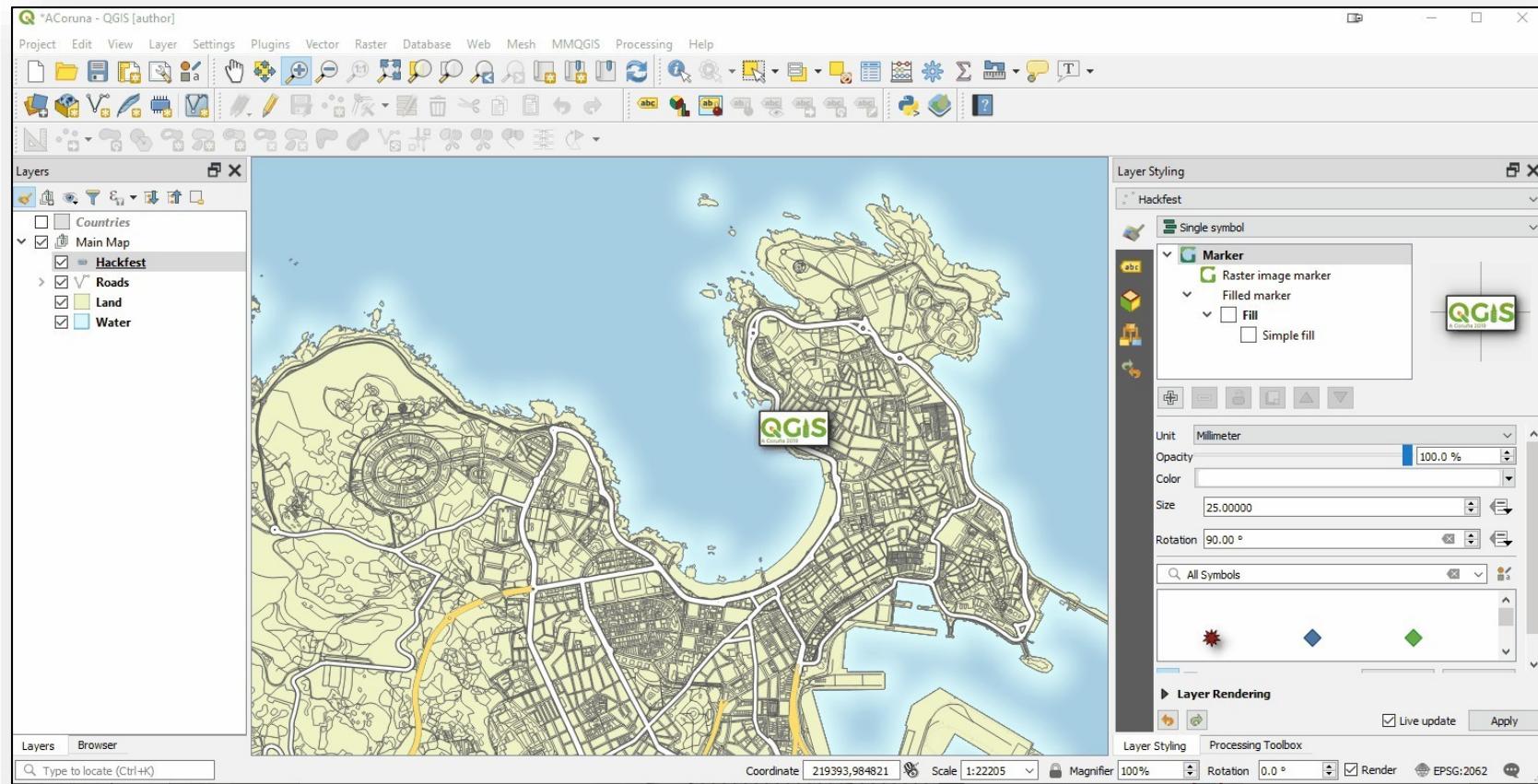
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Raster Image Marker

- Use the Raster Image Marker with output from the Import Geotagged Photos tool with Data Defined Overrides for Angle & Size along with Wedge buffer geometry generators for some great effects
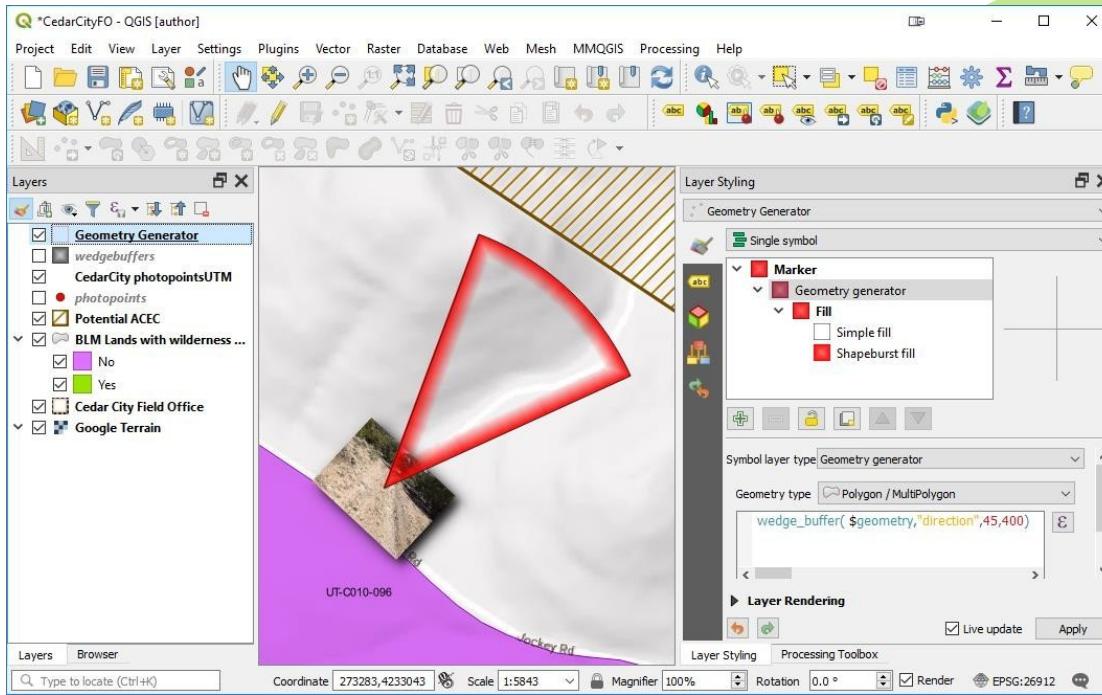
Even More Expressions | Variables & Data Defined Overrides
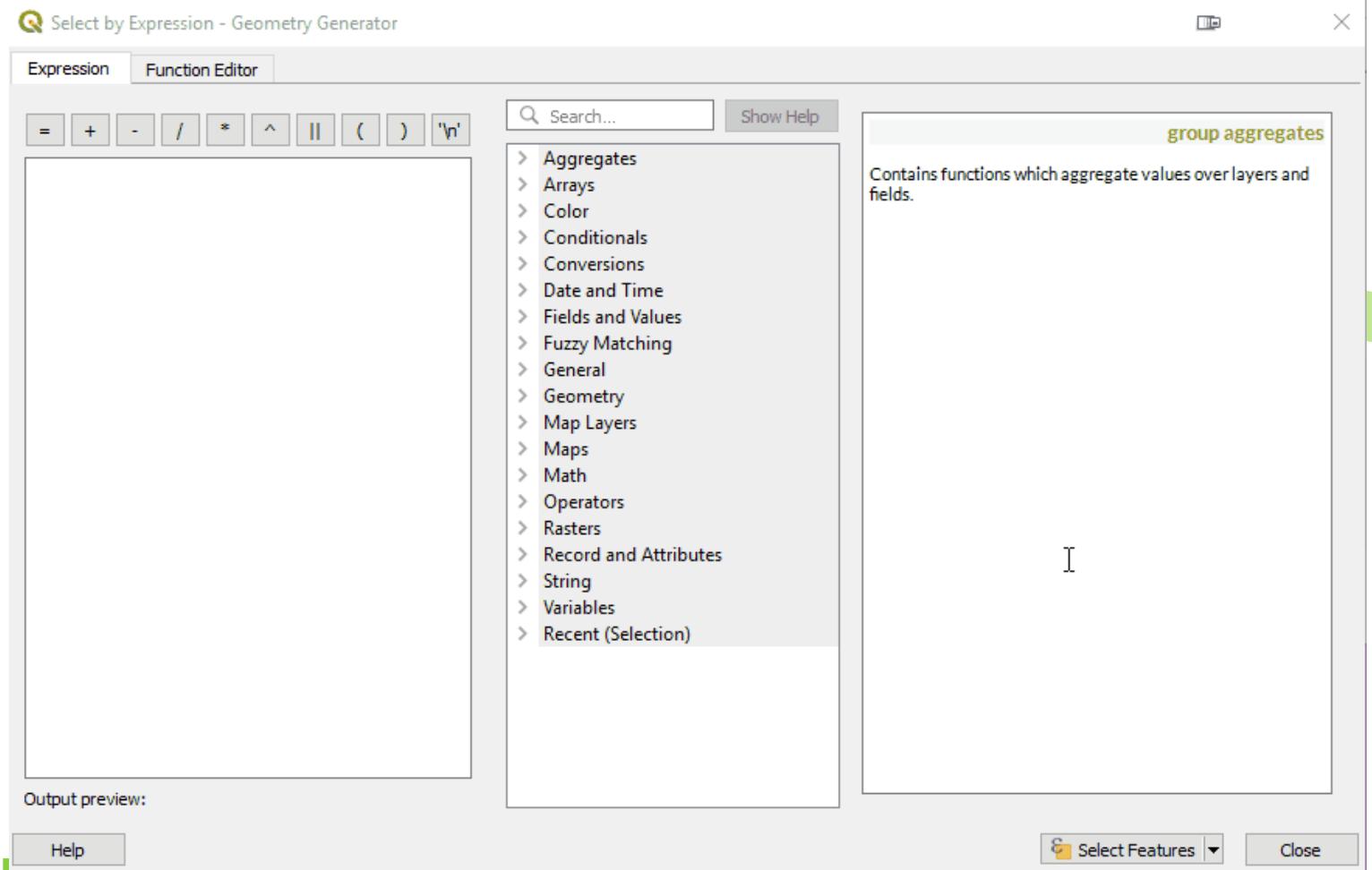
Print Composer

- Completely rewritten

- Can have multiple sheets per layout of different orientation and sizes

- New Reports
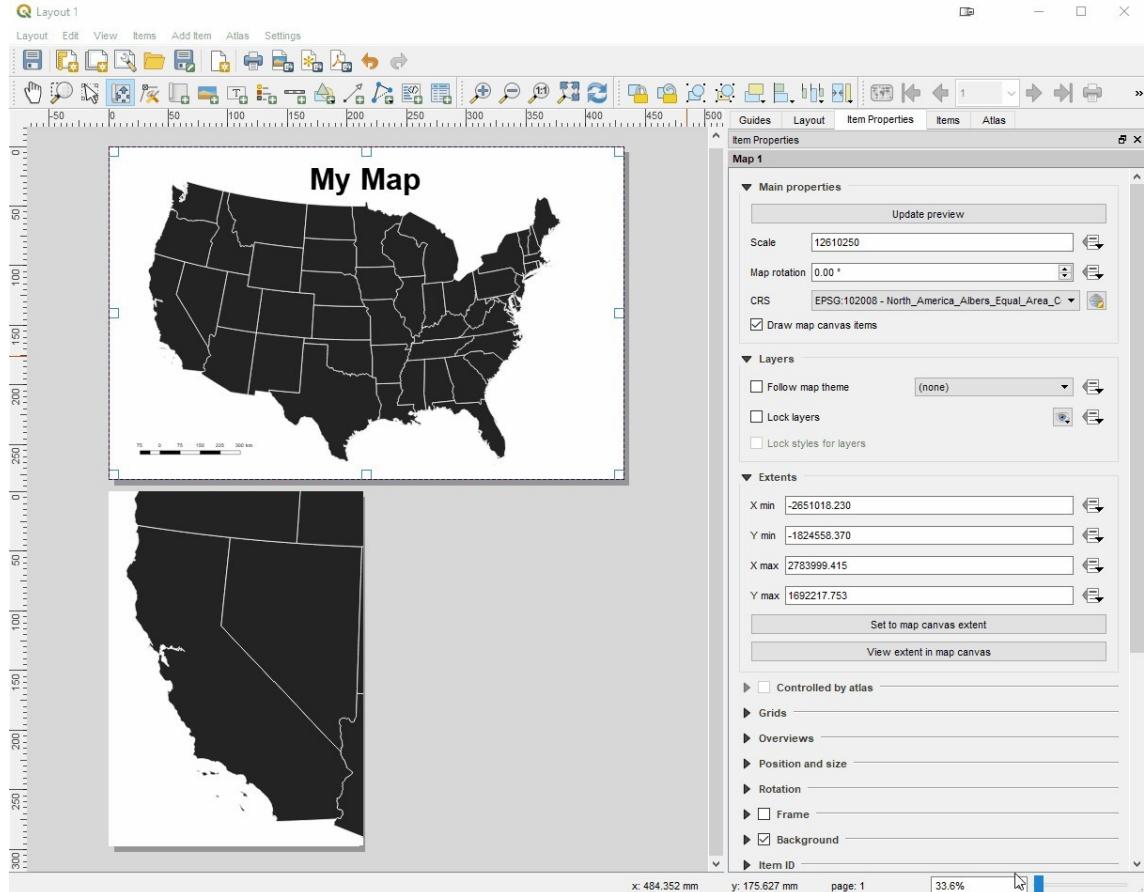
Hyperlinks to export folder

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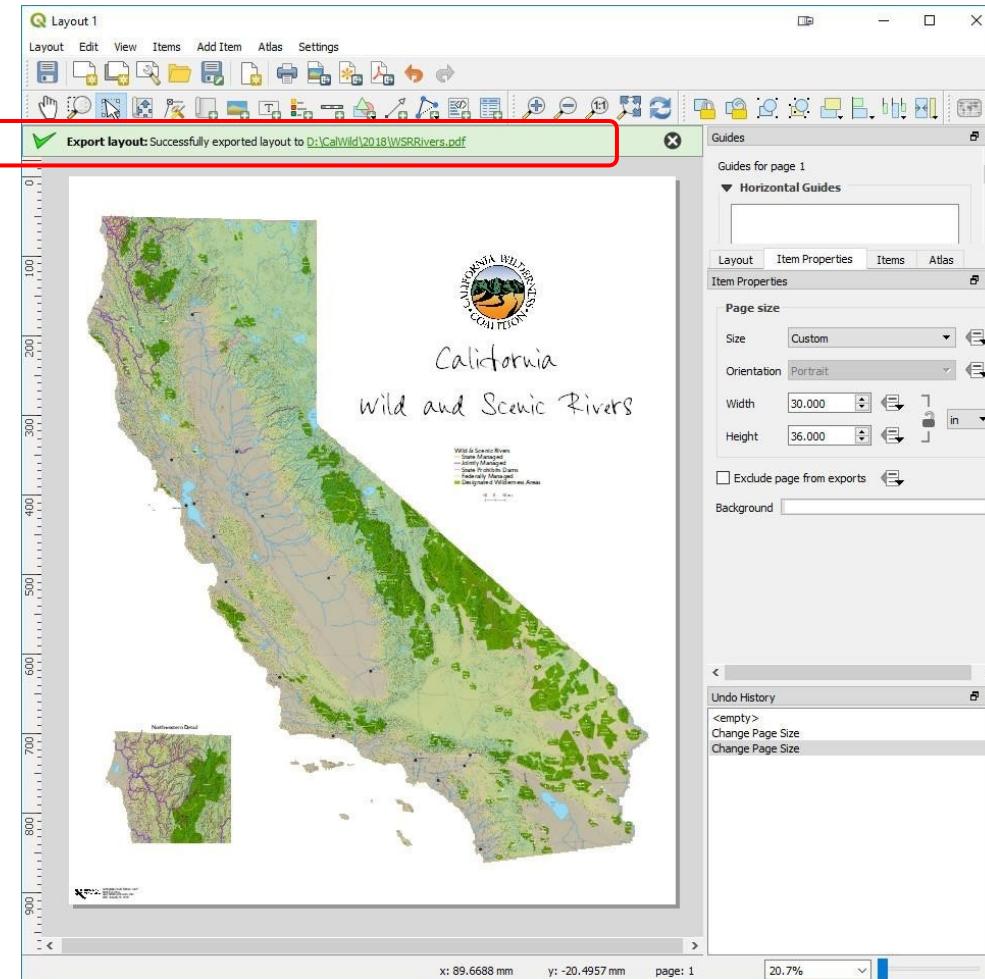
Print Composer…

- Scalebars more user friendly

- All units available including inches (mm, cm, m, in, ft, pt, pica & px)

- Better grid snapping

- Change CRS of Layout independent of QGIS map

- Exposed to plugins!

- New Map Extent Toolbar
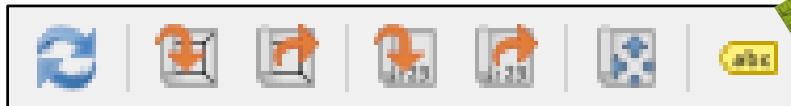
- Expressions supported for legend items

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Print Composer - Layout items can "block" map labels¶

3D Extrusion of Vector Data & Animations
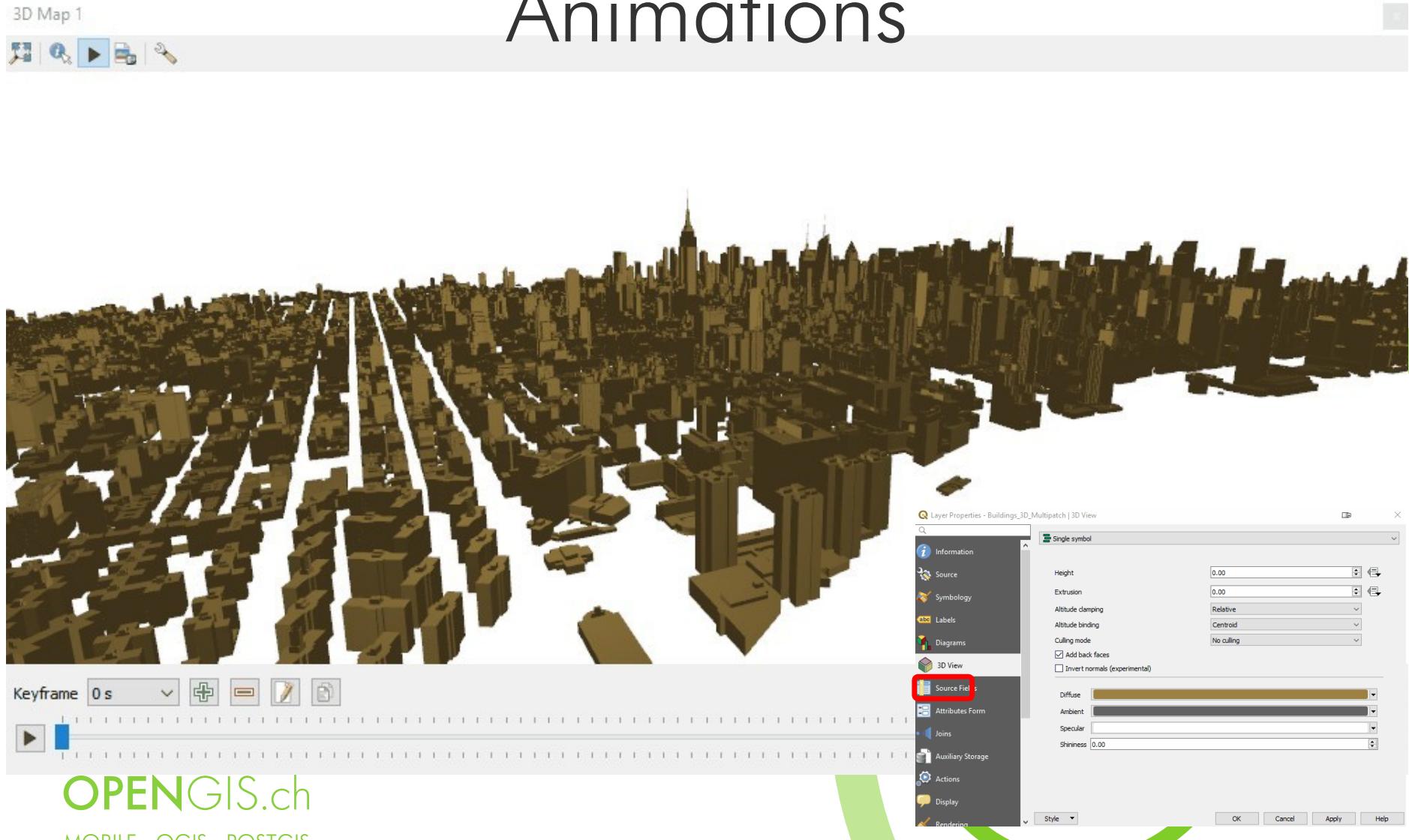
3D Support in Print Layout

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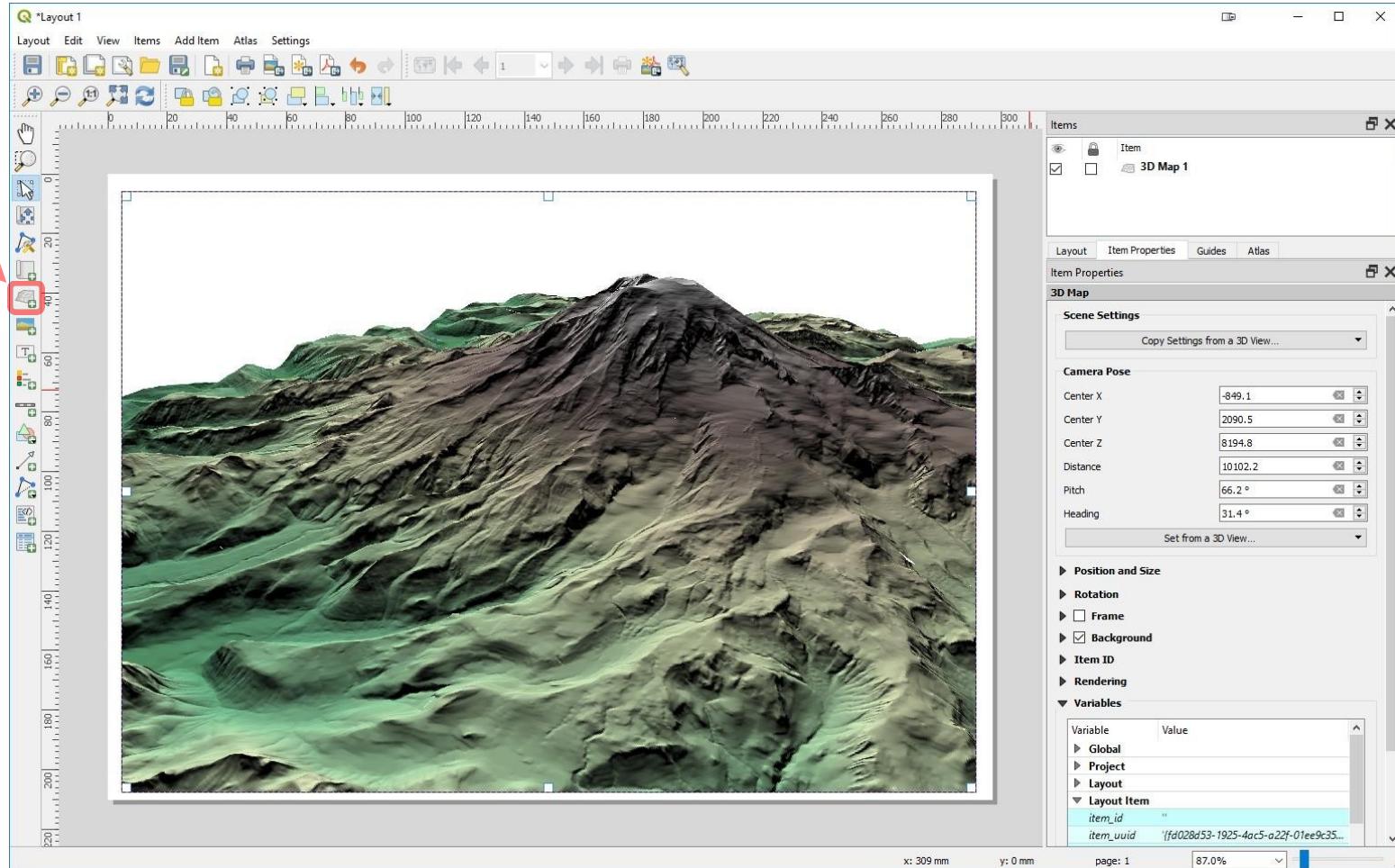
Support for Mesh Data

- Used for meteorological, hydrological, and oceanographic datasets and model outputs.

- Mesh Calculator

- Supports Identify features

- 3D support for mesh data

Triangular mesh   Quad mesh (regular grid)   Mesh with mixed element types
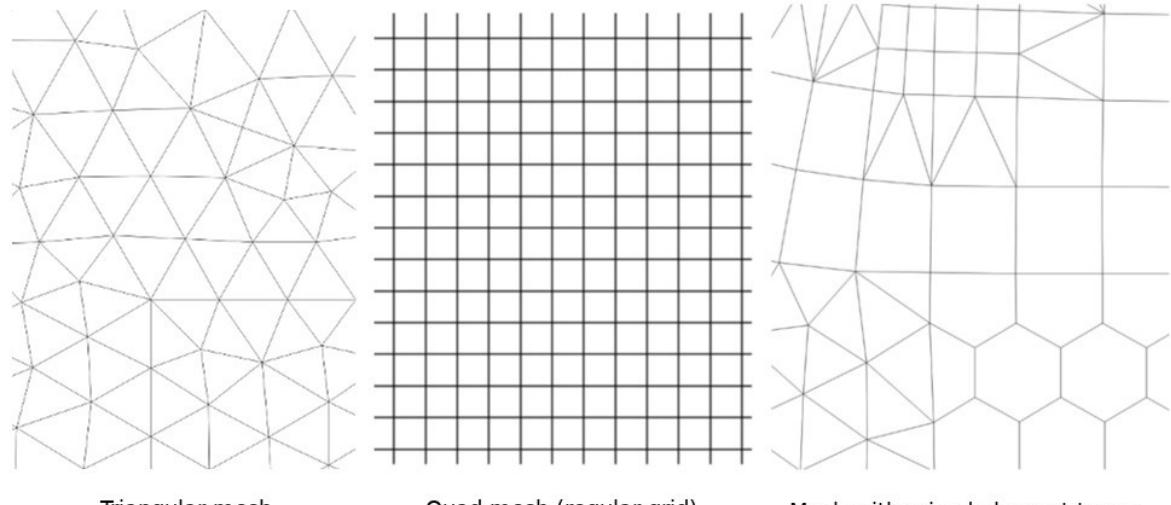
Style Contour and Vectors &
# Use Time Slider
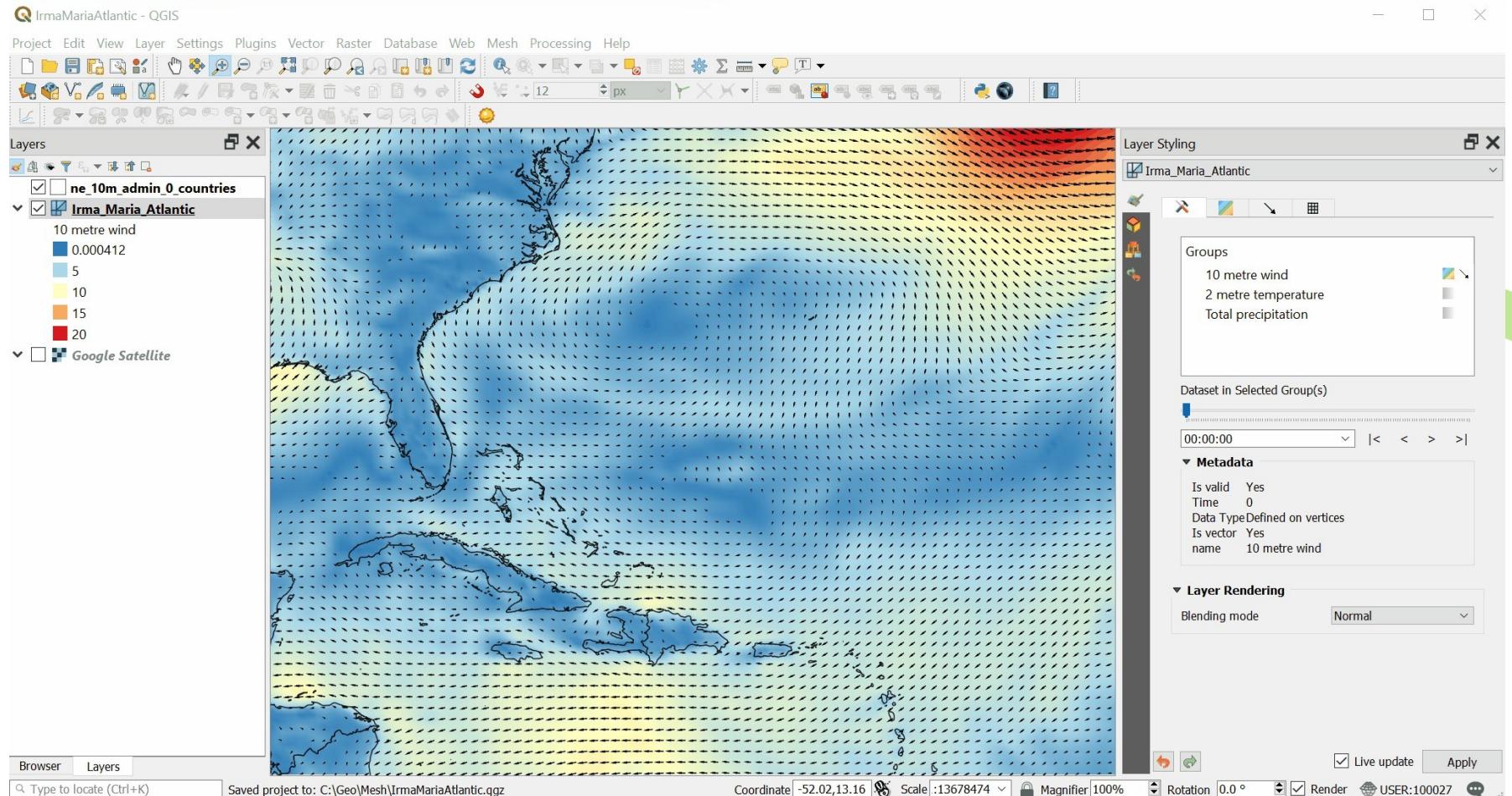
ESRI .mdx to .qgs (Beta, in foundrising)

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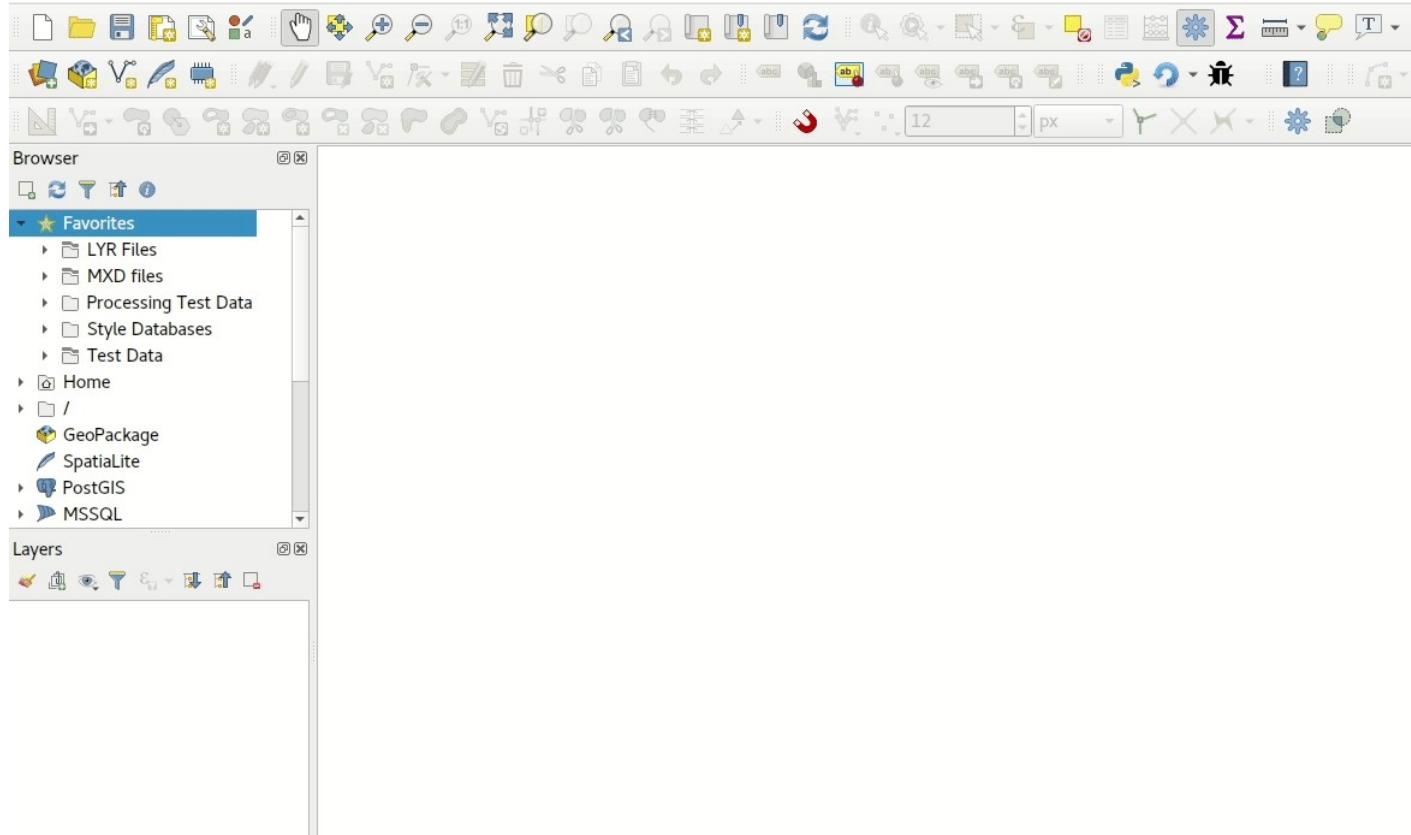
QGIS Server

- Totally refactored, rewritten and modularized

- Now a OGC reference implementation for WMS

- Tested as compliant against OGC WMS testsuit

- Much more unit tests

  - Ongoing work

  - Compliance work for WFS ongoing

  - WMTS support

  - Performance: currently still slightly worse than version 2x, but being worked on

Shameless Plug #1

Spring 2019
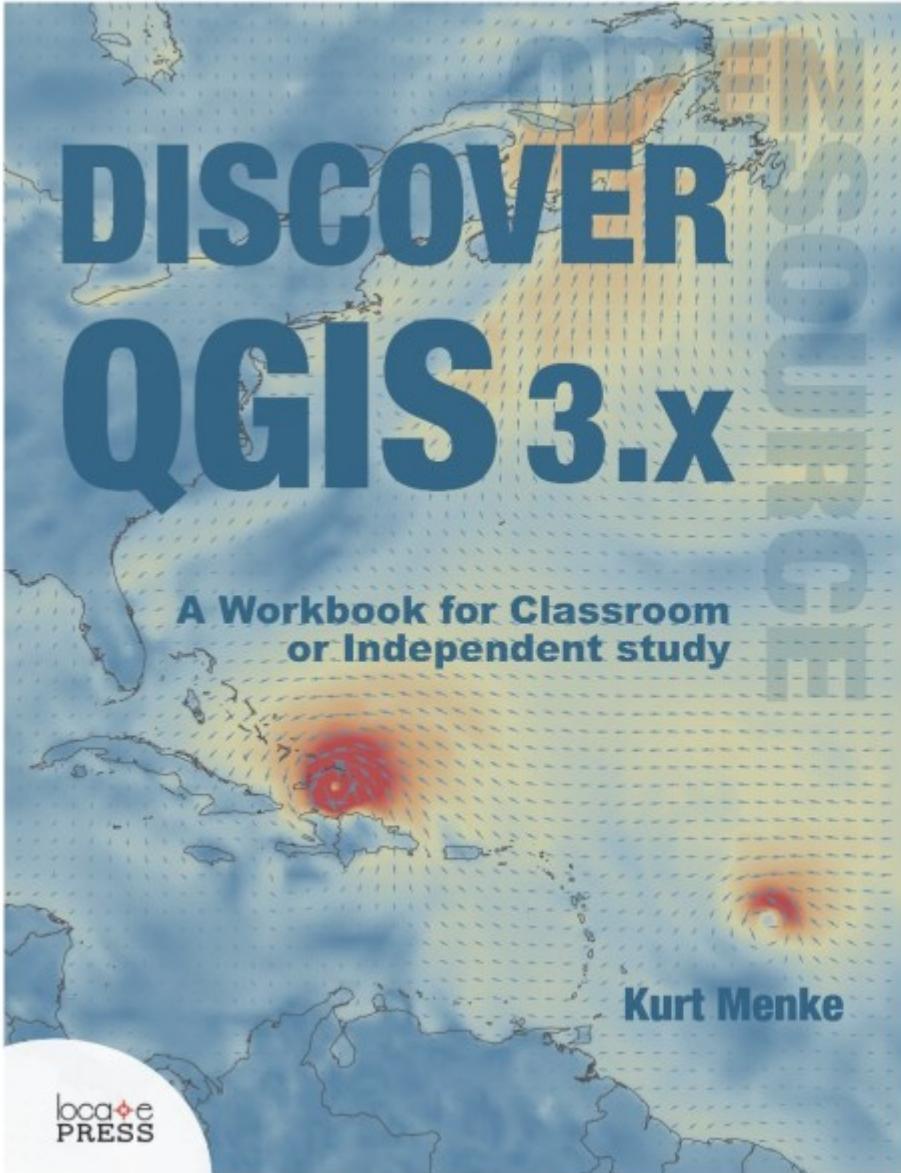
- ✓ Updated for QGIS 3.6
- ✓ A workbook for classroom or independent study
- ✓ Lab exercises based on the GeoAcademy
- ✓ Data, Discussion questions & Solution files included
- ✓ Challenge exercises
- ✓ Learn enhanced workflows with QGIS 3.x
- ✓ Covers Spatial analysis, Data management & Cartography
- ✓ New section → Advanced Data Visualization
  - ○ Blending modes | Live layer effects | Expression-based symbology | Geometry generators | Time Manager | 3D | Mesh data
- ✓ Available in Print and e-Book
- ✓ 400 pages
- ✓ $35

Appendices
- Keyboard shortcuts
- Useful plugins
- Getting involved

BIRD'S EYE VIEW GIS

locate PRESS

https://locatepress.com/dq3

Shameless Plug #2

QField 1.0
Matterhorn
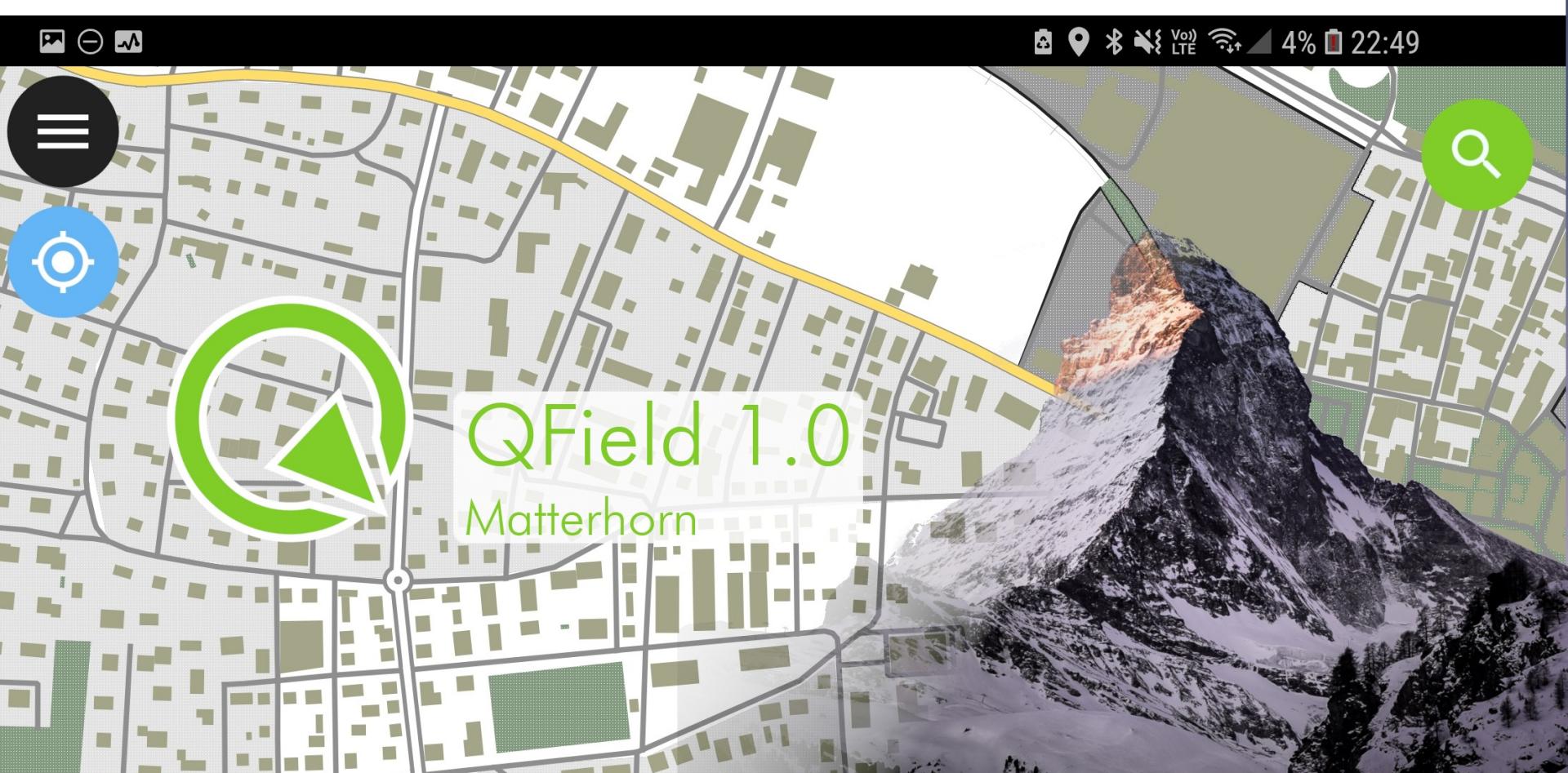
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Shameless Plug #3

https://opengis.ch/qgis-on-the-road

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QGIS needs you!

QGIS needs more contributors

- Users, Testers

- Contributors of case studies

- Documentors and Translators

- Hosts of meetings and hackfests

- Developers

- Sysadmins for infrastructure

- Funders, Donors, Sponsors

We strive for a friendly, welcoming and diverse worldwide community!

Visit https://www.qgis.org/ for more information or follow @QGIS on Twitter

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Thanks! Questions?

Get in touch
@OPENGISch
info@opengis.ch