3º Encontro de Utilizadores QGIS Portugal
17-18 de Junho, 2016 – Porto

(Selection of) New features in QGIS 2.12 - 2.16

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NaturalGIS

- Active members of the QGIS development team and community

- Contributors of the QGIS Processing toolbox

- Main QGIS testers

- Experienced QGIS trainers

- Services based on FOSS4G

http://naturalgis.pt/

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Credits

- **This presentation:** Andreas Neumann (GIS-Fachstelle, Kanton Zug, Switzerland)

- **To all who paid for new features / bug fixing:** QGIS-CH, QGIS-UK, SIGE, Uster, Morges, Vevey, Kt. Solothurn, Kt. Glarus, Kt. Zug, Kt. Basel Stadt, Land Vorarlberg, MEEM, DFAT/Inasafe, Alta ehf, GIS3W, Province Tuscany, Boundless, iTOpen, Sourcepole, Camptocamp, OpenGIS.ch, Norbit, Lutra Consulting, **and many (many) more...**

- **To all who developed the new functionalities:** Nyall Dawson, Martin Dobias, Jürgen Fischer, Marco Hugentobler, Matthias Kuhn, Sandro Mani, Hugo Mercier, Even Rouault, Denis Rouzaud, Nathan Woodrow, Luigi Pirelli, Victor Olaya, Alexander Bruy, **and many (many) more...**

(Visual) Changelogs

http://www.qgis.org/en/site/forusers/visualchangelogs.html

http://changelog.qgis.org/en/qgis/version/2.10.0/

http://changelog.qgis.org/en/qgis/version/2.12.0/

http://changelog.qgis.org/en/qgis/version/2.14.0/
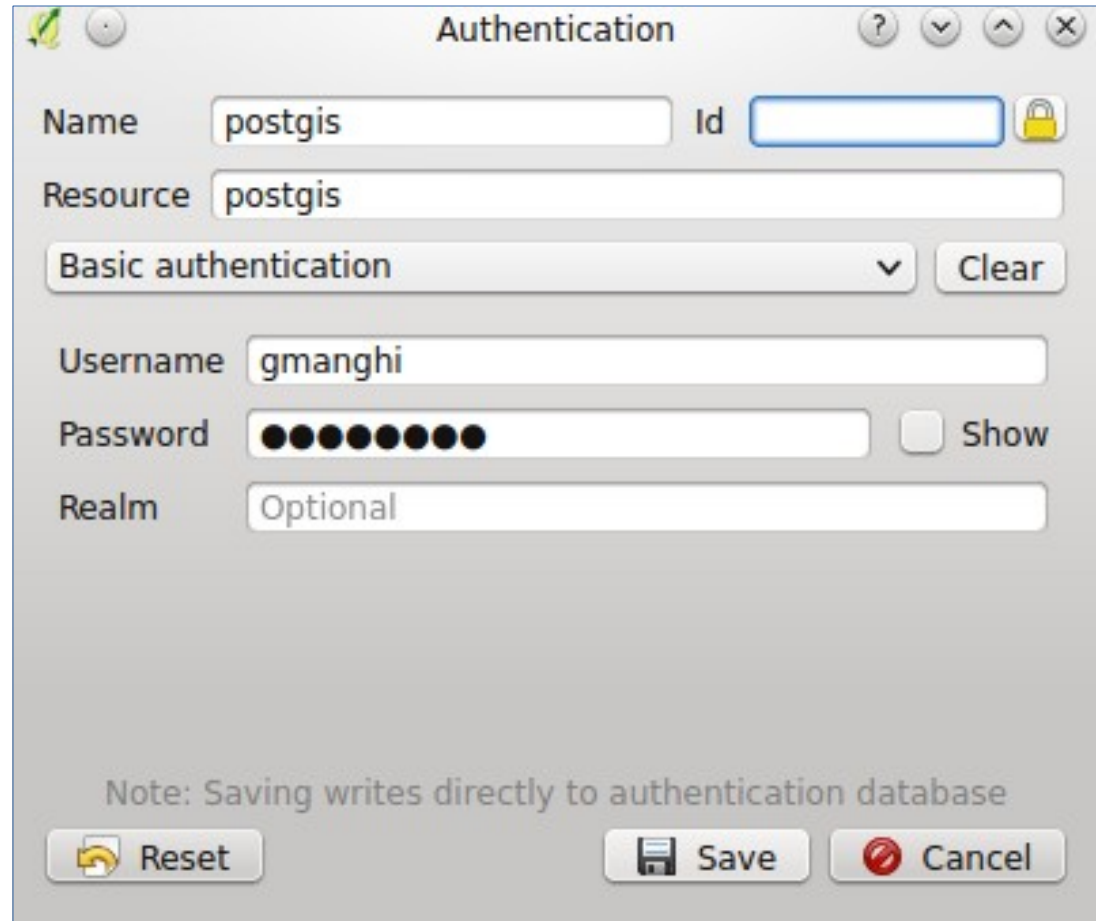
http://changelog.qgis.org/en/qgis/version/2.16.0/

Security – Encrypted passwords

- Integrated password manager with master password

- Encrypted passwords stored in SQLite DB

- Authentication with keys

- Available for different providers:

  - PostGIS

  - WMS

  - WFS

# Security - Encrypted passwords

New geometry model

- Circular Arcs, 3D, M-Values

- possibility to display features with curved type

- editing of curved geometry types, z/m-values

- curve support in WKT and GML

- Curve support in Geopackage (through OGR)

Live Layer Effects

• Applies to all vector geometries of a layer

• Chainable combination of

• Source, Transform, Blur, Drop Shadow / Inner Shadow, Inner glow, Outer glow, Colorize
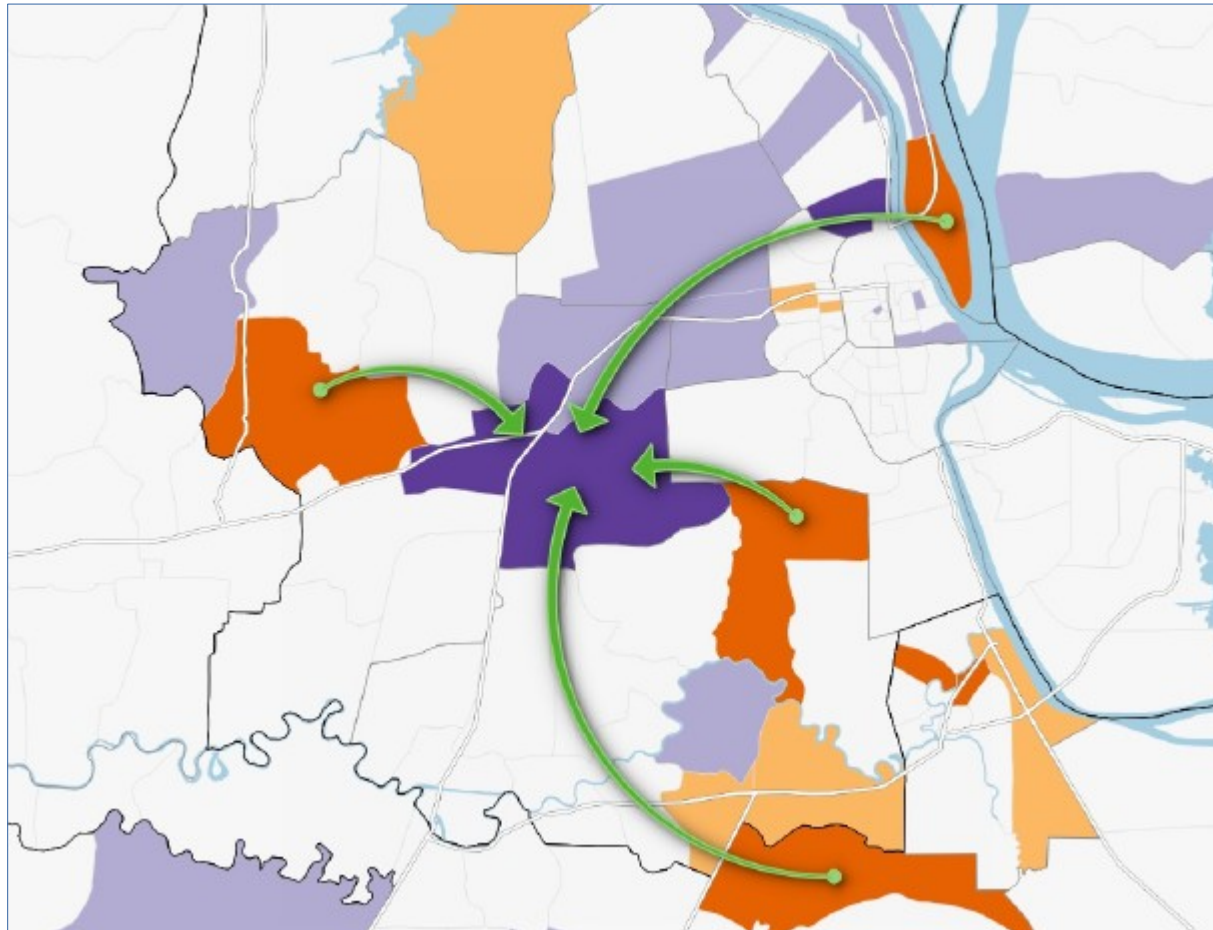
• Combine with transparency and blend modes 2.10
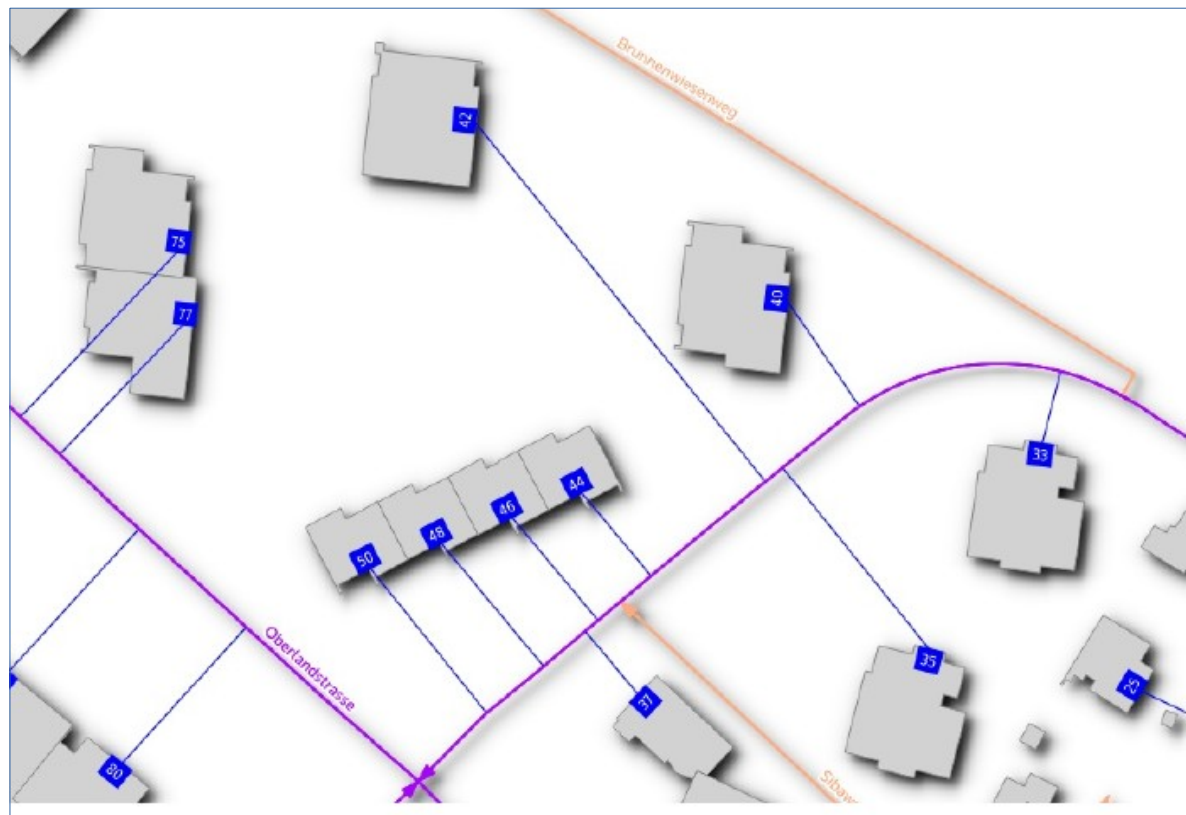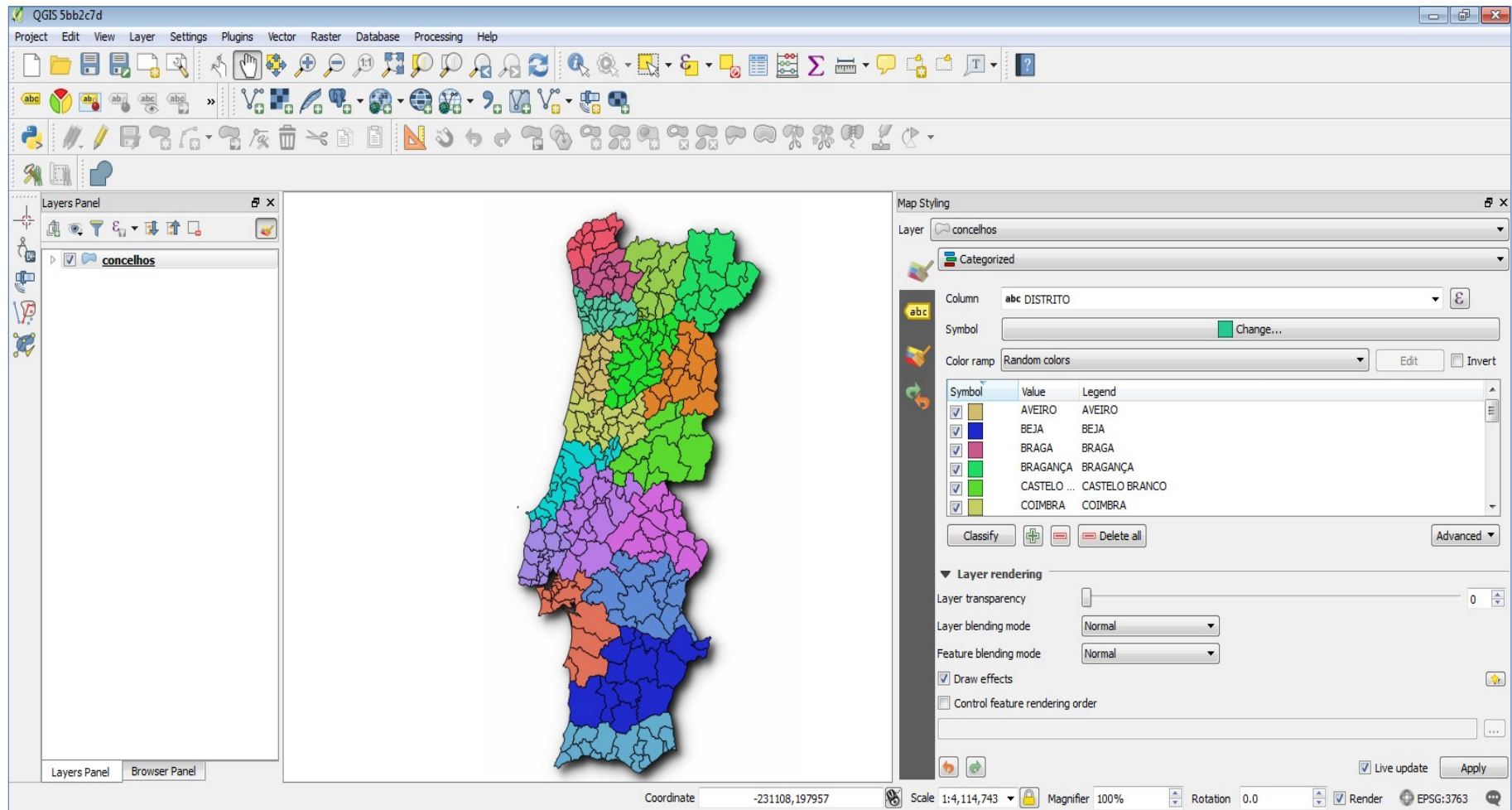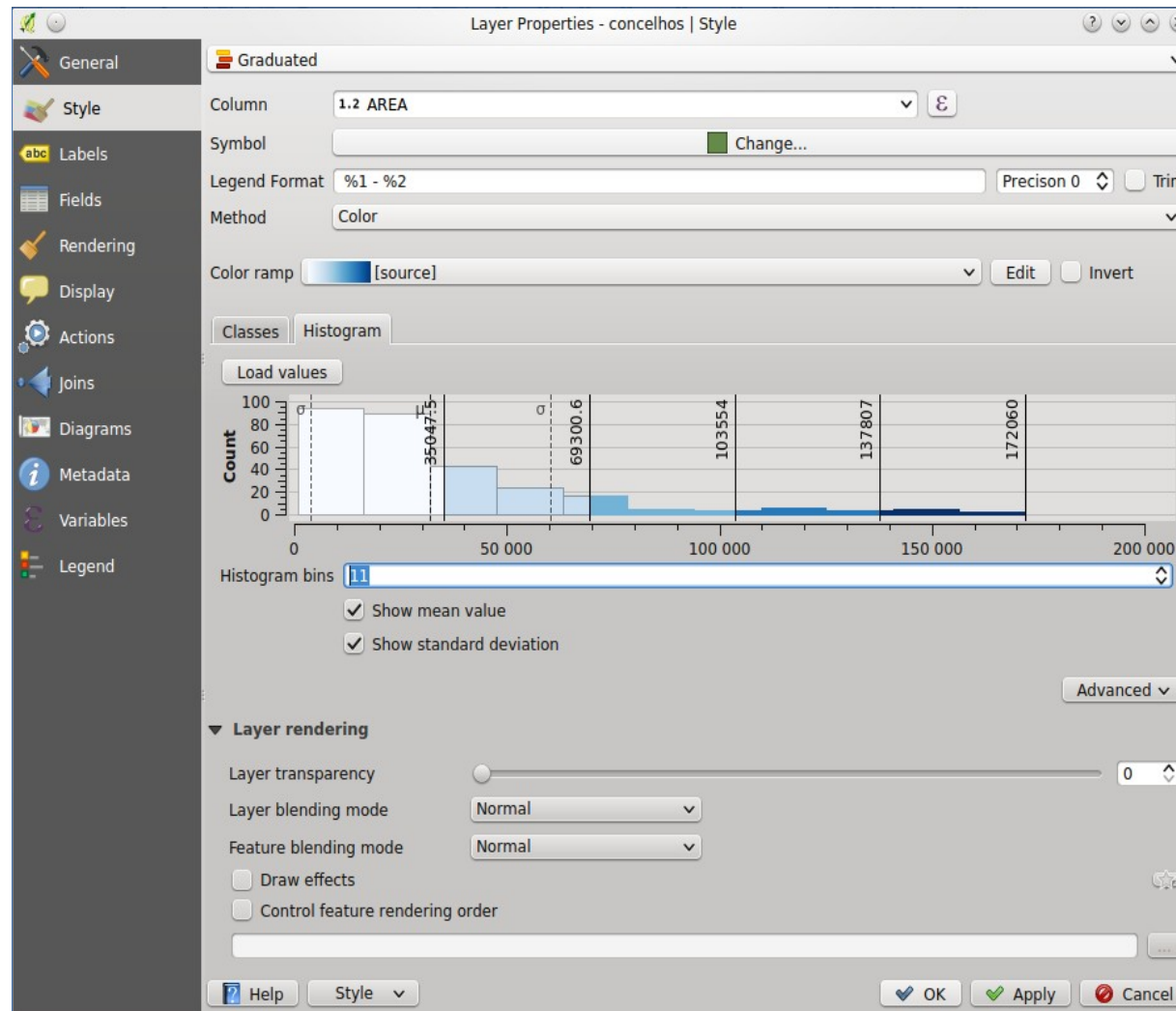
2.5D Rendering

2.5D Rendering

Curved Arrow Renderer
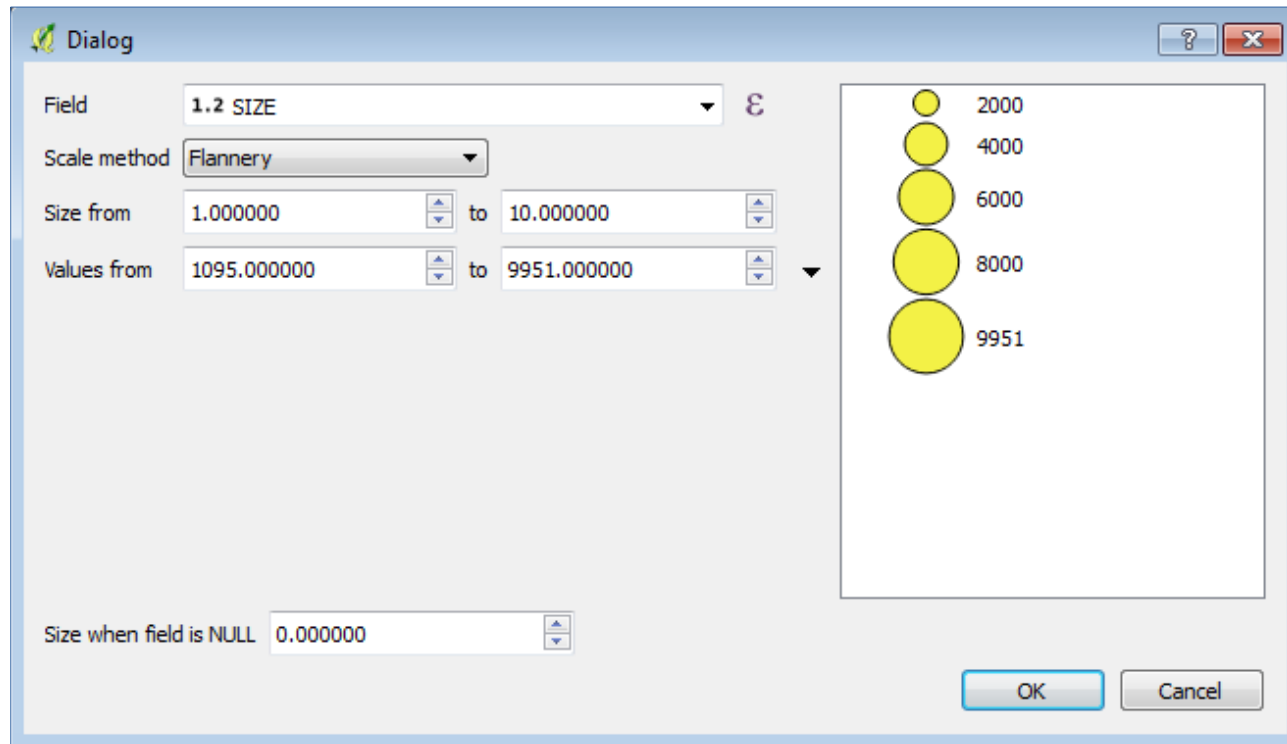
Map Styling and Labeling Dock: live updates!

Graduated Renderer Histogram

Scaled symbols improvements

• Assistant for different scaling modes and mapping min/max to actual sizes

• Legend in legend tree and print composer

• Legend for components of diagrams

Labels Improvements

- **Rule based labels!**

- Data-defined Quadrant for point lables

- Draw only labels in polygons, if label fits

- Control priority of label obstacles

- Avoid polygon borders (obstacles)

- Obstacle only layers

- Control label rendering order

- Point labeling according to Krygier/Wood (2011): use "cartographic" priorities for positioning: top right, top left, bottom right, bottom left, middle right, middle left, top (slightly right), bottom (slightly left)

- Consider actual rendered symbol size for labeling point features: apply rendered size to label distance - only available for "cartographic" positioning and consider symbol bounding box as obstacle

Attribute table improvements

- Multi-Attribute Editing of Selected features

- **Conditional formatting**

- Multi-Attribute Search in Form View

  - Select Features or Filter table

  - Combine selection/filter rules from multiple fields

  - Add or remove from selection or create new selection

  - Filter with AND / OR
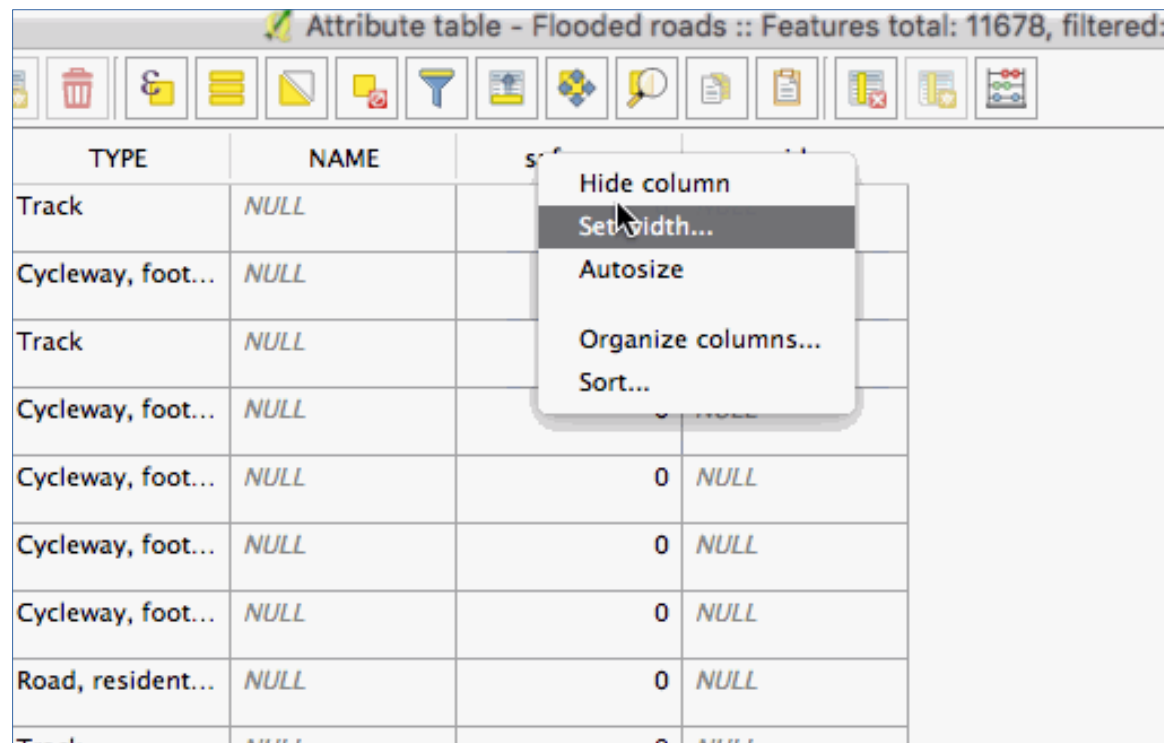
Raster symbology

- Several general improvements

- Quantile based classification for raster layers

- **Live hillshade renderer**
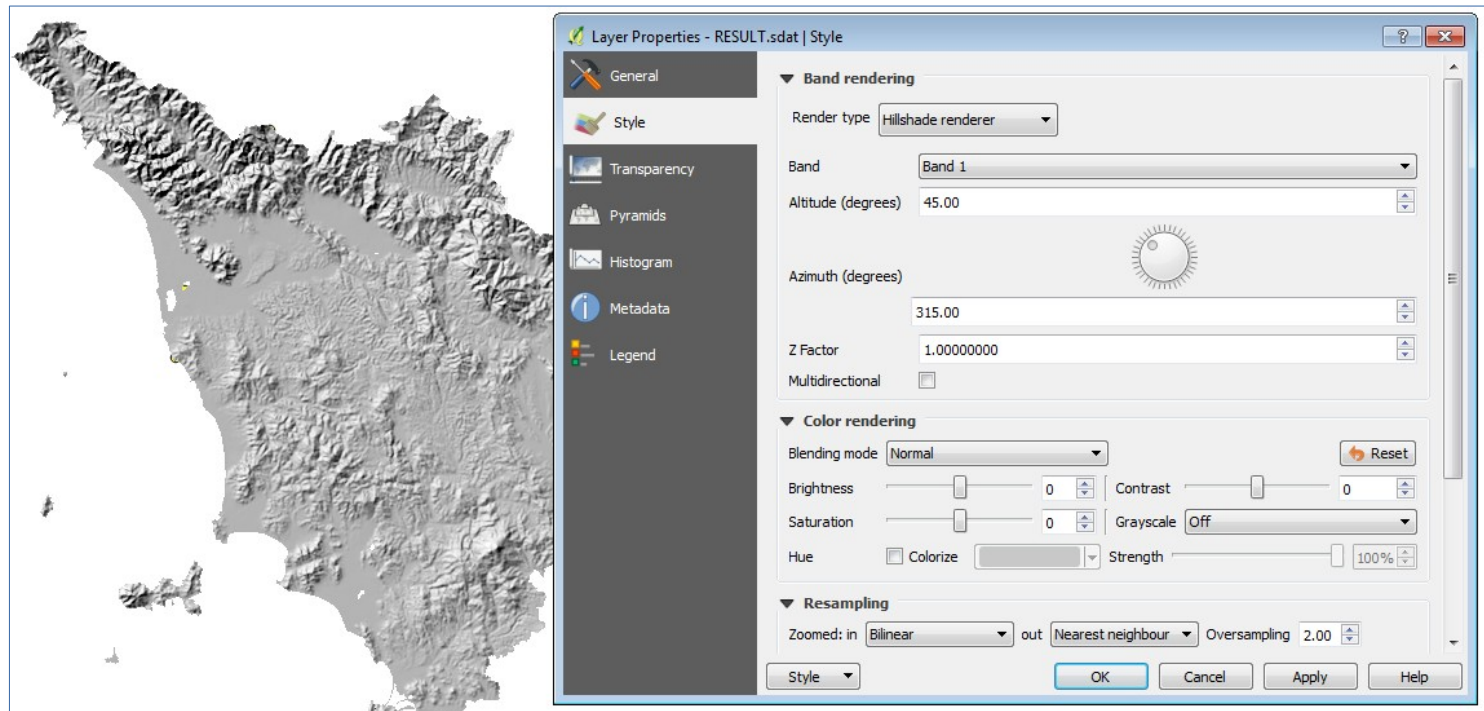
Attribute table improvements

• Allow reordering the attribute table columns (via right click on field name header)

• Allow adding a new column to trigger an action to the attribute table

• Columns can be hidden from the attribute table (via right click on field name header)

• QGIS now remembers the width of any resized columns

Widgets improvements

- **Constraints on widgets!**

- Line edit with auto-completer for ValueRelation edit widget

- Relation Reference Widget with Drilldown

- Relative path support in file widget, photo widget and webview widget

- External Resource Widget (for linking file and web resources)

- Client-side constraints on input widgets

WFS Client Overhaul

- Version autodetection

- On-disk caching of downloaded features

- Background download and progressive rendering

- WFS 1.1 and 2.0 support

- WFS 2.0 GetFeature paging

- Add provider tests

- Support for WFS 2.0 joins

- URI parameter with sql with SELECT / FROM / JOIN / WHERE / ORDER BY clauses

- Handle DateTime fields

- Enable "Only request features overlapping the view extent" by default (and memorize the settings)
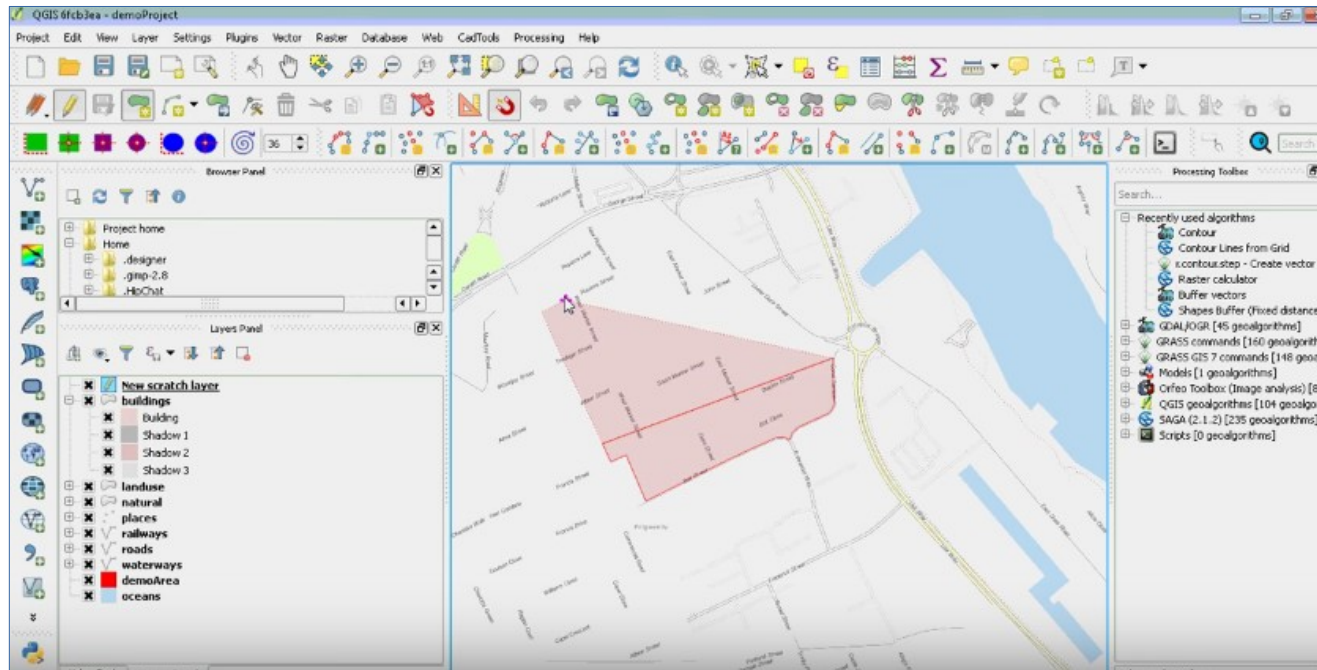
DXF Export Improvements
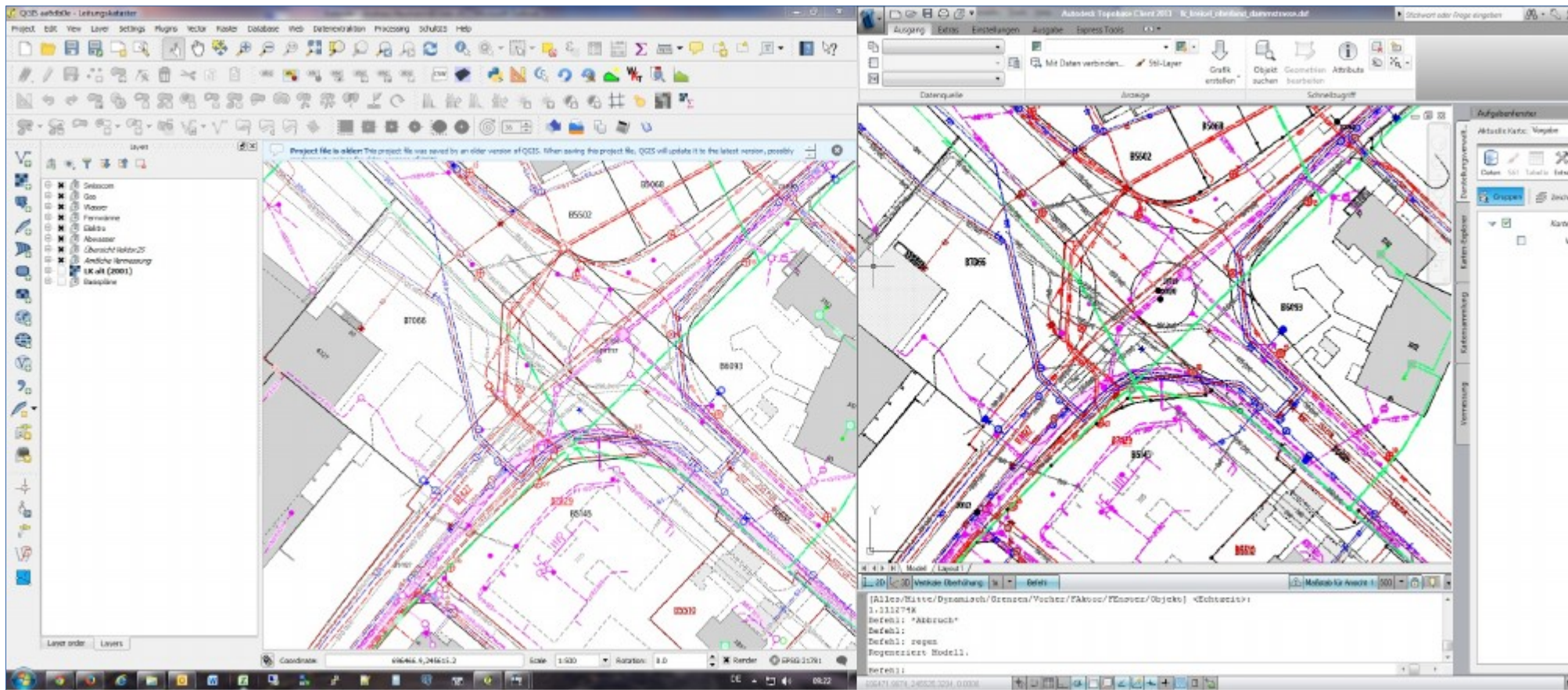
DXF Export Improvements

- Export with our without symbology

- Export everything or visible extent

- Set scale for rendering rules and filters

- Support of visibility presets

- Support multiline text

- Support solid fills

- Support transparency

- Support line offsets and units properly

- Automatic conversion of simple and SVG symbols to DXF blocks

- Use QGIS layer names, layer title or layer attribute to determine layer name

Vector editing

- Autotrace digitizing function improved and in QGIS core, see

  http://www.lutraconsulting.co.uk/products/autotrace/TraceDigitising

- Extend linestring with reshape tool

- Point Features: interactive editing of symbol offsets

Geometry checker

Processing

- Models and tools as toolbars icons

- Pre-filled tools

- Added all the missing GRASS modules (i.*, v.net.*, etc.)

- Several general improvements and bug fixes
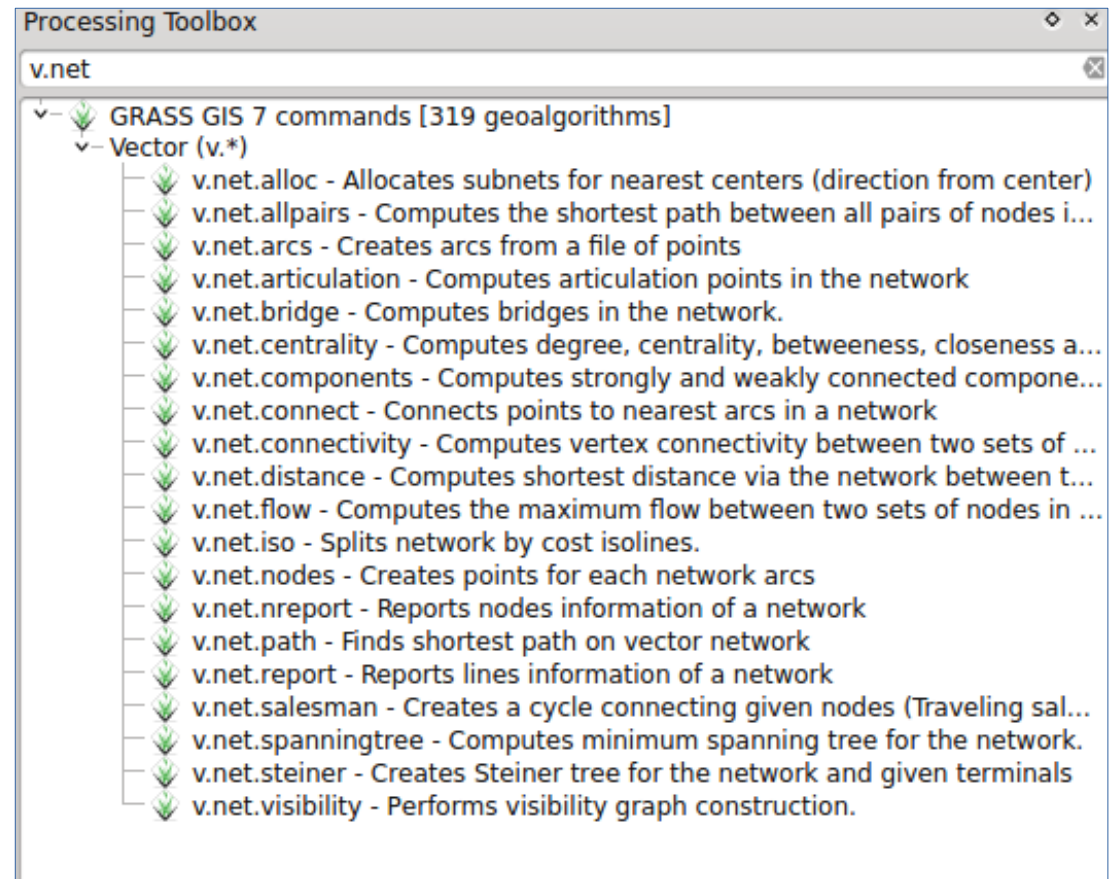
And <u>much</u> more...

- Save styles in **MS SQL** and **Oracle** databases

- **ArcGIS** Map and Feature REST services

- Control over attributes to export when saving a vector layer

- DB Manager:

    - Support for Oracle connections

    - Multi-tab SQL windows

- GDAL/OGR 2.* related improvements:

    - Better Geopackage support

    - Support for curves in more data providers (e.g. Geopackage, GML, Interlis, Postgis)

    - Support for reading and writing spreadsheet files (Libreoffice and Excel)

- ...

Obrigado!

Sistemas de Informação Geográfica

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