



FOSS4G 2014

From Nottingham to PDX: OGIS 2014 roundup

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About Sourcepole

› QGIS

- › Core dev. & Project Steering Committee
- › QGIS Server, Printing, Plugins, ...
- › QGIS Enterprise
- › QGIS Cloud

› OGR / GDAL

- › Interlis drivers
- › Schema support for PostGIS driver

› Web-GIS

- › Mapfish Committer / Mapfish Appserver
- › Contributions to MapServer, Openlayers, ...

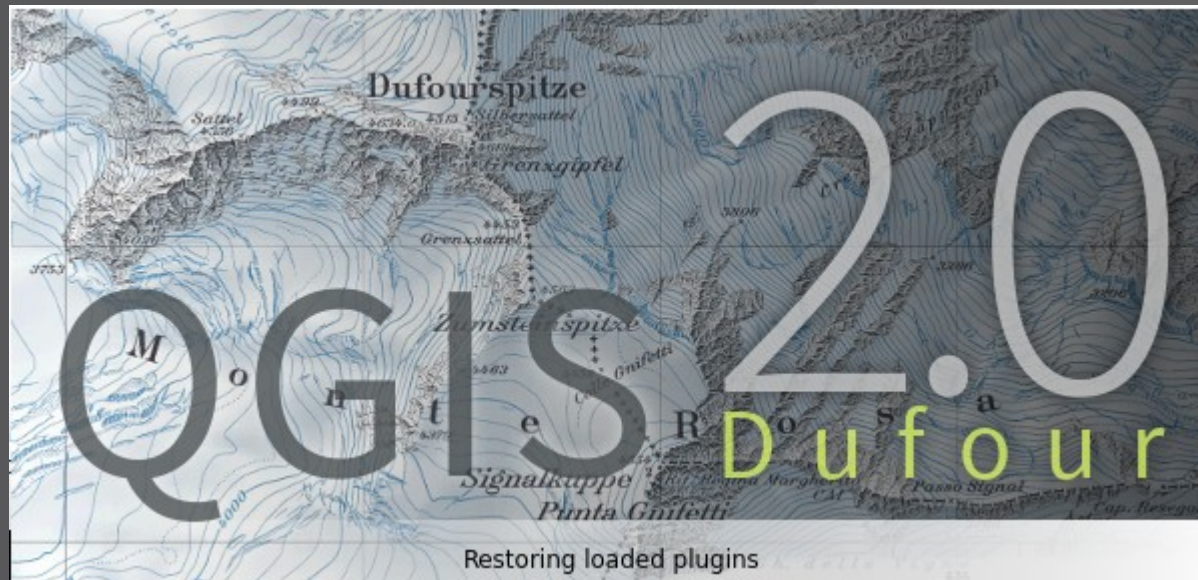
- › **Full featured desktop GIS**
- › **Support for many vector and raster formats**
- › **Extensible with Python and C++ plugins**
- › **Customizable**
- › **Web mapping services with QGIS Server**
- › **Windows, Linux, Mac OS support**
- › **Open Source**



› **OGIS Project Steering Committee**

- › Gary Sherman, US (Chair)
- › Marco Hugentobler, CH (Technical Advisor)
- › Tim Sutton, ZA (Testing/QA Manager)
- › Otto Dassau, DE (Community Advisor)
- › Paolo Cavallini, IT (Financial/Marketing)
- › Anita Graser, AT (Design Advisor)
- › Richard Duivenvoorde, NL (Infrastructure)
- › Jürgen Fischer, DE (Release Manager)

Nottingham FOSS4G 2013

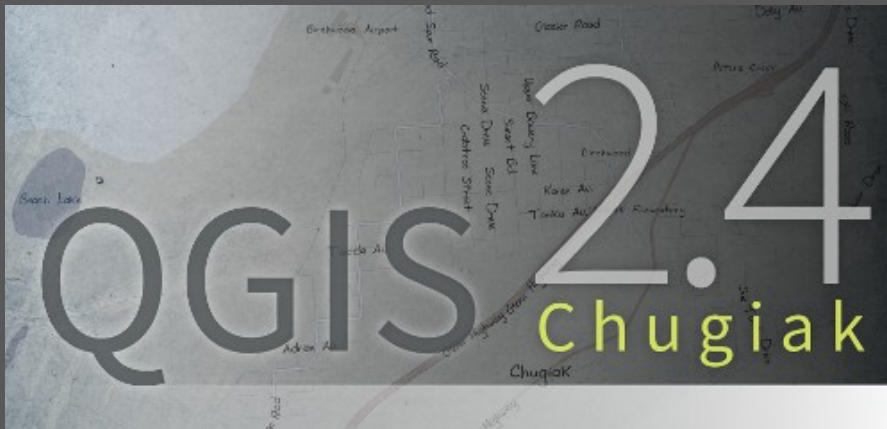
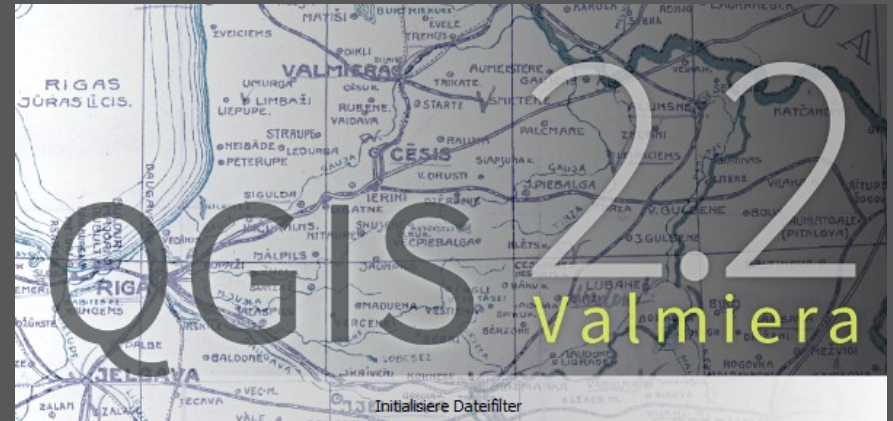




Release Plan 2.x

Releases every 4 months

- 21.02.14 QGIS 2.2
- 20.06.14 QGIS 2.4
- 24.10.14 QGIS 2.6

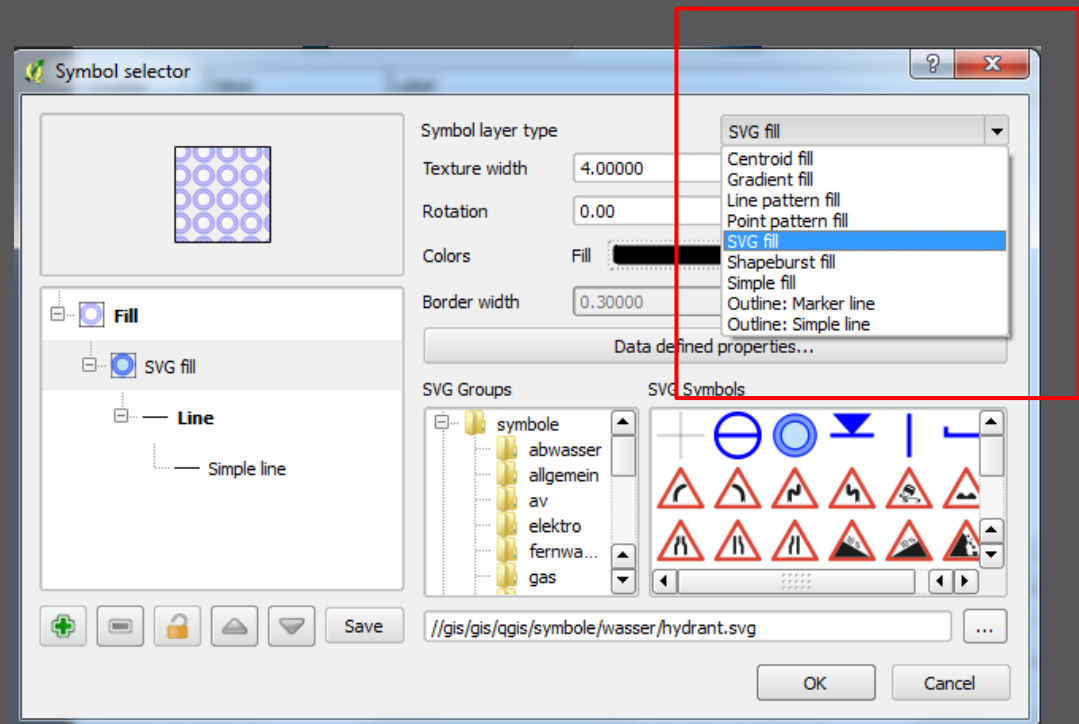


**Whats new?
(selection!)**



Symbology - Current Fill Types

- Simple fill
- Line pattern fill
- Point pattern fill
- SVG fill (vector fill)
- Centroid fill
- Gradient fill
- Shapeburst fill





Symbology - Gradient Support

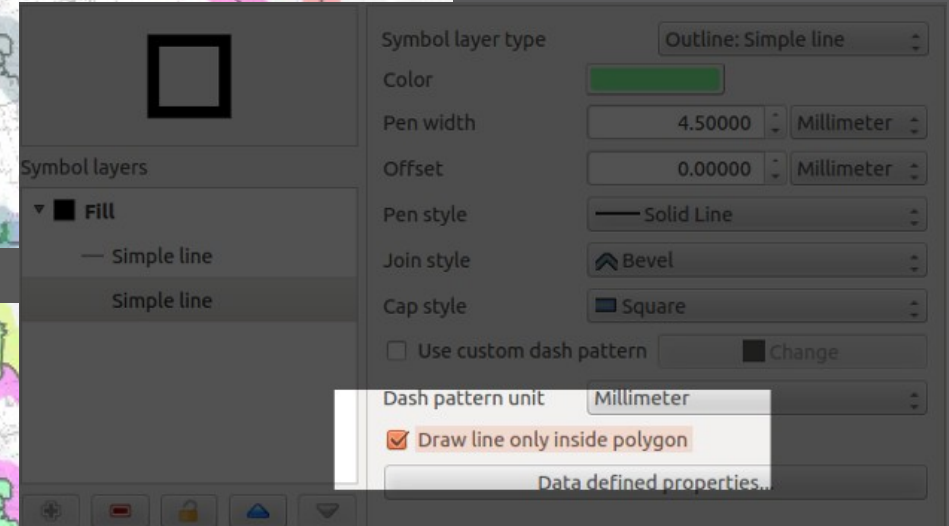
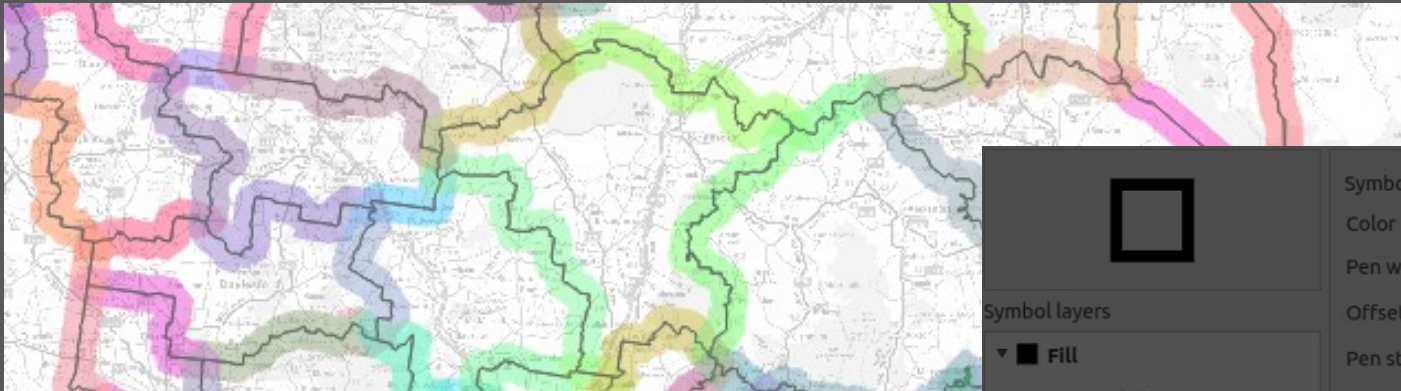
- › Two color or ramp based
- › Linear, radial or conical
- › Viewport or object based gradient bounding box
- › Supports data-defined properties with expressions

Symbology - Shapeburst Support


- › **Shapeburst: Gradient that follows shape**
- › **Two-color or ramp**
- › **Supports alpha channel**
- › **Linear, radial or conical**
- › **Shade from border to center point or shade only in buffer along borders**
- › **Optionally ignore holes**
- › **Supports data-defined properties with expressions**

Inner stroke support for polygons

Default: Centerline



Symbol layer type: Outline: Simple line

Color: 


Pen width: 4.50000 Millimeter

Offset: 0.00000 Millimeter

Pen style: Solid Line

Join style: Bevel

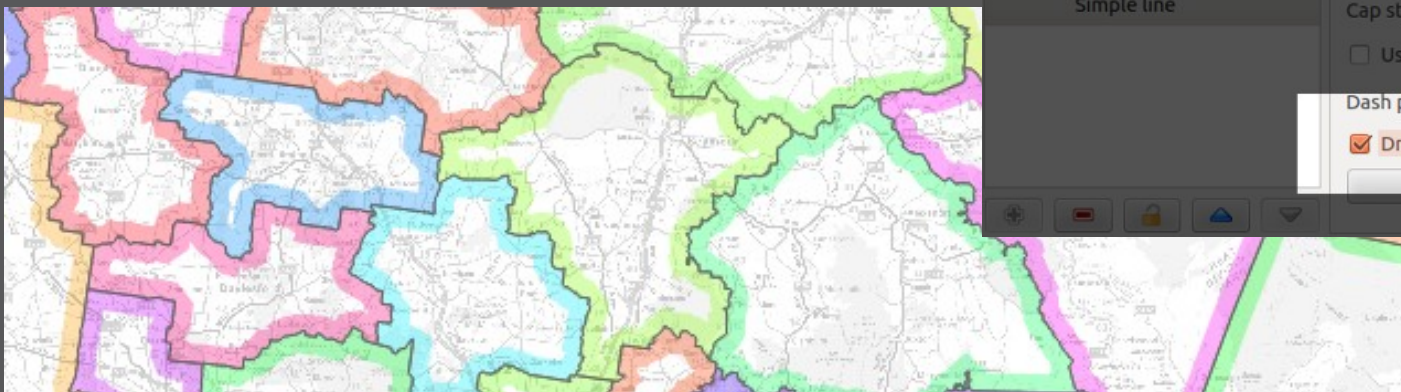
Cap style: Square

Use custom dash pattern 

Dash pattern unit: Millimeter

Draw line only inside polygon

Data defined properties...



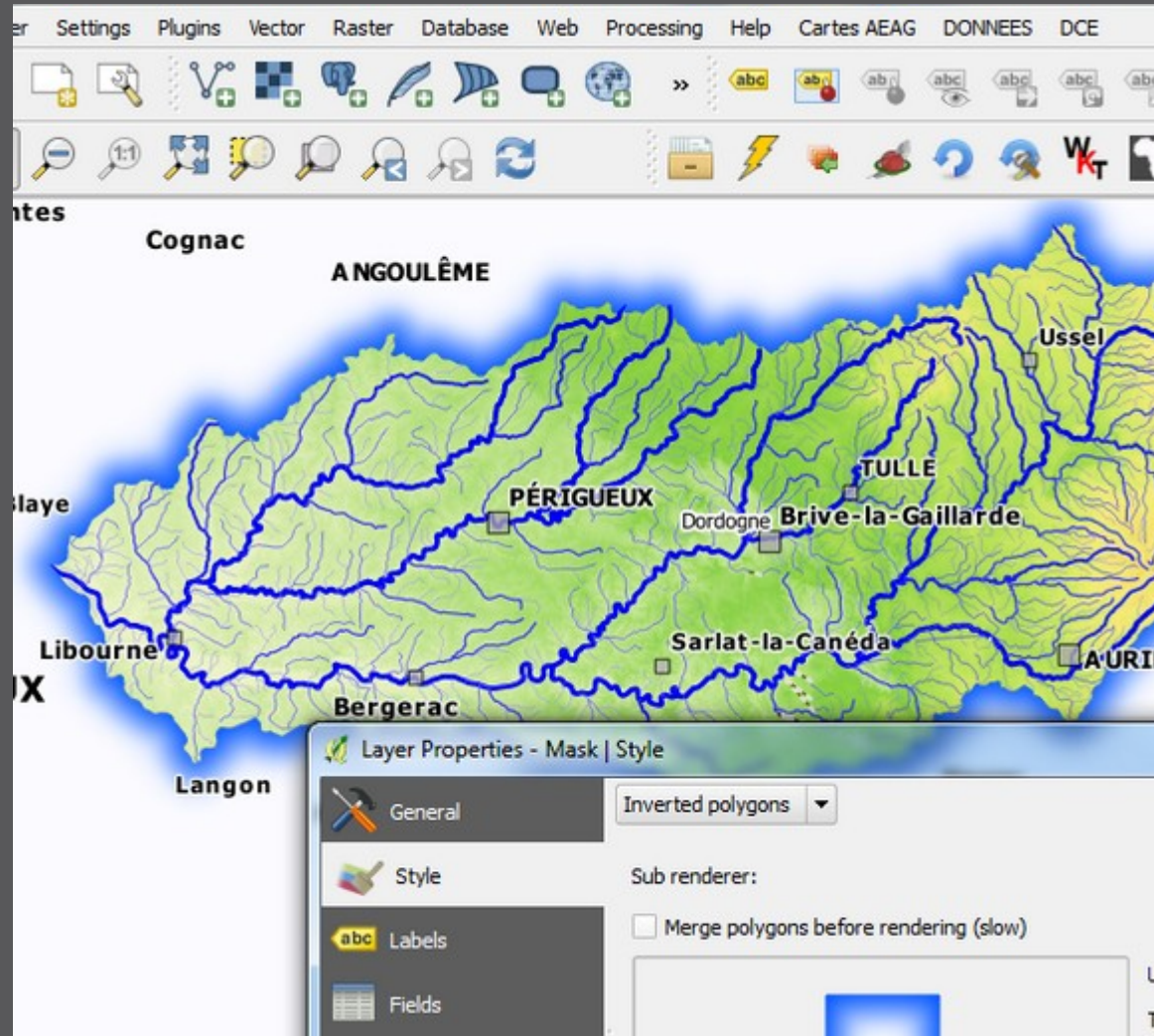
Draw line only inside polygon



Inverted Polygon Renderer

- **Used to show only certain features and cover others (like cookie cutter)**
- **You style everything that is outside of current feature**
- **Useful for showing only selected features in layers below**
- **Very useful for Serial Printing**

Inverted Renderer + Shapeburst

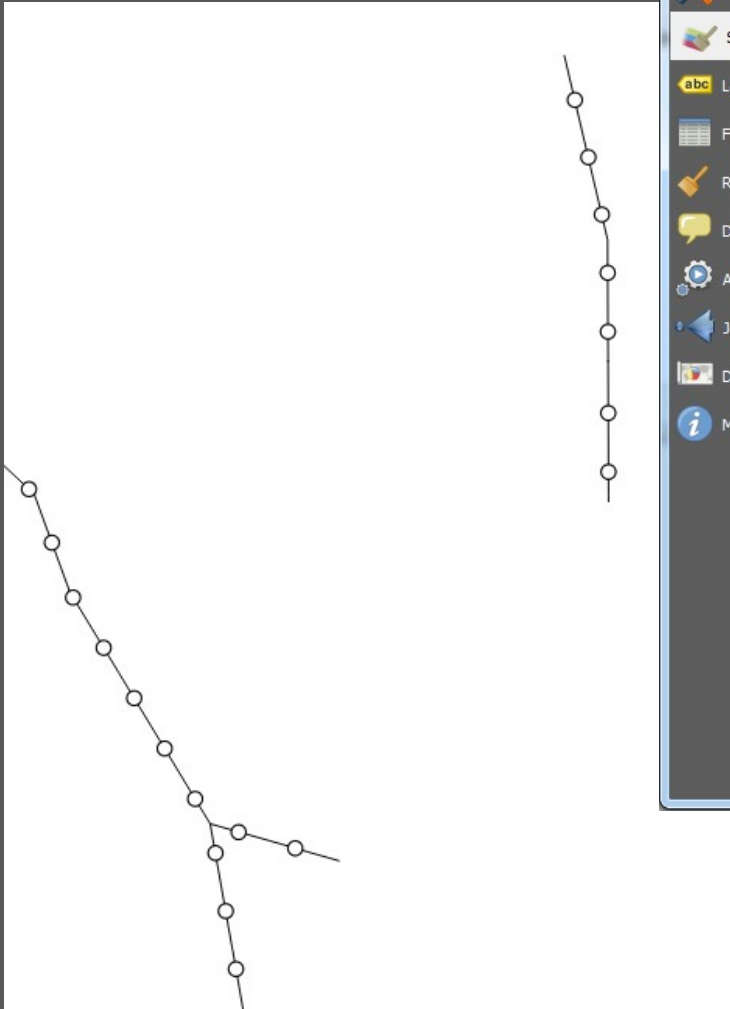




Anchors for Point Symbols

- › Previously, symbols were always centered**
- › You could use offsets against center point**
- › Now you can horizontally and vertically align point symbols**
- › Very useful for scalable symbols that should only grow to the top/bottom or left/right**

Symbology - Marker Line Offsets



Layer Properties - hochspannungsleitungen | Style

Single Symbol

Symbol layer type: Marker line

Marker placement:

- with interval 10.00 Millimeter
- on every vertex
- on last vertex only
- on first vertex only
- on central point

Offset along line: 5.00 Millimeter

Rotate marker

Line offset: 0.00000 Millimeter

Data defined properties

Save

Layer rendering

Layer transparency: 0

Layer blending mode: Normal

Feature blending mode: Normal

Load Style ... Save As Default Restore Default Style Save Style

OK Cancel Apply Help



Categorizations based on expressions

Layer Properties - hkurven_uep | Style

General

Style

Labels

Fields

Rendering

Display

Actions

Joins

Diagrams

Metadata

Categorized

Column: THEN 'Haupthöhenlinien' ELSE 'Nebenhöhenlinien' END

Symbol: — Change...

Color ramp: Random colors

Invert:

Symbol	Value	Label
—	Haupthöhenlinien	Haupthöhenlinien
—	Nebenhöhenlinien	Nebenhöhenlinien

Expression dialog

Function list

Search

- Operators
- Conditionals
- Math
- Conversions
- Date and Time
- String
- Color

Selected function help

Operators Group

This group contains operators e.g + - *

Operators

= + - / * ^ || ()

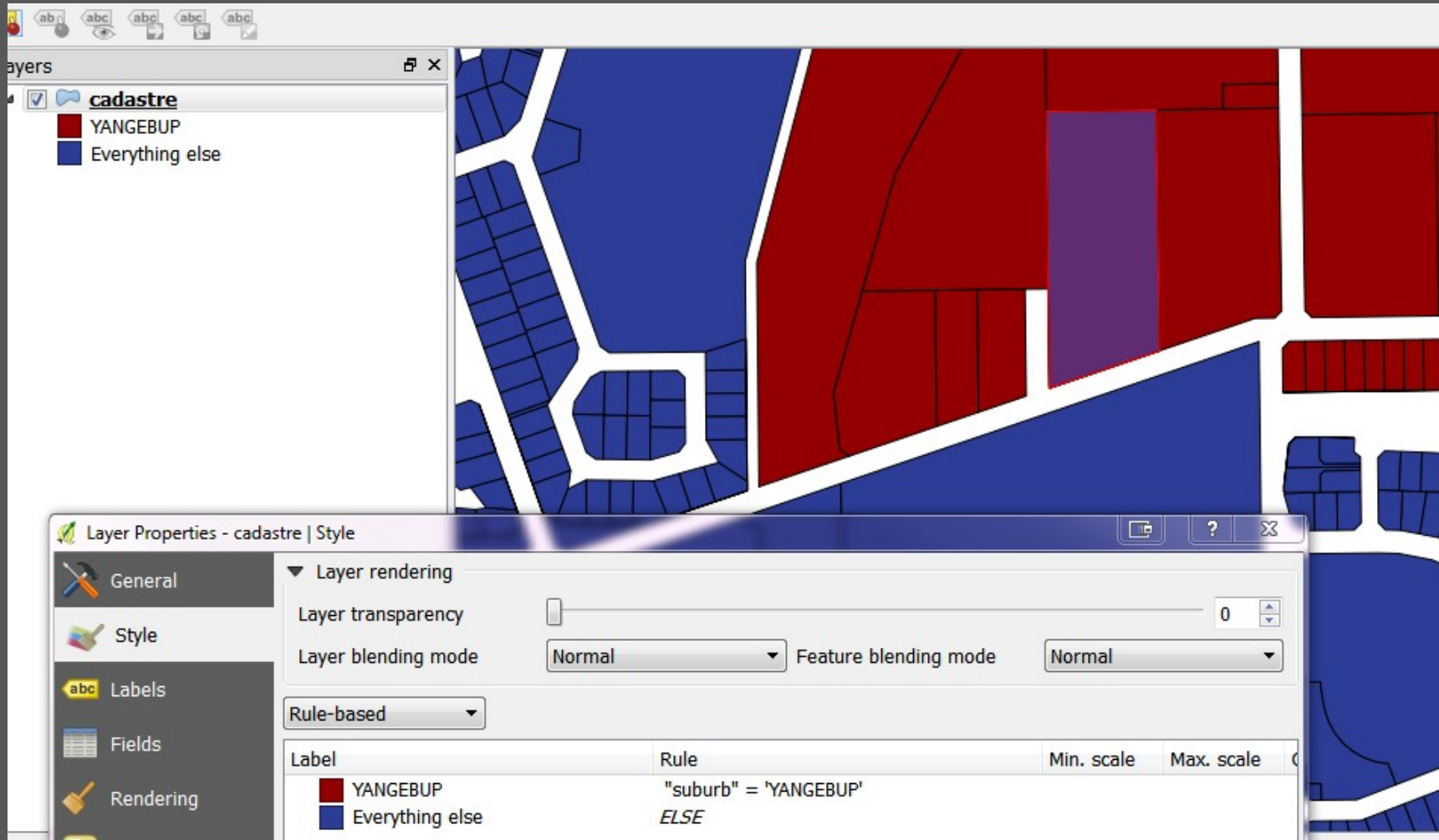
Expression

```
CASE WHEN "hoehe" % 50 = 0 THEN 'Haupthöhenlinien' ELSE 'Nebenhöhenlinien' END
```

Output preview: *Nebenhöhenlinien*

OK Cancel

Else Rule for Rule based Renderer



Applied when all other rules do not apply



Labeling Improvements

- Horizontal and Free Labeling for polygons now render faster
- Lines can be repeatedly labeled





Print composer 1/2

- › **Various improvements to usability**
 - › Select elements by mouse drag
 - › Rectangle zoom, mouse wheel zoom
 - › Zoom to actual size
- › **Rotation for all map elements**
- › **Shape styling / canvas styling**



Print composer 2/2

- › **Grayscale / colour blindness preview**
- › **Pictures**
 - › data source with expressions
 - › horizontal/vertical alignments
 - › sizing modes
- › **Better page breaks in HTML frames**



Atlas serial printing

- › Atlas preview in composer
- › Support multiple map styles with \$map variable
- › Several atlas controlled maps
- › Pick closest round map scale from provided list of scales



Tables - Quick Calcbar

Attribute table - hkurven_uep :: Features total: 834, filtered: 834, selected: 0

length = round(\$length,2) Update All

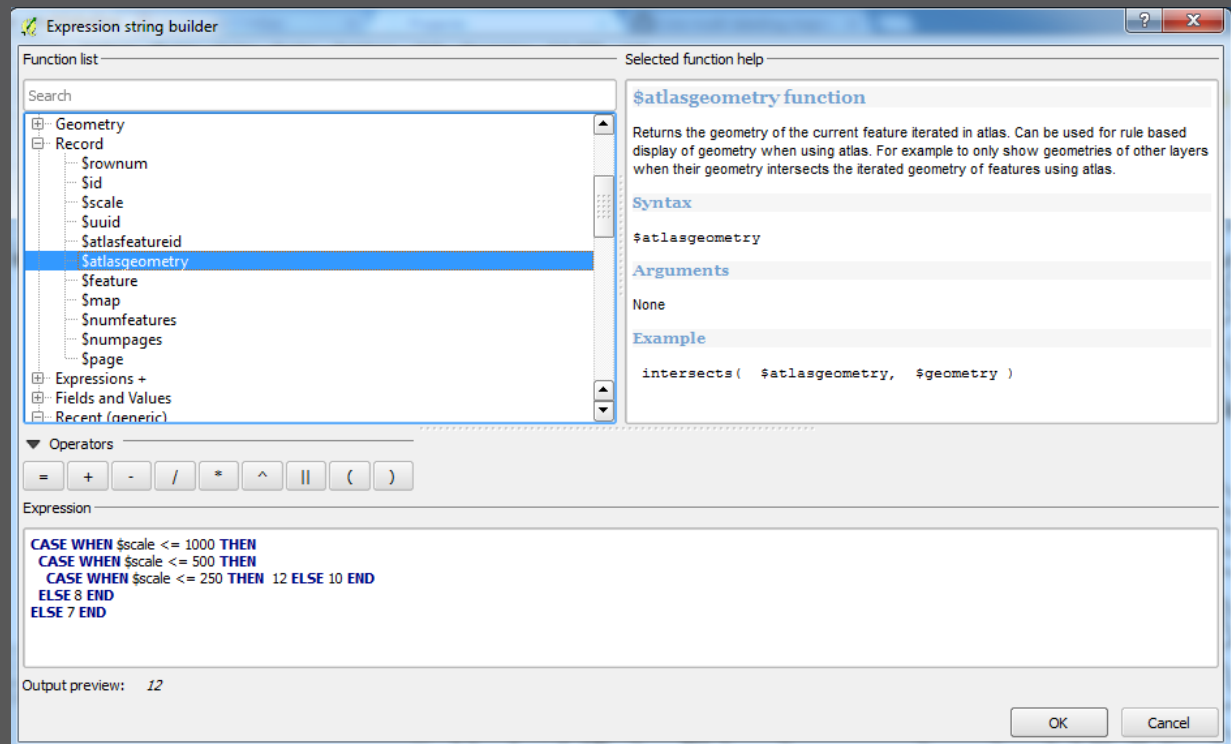
	gid	length	hkurven_id	hoehe
0	1	1829.83	4459	555
1	2	55.05	4481	570
2	3	761.12	4491	475
3	4	141.75	4497	570
4	5	334.11	4501	485
5	6	1095.71	4506	535
6	7	464.25	4509	485
7	8	73.57	4510	485
8	9	165.96	4513	560
9	801	4266.58	30787	500
10	802	6021.2	30788	500
11	14	412.22	4541	535
12	803	4802.31	30831	510

Show All Features



Expressions Improvements

- List of recent expressions
- New expressions for print composer and atlas serial printing - More to come in version 2.6





Forms and relations

- **Relations manager (cross-datasource relations)**
- **1:n relations**
- **Relation reference widget**
 - open in separate dialogue
 - as embedded form



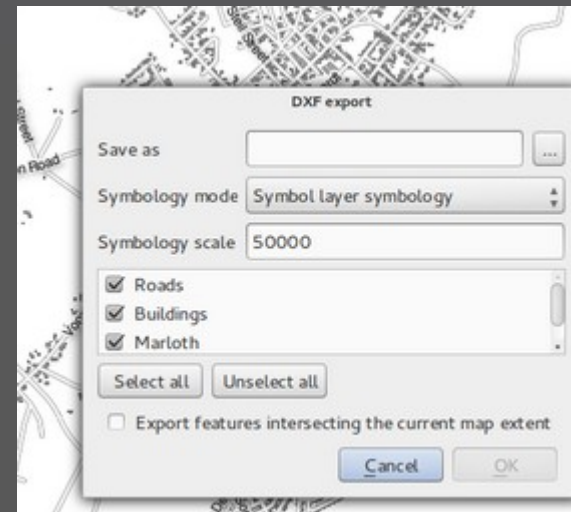
Datum transformations

- › Configurable datum transformation
- › NTV2 grid shift transformation support
- › Enable/Disable asking user for datum transformation



DXF export

- › Native export
- › Considers symbology as much as possible
- › Label export
- › Version: AC1009





Under the hood improvements

- › Legend code & API redesign -> access to legend for plugins
- › Unit tests



Multithreaded rendering

- › **Multithreaded rendering**
 - › Before 2.4: Rendering in GUI-thread, application is blocked
 - › QGIS 2.4: Each layer renders image in own thread, images are combined
 - › Rendering can be canceled before the whole map has rendered

Multithreaded rendering





Thanks

- › **to all developers of new functionality:**
 - › Nyall Dawson
 - › Martin Dobias
 - › Jürgen Fischer
 - › Marco Hugentobler
 - › Matthias Kuhn
 - › Sandro Mani
 - › Hugo Mercier
 - › Denis Rouzaud
 - › Nathan Woodrow
 - › and others!



Thanks

- **to all who paid for new features / bug fixing**
 - Swiss QGIS User group
 - Cities: SIGE, Uster, Morges, Vevey (Switzerland)
 - Cantons of Solothurn, Glarus, Basel Land (Switzerland)
 - Agence de l'eau Adour Garonne (France)
 - World Bank / Inasafe
 - Various QGIS sponsors & donators

outlook



Whats in the works...

- › Legend code & API redesign -> access to legend for plugins
- › QT5 compatibility
- › Oracle Spatial support for DB Manager
- › Embedded Python in QGIS Server



Geometry Kernel

- › **New Geometry kernel**
- › **3D geometry model**
- › **Built-in Support for X/Y/Z/M**
- › **Compatibility wrappers**
- › **Extensible geometry types, like...**



Geometry Kernel: Curves

- › ... Curves
- › ISO SQL/MM curve geometry types
- › Display curves stored in PostGIS, etc.
- › Editing Tools
- › Pre-release 12/2014
- › Final release early 2015 (~2.8)



other new features?

- › Code contributions welcome!
- › ...or hire a programmer/company to implement a feature you need...



Thank you! - Questions?



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Credits: Andreas Neumann, Marco Hugentobler