

Open Source &

QGIS

The QGIS Project History

I just want to see my
data on a map!



The QGIS project

History

- 2002: Created as a viewer for the PostGIS spatial database
- 2007: Became a project of the OSGeo Foundation
- 2009: QGIS 1.0
- 2013: QGIS 2.0
- 2018: QGIS 3.0 - ready for prime time!
- Currently:
 - ~2000 contributors
 - millions of users (and growing fast!)



The QGIS project

Free & open source

What is Free & Open Source Software (FOSS)?

- Free = no cost (“gratis”)
- Free = freedom (“libre”)

QGIS:

- Permissive licence (GPL)
- Powered by community



QGIS Contributor Meeting, April 2023

The QGIS project

Funding

Core funding ~€210K per year

- security, installers, bug fixes
- A small fraction of the total “QGIS economy”

Top 3 sources in 2023: ¹

- Sustaining Members Program - 65%
- Donations - 25%
- Training courses - 8%

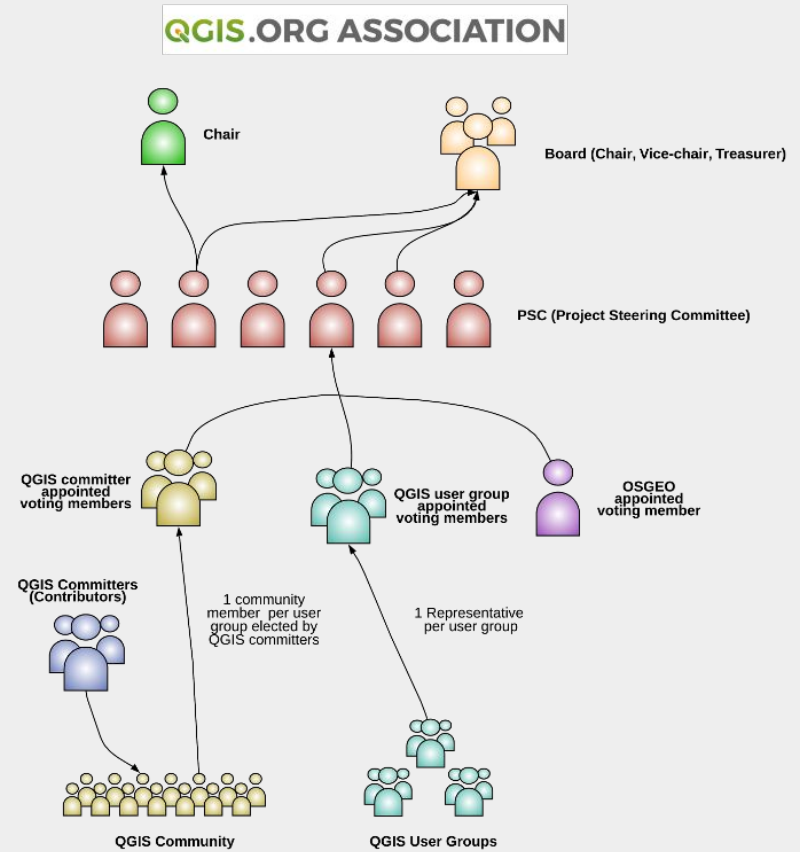


¹ <https://www.qgis.org/en/site/getinvolved/governance/finance>

The QGIS project

Governance

Community-driven



The QGIS project

Road map³

Latest release (LR) every 4 months

- contains the latest functionality
- currently v 3.34 (RC)

Long term release (LTR) every 12 months

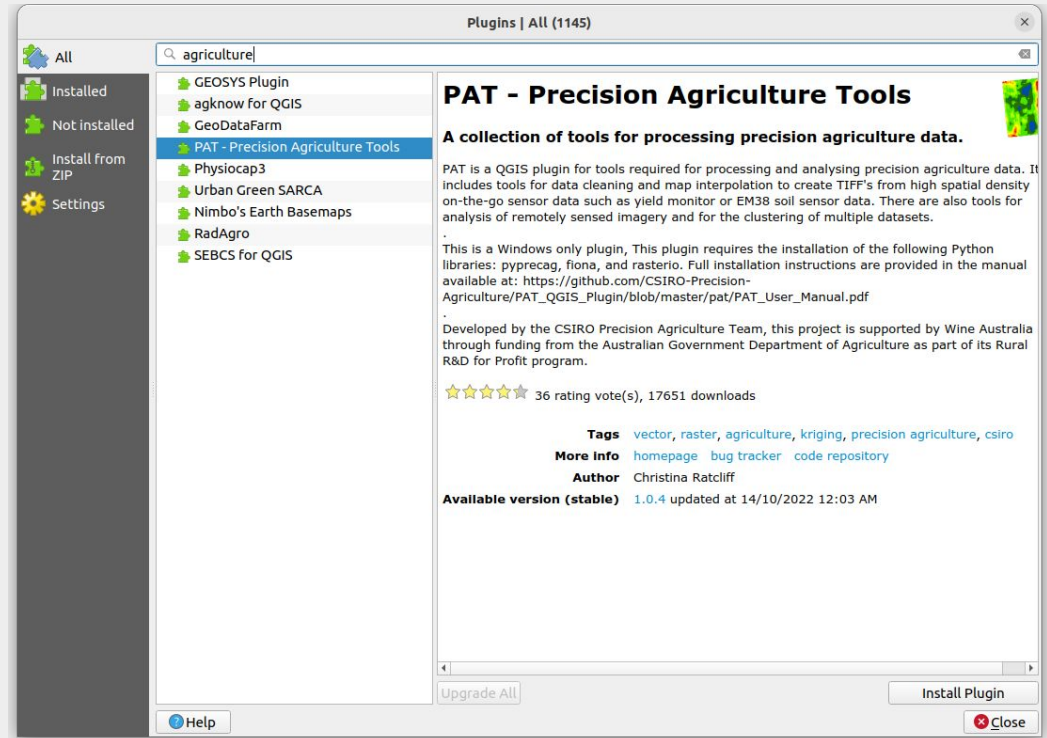
- optimized for stability instead of new features
- currently v 3.28

LR/PR	3.32.0	3.28.8		2023-06-23	26	4
PR	3.32.1	3.28.9		2023-07-21	30	4
PR	3.32.2	3.28.10		2023-08-18	34	4
PR/FF	3.32.3	3.28.11	3.33	2023-09-15	38	6
LTR/PR	3.34.0	3.28.12		2023-10-27	44	4
PR	3.34.1	3.28.13		2023-11-24	48	4
PR	3.34.2	3.28.14		2023-12-22	52	4
PR/FF	3.34.3	3.28.15	3.35	2024-01-19	3	5
LR/PR	3.36.0	3.34.4		2024-02-23	8	4

³ <https://www.qgis.org/en/site/getinvolved/development/roadmap.html>

The QGIS project Plugins

- >1000 plugins in the QGIS Official Plugin Repository
- Plugins in this repo are also free & open source



The QGIS project

User & organisation support

Massive user community

Hundreds of companies around the world provide QGIS development & support services



The QGIS project

How to contribute & get involved

It's not just writing code!

- Write bug reports in the [issue tracker](#)
- Documentation & translation
- Participate in support channels
- Sustain & donate
- Hire the community to help you

The open source geospatial “stack”

The
‘Front End’



Desktop GIS



Field apps



Web mapping

Support
layer



PostgreSQL

PostGIS



Geospatial database



MapServer



GeoServer

GIS servers



Land Information
New Zealand
Toitū te whenua

Open data

Critical
infrastructure



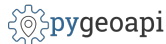
GDAL



pdal

P R Ø J

Utilities



pygeoapi



GeoPandas



GeoTools



python™



R

Languages, libraries, & frameworks



GRASS GIS



SAGA



WhiteboxTools™

Processing frameworks

Foundation

Community



OGC®
Making location count.



FOSS4G
FOUNDED APRIL 2012



Humanitarian
OpenStreetMap
Team

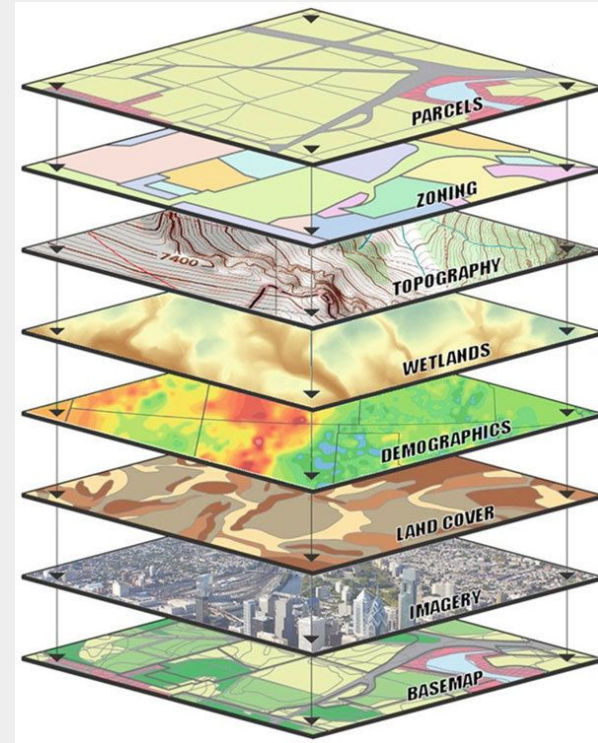


geogeeks

GIS concepts

Layers

Working
with data
as “layers”



GIS concepts

Vector vs Raster



Vector



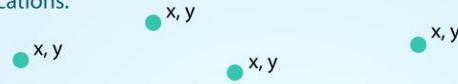
Raster

GIS concepts

Points, lines, and polygons

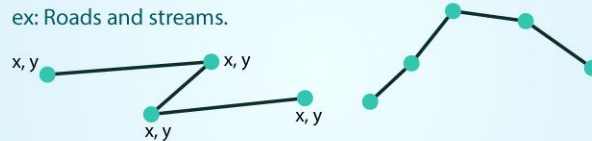
POINTS: Individual x, y locations.

ex: Center point of plot locations, tower locations, sampling locations.



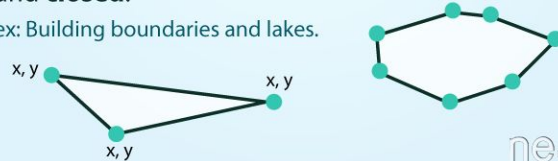
LINES: Composed of many (at least 2) vertices, or points, that are connected.

ex: Roads and streams.



POLYGONS: 3 or more vertices that are connected and **closed**.

ex: Building boundaries and lakes.

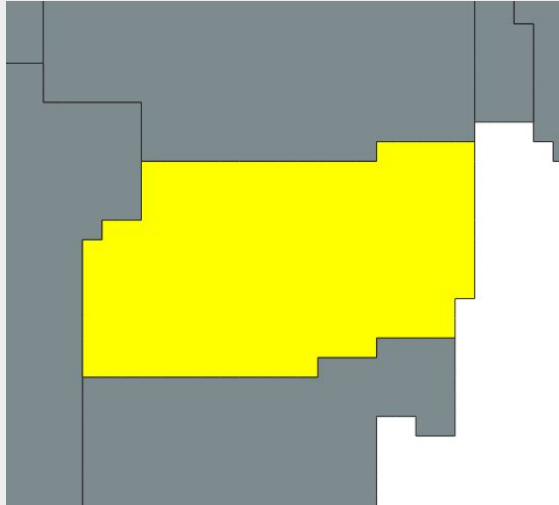


neon

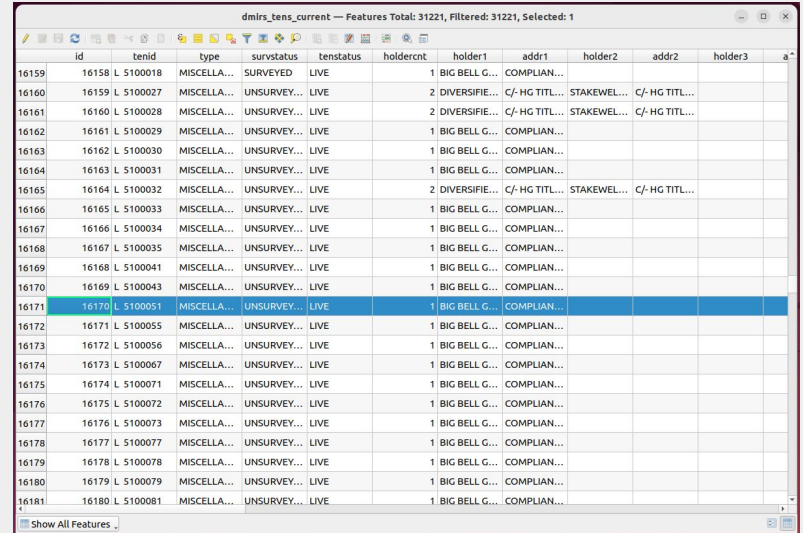
Image Source: National Ecological Observatory Network (NEON)

GIS concepts

Geometry & attributes



Geometry



dmirs_tens_current — Features Total: 31221, Filtered: 31221, Selected: 1

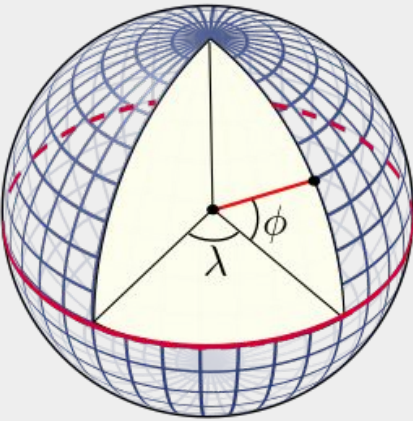
id	tenid	type	survstatus	tenstatus	holdercnt	holder1	addr1	holder2	addr2	holder3
16159	16158 L 5100018	MISCELLA...	SURVEYED	LIVE	1	BIG BELL G...	COMPLIAN...			
16160	16159 L 5100027	MISCELLA...	UNSURVEY...	LIVE	2	DIVERSIFIE...	C/- HG TITL...	STAKEWEL...	C/- HG TITL...	
16161	16160 L 5100028	MISCELLA...	UNSURVEY...	LIVE	2	DIVERSIFIE...	C/- HG TITL...	STAKEWEL...	C/- HG TITL...	
16162	16161 L 5100029	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16163	16162 L 5100030	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16164	16163 L 5100031	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16165	16164 L 5100032	MISCELLA...	UNSURVEY...	LIVE	2	DIVERSIFIE...	C/- HG TITL...	STAKEWEL...	C/- HG TITL...	
16166	16165 L 5100033	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16167	16166 L 5100034	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16168	16167 L 5100035	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16169	16168 L 5100041	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16170	16169 L 5100043	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
16171	16170 L 5100051	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			
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16181	16180 L 5100081	MISCELLA...	UNSURVEY...	LIVE	1	BIG BELL G...	COMPLIAN...			

Show All Features

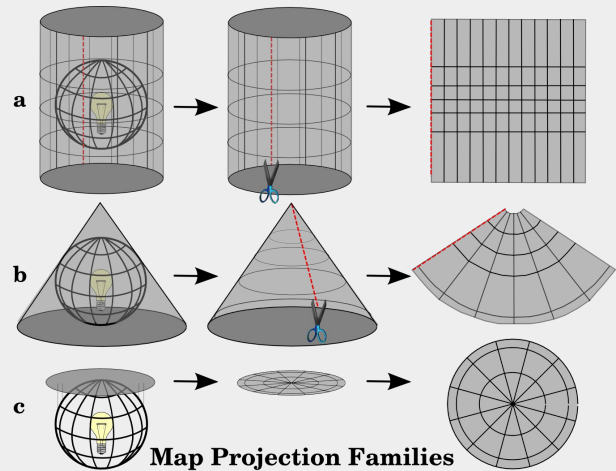
Attributes

GIS concepts

Coordinate systems



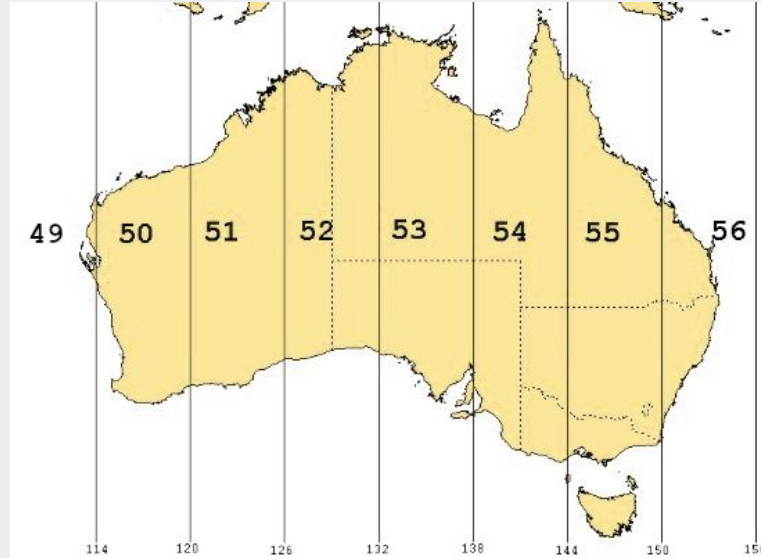
Geographic



Projected

GIS concepts

Coordinate systems



MGA zones of Australia

GDA94: EPSG:28349 - EPSG:28356

GDA2020: EPSG:7849 - EPSG:7856