

PostGIS

Spatial database extender
for PostgreSQL



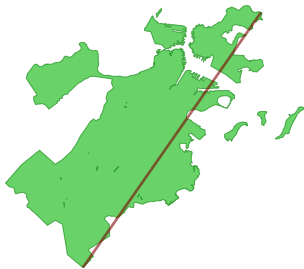
What is PostGIS

PostGIS is a spatial database extension for PostgreSQL object-relational database. PostGIS is released under the GPLv2+ license. It is written in C and relies on libraries GEOS and GDAL for many geometry and raster operations.

PostGIS implements the OGC Spatial Features for SQL (SFSQL) standard. It goes beyond the standard to support seamless raster/geometry queries, round earth model thru geography type, and 3D surface and volume support.

Some things it can do

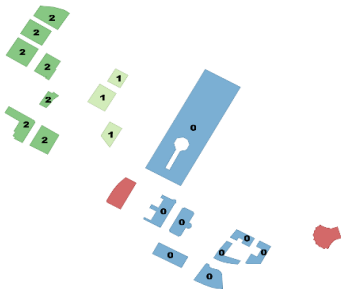
Longest line



Clip rasters



Cluster number by distance



Database Components

PostGIS project includes several PostgreSQL extensions.

- ▶ **postgis**
geometry and geography types and database functions to work with these types

postgis_raster, postgis_topology, postgis_sfcgal, and postgis_tiger_geocoder, require this extension.
- ▶ **postgis_raster**
raster type and functions to work with raster
- ▶ **postgis_topology**
topogeometry type, functions and topologies (nodes, edges, faces) SQL-MM: Topo-Geo
- ▶ **postgis_sfcgal**
spatial processing functions for 3D surfaces and volume geometries

Geocoding for USA
- ▶ **postgis_tiger_geocoder**
geocoding and reverse geocoding functions for USA using Census TIGER data.
- ▶ **address_standardizer, address_standardizer_data_us**
standardizing USA addresses into their house number, street, city, state, zip and other address elements.

Tools

PostGIS project includes tools for loading data

- ▶ **shp2pgsql, pgsq2shp, shp2pgsql-gui**
data loaders and export tools for ESRI Shapefiles
- ▶ **raster2pgsql**
load raster from various GDAL supported formats into postgis raster format.
- ▶ **pgtopo_import / pgtopo_export**
import and export postgis topologies.

Where to get it

In addition to source form, PostGIS is often distributed along with PostgreSQL via various package maintainers and database-as-a-service cloud hosters.

<https://postgis.net/install> <https://postgis.net/source>

