

PostGIS Raster on gvSIG Desktop

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<http://bit.ly/foss4g11-gvsigpg>

gvSIG Desktop

The screenshot displays the gvSIG Desktop interface with the following components:

- Menu Bar:** File, Show, View, Table, Map, Window, Help
- Toolbar:** A row of icons for various map operations like pan, zoom, and layer management.
- View: Untitled - 0:** The main map window showing a road network with labels like LR-306, LR-401, N-124, LR-316, LR-317, LR-202, LR-310, LR-503, LR-311, LR-405, LR-320, and LR-309. Text labels include "Acceso a la Estación de ferrocarril", "Desvío de N-124", "Desvío de N-124 a Gimileo", "Acceso a Briones", "Acceso a Abalos", and "Casco urbano de San Asensio".
- Table: Table of attributes...:** A table with columns NOMBRE, OBSERVA..., and TIPO.

NOMBRE	OBSERVA...	TIPO
LR-493		CAUT3
Acceso a Navajún		VIAL
Acceso a Navajún		VIAL
LR-284		CAUT2
LR-493		CAUT3
Acceso a Navajún		VIAL
LR-388		CAUT3
LR-388		CAUT3
Acceso a Navajún		VIAL
LR-284		CAUT2
LR-490		CAUT3
- Map: Untitled - 0:** A smaller map window showing a zoomed-in view of the same area with a coordinate grid and a legend titled "Sample map".
 - Legend:**
 - Communications
 - Highway
 - Highway (alt)
 - National
 - Regional 1
 - Regional 2
 - Regional 3
 - Railway
 - VIAL
 - Tram
 - Municipalities

- SEXTANTE - 292 Algorithms:** A panel listing various processing algorithms:
- Basic hydrological analysis
- Basic tools for raster layers
- Buffers
- Calculus tools for raster layer
- Cost, distances and routes
- Fire modeling
- Focal statistics
- Fuzzy logic
- Geomorphometry and terrain analysis
- Geosocial
- Map Scale:** A scale bar at the bottom right indicates "Meters".

gvSIG Desktop

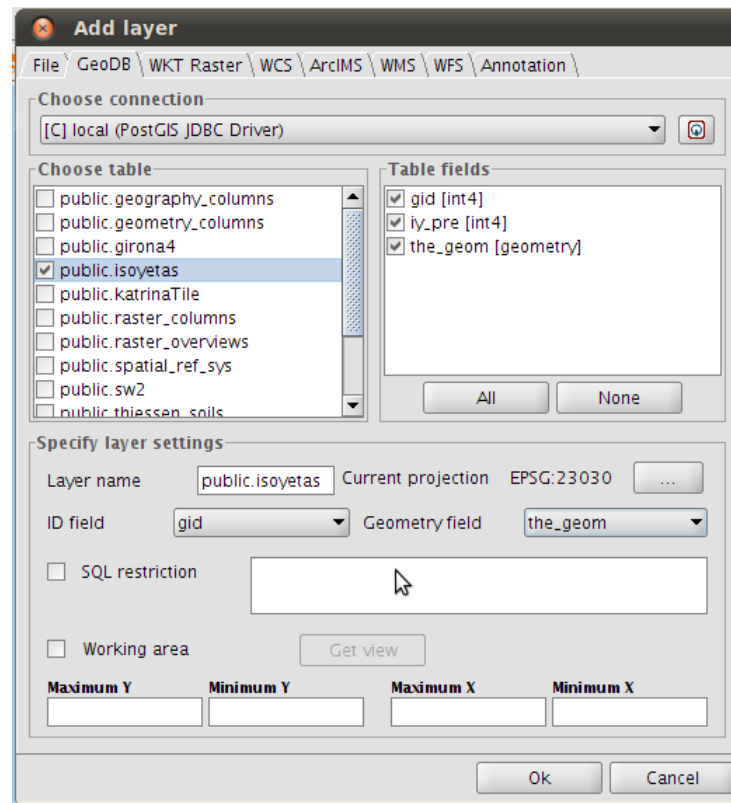
- <http://www.gvsig.org>
- Free Software Multiplatform Desktop GIS tool
- Since 2004
- Current stable release 1.11
- Stabilizing 1.12 and 2.0
- OSGeo incubating project
- Mature community
- <http://outreach.gvsig.org/case-studies>

gvSIG Desktop

- Visualization of raster and vector data
- Access to remote databases and OGC services
- Geoprocessing for vector and raster data
- Editing and Map authoring
- Many community plugins
- Professional services (i.e. gvSIG Association)

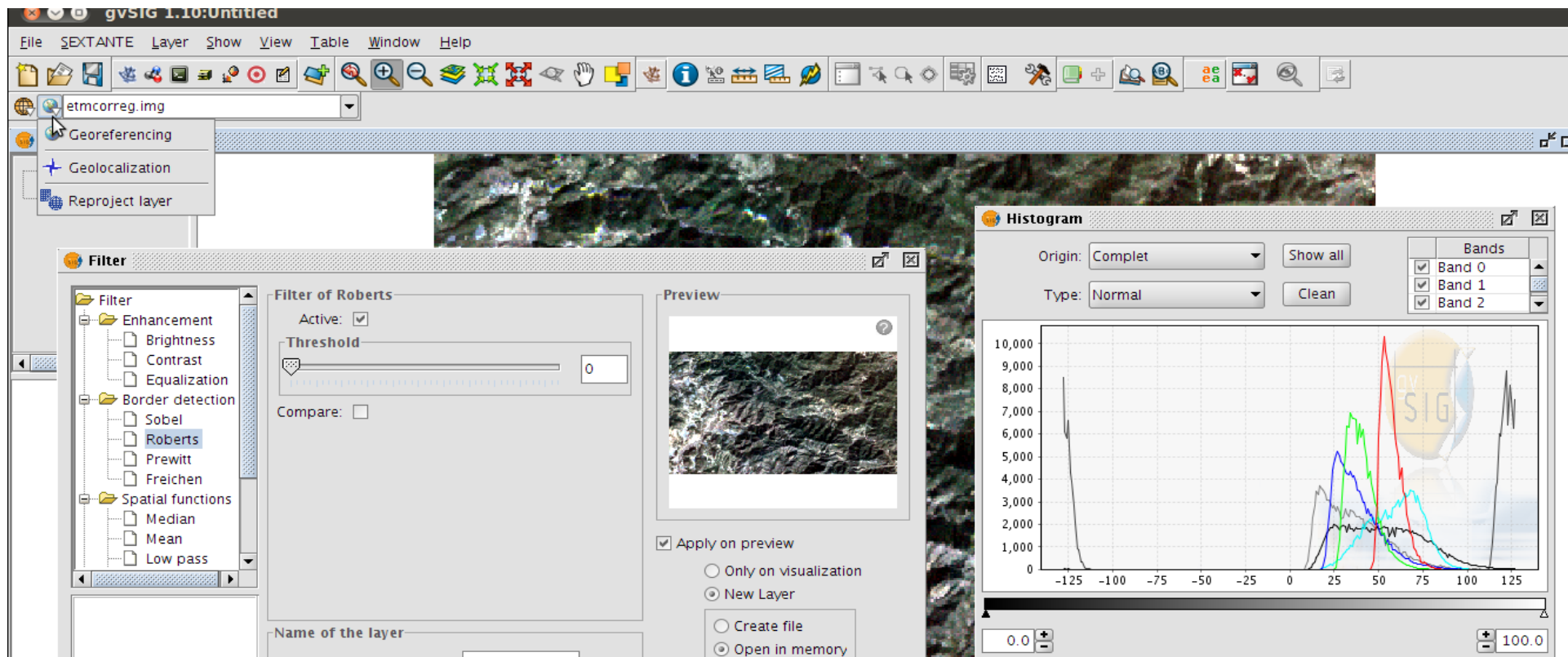
gvSIG Desktop and PostGIS

- GeoDB: PostGIS, Oracle, MySQL, ArcSDE
- Access, edit, export to postgis tables



gvSIG Desktop and raster

- Based on GDAL (JNI bindings)
- Band management, filter, reproject, georeference, export, clip,...



PostGIS Raster

- Pierre Racine - Friday - 11:00 am - ~~Windows~~Linux Room
- Formerly WKT Raster, now part of PostGIS 2.0
- PostGIS Extension
- Raster data type
- SQL functions to manipulate and analyze
- <http://trac.osgeo.org/postgis/wiki/WKTRaster>

PostGIS Raster

- `raster2pgsql.py` to generate SQL from file

The screenshot displays the pgAdmin III interface. On the left, the 'Explorador de Objetos' (Object Explorer) shows the database structure under the 'public' schema, with 'raster_columns' selected. The main window shows the 'Edit Data' view for the 'raster_columns' table. The table structure is defined as follows:

```
CREATE TABLE raster_columns  
(  
  r_table_catalog character varying,  
  r_table_schema character varying,  
  r_table_name character varying,  
  r_column character varying(  
  srid integer NOT NULL,  
  pixel_types character varying,  
  out_db boolean NOT NULL,  
  regular_blocking boolean NOT NULL,  
  no_data_values double precision,  
  pixel_size_x double precision,  
  pixel_size_y double precision,  
  blocksize_x integer,  
  blocksize_y integer,  
  extent geometry,  
  CONSTRAINT raster_columns_pk PRIMARY KEY (r_table_catalog, r_table_schema, r_table_name, r_column, srid)  
)  
WITH (
```

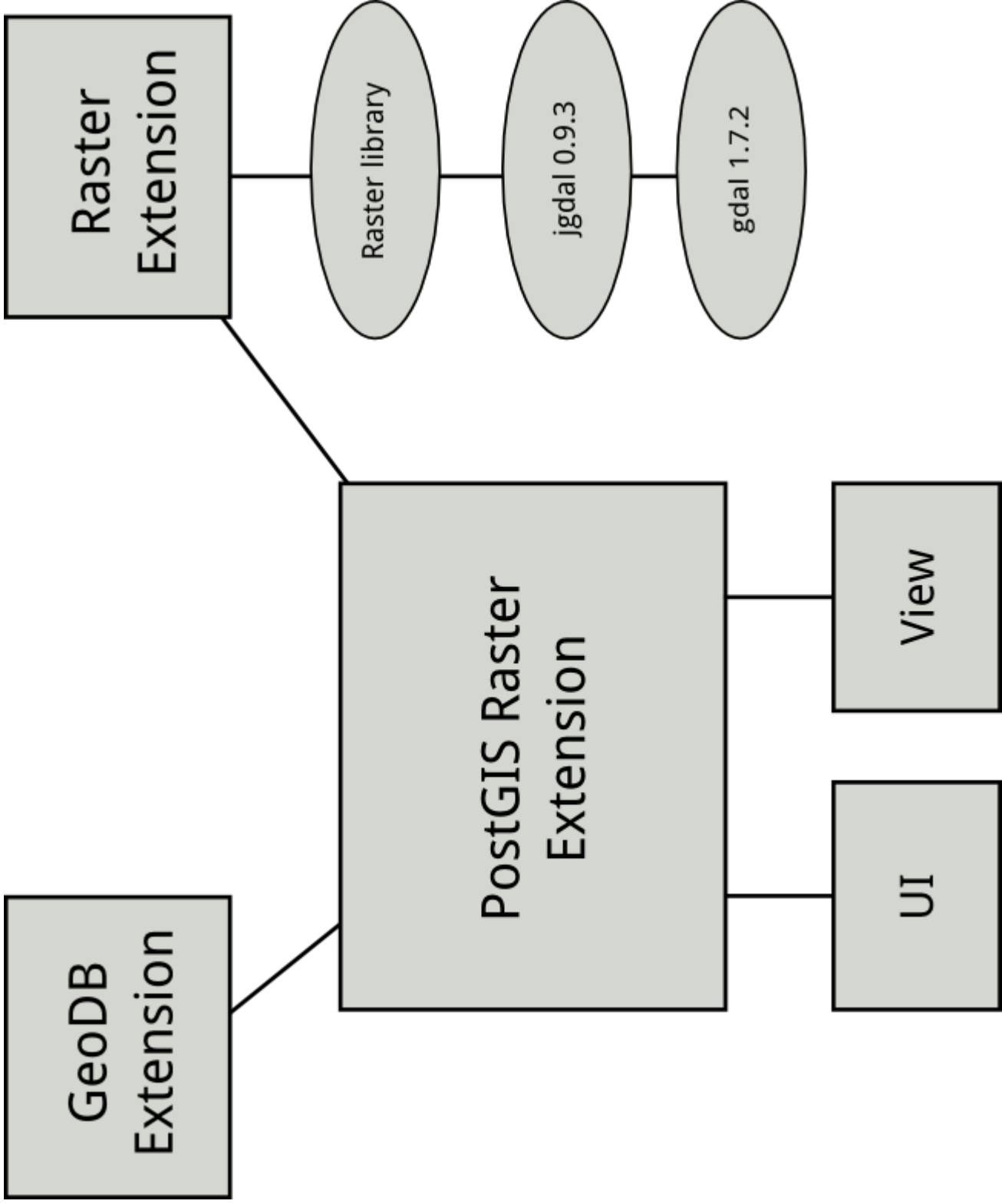
The data view shows 15 rows of raster columns:

oid	r_table_catalog	r_table_schema	r_table_name	r_column	srid
1	19745	public	boke	rast	4326
2	19806	public	girona	rast	4326
3	19906	public	girona2	rast	4326
4	20006	public	girona3	rast	4326
5	20152	public	girona4	rast	4326
6	19347	public	katrina	rast	-1
7	19704	public	katrinaTile	rast	-1
8	19718	public	pirineos	rast	23030
9	19731	public	pirineos2	rast	23030
10	20252	public	ris	rast	-1
11	20269	public	ris2	rast	4326
12	20283	public	ris3	rast	4326
13	20298	public	ris4	rast	4326
14	21428	public	small_blue_world	rast	4326
15	20106	public	sw2	rast	4326

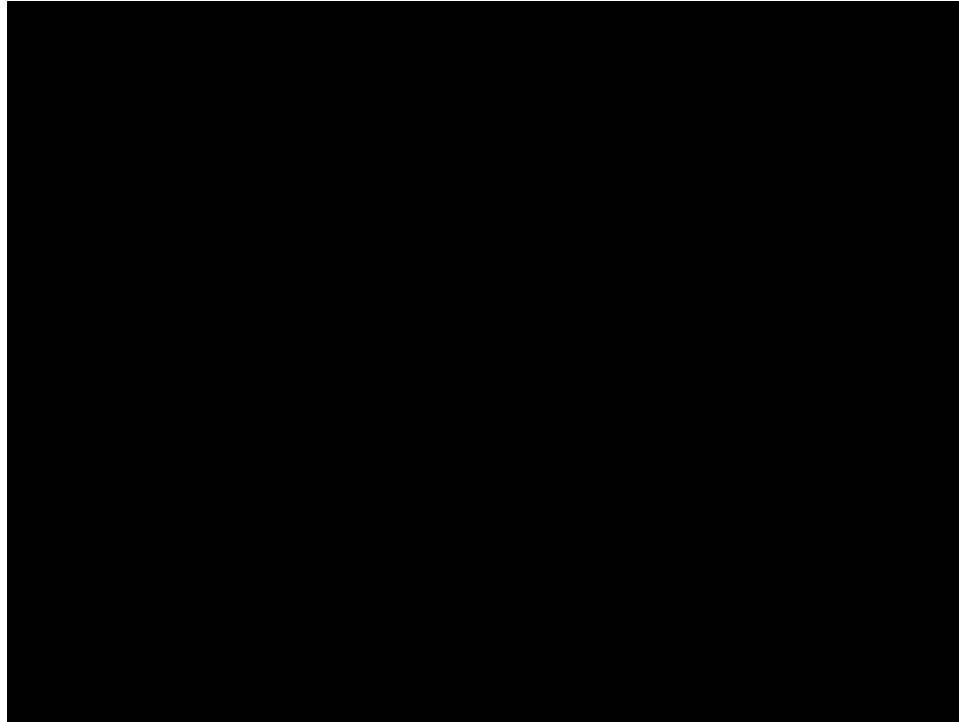
The status bar at the bottom indicates '18 filas.' (18 rows).

gvSIG Driver: references

- Hosted at OSOR.eu
<http://forge.osor.eu/projects/gvsig-postgisra/>
- gvSIG.org web page
<http://www.gvsig.org/web/projects/contrib/gvsig-postgisr>
- Funded by España Virtual R&D project
<http://www.españavirtual.org/>
- Developed in collaboration with Deimos Space
<http://www.deimos-space.com/>



Demo



<http://www.youtube.com/watch?v=AeTpQHdAwmU>

Status

- Prototype running on gvSIG 1.x
- Based on GDAL 1.7.2 and PostGIS 1.5.2

Next steps

- Upgrades:
 - Upgrade gvSIG support to PostGIS 2.0 and GDAL 1.8
 - Upgrade the extension to gvSIG 2.0
- More features:
 - Improve gvSIG UI layer loader
 - Load rasters into the database
 - Delegate analysis to database

Thanks! Questions?

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You are invited

