



# What's New, What's Next?

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# Contents

- gvSIG Background
- What's New: gvSIG 1.0
  - Editing
  - Geoprocessing
  - Image georeferencing
- What's Next: gvSIG Development Roadmap
- gvSIG community



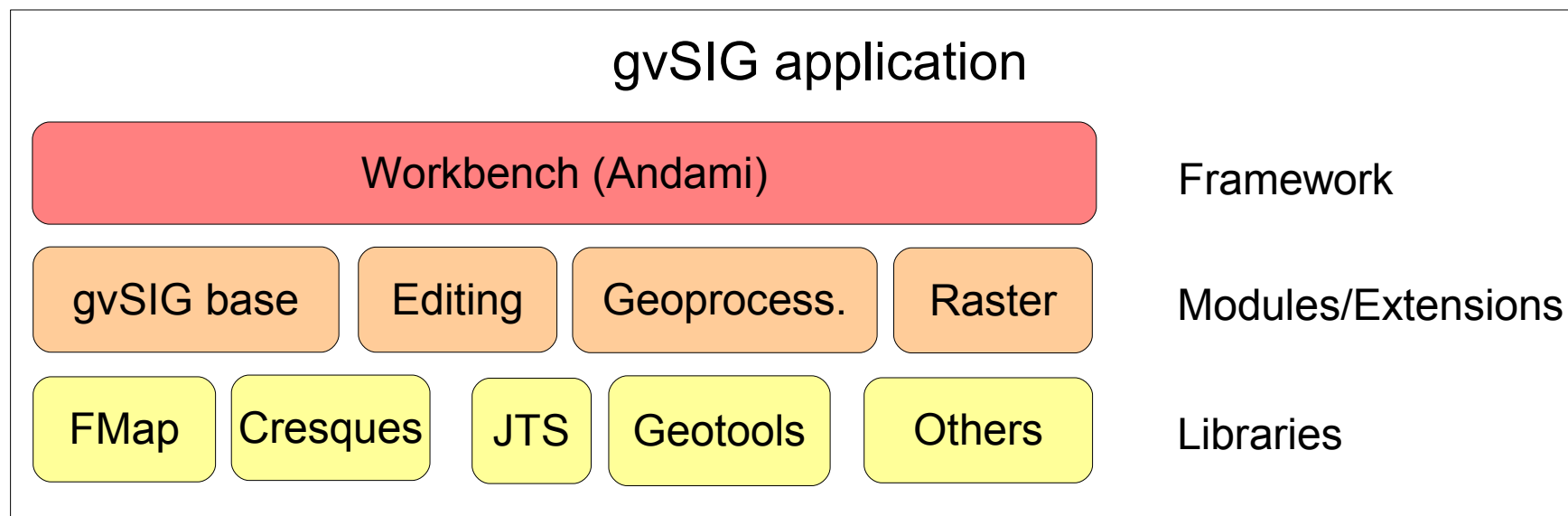
# gvSIG Background

- Mainly funded by the Regional Ministry of Infrastructure and Transport (CIT) of Valencia, Spain
- Main developer is the IVER company
- GPL License
- Java. Multiplatform (Windows, Linux, Mac)
- First released (0.2) in October 2004
- Version 1.0 Release Candidate available now



# gvSIG Background: Architecture

- Modular, efficient and easily extensible
  - A framework manages modules/extensions
  - Extensions build on internal and external libraries
  - Efficient memory use, fast rendering



# gvSIG Background: Functionality

## ■ Visualizacion & query

- Visualization (zoom, pan, etc.)
- Easy layer management
- Legends (unique value, intervals).
- Spatial bookmarks, area of interest, scale dependency
- Locator (overview)
- Area and distance measurement
- Selection tools
- Link and join tables
- Event theme (from table of coordinates)
- Field statistics
- Support for spatial databases
- Advanced layout (North symbols, SVG)
- Printing



# gvSIG Background: Functionality

## ■ Data input/output

### - Reading:

- SHP
- DGN
- DXF
- DWG
- ECW
- MrSID
- JPEG2000
- JPG
- PNG
- GIF
- TIFF
- PostGIS
- MySQL

### - Writing:

- SHP
- DXF
- ECW
- GeoTIFF
- Jpeg2000
- MrSID
- PostGIS

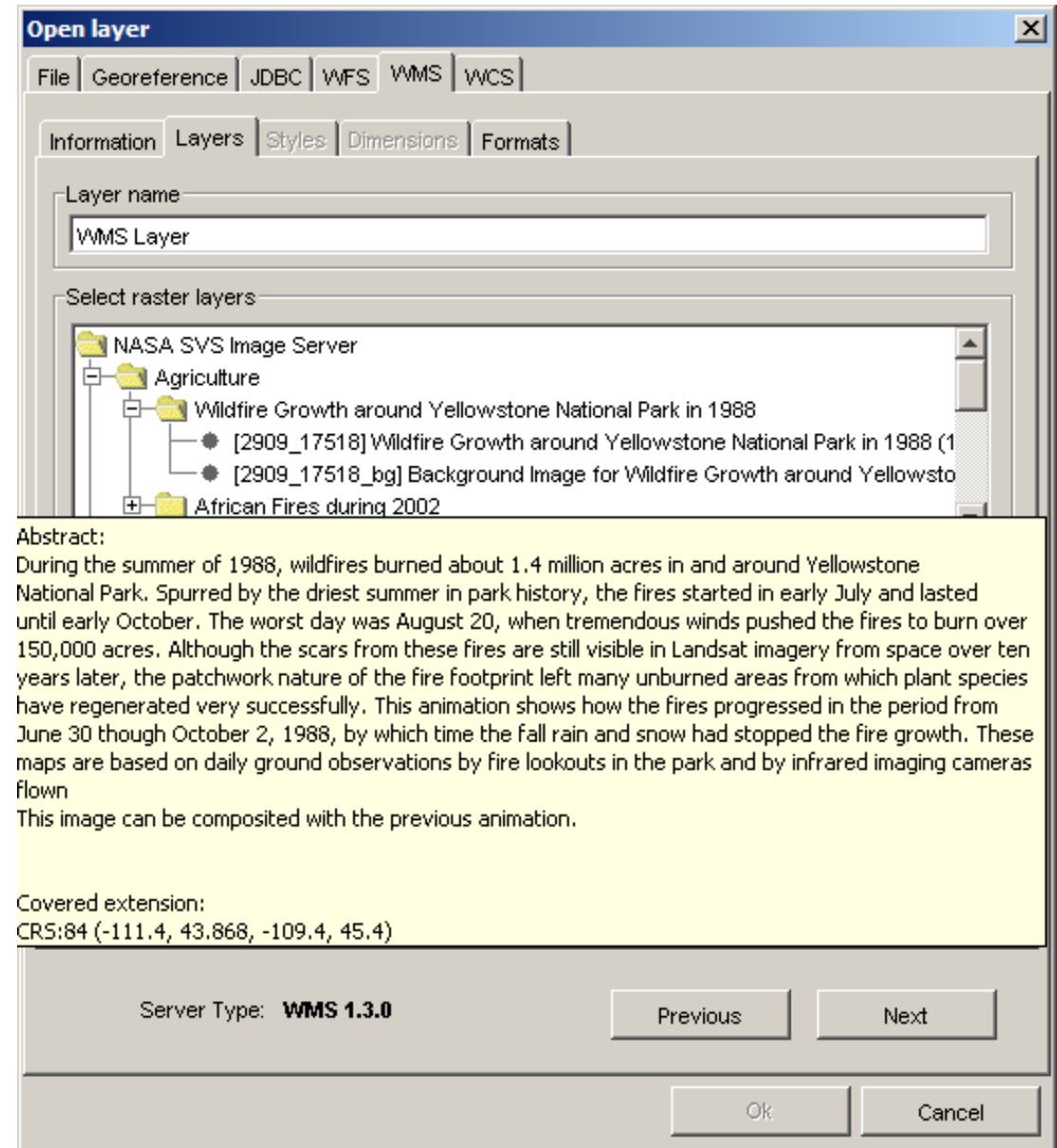


# gvSIG Background: Functionality

- Rich support of OGC remote services as Client
  - WMS (1.1.0 - 1.3.0)
  - WFS (1.0.0) + GML import/export (2.1.2) at 1.0
  - WCS (1.0.0)
  - Catalog search tool (OGC CSW 2.0, IDEC)
  - Gazetteer search tool (WFS 1.0.0, WFS-G 0.9, ADL)

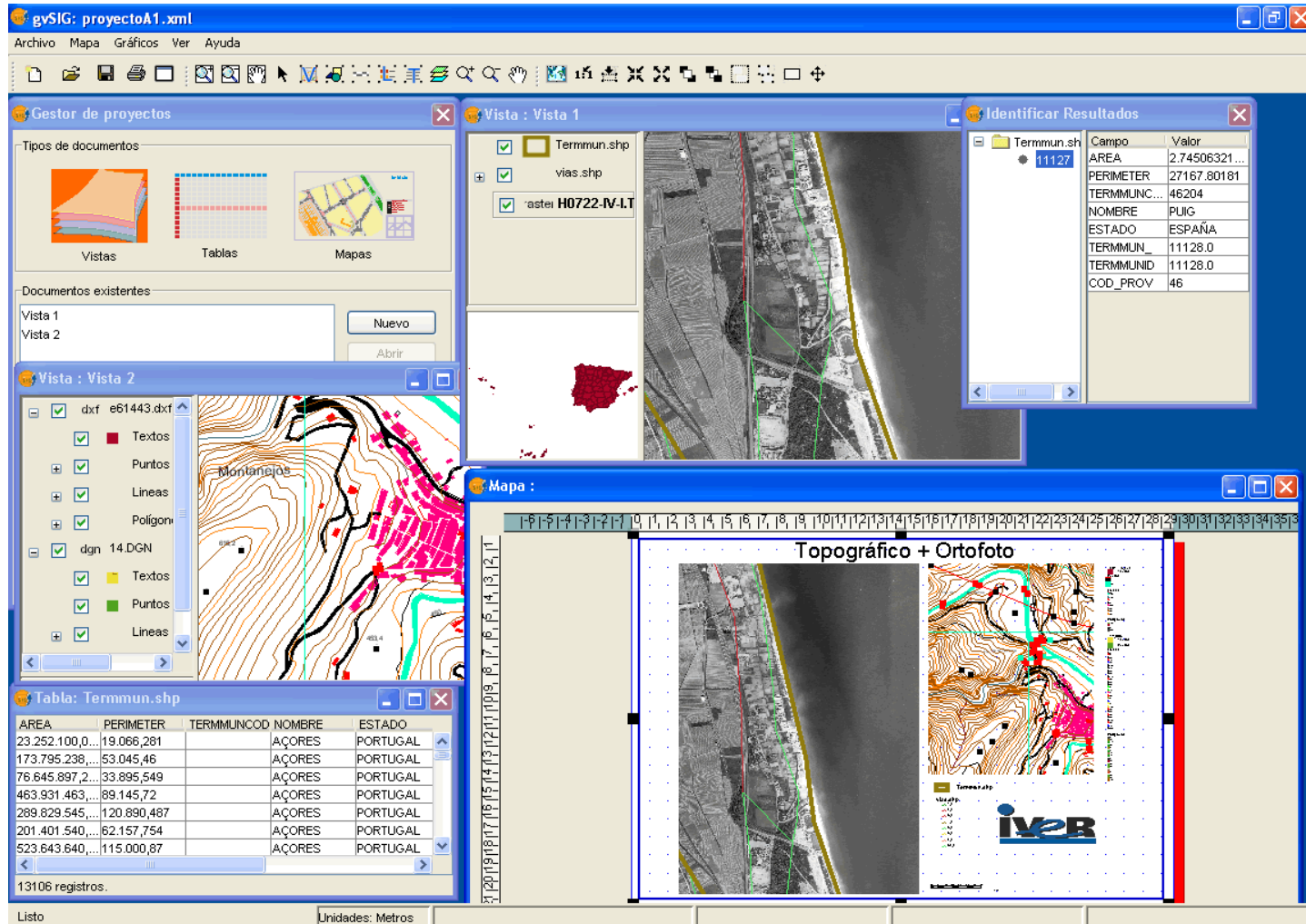


## Example: GUI for WMS access





# gvSIG Background: Functionality



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

- Project Manager (Gestor de proyectos):** Shows document types (Vistas, Tablas, Mapas) and existing views (Vista 1, Vista 2).
- Layers Panel (Vista : Vista 1):** Lists loaded layers including 'Termmun.shp', 'vias.shp', and 'aster H0722-IV-LT'.
- Identify Results (Identificar Resultados):** Displays a table of attributes for a selected feature (ID 11127):
 

Campo	Valor
AREA	2.74506321...
PERIMETER	27167.80181
TERMMUNC...	46204
NOMBRE	PUIG
ESTADO	ESPAÑA
TERMMUN_	11128.0
TERMMUNID	11128.0
COD_PROV	46
- Layers Panel (Vista : Vista 2):** Shows a list of layers with checkboxes for visibility, including 'dxf e61443.dxf', 'dgn 14.DGN', and various 'Textos', 'Puntos', 'Lineas', and 'Poligonos'.
- Table Panel (Tabla: Termmun.shp):** Displays a table of data for the 'Termmun.shp' layer:
 

AREA	PERIMETER	TERMMUNCOD	NOMBRE	ESTADO
23.252.100.0...	19.066.281		AÇORES	PORTUGAL
173.795.236...	53.045.46		AÇORES	PORTUGAL
76.645.897.2...	33.895.549		AÇORES	PORTUGAL
463.931.463...	89.145.72		AÇORES	PORTUGAL
289.829.545...	120.890.487		AÇORES	PORTUGAL
201.401.540...	62.157.754		AÇORES	PORTUGAL
523.643.640...	115.000.87		AÇORES	PORTUGAL
- Map Panel (Mapa):** Shows a split view of 'Topográfico + Ortofoto', displaying both a topographic map and an aerial photograph of the same area.

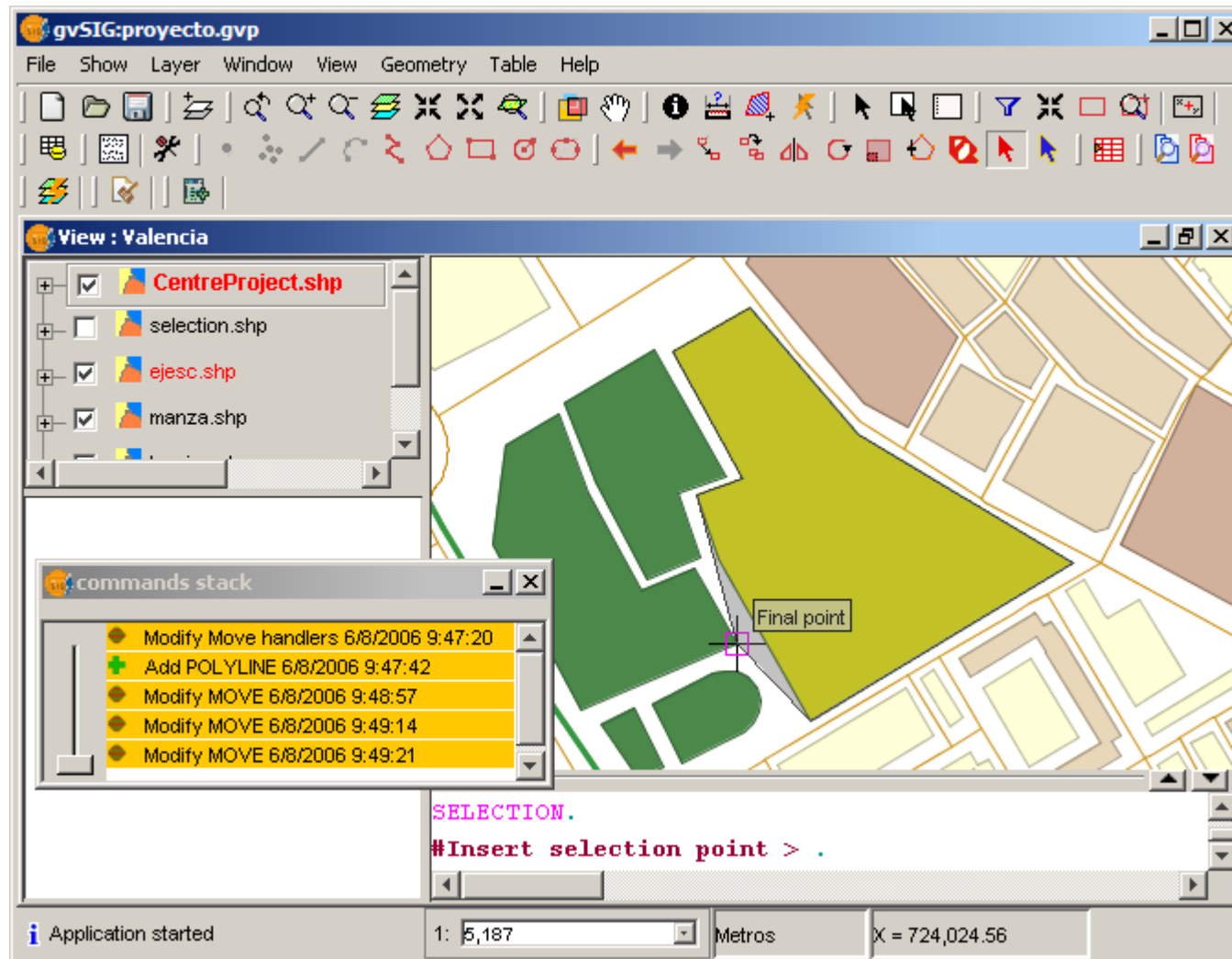


# gvSIG 1.0

- Editing
  - CAD-like tools
  - Graphical and command editing
  - Table (alphanumeric) editing
  - Powerful snapping
  - Multi-layer editing
  - On-the-fly format conversion

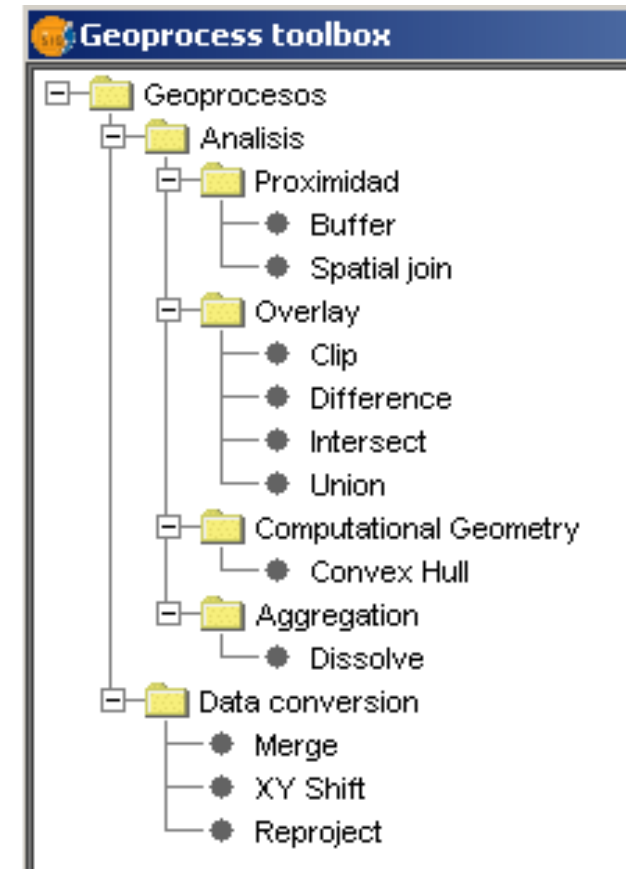
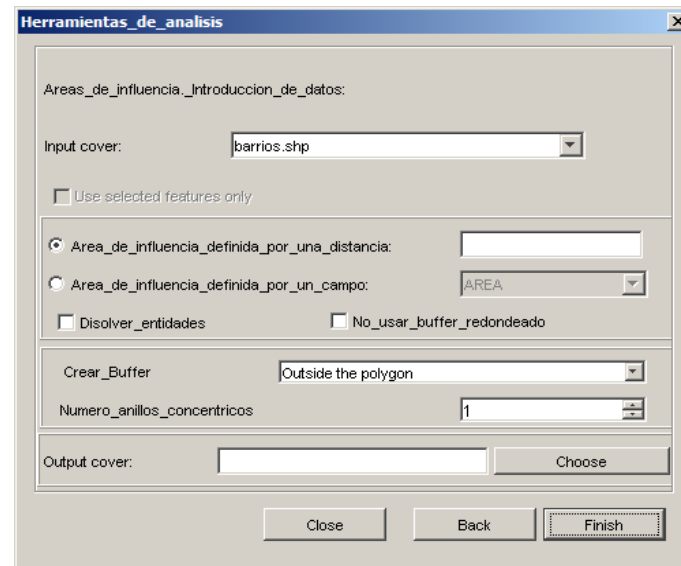


# gvSIG 1.0: Editing

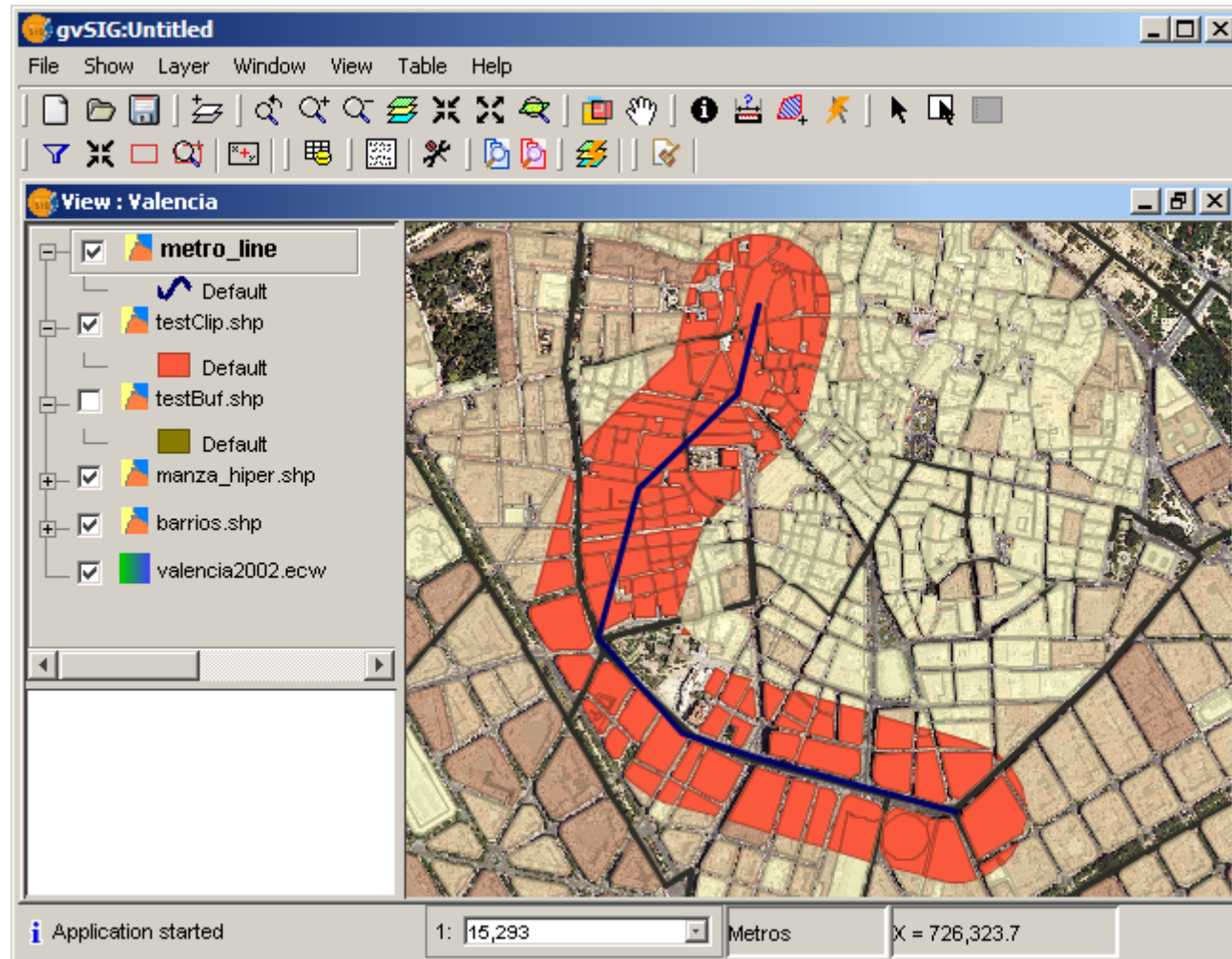


# gvSIG 1.0

- Geoprocessing
  - Extensible framework
  - Vector processing operators



# gvSIG 1.0: Geoprocessing

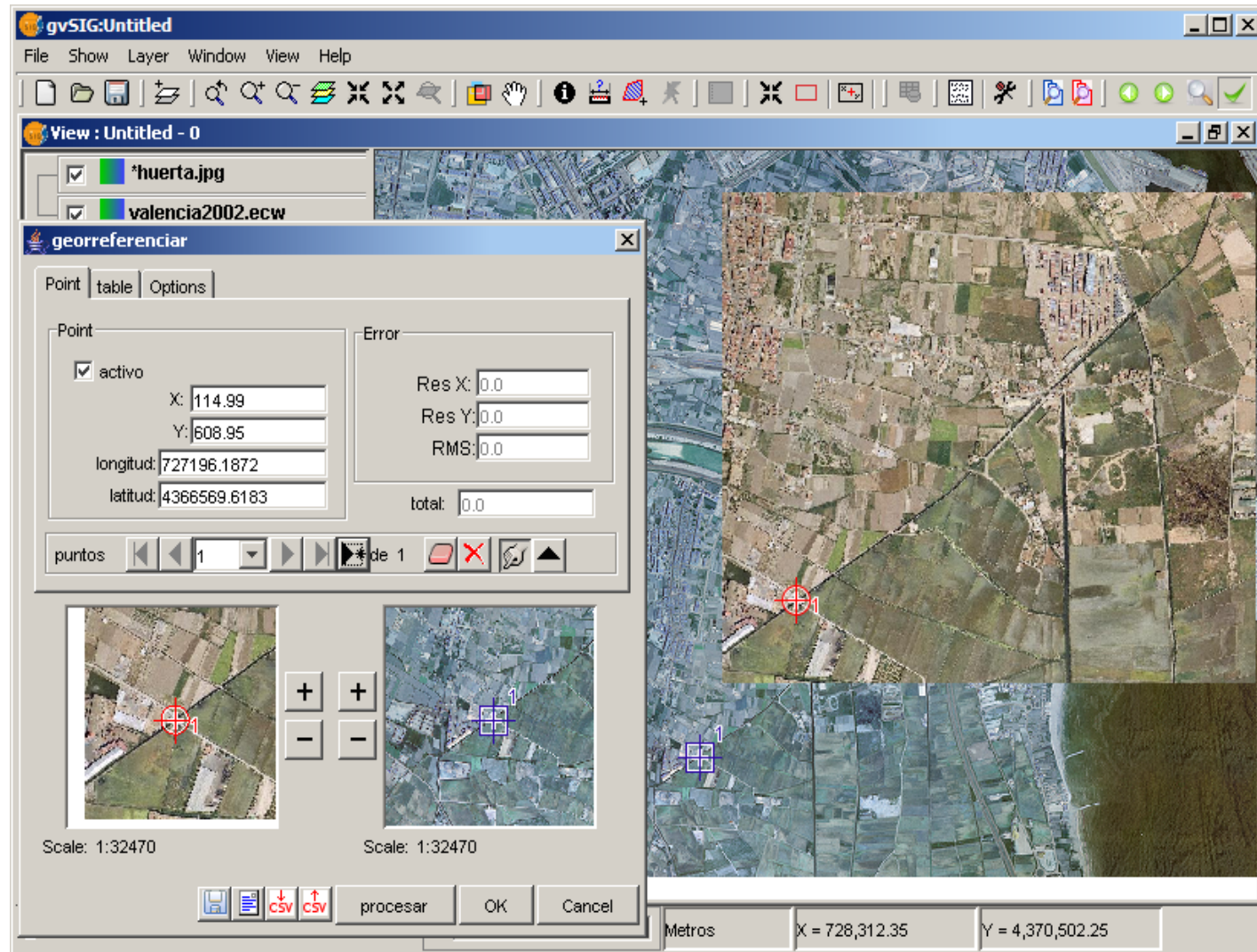


# gvSIG 1.0

- Image georeferencing
  - Affine transformation
  - Easy-to-use GUI using control points
  - Adjustment preview
  - Error evaluation
  - Control point XML persistence



# gvSIG 1.0: Image georeferencing



# gvSIG 1.0

- Other enhancements:
  - ArcIMS Map and Feature Service client
  - Image enhancing and pan-sharpening controls
  - Support for Jython scripting, associated to simple or GUI-based tools





# After 1.0: Development roadmap

- Most needs of majority of users covered with 1.0
- gvSIG becoming platform for specialized users
- Financed development projects now starting:
  - Core enhancements: symbology, labeling
  - Network and topology analysis
  - Raster analysis
  - 3D and temporal GIS
  - SDI authoring: OGC service publishing



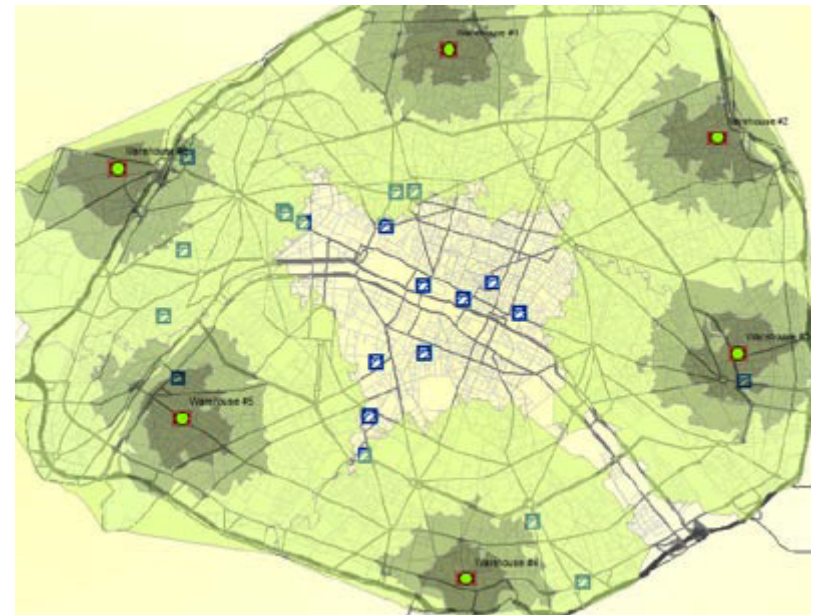
# After 1.0: Development roadmap

- New functionality will be released in 1.X versions
- Completed in 18-24 months
- Coming soon:
  - More raster formats (ERDAS, ENVI, PC Raster...)
  - Image filters, histogram, look-up tables
  - Topology construction
  - 3D view for raster data
  - OGC service publishing tool



# After 1.0: Network analysis

- Network generation and topology tools
- Optimal path calculation
- Service areas
- Optimal spanning tree
- Upstream and downstream event analysis



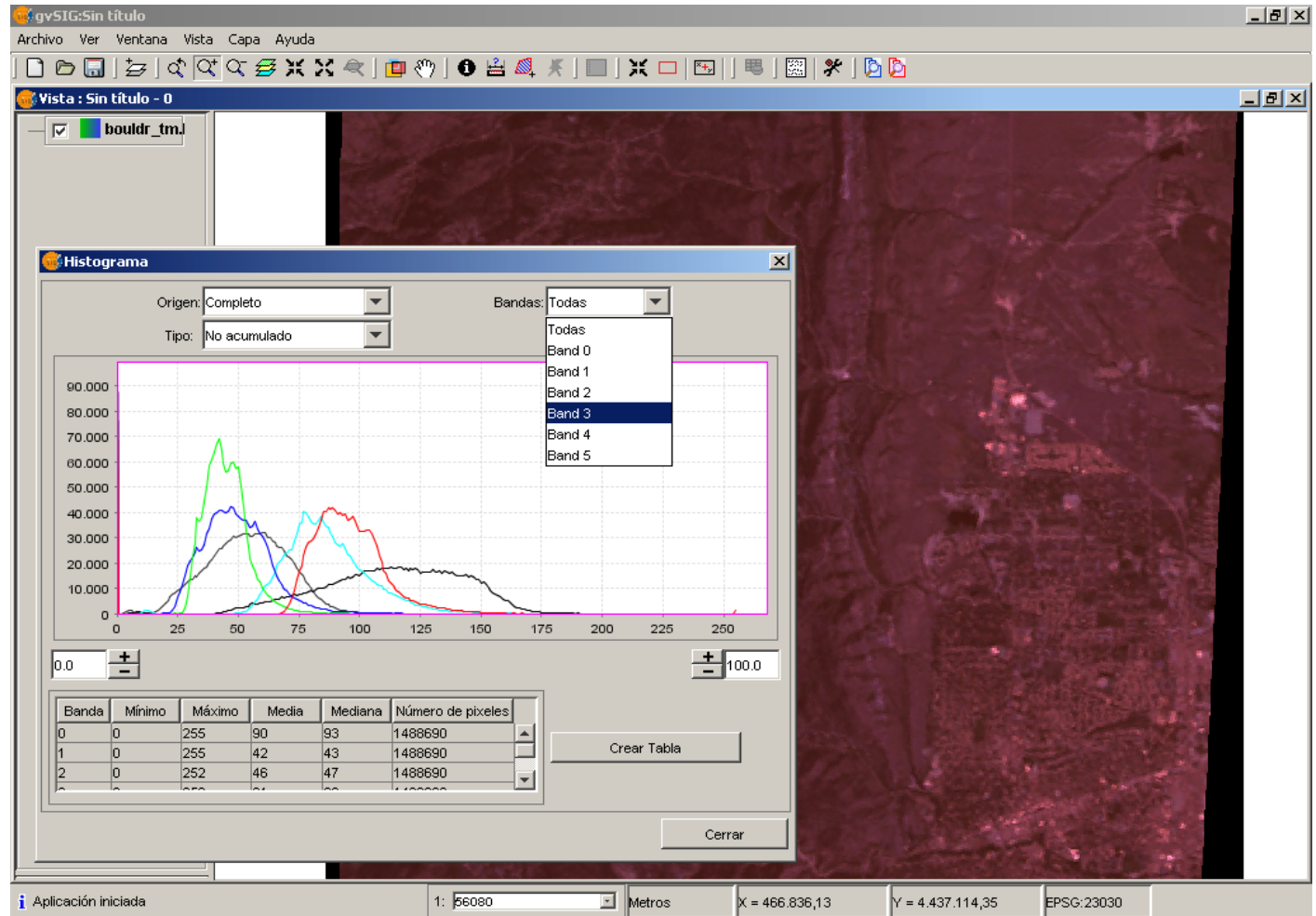
# After 1.0: Raster analysis

- More I/O formats and options (e.g. by band)
- Accurate raster reprojection
- Histogram view and correction
- Mosaicing and fusion tools
- Filters
- Classification and vectorization
- Spatial analysis geoprocesses
- Surface interpolation and analysis



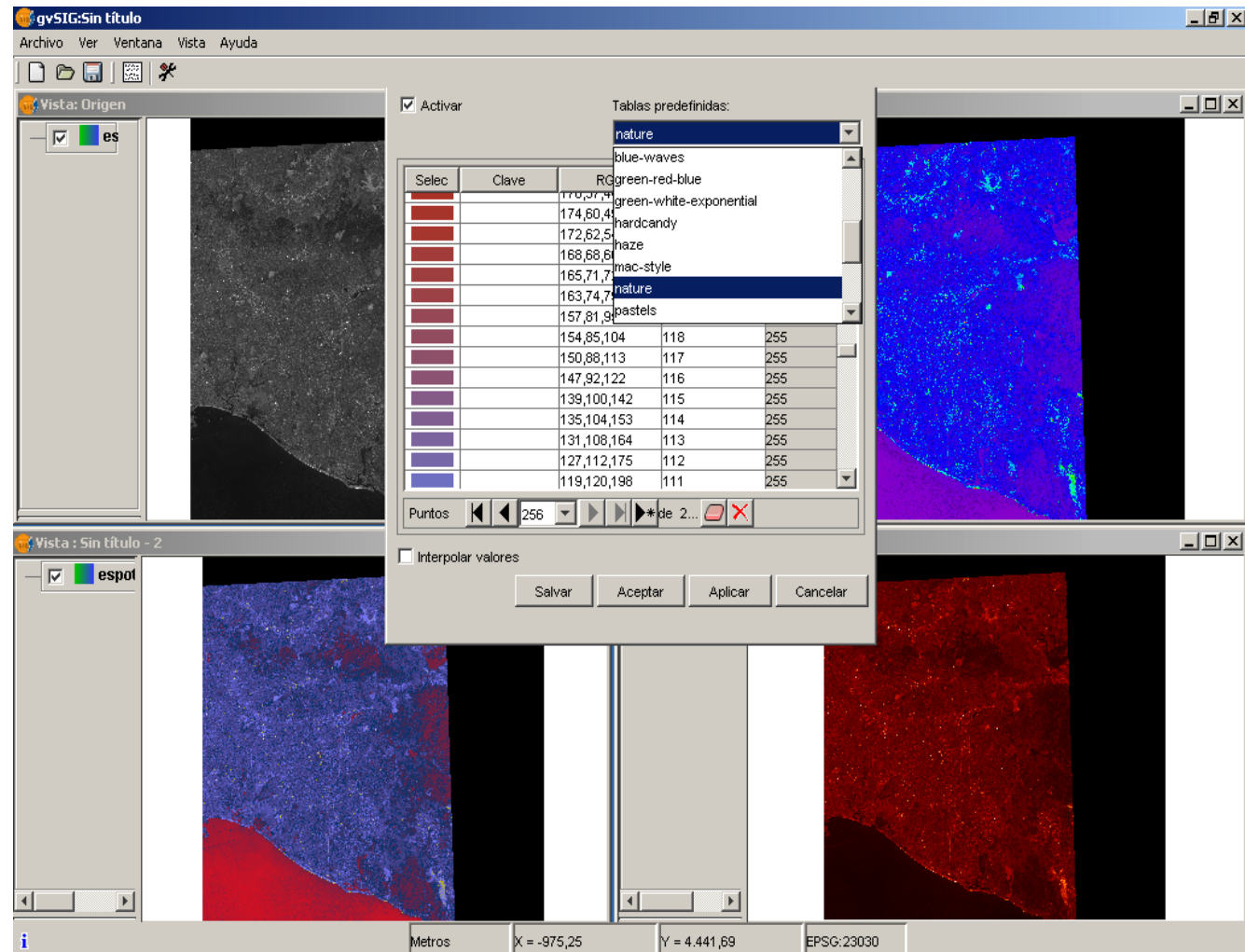
# After 1.0: Raster analysis

## Histogram View



# After 1.0: Raster analysis

Look-up  
Tables

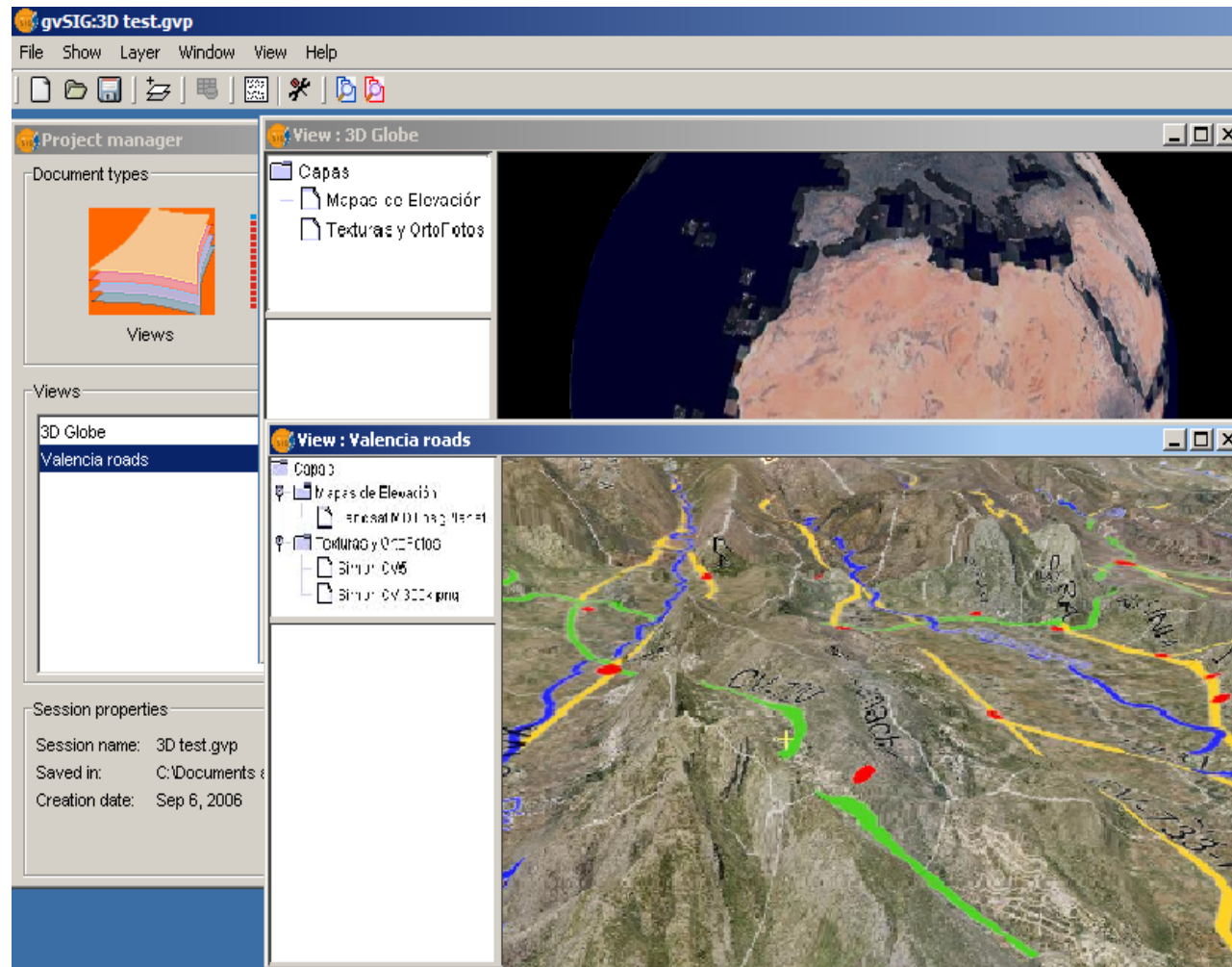


# After 1.0: 3D and Temporal GIS

- 3D visualization of large datasets (raster, TIN, vector and 3D objects), in global and Cartesian views
- GIS functionality on 3D view: symbology, analysis
- View and layer animation
- Temporal data
  - Time series
  - Multidimensional data (NetCDF)
  - Dimension parameter in OGC services
- 3D and temporal geoprocesses



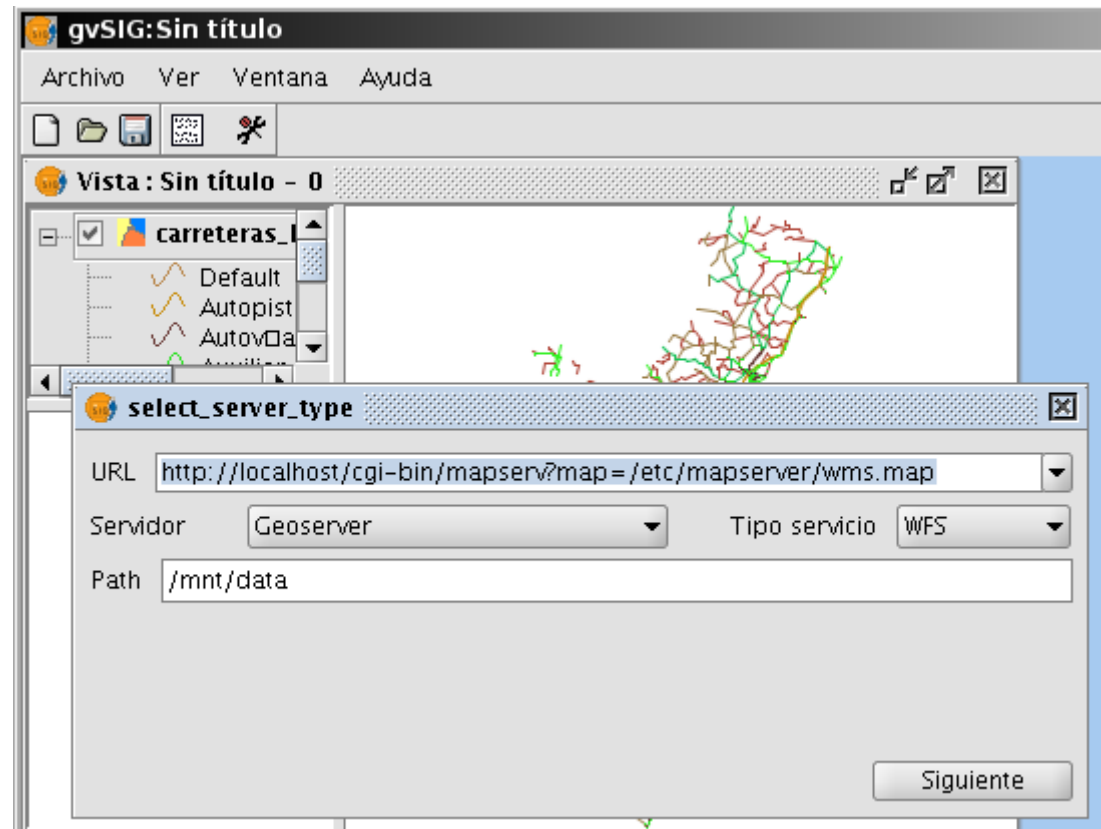
# After 1.0: 3D and Temporal GIS





# After 1.0: SDI authoring

- Export of gvSIG Views to WMS services
- Export gvSIG layers to WFS, WCS
- Support for multiple FOSS Servers
- Integrated metadata discovery and editing tools



# gvSIG Community

- Developers:
  - CIT (Regional Ministry of Infrastructure and Transport)
  - IVER company
  - ProDevelop company
  - University Jaume I of Castellón (UJI)
  - Institute of Regional Development of Albacete
  - Confederación Hidrográfica del Guadalquivir (CHG)



# gvSIG Community

- Developers (II):
  - Politechnique University of Valencia (UPV)
  - University of Palencia
  - Societé Alkante
  - Lab RESO. Université de Rennes



# gvSIG Community

- **Main users:**
  - **Government agencies:** Instituto Geográfico Nacional, Ministerio de Fomento, Instituto de Estadística de Valencia
  - **Companies:** Hidroven (Water company of Venezuela)
  - **International agencies:** UN, FAO, UNSDI
  - **Regional Governments:** Valencia, Castilla-La Mancha, Extremadura, País Vasco
  - **Cities:** Valencia, Teruel, Ronda, Getafe...
  - **Universities:** Politécnica de Madrid, Patagonia, Castilla la Mancha, Jaume I de Castellón...



# gvSIG Community

- gvSIG is fully open to collaboration!
  - Technical exchange and integration
  - Joint dev projects, EU-funding, CIT-funding
  - Courses and training programmes
  - Knowledge sharing and diffusion activities
  - Technical support



# Thanks

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