



# **GODAN: Global Open Data for Agriculture and Nutrition**

**gvSIG Suite: open source software for geographic information management in agriculture. Technology and case studies**

# GODAN

## A short introduction...

# Hunger Poverty Innovation

[www.godan.info](http://www.godan.info)



Join us at [https://dgroups.org/fao/godan\\_cd/join](https://dgroups.org/fao/godan_cd/join)

## GODAN Capacity Development Working Group

**Join GODAN Capacity Development Working Group**

Title:

First Name:

Last Name:

Email:

Organisation:

Position:

Address:

Country:

Reason to Join:

Participation in this community is subject to the [Terms of Engagement](#).

[Accept Terms of Engagement and Join](#)

So join us and  
contribute to  
**GODAN**  
Capacity  
Development  
efforts  
worldwide

We welcome  
your ideas  
and  
contributions

# **gvSIG Suite: open source software for geographic information management in agriculture. Technology and case studies**

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gvSIG Association  
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# gvSIG Association

## A short introduction...

# gvSIG Association

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## Who are we?

- It was born in 2010 within the frame of the gvSIG Project.
- Composed of companies and non business entities (universities, geographical institutes,...).
- It constitutes the biggest international network of experts in free geomatics.
- References and clients in more than thirty countries.
- Model based on the shared knowledge and the collaboration. Knowledge is transferred to the client.
- We offer **learning, consulting, supporting, developments...**

# gvSIG Association

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## Clients and references: Some consulting examples

- Spatial Data Infrastructure. PDVSA (Venezuela)
- Migration from ArcGIS to gvSIG. Munich City Council (Germany)
- GIS analysis for urban areas. UN-Habitat (Kenya)
- Multimodal transport geoportal in Valencia (Spain)
- gvSIG development for cadastral management (Mexico)
- GIS for solid waste management in Basque Country (Spain)
- GIS for road management in the region of Valencia (Spain)



# gvSIG Association

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## Awards and recognitions

- 2017: 1st prize in “Cross-border category” at “Sharing & Reuse Awards” of European Commission, “Europa Challenge” in Helsinki awarded by NASA to the gvSIG Suite in the “Professional” category, Excellence “Internationalization” Award given by the Professional Union of Valencia, “ITC Promoter organization” prize awarded by the Valencian Telecommunications.
- 2016: “Europa Challenge” awarded by NASA (World Wind integration with gvSIG Online). “Best open source mobile software” y “Most revolutionary software” Open source software awards
- 2015: “Europa Challenge” awarded by NASA (World Wind integration with gvSIG Desktop)

# gvSIG Project

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## Some data...

- Translated to more than 30 languages
- Downloaded in more than 160 countries
- Several mailing lists; + 4.000 users
- Conferences in Spain, Germany, Italy, United Kingdom, Brazil, Russia, France, Argentina, Venezuela, Uruguay, Chile...

# gvSIG Suite

## A whole catalog of open source software solutions

# gvSIG Suite

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- **'Horizontal' products:**
  - **gvSIG Desktop:** Geographic Information System for editing, 3D analysis, geoprocessing, maps, etc
  - **gvSIG Online:** Integral platform for Spatial Data Infrastructure (SDI) implementation.
  - **gvSIG Mobile:** Mobile application for Android to take field data.
- **Sector products:**
  - **gvSIG Roads:** Platform to manage roads inventory and conservation.
  - **gvSIG Educa:** gvSIG adapted to geography learning in pre-university education.
  - **gvSIG Crime:** Geographic Information System for Criminology management.

# Components of a GIS

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- **Spatial Data Infrastructure**
  - Database (spatial), Map server  
Geoportal(s), Catalog, Gazetteer
- **Desktop GIS**
- **Mobile GIS**

# Components of a GIS

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- **gvSIG Online**
  - Database (spatial), Map server  
Geoportal(s), Catalog, Gazetteer
- **gvSIG Desktop**
- **gvSIG Mobile**

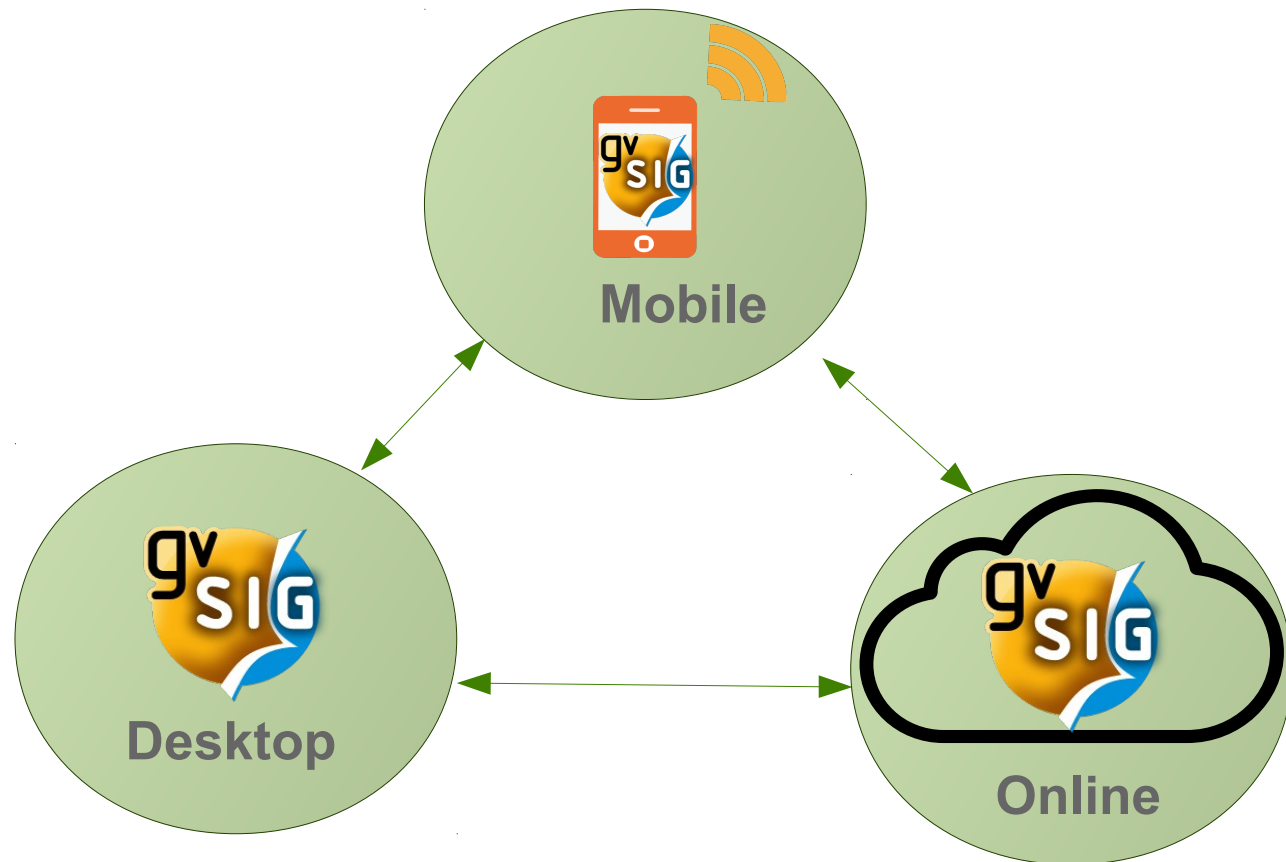
# Components of a GIS

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- **gvSIG Online**
    - Database (spatial), Map server
    - Geoportal(s), Catalog, Gazetteer
  - **gvSIG Desktop**
  - **gvSIG Mobile**
- Open Source software**
- Interoperable**
- Standards**
- Built-in**

# Components of a GIS

- Free geomatics suite totally built-in
- With professional support
- Sustainability and maintenance guaranteed





# gvSIG Desktop

## Desktop Geographic Information System

# gvSIG Desktop

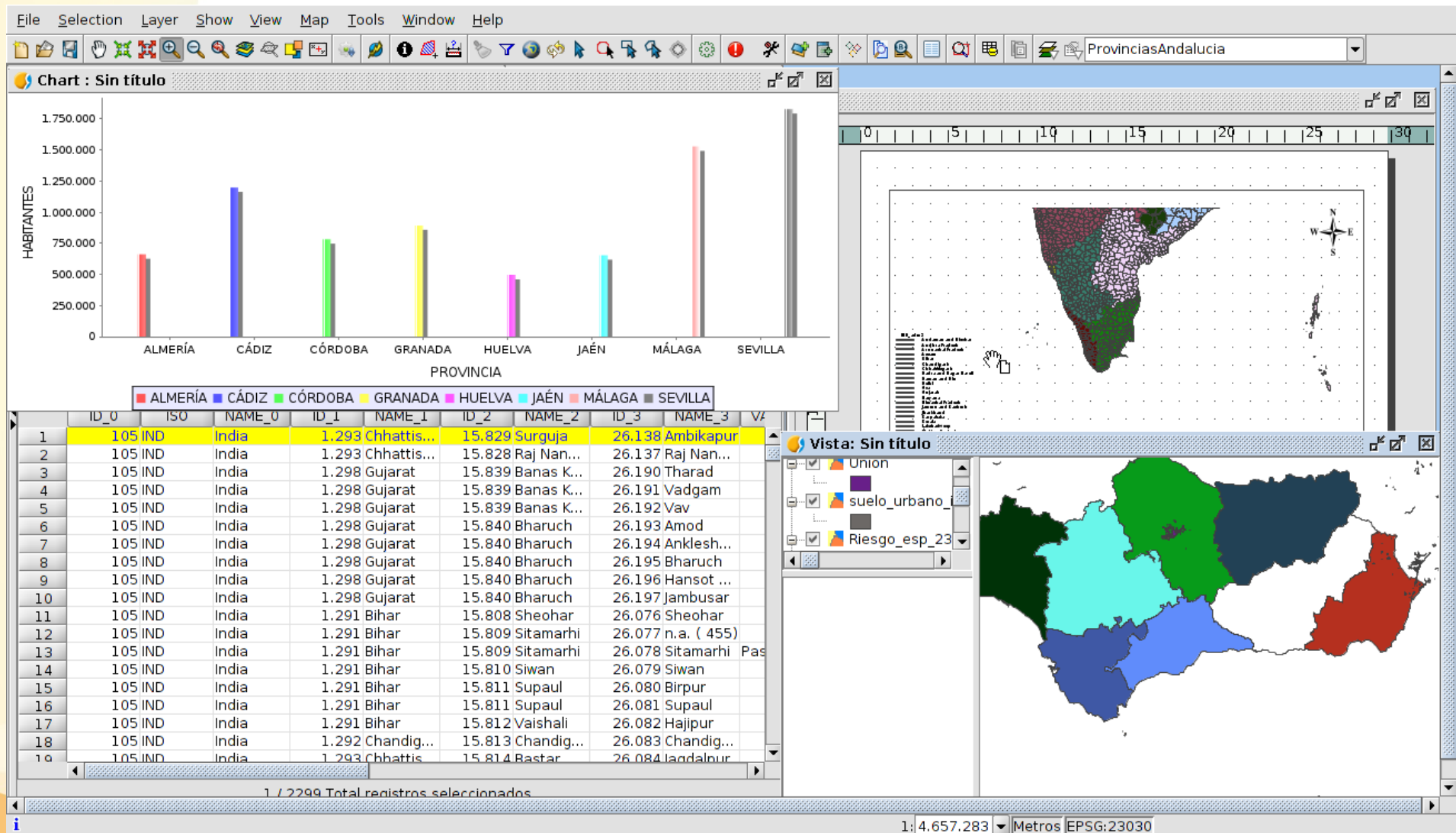
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## Characteristics

- Multi-platform: Linux, Windows, Mac OS X
- Multi-language
- Simple interface: user friendly
- Customizable
- GIS + SDI client (Spatial Data Infrastructure / OGC standards)

# gvSIG Desktop

## Characteristics

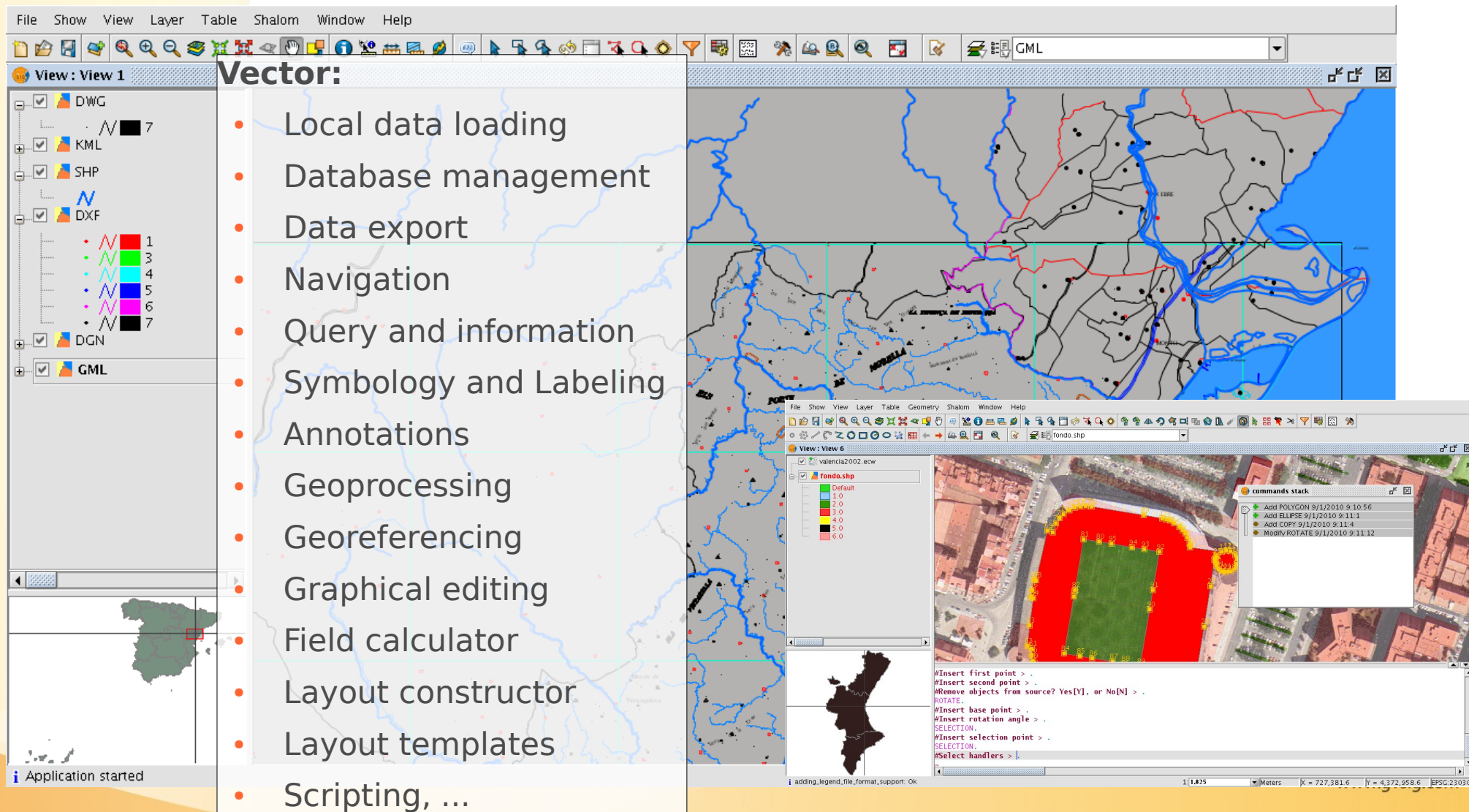


# gvSIG Desktop

## Characteristics

**Vector:**

- Local data loading
- Database management
- Data export
- Navigation
- Query and information
- Symbology and Labeling
- Annotations
- Geoprocessing
- Georeferencing
- Graphical editing
- Field calculator
- Layout constructor
- Layout templates
- Scripting, ...



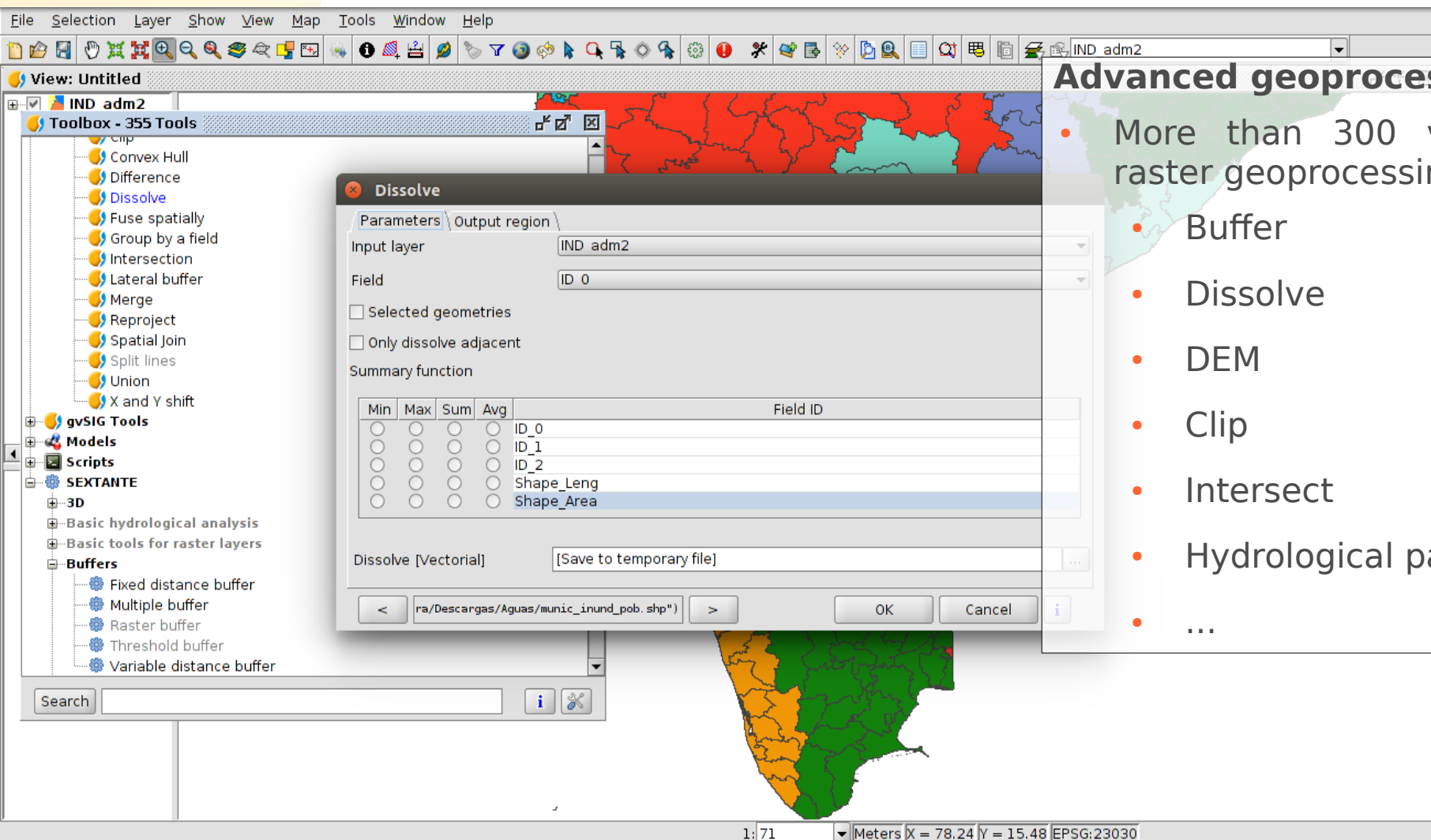
The screenshot displays the gvSIG Desktop application interface. The main window shows a map of Valencia, Spain, with various vector layers loaded. The left sidebar contains a 'View: View 1' panel with a layer list including DWG, KML, SHP, DXF, DGN, and GML. The right sidebar shows a 'View: View 6' panel with a legend for the 'fondo.shp' layer. A 'commands stack' window is open on the right, showing a list of commands such as 'Add POLYGON', 'Add ELLIPSE', 'Add COPY', and 'Modify ROTATE'. The status bar at the bottom indicates the application is started and provides coordinates and scale information.

# gvSIG Desktop

## Characteristics

### Advanced geoprocessing:

- More than 300 vector and raster geoprocessing modules
- Buffer
- Dissolve
- DEM
- Clip
- Intersect
- Hydrological parameters
- ...



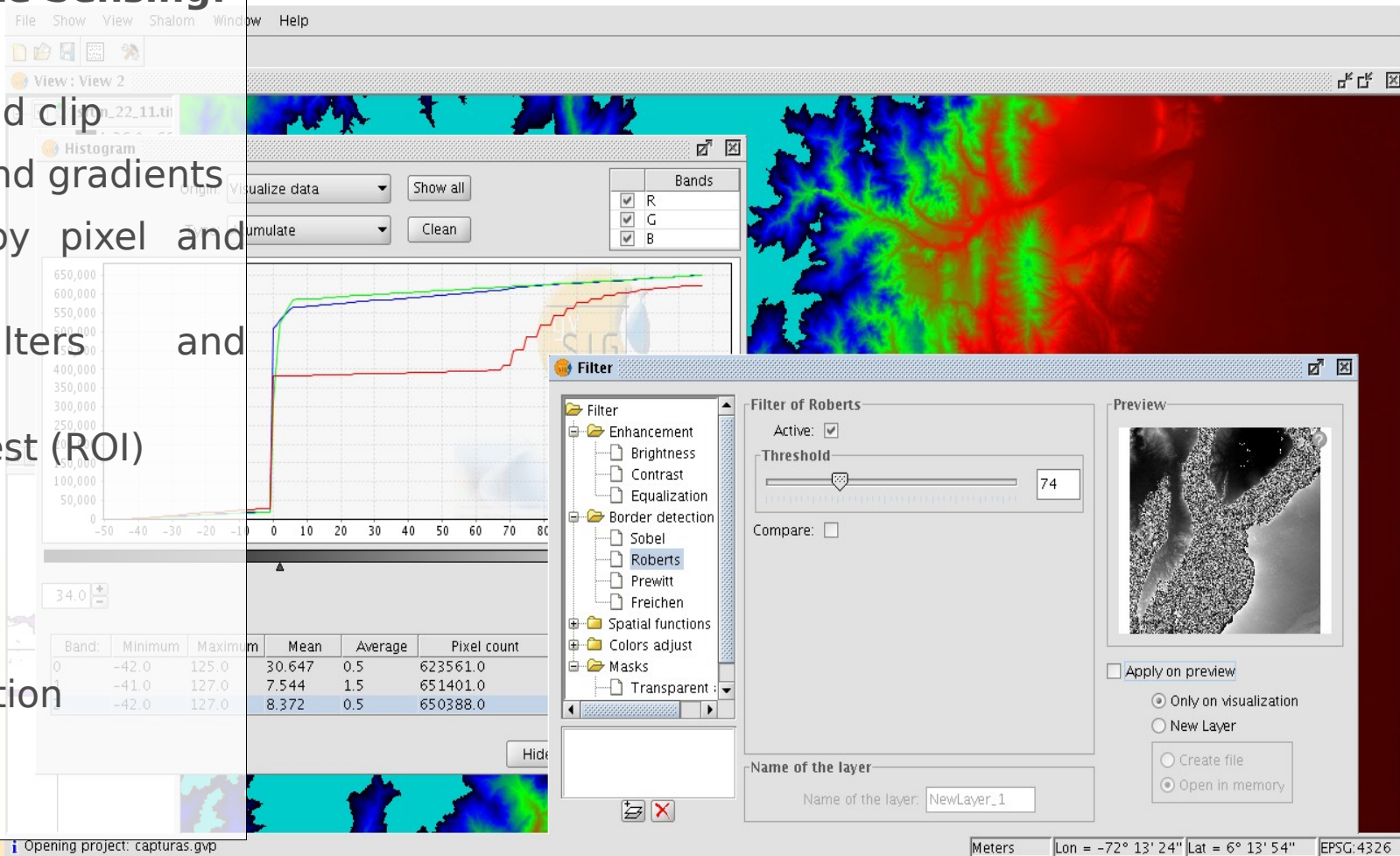


# gvSIG Desktop

## Characteristics

### Raster and Remote Sensing:

- Bands
- Layer export and clip
- Colour tables and gradients
- Transparency by pixel and opacity
- Statistics, filters and histograms
- Region of Interest (ROI)
- Geolocation
- Enhance
- Vectorization
- Raster reprojection
- Mosaics
- ...

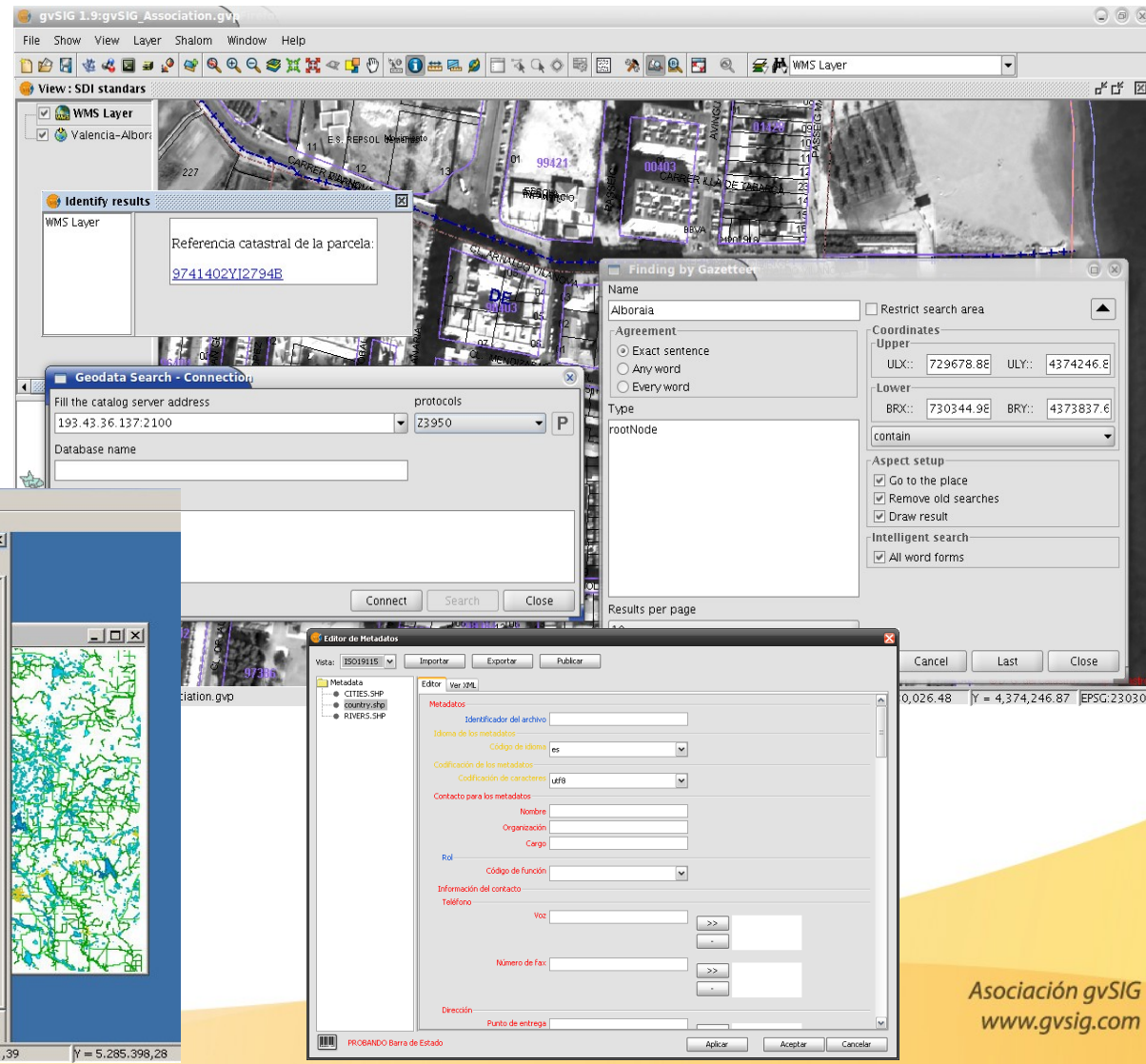
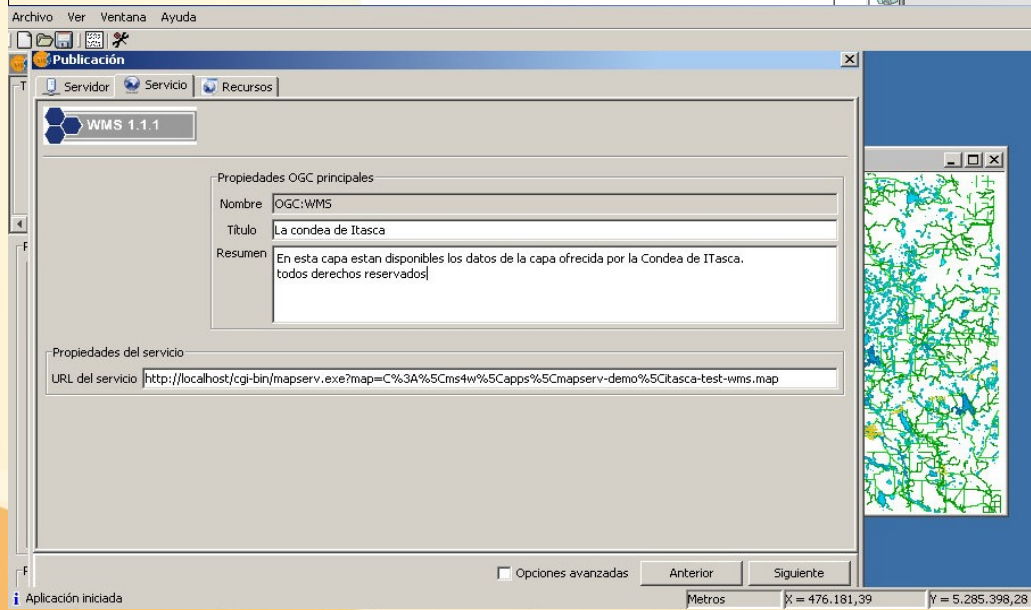


# gvSIG Desktop

## Characteristics

### Spatial Data Infrastructure (SDI):

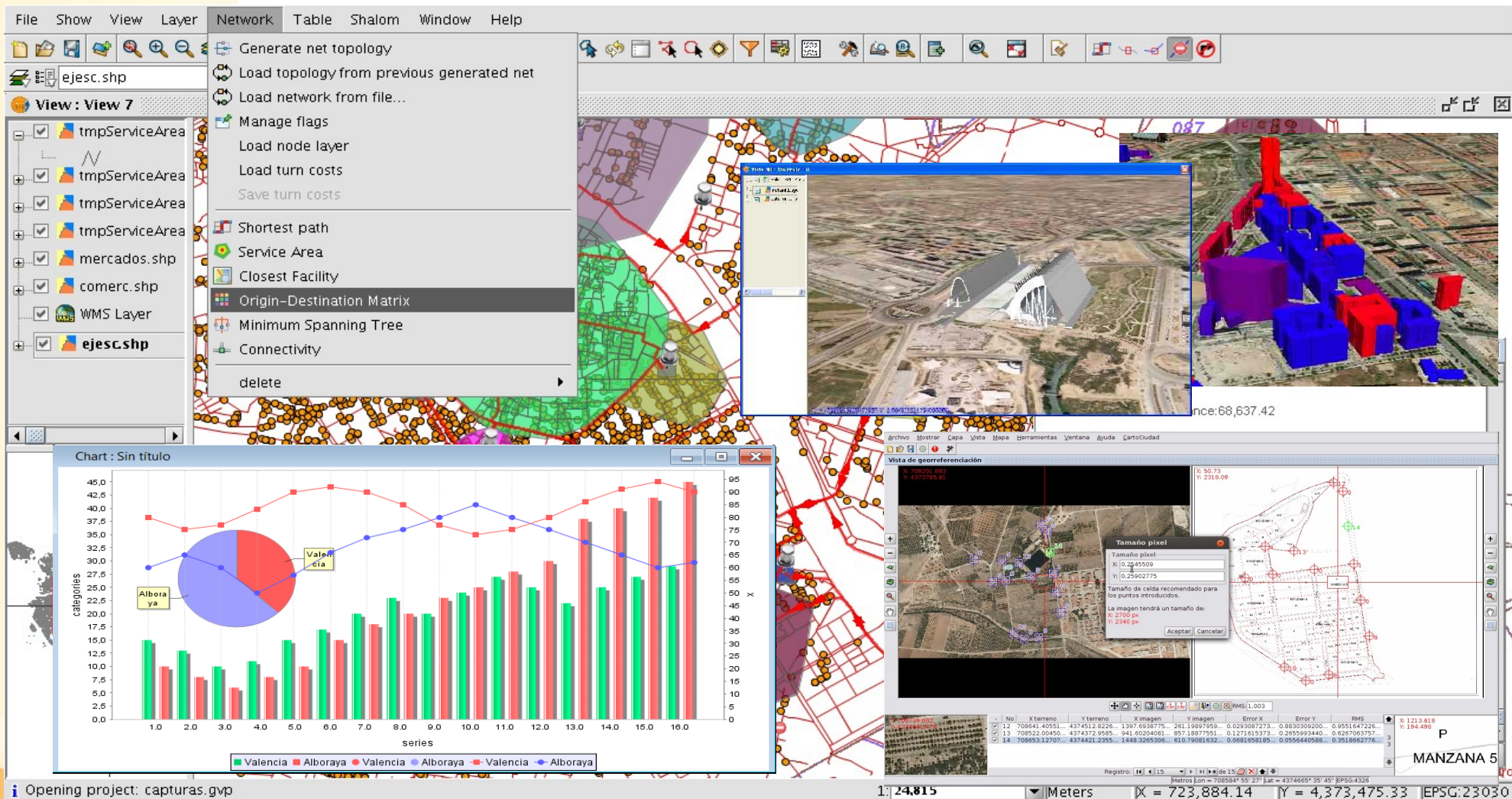
- WMS Service
- WMTS Service
- WFS Service
- WCS Service
- Searching serv. (Catalogue client)
- Location serv. (Gazetteer client)





# gvSIG Desktop

## Characteristics

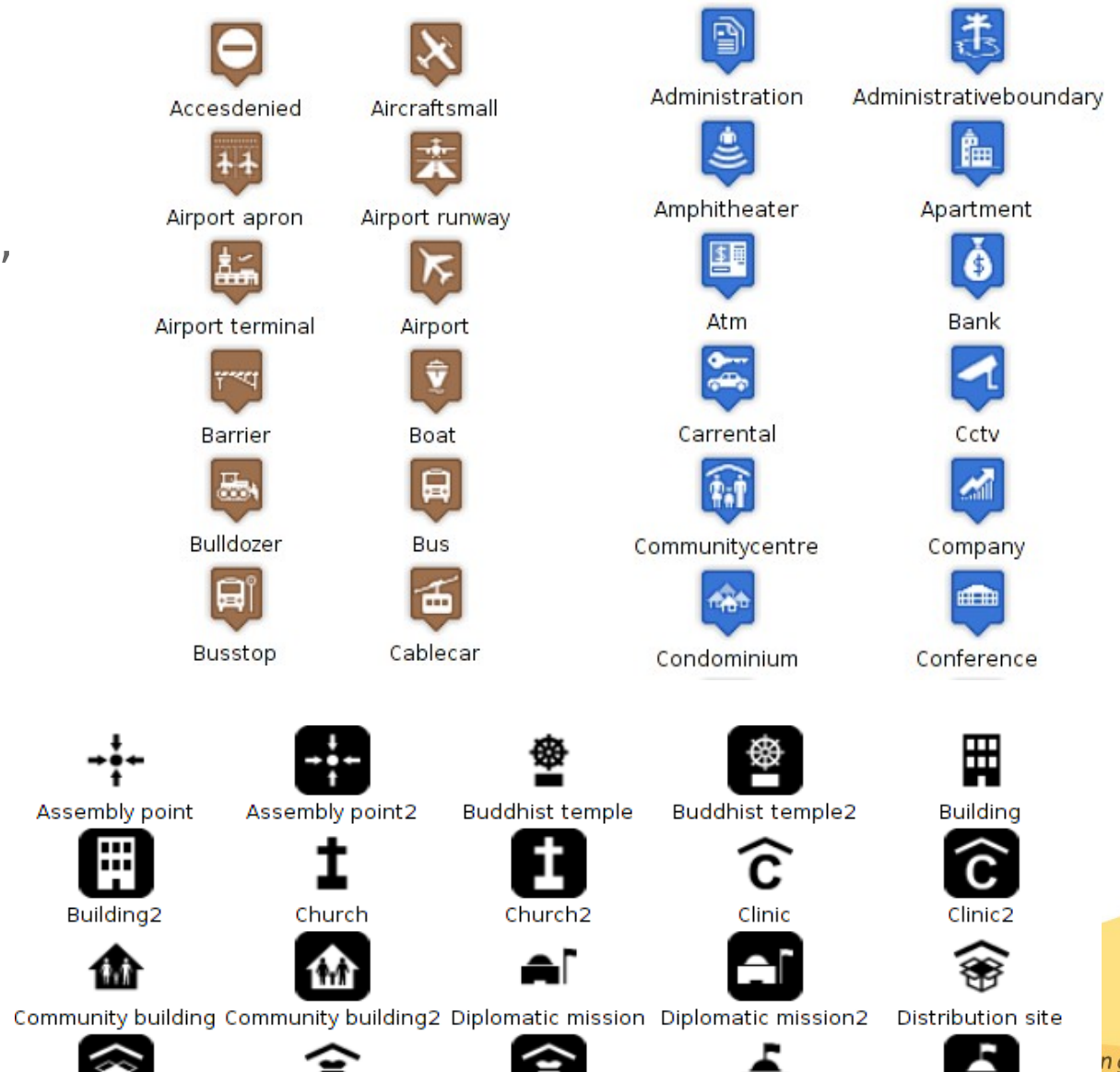
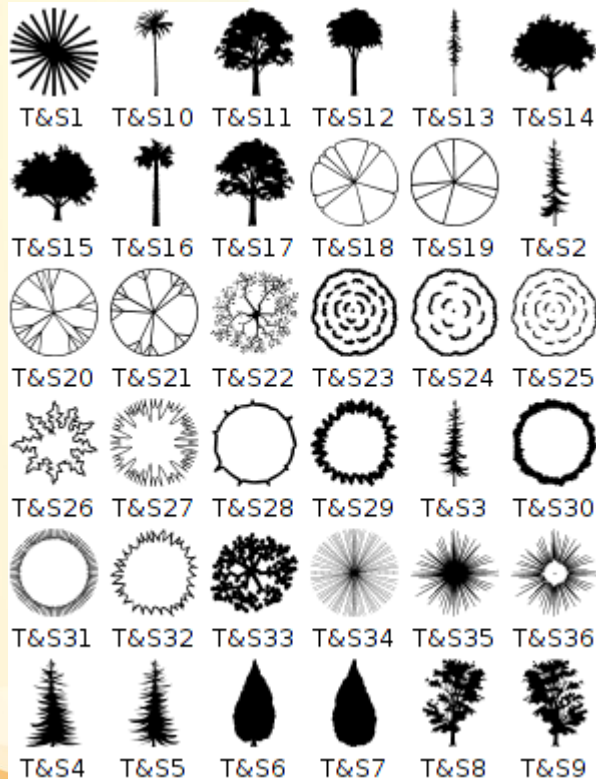




# gvSIG Desktop

## Symbols:

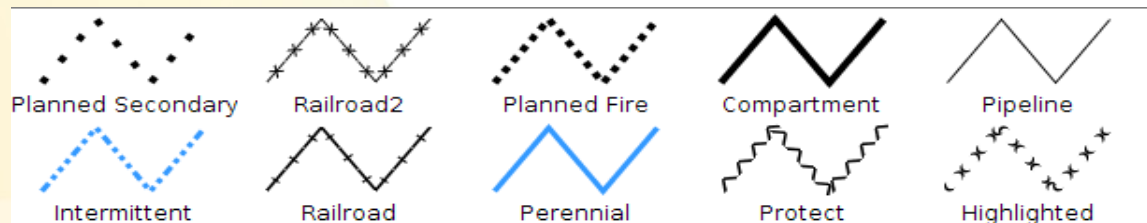
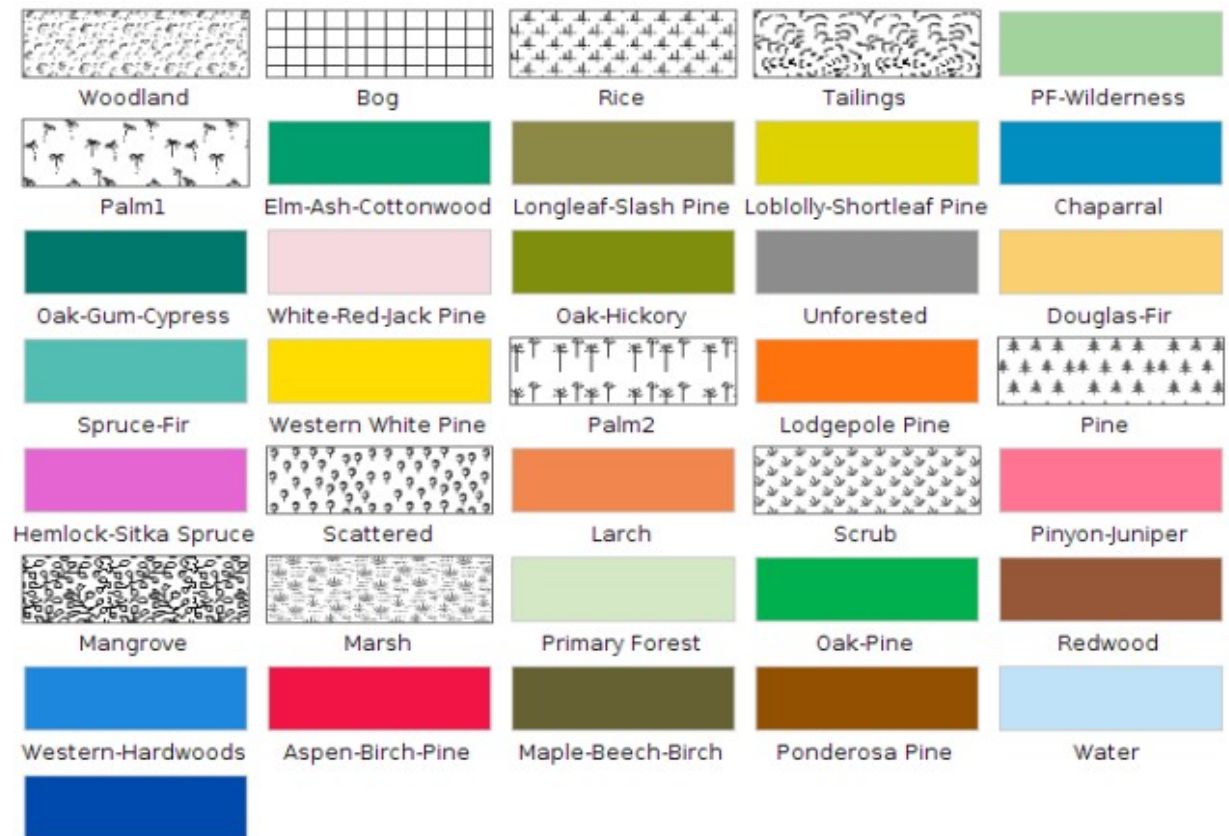
Symbols for Forestry,  
Criminology, Infrastructures,  
Tourism, Health, Geology...



# gvSIG Desktop

## Symbols: Forestry

Complemented with line symbols, used frequently in forestry maps



# gvSIG Desktop DEMO



# gvSIG Mobile

## Geographic Information System for mobile devices

# gvSIG Mobile

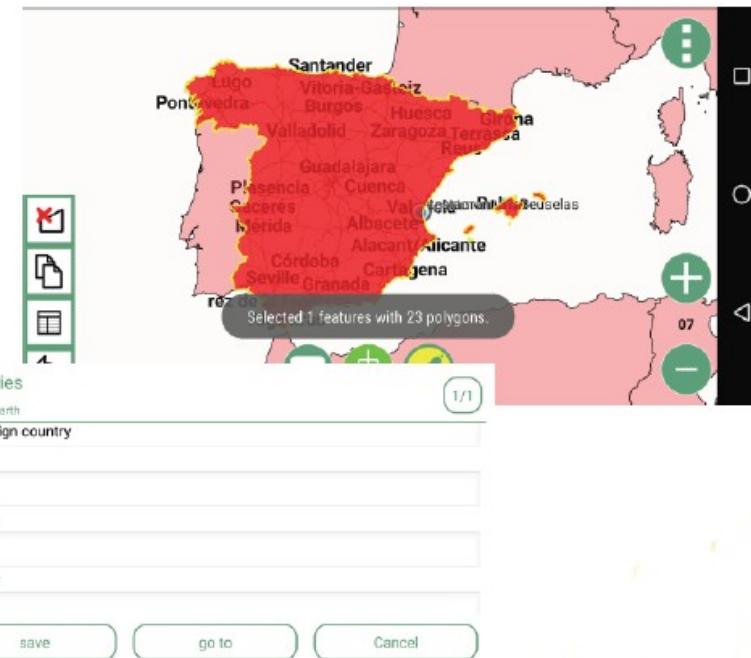
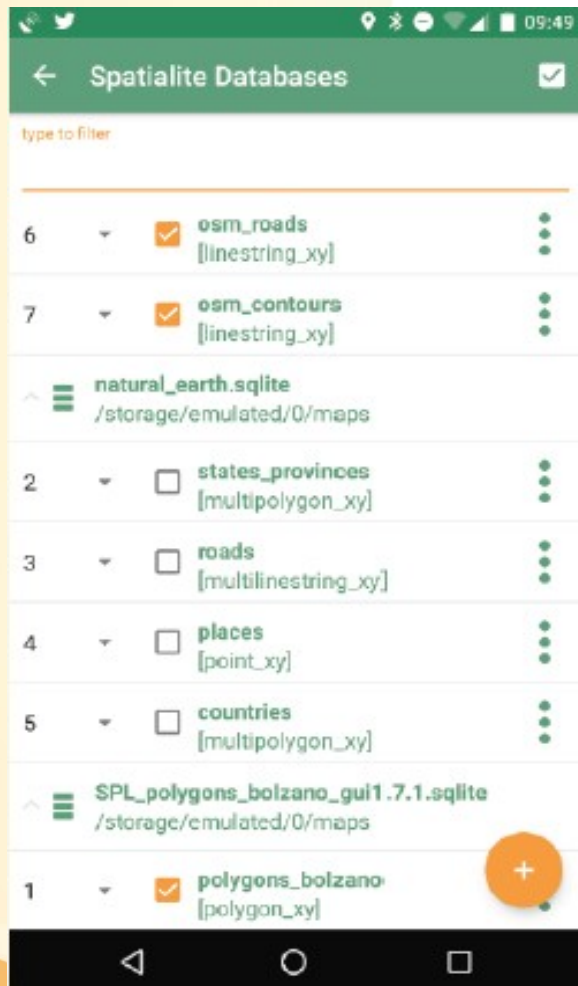
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## Characteristics

- gvSIG Mobile is a GIS complement to be used on field work.
- Main characteristics:
  - Display: several formats, CRS management
  - Symbology and Labeling
  - GPS Support: manual and automatic
  - Editing tools
  - Selection and searching
  - SDI/OGC access: WMS, WFS...
  - Measurement and information
  - ...



# gvSIG Mobile



# gvSIG Mobile DEMO



# gvSIG Online

## Platform for Spatial Data Infrastructure implementation








# gvSIG Online


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- **Characteristics:**
  - Full platform for Spatial Data Infrastructure (SDI) implementation and open source corporative GIS
  - It allows to share geographic information in the cloud and to create maps and 2D and 3D applications easily
  - Connected with gvSIG Desktop and gvSIG Mobile




# gvSIG Online

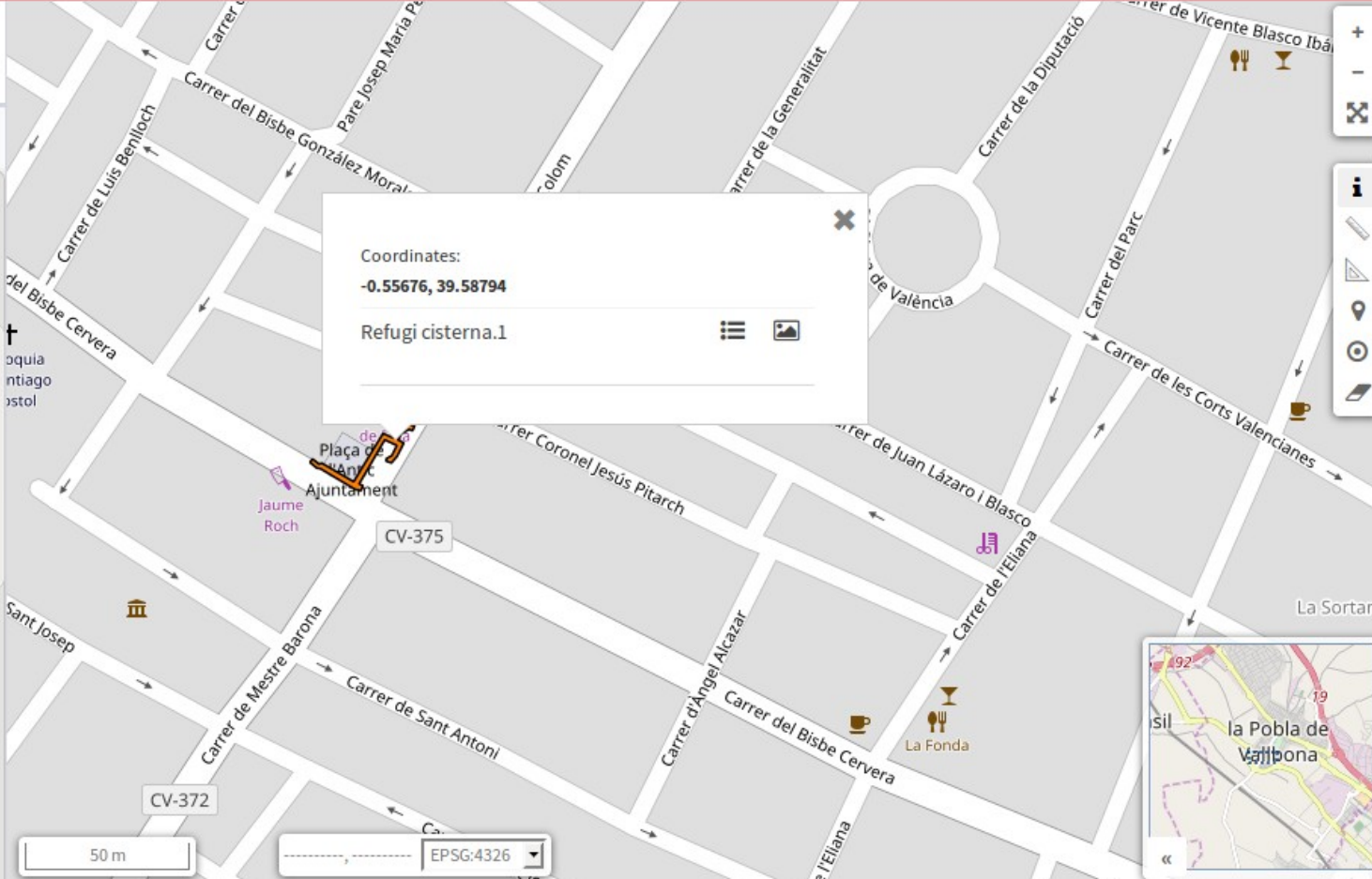
**AJUNTAMENT DE  
LA POBLA DE VALLBONA**

**English****Anonymous**

**Catàleg de béns protegits**










**Coordinates:**  
**-0.55676, 39.58794**

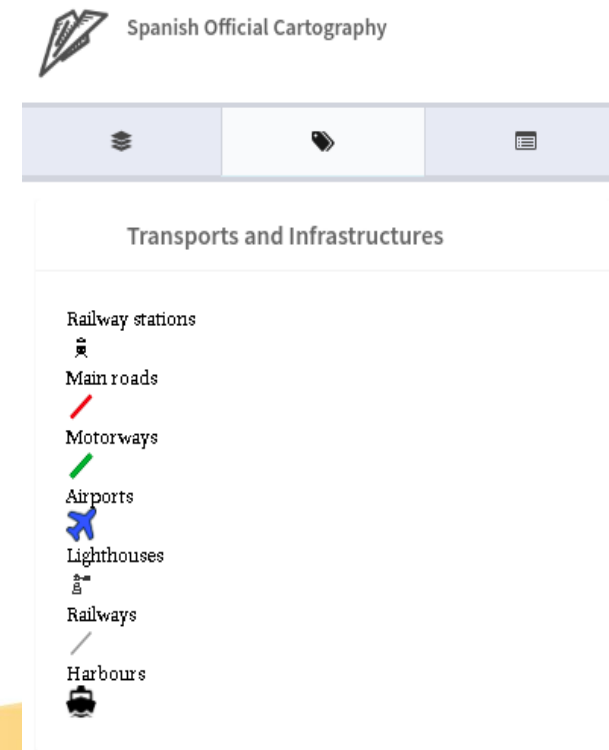
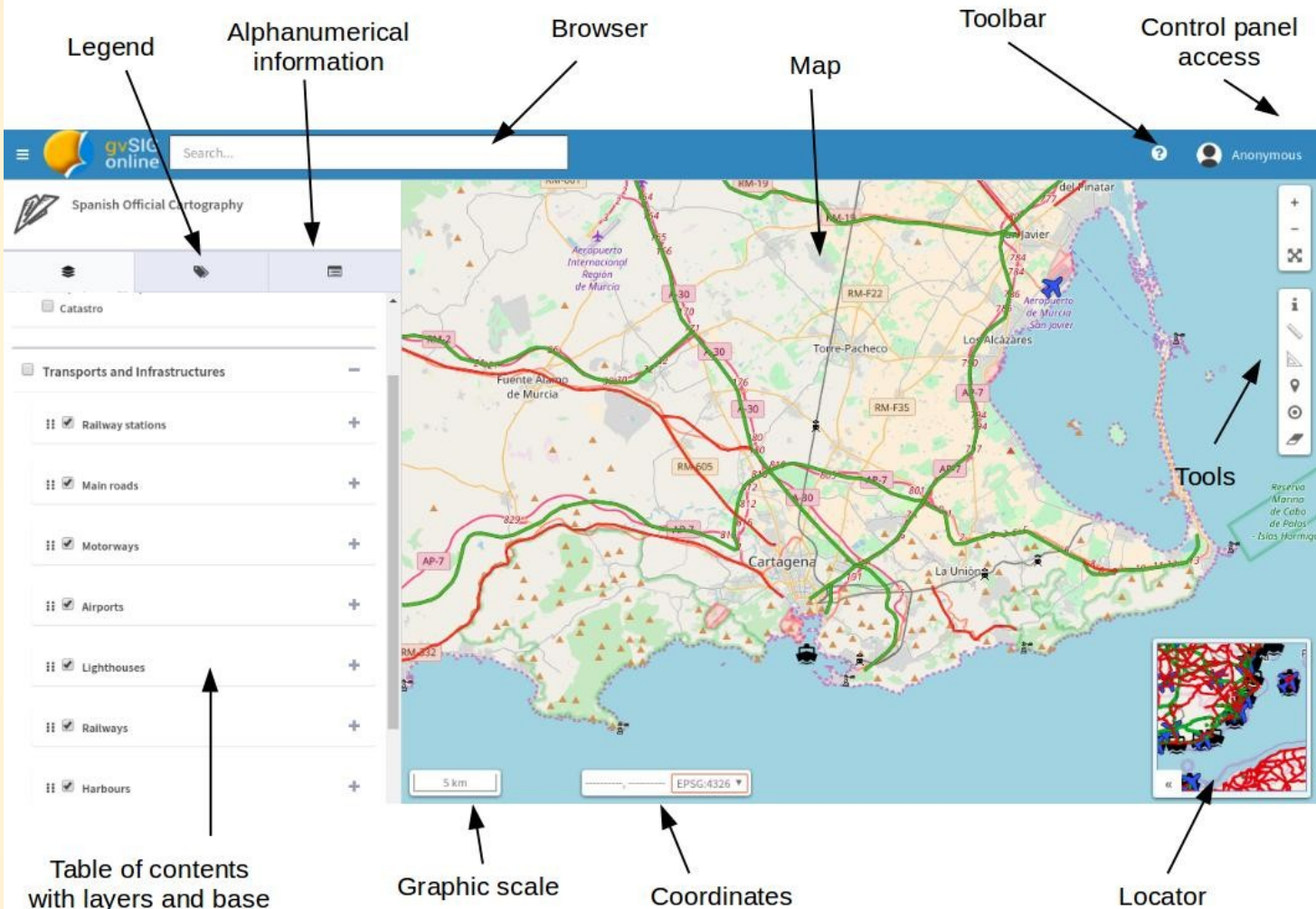
**Refugi cisterna.1**



**50 m**  
EPSG:4326



# gvSIG Online



# DEMO gvSIG Online



## gvSIG Case studies

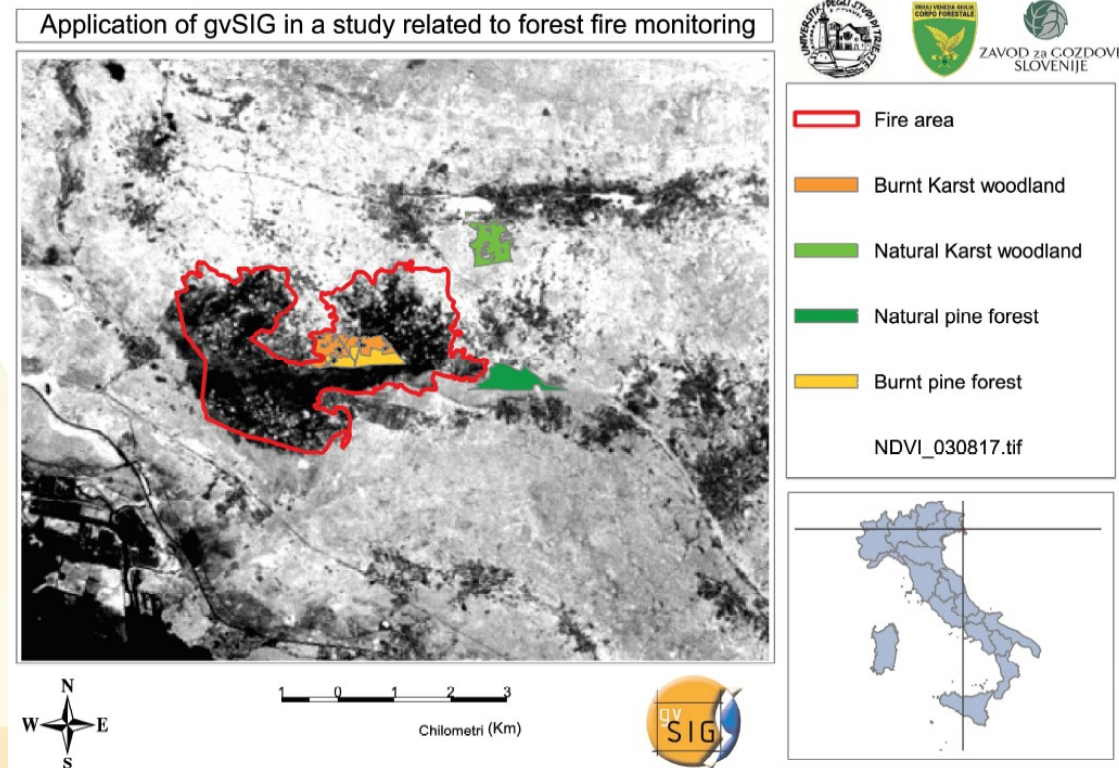
Successful gvSIG case studies in  
agriculture and forestry



# Case studies: gvSIG Desktop

## Application of gvSIG in a study related to forest fire monitoring

Comparative of the vegetation renewal of Karst woodland and pine forest in an area damaged by a fire, with the natural evolution of the same vegetation typologies in unburnt areas.



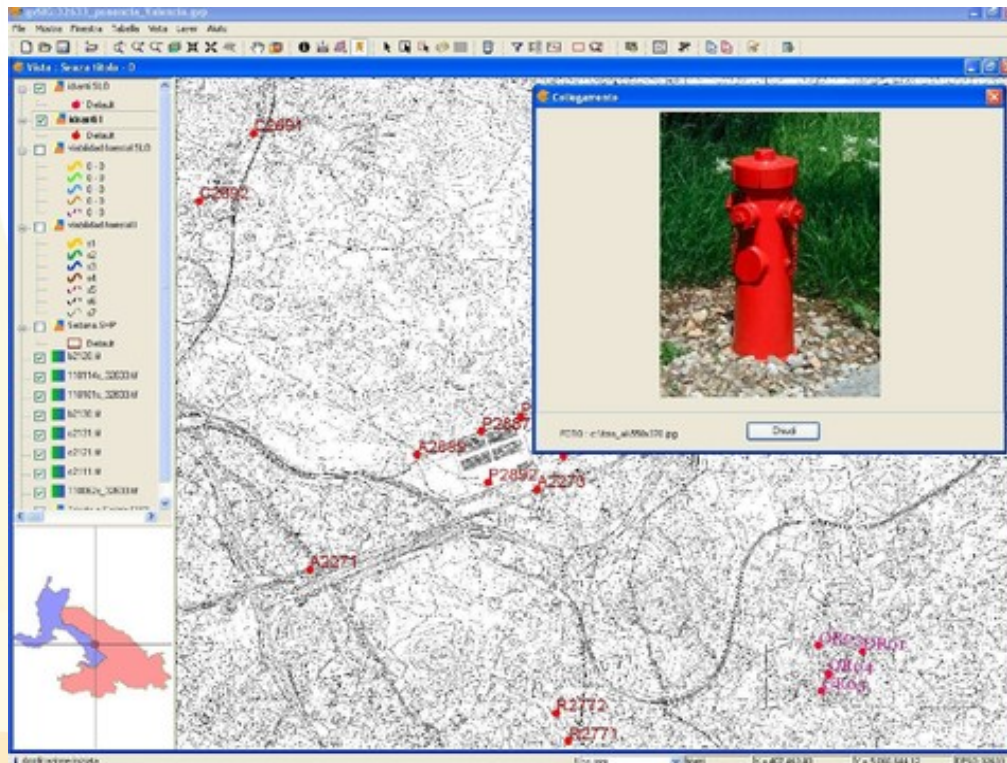
Italy



## Case studies: gvSIG Desktop

### gvSIG in forestry, firefighting and environmental management in the provinces of Trieste, Gorizia (Italy) and Sežana (Slovenia)

The administrations of both countries (Italy and Slovenia) collaborated and shared data and knowledge on gvSIG. They used gvSIG Desktop for office work and gvSIG Mobile for field work.

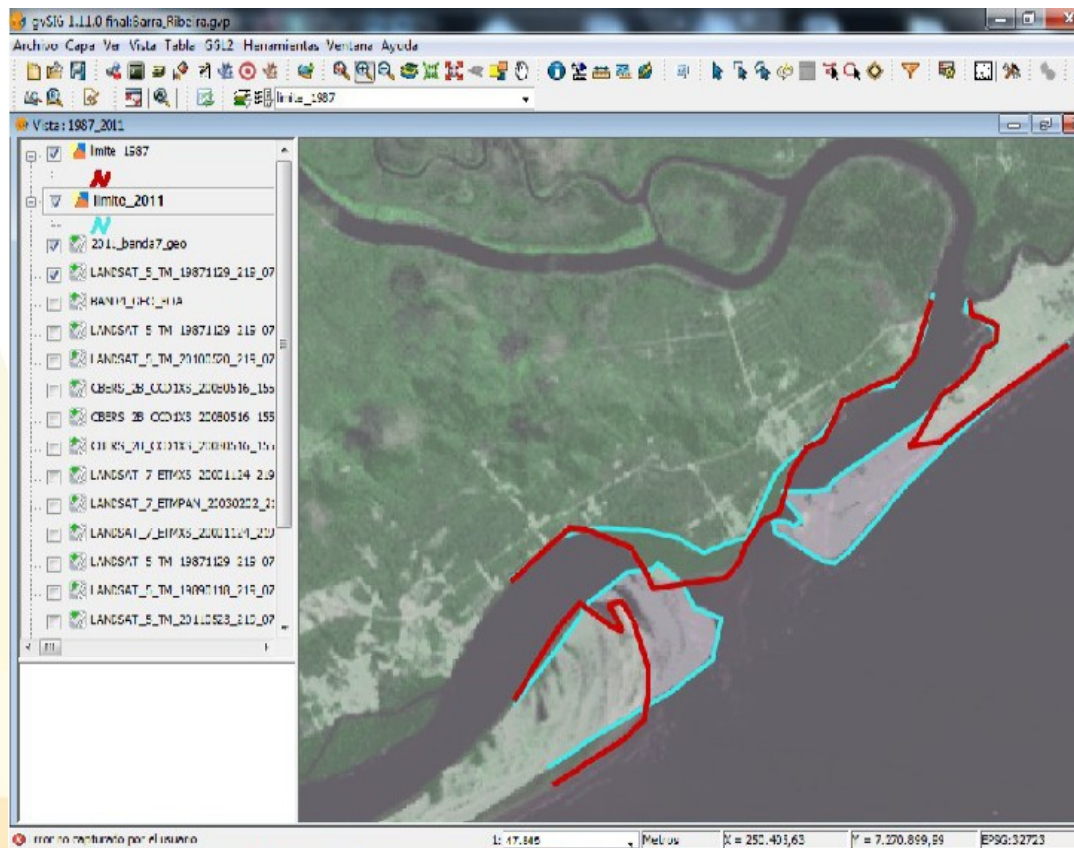


Italy -  
Slovenia

# Case studies: gvSIG Desktop

## gvSIG use applied to study the Ribeira river bank erosion (Brazil)

Study of the changes at the Ribeira River bank, and the advance of the Atlantic Ocean over the continent.

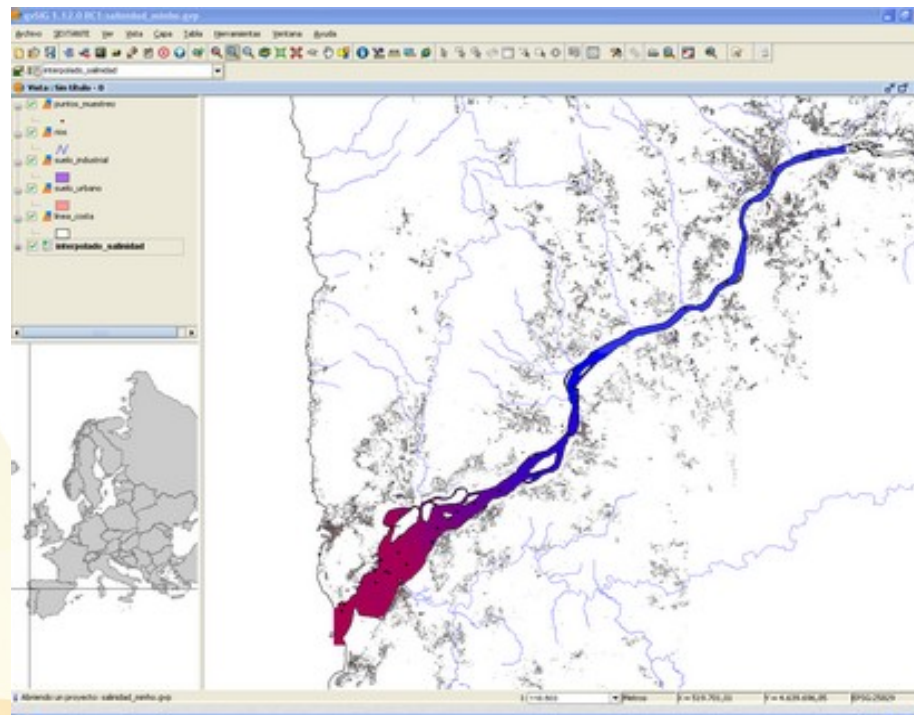


**Brazil**

# Case studies: gvSIG Desktop

## Analysis of contaminants and salinity in the Minho river for the European Project

Determination of the spatial distribution of different physicochemical parameters (salinity, phosphate, ammonium, nitrate and nitrite), at both at low and high tide, at the estuary of the Minho river.



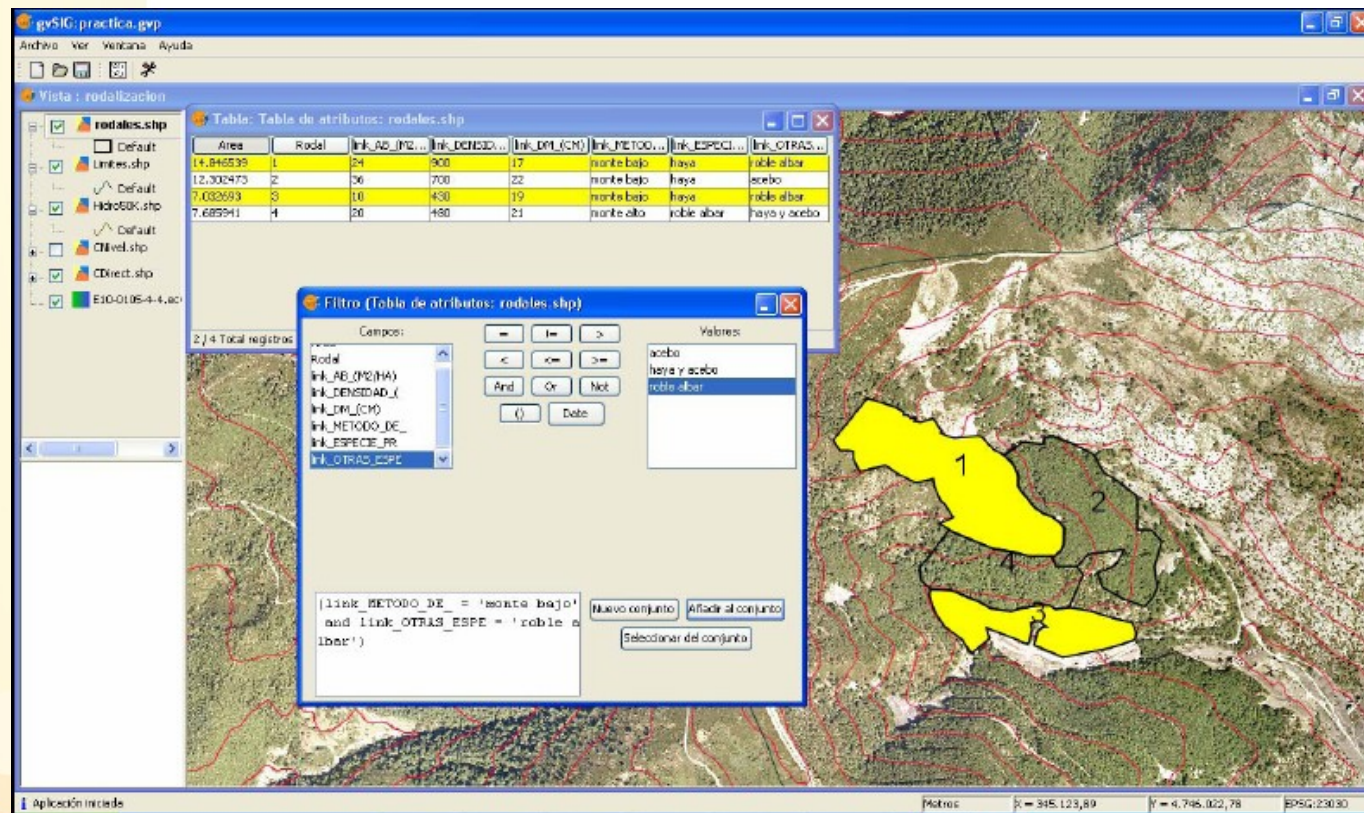
Spain



# Case studies: gvSIG Desktop

## gvSIG usage for defining forest stands

Delimitation of the forest stands in a hill, on an orthophoto, using gvSIG. Data got during field work are included at the Geographic Information System.



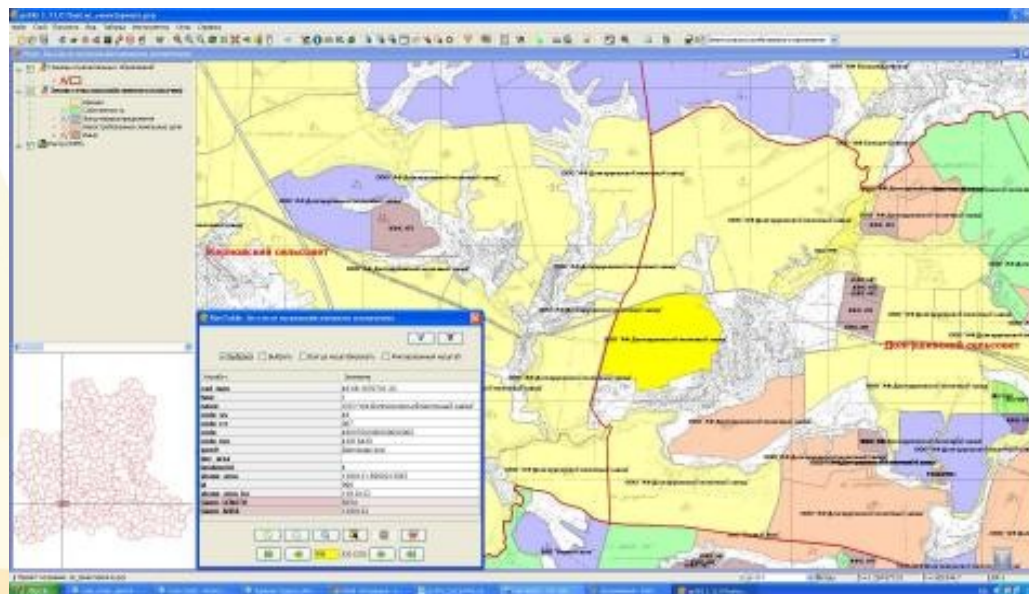
Spain

## Case studies: gvSIG Desktop

### gvSIG applied to the management of the agricultural lands of the Lipetsk Region (Russia)

Centralized storage of the information about agricultural lands and supporting of remote access to display spatial data and generate reports on the base of the developed web mapping application.

gvSIG Desktop is used as a client geospatial software to create the draft data sets and to edit final spatial data and their attributes.

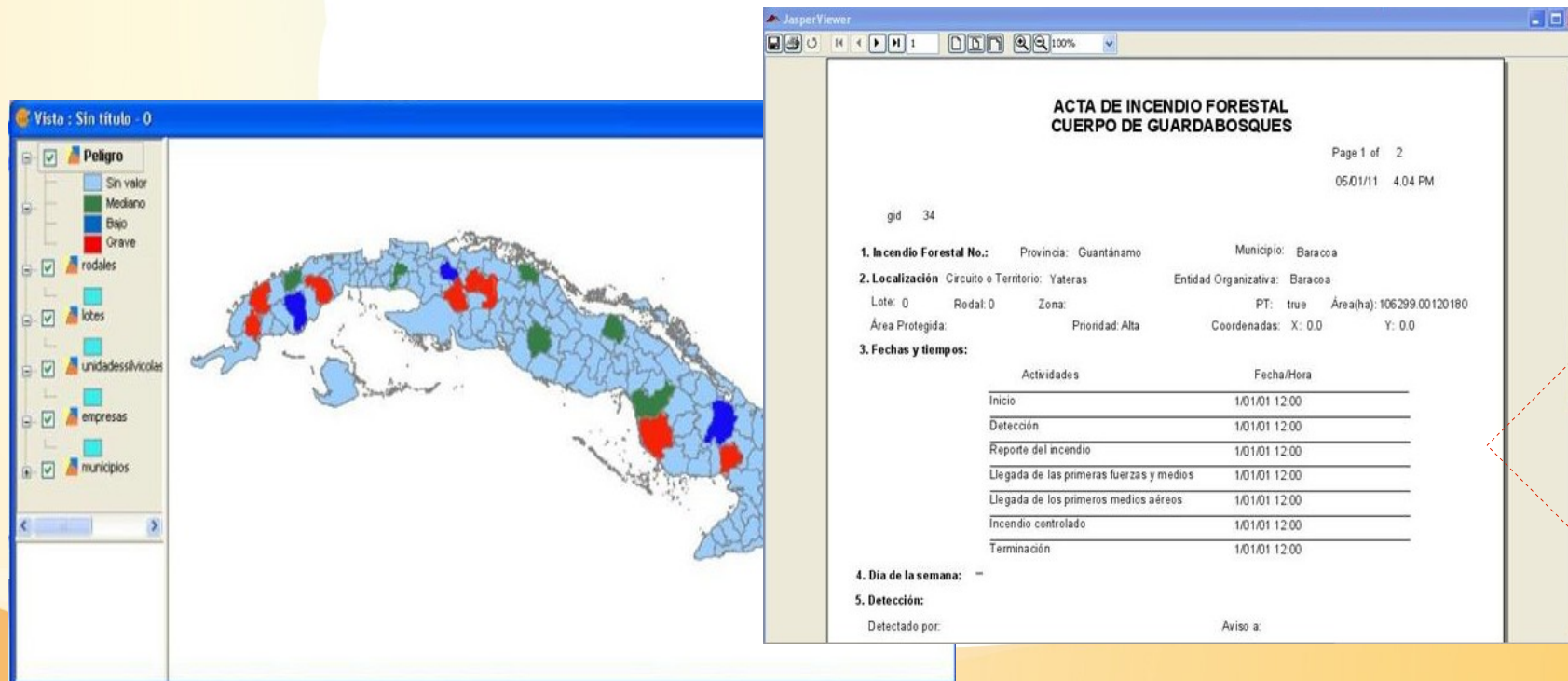


**Russia**

# Case studies: gvSIG Desktop

## gvSIG for Forestry Management: SIFOMAP 3.0

Customized applications that allow to manage, administrate, update... the forestry heritage information. It's composed of different modules, like Forestry Management Planning, Sustainable Development Indicator, Forest Fire...



The screenshot displays two windows from the gvSIG Desktop application. The left window, titled 'Visto: Sin título - 0', shows a map of Cuba with various regions highlighted in different colors (blue, green, red) representing different risk levels. The right window, titled 'JasperViewer', displays a form for 'ACTA DE INCENDIO FORESTAL' (Forest Fire Act) from the 'CUERPO DE GUARDABOSQUES' (Forest Guard). The form includes fields for location, date, and time, and a table for recording activities.

**ACTA DE INCENDIO FORESTAL**  
CUERPO DE GUARDABOSQUES

Page 1 of 2  
05/01/11 4:04 PM

gid 34

1. Incendio Forestal No.: Provincia: Guantánamo Municipio: Baracoa

2. Localización Circuito o Territorio: Yateras Entidad Organizativa: Baracoa

Lote: 0 Rodal: 0 Zona: PT: true Área(ha): 106299.00120180

Área Protegida: Prioridad: Alta Coordenadas: X: 0.0 Y: 0.0

3. Fechas y tiempos:

Actividades	Fecha/Hora
Inicio	1/01/01 12:00
Detección	1/01/01 12:00
Reporte del incendio	1/01/01 12:00
Llegada de las primeras fuerzas y medios	1/01/01 12:00
Llegada de los primeros medios aéreos	1/01/01 12:00
Incendio controlado	1/01/01 12:00
Terminación	1/01/01 12:00

4. Día de la semana: -

5. Detección:

Detectado por: Aviso a:

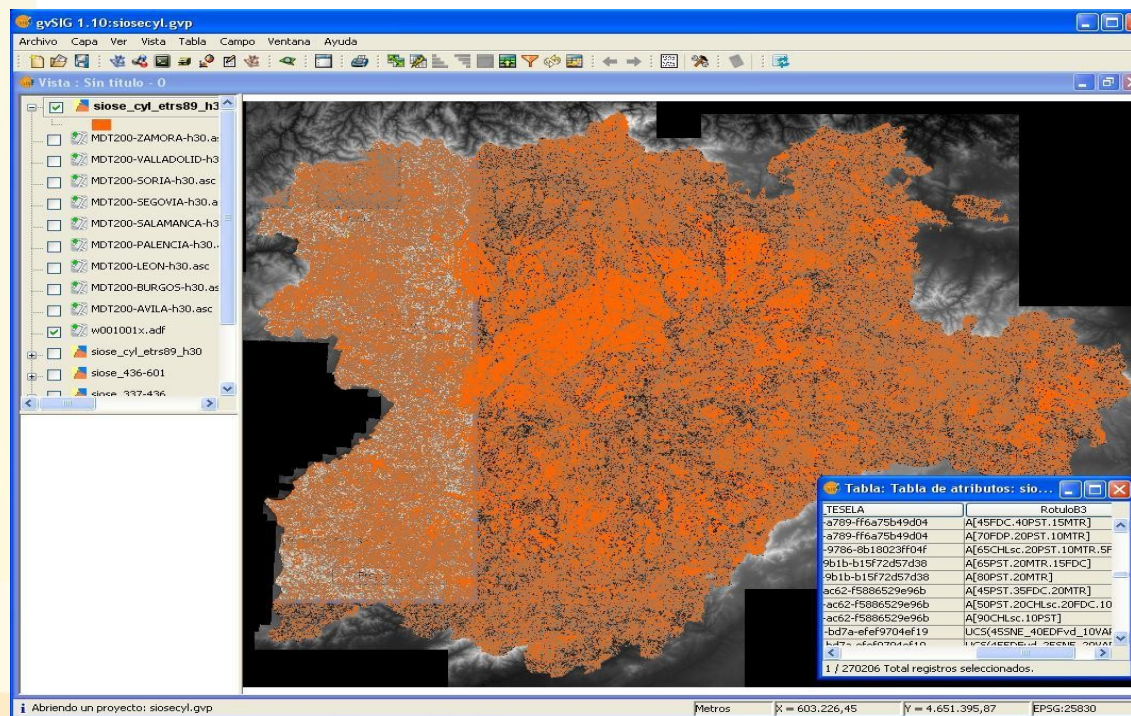
Cuba



# Case studies: gvSIG Desktop

## Spatial characterization of lightning strikes in Castilla y León (Spain)

The spatial analysis of lightning strikes allows to prevent and warn about natural disasters (forestry fires, hailstones...) at the agroforestry means, in order to minimize economic losses.

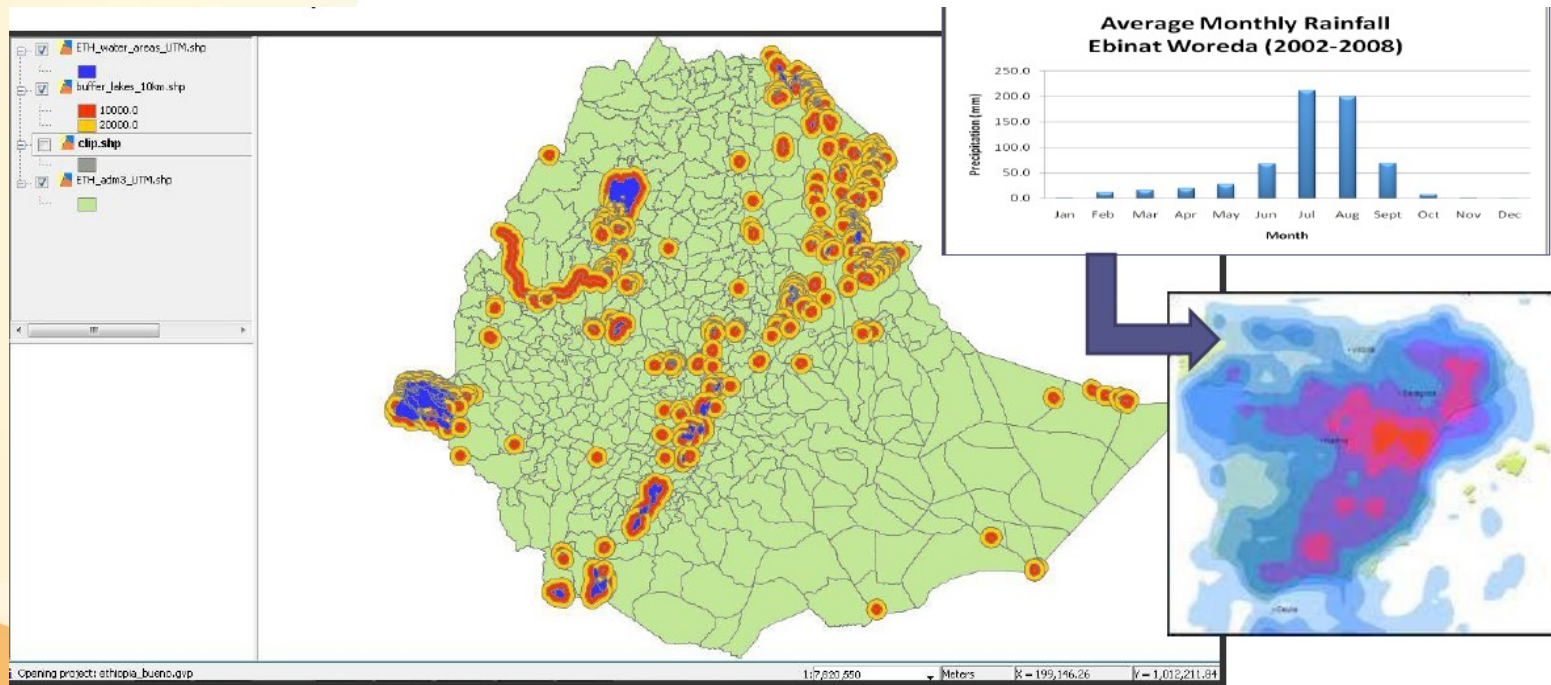


Spain

# Case studies: gvSIG Desktop

## Spatial Data Infrastructures in developing countries: The climate change problem in Ebinat (Ethiopia)

Management of the geographical information related to a real problem: drought and climate change.  
Analysis of the climatic conditions at the region and their relation with the type of farming.

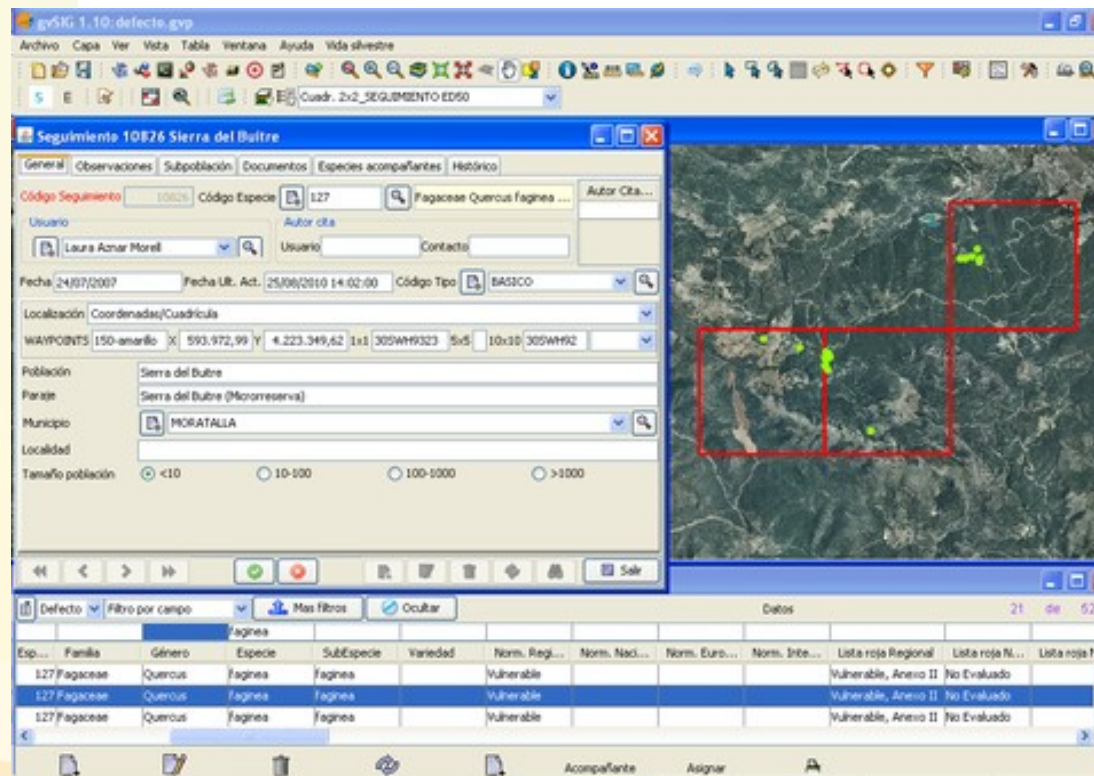


**Ethiopia**

# Case studies: gvSIG Desktop

## gvSIG applied to the monitoring of protected flora in the Region of Murcia

Monitoring of this species of flora, as well as the detection of new locations.



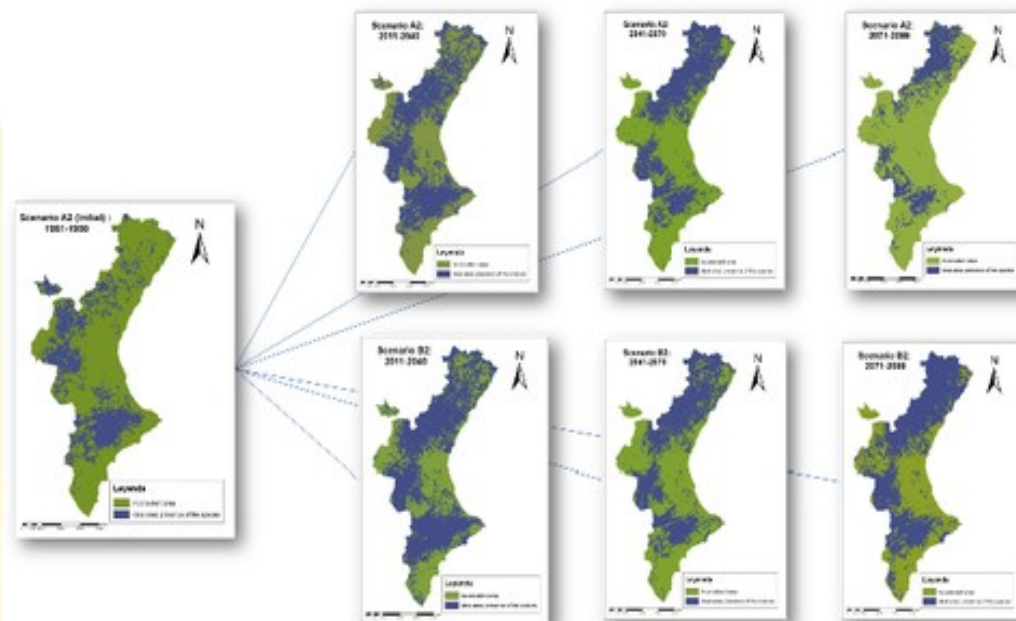
Spain



# Case studies: gvSIG Desktop

## Use of gvSIG to create potential distribution models of invading exotic species under different climate change scenarios

Analysis of the invading plants potential distribution at the Valencian Community, under different climate change scenarios in order to help the managers to confront these plagues in the future.



Spain

# Case studies: gvSIG Desktop

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## Other related gvSIG Desktop case studies

- Using gvSIG to compute light pollution from night satellite images (Spain)
- gvSIG in a small ecological consulting firm, for representing plant or animal populations, extent and quality of vegetation types... (Australia)
- Variation of Neptune Grass in an area at the Calviá coast (Mallorca, Spain)
- Design and implementation of a GIS for underwater characterization (San Luis, Argentina)
- gvSIG use on precision agriculture (Argentina)
- gvSIG for modelling the Holocene landscape (Spain)
- ...

**<http://outreach.gvsig.org/case-studies>**

# Case studies: gvSIG Mobile

## The New York Natural Heritage Program

Mapping invasive species in the iMapInvasives program



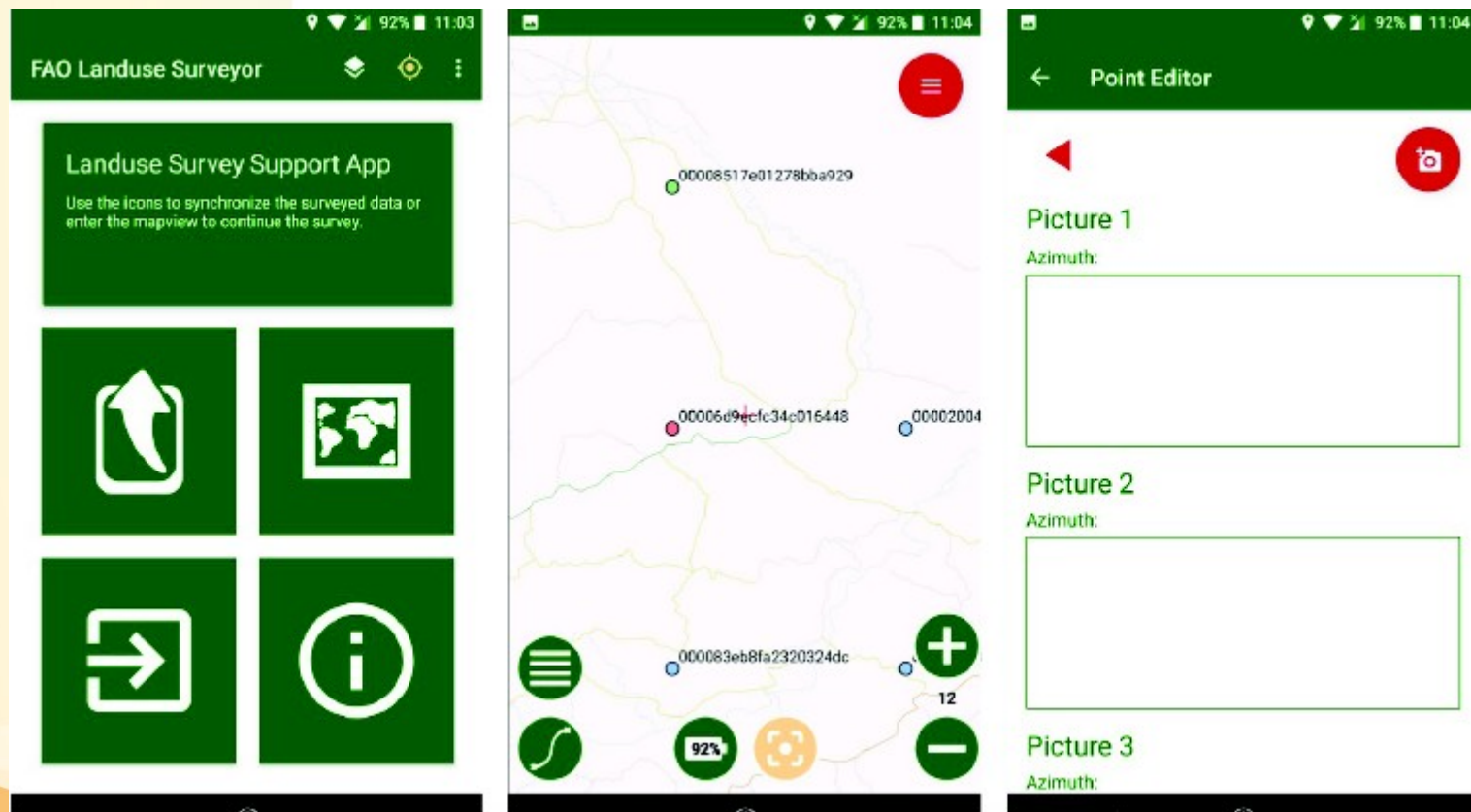
USA



# Case studies: gvSIG Mobile

## FAO landuse survey in Zimbabwe

Creation of a landuse survey crowdsourcing application

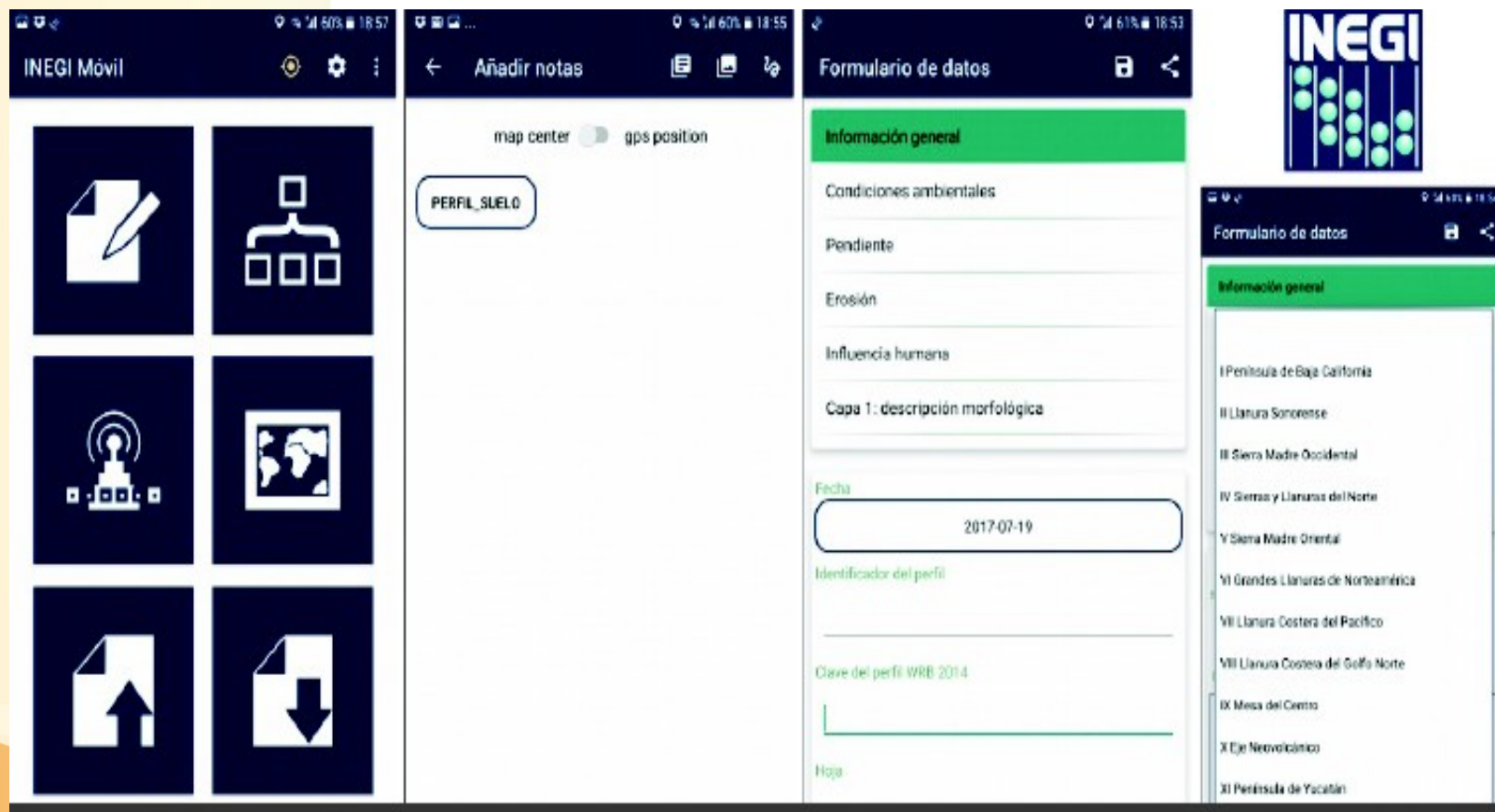


**Zimbabwe**

# Case studies: gvSIG Mobile

## INEGI: field data collection

Geological and hydraulics surveys at the Instituto Nacional de Estadística y Geografía (INEGI) of Mexico.



Mexico

# Case studies: gvSIG Mobile

## International Union for Conservation (IUCN) of Nature SDI

Spatial Data Infrastructure of the International Union for Conservation of Nature



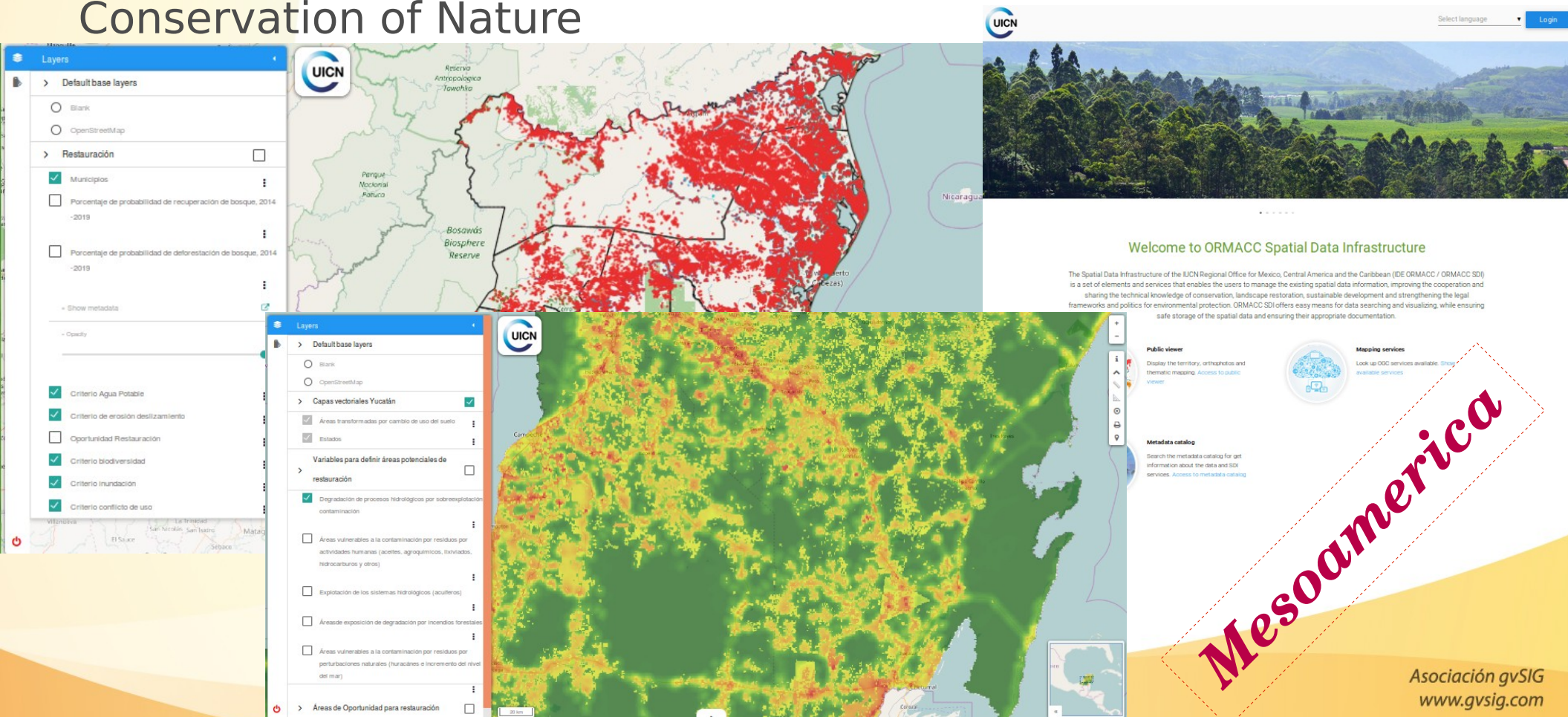
Mesoamerica



# Case studies: gvSIG Online

## International Union for Conservation (IUCN) of Nature SDI

### Spatial Data Infrastructure of the International Union for Conservation of Nature



Welcome to ORMACC Spatial Data Infrastructure

The Spatial Data Infrastructure of the IUCN Regional Office for Mexico, Central America and the Caribbean (IDE ORMACC / ORMACC SDI) is a set of elements and services that enables the users to manage the existing spatial data information, improving the cooperation and sharing the technical knowledge of conservation, landscape restoration, sustainable development and strengthening the legal frameworks and policies for environmental protection. ORMACC SDI offers easy means for data searching and visualizing, while ensuring safe storage of the spatial data and ensuring their appropriate documentation.

**Public viewer**  
Display the territory, orthophotos and thematic mapping. [Access to public viewer](#)

**Mapping services**  
Look up OGC services available: [Show available services](#)

**Metadata catalog**  
Search the metadata catalog for get information about the data and SDI services. [Access to metadata catalog](#)

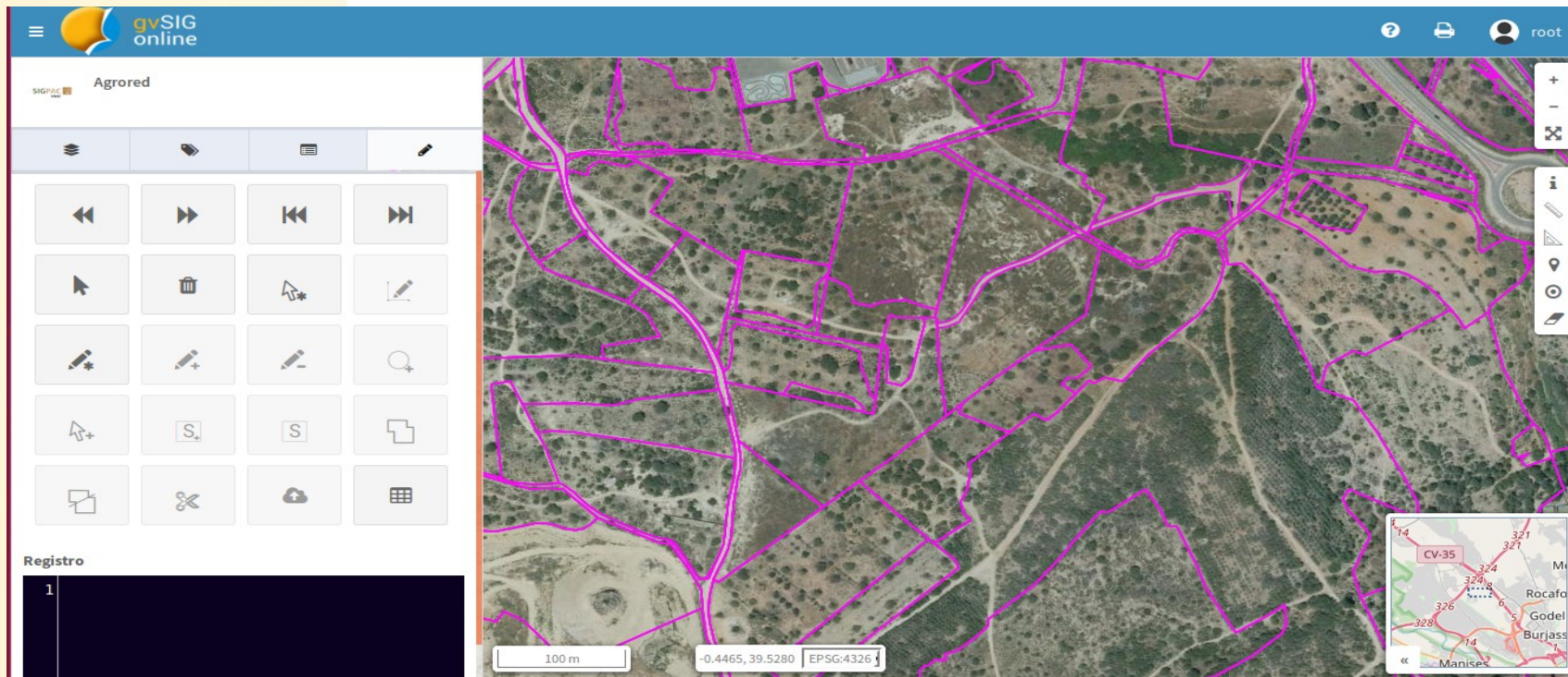
**Mesoamerica**

Asociación gvSIG  
www.gvsig.com

# Case studies: gvSIG Online

## Agriculture Ministry of Valencian Regional Government

Spatial Data Infrastructure to manage subsidies given by European Union



Spain



# Case studies: gvSIG Online

## Pre-emptive conservation SDI at IPCE

### Spatial Data Infrastructure for pre-emptive conservation at Spanish Cultural Heritage Institute



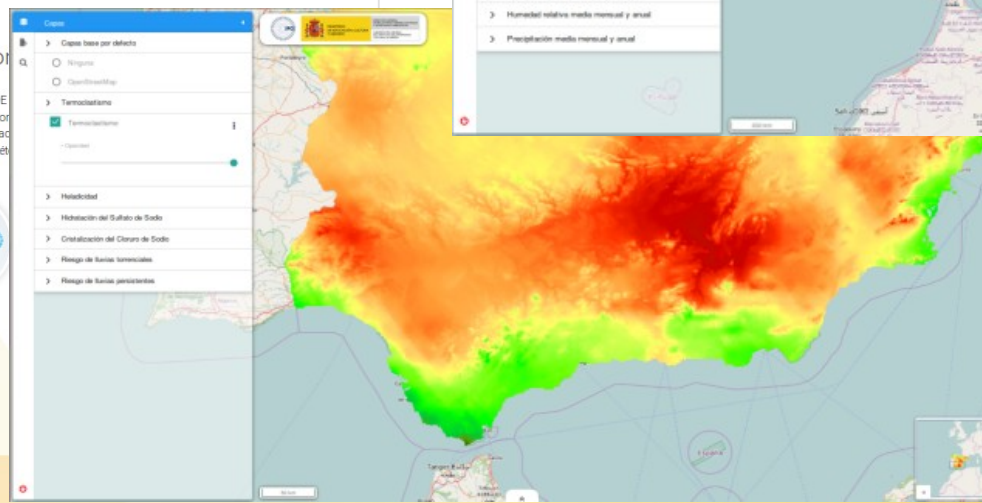
Bienvenido a la IDE del Instituto del Patrimonio

La Infraestructura de datos espaciales del Instituto del Patrimonio Cultural de España (IDE) que permite gestionar la información espacial disponible para mejorar la cooperación y conservación de los bienes que conforman el Patrimonio Cultural. Esta IDE permite almacenar, gestionar y compartir datos espaciales documentados además de ser un medio sencillo para su búsqueda, visualización y gestión.



Visor público

Visualizar el territorio, ortofotos y cartografía temática. Accede al visor público



Spain



## gvSIG Events

- **3<sup>rd</sup> gvSIG Festival:**  
March 21<sup>st</sup> and 22<sup>nd</sup> 2018  
*Virtual conference*  
<http://www.gvsig.com/festival>



- **14<sup>th</sup> International gvSIG Conference:**  
October 24<sup>th</sup> to 26<sup>th</sup> 2018  
*Valencia (Spain)*  
<http://jornadas.gvsig.org>

# Training

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- **Learning gvSIG in 30 minutes:**

<https://blog.gvsig.org/2017/05/23/learning-gvsig-in-30-minutes/>

- **Learning GIS for free:**

<https://blog.gvsig.org/2017/08/01/learn-gis-for-free-the-complete-course/>

- **GIS applied to Municipality Management:**

<https://blog.gvsig.org/?s=GIS+applied+to+Municipality+Management>

- **“Learning GIS with Game of Thrones” free book:**

<https://blog.gvsig.org/2017/07/12/learning-gis-with-game-of-thrones-free-book/>

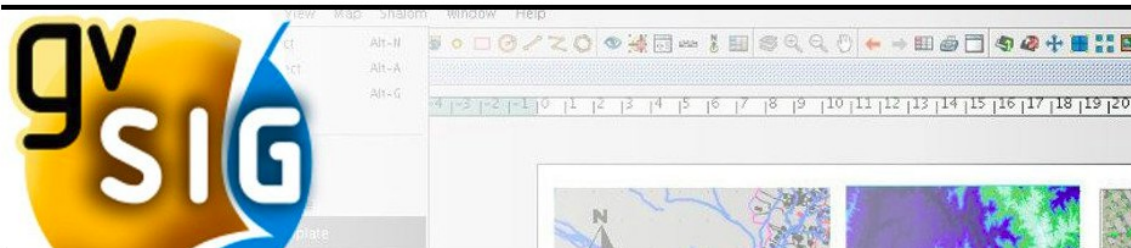
# Contact Details

<https://blog.gvsig.org>

gvSIG blog

gvSIG project blog

[blog.gvsig.org](https://blog.gvsig.org)



## Sentilo and gvSIG: Agreement

Posted on 06/02/2018 by Alvaro



We are pleased to announce that [Sentilo](#) and



gvSIG Blog visits: January 2018

Leaflet | Get your free counter with map

Datos de mapas ©2018 | Términos de uso



# Contact Details



Follow us on <https://www.facebook.com/gvSIG/>



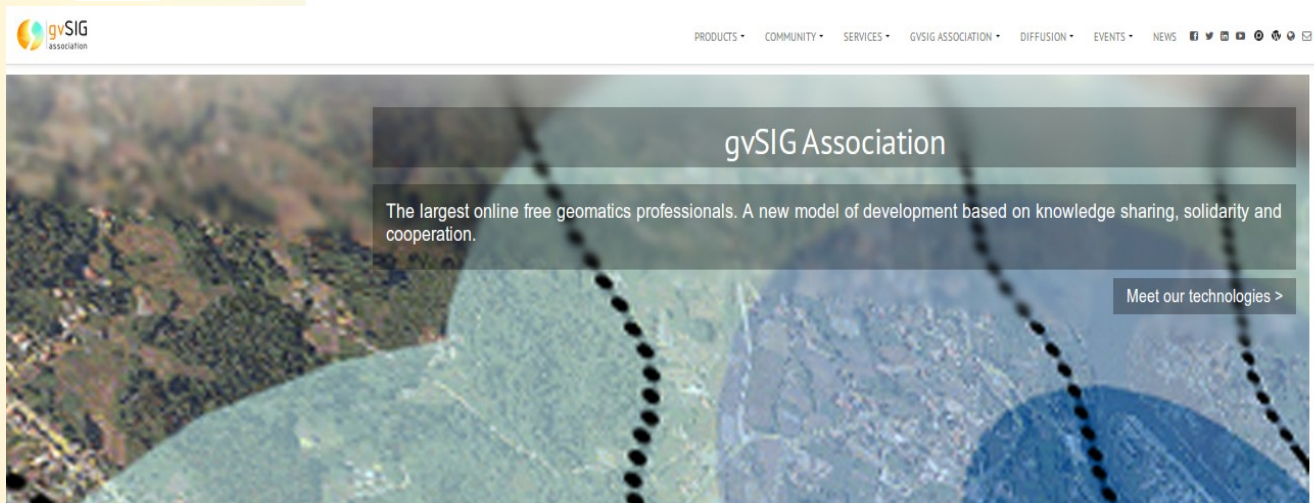
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Contact us at [info@gvsig.com](mailto:info@gvsig.com)



[www.gvsig.com](http://www.gvsig.com)