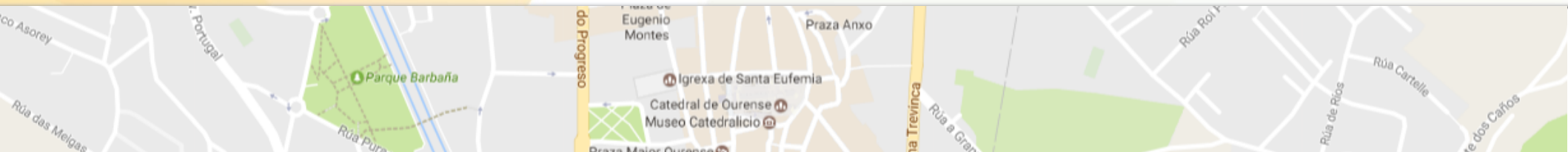




gvSIG Suite

Soluciones de geomática libre para movilidad,
Infraestructuras de Datos Espaciales y SIG
corporativo.

Asociación gvSIG
www.gvsig.com



gvSIG Mobile

Solución móvil para captura de datos espaciales



gvSIG Mobile ¿Qué es?

- **App móvil** para captura de datos sobre el terreno
- **Disponible en tu bolsillo** para cuando sea necesaria
- **Generar información geográfica** para luego ser cargada o editada.
- **Consulta** de datos en campo: raster, vector, spatialite..
- Soporte para Mapsforge, Mbtiles, WMS..
- Capacidad de **captura de geometrías, imágenes o comentarios** georeferenciados
- **Integrada** con el resto de herramientas de la gvSIG Suite



gvSIG Mobile ¿Por qué?

- Necesidad de captura o consulta de datos sobre el terreno
- Open Source como el resto de la Suite
- App gratuita y disponible para descarga desde Google Play
- Movilidad

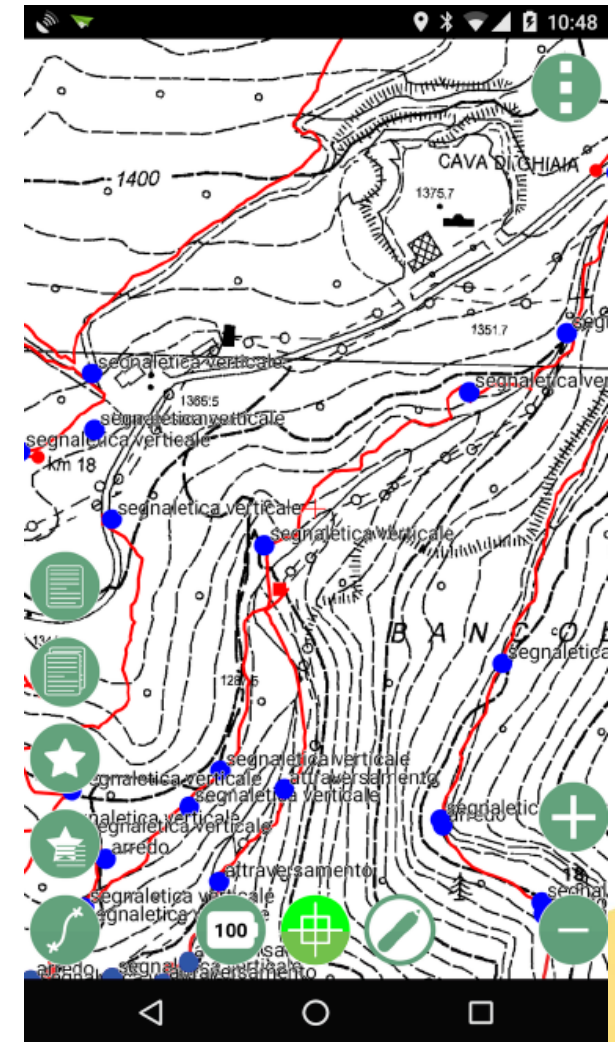
HydroloGIS
Environmental Engineering





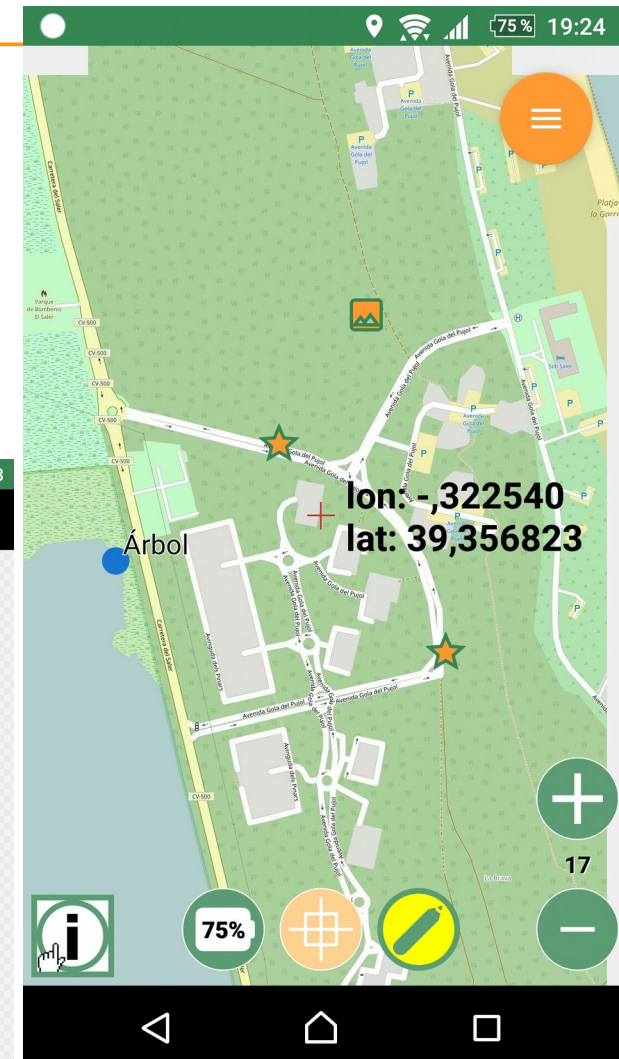
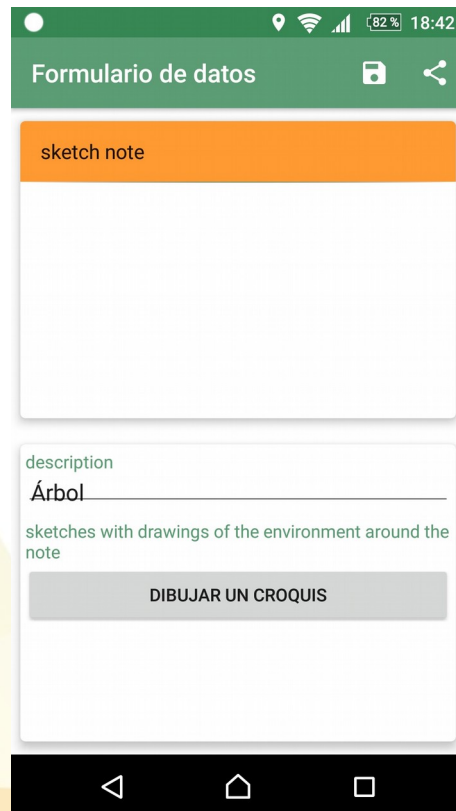
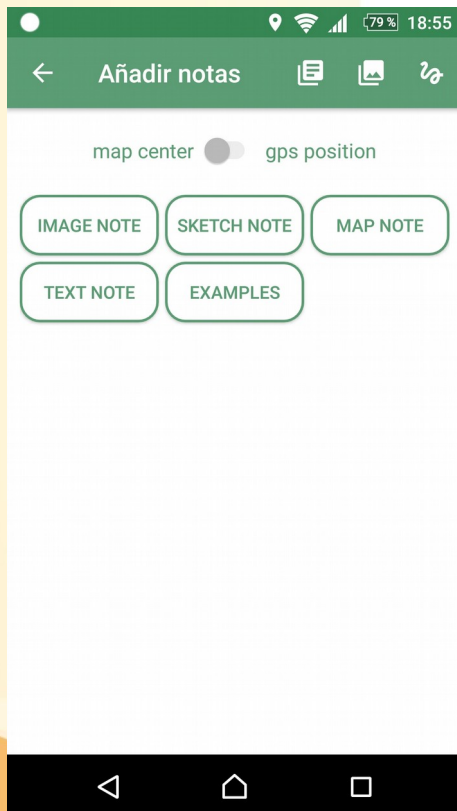
gvSIG Mobile Aspecto

- Móviles
- Tabletas



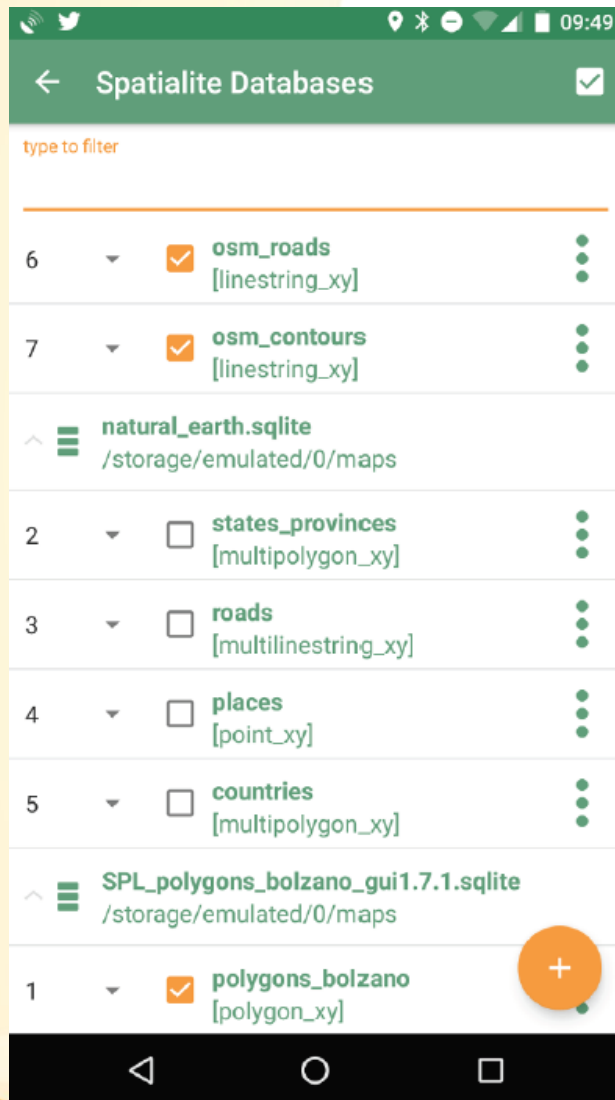
gvSIG Mobile Añadir notas

- Múltiples entradas de datos
- Capacidad de creación de formularios
- Todo quedará georeferenciado

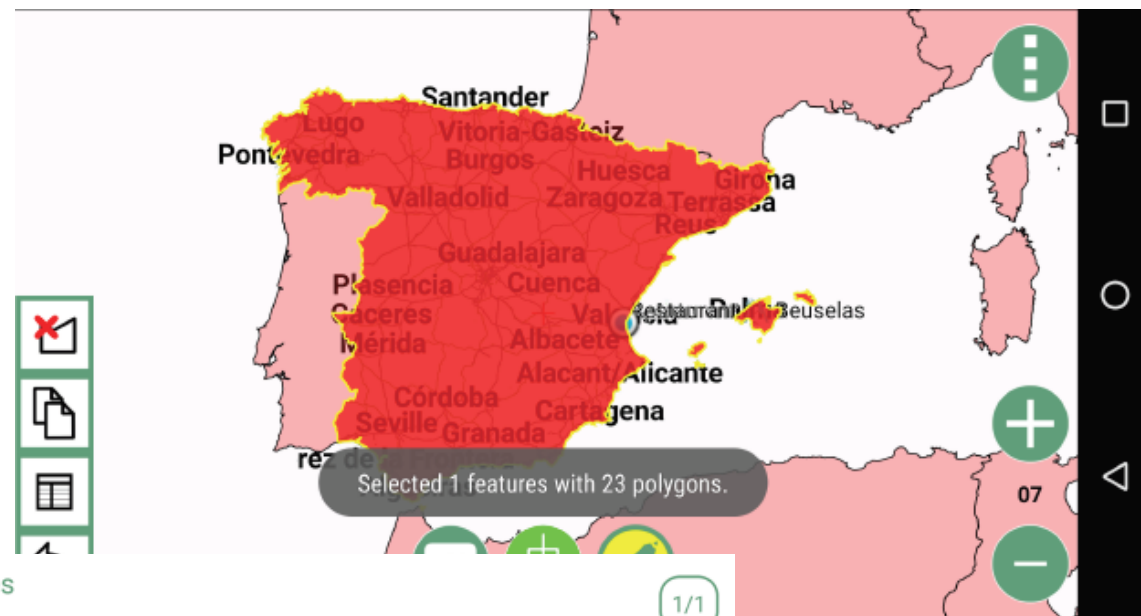




gvSIG Mobile Edición básica



- Edición de capas spatialite



countries 1/1

natural_earth

Sovereign country

ADMIN

Spain

ADM0_A3

ESP

GEOU_DIF

0.0

save go to Cancel

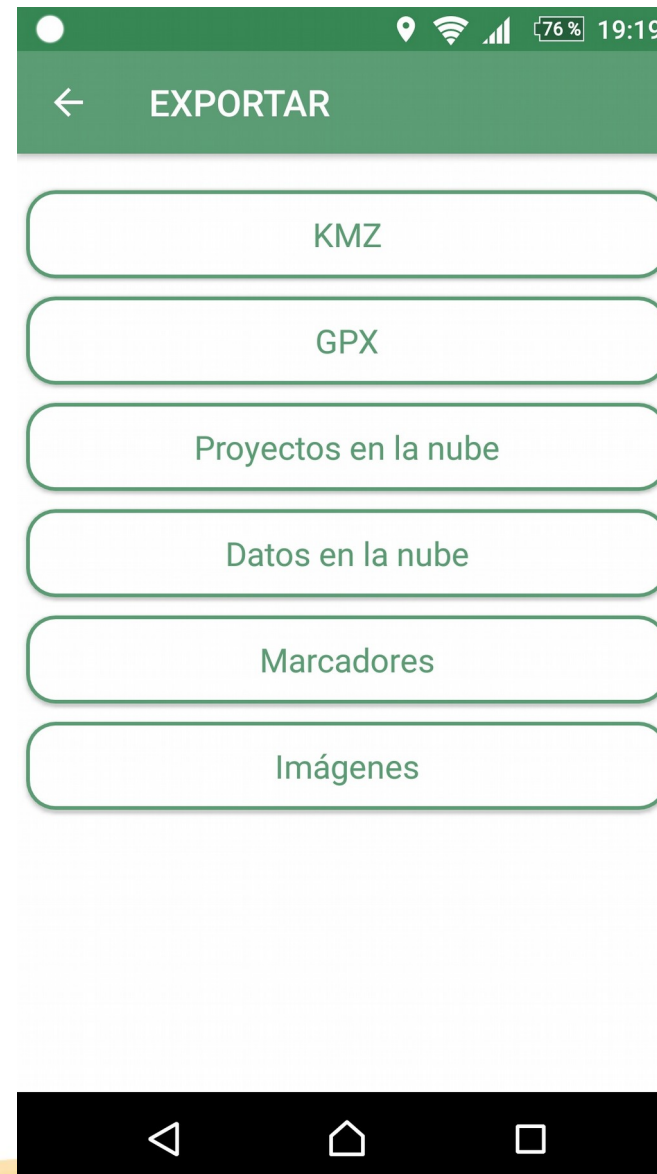


gvSIG Mobile Capas base





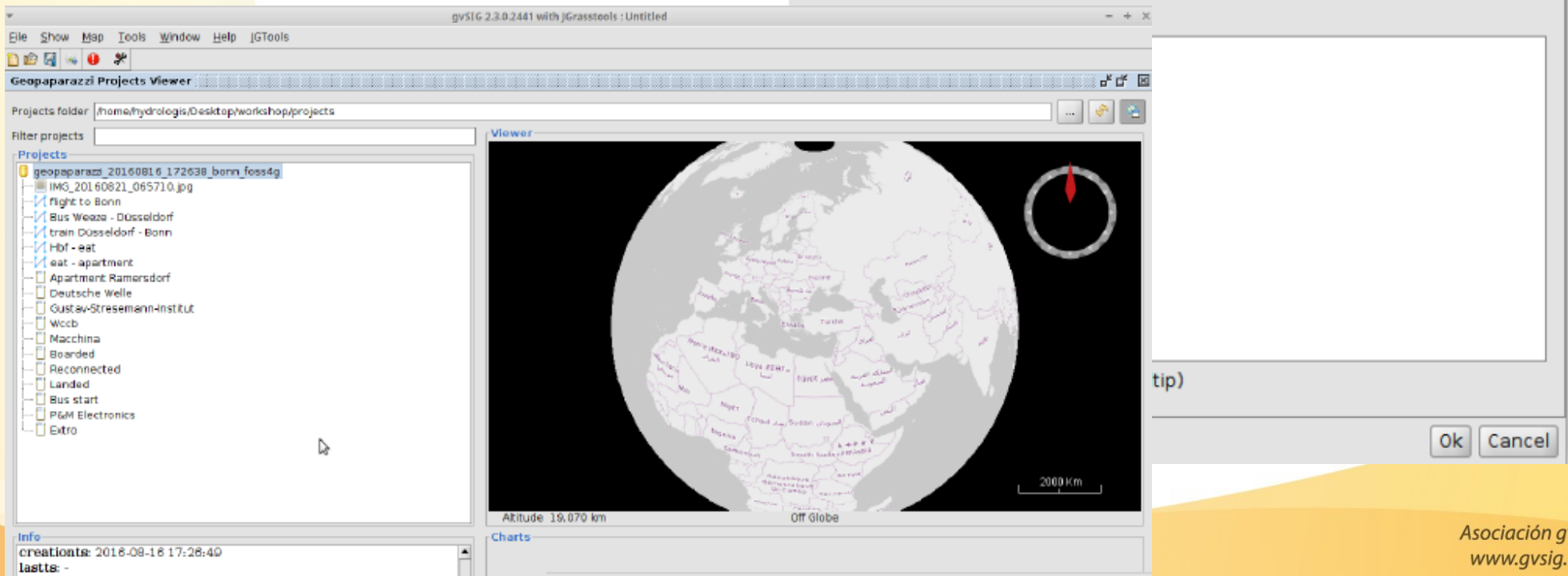
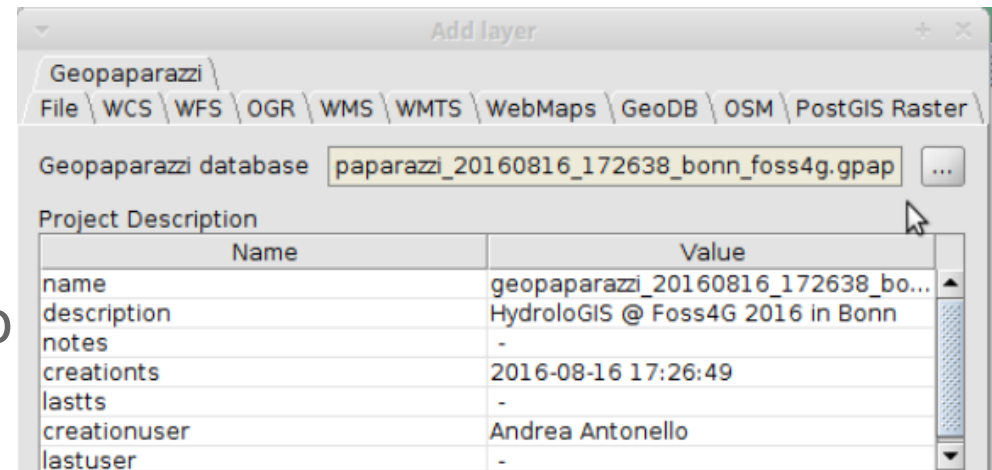
gvSIG Mobile Import. y Export.





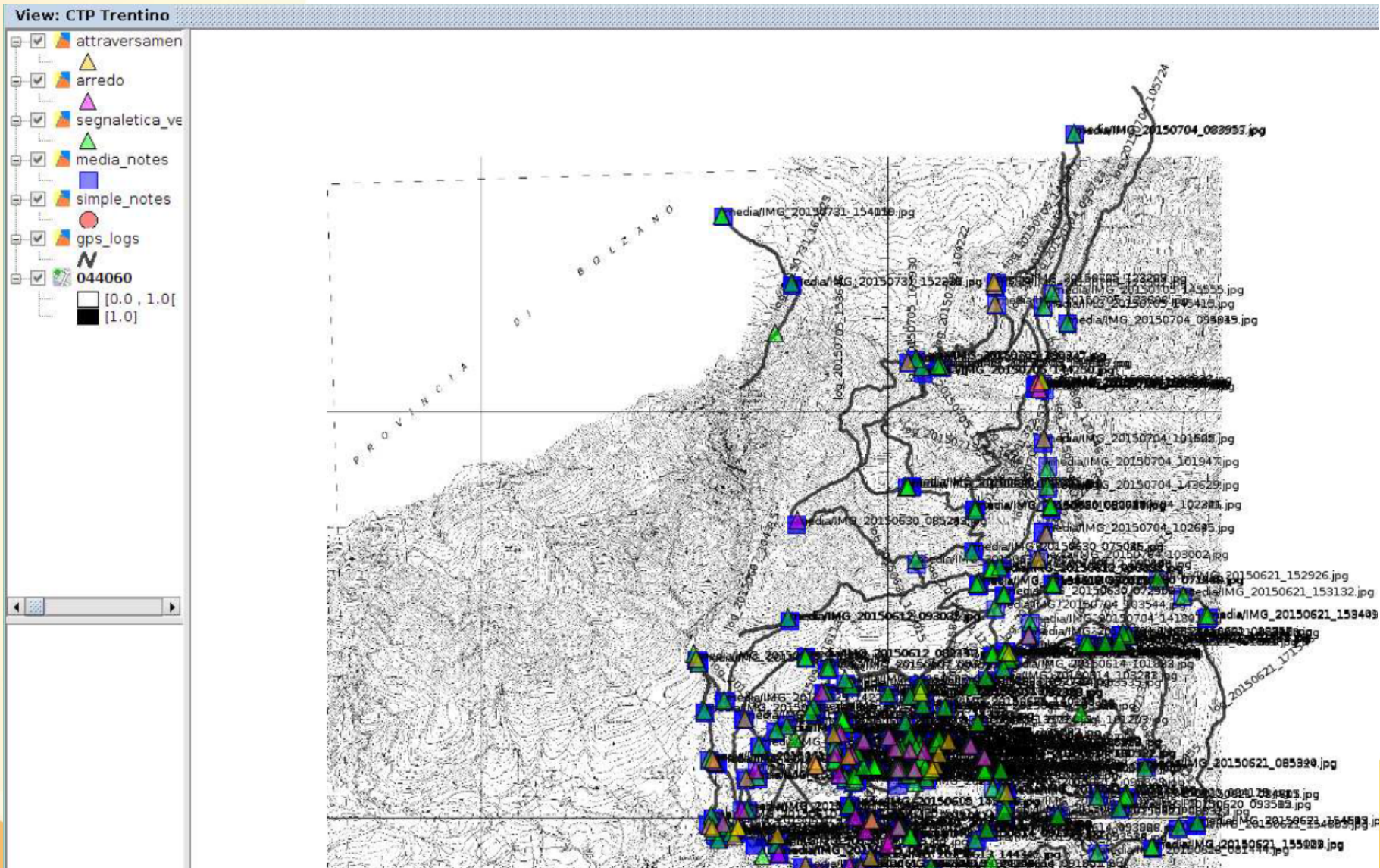
gvSIG Mobile Integración

- con **gvSIG Desktop**
 - Importar
 - Visualizador de proyecto
 - Mbtiles..





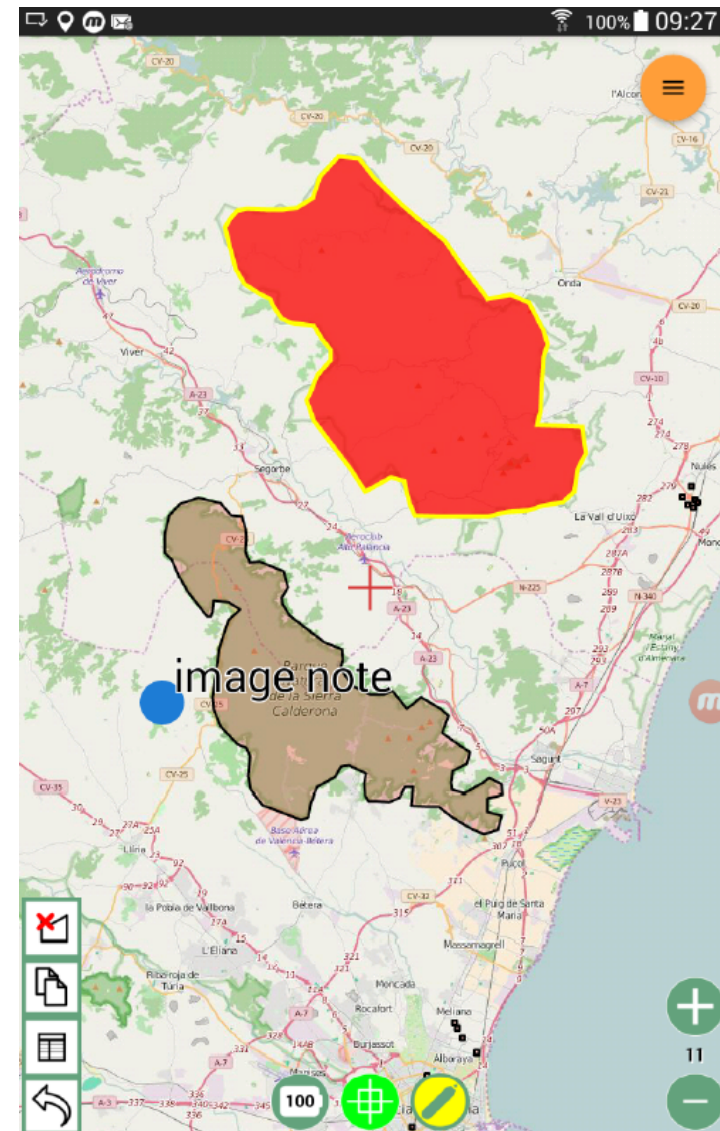
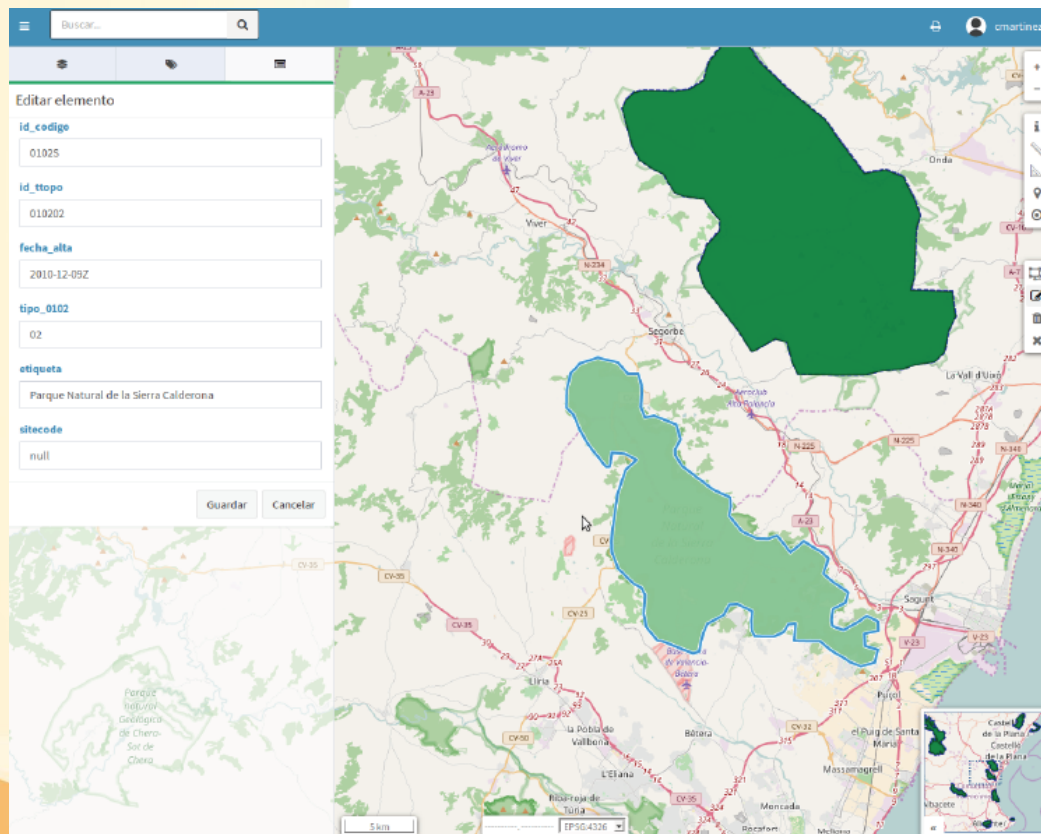
gvSIG Mobile Integración





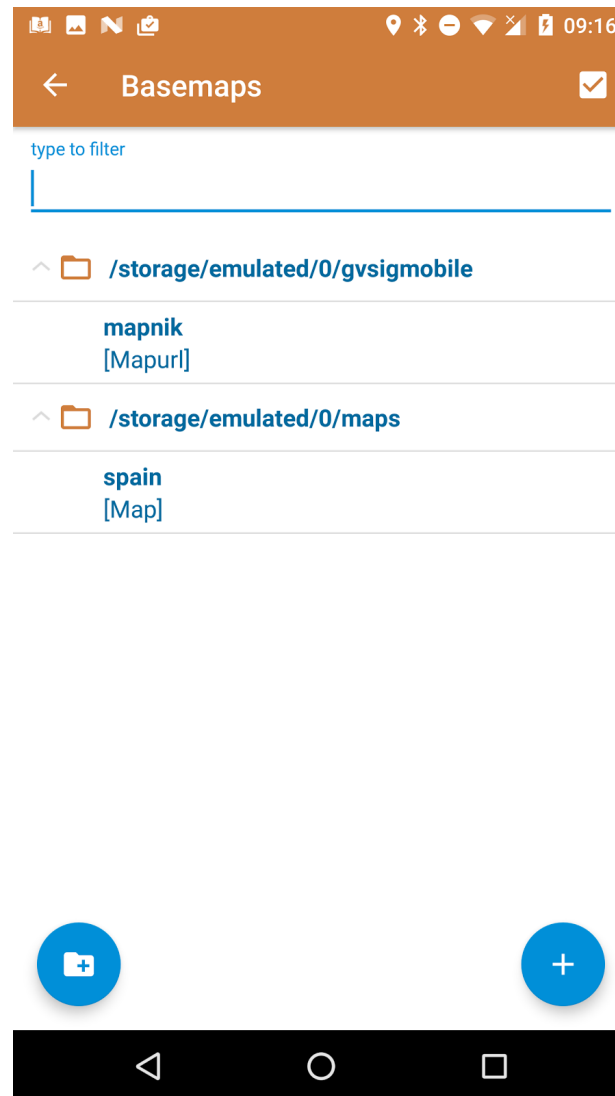
gvSIG Mobile Integración

- con **gvSIG Online**
 - para carga y descarga





gvSIG Mobile Final



gvSIG Desktop - Desarrollo

Aumentando la potencia de gvSIG

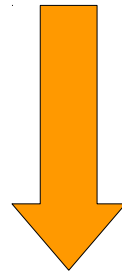
gvSIG Desarrollo ¿Para qué?

Ampliar las funcionalidades de gvSIG

¿Qué hacemos si necesitamos una
función que no existe todavía?

gvSIG Desarrollo ¿Cómo?

Entorno de Scripting

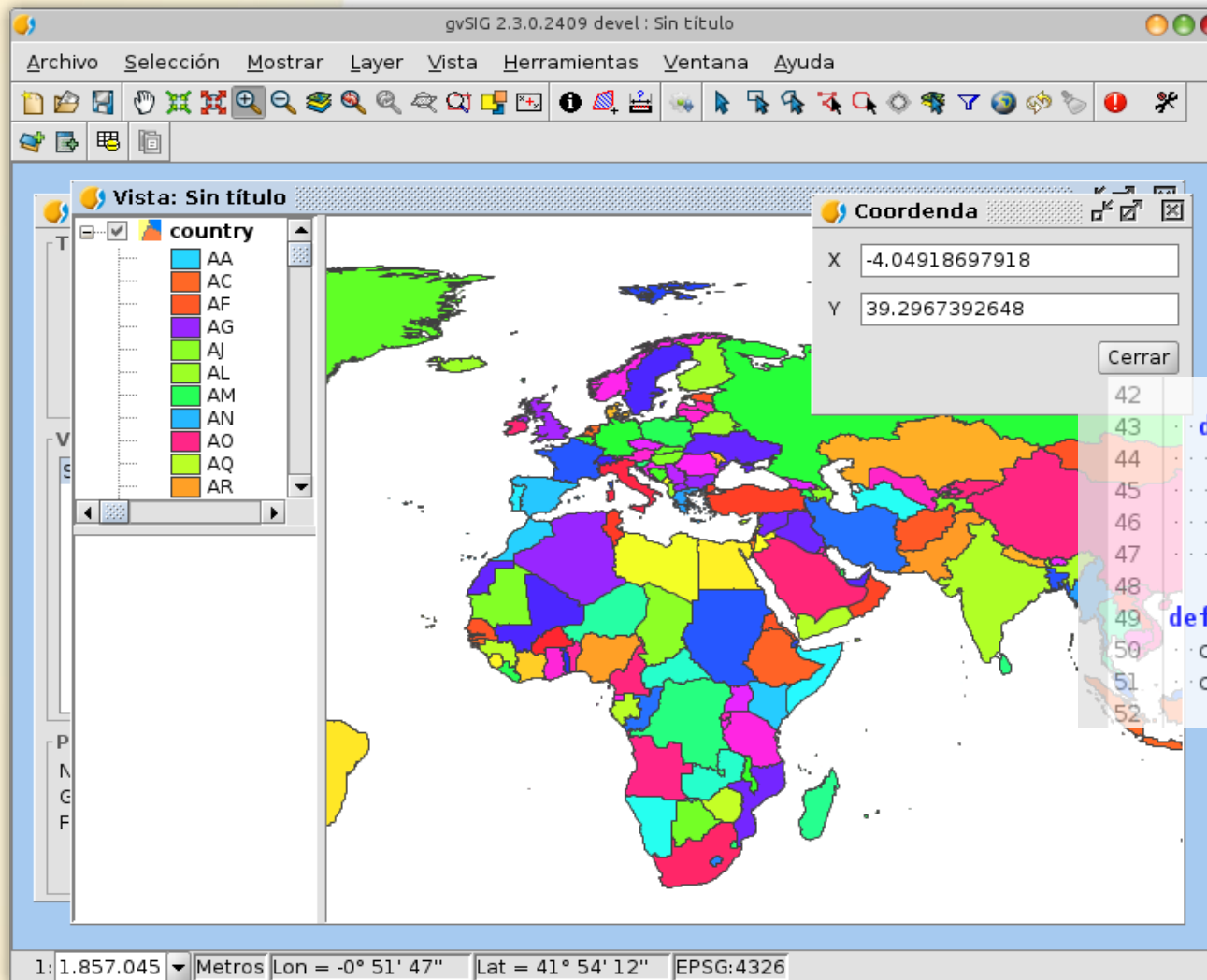


Herramienta
para crear

nuevas herramientas

gvSIG Desarrollo Casos

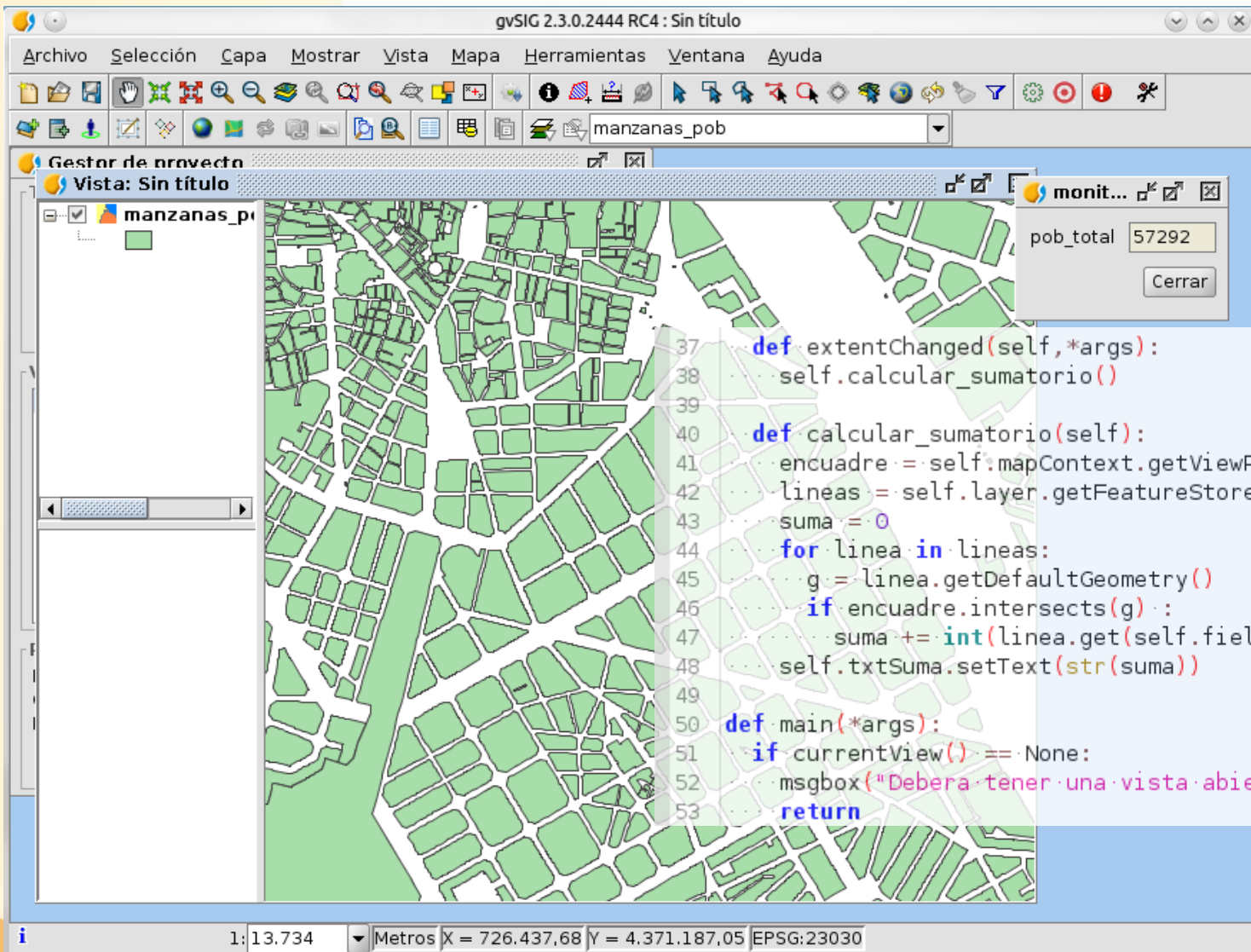
Consultar coordenadas



```
42
43 def pointDoubleClick(self, event):
44     """Evento de PointListener"""
45     p = event.getMapPoint()
46     self.txtX.setText(str(p.getX()))
47     self.txtY.setText(str(p.getY()))
48
49 def main(*args):
50     coordenadas = Coordenadas(currentView())
51     coordenadas.showTool("Coordenda")
52
```

gvSIG Desarrollo Casos

Monitorizar datos



The screenshot shows the gvSIG 2.3.0.2444 RC4 interface. The main window displays a map of a city grid. A Python script is overlaid on the map, showing the following code:

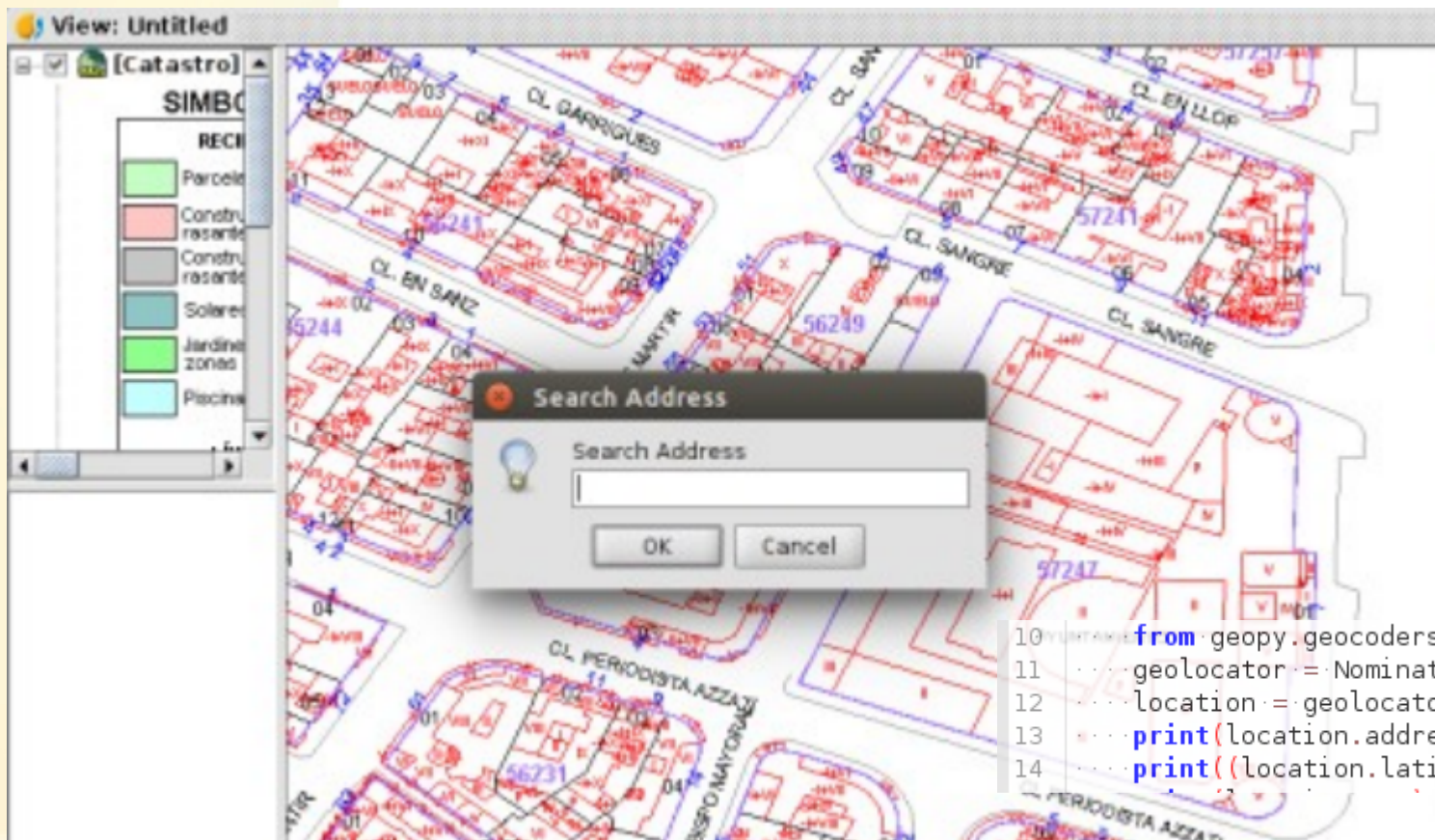
```
37 def extentChanged(self, *args):
38     self.calcular_sumatorio()
39
40 def calcular_sumatorio(self):
41     encuadre = self.mapContext.getViewPort().getEnvelope().getGeometry()
42     lineas = self.layer.getFeatureStore().getFeatureSet().iterator()
43     suma = 0
44     for linea in lineas:
45         g = linea.getDefaultGeometry()
46         if encuadre.intersects(g):
47             suma += int(linea.get(self.fieldname))
48     self.txtSuma.setText(str(suma))
49
50 def main(*args):
51     if currentView() == None:
52         msgbox("Debera tener una vista abierta y activa")
53     return
```

A dialog box titled "monit..." is open, showing a text field with the value "pob_total 57292" and a "Cerrar" button.

The status bar at the bottom shows: 1: 13.734 | Metros | X = 726.437,68 | Y = 4.371.187,05 | EPSG:23030

gvSIG Desarrollo Casos

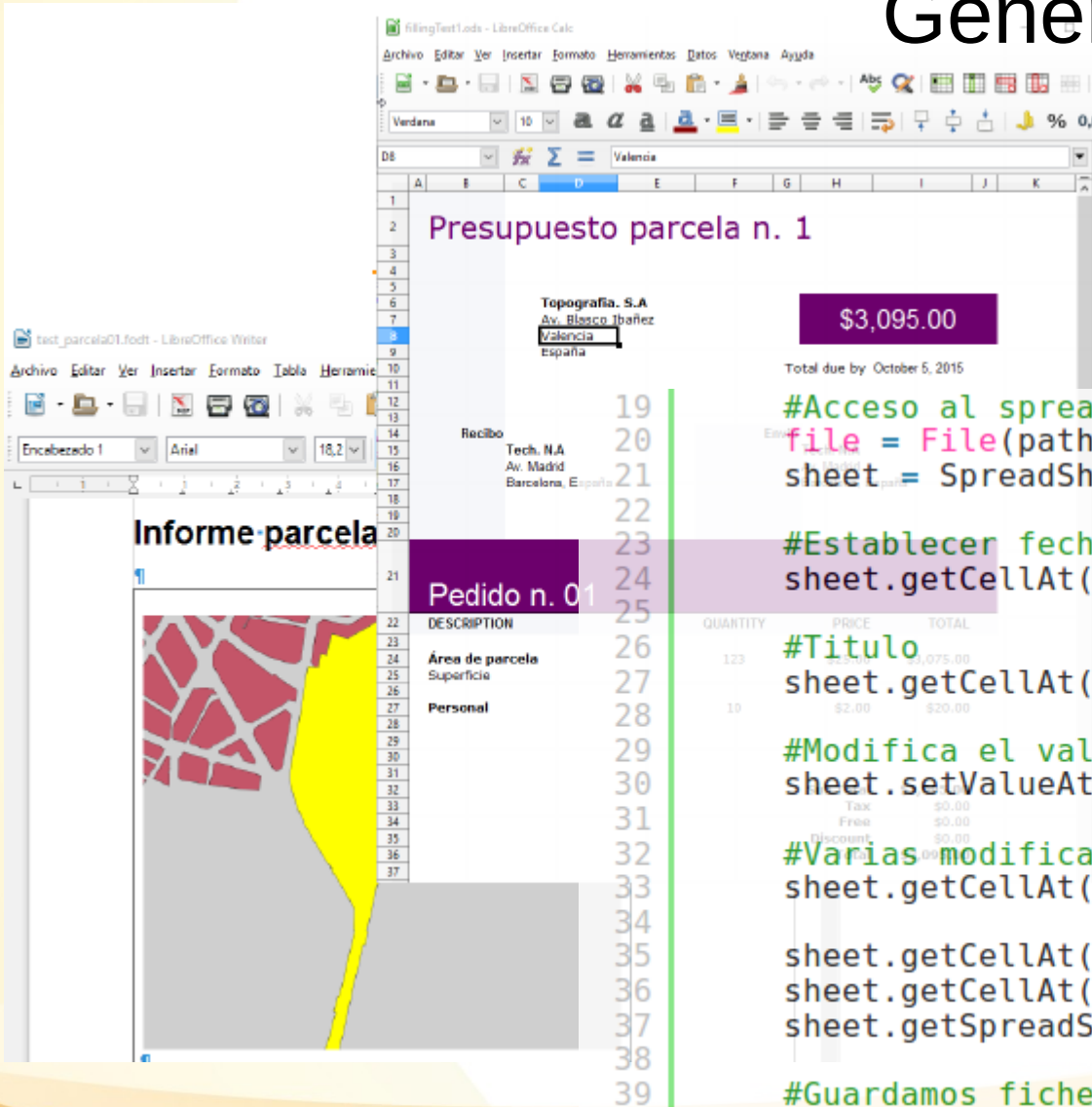
Usar servicios web
especializados
geopy



```
10 from geopy.geocoders import Nominatim
11 ... geolocator = Nominatim()
12 ... location = geolocator.geocode("175 5th Avenue NYC")
13 ... print(location.address)
14 ... print((location.latitude, location.longitude))
```

gvSIG Desarrollo Casos

Generación de informes Personalizados jOpenDocument



The screenshot shows a development environment with two windows. The top window is a spreadsheet titled 'Presupuesto parcela n. 1' with columns A-K and rows 1-39. The bottom window is a report template titled 'Informe parcela' with a map showing a parcel highlighted in yellow. The report template contains text like 'Pedido n. 01', 'Área de parcela Superficie', and 'Personal'. A code editor on the right side of the spreadsheet window contains the following code:

```
#Acceso al spreadsheet y numero de hoja
file = File(pathTemplate)
sheet = SpreadSheet.createFromFile(file).getSheet(0)

#Establecer fecha actual a la castilla I10
sheet.getCellAt("I10").setValue(Date())

#Titulo
sheet.getCellAt("B21").setValue("Pedido n. 01")

#Modifica el valor a la celda 1,1. Seria B2
sheet.setValueAt("Presupuesto parcela n. 1", 1, 1)

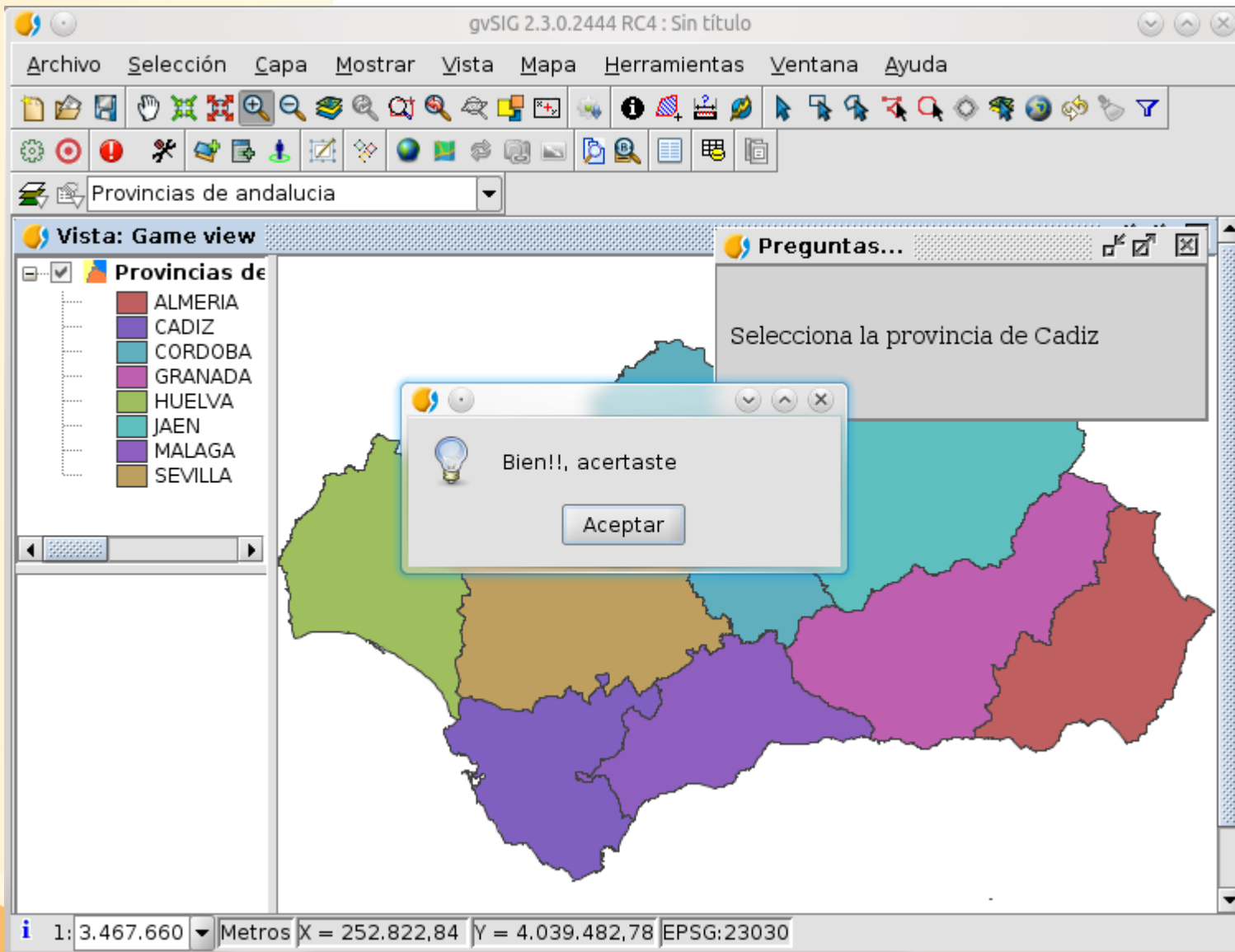
#Varias modificaciones a las celdas
sheet.getCellAt("F24").setValue(123)

sheet.getCellAt("B27").setValue("Personal")
sheet.getCellAt("H27").setValue(2)
sheet.getSpreadSheet().getTableModel("Products").setVa

#Guardamos fichero
```

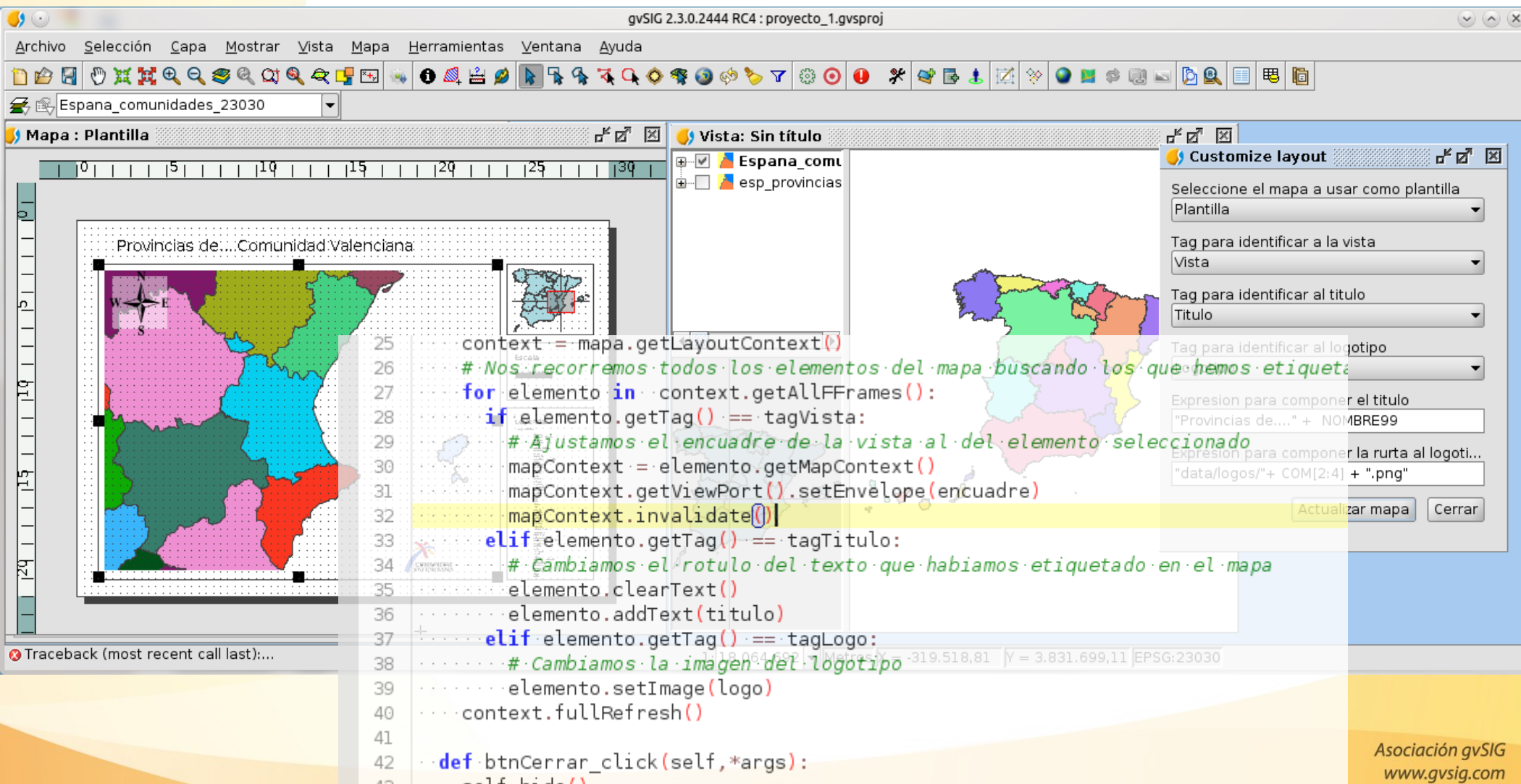

gvSIG Desarrollo Casos

Juegos didácticos



gvSIG Desarrollo Casos

Personalizar mapas



The screenshot shows the gvSIG 2.3.0.2444 RC4 interface. The main window displays a map of Spain with a custom layout applied. The layout includes a title, a logo, and a map frame. The code editor shows the following Python code:

```

25 context = mapa.getLayoutContext()
26 # Nos recorremos todos los elementos del mapa buscando los que hemos etiquetado
27 for elemento in context.getAllFFrames():
28     if elemento.getTag() == tagVista:
29         # Ajustamos el encuadre de la vista al del elemento seleccionado
30         mapContext = elemento.getMapContext()
31         mapContext.getViewPort().setEnvelope(encuadre)
32         mapContext.invalidate()
33     elif elemento.getTag() == tagTitulo:
34         # Cambiamos el rotulo del texto que habiamos etiquetado en el mapa
35         elemento.clearText()
36         elemento.addText(titulo)
37     elif elemento.getTag() == tagLogotipo:
38         # Cambiamos la imagen del logotipo
39         elemento.setImage(logotipo)
40     context.fullRefresh()
41
42 def btnCerrar_click(self, *args):
43     self.hide()

```

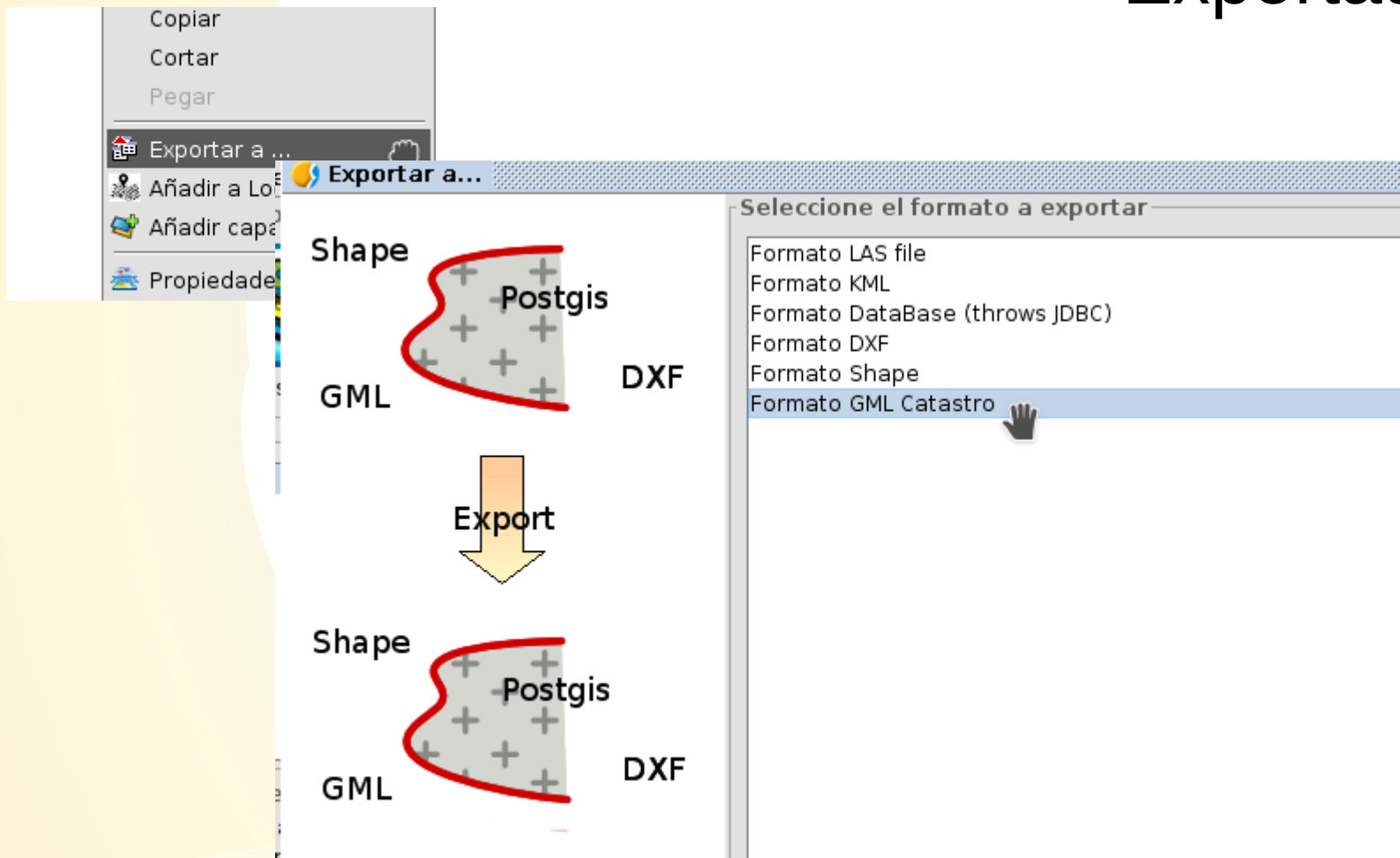
The custom layout dialog shows the following settings:

- Seleccione el mapa a usar como plantilla: Plantilla
- Tag para identificar a la vista: Vista
- Tag para identificar al titulo: Titulo
- Tag para identificar al logotipo: (empty)
- Expresion para componer el titulo: "Provincias de..." + NOMBRE99
- Expresion para componer la ruta al logotipo: "data/logos/" + COM[2:4] + ".png"

The map shows the provinces of the Valencian Community with a custom title and logo. The code editor shows the implementation of these customizations.

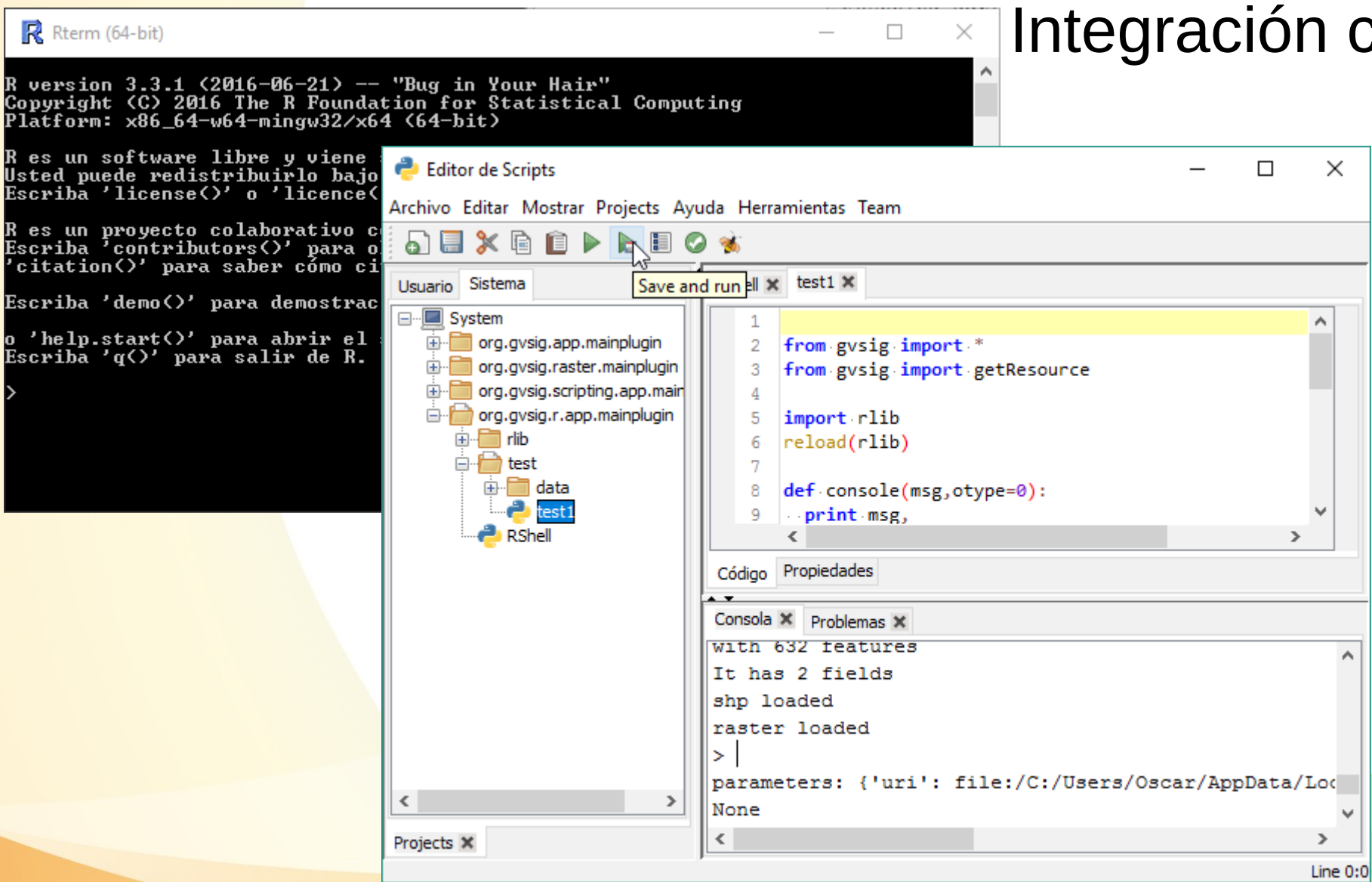
gvSIG Desarrollo Casos

Exportador GML



gvSIG Desarrollo Casos

Integración con R



The image shows two windows from the gvSIG development environment. On the left is the Rterm (64-bit) window, which displays the R version 3.3.1 (2016-06-21) and provides instructions in Spanish for using R within the application. On the right is the Editor de Scripts window, which contains a Python script for integrating R with gvSIG. The script imports gvSIG modules and the rlib library, reloads the library, and defines a console function to print the output of R commands. The console window at the bottom shows the output of the script, including the number of features and fields of a loaded shapefile, and the parameters of the loaded raster.

```
R version 3.3.1 (2016-06-21) -- "Bug in Your Hair"
Copyright (C) 2016 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

R es un software libre y viene
Usted puede redistribuirlo bajo
Escriba 'license()' o 'licence()'

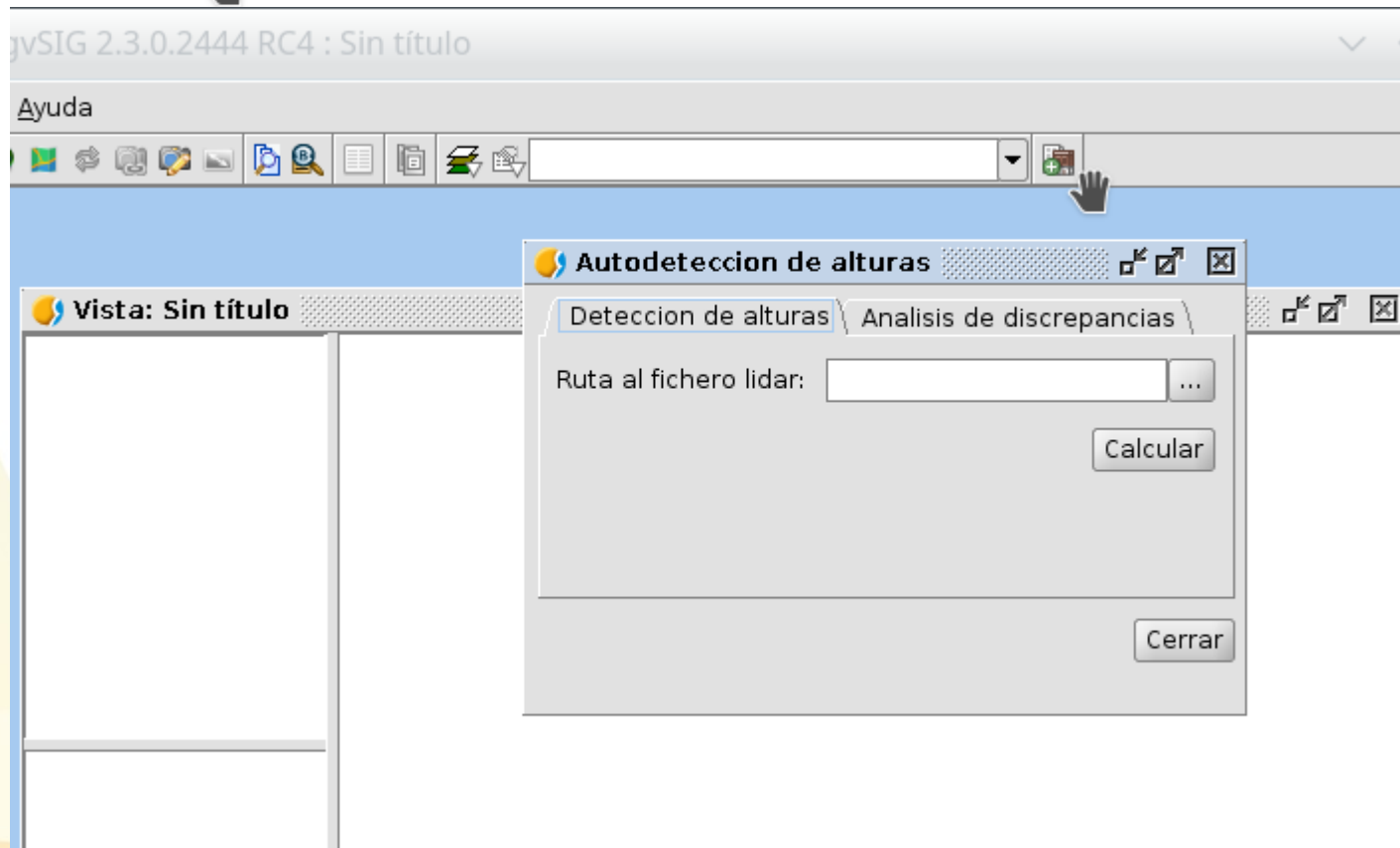
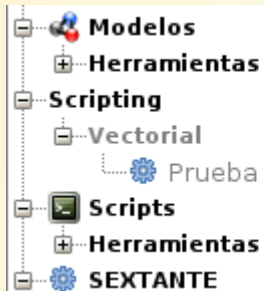
R es un proyecto colaborativo c
Escriba 'contributors()' para o
'citation()' para saber cómo ci
Escriba 'demo()' para demostrac
o 'help.start()' para abrir el
Escriba 'q()' para salir de R.
>
```

```
1
2 from gvSIG import *
3 from gvSIG import getResource
4
5 import rlib
6 reload(rlib)
7
8 def console(msg, otype=0):
9     print msg,
```

```
with 632 features
It has 2 fields
shp loaded
raster loaded
> |
parameters: {'uri': file:///C:/Users/Oscar/AppData/Local/Temp/1234567890/1234567890.shp}
None
```

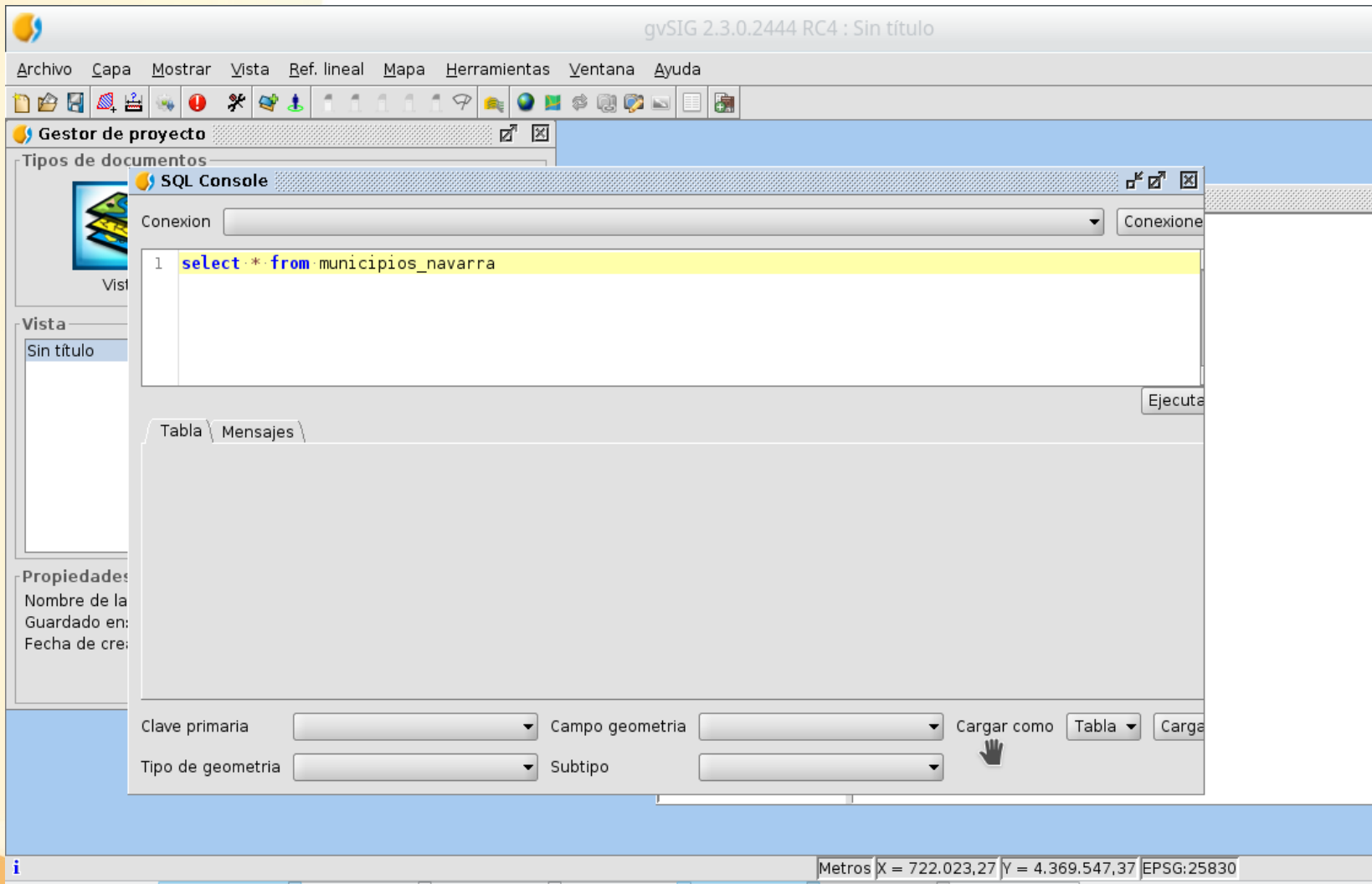
gvSIG Desarrollo Casos

Integración en caja de Herramientas y en botones



gvSIG Desarrollo Casos

Herramientas de bases de datos



The screenshot shows the SQL Console window in gvSIG 2.3.0.2444 RC4. The window title is "gvSIG 2.3.0.2444 RC4 : Sin título". The menu bar includes "Archivo", "Capa", "Mostrar", "Vista", "Ref. lineal", "Mapa", "Herramientas", "Ventana", and "Ayuda". The toolbar contains various icons for file operations and database management. The "Gestor de proyecto" panel is visible on the left. The SQL Console window has a "Conexion" dropdown menu and a "Conexione" button. The SQL query editor contains the following query:

```
1 select * from municipios_navarra
```

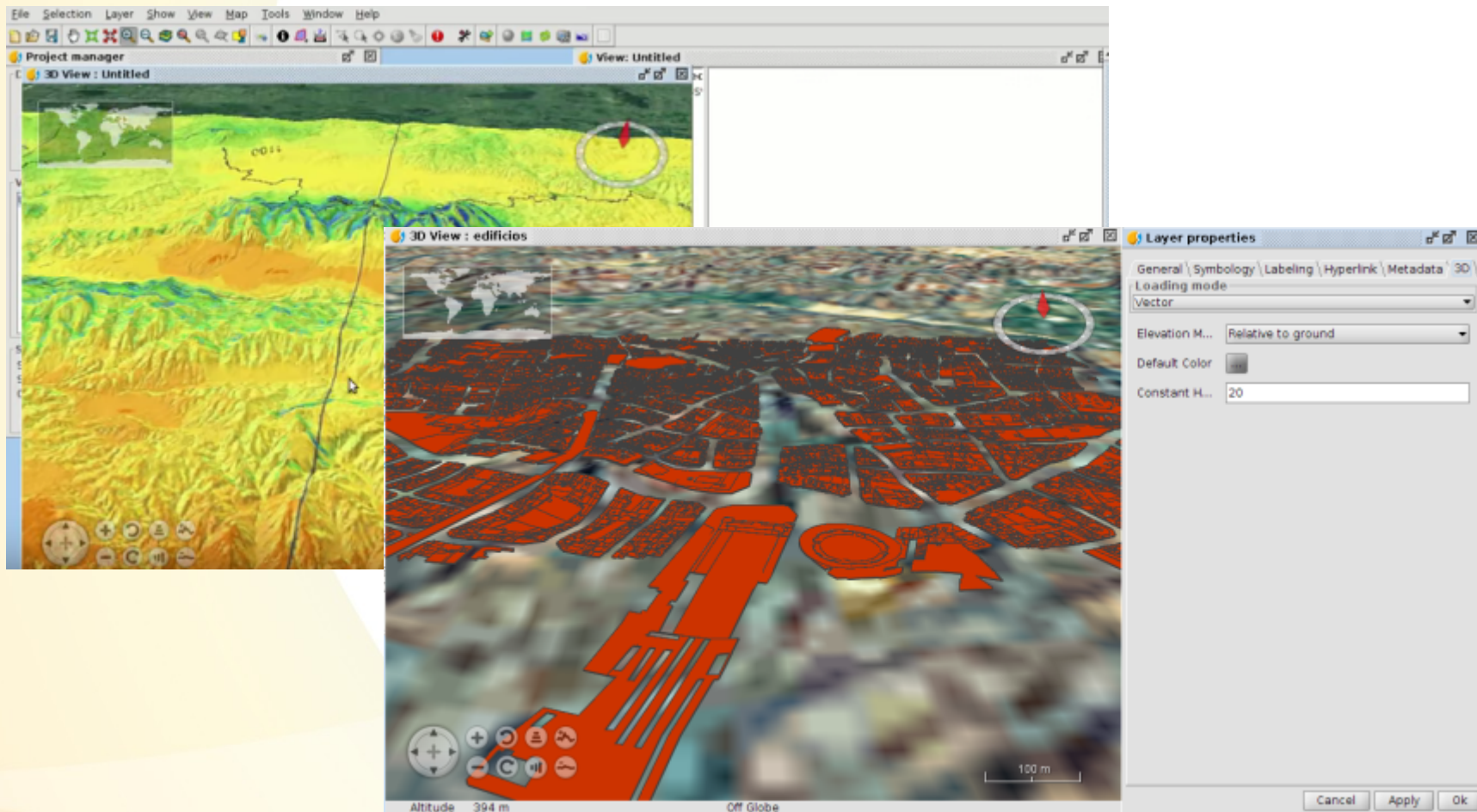
Below the query editor is an "Ejecuta" button. The results panel is currently empty, with tabs for "Tabla" and "Mensajes". At the bottom of the window, there are several configuration options:

- Clave primaria:
- Campo geometria:
- Cargar como:
- Tipo de geometria:
- Subtipo:

The status bar at the bottom of the window displays the following information: "Metros X = 722.023,27 Y = 4.369.547,37 EPSG:25830".

gvSIG Desarrollo Casos

Interacción con otras extensiones



gvSIG Desarrollo Características

Entorno de Scripting

- Integrado en gvSIG
- Lenguajes disponibles:
 - Jython
 - Groovy
 - Renjin/R
 - Scala..
- Opción de ampliar funcionalidad del entorno de desarrollo

Desarrollo en Java

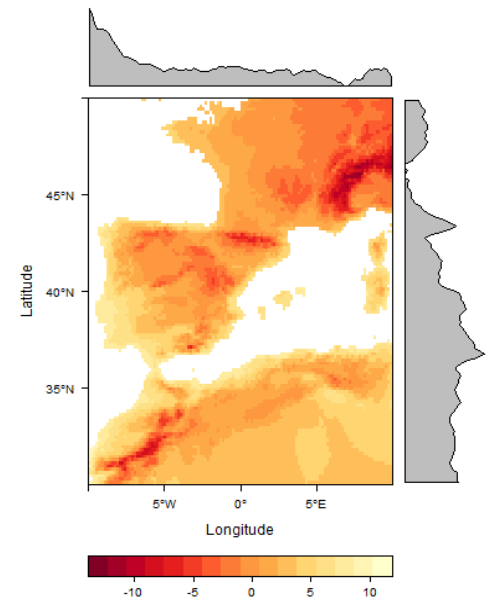
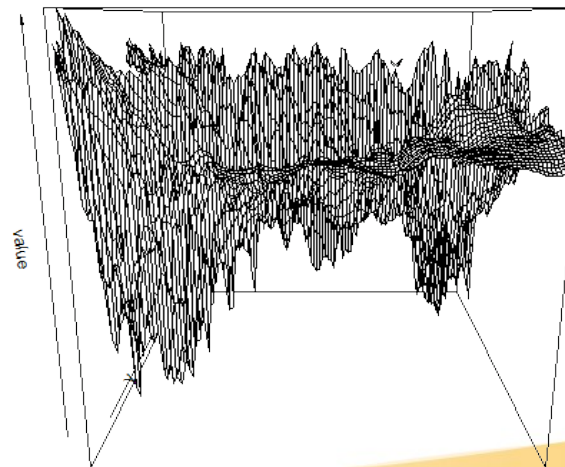
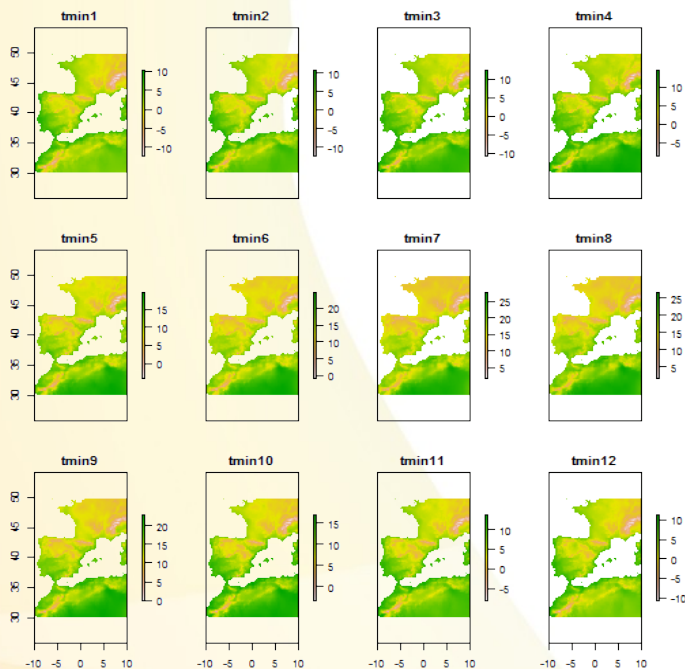
gvSIG Desarrollo Jython

- Rápido → Programar y ejecutar
- Potencia y versatilidad → Mezcla de librerías
- Sencillo de aprender
- Conjunto de librerías para facilitar el trabajo
- Total integración con gvSIG

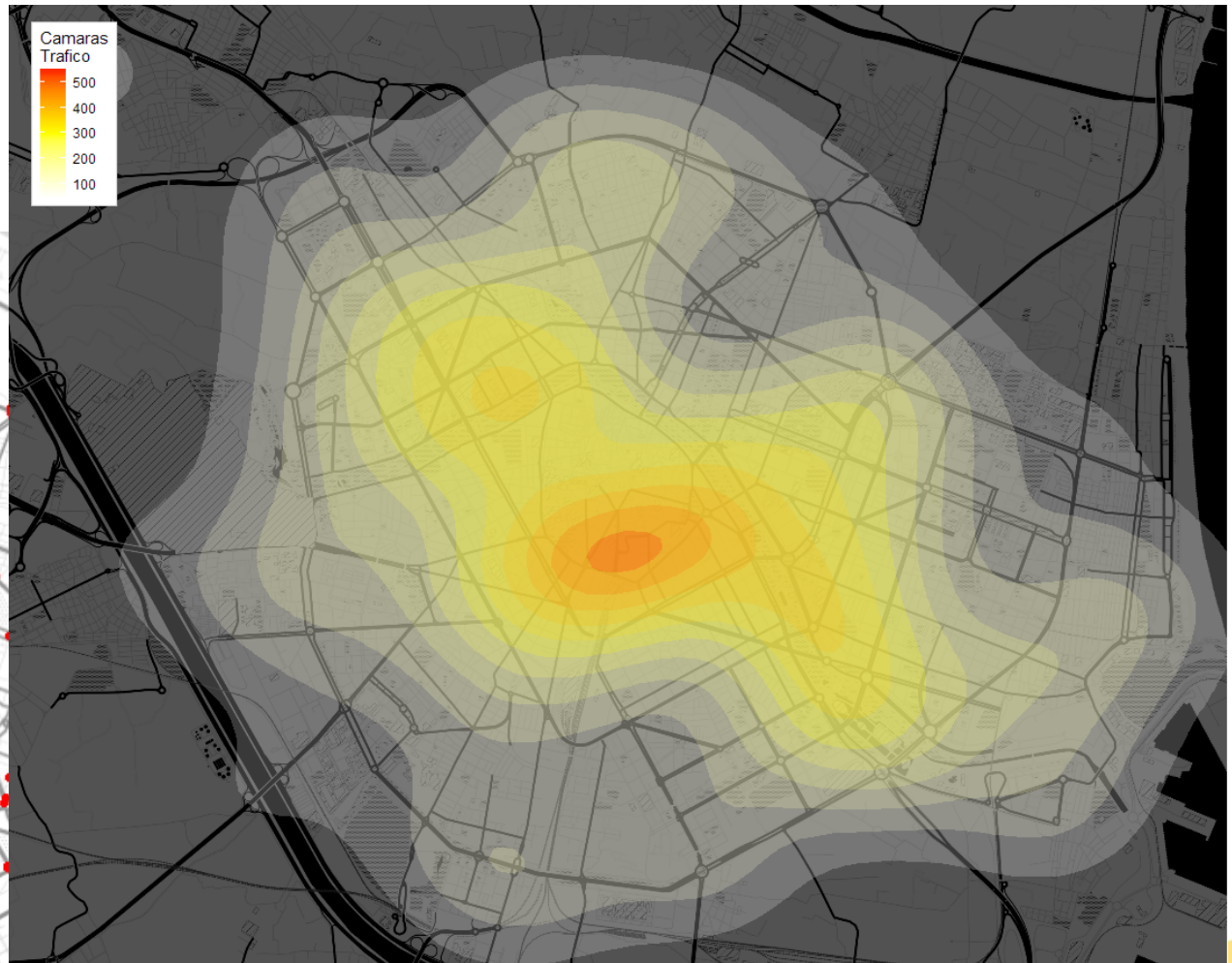
Python + Java = Jython

gvSIG Desarrollo R

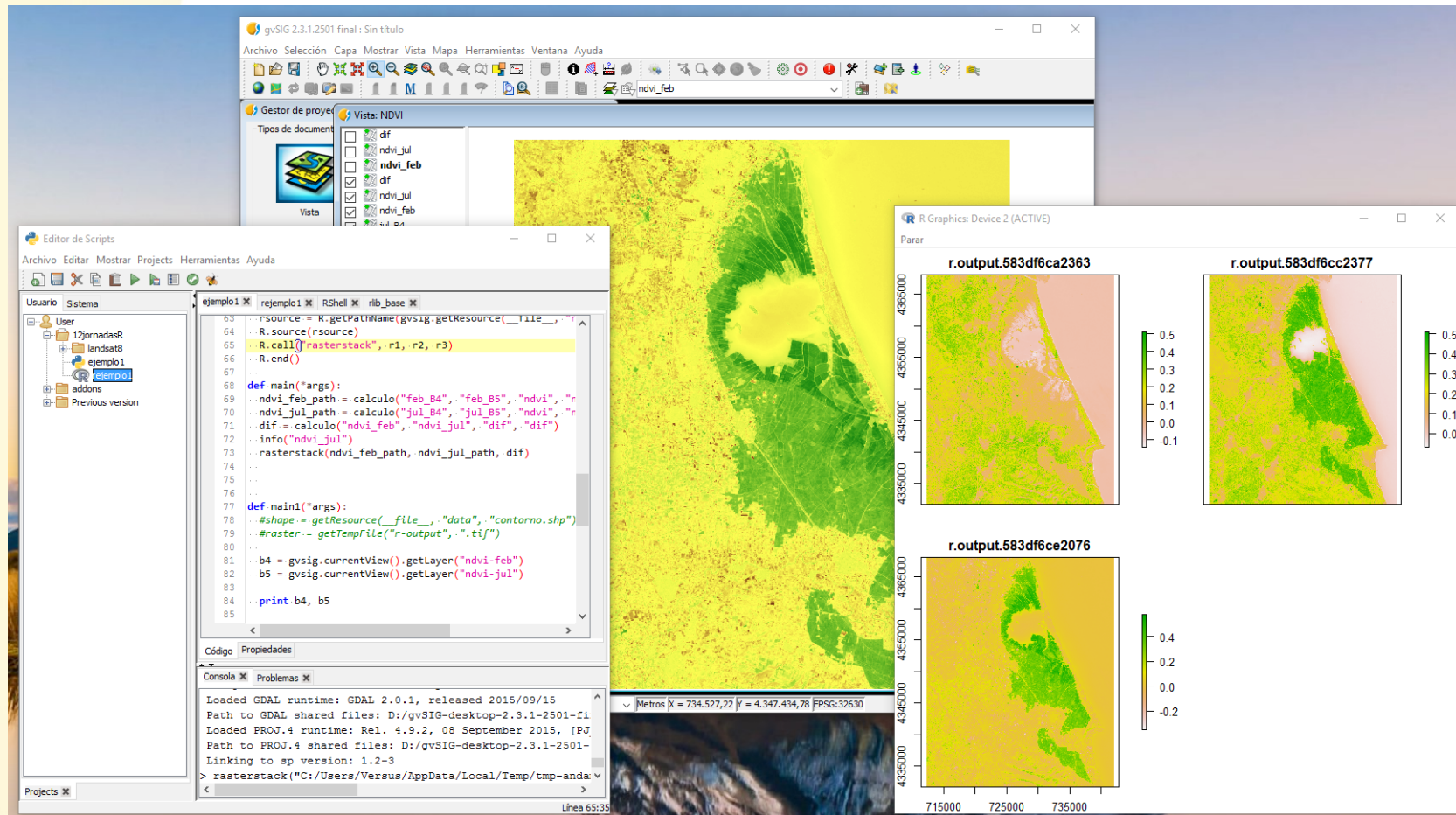
- Entorno y lenguaje orientado al análisis estadístico
- De muy amplio uso en todos los campos (geoestadística)
- Mucha documentación
- Diferentes implementaciones: Renjin, R interno, R externo



gvSIG Desarrollo R



gvSIG Desarrollo R



The screenshot displays the gvSIG 2.3.1.2501 interface with an R script editor and a console window. The script performs the following operations:

```

63 ..rsource = R.getPathName(gvsig.getResource(__file__, "rsource"))
64 ..R.source(rsource)
65 ..R.call("rasterstack", r1, r2, r3)
66 ..R.end()
67
68 def main("args"):
69 ..ndvi_feb_path = calculo("feb_B4", "feb_B5", "ndvi", "r")
70 ..ndvi_jul_path = calculo("jul_B4", "jul_B5", "ndvi", "r")
71 ..dif = calculo("ndvi_feb", "ndvi_jul", "dif", "dif")
72 ..info("ndvi_jul")
73 ..rasterstack(ndvi_feb_path, ndvi_jul_path, dif)
74 ..
75 ..
76 ..
77 def main1("args"):
78 ..#shape = getResource(__file__, "data", "contorno.shp")
79 ..#raster = getTempFile("r-output", ".tif")
80 ..
81 ..b4 = gvsig.currentView().getLayer("ndvi-feb")
82 ..b5 = gvsig.currentView().getLayer("ndvi-jul")
83 ..
84 ..print b4, b5
85

```

The console output shows the GDAL and PROJ.4 runtimes and the execution of the `rasterstack` command:

```

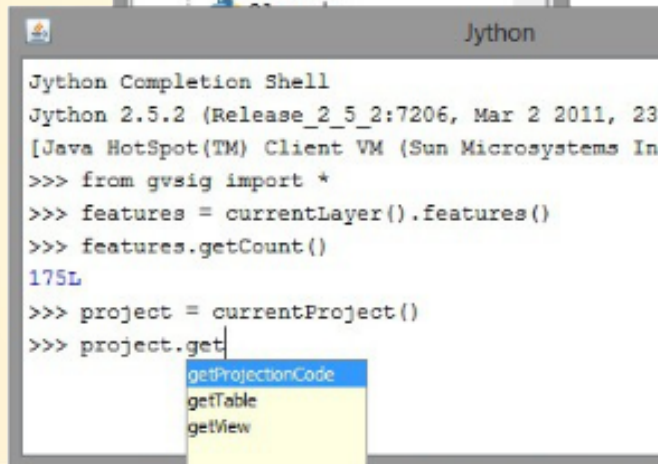
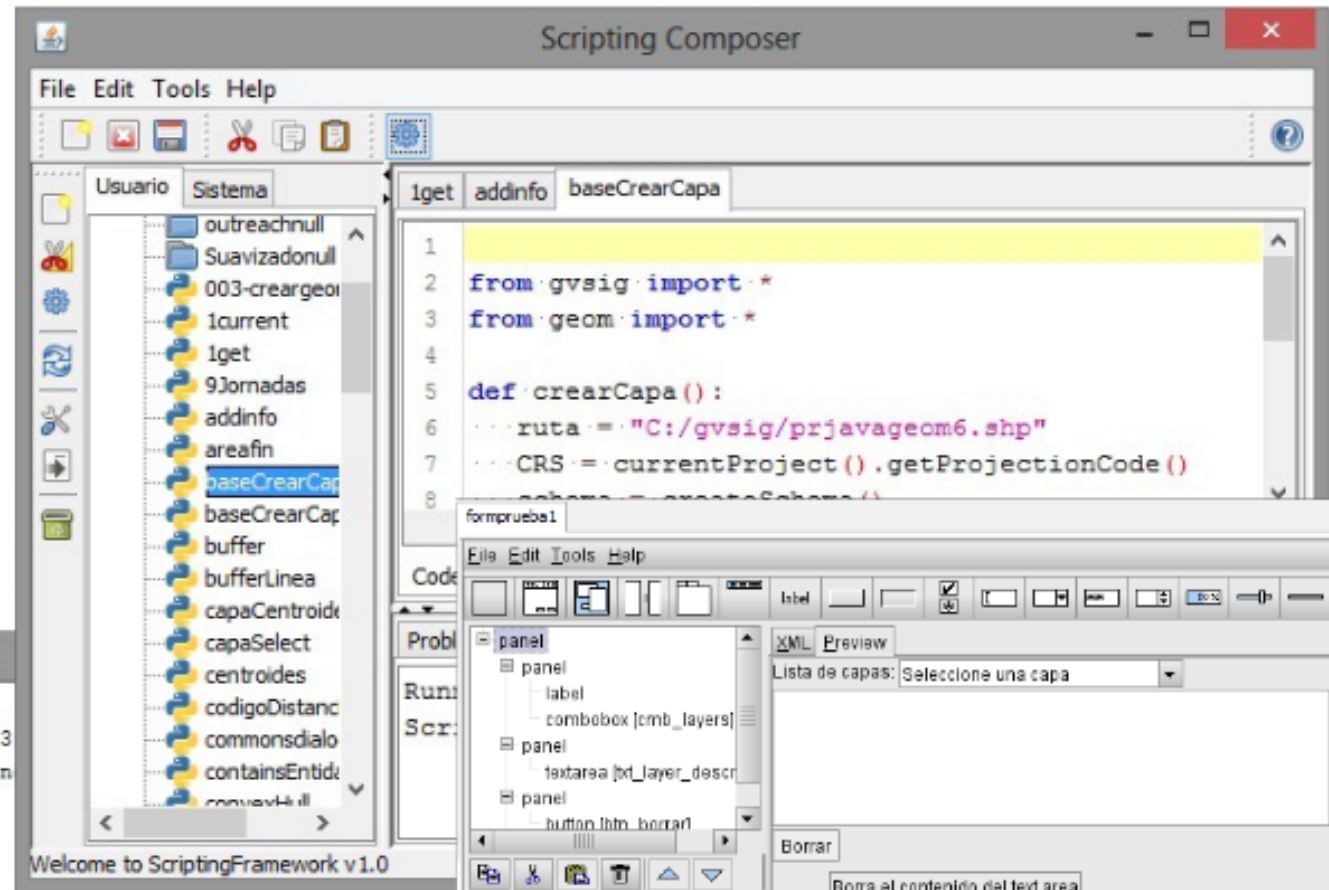
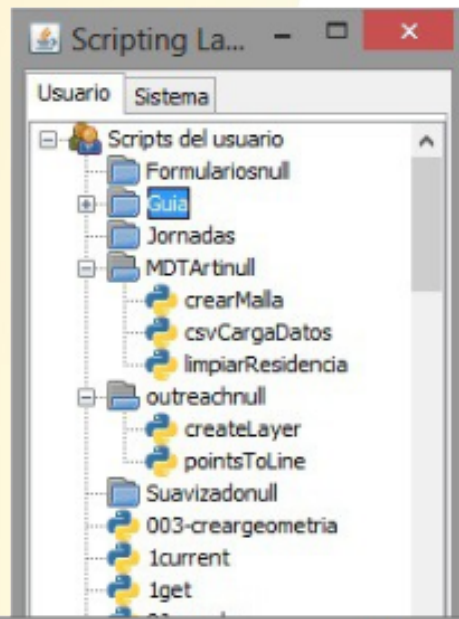
Loaded GDAL runtime: GDAL 2.0.1, released 2015/09/15
Path to GDAL shared files: D:/gvsig-desktop-2.3.1-2501-f1
Loaded PROJ.4 runtime: Rel. 4.9.2, 08 September 2015, [PJ]
Path to PROJ.4 shared files: D:/gvsig-desktop-2.3.1-2501-
Linking to sp version: 1.2-3
> rasterstack("C:/Users/Versus/AppData/Local/Temp/tmp-anda-

```

The main map window shows a large NDVI map. To the right, three smaller maps are displayed with legends:

- r.output.583df6ca2363**: Legend scale from -0.1 to 0.5.
- r.output.583df6cc2377**: Legend scale from 0.0 to 0.5.
- r.output.583df6ce2076**: Legend scale from -0.2 to 0.4.

gvSIG Desarrollo ¿dónde?



gvSIG Desarrollo IDE

Empaquetador de scripting

Descripción del paquete

Type: Script

Code: ScriptingComposerTools

Name: Scripts: Composer tools

Description: Code Navigator, parser, tree of editing module
- Search references in module, current folder a user selected folder
- list of running thread with interrupt functionality

Categories: Development

Version: 1.0.0-6

Build: 6

State: testing

Official:

Source code URL:

Package owner:

Package owner URL:

Operating System: all

Architecture: all

Java version: Java 1.8

gvSIG version: 2.3.0

Dependencies:

Code alias:

< Anterior

Abeille Forms Designer 2.1.0 M3

File Edit Column Row Form Look and Feel Tools Help

References to:

Find text
 Find identifier
 Find class declaration
 Find method declaration

Form Properties

Component

Column

Row

Cell

Name: txtSearchTe

Component: JTextField

Propie...	Value
back...	<input type="checkbox"/> [255,255,2
border	<input checked="" type="checkbox"/> DEFAULT
caret...	<input checked="" type="checkbox"/> [0,0,0]
disab...	<input type="checkbox"/> [189,190,1
enabl...	<input checked="" type="checkbox"/> true
font	<input checked="" type="checkbox"/> Dialog 11p
foreg...	<input checked="" type="checkbox"/> [0,0,0]
horiz...	LEADING

pp.mainplugin/scripts/addons/ScriptingComp...

Editor de Scripts

Archivo Editar Mostrar Projects Herramientas Ayuda Team

codeanalyzer.py

- CodeElement
 - __init__
 - __deepcopy__
 - __repr__
 - addChild
 - getChildren
 - has_children
 - setName
 - getName
 - removeAll
 - retainElements
- CodeAnalyzer
 - __init__
 - getModule
 - getIdentifier
 - load
 - getLastElement
 - filter
 - removeEmptyElemens

```

1  #.encoding: utf-8
2
3  from gvsig import *
4
5  from StringIO import StringIO
6  import copy
7  from os.path import basename
8
9  TYPE_ROOT := "root"
10 TYPE_FOLDER := "folder"
11 TYPE_MODULE := "module"
12 TYPE_CLASS := "class"
    
```

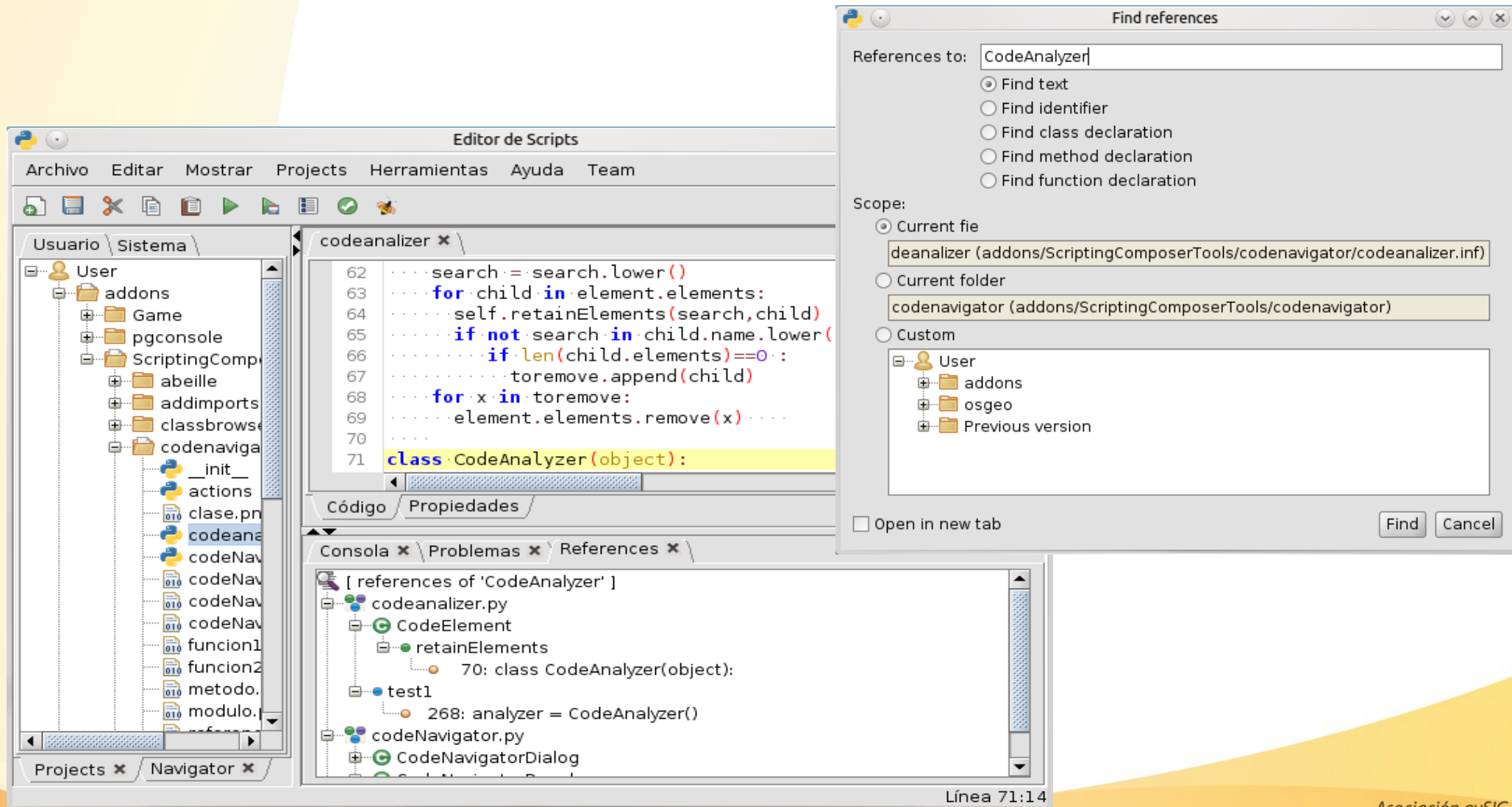
Código / Propiedades

Consola x Problemas x

Running script cargar_proyecto.
Script cargar_proyecto terminated.

Línea 1:1

gvSIG Desarrollo IDE



The screenshot displays the gvSIG IDE interface. On the left is the 'Navigator' showing a project tree with folders like 'addons', 'ScriptingComposer', and 'codenavigator'. The main 'Editor de Scripts' window shows a Python script with a class definition highlighted: `class CodeAnalyzer(object):`. A 'Find references' dialog box is open, with 'CodeAnalyzer' entered in the search field. The 'Find text' option is selected. The scope is set to 'Current file' with the path 'deanalyzer (addons/ScriptingComposerTools/codenavigator/codeanalyzer.inf)'. Below the dialog, a 'References' window shows the following results:

```
[ references of 'CodeAnalyzer' ]
- codeanalyzer.py
  - CodeElement
    - retainElements
      - 70: class CodeAnalyzer(object):
- test1
  - 268: analyzer = CodeAnalyzer()
- codeNavigator.py
  - CodeNavigatorDialog
```

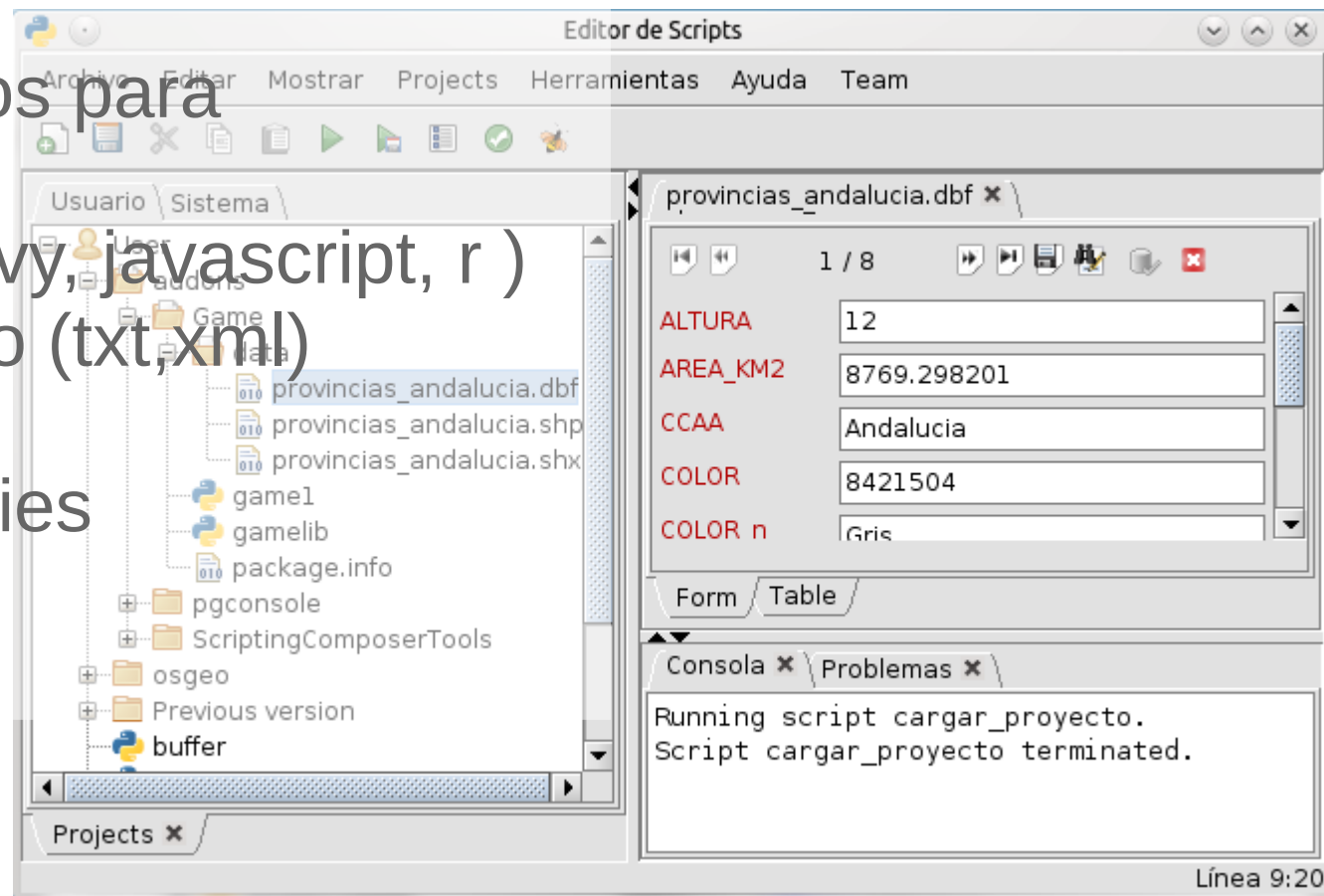
The status bar at the bottom right indicates 'Línea 71:14'.

gvSIG Desarrollo IDE

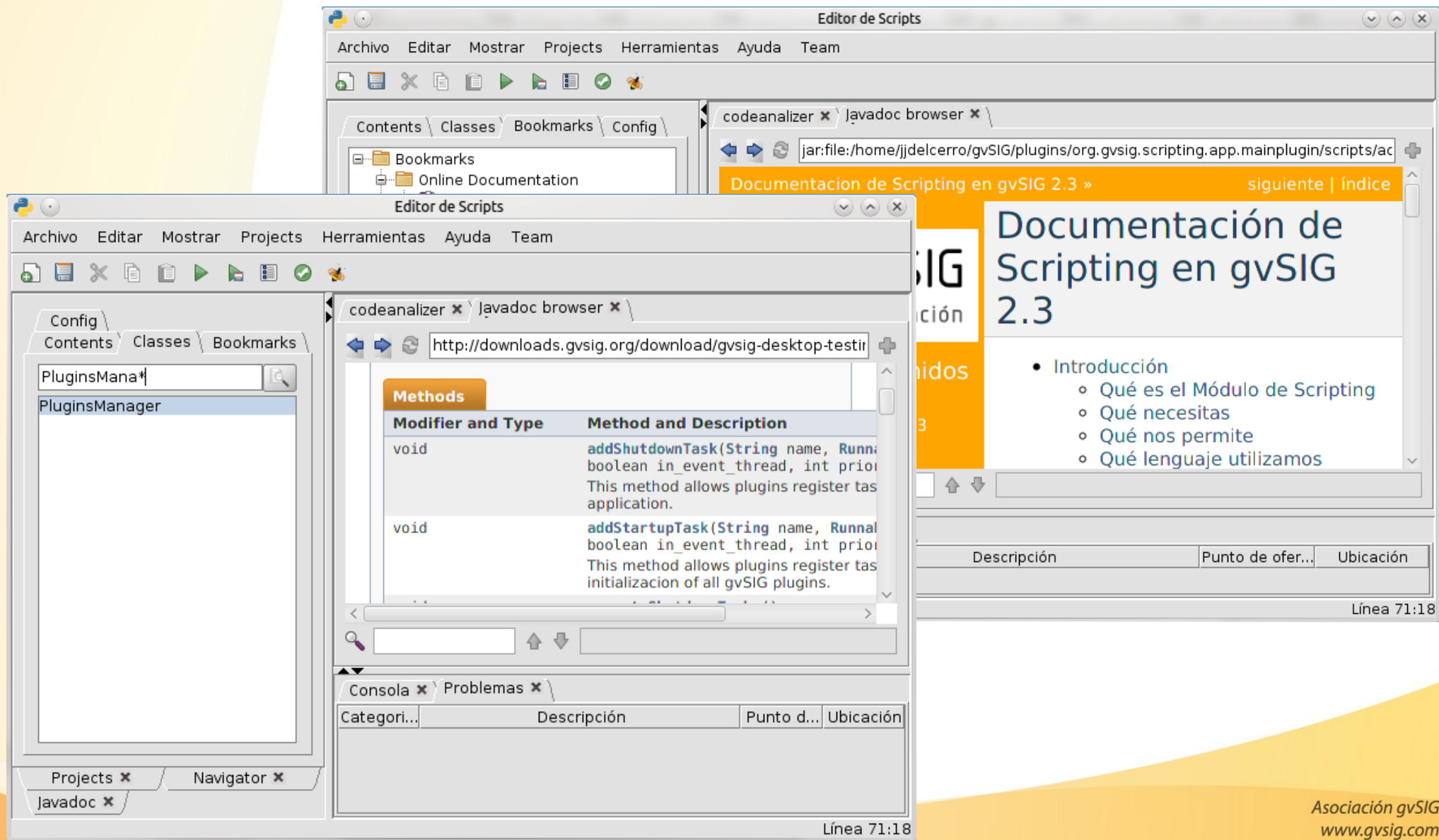
Editor de scripts con...

Editores integrados para

- Scripts (py, groovy, javascript, r)
- Archivos de texto (txt,xml)
- Archivos DBF
- Archivos properties



gvSIG Desarrollo IDE



The image displays the gvSIG IDE interface with three overlapping windows:

- Editor de Scripts (top):** Shows a menu bar (Archivo, Editar, Mostrar, Projects, Herramientas, Ayuda, Team) and a toolbar. The main area displays a URL: `jar:file:/home/jjdelcerro/gvSIG/plugins/org.gvsig.scripting.app.mainplugin/scripts/ac`.
- Editor de Scripts (middle):** Shows a menu bar and toolbar. The main area displays a URL: `http://downloads.gvsig.org/download/gvsig-desktop-testir`. Below the editor is a **Methods** table:

Modifier and Type	Method and Description
void	<code>addShutdownTask(String name, Runnable in_event_thread, int priority)</code> This method allows plugins register tasks to be executed when the application is shutdown.
void	<code>addStartupTask(String name, Runnable in_event_thread, int priority)</code> This method allows plugins register tasks to be executed during the initialization of all gvSIG plugins.
- Class Explorer (left):** Shows a tree view with folders for **Contents**, **Classes**, and **Bookmarks**. Under **Classes**, `PluginsManager` is selected.
- Javadoc browser (right):** Displays the title **Documentación de Scripting en gvSIG 2.3** and a table of contents with the following items:
 - Introducción
 - Qué es el Módulo de Scripting
 - Qué necesitas
 - Qué nos permite
 - Qué lenguaje utilizamos

gvSIG Desarrollo Documentación

gvSIG Documentation » Documentación de ... »

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Documentación de Scripting en gvSIG 2.3

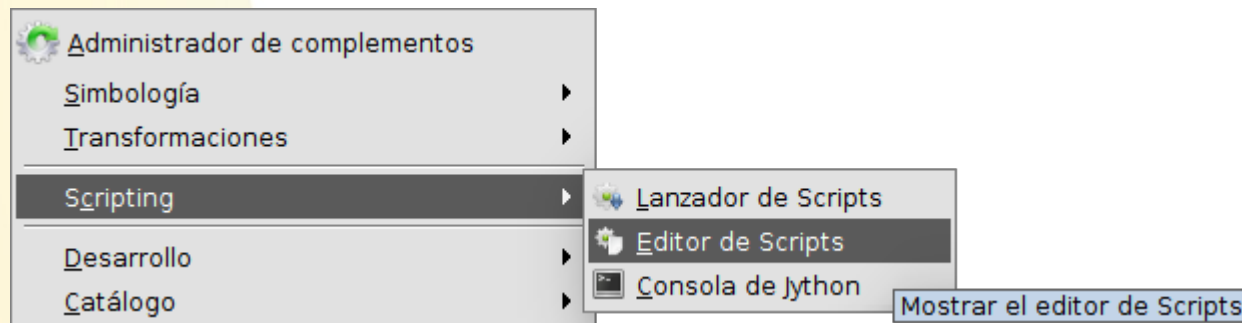
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gvSIG Desarrollo ¡a programar!

Con tener gvSIG instalado..

.. ya tienes todo lo necesario



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