

SignA: The national GIS of Spain with official cartography and geographical information

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Abstract:

The National Geographic Information System ([SignA](#)) is the online GIS of the National Geographic Institute of Spain (IGN) and the Autonomous Organism National Center for Geographic Information (CNIG), which allows users not only to visualize geographic information, but also to consult it, integrate it with their own data and obtain derived information such as maps or new layers of information, all in an agile and simple way.

The database consists of more than 80 types of geographic objects, which its main source is the IGN, the national cartographic agency composed of numerous departments that produce a wide and varied range of high quality data and services. All this geographical information is classified in the following groups, among others:

- Administrative units: autonomous communities, provinces, municipalities, population centers, disseminated, etc.
- Transport networks: classified into rail, road, air, waterway and cable transport.
- Hydrography: rivers, reservoirs, wetlands, watersheds, lagoons, etc.
- Constructions and others: castles, religious buildings, caves, lighthouses, campsites, etc.
- Services and industry: power plants, gas stations, water treatment plants, cemeteries, etc.
- Protected spaces: National Parks, Natural Parks, Natura 2000 Network, etc.
- Orography and landscape
- Geodetic networks.
- Historical orthophotos

These layers can be viewed on the map, their attributes can be consulted and it is possible to combine and select specific records using different types of queries. On top of that it is possible to download it in different formats through the Download Center of the CNIG.

The SignA geoportal offers the user a wide range of functionalities, among which the following stand out:

- ✓ Allows queries by attribute and spatial, so that the user can analyze the large amount of geographic information available to the tool, and relate one to another.
- ✓ Search and location of entities and postal addresses
- ✓ Loading of WMS and WMTS services and vector files in different formats (shape, CSV, KML, GPX and GeoJSON). The user can also add his own layers and services.
- ✓ Export of georeferenced images.
- ✓ Coordinate localization and coordinate conversion between different Coordinate Reference Systems.
- ✓ On-screen calculation of longitudinal profiles
- ✓ Editing user data
- ✓ Measurement of distances and surfaces
- ✓ Map printing
- ✓ etc.

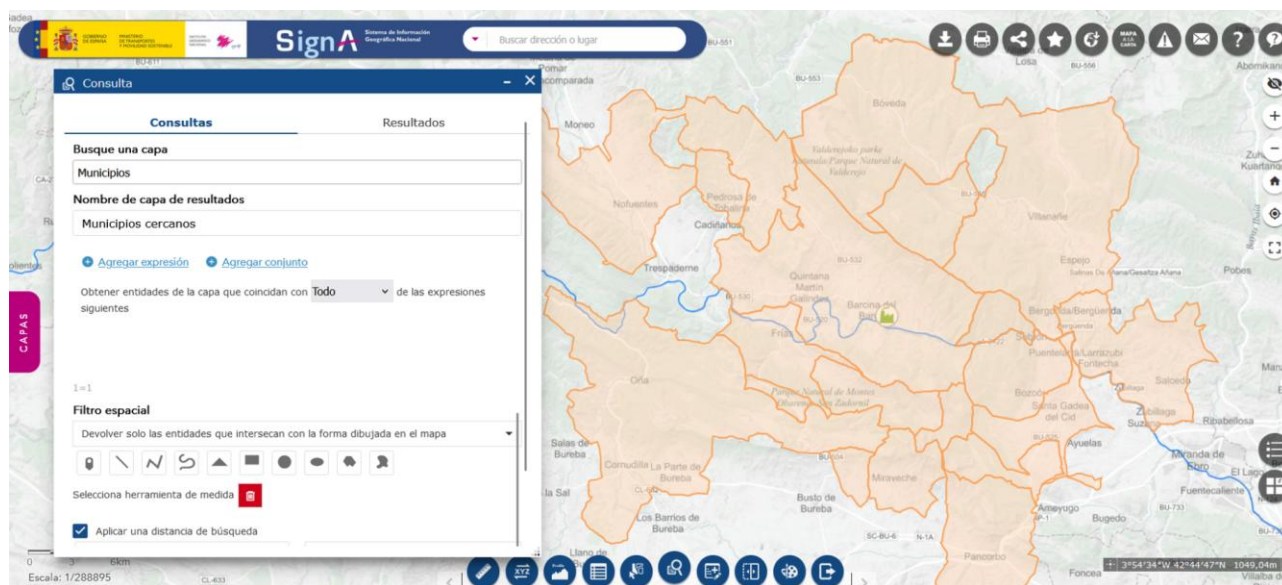


Figure 1. Image of SignA.

The user can also register incidents to help improve the IGN's geographic data, indicating the coordinates of the issue and the description of the problem. If the user has a greater knowledge of the data, he can indicate the type of error and the product in which the issue can be found, attaching, if desired, a file.

As a result, after almost 16 years of operation, SignA has become a GIS tool of daily use not only for citizens, but also for private companies, universities and all types of organizations that need to visualize, analyze and compare geographic information of many different types. This tool allows the consultation and exploitation of a wide variety of geographic information, as well as integrating it with their own information, all without the need to download the data or install a desktop GIS program.