

## What is MiraMon?

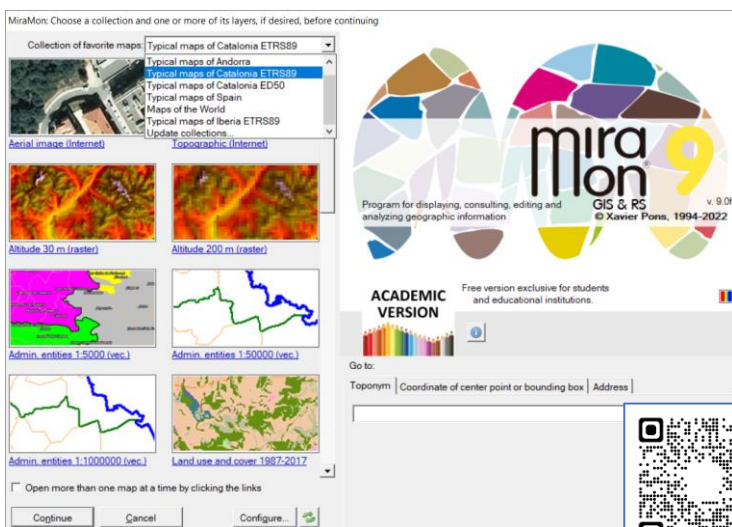
**MiraMon** is a **Geographic Information System (GIS)** and **Remote Sensing** software. It allows viewing, querying, editing and analysis of **raster layers** (remote sensing images, orthophotos, digital terrain models, conventional thematic maps with raster structure, etc), **vector** (thematic or topographic maps containing points, lines or polygons, etc), and **WxS servers**, as well as their creation. Its unique capacity for **direct digitization stands out with true interactive topology** without doing “strange things”: a gift to the teacher, the photointerpreter, etc. The raster models support, from 1 to 64 bits, with or without compression, optimal integer and real types for each application; multiband when necessary, of course. Vector models can be simple or topological, 2D or 3D, etc. Although it supports popular formats such as GeoTIFF, JPG, SHP or KML, it also offers more sophisticated formats, which allow **linking databases to categorical rasters**, or **1-to-many relationships between vector features and alphanumeric database records**, etc.

MiraMon is full of **good details** that users immediately appreciate: highly symmetrical treatment (easiness) of rasters and vectors in all the tools where it makes sense, but with fine control of resampling or geodesy aspects, automatic **lineage documentation** to know which operations have been applied on each layer and with what parameters, serious treatment of **NoData values** (which are ignored unless explicitly indicated) in rasters or databases, etc. It allows to distribute on the Internet or preserve the cartography (data + metadata) in **MMZX format** (ISO19165), a follow-on of the award-winning MMZ from 1998.

MiraMon began to be developed in **1994**, initially for **research and teaching purposes in a university context**. Soon it also began to be useful to **administrations and companies**. And these have been its objectives: to rigorously serve research, to provide a didactic solution to teachers, and to be a reliable and faithful professional companion for nearly 30 years to technicians and professionals from all fields. From its beginnings and until today it has been developed in **C language**, which allows it to be **extremely light** (its 15 Mbyte starts in less than 1 second, who gives more?), to compile the same code in **32 and 64 bits** and to use only the essential memory in each operation but providing, when needed, maximum power through **parallelization** that takes advantage of the CPUs and cores of the computer to suit the user, something difficult to find in the sector.

The MiraMon **Map Server** for the Internet is a CGI also developed in C language, while the **Map Browser** client is developed in JavaScript. The **MiraMon family**, produced by the **Grumets research group** at **CREAF and UAB**, consists of: **MiraMon Professional; Universal Map Reader; Metadata Manager (GeM+); DBF and extended DBF Table Editor (MiraDades); and Browser/Map Server**.

## MiraMon Professional and Universal Map Reader



- It is the desktop application and the most powerful.
- It works on all Windows platforms.
- The tools have friendly **dialog boxes**, which always have a **help button** that responds in the same language (**English, Catalan or Spanish**) as the program.
- The BAT/PS1 button makes it easy for the advanced user to automate processes and write command lines in **scripts**.

*The Academic version of MiraMon Professional is totally free for students and research centers around the world*

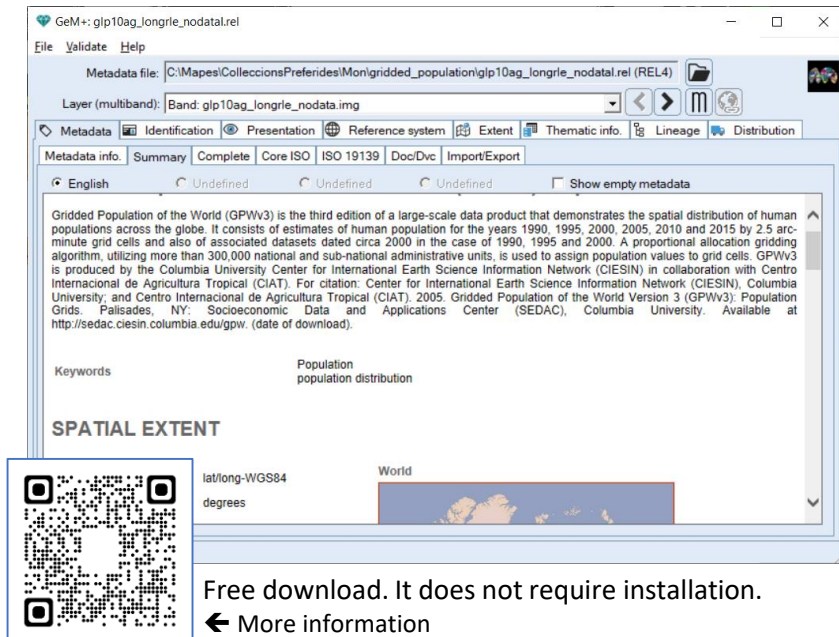


**Universal Map Reader** (reduced version of MiraMon). More information →



## Universal Geospatial Metadata Manager: GeM+

It allows documenting metadata in XML of geographic information datasets that we have in any of the usual formats (such as a TIFF) or in a geospatial database (such as Oracle SDO), as well as manually entering and editing any information. As it is linked directly to the data, **it saves work and avoids typing/copying errors**, and **automatically updates content**.



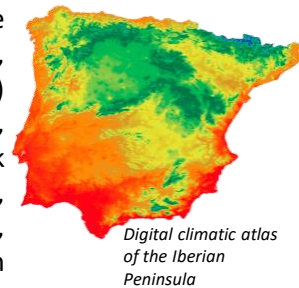
Free download. It does not require installation.

← More information

- \* Supports ISO 19115 Geographic Information and ISO 19139 standards for **XML export, import and editing**. It is also compliant with the INSPIRE metadata implementation standards. In the case of documenting layers, MiraMon **allows metadata to be kept in REL format, which is much richer, with automatic lineage, relationships with multiple databases, etc.**
- \* **Multilingual metadata editing** (up to four languages).
- \* Data visualization, with a single click, for greater control and consistency.
- \* Extensive multilingual and hierarchical keyword dictionaries.

## Geospatial analysis with MiraMon


MiraMon has **more than 100 analytical** and geoprocessing tools, from buffers and distance maps, mosaic and clipping of layers, integrated raster-vector-DBF-reclassifier calculator, interpolation (trend surfaces, inverse distance, splines, kriging, neighborhood statistics, etc) to generate continuous variation maps (elevations and bathymetry, temperatures, pollution, etc), terrain analysis (slopes, cast shadows, solar radiation, etc), vector network analysis based on distances and travel times, analysis of frictions and displacement costs, calculation of regression models (multiple, logistic), geostatistical analysis of the variogram, SPI/SPEI drought indices, ecological connectivity, etc. Powerful table manager (no limit on field number or on width in text fields, support for millions of records, etc).



Digital climatic atlas  
of the Iberian  
Peninsula

It also provides **Remote Sensing tools** for orthorectification of satellite or aerial images (specific models), robust radiometric correction with support for multiband radiometric references, classical, mixed and Artificial Intelligence (kNN) classifiers, generation of spectral signatures and confusion matrices, selective filters to refine results, calculations of emissivity and temperature, **lidar**, etc. The additional layers generated in classification processes (uncertainty, likelihood, etc) are especially useful to better control subsequent modelling. And at great speed thanks to being **parallelized** modules.

## Support

MiraMon offers several communication channels available to users, such as the [MiraMon User Forum - FUM](#) (with English, Catalan and Spanish versions) and the MiraMon\_ENG, MiraMon\_CAT and MiraMon\_ESP Twitter accounts. 

In addition, it has a continuously updated **help manual that** is accessible both from the program and from the internet: <https://www.miramon.cat/help/eng/>. The **MiraMon Versions Diary** makes it easy to keep up to date with the news and improvements of the program: [https://www.miramon.cat/vers\\_mm/index\\_eng.htm](https://www.miramon.cat/vers_mm/index_eng.htm)

Finally, a series of **video tutorials** help users with their most common tasks. As far as possible, the video tutorials have selectable subtitles in English, Catalan and Spanish to make them understandable in the various language versions of MiraMon and, in turn, make them accessible to people with hearing disabilities.

More information →

