Work Package 5

Development and management of a GIS

Task_5.1 Structuring of the GIS: identification of the parameters and criteria for the structuring of a GIS valid for Italy, Spain and Portugal through a comparison with the planning tools of local authorities.

Task_5.2 Implementation of data: compilation of the gis: insertion of the collected data and their constant updating. Each monastery will be represented like a georeferenced point on the digital map, linked to its own record in the database, as well as to the images (photographs, pictures and, 3D render).

Output O16 - GIS (technical report)

[O16] Starting from M19 and leveraging the relational and georeferenced database described in WP1, a Geographic Information System (GIS) has been created, containing information from the database and serving both research and cultural heritage dissemination purposes. The selected software is QGIS, an open-source, cross-platform, and multilingual project. The GIS has been structured around a point layer connected to the database, allowing for the selection of different convents and obtaining their basic information. The GIS also includes layers with various thematic maps: topographic maps, orthophoto maps, antique cartography, and maps showing the main communication networks and current infrastructures. The entire cartographic ensemble is crucial for identifying place names, observing the current state of the convents, connecting them with other points of interest, or analysing the evolution of the Observance over the centuries. An additional raster layer is the Digital Terrain Model (DTM), containing data on the altitude above sea level of geographic locations, used to perform data analysis through GIS algorithms.

Subsequently, an interactive map was created to facilitate the visualisation of geospatial data on the internet. Leaflet, an open-source computer library, was used to program the Webmap. Two Webmaps were created to adapt to different types of users. In the first version, users can view the complete profile of each convent and search based on the name of a specific convent, a postal address, or the user's current location. This version is designed for those interested in quick visualisation; hence, a cluster-based layout was chosen, which automatically groups the convents based on the map scale and the user's screen size. The second version was designed for users interested in creating thematic maps based on thematic data analysis provided by the project. In this second version, a scrollbar was added to visualise the evolution of the Observance in twenty-five-year periods from 1375 to the present. The ability to filter Observant convents according to the conservation status of the church and convent and according to the legal protection level of the buildings was added. Finally, it is possible to select existing convents within various European regions.

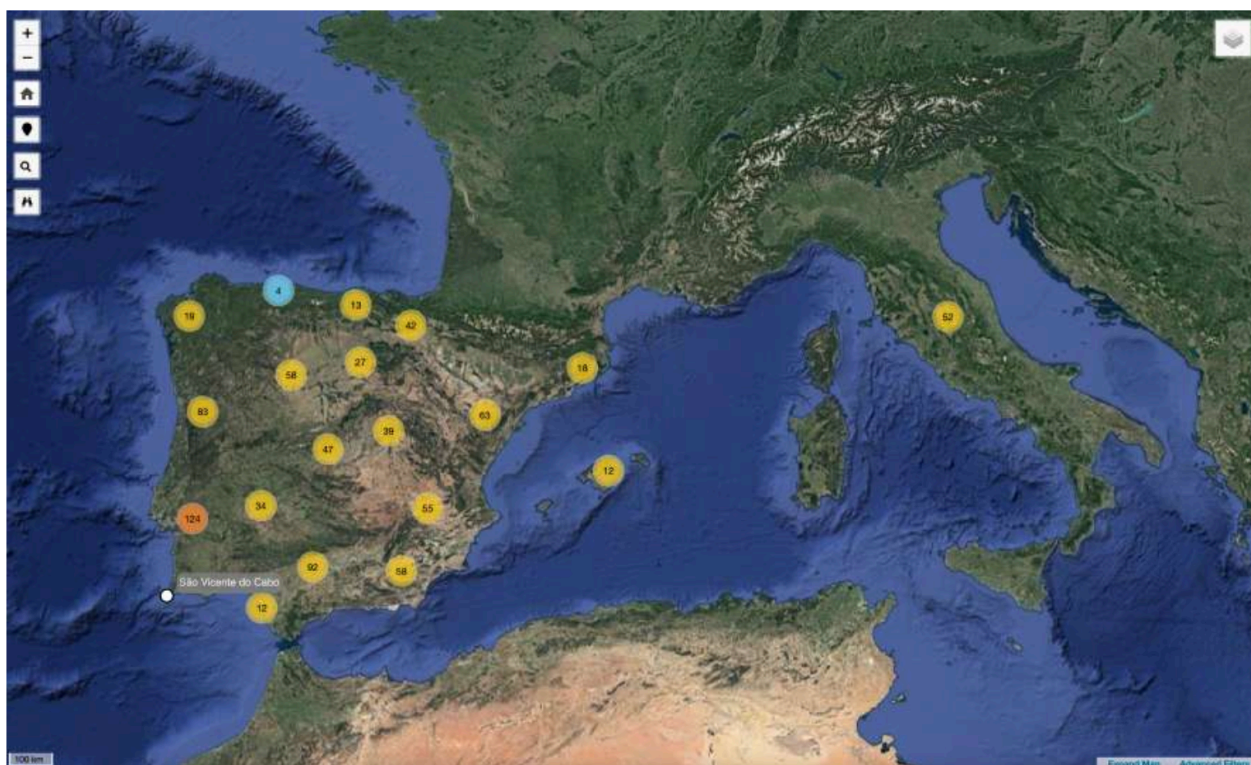The Webmap is available online at https://www.f-atlas.eu/case-studies-map.

Fig. 18: Overview of the F-ATLAS Webmap (https://www.f-atlas.eu/case-studies-map).

Fig. 19: Interactive Filter Application in the F-ATLAS Webmap (https://www.f-atlas.eu/extended-filters).
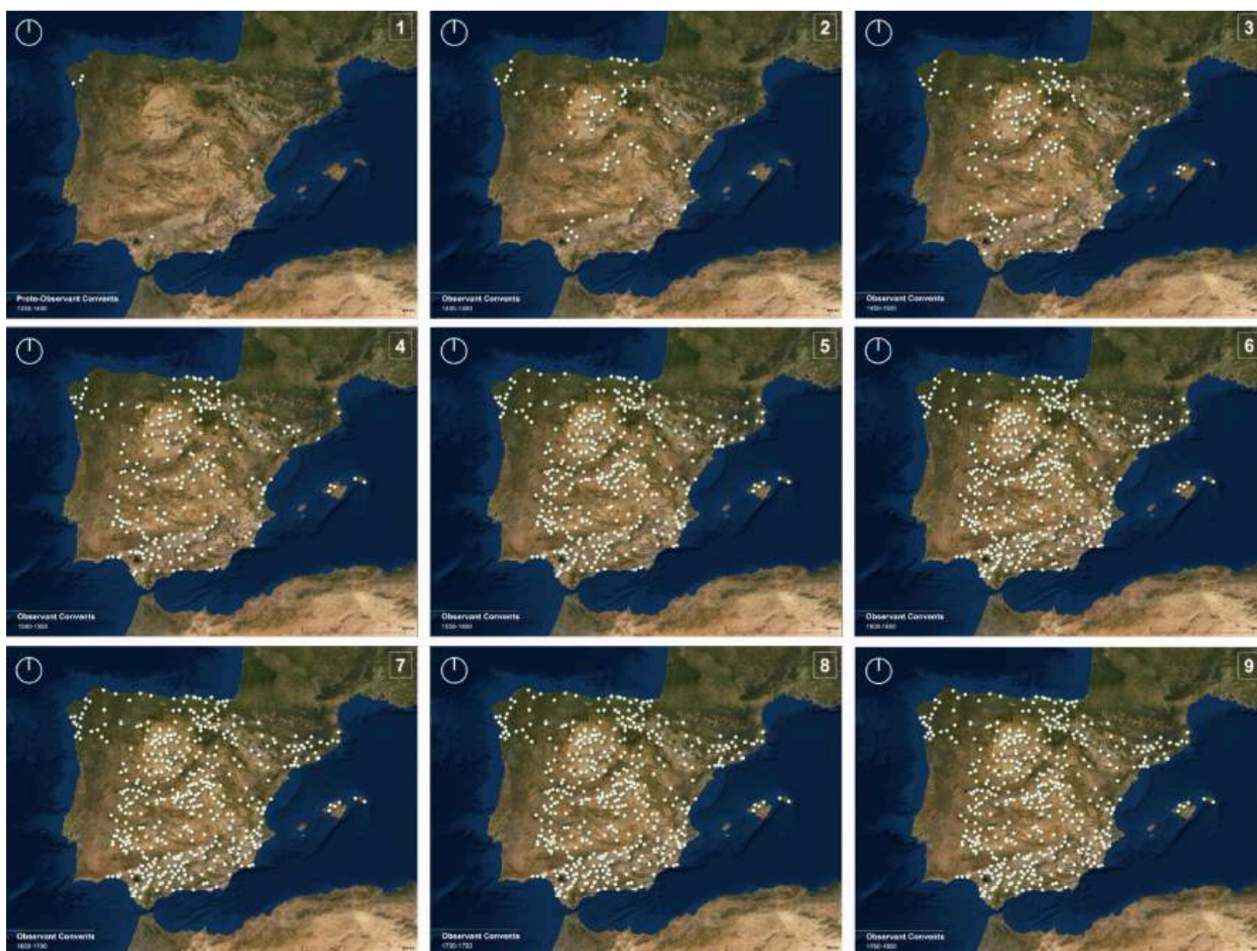
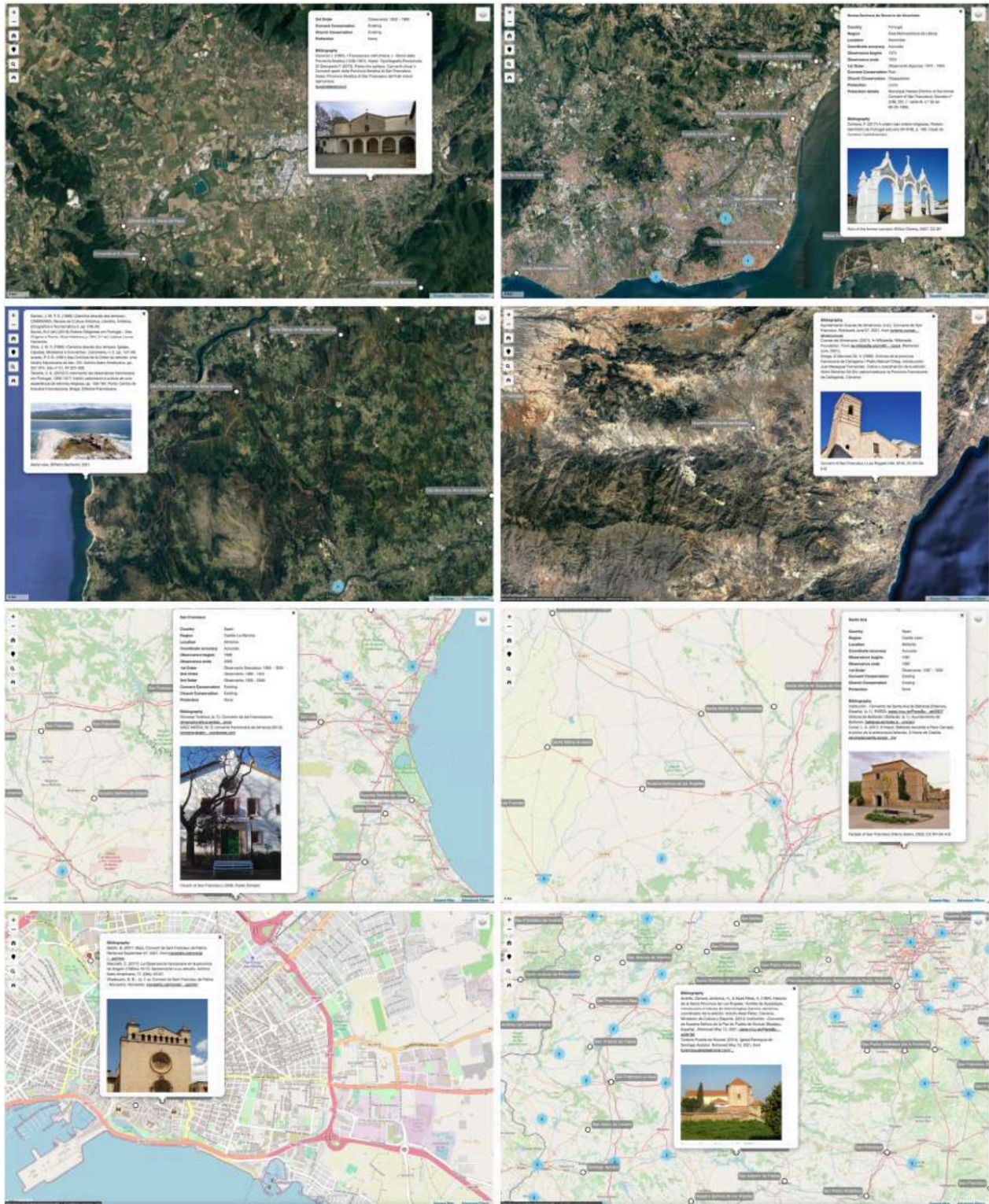*Fig. 20: Interactive Filter Application in the F-ATLAS Webmap (https://www.f-atlas.eu/extended-filters).*

Fig. 21: Examples of Visualization from the F-ATLAS Convent Catalog (https://www.f-atlas.eu/case-studies-map).