

LAW CREATING THE INSTITUT GEOLÒGIC DE CATALUNYA

Through Law 19/2005, the Catalan Parliament duly approved the creation of the Institut Geològic de Catalunya (Geological Institute of Catalonia), attached to the Department of Regional Planning and Public Works (DPTOP), with its own legal personality and with full capacity to perform its functions.

This Law marks the consolidation of geology in Catalonia. In 1874, Canon Jaume Almera began to teach and research in this field, and in 1884, Barcelona Regional Council commissioned him to produce a geological map of the surrounding area of the city. In 1916, the Mancomunitat de Catalunya (Union of Catalonia) created the Geological Service of Catalonia (SGC), whose mission was to continue to perform geological work throughout Catalonia. The Service was in operation until 1925, when it was abolished together with the Mancomunitat. After the proclamation of the Republic and the passing of the Statute, attempts were made to create a geological institute in Catalonia, but these were frustrated by the Civil War and the dictatorship.

Against this background of events, in 1979 the SGC was created in order to provide a technical instrument in the field of geology and geotechnics for obtaining suitable knowledge about the soil and the substratum for application to public works and territorial policy, for the evaluation of geological risk, and for the production of geological maps. In 1982, the SGC assumed the functions of the Catalan Seismological Service, which had been created in 1981 with the aim of collecting and evaluating microseismicity data in Catalonia, in order to define seismic areas, to assist with surveys of hydrological, mining and energy resources, and to provide appropriate solutions to engineering problems.

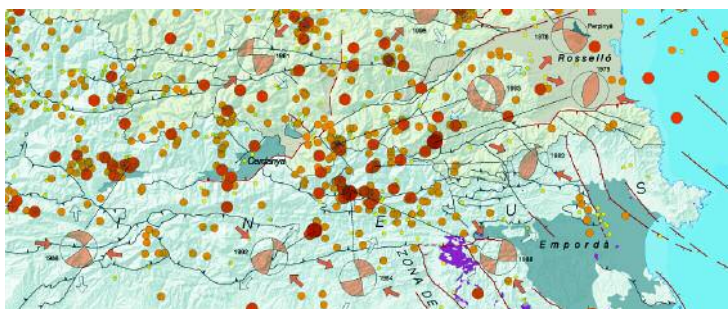
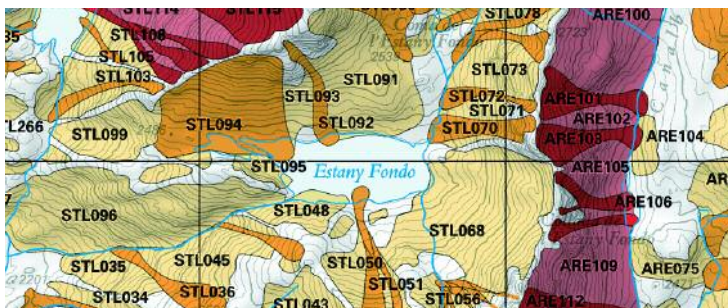
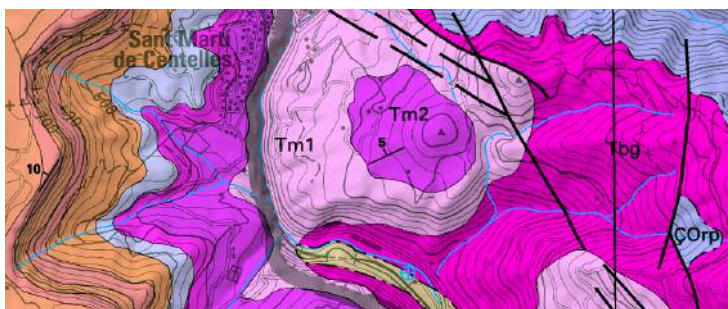
During a first stage, the SGC, created as an administrative service without legal personality, was attached to the DPTOP and carried out its functions, which were of a dis-

tinctly technical and specialized nature, to the benefit of both the public and the private sector. In 1997, the SGC became part of the ICC, but the high degree of specialization acquired and the importance of geological, geotechnical and geophysical surveys in the planning and execution of public works and infrastructure and in land use planning served to highlight the need to create a public entity, the Institut Geològic de Catalunya (IGC), with a legal personality of its own.

The functions of the new IGC are essentially centered around study, consultancy, research and prevention with relation to the soil and the substratum of Catalonia; its field of operation covers all branches of geology (mineralogy, petrology, stratigraphy, geomorphology, geochemistry, hydrogeology...), as well as disciplines that are related with these: soil sciences and edaphology, geophysics, seismology, geological engineering and geotechnics.

The main activities undertaken by the Institute are, to name but a few: elaboration of the geological map of Catalonia at several scales, and creation of cartography programs, databases and information systems relating to the soil and the substratum; development and maintenance of the seismic network; study and evaluation of geological risks, including earthquakes and avalanches; elaboration and promotion of studies, work and evaluations in the field of geology and related sciences; consultancy and the provision of technical assistance in the field of geology and related disciplines to the DPTOP, other departments and other administrative bodies; supervision, upon request, of geotechnical land surveys; undertaking of soil and substratum surveys; establishment of protocols to be followed in the elaboration of geological, geophysical and geotechnical surveys, and provision of information compiled in databases.

The web site of the Institut Geològic de Catalunya is www.igc.cat



SUMMARY

Law creating the Institut Geològic de Catalunya

Donation of early 18th century manuscript maps to the ICC Map Library

Georeferenced inventory of façades with GEOMOBIL technology

Territorial delimitation of Catalonia

The ICC obtains Quality Management System certification

Regional Atlas of Catalonia. Pla de l'Estany

Summary of the distribution of digital cartography at the ICC. February 2003-December 2005

Symposium on risks of flooding and erosion in coastal areas. Implications for territorial planning

This newsletter is a free publication available in Catalan, Spanish and English.

Year 11 - June 2006 - Number 26 - ISSN: 1137-2370
D. L.: B. 40970-1996

 Generalitat de Catalunya
Institut Cartogràfic de Catalunya

DONATION OF EARLY 18TH CENTURY MANUSCRIPT MAPS TO THE ICC MAP LIBRARY

On May 12th 2006, 10 maps and 1 atlas bound in leather booklets, hand-drawn by the Count of Darnius in the early 18th century and belonging to Mr. Jaume Mayol Roca, were donated to the ICC. The maps will form part of the collection of the Catalonia Map Library.

The first of the books contains:

A general map of the Principality of Catalonia and Roussillon with the borders of France, Aragon and Valencia newly expanded and corrected by the Count of Darnius (18 manuscript maps of the Catalan territory, bound inside: "The glorious conquest of Felipe V", by the Count of Darnius. A book of eighteen individual maps which together cover the province of Catalonia, Roussillon, the French border, Aragon and Valencia) [c. 1716].

The books, which bear the same date as the aforementioned book [c. 1716], correspond to 10 administrative divisions known as *corregiments* (Barcelona, Girona, Lleida, Manresa, Mataró, Puigcerdà, Tarragona, Tortosa, Vic and Vilafranca). There is a description and a map for each *corregiment*. The documentation is unique, since the Count of Darnius describes the cities, towns and villages that form part of the *corregiments* created after the *Llei de Nova Planta* (New Law) and draws the map of each one.

Both the cartography in the first volume and the maps of each of the *corregiments* in the remaining volumes are in color, and they contain a wealth of toponyms and a very accurate representation of the network of roads.

The author, Oleguer de Taverner i d'Ardena, Count of Darnius (c. 1676-1727), drew several maps of Catalonia in the period from the late 17th century to the early 18th century. However, only one was eventually published, to be exact, in 1726.

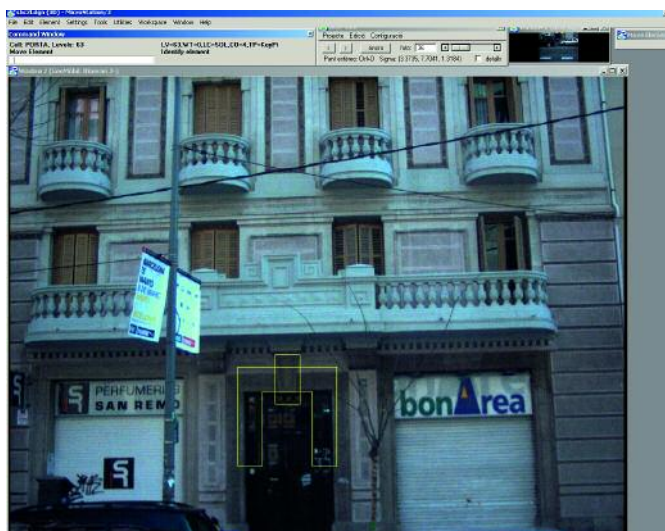
Through this donation, formalized by Mr. Jaume Mayol and Mr. Jaume Miranda, director of the ICC, the collection of the Map Library gains documents of both cartographic and historical interest, since they refer to the territorial division of Catalonia.

Thanks to the selfless contributions and sensitivity of persons who, in particular circumstances, have had the opportunity to recover unique documents, such as those of Mr. Mayol, valuable material is made available to the general public.

The ICC would like to publicly thank Mr. Jaume Mayol.



GEOREFERENCED INVENTORY OF FAÇADES WITH GEOMOBIL TECHNOLOGY



In December 2005, the ICC and the Institut Municipal d'Informàtica (Municipal Computing Institute, IMI) of Barcelona City Council signed an agreement to make a georeferenced inventory of the ground-floor façades of buildings in the city of Barcelona with GEOMOBIL technology.

This inventory will be useful to the IMI in a great many applications related with the analytical and monitoring work that it performs.

The inventory will cover all the streets in the city of Barcelona, a total of 3 800 in all, which run for a total of 1 291.53 linear km.

The tasks to be performed by the ICC consist in the capture of digital images in color of the façades on the streets of the city; orientation of the images, obtaining the UTC coordinates of the center of the images and obtaining the UTC coordinate 10 meters perpendicularly from the image oriented.

These images on which the work is based will form a visual database in sections of 5 m. Associated with cartography, the database will be managed interactively by a computer application.

The planned completion date for this project is December 2006.

TERRITORIAL DELIMITATION OF CATALONIA

The Territorial Delimitation Commission, of which the Director of the Institut Cartogràfic de Catalunya (ICC) is a member, is the body responsible for producing municipal map of Catalonia. The purpose of this map is to determine the territorial limits of municipal areas and the regional boundaries in effect. In response to the interest of the Generalitat de Catalunya in promoting the production of boundary maps for Catalonia, in December 2005, the ICC and the Governance and Public Administration Department, to which the Commission is attached, signed a collaborative agreement whereby detailed information about the limits of each municipality would be obtained and subsequently represented on digital cartography. According to this agreement, the ICC is to carry out a review of the topography and to transfer the results to the topographic database of Catalonia 1:5 000 and the orthophoto of Catalonia 1:5 000.



THE ICC OBTAINS QUALITY MANAGEMENT SYSTEM CERTIFICATION

The ICC promotes and consolidates a Quality Management System in accordance with the ISO 9000 Standard for the purpose of technological innovation, for the ongoing improvement of the quality of its products and services, and in order to satisfy the needs of the users of its cartographic products. It believes that the base geographic information about Catalonia must consist of solid, up-to-date products, and that this solidity is achieved through the appropriate use of norms and standards that must be strictly followed by the large number of products that include this information.

In view of this, in the first quarter of 2006, the ICC was successful in obtaining Quality Management System certification in accordance with the ISO9001:2000 standard for the production of the topographic database of Catalonia 1:5 000, the topographic map of Catalonia 1:5 000 and the digital terrain model.

"THE NUMBER OF BOUNDARY LINES THAT WILL HAVE TO BE REVIEWED IS APPROXIMATELY 2 100"

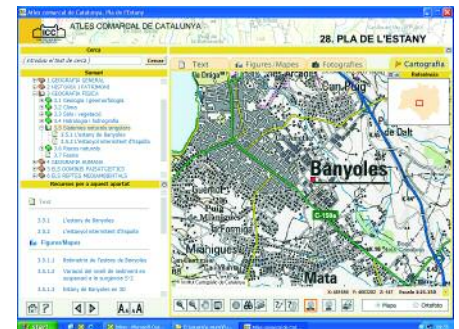
The topographic review of the municipal boundary lines involves the following stages: analysis and interpretation of the official delimitation record in effect; preparation of the data from the topographic notebooks: verification and generation of the survey traverses; location of boundary marks in the field, obtaining the coordinates of the geodetic marks; determination of the theoretical point where the boundary marks not found are located, calculation of their coordinates, collection and loading into the database; course of the boundary line on the ICC's cartographic databases at 1:5 000 scale, and generation of the documents of which the topographic review is composed.

The duration of this agreement has been established for a period of 7 years (2005-2011).



NEWS

REGIONAL ATLAS OF CATALONIA. Pla de l'Estany



In April de 2006, the ICC published the 2nd edition of the volume of Pla de l'Estany, which forms part of the collection "Atles comarcal de Catalunya" (Regional atlas). This updated edition is presented in digital format, to be specific, on CD-ROM.

This product offers a descriptive view of the comarca (administrative division of Catalonia) by considering its general, physical and human geography, as well as its history. The atlas includes more than 90 thematic maps, 165 figures and graphic items, 70 photographs and 30 statistical tables. Searches can be made by toponym or by key word.

Besides updating the information published in paper format in November 2002, the most important new feature of this product is the opportunity it offers to connect to the GeoServices of the ICC in raster format (WMS), in order to consult the Topographic map of Catalonia 1:5 000 and the orthophotomap 1:25 000.

In addition to the installation assistant and the help tool included in the application, the product provides navigation instructions and information about suitable software and hardware requirements for optimum navigation.

This is an informative product aimed at the general public who are interested in or curious about this subject; it is also intended for a more learned and specialized public, who will be able to extract new references; and finally, it will be of particular use to pupils at school, offering them a basic tool in their studies.



BRIEF NOTES

SYMPOSIUM ON RISKS OF FLOODING AND EROSION IN COASTAL AREAS. IMPLICATIONS FOR TERRITORIAL PLANNING

On 21st June 2006 the Symposium entitled "Jornada sobre riscos d'inundació i erosió en zones costaneres. Implicació per a la planificació territorial" was held at the headquarters of the ICC. This event was organized by the ICC, the Regional Planning and Public Works, and Centre Internacional d'Investigació dels Recursos Costaners (Coastal Resources Research).

The aim of this Symposium was to present the progress made in the European project "FLOODsite" in areas such as flooding probability and quantification of erosion, and their implications in two specific cases that are being studied as part of the project: the flash flooding that can sometimes occur on the coast of the Maresme, and the coastal dynamics that affect an area as sensitive as the Ebro Delta.

The Symposium also included discussion on how to quantify and employ concepts that are often used, but which are usually poorly quantified, for the purposes of territorial planning and decision-taking on territorial management. Concepts such as vulnerability, risk, and even sustainability.

The opening speech at the Symposium was made by Mr. Oriol Nel·lo i Colom, Secretary for Territorial Planning of the DPTOP.

Contact addresses of the ICC

Parc de Montjuïc - E-08038 Barcelona - Telephone 34-93 567 15 00
Telefax 93 567 15 67 - E-mail: estherm@icc.es

Balmes, 209-211 - E-08006 Barcelona - Telephone 34-93 218 87 58
Telefax 93 218 89 59

Emili Grahit, 10 A - E-17002 Girona - Telephone 34-972 20 04 93
Telefax 972 20 04 93

Doctor Fleming, 19 - E-25006 Lleida - Telephone 34-973 28 19 30
Telefax 973 26 10 55 - EADOP

© Institut Cartogràfic de Catalunya

<http://www.icc.es>

SUMMARY OF THE DISTRIBUTION OF DIGITAL CARTOGRAPHY AT THE ICC.

February 2003-December 2005

In the last few years, the ICC has taken important steps to make its cartographic production more accessible to the general public. In this respect, in February 2003 it was agreed that the remaining digital base cartography would be distributed free of charge and the retail price of the Topographic database 1:5 000 in vector format was reduced by 50%. In November of the same year products in MrSID format were made available for download from the Internet free of charge.

This initiative was completed in January 2006 with the free distribution of the Topographic database 1:5 000 in vector format.

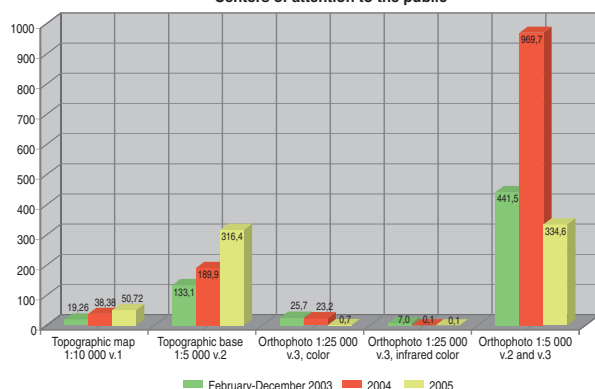
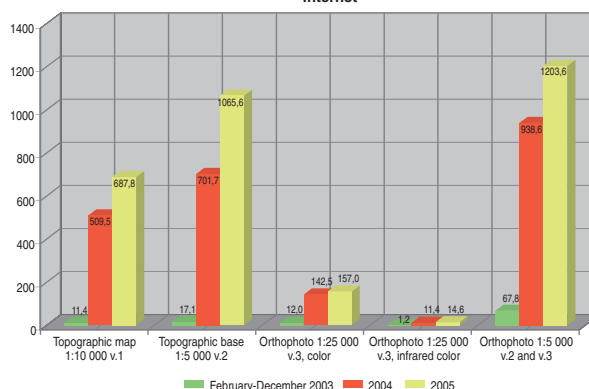
In 2002, the number of orders placed on this products was low (1 451) due to the high cost of purchasing digital cartography. In 2003, the year in which data was freed, the centers of attention to the public of the ICC received more orders than in the rest of the following years (2003: 4 011; 2004: 3 705; 2005: 2 896) and the reduction is explained by the progressive increase of the downloading of these products over the Internet (selfservice).

Evolution of files distributed at the centers of attention to the public (distribution formats: DGN, DXF, EXPORT, GEOTIFF, MrSID, ASCII)

	2003	2004	2005
Topographic database 1:250 000 v.3, vector	64	47	20
Topographic database 1:50 000 v.3, vector	385	251	188
Topographic database 1:25 000 v.1, raster	-	-	141
Topographic map 1:10 000 v.1, raster	24 888	20 939	18 018
Topographic map 1:5 000 v.1, vector	3 461	4 774	222
Topographic database 1:5 000 v.2, vector	13 581	16 700	9 142
Topographic database 1:5 000 v.2, raster	150 611	115 957	60 038
Orthophoto 1:25 000 v.3, color, raster	17 311	10 802	2 369
Orthophoto 1:25 000 v.3, infrared color, raster	4 173	546	89
Orthophoto 1:5 000 v.2 and v.3, raster	189 683	153 795	59 965
Administrative boundaries 1:250 000, vector	50	16	25
Terrain elevation model (ASCII)	135	76	54
Total	404 342	323 903	150 271

Evolution of files distributed by Internet (distribution format: MrSID)

	nov.-dec. 2003	2004	2005
Topographic database 1:25 000 v.1, raster	-	828	3 787
Topographic map 1:10 000 v.1, raster	776	34 779	46 953
Topographic database 1:5 000 v.2, raster	1 460	59 877	90 928
Orthophoto 1:25 000 v.3, color, raster	2 044	24 325	26 794
Orthophoto 1:25 000 v.3, infrared color, raster	202	1 952	2 486
Orthophoto 1:5 000 v.2 and v.3, raster	6 938	96 106	123 244
Total	11 420	217 867	294 192

Total de GB distributed in raster (MrSID)*
Centers of attention to the publicTotal de GB distributed in raster (MrSID)*
Internet

* Common distribution format for the centers of attention to the public and Internet.