BRIEF NOTES

COPIES OF ANCIENT MAPS FROM THE COLLECTION OF THE CARTOTECA DE CATALUNYA CAN NOW BE PURCHASED

Since November 2004, reproductions of ancient maps from the collection of the Cartoteca de Catalunya (CTC - Catalonia Map Library) on photographic or coated paper are available for sale at the ICC customer service centers.

The selection of maps can be made either directly at the customer service centers or by Internet. The exhibition of old maps can be visited at:

www.icc.es/biblio/digital.html

26 maps of Catalonia from the 17th-20th centuries have been selected for distribution. To obtain reproductions of other maps, please contact the staff of the Cartoteca.

XXXI SYMPOSIUM OF THE SOCIETAT D'ONOMÀSTICA

On 12-14 November 2004, the *XXXI Col·loqui de la Societat d'Onomàstica*, organized by the this Society and the ICC, was held at the latter's headquarters.

This Symposium focused on subjects related with onomastics in general and toponymy in cartography.

3 presentations were made and 21 papers were given, 4 of these by ICC staff. The event was attended by more than 60 people, including linguists, toponymists, geographers and hikers.

2ND SERIES OF LECTURES OF THE CARTOTECA DE CATALUNYA

The ICC has begun the *2n Cicle de conferències de la Cartoteca de Catalunya*, together with el Consorci de Biblioteques Universitàries de Catalunya (Consortium of Academic Libraries of Catalonia) and with the collaboration of the Universitat Autònoma de Barcelona (UAB). The main theme is: *Les cartoteques al segle XXI (*Map libraries in the 21st century).

The series of lectures will last 6 years (2004-2009) and forms part of the third cycle of studies of the Department of Geography at the UAB. It is aimed at map librarians, librarians, geographers, documentalists, cartographers and all those with an interest in cartography.

This 2nd series was begun on 15-19 November 2004 with the course "Electronic Cartographic Materials Cataloging and Metaloging", given by Mary Lynette Larsgaard, Assistant Head of the Map and Imagery Laboratory, Davidson Library, at the University of California (Santa Barbara, USA). The course, which was imparted in English, lasted 25 hours and was attended by 20 librarians.

THE ICC PROVIDES TECHNICAL ASSISTANCE TO REPUBLIC OF NAMIBIA

In September 2004, a contract was signed between the ICC and the Central Bureau of Statistics (CBS) of the National Planning Commission of the Republic of Namibia, as a result of which the ICC is to provide the CBS with technical assistance in setting up geographic information systems. This project is financed by the Agencia Española de Cooperación Internacional - Spanish International Cooperation Agency.

"THE TECHNICAL ASSISTANCE IS TO BE PROVIDED OVER A PERIOD OF 14 MONTHS"

In the implementation of the courses, the ICC will receive the collaborative support of the Universitat Autònoma de Barcelona (Geographic Information and Remote Sensing Laboratory, LIGIT), the Universitat de Girona (GIS and Remote Sensing Service, SIGTE) and the Universitat Politècnica de Catalunya (Fundació Politècnica de Catalunya, FPC).

The training has been designed to cover the needs of the staff of the CBS. With this in mind, the course is divided into four modules:

– Cartography and geographic information systems (GIS): GIS theory and applications; data structuring and purification; database creation and management; GPS technology, and basic cartography and concepts.
– Advanced GIS: Referenced systems; data structuring and purification; database creation and management; digital cartography, and raster data and handling of this data.
– Cartography and advanced GIS: Raster data, photogrammetry and remote sensing; spatial data analysis; simulations; development of applications and maps for Internet, and database standards, specifications and metadata.
– Cartography and GIS management: Cost of coverage; standards, database specifications and metadata; data capture and dissemination policy; copyrights; inquiry services and equipment; GIS project management, and GIS and public institutions.

"IN NOVEMBER 2004 MODULE 1 WAS TAUGHT"

The first module was given in Windhoek (Republic of Namibia) and the next 3 will be given in Barcelona.

Framework agreement for scientific and technological cooperation with the Instituto Geográfico Agustín Codazzi

On 10 November 2004, the ICC and the Instituto Geográfico Agustín Codazzi (Colombia) signed a framework agreement for scientific and technological cooperation in the field of remote sensing, geodesy, photogrammetry and geographic information systems. The bases of this collaboration lie in technical assistance, training and the exchange of production experiences.

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NEWSLETTER
INSTITUT CARTOGRÀFIC DE CATALUNYA

ICC
INSTITUT CARTOGRÀFIC DE CATALUNYA

NAUTICAL CHARTS OF CATALONIA 1:50 000

In June 2003, the ICC signed an agreement with the Departament d'Agricultura, Ramaderia i Pesca (DARP - Ministry of Agriculture, Livestock and Fisheries) to produce the first 8 nautical charts of the coast of Catalonia at 1:50 000 scale.

"IN MAY 2004, 8 NAUTICAL CHARTS OF A SERIES OF 16 SHEETS WERE PUBLISHED"

In this first phase of the project, the 8 nautical charts planned in the agreement of 2003 were published (from Sant Carles de la Ràpita to Castelldefels-Barcelona). In the near future, it is planned to extend the agreement in order to publish the remaining 8 charts (from Barcelona to Cap de Creus).

"THE AIM OF THE PROJECT IS TO COVER THE ENTIRE COAST OF CATALONIA"

The cartographic database is drawn from the *Mapa topogràfic de Catalunya 1:50 000* of the ICC. The altimetry is represented by contour lines and mountain shading, and planimetric elements include hydrography, population, administrative boundaries and the main communication routes.

The nautical information has been taken from the maps published by the Instituto Hidrográfico de la Marina (IHM - Hydrographic Institute of the Spanish Navy), as established in the agreement made in 2001 between the ICC, the Direcció General de Pesca i Afers Marítims (Directorate-General for Fisheries and Maritime Affairs) and the IHM. The following elements are all represented: bathymetric measurements, marinas and reefs, the nature of the sea bed, the characteristics of the lights, phanerogams, obstacles at a known minimum depth, radio beacons, shipwrecks that are not dangerous and whose depth is not known, luminous spherical buoys, areas of subsidence and dredging areas, recommended and prohibited berthings, oil and gas pipelines, and water pipes and discharge outlets.

Tourist information about the marinas (tourist cruises, sailing schools, windsurfing schools, ports, water sports, water-skiing and canoeing), services (campsites, tourist offices, police stations, golf courses and waterparks) and places of interest (protected areas, parks, panoramic views, castles, monuments, museums and historical/archaeological remains) is also provided.

"THE CHARTS INCLUDE A BRIEF REMINDER OF THE BASIC NAVIGATION REGULATIONS"

The information about the ports appears in the margin of the chart and has been provided by the Direcció General de Pesca i Afers Marítims. Each port is illustrated with a photograph which shows the services and facilities available there, in addition to facts and figures and contact details.

The aim of this series is to provide the necessary information to increase people's knowledge of the Catalan coastline, in order that greater advantage may be taken of its opportunities for sailing and recreational activities.

"ON 10 NOVEMBER 2004, THE HON. MR. ANTONI SIURANA, MINISTER OF AGRICULTURE, LIVESTOCK AND FISHERIES, PRESENTED THE NAUTICAL CHARTS AT THE BARCELONA BOAT SHOW"

SUMMARY

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Generalitat de Catalunya
Institut Cartogràfic de Catalunya

TOPOGRAPHIC MAP OF CATALONIA 1:100 000.
South Ebro region-Tarragona region

In December 2004, the first sheet in the new *Mapa topogràfic de Catalunya 1:100 000* series was published, featuring the *Terres de l'Ebre-Camp de Tarragona*.

"THE NEW TOPOGRAPHIC SERIES AT 1:100 000 IS COMPOSED OF 7 SHEETS WITH AN OVERLAP"

The altimetry is drawn from the altimetric database of the ICC. The relief is represented by contour lines and mountain shading. The contour lines are at 40 m intervals, with master contour lines every 200 m.

"THE SCALE 1:100 000 IS OBTAINED BY GENERALIZATION OF THE TOPOGRAPHIC MAP 1:50 000"

The planimetric information has been drawn up from generalization of the topographic map 1:50 000 and from the ICC's own information, updated with orthophotomaps at 1:25 000 scale (flight made in the year 2000) and revised with the flight made in 2003. It mainly consists of the hydrography, communications network, population, land use, administrative boundaries and geodetic points.

The toponymy is obtained from generalization of the ICC's toponymic database at 1:50 000 scale and has been revised in accordance with the *Nomenclàtor oficial de toponímia major de Catalunya* (Official gazetteer of the main toponyms of Catalonia), published in 2003.

"ALL THE SHEETS IN THE SERIES ARE OF A STANDARD SIZE: 126 X 108 CM"

This series provides a response to the need for topographic cartography of areas of land larger than the *comarca* (administrative division of Catalonia) on one single sheet, thereby offering a more general perspective than that provided by the regional series at 1:50 000.

Cooperative agreement between the ICC and the ANCFCC

On 6 October 2004, the ICC and the Agence Nationale de la Conservation Foncière, du Cadastre et de la Cartographie (ANCFCC) of Morocco signed a cooperative agreement covering the production of cartographic and land registry information, training, research and technology transfer.

RESEARCH AND DEVELOPMENT

PRECISE POSITIONING WITH GALILEO: VALIDATION OF WIDE AREA REAL TIME KINEMATICS (WARTK)

In December 2004, the ICC began the project on precise positioning with Galileo: Validation of Wide Area Real Time Kinematics (WARTK) of the CatNet network (WARTKnet).

This project is coordinated by the Astronomy and Geomatics Group of the Universitat Politècnica de Catalunya (UPC) and partially financed by the R+D program of the former Ministerio de Ciencia y Tecnología - Spanish Ministry of Science and Technology (now Ministerio de Educación y Ciencia - Ministry of Education and Science).

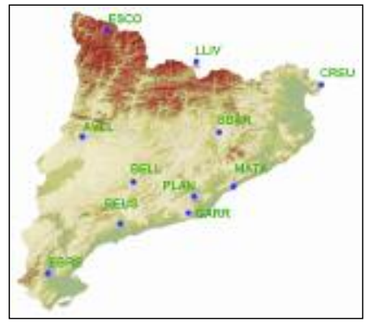
The aim of the project is to develop algorithms which enable users to position themselves with a precision of less than 10 cm in regional or even continental scale networks.

"THESE ALGORITHMS CAN BE APPLIED TO THE EXISTING GPS SYSTEM AND TO THE FUTURE GALILEO SYSTEM"

The ICC is responsible for the validation of the algorithms developed through its implementation in the CatNet network. These tests will lead to the achievement of three objectives:

- To validate the algorithms for generation of ionospheric models and WARTK.
- To determine the behavior of the models in adverse ionospheric conditions.
- To determine the validity of the algorithms developed in less dense networks of permanent GNSS stations.

The project will be completed in December 2007.



DIGITAL AERIAL CAMERA

The evolution of CCD (Coupled-Charge Device) photosensitive devices has led to the design and production of large format digital cameras, be these linear or area format.

"THE MANUFACTURE OF DIGITAL CAMERAS HAS REACHED A LEVEL OF MATURITY"

Digital cameras make it possible to dispense with the present processes related with analogic film (development, transparency creation and radiometric compensation, among other processes) and they offer the photogrammetric workflow the advantages of having a totally digital production line available.

"DIGITAL AERIAL CAMERAS HAVE THE CAPACITY TO REPLACE THE CURRENT METRIC AERIAL CAMERAS THAT USE FILM"

The digital aerial camera chosen by the ICC is the Digital Mapping Camera (DMC), manufactured by Z/Imaging.

"THE DMC CAMERA IS BASED ON LARGE FORMAT CCD MATRIX SENSORS"

In this selection the following technical criteria have been taken into account: design, image quality, and versatility and compatibility with existing systems.

As for the characteristics of the cameras, these support the simultaneous capture of panchromatic, color (RGB) and near-infrared images. Thus it is possible to obtain different types of products on one single flight.

"IT IS NOT NECESSARY TO MAKE A FLIGHT FOR EACH TYPE OF FILM, OR FLIGHTS WITH TWO CAMERAS AT THE SAME TIME"

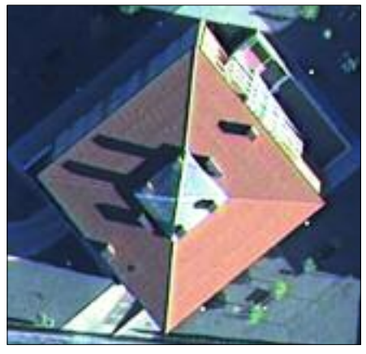
With regard to the size of the images, with a set of up to 8 optoelectronic heads an image with a total of 13 824 x 7 680 effective pixels is captured.

Thanks to its versatility, the digital camera can be used in exactly the same conditions as analogic metric cameras and the resulting image will be of the same or superior quality, without the loss of metric precision.

In December 2004, the camera was installed in the ICC's airplane and validation tests began on flights made with a double camera (digital and analogic) over various types of terrain and on resolution targets.

With this recent acquisition, the ICC maintains the level of modernization of its primary data capture equipment, and through a totally digital workflow it improves its cartographic production capacity.

Comparison of two images, a digital one (left) and an analogic one (right), with the same pixel size and taken at the same moment. The digital image has been taken with the DMC while the analogic one with the RC30 and scanned at 15 microns (habitual parameters for aerial photogrammetry).



NEW

OPTICAL TELEGRAPHY IN CATALONIA

4 pedres de...
La telegrafia òptica a Catalunya
(Les torres òptiques de la geografia catalana)
Jaume Prat i Pons
1st edition: Barcelona, October 2004

In October 2004, the ICC published the book by Jaume Prat Pons entitled *4 pedres de... La telegrafia òptica a Catalunya*.

Optical telegraphy was a means of communication that required a network of towers which transmitted coded messages by means of visible signals through mechanisms fitted on the flat roofs of these towers.

Between 1844 and 1853, Spain set up three new general lines which linked Madrid with Irún, Cádiz and la Jonquera.

Catalonia had stations which formed part of the general Spanish line linking Madrid and la Jonquera, but it also set up its own 800 km network of a military nature, with 80 stations that were in operation between 1849 and 1862. Thereafter, these fell into disuse due to the arrival of electric telegraphy.

"THE BOOK PROVIDES AN INVENTORY OF THE OPTICAL TELEGRAPHY TOWERS DISTRIBUTED ACROSS CATALONIA"

The book begins with a short chronology of the different methods of communication adopted in the course of history. Following an introduction to optical telegraphy in Spain and in Catalonia, it offers an inventory of the 33 towers in the Spanish general line located in Catalonia and the 89 towers in the Catalan military line. There is a description of the location of each tower and its present condition, together with a photograph.