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All the News!

The structure of international scientific societies such as ICA and the other geomatics organisations profiled in GIM International is primarily built on the idea of *national* representation. It is not possible to be an *individual* member of ICA. But it is clear that the work of the organisation, primarily through its Commissions and Working Groups, is dependent on a large number of individual members of the international cartographic community collaborating and meeting to address issues relevant to every cartographer across the world.

One of the major methods of keeping individuals up to date and informing them of the work of ICA is through the regular *ICA News/Nouvelles de l'ICA* which is published twice per year and made available through the ICA website at www.icaci.org (choose Newsletter in the sidebar). *ICA News* has been expertly produced for the past seven years under the editorship of Professor Graciela Metternicht, Curtin University of Technology, Perth in Australia. ICA is enormously grateful for the significant achievement of Prof. Metternicht in presenting such a high-quality publication. This year, however, the editorship will cross the Tasman Sea to Igor Drecki of the University of Auckland, New Zealand: the June 2007 issue will be the last under Graciela's charge.

The scope of *ICA News* can be determined from a glance at the contents of the most recently available issue, Number 46 (June 2006). A regular item in each issue is a report from the president on his activities in the preceding six months. The impressive range of activities and events in which President

Milan Konecny participated in 2006 is detailed in this column. Announcements relating to future ICA activities are also made, such as how to enter for Travel Awards and the Barbara Petchenik Childrens Map Competition, and notices about the forthcoming General Assembly in Moscow 2007. There are also regular contributions from Commissions and Working Groups; in this issue the Mountain Cartography Commission reporting on its fifth workshop in Slovenia in April 2006, and the Digital Technologies in Cartographic Heritage Working Group reporting on its May 2006 meeting in Thessaloniki.

Updates also appear from the Commissions on Mapping from Satellite Imagery, Ubiquitous Mapping, and Map Projections, along with the Working Group on the History of Colonial Cartography. Further reports come from meetings in which ICA has played a major role. These include the ISO/TC211 meeting in Orlando, Florida, in May 2006, the FIG/IHO/ICA Advisory Board on Marine Cartography of April 2006, the January 2006 International Cartography & GIS conference in Bulgaria, and the second GEO-SIBERIA meeting in April 2006. There are reports from member nations in issue number 46 from Sweden and Spain, along with news features and a calendar of future events.

Further information on this enormous range of international cartographic activity can be found in the online issue. *ICA News* may be changing editorship but its commitment to reporting activity from around the globe will be maintained. 🌐

David Fairbairn



ICA Newsletter / Nouvelles de l'ICA.



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Visualising Cartography

Reading these columns you must have noticed by now that the International Cartographic Association (ICA) has many different faces when it comes to maps - not so strange if you imagine the types of maps that exist or the different fields of application in which they are used. More than twenty ICA commissions are tasked with taking an inspiring look at maps. There are commissions dedicated to Mapping for Africa or Atlases, even Children, and, of course, Education. This particular column discusses the activities of the Commission on Visualisation and Virtual Environment

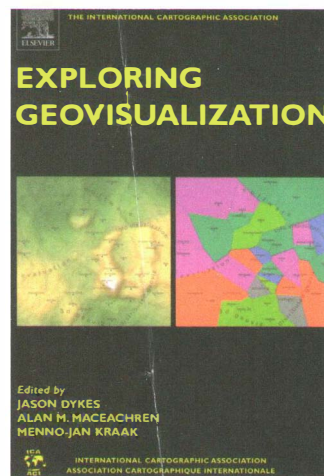
Collaboration

This commission has studied the changing and expanding role of maps in science, decision-making, policy formulation and society in general; changes resulting from continuing technological and conceptual advances that are enabling new forms of map to be used as visual thinking/decision-support tools. Our focus has centred on how to use and apply methods and techniques from other disciplines like scientific visualisation, computer graphics, virtual reality, information visualisation and, most recently, visual analysis, within the discipline of cartography. The working approach has been to organise annual meetings for international scientists centred on a theme from the research agenda established and published by the commission. This has resulted in biannual special issues of relevant scientific journals. Through these publications, and by inviting participants from outside our cartographic community, we actively propagate cartographic visualisation ideas within our own cartographic community as well as trying to reach out to other disciplines, the GIScience community and the Information Visualisation community. An important

and longstanding collaboration has been with the Association for Computing Machinery's Special Interest Group on Computer Graphics (ACM SIGGRAPH) Carto Project.

Snapshot

Our links with non-cartographic communities have given us a different and fresh approach to mapping. In our view, the map is no longer the map as many of us know it. Although we still recognise and value the traditional role of a map as a tool for 'presentation', it should also be seen as a flexible interface to geospatial data. Maps offer interaction with the data behind the visual representation and are instruments that encourage exploration. As such they are used to stimulate (visual) thinking about geospatial patterns, relationships and trends. The context within which maps operate in this way is the world of Geovisualisation, as described in the book *Exploring Geovisualization* (edited by Dykes, MacEachren and Kraak, and published by Elsevier in 2005) as a loosely bounded domain that addresses the visual exploration, analysis, synthesis and presentation of geospatial data. It does so by integrating approaches from disciplines including cartography with those stemming from scientific visualisation, image analysis, information visualisation, exploratory data analysis, visual analysis, and GIScience. This book covers the current state of the art within the working field of the commission. However, the book offers no more than a snapshot of on-going developments. We will continue via ICA workshops and seminars to facilitate exchange of ideas between cartographers and others working on geo-related problems.



Exploring Geovisualization.

Menno-Jan Kraak, chair, Department of Geo-information Processing, ITC, Enschede 7500 AA, The Netherlands.



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Mapping from Satellite Imagery

The emergence of new, low-cost, internet-based mapping tools like Google Earth, Google Maps, and NASA World Wind that make thousands of satellite images available to a wide audience has greatly influenced perception and awareness. This goes for both the general public and the scientific community, who now see the enormous potential of mapping from satellite imagery. Such tools highlight the crucial role of remote sensing in providing fast, up-to-date cartographic information for informed decision making, particularly for rapid mapping of pre- and post-disaster events, emergency planning, geomarketing, or even simpler activities like planning a holiday trip.

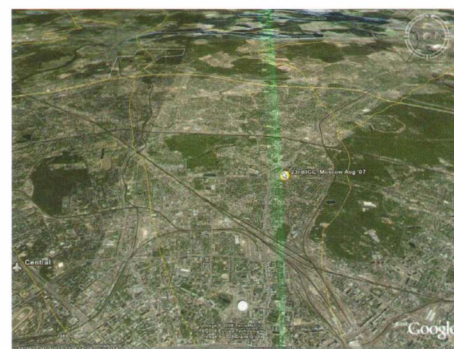
The ICA Commission on Mapping from Satellite Imagery was established in 1999 and its role in this new era of widely accessible public tools for the production of image maps for many applications should be more relevant than ever. The current terms of reference of the Commission are to:

- analyse the various types of existing and forthcoming satellite imagery and their potential input for producing and updating topographic and thematic maps and databases
- develop inventories and analyse the cartographic capabilities of different remote sensing systems
- research the state of the art of cartographic standards (e.g. legend, symbology etc) for remote-sensing-based mapping within domains such as urban areas, land cover, forestry, and the environment
- study and report on methods and techniques for satellite-based change detection and its cartographic representation (e.g. temporal cartography).

Activities of the Commission have included a joint international course with ESRI and the Land Department of Thailand, on 'GIS and mapping for Agricultural Decision Support' (Bankgok 2003). As a result of the MOU signed between the United Nations Office for Outer Space Affairs (UNOOSA) and

the ICA (see GIM International, April 2006), the Commission contributed to a workshop organised by the European Space Agency, UNOOSA and the Government of Zambia in June 2006. This, entitled 'Applications of Global Navigation Satellite System Technologies in Sub-Saharan Africa', addressed the role of space-technology applications such as remote sensing in precision agriculture, environmental monitoring, natural-resource survey and landscape epidemiology.

A digital repository of all papers presented at the 21st and 22nd International Cartographic Conferences (years 2003 and 2005) on the theme 'Cartography and satellite imagery for the management of natural resources and the environment, early warning and natural disasters mitigation' has been created at the commission website (<http://mailer.fsu.edu/~xyang/ica/index.html>). Commission members have expertise in the areas of satellite-based cartography of



Rapid mapping using satellite images in Google Earth. The venue for the 23rd International Cartographic Conference (August 2007) in Moscow is highlighted.

urban environments and urban change, land cover/land-use change, estuarine and coastal environments, topographic map updating, production of image maps, agricultural monitoring, and land degradation. To contribute to the Commission's workshop, conference or seminar activities contact the acting chair, Graciela Metternicht (g.metternicht@curtin.edu.au).

Graciela Metternicht, Curtin University of Technology



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ICA /NMAs Collaboration

ICA will celebrate fifty years of existence in 2009. The relationship between the International Cartographic Association (ICA) and National Mapping Agencies (NMAs) around the world has been remarkable since the founding of ICA in 1959. The support offered by NMAs during the early years was decisive in establishing firm economic support for the ICA in its job of promoting international co-operation. There are many matters and issues of mutual interest. The responsibilities attributed to NMAs refer directly to topics relating to cartography and geographical information. Cartography in most NMAs refers to the production of maps and capture of geographical data, and a relationship

to near disciplines such as topography, photogrammetry, remote sensing, data processing, global positioning systems, update of information, management of cartographic numerical bases and of geographical information systems. Further matters integral to NMAs may include historical cartography, the development of national atlases and land-use studies.

There is evident coincidence between these topics and those included under the different commissions and working groups of the ICA. These address education and training, incremental updating and versioning of spatial databases, national and regional atlases, mapping from satellite imagery, spatial-data standards, ubiquitous mapping, visualisation and virtual environments, maps and the internet, generalisation and multiple representation, and the quality and uncertainty of spatial data. ICA has always nurtured ongoing interchange

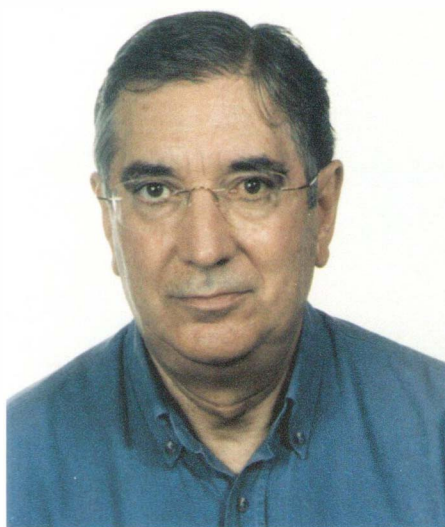
between world experts from all sectors within which cartographic activity is pursued. It has established a real, international and updated global network for exchange of technological knowledge between experts in cartographic matters, and of geographical information. The ICA commissions have taken a leading role in fostering relations between staff responsible for technical projects in the NMAs and within the international field of ICA activity. Many NMA employees have contributed to and benefited from their membership of ICA commissions and working groups.

ICA serves as the main forum, open to all countries of the world, within which NMAs may find a platform for dissemination of their own technological developments in the fields of

cartography and geographical information, and evaluate their projects in relation to those of other countries. ICA can put professionals developing activities within academic, company or public-administration sectors, as well as those in regional organisations, in contact with NMA professionals all over the world. In addition, ICA offers NMAs an outstanding opportunity at the International Map Exhibition to show maps realised in years preceding conferences, and to win international recognition through one of the prestigious ICA awards given to the best of them.

To celebrate the fiftieth anniversary in 2009 it would be great to strengthen and improve further collaboration with NMAs and to ensure that most belong to and collaborate with ICA as affiliate members. 🌐

Ramón Lorenzo, ICA vice-president



Ramón Lorenzo, ICA vice-president.



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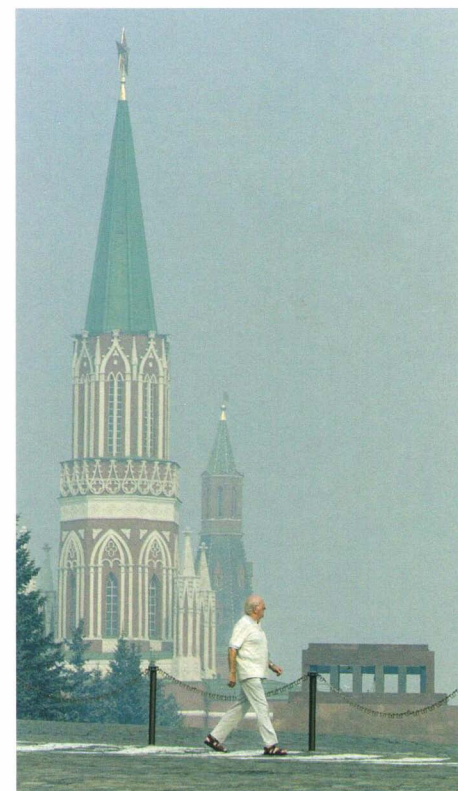
Welcome to Moscow

The world's cartographers, an internationally minded and intellectually curious group of people, meet every second year at their International Cartographic Conference (ICC). Organised under the auspices of the ICA, the most recent ICCs have been held across our planet on four separate continents: Ottawa (1999), Beijing (2001), Durban (2003) and A Coruña (2005). At each venue the message of the continuing importance of cartography has been broadcast. In 2007 the global cartographic community will meet in Moscow from 4th to 10th August for the 23rd ICC. Full details can be found on the conference website at www.icc2007.com. The Programme Committee is already considering the wide range of abstracts which have been submitted, assisted in this task by the chairs of ICA Commissions and Working Groups who together constitute the leading researchers in cartography today. The full scope of cartographic research, as shown by the titles of the Commissions alongside this column, will be addressed in Moscow.

In addition, practical cartographic activity will be considered. ICA is an important co-ordinating body for national mapping agencies, commercial map publishers and software producers. Together these organisations define the nature of contemporary cartographic design, production and dissemination. In addition to their contribution to the conference, such organisations, many of which are affiliate members of ICA, will be participating in the large International Map Exhibition, a long-established part of the ICC. Such exhibitions display the very best cartographic products and, indeed, there are competitions for the most striking and effective map representations in a number of categories. There will also be a technical exhibition by commercial and industrial companies and sponsors showing the latest Geomatics technology to assist in the handling of spatial data.

National delegates to the fourteenth General Assembly, held alongside the

ICA, will consider the administration of ICA. Elections are held during GA for officers of the association and votes taken on the establishment of the commissions. International meetings such as this provide an ideal opportunity for cartographic researchers and practitioners to network and exchange ideas. The geomatics disciplines are experienced in presenting prestigious conferences and in providing good quality events for delegates. The prime associations in our field, those making regular contributions to this magazine (FIG, ISPRS,



*The towers of Moscow's Kremlin building
(© EPA 2002/Photo: Yuri Kadobnov).*

ICA), ensure that the timing of such conferences is co-ordinated such that geomatics is addressed at a high level every year somewhere in the world.

This year all GIM International readers are encouraged to travel to Moscow, a fascinating, historic and appropriate venue for our meeting. Note the dates in your diary, and "Welcome to Russia" Добро пожаловать к России, Dobro pozhalovat'k Rossii. 🌐



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Official Journals

Since the 1960s the global cartographic community has seen the growth of our professional literature. In addition to the many teaching and research books published, a series of nationally based cartographic journals have been established. These include *Cartography and Geographic Information Science* (United States), *The Cartographic Journal* (United Kingdom), *Cartographica* (Canada), *Kartographische Nachrichten* (Germany), *Chizu* (Japan), *Bulletin/Revue du Comité Français de Cartographie* (France) and *The Journal of Spatial Science* (Australia). Initially, three of these journals expressed an interest in affiliating with the ICA and have become 'official journals of the ICA'.

The Cartographic Journal is sponsored by the British

Cartographic Society and published by Maney Publishing, Hudson Road, Leeds, UK. As described on its website (www.cartography.org.uk), the British Cartographic Society

(BCS) is a dynamic association of individuals and organisations dedicated to exploring and developing the world of maps. *The Cartographic Journal*, published three times each year, is free to its members and delivered on subscription to others in more than fifty countries. The journal contains authoritative articles and international papers on all aspects of cartography. It includes coverage of related technologies where appropriate, for example, remote sensing, Geographical Information Systems (GIS), the internet and global positioning systems.

Cartographica is sponsored by the Canadian Cartographic Association (www.cca-acc.org/about.asp). Founded in 1975, the Association has the goals of promoting interest in maps and related cartographic materials and furthering

the understanding and knowledge of maps by encouraging research in the field of cartography, both historical and current. *Cartographica* (www.utpjournals.com/carto/carto.html) is dedicated to publishing articles on all aspects of cartographic and geo-visualisation research, whilst at the same time maintaining its tradition of publishing material on cartographic thought, the history of cartography and cartography and society. Increasingly, *Cartographica* also plans to consolidate its trend towards publishing research contributions focusing primarily on geographic information. *Cartographica* is published quarterly, with two or three regular issues and one or two single-topic monographs.

The journal *Cartography and Geographic Information Science* (CaGIS) is affiliated to the Cartography and Geographic Information Society, a Member Organisation of the American Congress on Surveying and Mapping. This society (www.cartogis.org/) supports research, education and practices that improve the understanding, creation, analysis and use of maps and geographic information. Its journal, *CaGIS*, formerly *The American Cartographer*, is quarterly and publishes papers on basic cartography, analytical cartography, and geographic information systems/science (www.cartogis.org/publications). Every four years the United States ICA national Report is published as a special issue.

Each of these three journals will work with the ICA to publish their best work and to offer the possibilities of special issues when appropriate. It is anticipated that other journals will become official ICA journals in the near future.

Bob McMaster, chair, ICA Publications



ICA-approved cartographic journals.



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Cartography in the Classroom

The ICA has long held the view that a commitment to cartographic education is needed to ensure the continuing vibrancy of the discipline. A Commission on Education and Training has existed for almost as long as ICA itself: its work will be reported in a future column. This month we offer a more reflective commentary on education.

As one of the five main pillars of activity which contribute to ICA's work (Art, Education, Professional Practice, Science & Technology, Society) it is clear that education has a high profile. The ongoing development of cartographic syllabi, both on-line and in formal programmes, remains an important issue. There is active promotion of cartography at all levels of education. Informal courses and workshops are presented and recognised by the ICA and young researchers are encouraged through the provision of travel awards. A directory of international education in cartography is maintained. A number of trends can be identified.

University Programmes

The past few years have seen a diminution in direct cartography education in formal university programmes. Courses in some countries, such as the UK, the Netherlands, Australia and Canada have declined due to staff retirement without replacement, lack of support from managers in higher education, and even, sometimes, the indifference of national mapping societies, agencies and employers. In contrast, the expanding higher education sectors in a variety of countries, including Albania, China and Brazil, seem to have embraced cartography more fully, and promotional work on the part of dedicated individuals in countries such as Switzerland and Austria has further raised the profile of cartography.

Technical Education

Technical education in cartography appears to be declining as more organisations show themselves willing to recruit university graduates only. Those

employing technicians conduct all training 'in-house', and specific and identifiable job differentials and definitions are becoming increasingly blurred. It is vital to maintain technical training.

Continuing Education

The position as regards less formal education in cartography is also mixed. Continuing education through distance learning has been a major focus of educational research and development in recent years, and the Commission has embraced this.

Amateur Mapping

It is clear that the number of maps being produced by 'amateur' cartographers (from orienteers to web designers) is increasing significantly. There is a need to ensure that the compilers, producers and disseminators of such maps are aware of cartographic practice and of the need to create an effective and efficient product.

Cartography and GIS

There appears to be demand for the availability of cartography as an optional or compulsory subject within the increasing number of GIS courses at all levels. But there are also many GIS courses that suggest that cartography is not important. ICA must respond with education highlighting the link between cartography and GIS.

External Initiatives

There are initiatives external to ICA which can be closely monitored. The European Thematic Network EEGECS (European Education in Geodetic Engineering, Cartography and Surveying) has a range of working groups and publications of value in comparative analysis of geomatics education in Europe. They also promote student exchange.

Each of these trends and issues impact on or can be used by the international cartographic community to ensure the health of the profession. It is up to every cartographer to take note of the importance of education. 🌐

David Fairbairn



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Teaching by Internet

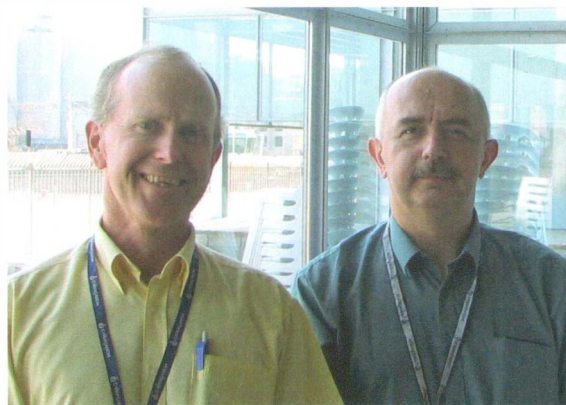
Last month's ICA page introduced the Commission on Education and Training. The chair of the commission this month describes one specific project, the ICA-sponsored Internet Cartography Teaching Programme. The idea of a web course on cartography was conceived by Prof. Ferjan Ormeling (ICA Secretary-General, 1999-2007), chairman of the commission between 1987 and 1999. According to the original plans, the proposed programme is to provide modules on cartography that can be delivered to remote locations, used to update existing courses and as alternative or additional delivery in

already developed online resources. It has been useful to incorporate these, as the huge task of developing an online BSc Cartography programme is impossible for commission members alone. Further, ICA can provide accreditation for such material, which may assist in marketing.

Generic Headings

The first stage (version 1) is available on the website and its primary aim is to establish a presence here. No attempt has been made at this stage to integrate the modules beyond grouping them under generic headings. Modules will vary in design and depth of content. In most cases this website will provide the

user with a pathway to existing resources developed and managed by other providers. One primary task associated with future versions is to provide self-assessment tasks to a common set of standards for each created module. The initial set of online modules and printed resources has been compiled from the following sources: Swiss Virtual Campus, the University of Melbourne, International Cartographic Association, ESRI, and ICA hardcopy books and test modules.



David Fraser, Australia (left) and Laszlo Zentai, Hungary.

existing courses, and can provide an international standard for cartography courses. The programme is aimed at encouraging individuals all around the world to be trained and educated in the mapping sciences, thus enhancing their ability to provide an efficient and effective service to their country, community and employer.

Existing Sources

A number of meetings and informal discussions have seen the introduction of significant conceptual changes, so that the course could now become a reality. There have been amendments to expectations of the voluntary ICA working team, and a workable arrangement has been created which takes into account the efforts of those who have

Comparison

Assembly of this material has been helped by another Commission project to continuously monitor cartography courses in higher education all over the world. Analysing this provides an impression of the diversity of different curricula, diversity that can complicate comparisons.

Website

<http://lazarus.elte.hu/cet> 

László Zentai, chair ICA Commission on Education and Training, email: laszlo.zentai@elte.hu, and David Fraser, vice-chair, project co-ordinator, email: david.fraser@rmit.edu.au



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Research Agenda

ICA is a broad-based organisation of members and affiliates from a wide range of representative bodies and interest groups: academia, commerce, government and learned societies. One important ICA aim is, in the wording of its mission statement, "to carry out or to promote multi-national cartographic research in order to solve scientific and applied problems." Such research is primarily carried out in the ICA Commissions, research being their major work. Currently such commissions operate independently, although there are many examples of co-operation, notably in hosting joint meetings. The presentation of an ICA Research Agenda has as its main purpose co-ordination of research in Cartography and GIScience.

Forward-looking

It is also hoped that the new Research Agenda will help initiate research in subjects that cartographers were previously reluctant to approach, and to highlight topics that can be collaboratively investigated by researchers from ICA and other organisations. The importance of research agendas for international associations has been highlighted by the United Nations International Council on Scientific Unions (ICSU), which has recommended their adoption to help promote sustainable development and scientific progress. A first draft of the ICA Research Agenda was presented to the International Cartographic Conference in Moscow this summer, and ideas were discussed regarding how to adopt and implement it. The agenda reflects the nature and scope of ICA Commissions in existence from 2003-2007, and thus the initial direction of the document uses their structure and characterises the focus of each group. However, it is also a forward-looking document, identifying areas of future research. These were determined using "mind-map" techniques in meetings with commission chairs and in Executive Committee meetings.

not mutually exclusive) have been presented as the framework for the Research Agenda:

- *Geographic Information*: its modelling, storing, processing and semantics
- *Metadata and Spatial Data Infrastructures (SDIs)*: standards, design, implementation and use of both descriptive data and the nature of large, possibly multi-resolution data-bases
- *Geospatial analysis and modelling*: extracting added value from processing, computation and decision-making associated with mapping
- *Usability*: issues connecting the human user of spatial data to its representation and location
- *Geovisualisation*: covering dynamic, interactive, multidimensional data and some associated approaches such as visual analytics, and technologies, such as VR and multimedia
- *Map production*: addressing stages in mapping, technical processes and the resulting range of map types and their handling
- *Cartographic theory*: covering theories of cartographic conception, map semantics, syntactics and pragmatics, and analytical cartography
- *History of Cartography and GI Science*: the development of methods and practices throughout history that inform our current activities
- *Education*: informing and training future generations whilst optimising contemporary learning practices
- *Society*: considering how spatial-data handling of all forms is grounded in societal structures.

A further role of a research agenda is to help define the scope and nature of our discipline. It is hoped that presentation of the agenda will encourage all cartographers to energise their approach to their subject and commit themselves to a programme of work positively addressing all these topics.

Energising

The following "keywords" (which are

David Fairbairn



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Tactile Mapping

In the August 2005 ICA contribution to these pages we reported on the increased interest in tactile mapping evident at the International Cartographic Conference (ICC) in A Coruna that month. This was demonstrated once more at the August 2007 ICC in Moscow in August, where a total of fourteen papers on this subject were given under the large (530+ oral presentations) conference umbrella. With emphasis on using innovative devices that make spatial information more widely available to larger numbers of visually impaired people, the conference perhaps marks a turning point in tactile cartography research.

Themed Sessions

Three themed sessions covered the following topics:

- tactile map use, reading and design: cognitive perspectives
- new ways of accessing spatial information in the absence of vision: multi-modal interfaces & virtual mapping
- tactile mapping: further technological developments.

As the topics indicate, great strides are being made in applying new geotechnologies and indicate a move away from the static tactile map. Representatives from local blind organisations in Russia were invited to the presentations and visits to these institutions for commission members took place during the conference.

Innovation

Recent reports of tactile activity have centred on innovation. New designs are evident, with obvious impact on tactile graphics. One is TeDUB (Technical Drawing Understanding for Blind people), a new method providing visually impaired people with an accessible route to diagrams and plans. The system uses speech synthesis and various sounds to provide basic output, but user's can also feel characteristics of a graphic via a force feedback mechanism, in this case a joystick. Another new design is Talking Tactile Tablet, currently being promoted in the UK and US, which combines tactile maps with

a touch pad that offers verbal instructions and layers of spatial information that would otherwise be inaccessible through touch alone.

Beyond Tactile Maps

Recently, Braille embossers and touch-sensitive screens have been applied to tactile production more generally and as TIMP (the Tactile Inkjet Mapping Project) comes to an end, its findings reveal that novel tactile production methods are coming on-stream. Further contemporary research addresses electronic wayfinding devices, Location-Based Services (LBS), positioning technology and mobile navigation tools. Devices which incorporate these are not tactile maps according to conventional definitions, but they do provide geographic representations of environments in the broadest sense. The appeal of new technology also typifies a widespread notion that expecting a tactile map alone to fulfil the spatial needs of blind and partially sighted users is no longer tenable.

Five Topic Areas

A new website developed by the co-chair of the ICA Commission on Maps and Graphics for Blind and Partially Sighted People will reflect these new developments in technology and the changing nature of tactile mapping. Based on consultations with an expert panel of producers, designers, practitioners, researchers and users of tactile maps, the Commission has broadly identified five essential topic areas that should form the focus for future research consideration. These include technology, particularly new innovations, availability of tactile maps, guidelines to help improve consistency of design, user involvement in all aspects of tactile graphic production process, and training for both makers of tactile material and potential users. 

Jonathan Rowell, ex-Chair, ICA Commission on Maps and Graphics for Blind and Partially Sighted People

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- Michael Peterson, University of Nebraska (Omaha), USA
- Marine Cartography**
- Patricia Carrasco, Servicio Hidrográfico y Oceanográfico de la Armada de Chile
- Mountain Cartography**
- Karel Kriz, Universität Wien, Austria
- National and Regional Atlases**
- Peter Jordan, Ost- und Südsteuropa-Institut, Austria
- Planetary Cartography**
- Kira Shingareva, Moscow State University for Geodesy and Cartography, Russia
- Theoretical Cartography**
- Alexander Wolodtschenko, Technische Universität Dresden, Germany
- Ubiquitous Mapping**
- Takashi Morita, Hosei University, Japan
- Under-represented Groups and Cartography**
- Wiesława Zyszkowska, Uniwersytet Wrocławski, Poland
- Use and User Issues**
- Corné van Elzakker, ITC, Netherlands
- WG Art and Cartography**
- William Cartwright, RMIT University, Australia
- WG Early Warning and Crisis Management**
- Milan Konecny, Masarykova Univerzita, Czech Republic
- WG Mapping Africa for Africa**
- Derek Clarke, Surveys and Mapping, South Africa

Extending the ICA Family

The 23rd International Cartographic Conference took place in Moscow in August this year with a full programme of activities, presentations, exhibitions, social events and technical visits, all related to the subjects of cartography, mapping and geographic-information handling.

14th General Assembly

In addition to the conference, of which a

report will appear in the next issue of GIM, the fourteenth ICA General Assembly (GA) also took place. Formally, ICA members are the representatives of those nations embracing ICA ideals and governing its work and management. A total of 83 nations form the ICA "family" and the majority were represented

in Moscow, coming together to reflect on the past term of ICA activity (2003-2007) and set the course for the next, 2007 to 2011. A new Executive Committee (EC) was elected, their names being listed in the textbox on this page. The EC is charged with leading ICA, liaising with the wider international scientific community and ensuring that progress in the discipline of cartography is maintained at a high level. The EC is assisted in these tasks by a wide range of Commissions and Working Groups that undertake much of the day-to-day work of advancing cartographic knowledge. Commissions are appointed by the GA and are expected to present (and eventually to produce over the four year period) a programme of activity which is subject-specific and driven by realistic terms of reference.

Working Groups

In addition to voting for the establish-

ment or continuation of commissions, the GA elects the chair of each. A list of Commissions and Chairs also appears in the textbox. They cover almost all areas of cartography and geographic-information handling. Any topic of contemporary or urgent interest not addressed by the commissions may be examined by ICA Working Groups (WGs) established by the EC. These are not necessarily fixed for the full four-year period. At the Moscow EC meeting the following WGs were initiated: Art & Cartography, Early

Warning & Crisis Management, and Mapping Africa for Africa. It is expected that further WGs be approved at the next EC meeting.

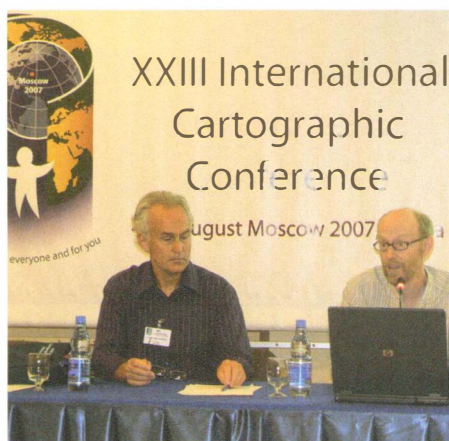
Join Us

Individuals interested in cartographic development are invited to become a member of commissions and WGs and thus feel themselves active participants

in ICA. You may contact the commission chairs using the contact details provided on the website. In Moscow the GA also fulfilled its responsibility to:

- receive reports from officers and commission chairs for 2003-2007
- approve ICA financial management
- vote on modifications to ICA Statutes
- accept national reports on cartographic activity from member nations
- confirm ICA Awards bestowed by the Awards Committee
- decide on the location of the 15th ICA GA (to convene in Paris, France, in 2011).

One further duty of the GA was to approve and welcome new nation members to ICA. We are pleased to officially recognise Botswana, the former Yugoslav Republic of Macedonia (FYROM), Kazakhstan, Montenegro, and Serbia as members: welcome to the ICA family!



New ICA President, William Cartwright (left) and secretary-general and treasurer, David Fairbairn (right). Photo: Laszlo Zentai.



International Cartographic Association

Executive Members

- President**
- William Cartwright, RMIT University, Australia
- Secretary General & Treasurer**
- David Fairbairn, Newcastle University, UK
- Vice-Presidents**
- Derek Clarke, Surveys and Mapping, South Africa
 - Georg Gartner, Technische Universität Wien, Austria
 - Pablo Gran, Instituto Geografico Militar, Chile
- Past-President**
- Milan Konecny, Masarykova Univerzita, Czech Republic
- Editor ICA News**
- Igor Drecki, University of Auckland, New Zealand

Commissions Chairs

- Cartography and Children**
- Jesus Reyes Nunez, Eötvös Loránd Tudományegyetem, Hungary
 - Temenoujka Bandrova, University of Architecture, Civil Engineering and Geodesy, Bulgaria
- Digital Technologies and Cartographic Heritage**
- Evangelos Livieratos, Aristotle University of Thessaloniki, Greece
- Education and Training**
- David Fraser, RMIT University, Australia
- Generalisation and Multiple Representation**
- William Mackaness, University of Edinburgh, UK
 - Sebastian Mustière, Institut Géographique National, France
- Geospatial Analysis and Modelling**
- Bin Jiang, Högskolan i Gävle, Sweden
- Geospatial Data Standards**
- Anthony Cooper, Council for Scientific and Industrial Research, South Africa
- Geovisualization**
- Gennady Andrienko, Fraunhofer IAIS, Germany
- History of Cartography**
- Elri Liebenberg, Pretoria, South Africa
- Management and Economics of Map Production**
- Philippe de Maeyer, Universiteit Gent, Belgium
 - Erkki-Sakari Harju, Karttokeskus, Finland
- Map Projections**
- Daan Strebe, Mathematics, USA
- Mapping from Satellite Imagery**
- Graciela Metternicht, University of South Australia, Australia
- Maps and Graphics for Blind and Partially Sighted People**
- Dan Jacobson, University of Calgary, Canada
- Maps and Society**
- Chris Perkins, University of Manchester, UK
- Maps and the Internet**
- Michael Peterson, University of Nebraska (Omaha), USA
- Marine Cartography**
- Patricio Carrasco, Servicio Hidrográfico y Oceanográfico de la Armada de Chile
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Summer Time in Moscow

The 23rd International Cartographic Conference (ICC) took place in Moscow in August and provided an opportunity for cartographers from around the world to meet, present, debate and network at a high intellectual level. The quality of papers and posters presented was excellent and the programme covered the full range of cartographic activity: research, production, use, history and areas of application. Twenty-six themes were established by the Russian organising committee, most reflecting areas of interest of ICA Commissions and Working Groups. The most popular sessions included SDIs, generalisation, electronic atlases, history and research & development. More than five hundred papers and nearly 150 posters were presented, and more than a thousand delegates attended from 62 countries.

Exhibition

The conference was opened by the Russian Minister for Transport, Igor Levitin, who expressed pleasure in welcoming



Part of the large international cartographic exhibition.

cartographers from around the world. The conference director was Alexander Borodko, head of the Federal Agency for Geodesy and Cartography, whose opening address invited delegates to discover the strengths of the heritage and current state of Russian cartography. Such strengths were particularly evident in the International Cartographic Exhibition, the usual display of stunning and innovative mapping visible every two years at ICCs. Here, over nine hundred maps, atlases, globes and electronic atlases were on show, along with two

hundred hydrographic chart products, representing the best cartography from around the world. The children's map competition was held alongside, and a full technical exhibition by commercial companies also occupied the trade-hall of the All-Russia Exhibition Centre. In addition, the exhibition "Masterpieces of Russian Cartography" in the Russian State Library gave a glimpse of the massive stock of historical maps stored there.

Important Meetings

The General Assembly that took place during the ICC has already been reported in the November issue of GIM International. The many other gather-



Student award winners and members of the executive committee.

ings included business meetings, one of each Commission and open to all, where activities over the past four years were reported upon and plans for the period 2007-2011 developed. There were also meetings of other special-interest groups such as students and members of the Joint Board of Geospatial Information Societies. Fifteen student delegates were recipients of travel grants, awarded to encourage attendance and presentations from youngsters. The gathering of National Mapping Organisations directors and staff organised by ICA past president Konecny, Ramon Lorenzo (Spain) and Alexander Borodko was particularly important in maintaining and developing vital links between ICA and national mapping agencies worldwide.

ICCs are busy occasions at which take place many activities, intellectual and social. ICA was pleased to have the opportunity of experiencing these in Moscow. 🌐