



ICA News Nouvelles de l'ACI

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<http://www.icaci.org>

Editorial

The first issue of the New Millennium! ICA News has begun a new 'digital' era, as the Newsletter can now be accessed and downloaded from the ICA Home Page (www.icaci.org) as an Adobe PDF file. However, we will continue producing and distributing the hardcopies as has been done so far.

This issue contains a variety of contributions from our very active Secretary-General and several Commission Chairs. Of special interest is the report by Jacqueline Anderson on the results of a survey conducted amongst developing and developed nations contributing to the Barbara Petchenik Children's Map Award. The information would assist the ICA Executive in the formulation of rules and guidelines for future competitions. An interesting insight into the activities and some thoughts of the ICA Secretary-General and President is reported in an interview by Corné van Elzakker, from the Division of Geoinformatics, Cartography and Visualization at ITC, in The Netherlands. The conference reports section includes highlights from the 15th United Nations Regional Cartographic Conference for Asia and the Pacific, attended by the ICA President, the 2nd Geomatica 2000, hosted in Cuba, and the 28th Symposium International Symposium on Remote Sensing of the Environment which was held in Cape Town last March. A section illustrating the role of ICA in global projects such as the Digital Earth, GSDI, and Global Mapping is presented by Milan Konecny, ICA Vice-President.

A 'special feature' section, of short articles that will be of interest for the cartography community worldwide, has been introduced. This first note is a brief discussion on the information contents of Cartography courses advertised via Internet, prepared by Charles de Jongh, a Cartography student at the University of Utrecht (The Netherlands). A section on recent cartographic literature has been introduced as well. It features two special issues of Computers&Geosciences, containing recent materials on visualization and cartographic modelling and a short note from Richard Olomo, Editor of the Nigerian Journal of

Cartography and GIS, who reports on the scope and guidelines for submission of papers to this journal, that might be of special interest to the African Cartographic community.

Lastly, as the 20th International Cartographic Conference is well underway, I have included a reminder of forthcoming deadlines for travel awards and the call for papers.

I wish a good summer break to our colleagues of the northern hemisphere, and look forward to receiving your contributions for the ICA 35 News, next November.

Graciela Metternicht

ICA News goes Spanish

Thank you to the efforts of Miguel Bernabé and the enthusiastic group at the Department of Topography and Cartography of the Madrid Polytechnic University (Universidad Politécnica de Madrid), the colleagues of ICA can now access a Spanish version of the ICA News via Internet at <http://www.mercator.org/ica/INDEX.HTM>. I agree with Miguel's comments *'The layout it's a bit different, but the contents are the same!'* Congratulations to Miguel and his group.

Request for Cartographic Symbol Sets

The Electronic Cultural Atlas Initiative (ECAI) is a collaborative project, which will combine global mapping, imagery, and texts. ECAI is dedicated to the low-cost or no-cost dissemination of a wide range of information using distributed database and Internet GIS techniques.

ECAI constitutes a new dimension in academic research and international collaboration. ECAI Atlas Teams of area specialists, in conjunction with ECAI Technical Teams, are producing an interactive electronic atlas of the world from which selected data from regions, eras, and disciplines can be instantaneously accessed. ECAI's distributed database is built around time-enabled GIS and a common server-based metadata catalogue.

One of the challenges facing the ECAI project team is the development of a set of cartographic symbols that is applicable to the considerable range of topics and subject areas that ECAI addresses. This will require the assistance of professionals from many disciplines including archeologists, historians, geographers, sociologists, and many others. It is our intention to produce a set of symbols that can be utilized for two purposes. First of all, we intend to standardize the way in which map data is viewed through TimeMap, the ECAI map interface. Second, it is our hope that the ECAI project can assist in the establishment of symbology guidelines where none currently exist, as is the case in many subject areas. These guidelines will be made available through the ECAI webpage to anyone interested in producing aesthetically pleasing and cartographically appropriate maps.

We would like to request that you support our efforts to develop a standardized symbolset by submitting to the ECAI Cartographic Subcommittee any collection of map symbols that you believe are currently utilized, or that should be utilized within your subject area. Please submit the symbol set(s) to the Cartographic Subcommittee Coordinator, Kevin Mickey either via email, fax, or regular mail.

Please note that we prefer to receive your symbol sets in a digital format, but will gratefully accept paper as well. In addition, we would like to request that you clearly identify the intended meaning of each symbol. We would appreciate your submission no later than May 31, 2000. If you would like to obtain more information about the ECAI project, we encourage you to visit the project website at <http://www.ias.berkeley.edu/ecai/>. You may also send email for additional information to ecai@socrates.berkeley.edu.

Kevin Mickey, Quality Assurance Manager
The Polis Center, Indiana University at Indianapolis
1200 Waterway Boulevard, Suite 100
Indianapolis, Indiana 46202
Fax: (317) 278-1830
Email: kmickey@iupui.edu

Meeting the ICA's Top Executives

At the 11th General Assembly of the ICA in Ottawa new persons were appointed to the two top positions in the Executive Committee of the Association: Dr Bengt Rystedt (Sweden) is the new President and Dr Ferjan Ormeling (The Netherlands) is the new Secretary General and Treasurer. The purpose of this interview is to introduce our new top executives to the ICA community at large.

Please tell us where you live and work and in which ways people may contact you

[BR] I live and work in Gävle, a town of some 70 000 inhabitants, 180 km north of Stockholm at the coast of the Baltic Sea.

Private address:

Krikonvägen 21 SE-806 36 Gävle
+46-26-101722

Office addresses:

National Land Survey SE-801 82 Gävle
+46-26-633429

University of Gävle SE-801 76 Gävle
+46-26-648844

E-mail addresses: Bengt.Rystedt@lm.se
Bengt.Rystedt@hig.se

[FJO] Although it is bad for my stamp collection, E-mail is the most convenient way to reach me: f.ormeling@geog.uu.nl

I work at the Faculty of Geographical Sciences, Utrecht University, P.O. Box 80115, 3508 TC Utrecht, The Netherlands.

What would be your current definition of 'Cartography'?

[BR] Communication of geospatial information in visual form.

[FJO] I have been drifting away from communication-oriented definitions. My current view would be: the process of allowing people to take proper decisions on the basis of spatial data.

What is the kind of cartography you have been dealing with and are dealing with now in your professional career?

[BR] (1973) PhD on a thesis on computer cartography at the University of Lund.

(1972-84) Application development on land and land related data at the Central Board of Real Estate Data.

(1984-95) Developments in cartography at the National Land Survey, the national mapping organisation of Sweden.

(1996-99) R&D co-ordinator and head of research at the National Land Survey.

(1996-99) Adjunct professor at the University of Gävle.

Positions from January 1, 2000:

Head of research National Land Survey of Sweden (30%).

Adjunct professor of Geosciences esp. Information technology at the University of Gävle, affiliated to the University of Uppsala (30%).

Head of the department of technology at the University of Gävle (40%).

[FJO] I started work for 8 years as atlas editor for a cartography firm in the Netherlands, Wolters-Noordhoff, and concentrated there on small-scale thematic cartography. I still spend most of my research in that field, be it now electronic, with sidelines such as geographical names and copyright. In 1969 I got a position at Utrecht University where I still work, and since then I have been trying to catch up with the more large scale aspect of the profession and map production. Apart from atlas work in Utrecht we also engage in data quality research, so in the more theoretical aspects of map use. In 1985 I was appointed to the chair of cartography in Utrecht University.

What is and has been your involvement with national cartographic (or other related) societies?

[BR] I am a long time member of the Swedish Society for Anthropology and Geography, the South-Swedish Society of Geography and the Swedish Cartographic Society. In the latter one I started a GIS section in 1984 and chaired that until 1997. Secretary General of the organisation committee for the 1997 ICA international cartographic conference in Stockholm.

[FJO] We are only a small country, and that is why there was already pressure at an early age to take part in the work of our national cartographic society (NVK). So in 1971 I organised my first cartographic summer school for the NVK, and from 1975-1997 I have been a member of the board, the last two years as president. My colleagues even had a harder time in getting me to resign as one of the editors of the *Kartografisch Tijdschrift*, our Dutch cartographic journal, which I have regarded as one of my tasks since 1971. Of course it is difficult to leave what I think of as the best cartographic journal in the world. It is a pity so few people read Dutch, the language it is published in! As it is going electronic

gradually, this gives the other editors an opportunity of phasing me out.

What is and has been your involvement with international societies related to cartography and/or geoinformatics (other than the ICA)?

[BR] Member of the steering committee for the European GIS conferences 1991-95.

[FJO] From under the ICA roof it has been my privilege to co-operate with commissions on education from the FIG and the ISPRS and thereby see how we are beset by similar problems and have the same opportunities.

What has been your involvement with ICA up to now?

[BR] ICA conferences attended: 1974, 1982, 1987, 1989, 1991, 1993, 1995, 1997 and 1999.

1987-91 Chair of the National Atlas Commission.

1991-95 Chair of the National and Regional Atlas Commission.

1995-99 Vice President.

1997 Secretary General of the Organising Committee of the ICA conference in Stockholm.

[FJO] The first ICA conference I attended was in Amsterdam in 1967. I was still a student then, and I was hired for inserting delegates' mail in their pigeonholes, and in the meantime listen in to the papers being presented. Since then I have only skipped 3 ICA meetings: New Delhi (1968), Ottawa (1972) and Warszawa (1982). I started my commission work at the lowest end of the scale in 1976 as a documentalist for the joint ICA-IGU Working Group on Environmental Atlases under Prof. Vazques-Maure and later David Bickmore until 1984. In 1980, when my boss Cor Koeman resigned from the ICA Standing Commission on Education and Training (CET) I took over his membership. When the Atlas Commission was resurrected in 1985 I took the opportunity to enrol again and participate in Bengt Rystedt's gang of four with Eva Siekierska and Tim Trainor. When Karl-Heinz Meine laid down the chairmanship of CET in 1987 I was proposed as its chairman, and elected, and had the luck of finding Richard Dahlberg as co-chair. When Richard died, Roger Anson took over CET's co-chairmanship in 1996.

Based on your long experience with the work of the Association and your attendance of many conferences, how would you describe

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the changes that took place within the ICA, possibly in relation to the development of the discipline?

[BR] From the 1974 conference I especially remember Fred Christ's paper on automated generalisation. I cannot say that much happened in this field in the years thereafter. Generally speaking, cartography has not kept up with the technological developments.

[FJO] There seemed to be more long-term involvement in the overall work of ICA. Nowadays it seems to be more of a commitment in specific niche activities. Surprisingly, I have not seen any real increase of the average age of those that share in the work of ICA, on the contrary. The discipline as such has matured and automation has helped us to concentrate on the core activities.

Could you provide one (or two) keyword(s) to typify the last ICA conference in Ottawa?

[BR] A real international and friendly atmosphere.

[FJO] Colourful, smooth and fundamental.

Nowadays, there seems to be some kind of a paradox: on the one hand we notice that, for instance, specialist education and training in cartography is threatened at various places in the world and the quality of cartographic displays is deteriorating, and on the other hand, for instance, ICA conferences blossom and there is more interest in the use of maps than ever before. What is your view on my perceived paradox and what will be the role of ICA in this situation?

[BR] Cartographers and map users understand the possibilities for cartographic applications in the information society and want to find out how to find the front-end knowledge at international conferences. ICA is the worldwide vehicle for providing and disseminating cartographic knowledge.

[FJO] Your paradox is not too serious. I see the Web as a panacea for both showing good design examples with which to fight your deteriorating displays, and for providing educational opportunities, such as web courses for those for whom it becomes too expensive to provide contact education. ICA will stimulate both types of applications on its websites.

I will not ask you to provide a complete and self-contained personal policy statement regarding the ICA and its activities in the four years to come. But I am sure that both of you can each mention just one particular aspect you would like to pay extra attention to in the coming four years. Please do so.

[BR] I would like to make cartography more visible and widely acknowledged as an up-to-date science in the information society.

[FJO] In CET we engaged especially in endeavours that brought various ICA commissions together. This seemed to work rather well, and that is one aspect I would like to continue the coming term. Apart from that I think the map use aspect has been under represented in our work and I will try to remedy that.

One but last question: why did you accept your nomination for this position?

[BR] I see this as a final peak in my career and since ICA has given me so much I want to give something back.

[FJO] As I positively pressured the NVK into nominating me for this post until they finally gave in, they would not have taken it kindly if I had walked away subsequently.

Which question did you miss here?

[BR] *Co-operation and relations to our sister societies.* I see ICA as a prosperous organisation and want to see it develops in good co-operation with our sister societies.

[FJO] *How we intend to interest future generations in ICA.*

By organising summer schools in advanced GIS-based visualising techniques.

Interview by: Corné P.J.M. van Elzaker, International Institute for Aerospace and Earth Sciences (ITC), The Netherlands



ICA President, Bengt Rystedt (right) and Secretary General, Ferjan Ormeling (left).

Getting ready for the 20th ICC, Beijing 2001. Important deadlines

Call for Papers:

Authors should indicate which one of the following topics is addressed. The Local Organizing Committee reserves the right to make final decisions on categorization as part of the acceptance process. Papers not fitting the defined categories should be labeled "other". The technical topics of the Conference are:

1. Education and Training in Cartography.
2. History of Cartography and Historical Maps.
3. Cartography and the Environment.
4. Marine Cartography.
5. Satellite Mapping.
6. National and Regional Atlases.
7. Military Cartography.
8. Map Design and Production.
9. Tourist Mapping.
10. Security, Pricing and Copyright of Cartographic Database and Digital Maps.
11. GIS and Digital Mapping.
12. Multimedia Cartography and Electronic Maps
13. Computer Generalization of Spatial Data
14. Spatial Data Infrastructure Policies
15. Mapping on the Internet and the World Wide Web
16. Spatial Data Visualization
17. Temporal Aspects of Cartography
18. National and International Standards in Cartography
19. Geo-Spatial Data Sharing
20. Geo-Spatial Data Quality and Evaluation
21. Maps for the Handicapped
22. Cartography and Children
23. Gender in Cartography
24. Cartographic Theory and Methods
25. Intelligent Navigation Systems
26. Planet Cartography
27. Global Mapping

The abstract should be 300-500 words long in English, the conference language. Use standard 21x29.7 cm paper with 4 cm top

and bottom margins and 3 cm side margins, or use 8.5x11 inch paper with 1.5 inch top and bottom margins and 1.25 inch side margins. Center the title in bold capital letters as the first item, followed by a vertical space and then name(s) of the author(s). Type the affiliation address (typed as it should appear on a mailing envelope) immediately below each author's name. Immediately below the last line, authors are encouraged to include a fax number and E-mail address. After skipping two lines, the body of the abstract should be typed with single spacing and no indentation for paragraphs.

Deadlines:

1st September 2000: Abstracts must be received by the Local Organizing Committee

1st December 2000: Notification of acceptance.

1st April, 2001. Fully typed version (max 8 pages, including illustrations and references, approximately 800 words per page.) of the papers accepted for oral presentation and publication in the conference proceedings. Only the papers received by this date are assured publication in the proceedings. Abstracts and papers should be mailed to the following address:

Local Organizing Committee for ICC 2001
State Bureau of Surveying and Mapping of China (SBSM)
9 Sanlihe Road, Beijing 100830, China
Fax: +86-10-68311564/68339095
Tel: +86-10-68346614/68339095
E-mail: icc2001@sbsm.gov.cn

Further information at
www.sbsm.gov.cn/icc2001/

Travel Awards

A limited number of travel awards to the International Cartographic Conferences of the International Cartographic Association will be made to young cartographers who are nationals from developing countries. ICA generally uses the United Nations definition of developing country, which can be found in the U.N. Statistical Yearbook. Recent definition includes all countries in

Africa, South and Central America including the Caribbean, and much of Asia and Oceania. Applicants must be giving a paper at ICA for the first time and be 35 years old or less.

Deadline:

15th December 2000: a full copy of the paper as well as abstract should be received by the Conference Secretary and to the ICA Secretary-General:

Ferjan Ormeling
International Cartographic Association
P.O.Box 80115
3508 TC Utrecht, the Netherlands fax : +31 30 2540604
e-mail : f.ormeling@geog.uu.nl

In addition, applicants must arrange for a letter of support from a recognised cartographer from the home or other country (due at the same time as the paper; writer sends it to the Secretary-General). With both copies of the paper, the applicant must submit a separate sheet with the following information:

- Applicant's name, address, fax number (if possible), e-mail address (if available), nationality, passport number;
- Paper title;
- Education beyond high school;
- Date of birth (month, year);
- Gender;
- Name and address of person submitting letter of support;
- Estimated cost of transportation to the conference place;
- Number of days the applicant will be at the conference;
- Previous work for ICA, if any (involvement in commission or working group, for example);
- Intended future involvement in ICA (commission or working group of interest).

Ethnic Maps in Tuebingen

Ethnic Maps on Southeast Europe at the end of the 20th century was the title of a two day conference held in Tuebingen, October 28 and 29 1999, organised by the Institute on the History of the Danube Germans (Institut fuer Donauschwaebische Geschichte) and the Austrian Institute for East and Southeast Europe. The latter institute is well-known as the producer of the Atlas of the Danubian Countries and if somewhere in Europe there is expertise on the production of ethnic maps, it will be here. Moreover, Southeast Europe is well-known for the problems the living together of different ethnic communities causes. It was from these areas that most of the experts that convened in the Schloss Hoehentuebingen, high above this old university town, were from, and that led to animated discussions. Participants were cartographers, atlas editors, statisticians, historians and geographers.

The meeting was structured into the following themes: ethnic maps after 1990, theory and methods of ethnic maps, basic data for ethnic maps, use of ethnic maps in politics and education and use of GIS for ethnic data. During the socialist era the production of ethnic maps had been actively discouraged, concurrently with the suppression of all ethnic strife, which violently emerged again after 1990. This process has been followed with ethnic maps produced by the parties involved and by those that intervened and tried to put an end to the conflicts (UN, USA, EU, NATO). Old viewpoints and old methodologies have been resuscitated, and it became apparent that specific cartographic methods favoured specific viewpoints, because they put claims in a better light, and showed the distribution of specific ethnic groups more prominently.

The new boundaries that had been drawn at the peace treaties in 1919 in Versailles and Trianon had been based to a large degree on the chorochromatic maps that sowed the locally (per municipality or per province) dominant ethnic groups. As the Hungarians were mainly living in larger settlements, while Slovaks, Rumanians or Serbians lived mainly in the countryside, this led to the fact that even if the Hungarians would form the majority in a province, on municipality level the larger part of the province would be dominated by non-Hungarians and coloured accordingly. Even when the Hungarians tried to rectify this by producing surface diagram maps that better rendered the population ratios, these maps were not accepted at the conference tables and when the boundaries were finally drawn Hungary lost two third of its former area. Since then the chorochromatic map is called the Serbian or Rumanian method.

The conference papers dealt with the influence of these different methods on the visualisation of ethnic ratios, and also with the influence on them of population density. How should a mountain complex be coloured when it is uninhabited in winter and in summer might only see some nomadic herdsmen? Actually the method that would render the ethnic groups most faithfully would be that of the dot map, but not more than 5 different nationalities would be recognisable with this method. Every method is best suited for rendering specific aspects, like distribution area, or numbers or ratios, apart from geographical characteristics of the distribution like concentration or dispersion.

Ethnic maps have to be based on censuses, and in this respect the papers on census questions were most illuminative. One point is that ethnic groups might call themselves differently over time, an example being the Muslim Bosnians that regarded themselves as Muslims in the 1991 census, but as Bosnians in the 1996 census. A Slovene participant told that of 100 people that would fill in the census form that German was their mother language, only 77 would also indicate this as their nationality, 64 as the language of private communication and 26 as the language they would use for general communication. So the kind of questions asked in the census form would have an enormous influence on the outcome.

In various cities in Europe geographical information systems are now implemented for ethnic data. This lead to more flexible results and a better potential for analysis, but they have one set-back: they are less easy to check. No one is able to see whether the information has been processed properly or represented properly by the policy makers. Moreover, in future it will be hard to retrieve the relevant data in the archives.

The conference was accompanied by an exhibition of ethnic maps of South Eastern Europe since 1990.

Ferjan Ormeling

2nd International Symposium on Geographical Names 'Geonames 2000'

The 2nd International Symposium on Geographical Names was held from 28 - 30 March 2000, at the offices of the Bundesamt fuer Kartographie und Geodaesie (BKG) in Germany. This symposium was the venue of many of the experts in geographical names that regularly convene in New York or Geneva to prepare the UN Conferences on the Standardisation of Geographical Names, held every five years since 1967. The official name of this group when they convene at the UN is UN Group of Experts on Geographical Names

(UNGEGN). The UN forum is not a suitable place for scientific discussions, and this series of symposia was set up to fill this void.

Speakers were truly international: 8 from Germany, 11 from Western Europe and as many from Eastern Europe, 2 from Asia and 4 from North America. The strong Eastern European presence reflected the emergence of new sovereign states there, about to launch their own geographical names policies.

The local organisers, Messrs Sievers and Beinstein from the BKG, had put together a programme that was subdivided in sessions on: status of national standardisation, concepts of names databases, romanisation systems and exonyms, so the programme was structured logically: after the national standardisation and the accompanying databases, international standardisation was tackled, as romanisation systems and exonyms are an important part of that.

After the opening words by BKG president Dietmar Gruenreich and other officials the session on national standardisation started with a paper on the reconstruction of field names in Poland and their incorporation in a database that also incorporated historical and folklore elements (Danielski); the contribution of local authorities in the names collecting process was treated (Golaski), and the status of local names standardisation in Moldova and Latvia was discussed.

The "concepts of names databases" section contained contributions on the US Geographic Names Information System (Payne) and the Swiss Names database 1:25 000 (Oppizzi). Amongst other contributions the ATKIS concept was elucidated as the basis of the German Names database (Illert) and the ideas behind the Chinese Names database were set out (Wang).

The session on Romanisation systems had contributions from the US (Quinting), Bulgaria (Nanova), Israel (Kadmon) and Germany (Zikmund). The latter was most interesting because it dealt with an inventory of all important geographical names from the former Soviet Union in their present official orthography, thus providing a source cartographers from all over the world have long been waiting for. This publication will be ready in the second half of 2000.

The session on Exonyms touched upon the problem of an enormous increase of exonyms because of the emergence of new national states in Eastern Europe: Belarus, Moldova, Ukraine, Czech Republic, Slovakia, Slovenia, Croatia, Bosnia, Macedonia, Georgia, Armenia, etc, all willing to ascertain their new independence by having their own set of exonyms. German exonyms that laid dormant during the cold war now have been resuscitated again. There was a worthwhile expose on the nature of exonyms (Pall) and an interesting description of the lifecycle of exonyms (Adamic), a concept implying that

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exonyms never can be banned out completely.

The visit on the symposium's last day was to the Hessischer Rundfunk, the Broadcasting Station for Hessia, where a pronunciation database for foreign geographical names has been set up, allowing news readers to correctly pronounce these names.

The Symposium allowed the names experts to convene without the political pressures and hidden agendas that tend to put some strain on the UNGEGN sessions. Because of that, it might actually contribute to a better understanding and more fruitful cooperation at the UN Conferences on the Standardisation of Geographical Names (UNCSGN). The symposium's host country, Germany, has to be congratulated with this initiative that will thus have a positive influence on the next UNCSGN that will be held in Berlin in August 2002.

Ferjan Ormeling

Workshop Tirol Atlas

A symposium to elaborate the concepts for the new digital atlas of the Euroregion Tirol-Suedtirol-Trentino was held in Bozen/ Bolzano, Italy, and Innsbruck, Austria, between the 9th to the 11th March 2000. The analog Tirol Atlas was completed in 1999 and within six years a new digital edition should be produced. Twenty European atlas cartographers convened to this end, invited by the Italian autonomous region Suedtirol/Alto Adige.

Production of this atlas is one of the tasks of the Institute of Geography of Innsbruck University. The symposium began in the Suedtiroler Naturmuseum in Bozen, with the presentation of the proposals made so far by these Innsbruck geographers. According to this new proposal this atlas was aimed at a large audience of non-specialists, and it was intended to make full use of the new functionality within reach because of the new digital environment.

The second item was an introduction to the new trends in the area of national and regional atlases in the 1990s (in 1987 the first electronic atlas was introduced by Richard Smith at the Morelia International Cartographic Conference: the Atlas of Arkansas): from digital reproduction of paper atlases via interactive and analytical atlases towards full grown atlas information systems that lately are increasingly intended to provide access to the information superhighway, and act as organisers of geospatial data. Strobl (Salzburg) saw the atlas as a first step on the road to a digital basic democracy: by allowing to for instance reserve hotel rooms through the atlas, or inquiring after the snow heights would be amongst the atlas uses. He also stressed that the future will be interested in answers and

not in products (in telephone numbers instead of in telephone directories), and that this would also impact on atlas cartography. Prof. Alois Mair, editor of the national atlas of Germany, covered the experiences prior to the publication of the first national atlas volume, November 1999 (the accompanying CD-ROM was published in February 2000) and its lay-out model: series of atlas spreads that also extensively show the European dimension for comparison purposes. Much of people's interest in atlases stems from the inquisitiveness that makes us want to know whether our neighbours are doing better than we are.

As the new Tirol Atlas would be based on data from two different countries, Dr Peter Jordan from Vienna (himself editor of the atlas series for East and Southeast Europe) was asked to share his experience in collating statistical data from several countries. These introductions brought the audience to the discussion, the most important aspect of the symposium, and intended to modify the atlas proposal, if thought necessary.

After these discussions the assembled company travelled to Innsbruck, where next morning Lorenz Hurni (Zuerich) presented the interactive national atlas of Switzerland, which had been distinguished with a prize at the ICC exhibition in Ottawa in August 1999. Especially its analytical potential and its 3D portrayal potential impressed the audience. Hurni indicated that the CD-ROM edition would be accompanied shortly by a paper edition, also containing the explanatory texts that no one wants to read on a monitor. An Internet version with printing potential is also envisaged, and cartographers in Zurich are already thinking about a more extended functionality, aimed for instance at comparing various map images, combining thematic layers with the landscape model and adding a data browser in order to be able to input one's own data. The Tirol cartographers have something to live up to when they intend to model their new atlas on this interactive Atlas der Schweiz.

Completely in style, the symposium was concluded with a Magdalener red wine, from the slopes around Bozen.

Ferjan Ormeling

15th United Nations Regional Cartographic Conference for Asia and the Pacific (UNRCC-AP)

This conference incorporated the 6th meeting of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP), and was held from 11-14 April 2000 in Kuala Lumpur, Malaysia.

United Nations Regional Cartographic Conferences for Asia and the Pacific (UNRCC-AP) are held every three years, the 14th UNRCC-AP being held in Bangkok February 1997. In Bangkok a number of resolutions charged the PCGIAP with carrying out certain action. The 15th UNRCC-AP provided the opportunity to report on the status of these resolutions and to report on and assess the considerable progress made by PCGIAP working groups towards the development of the Asia-Pacific Spatial Data Infrastructure (APSDI). In addition the PCGIAP's Executive Board membership and working group chairmanship terms coincide with the three yearly event and in Kuala Lumpur a new Executive (President, Vice-President and Secretary), Board members and working group chairs were elected.

Theme

For the first time the UNRCC-AP incorporated the annual meeting of PCGIAP, under the Conference theme: "The 15th UNRCC-AP - A Milestone for Sustainable Development". The 14th UNRCC-AP recommended that the 15th Conference have a primary focus on the continued and strengthened contribution of geographic information (from PCGIAP's core activities of surveying, mapping and charting) in support of the implementation of Agenda 21 and its emphasis on sustainable development. The United Nations, the PCGIAP and invited speakers related their reports and presentations to the support being provided to sustainable development through geographic information activities.

Participation

Each PCGIAP member country was invited by the United Nations to form a delegation to the meeting and experts in surveying, mapping, GIS and related activities were invited as guest speakers. Countries outside the region also participated and a large number of observers were in attendance. United Nations representation was from the Economic and Social Council (ECOSOC), United Nations Statistics Division (UNSD) and the Economic and Social Commission for Asia and the Pacific (ESCAP). Twenty six countries in the region and eight from outside attended. There were over 100 participants from the 34 countries and close to 100 observers, as well as 13 invited speakers.

Speaking programme

The mornings of Wednesday 12 and Thursday 13 were devoted to presentations by invited speakers covering topics on: GSDI; Global Mapping; Land Administration; The Permanent Committee for the Americas; Geographical names; ESCAP Space Technology Applications; Surveying issues and challenges for the 21st century; Leading

edge cartography; International geodesy; Corporatisation of national mapping agencies; World Bank support for emerging nations; JICA programs across the region; and GIS development and challenges in Pacific island nations.

Conference Committees

Five Conference Committee meetings (e.g. Cadastre, Geodesy, Fundamental Data, Development Needs, and Geographical Names) were held in parallel on April 13 to develop resolutions for consideration by the Conference on the following three years activities and to cover issues such as:

- progress with workplans of current working groups and the need to continue their work
- the possibility of forming additional working group/s
- structure and workplans of working groups after the Kuala Lumpur Conference.

The recommendations and endorsements from the main draft resolutions proposed by Conference Committees and that were adopted in plenary can be accessed at the PCGIAP web site, which is progressively being updated with information from Kuala Lumpur (<http://www.percom.apgis.gov.au>)

The next PCGIAP meeting is scheduled for Tsukuba Japan in April 2001. The 16th UNRCC-AP will be held in 2003. The PCGIAP Board will meet in Japan, November 2000 in conjunction with the Global Mapping 2000 Forum. Working Group 1 is holding a geodesy workshop in Mongolia in August 2000. For further information on the Permanent Committee on GIS Infrastructure for Asia and the Pacific contact the Secretariat:

Dr Hiromichi Tsuji
Head of International Affairs Office
Geographical Survey Institute
Kitasato 1, Tsukuba, Ibaraki, 305-0811
JAPAN
Email: tsuji@gsi-mc.go.jp

Source: Bob Irwin, AUSLIG
(www.percom.apgis.gov.au)

GEOMATICA 2000:

It was a great beginning to the century for the Geomatic community when they met in Havana city to celebrate the 2nd Geomatic 2000 International Conference, as part of the Convention Informatica 2000. Some 150 professionals from 19 countries were made to feel comfortable at the Hotel Palco, where they shared experiences and debated a variety of current topics on digital cartography, geographic information systems, spatial data standards, electronic nautical

charts, navigation charts, GPS applications, photogrammetry and remote sensing.

This meeting, organised by the GeoCuba Enterprise Groups and the National Office of Hydrography and Geodesy, was co-sponsored by several international organisations. Representing the International Cartographic Association were Ferjan Ormeling, Secretary General and Vadimir Tikunov, Chair of the ICA Commission on Education and Training. Key note addresses were also presented by the Director of the International Hydrographic Bureau (IHB), admiral Neil Guy, and Gustavo Ruiz, President of the Latin American Society of Specialists in Remote Sensing and Spatial Information Systems (SELPER).

The president of GeoCuba Enterprise, Eladio Fernandez Civico, and the Director of the Cuban Office of Hydrography and Geodesy, Eloy Alum Ortiz, presided the opening ceremony, whereas ICA Secretary General, Ferjan Ormeling, officially closed the event with a master conference on 'Challenges and opportunities of cartography in the digital era'. A keynote address 'Toward a global integration of geospatial data and services' was presented during the Seminar on Spatial data standards, organized by staff from the IHB and Global Geomatics, from Canada. Moreover, Ms Elena Diaz Aguirre, the project manager of OpenGIS specifications in Cuba, presented results of its implementation at national level. Additional topics of discussion included basic concepts of data standardisation, world experiences according to the report published by the ICA Commission on data standards and OpenGIS. Some specialised commissions met during the conference as well. The Commission of Electronic Navigation Charts, chaired by admiral Neil Guy, opened its deliberations with a keynote address on 'World databases for electronic navigation charts: current structures and strategies for the future'.

Two technical visits to Geocuba Agencies such as Digital Cartography, Photogrammetry and Nautical Cartography were organized during the conference, where enthusiastic delegates took the opportunity for exchanging ideas and establishing commercial networking.

The scientific sessions ended with discussions on projects and national solutions for the integration and dissemination of spatial data. It was a unique opportunity to launch the Cuban idea of creating a National Geospatial Data Infrastructures, encouraged by Geocuba, the Ministry of Informatics and Communications, and the National Office of Hydrography and Geodesy.

The social program touched on the best elements of Cuba's national culture through the concert offered by 'Camerata Romeu' in the Opening night and the excellent performance of the 'Ballet National of Cuba in Giselle' at the Gran Teatro of La Habana. Other events like the welcome cocktail and the farewell party also contributed to develop strong relationships amongst the professionals of geo-informatic assisting to the conference.

We wish this note serves as a worldwide announcement to the cartographic and geo-informatic community, on the 3rd International Conference Geomatica, to be held in Havana city in February 2002, concurrently with the Latin American Symposium of Remote Sensing, that will be organized by the Latin American Society of Specialists in Remote Sensing and Spatial Information Systems. See you in year 2002!

Tatiana Delgado
Geomatica 2000 Organising Committee



Spatial Data Standards Seminar, left to right: Michel Huet (Monaco), Tatiana Delgado (Cuba), María Elen Díaz (Cuba).



The Director of GEOCUBA and the Director of the International Hydrographic Bureau at prize giving ceremony.

Conference Reports



GEOMATICA 2000 Opening Ceremony.



ICA Workshop on Map and Atlas Production.



Opening of the GEOMATICA 2000 Exhibition, front: Ferjan Ormeling, ICA General Secretary, and Lourdes Quintero, GEOCUBA Habana Enterprise Director.



Closing Ceremony, left to right: Ferjan Ormeling (ICA), Gustavo Ruiz (SELPER), Eladio Fernández (GEOCUBA), Eloy Alum (National Hydrographic and Geodesy Office), Melchor Gil (Cuban Informatics and Communication Ministry).

The 28th International Symposium on Remote Sensing of the Environment

The Satellite Applications Centre of the South African CSIR (Council for Scientific and Industrial Research) hosted the 28th International Symposium on Remote Sensing of the Environment from 27 – 31 March 2000 in Cape Town, South Africa. It was the first time in the 38 year history that the symposium was hosted on this continent and remote sensing practitioners from around the world revelled in the occasion to present their findings on African soil.

During the five days of the symposium 280 papers by authors from more than 40 countries presented their findings and case studies on issues such as global change, agriculture and forestry, water resource

management, disaster management, the status of remote sensing in Africa and – looking towards the future – emerging and supporting technologies.

Speaking at the opening of Cape Town 2000, South Africa's Minister of Arts, Culture, Science and Technology, Dr Ben Ngubane, said although the Symposium theme of Information for Sustainable is of universal importance, it is particularly relevant to the region and the whole of Africa where the wide application of remote sensing technology and its diverse applications has the potential to improve the quality of life of all on the African continent, significantly. In so doing it will contribute in a meaningful way to making the vision of an African Renaissance in the new millennium, a reality.

The Satellite Applications Centre was pleased to welcome many prominent individuals of the remote sensing industry. Respected industry leaders such as Claudio

Mastracci, Director of Applications Programmes of the European Space Agency (ESA); Gregory Withee, Assistant Administrator for Satellite and Information Services of NOAA; Tillmann Mohr, the Director General of EUMETSAT; and Ghassem Asrar, the Associate Administrator of NASA lined the podium during the opening.

The award for the best paper award went to Robert Schuchman of ERIM in the United States for his paper titled: "An Oil Pollution Management System for the Black Sea" presented in a Disaster Management session. A CD containing the symposium proceedings can be ordered from Chuck Hutchinson of the University of Arizona – send an e-mail to chuck@ag.arizona.edu

*Elri Liebenberg
University of South Africa*

ICA and Global Projects

In last two years the Executive Committee of ICA intensified efforts to actively participate in global projects that facilitate active participation and development of cartographical thoughts in their implementation, while being connected with ICA's main objectives. The author of this report has been elected ICA representative to participate in existing global projects such as GSDI, Global Mapping and Digital Earth Symposia, conferences and meetings to discuss the activities undertaken by such projects were organised in several countries at the end of 1999 and the beginning of the 2000.

Towards **Digital Earth Symposium** was held on November 29-December 2, 1999 in Beijing, China. The event was organised by Chinese Academy of Sciences (CAS). The symposium was attended by distinguished guests like the vice-premier of the Chinese government, Mr. Li Lanqing, the Director of CAS, Prof. Yongxiang Lu, Beijing's Major, Mr. Qi Liu, as well as many well-known scientists like Mike Goodchild and J.E. Dobson from USA, Prof. Dietmar Gruenreich from Germany, Peter Holland from Australia, Shunji Murai from Japan, Vladimir S. Tikunov from Russia and the worldwide famous Chinese Academician, Chen Shu Peng. More than 500 participants from 20 countries and regions heard 195 papers divided into 21 sections. Several main streams were remarkable: visions and concepts of the Digital Earth, remote sensing and GIS technologies and applications, the role of the Internet and Web GIS. Many digital map products were presented during the speeches and technical exhibitions of the symposium. Discussions focussed on the differences between the Digital Earth concept, as compared to the Global Spatial Data Infrastructure (GSDI) and Global Mapping initiatives. An initiative to use the Digital Earth concept not only within a technological, but also economical, ecological and cultural context was highlighted during the meeting. This is a wider concept than the GSDI initiative. On the other hand, it was considered the GSDI as an absolutely necessary core for other global activities. A proposal for strengthening ideas on sustainable development was also included in the Beijing Declaration. The next Symposia on Digital Earth will be organised in two years time, during the summer 2001 in Ottawa, Canada. The Czech republic is the candidate nation to host the 2003 Digital Earth Symposium.

More information about the conference as well as text of the Beijing Declaration can be viewed at:

<http://www.digitalearth.nt.cn/de99.htm>). ICA participated in the Digital Earth Symposium as an observer, and in the next years will actively participate in the preparation of the event.

The **Fourth Global Spatial Data Infrastructure (GSDI) Conference** was held in Cape Town, South Africa from 13-15 March 2000. The title of the conference 'Engaging Emerging Economies' dealt with specific Africa problems. The conference was organised by the Chief Directorate of Surveys and Mapping, the national mapping organisation of South Africa. The conference was attended by 181 delegates from 38 countries (previous GSDI conferences have had between 60-100 delegates, on average). Remarkable and important was the participation of 102 delegates from 14 African countries. ICA role's is as observer and supporter of the GSDI activities. The technical programme of the conference was divided into three thematic parts. The conference started with reports about GSDI activities, especially the working groups. The keynote speaker Prof. H. Onsrud summarized on the status of national SDI's around the world, and the legal as well as data sharing problems involved in these initiatives. The second part was devoted to 23 papers covering technical strategies and considerations, directions, policies and institutional issues and case studies. The draft of the SDI Cookbook (SDI implementation guide) edited by Douglas Nebert, was presented and discussed for the first time. The Cookbook consists of 10 chapters: The Cookbook Approach; Geospatial Data Development: Building Data for Multiple Uses; Metadata-Describing Geospatial Data; Geospatial Data Catalogue-Making Data Discoverable; Geospatial Data Visualisation-Web Mapping; Geospatial Data Access and Delivery-Open Access to Data; Other Services; Outreach and Capacity Building; Case Studies; Terminology. The third part was dedicated to SDI in Africa. The speakers provided and insight into datasets available to support regional studies in Africa and, more importantly, addressed the question as to whether Africa was ready for spatial data infrastructures. At the conference dinner delegates were entertained by a thought provoking speech by Jack Pellici, of Oracle Corporation.

The GSDI Steering Committee under chairmanship of the Peter Holland (Australia) hold two meetings. The business of the GSDI, as well as important relationship between GSDI, Global Mapping and the Digital Earth were also debated. The next conference will be held under the GSDI chairmanship of Derek Clarke, of South Africa, and vice-

chairmanship of Santiago Borrero, from Colombia. The Fifth GSDI Conference will be held in Cartagena, Colombia, from 21-25 May 2001. The theme of this conference will be: 'Sustainable Development: GSDI for Improved Decision-Making'. More information about GSDI initiatives can be viewed on: <http://www.gsdi.org>

The **Seventh Meeting of the International Steering Committee for Global Mapping**, was held on 16 March 2000 at the Department of Lands and Surveys, South Africa, in connection to the Fourth GSDI conference. At the meeting Prof. John Estes, from USA was re-elected as Chairperson of the Committee and Mr. Peter Holland, from Australia was appointed as Vice Chairperson. Mr. M. Akiyama and Dr. H. Muramaki were reappointed Secretary General and Assistant secretary general, respectively. Dr. Milan Konecny, Vice President of the ICA was introduced as a new adviser replacing Prof. Michael Wood. Mr. Derek Clarke, of South Africa was the convener of this meeting. It was reported that Global Map (GM) version 1.0, the target objective of Phase I of the Global mapping Project, will be presented in November 2000 at the Global Mapping Forum 2000 to be held in Hiroshima, Japan. The relevance of decision making on data policy issues and strategy concepts (Phase II) was highlighted. In this regard, current Working Groups (WGs) were re-organized. The WG1 on Strategic Plan will concentrate on strategic plans for the Phase II (chaired by Mr. Dr. Bob O'Neil, from Canada). A new WG2 for Specification Topics will be created, and the WG3 on Data Policy will focus on the legal standing for commercial use of Global Map version 1. Fundamental and new information about the Global Mapping project can be found at: <http://www1.gsi-mc.go.jp/iscgm-sec/>

The Global Mapping Newsletter is published by the Steering Committee for Global Mapping.

The 8th Meeting of the International Steering Committee for Global Mapping will be held in Cartagena, Colombia, on May 25 2001, in conjunction with the 5th GSDI meeting to be hosted by the Geographic Institute Agustin Codazzy (IGAC).

The role of the ICA in all the projects previously mentioned should be to participate, to cooperate, but above all, to formulate and create specific cartographic approaches and solutions which could be exploited on the local, regional, continental and global levels.

*Dr. Milan Konecny
ICA Vice-President*

Commissions' Reports

Education and Training

During the 11th General Assembly, Vladimir Tikunov was appointed as new Chair of the Commission on Education and Training (CET). After the Ottawa Conference, Hungary offered to organize the first meeting of the Education and Training Committee, which took place in the first weekend of February at the Department of Cartography, Eötvös Loránd University. Among the assistants were Vladimir Tikunov, Ferjan Ormeling, and Alexander Wolodtschenko (chair of the Commission on Theoretical Cartography). Although most of the participants came from the host country, there were participants from a number of other European countries and even from Israel.

The new terms of reference focus on the production of an Internet course in cartography, and most of the presentations were held according to these new tasks of the CET:

- the contents of an Internet cartography teaching program
- the development of Internet and its cartographic possibilities
- the contents of an Internet program for continuing education
- the contents and structure of existing analog cartography course program for Germany (to be produced on CD-ROM)
- the lay-out and structure of these courses.

A timetable was proposed, and the follow-up meeting in Apatity planned. It is foreseen that the first partial modules will be presented there, with some modules being ready for 20th ICC in Beijing, in 2001. The production of environmental atlases for Russia was discussed as well. Hungary accepted to prepare a course module model for the next meeting (the initial parts were presented in Budapest). The next meeting of CET will take place in Russia (Apatity, Kola Peninsula), in August 2000 in connection with the Intercarto-6 conference (see http://alphais.inep.ksc.ru/intercarto/inter_en.htm website).

A highlight of the meeting was a formal reception at the office of the Rector of the Eötvös Loránd University, who has a keen interest in both old maps and current cartographic techniques. Afterward, he offered a most memorable dinner for the Commission at the Hotel Erzsébet.

Further information related to the meeting is available: <http://lazarus.elte.hu/hun/dolgozo/zentail/ica/index.html>

László Zentai, CET member, meeting organizer



István Kilinghammer, Rector of the Eötvös Loránd University and Ferjan Ormeling



Béla Pokoly, secretary of the Hungarian national ICA commission, Vladimir Tikunov and Alexander Wolodtschenko

Spatial Data Standards Commission

During the past time period, the Commission has continued its work towards its planned book that uses a set of scientific and technical metadata assessment characteristics to analyze and understand the various national and international spatial metadata standards in the world. The work has already progressed through seven versions of the metadata characteristics that were subsequently circulated to members of the Commission during its development. The Commission held its 1999 annual meeting near Ottawa just prior to the ICA Congress held there in August.

August Commission Meeting in Canada

The Commission held its 1999 annual meeting in North Gower, Ontario, Canada, from August 9 to 13, the week prior to the ICA Congress in Ottawa. The four day meeting was held to review the Part IV draft chapters that assess the metadata standards using the scientific and technical characteristics. More planning on the proposed ICA book took place as the Commission awaits the initial ISO/TC211/T15 draft metadata standard to reach a level of maturity such that a chapter

on this world standard can be written for our book. Meanwhile, a formal book proposal was submitted to the ICA Publications Committee in July 1999, which was subsequently approved by Elsevier Science/Pergamon in November of the same year.

The Commission also began to develop plans for the next cycle of work that involves examining the world Spatial Data Infrastructure (SDI). About a dozen members and alternates participated in this meeting.

Planned ICA Metadata Book

The Commission first began analyzing the concepts of spatial metadata standards in 1995 following the ICA Congress in Barcelona Spain. The primary task of the 1995-99 ICA cycle has been to develop a set of universal metadata characteristics, and then use them to assess all of the national and international metadata standards in the world. The universal set of metadata characteristics was largely developed in the 1995-97 time frame. They were tested during 1997-98 and are now final.

Since then the Commission has been assessing the various national and international metadata standards in the world. With this work the Commission has been putting itself in position to plan and write another book, this time on spatial metadata standards. It now appears that the TC211 draft metadata standard will come into a stable form by this summer, thereby permitting the Commission to move forward with its long-planned ICA book on these spatial metadata standards. The commission proposal for this ICA book has now been approved by Elsevier Science/Pergamon, the ICA publisher.

This planned ICA book on metadata standards will have five major Parts analogous to our prior 1997 book that assessed world spatial data transfer standards:

- I. Full Introduction
- II. Five summaries of regional metadata standards development activities in: Europe, North America, Africa, Asia/Pacific, and the ISO community.
- III. The full set of metadata assessment characteristics: 12 first order categories, 58 second order subcategories, and about 202 tertiary characteristics.
- IV. About 18 chapters describing the major metadata standards in the world, and a few application profiles.
- V. Crosstable of 67 critical transfer characteristics by the 18 National and International metadata standards and profiles.

Many draft chapters have already been written, and a major effort will be made to develop and flesh out the full set of chapters for the book, and this will commence as soon as the TC211 metadata draft standard is scientifically and technically stable.

Current Work

In addition to the work on our ICA metadata book described above, the Commission is proceeding to plan for the second major task for the 1999-03 ICA cycle of examining the Spatial Data Infrastructure (SDI) at the Global, Regional and National levels. Discussions are currently taking place, and this will be a major discussion topic at the annual Commission meeting in Monaco in June.

ICA Standards Commission Home Page

The Home Page for the ICA Standards Commission is housed in the Numerical Cartography Laboratory at Ohio State University. The URL of the Home page is: <http://ncl.sbs.ohio-state.edu/ica>

P.s. Please note that the Commission home page is scheduled for updating this summer.

Harold Moellerling, Chair

Census Cartography

This is a new commission that was established at the 1999 ICA conference in Ottawa. The activities planned during the period 1999-2001 are noted below, including progress to-date:

1. Expand the membership to include additional countries to gain the fullest representation possible. The commission now has a Vice-Chair (Frank Blanchfield, Australia), 11 regular members and 4 corresponding members.
2. Compile a bibliography on census cartography. This task is well underway. The bibliography currently constitutes about 17 pages of references, many of which are available on the Internet.
3. Compile a list of useful Web sites on census cartography. This task will commence shortly.
4. Create a Web site for the commission. We have just completed designing the commission's site, and will be creating a link to it from the ICA's site. Planned entries include the Terms of Reference, list of members, bibliography and useful Web sites on census cartography.
5. Commence a survey on the geographic units used by various statistical agencies to determine if greater harmonization of concepts is possible for census thematic mapping. This task has not yet started.
6. Attempt to have a joint meeting with the Commission on National and Regional Atlases (Spain, autumn 2000). We are currently negotiating with that commission to hold a joint meeting.

We welcome feedback and comments from the ICA community.

Tim Davis, Commission Chair

Cartography and Children

Report of the CCWG's 1997 Survey of the Barbara Petchenik Children's Map Award

The ICA Executive has directly solicited feedback about the Barbara Petchenik Children's Map competition, both in the distributed rules and guidelines and at a workshop for national committee leaders on September 7, 1995 in Barcelona. In addition, the Cartography and Children Working Group has solicited comments from the ICA membership through the ICA Newsletter and feedback from working group members through mailed questions and formal discussions. In an attempt to collect information that would assist the ICA Executive in the formulation of rules and guidelines for future competitions, a survey requested countries to relate their experiences (participation or non-participation) with the 1997 competition. This survey, together with a copy of the rules and guidelines for the 1997 competition, was distributed to those who attended the Stockholm meeting for national representatives, and the rest were mailed. Respondents were assured that the data would be grouped and that no country or individual would be named.

In total, 84 surveys were distributed, of which 18 were returned: nine from developed nations and nine from developing nations (using the 1997 World Bank classification of economies). Five of the developed nations and four of the developing nations had participated in the Stockholm competition. Most questionnaires were completed by national representatives: only two were completed by people directly responsible for the national organization of their countries' maps for the Stockholm competition.

All respondents were asked how often the competition should be held. Of the 15 who responded to this question, 54 percent preferred that the competition be held every four years rather than every two.

The respondents who had participated in the Stockholm competition were asked a series of questions ranging from how the national maps were solicited and judged to what problems were encountered with the competition's rules and guidelines. Their responses indicate that a variety of methods were used to advertise the competition. These included letters to members, advertisements in journals, direct co-operation with other interested parties (geography societies, teachers, and government departments), as well as placing the information on a Web page and dissemination via Internet user groups. The question about costs involved in running the competition asked respondents to estimate time spent on the project, materials,

and any other costs. Where hour figures were given, these ranged from 30 to 340. The cost of materials ranged from nil to USD \$1,200. Cited expenses were for postage, the provision of diplomas, and costs associated with the national judging of the maps. Where costs were nil or low, there was an indication that some expenses (such as postage) had been covered by other means.

The number of reported national entries ranged from 78 to 860. Children under 12 were responsible for 59% of these. Each of the nine participating countries indicated that the maps selected to represent the country were chosen by a committee. In eight of the nine, all the national prize winners received prizes; the remaining country indicated that the national prize winners would probably receive prizes. In one country all of the students who participated received a prize. Only one country had submitted a national report, while one other country anticipated they would be doing so.

Respondents were asked to identify problems with the rules and guidelines and the general operation of the competition, and were encouraged to offer comments and suggestions. While some of the nine participants responded that they had had no problems with the 1997 rules and guidelines, others commented that these were too general and the expectations not clearly set out. Problems in running the competition included timely receipt of information about the competition, effectively identifying interested individuals, and directing national advertising towards those individuals. The competition was also found to be time-consuming, as parties who submitted maps expected acknowledgments. Comments and suggestions ranged from endorsements such as "basically well run" and "we will continue to support the competition, as it appeals to our committees and the media," to warnings such as "we foresee future problems." A request was made that participating countries be supplied with follow-up information, and one country asked for a supporting letter to help in the solicitation of funding from international agencies to subsidize the national competition.

The nine responding countries that did not participate in the Stockholm competition cited various reasons, including not having received any entries in response to their advertising of the competition, lack of interest in the project among cartographers, problems of co-operation between geographers and teachers, and unfamiliarity with maps among the general population. Other responses indicated that no information about the Stockholm competition had been received or that the country had not been aware of the competition.

Jacqueline M. Anderon, Chair.

Commissions' Reports

Map Production

The Commission on Map Production has taken up its work after the Ottawa conference in August 1999. Various working groups of CMP have been formed. Concerning the Terms of Reference separate groups co-operate on the specific items. We hope that this way the Commission can work more efficiently than before.

In the annual meeting in Barcelona Spain (September 2000) we will evaluate the progress and the quality of the specific activities like promised. A main concern will be the finishing of the manuscript for the Compendium of Cartographic Techniques. After consulting the ICA-EC the idea is to issue a book. Due to very rapid changes in mapping techniques and technology we face many alterations afterwards so that we aim for annual revisions and additions to be available either on the Web page, a CD-ROM or a combination.

ICA-CMP was asked for assistance in a Cuban Conference. At the moment of writing this report the event took place and some lectures were presented by Erkki Sakari Harju (CMP), Hans Kern (CMP), Ferjan Ormeling (ICA-SG) and Vladimir Tikunov (ICA-CET) and some local presenters. It is the idea to create a proceedings booklet.

CMP has launched a homepage. Sverre Iversen has designed a Web Page that contains the most important matters. We wish to keep the page not too complex and easy. Links will be created to the most related Web Sites. The

content and completeness of the pages will definitely be more extended in the coming time.

The address of CMP is:

<http://www.geocities.com/icacmp>

Together with the Commission on Generalisation, CG, a 3 days seminar is organised in Barcelona, Spain. As some additions are to be made we cannot display the finalised programme. But since CMP and CG are the main organisers the event's theme is combined to map production related to generalisation. Emphasis will be on on-demand items in relation to generalisation.

Further CMP will concentrate on the main next year's event: the Beijing Conference. In conjunction with the Commission on Satellite Images we are preparing for a pre-conference seminar. The seminar includes issues concerning map trade, as well. At the Ottawa conference first steps towards a closer co-operation were taken and we expect the event in China will lead to more joint events, also in the regions.

Subjects for presentations are:

- GIS and Satellite image map production
- Dissemination of geographical data: available cartographic products and results to be expected
- Marketing, Trade and Production management
- The role of the cartographer: the change from partly productive to advisory and supervisory tasks

Sjef van der Steen, Chair ICA Commission on Map Production

Maps and the Internet

The Commission on Maps and the Internet and the North American Cartographic Information Society (NACIS) will sponsor a Symposium in conjunction with the annual meeting of NACIS. The Symposium will be held on Oct. 11, 2000, in Knoxville, TN, USA, and consist of paper and panel sessions. The sessions will address the terms of reference of the commission that can be accessed at (http://maps.unomaha.edu/ica/Maps&Internet/Terms_of/Reference.html). The speakers will include experts in the field of Internet cartography.

The commission is planning to sponsor a number of sessions at the annual meeting of the Association of American Geographers (AAG) that will be held in New York City from February 27 to March 3. The sessions will be co-sponsored by the Cartography Specialty Group and the Web Specialty Group of the AAG. AAG meetings attract about 4000 geographers and includes a number of paper and poster sessions on cartography. A recent addition has been the illustrated poster session that includes a short presentation (5-10 minutes) combined with a poster. Given the central location of New York to the membership of the Commission, this would be a great opportunity to present work in the area of maps and the Internet.

Five Workshops on maps and the Internet will take place next year in Germany with the help of the co-chair of the Commission on Maps and the Internet, Dr Georg Gartner. Dr. Gartner is at the Technical University of Vienna in Austria. The workshops will be held in the cities of Hamburg, Wiesbaden, Potsdam, Halle and Bonn. Contact Georg Gartner at gartner@tuwien.ac.at for more information. Dr. Gartner is also planning a meeting of the commission in Vienna in 2002.

Dr. Bin Li from Central Michigan University in the US is coordinating plans for one or more meetings of the commission in conjunction with the Beijing conference in August 2001. Other cities besides Beijing are being considered for the commission meetings. Contact Dr. Li at bin.li@cmich.edu for more information or to help plan the meetings.

Finally, Prof. Zietsman of the Department of Geography and Environmental Studies at the University of Stellenbosch in Stellenbosch, South Africa, has agreed to host a special meeting of the commission in conjunction with the ICA meeting in Durban, South Africa, in 2003. Stellenbosch is located near Cape Town, South Africa. The Durban meetings are scheduled for the 10-16 August, 2003.

See

<http://maps.unomaha.edu/ica/Maps&Internet/> for updates on the activities of the commission.

Michael P. Peterson, Chair

Marine Cartography

CoastGIS 1999: Selected papers from the very successful CoastGIS'99 held in Brest, France during September 1999 are available as "CoastGIS'99: Geomatics and Coastal Environment". The volume is edited by Jacques Populus and Lionel Loubersac and is available for 220FF (33,54 Euros) through IFREMER Brest (alt.brest@alt.cci-brest.fr). The volume is handsomely produced and is a most useful volume on the subject. If you experience any difficulties in getting hold of a copy – email me at the address below.

CoastGIS 2001: Planning for the next *CoastGIS Symposium*, in collaboration with IGU's Commission on Coastal Systems, is well in hand. The organizing team in Canada has been hard at work and is growing. We have decided upon dates: CoastGIS 2001 will be held in Halifax, Nova Scotia, Canada from Sunday June 17, 2001 to Wednesday June 20, 2001. Field trips, if there is sufficient response, will be held on the Saturday and Sunday before the conference. The conference will open with a reception on the evening of Sunday June 17. I am delighted to be able to tell you that the Coastal Zone Canada Association has agreed to be a Canadian sponsor for CoastGIS 2001.

Paul Macnab with the Oceans Sector of the Department of Fisheries and Oceans has joined Dr Andy Sherin as co-chair of the local organizing committee. The Scientific Committee contains many internationally renowned experts.

We are proposing the following themes and will issue a Call for Papers at the end of May 2000.

The Primary Theme is: Managing the "Interfaces". Under this main theme we propose the following subthemes:

1. Technology and the non-specialist - human problems and human solutions
 2. Policy for the sharing, access and dissemination of geographic data
 3. Tools and standards for data and information access
 4. Traditional Ecological Knowledge (TEK) / Technology interface
 5. Information infrastructures in support of geospatial applications
 6. Measuring and modeling the interface
- Thanks go out to Mike Butler and Paul Boudreau for their work on the themes.

CoastGIS 2003: Early exploratory invitations are out for the hosting of CoastGIS 2003. My IGU Colleague and Collaborator, Darius Bartlett and I are attempting to organise a CoastGIS to piggy back the ICC meetings scheduled for South Africa, but to date have received no firm proposals. We shall start to cast our net wider shortly if we cannot attract a local organising committee to run with a South African CoastGIS. Our next thought is to invite colleagues elsewhere to run with the idea. I look forward to receiving a flood of offers on rfurness@ozemail.com.au.

Ron Furness, Chair ICA Commission on Marine Cartography

Websites of Cartography Departments

The Internet is a medium which has been growing extremely fast the last five years. It offers many new opportunities. This also holds true for departments of cartography. These days it is very easy to give students, colleagues and other people all over the world all sorts of information about a cartography department on the Internet. Presenting themselves in a good way on the web, can be a big advantage for these departments. Especially in attracting students. But do cartography departments actually use the possibilities the Internet has to offer?

In this contribution websites from several cartography departments are compared with each other, to look at what information they actually have to offer on the Internet. To do so, approximately 50 different websites of cartography departments were visited. Worldwide there are a lot of websites which have something to do with education in cartography. Most of these sites are part of geography, geoinformatics or geomatics divisions of universities, depending on whether or not cartography is a separate department in a university or part of a department.

It is difficult to say how many of the world's cartography departments are actually present on the Internet. Probably most of the departments in countries where they use the Internet a lot, like the United States and Western Europe, you can find on the web. When looking at the list of cartography departments at the Oddens' Bookmarks site, approximately 100 sites of cartography departments are listed. Because the Internet is so immense and complex one can be sure that even this site has missed a couple of sites. So let's say that there are in total 125 departments present on the Internet. This is, however, a very rough estimate, especially because this number very much depends on what the definition of a cartography department is. When one counts a university where they offer just one three week's course in cartography, a higher number of sites is obtained than when one defines a cartography department as a department

where they offer at least a one year cartography course.

It can be presumed that a website for a cartography department is made to inform visitors about that department. So what should be found on these websites is information about the courses that are offered, the staff and students and the projects and publications of the department. Of course there is also other information, like the geographical location of the department for instance, but this may not be of primary importance.

On most of the websites you can find information on the courses that should be followed to get a degree in cartography, but there is a lot of difference in the amount of information provided. The credits a student gets for the different subjects and the study program can be found on some of the websites, like the one from the School of Spatial Sciences of the Curtin University of Technology in Australia (url: www.cage.curtin.edu.au/spatial/). Course schedules are not included on most of the websites, although this would be very useful for students. The Department of Geography of the Sonoma State University in the United States (url: www.sonoma.edu/Geography/default.html) is one of the few examples of a site which includes timetables.

The cartography staff of most of the universities is included in one way or the other on departmental websites. Most of the sites have e-mail addresses, sometimes along with a picture, curriculum vitae and the courses they teach (as is done on the site of the department of Geomatics at the University of Florida, url: www.surv.ufl.edu/). The projects and/or the publications that a department is working on are also usually present. Under the header 'research' one can find the projects and sometimes full articles. The site of the Institute of Cartography in Zürich, Switzerland (url: www.karto.ethz.ch/) is a nice example. In this aspect one site is also more extensive than the other.

It is obvious that people who visit the site of a cartography department will form an opinion about that department, partially based on the looks of the website. Therefore, apart from the fact that it should provide

sufficient information, it is also important that the site is up to date, looks nice and is easily navigable. Here one can also see a lot of differences. Some sites are the product of a lot of work and are well maintained, while others are just knocked together. But, on the other hand, the idea that a cartography department is present on the Internet is always better than nothing, whatever the information they are offering.

People who are interested can find a list of cartography departments all over the world at the Oddens' Bookmarks site (oddens.geog.uu.nl) from Roelof Oddens. Browse to section VI : departments of cartography. Another website that lists cartography departments is made by Robert Kauper : Academic Sites for Geomatic Engineering. On this site one can click on a world map to choose a department (<http://www.lrz-muenchen.de/~t583101/WWW/Links.html>). To keep the (links on the) lists up to date, suggestions are always welcome by the people mentioned above.

*Charles de Jongh, Cartography student
Utrecht University, The Netherlands*

Recent cartographic literature

Computers & Geosciences

Geoscientific Visualization. Volume 26, No1

Guest Editors: Sven Fuhrmann, Werner Kuhn & Ulrich Streit

The special issue on "Geoscientific Visualization" of *Computers and Geosciences* provides an overview over a range of research topics, from which three main areas are identified: (1) new developments in cartography, (2) coupling visualization tools with GIS, and (3) exploratory visualization. An important goal of this special issue is to provide a platform for young scientists to publish their work to a broader, international audience.

New Developments in Cartography: Cartography is undergoing a revolution in the face of technologies like the Internet, animation, and virtual reality. The cartographic papers presented in this issue demonstrate how quickly cartography is changing and the research issues these recent developments raise.

Contents: 1. The use of different media in visualizing spatial data. 2. Designing a visualization system for hydrological data. 3. Legend designs for non-interactive cartographic animations. 4. A digital cartographic workflow for glaciomorphological map series - evaluating Macromedia FreeHand as educational tool. 5. Visualization of change in the Interactive Multimedia Atlas of Switzerland. 6. Development of an Internet Atlas of Switzerland.

Coupling Visualization Tools with GIS: The second group of papers consists of three contributions dealing with the coupling of visualization tools and GIS.

Contents: 7. Visualization of spatial data for field based GIS. 8. Visualization in an early stage of the problem solving process in GIS. 9. An object-oriented approach for integrating 3D Visualization Systems and GIS.

Exploratory Visualization: The third and final section of this special issue consists of four contributions that report on the development and experience with exploratory visualization tools.

Contents: 10. Visual exploration of high-dimensional spatial data: requirements and deficits. 11. Computer-enhanced multispectral remote sensing data: A useful tool for the geological mapping of Archean terrains in

(semi)arid environments. 12. Visualization of geographically related multidimensional data in virtual 3D scenes. 13. Tools for visualizing properties of spatial and temporal periodicity in geographic data.

Geostatistics and geospatial techniques in remote sensing. Volume 26 No.4. Special Issue

Guest Editors: P.M. Atkinson and D.A. Quattrochi

This issue highlights the commonality in research on geostatistical and geospatial research on both sides of the Atlantic Ocean. The papers are derived from a session on "Geostatistics and Geospatial Techniques for Remote Sensing of Land Surface Processes" held at the RGS-IBG Annual Meeting in Guildford, Surrey, UK, in January 1998 and a similar session held at the Association of American Geographers Annual Meeting Boston, MA in March 1998 sponsored by the AAG's Remote sensing Group.

Contents: 1. Guest Editorial by P.M. Atkinson and D.A. Quattrochi. 2. Geostatistical classification for remote sensing: an introduction. 3. Computing geostatistical image texture for remotely sensed data classification. 4. The integration of spectral and textural information using neural networks for land cover mapping in the Mediterranean. 5. Characterizing the spatial structure of vegetation communities in the Mojave desert using geostatistical techniques. 6. Integrating multisensor data and RADAR texture measures for cover mapping. 7. Gibbs random field models: a toolbox for information extraction. 8. Reducing structural clutter in land cover classifications of very high spatial resolution remotely sensed images for urban land use mapping. 9. Integration of a numerical model and remotely sensed data to study urban/rural land surface climate processes. 10. Estimation of sub-pixel land cover composition in the presence of untrained classes. 11. Interpreting Pleistocene glacial features from SPOT HRV data using fuzzy techniques. For more information consult: <http://www.elsevier.com/locate/compgeosci> or contact Peter Henn (email: p.henn@elsevier.co.uk), to order a copy at the special rate of US \$39.

Source: Peter Henn, Senior Publishing Editor Earth Sciences, Elsevier Science Ltd (UK)

Nigerian Journal of Cartography and GIS Published by the Nigerian Cartographic Association

Editor: Dr R O Olomo

At the 21st Annual conference and General Assembly of the Nigerian Cartographic Association held in Kaduna between 1st – 6th November 1999, the name of The Nigerian Cartographic Journal was changed to Nigerian Journal of Cartography and GIS with effect from January 2000. This is as a result of the broadening scope of Cartography and its stronger linkages to other aspects of mapping sciences, especially to digital image processing and geographic information systems. The Journal will continue to publish original papers of high professional quality dealing with all aspects of Cartography, broadened however, to include the Cartographic aspects of geographic information systems and the overlap between digital Cartography and digital image processing. Our emphasis is on papers based on empirical studies.

Format of manuscripts:

Manuscripts should be typed double-spaced on one side of A4 paper with generous margins, preferably not exceeding 20 pages, including illustrations. The title page, abstract and reference should be typed on separate sheets. The title page should include the title of the paper, the full name(s) of the author(s), and official addresses. There should be an abstract of about 200 words. The abstract should be a concise summary of the objective(s), approach, and principal conclusions of the paper. Use the metric system (SI) units of measurement.

For further details please contact: Dr Richard Olomo, Editor. Ambrose Alli University, Department of Geography and Regional Planning. P.M.B. 14, Ekpoma, Nigeria.

Source: Dr Richard Olomo, Editor Nigerian Journal of Cartography and GIS.

Forthcoming Conferences and Workshops

Teaching Maps For Children: Theories, Experiences and Perspectives Beginning the 3rd Millennium

Planning for the conference On "Teaching Maps For Children: Theories, Experiences and Perspectives Beginning the 3rd Millennium" to be held September 6-8, 2000 "Eötvös Loránd" University Department of Cartography Budapest, Hungary are well underway. A broad range of topics will be presented. These include atlas legend design, risk mapping for children, tourist maps for children, interactive CD-ROM Cartography and children, map and the Internet.

For details please consult:
<http://lazarus.elte.hu/hun/dolgozo/jesus/meetin g2/abstracts.html>

Jacqueline Anderson, Chair ICA Cartography and Children Commission

Joint ICA-ISPRS Workshop (WS13) ICA Working Group on Incremental Updating and Versioning

The Working Group on Incremental Updating and Versioning will hold a two days Workshop on July 14-15, 2000, just prior the ISPRS Congress in Amsterdam. This will be a joint ICA-ISPRS meeting.

Topic: Updating, Incremental Updating and versioning of spatial Data Bases. Fees: 200 NLG (approximately US\$ 100), which includes proceedings, refreshments and lunch!!

Registration can be made through the ISPRS Congress registration, asking for the Workshop WS13.

We are looking for paper contributions. These should be sent to Ammatzia Peled as a Word document (*.doc) attachment to the following email address
Icaupdt@geo.haifa.ac.il

For further information please consult:
<http://geo.haifa.ac.il/~icaupdt>

Ammatzia Peled, Chair of the ICA Working Group on Incremental Updating and Versioning

Annual Meeting of the ICA Commission on 'Gender and Cartography'

The annual meeting of the ICA Commission on 'Gender and Cartography' will be held in Budapest, Hungary, the 5th September, 2000.

Venue: Eötvös Loránd University,

Department of Cartography, Budapest, Hungary.

Subject of the meeting: Discussion on the form and contents of ICA Thematic Atlas, presentation of existing and proposed examples of atlases and maps (American, Swedish, Polish). Discussion on the Commission's name.

Organising Committee:

Ewa Krzywicka-Blum and Jesus Reyes.
Contact details: Ekblum@kgf.ar.wroc.pl
Fax: + 48 71 320 5617

Deadline for notifications:

Members of the Gender commission as well as other interested persons have to notify their participation in the meeting by 1st June 2000, in order to reserve accommodation at the Professors Hotel in Eotvos University (around 15 places are available for participants to this meeting). Notifications and further enquires should be addressed to the Chair of the ICA Commission on Gender and Cartography, Ewa Krzywicka-Blum.

Ewa Krzywicka-Blum, Chair of the ICA Gender and Cartography Commission

Cartography 2000

To mark the momentous occasion of the new millennium the British Cartographic Society (BCS) and the Society of Cartography (SoC) have decided to join forces, in promoting a conference to be entitled CARTOGRAPHY 2000. This conference will replace, for one year only, both the BCS Annual Symposium and the SoC Summer School.

CARTOGRAPHY 2000 will be held in Oxford from Tuesday 5th September to Friday 8th September, and will be promoted and run in a completely integrated fashion by both societies. Our hosts will be Oxford Brookes University. A team of SoC Committee members, along with the BCS Programme Committee, has already started collaborating to ensure that this event is suitably memorable as a means of marking the 3rd millennium.

The following tentative outline for CARTOGRAPHY 2000 has been agreed upon:

Tuesday 5th September (afternoon):

Official opening

Session I: Maps of the millennium

(Keynote speaker Dr Michael Wood, past president of the International Cartographic Association)

Session II: Oxford and its cartographic contribution

(evening): Society of Cartographers AGM

Quiz night

Wednesday 6th September (morning):

Session III: Freelance cartography (people and producers)

Session IV: Freelance cartography (procedures and products) (afternoon): Excursions: Oxford's cartographic connections and local tours (evening): British Cartographic Society AGM
BCS President's address
Group meetings

Thursday 7th September (morning):

Session V: Cartography in local government

Session VI: Education and training in cartography (afternoon):

Session VII: Map curators and archiving: contemporary approaches (evening): Conference dinner and awards ceremonies

Friday 8th September (morning):

Excursion: for map curators and other interested members

Session VIII: New cartographic media: tools, approaches, prospects

In addition, it is expected that for the whole day of both Wednesday and Thursday, drop-in 'surgeries' (on items as diverse as copyright, business practice, law, employment opportunities and software problems), vendor demonstrations and poster sessions will be timetabled. The usual exhibitions by commercial, prize-winning and individual members will also be arranged.

As can be seen, many aspects of both the BCS Annual Symposium and the SoC Summer School with which members are familiar will be retained and we hope to continue the respective traditions of both societies for friendly, well-organised and informative gatherings. We believe that this venture has considerable merit at this auspicious time and are working hard to present a notable event.

As always, the organising committee is keen to receive input from all members. Please respond to this proposal, and in particular, volunteer to give a presentation to the cartographic community on one of the topics indicated as session titles in the above timetable. Please note the dates in your diary – we look forward to welcoming you to Oxford!

The Cartography 2000 organising committee

contact via David Fairbairn, Dept. of Geomatics, University of Newcastle upon Tyne, NEWCASTLE UPON TYNE NE1 7RU, UK (tel 0191 222 6353; fax 0191 222 8691; e-mail dave.fairbairn@ncl.ac.uk)

David Fairbairn, Chairman Cartography 2000 Organising Committee

Future Dates

For your diary

Accuracy 2000

4th International Symposium on Spatial Accuracy Assessment in Natural Resources Environmental Sciences, Amsterdam, The Netherlands

Date: 12 – 14 July, 2000

Contact: Accuracy 2000 (Email: accuracy@frw.uva.nl)

Internet:

<http://www.gis.wau.nl/Accuracy2000/>

International IT Conference on Geo-spatial Education

Hong Kong Conference and Exhibition

Centre, Hong Kong,

From 6 – 8 July 2000.

Enquires to: Berlina Ho,

Conference Secretary, ITCGSE,

Dept. of Land Surveying and Geo-

Informatics, The Hong Kong Polytechnic

University, Hung Hom, Kowloon, Hong Kong.

Email: lsitcgse@polyu.edu.hk

INTERCARTO 6

Apatity, Russia

Date: 22 – 24 August 2000

Contact: Organizing Committee

INTERCARTO (kalabin@inep.kolasc.net.ru)

Internet:

alphais.inep.ksc.ru/intercarto/inter_en.htm

10th Australasian Remote Sensing and

Photogrammetry Conference

Adelaide, South Australia.

Date: 21 – 25 August 2000

Contact: conf@ausconvservices.com.au

Internet: www.ausconvservices.com.au

VI International Congress on Sciences of the Earth

Diego Portales Convention Center, Chile,

From 7 – 11 August 2000

Enquires to: Instituto Geografico Militar de

Chile, Nueva Santa Isabel 1640, Santiago, Chile.

Tel.: 562 460 6813 / 460 6814

Fax: 562 460 6978

Email: igm@igm.cl

29th International Geographical Congress

Seoul, South Korea

From 14 – 18 August 2000

Enquires to: Tel.: 82 (2) 876 0401,

Email: igcseoul@plaza.snu.ac.kr

6th Annual Geo Asia Pacific Conference

Queen Sirikit National Convention Center, Bangkok, Thailand

Date: 1-4 October 2000

Contact: Kathleen Hastings (

khasting@mail.aip.com)

Internet: www.geoplance.com/asiaconference/

IX Latin-American Symposium on Remote Sensing

Puerto Iguazu, Misiones, Argentina

Date: 6 – 10 November 2000

Contact: proditel@mail.unlu.edu.ar

Internet: webs.demasiado.com/proditel

Mapping Sciences Institute Australia National Conference

Sydney, New South Wales, Australia

Date: 3 – 6 December 2000

Contact: promaco@promaco.com.au

Internet: www.promaco.com.au

CONSAS 2001

12th conference of southern African

Surveyors, Cape Town, South Africa

Date: 12 – 14 March 2001

Contact: Brian Mellor

(bjmellon@iafrica.com)

Internet: www.plato.org.za

GIS 2001

Vancouver Trade and Convention Centre,

Vancouver, BC

Date: 19 – 22 February, 2001

Contact: Matt Ball (Email: mball@aip.com)

Internet: www.GIS2001.com

20th International Cartographic Conference

Beijing, China

Date: 6 – 10 August, 2001

Contact: Local Organizing Committee for

ICC 2001

Email: icc2001@sbsm.gov.cn

Internet: www.sbsm.gov.cn/icc2001/

Footnote: For those interested in viewing examples of maps submitted to the Barbara Petchenik Children's Map Award there is now <http://collections.ic.gc.ca/children/> in addition to <http://www.library.carleton.ca/madgic/maps/children/index.htm>.

Jacqueline M. Anderson

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Contributions

Please send contributions to:
 Graciela Metternicht, Editor ICA News
 School of Spatial Sciences
 Curtin University of Technology
 GPO Box U 1987, Perth 6845
 Western Australia
 Email: graciela@vesta.curtin.edu.au
 Fax: +61-8-9266 2703
 Ftp: [alpha.cage.curtin.edu.au](ftp://alpha.cage.curtin.edu.au)
 Login and pwd: anonymous
 Directory: /graciela/ICA/incoming

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President: Bengt Rystedt, National Land Survey, Sweden.

Secretary General: Ferjan Ormeling, Faculty of Geographical Sciences, Utrecht University, The Netherlands.

Editor: Graciela Metternicht, School of Spatial Sciences, Curtin University of Technology, Perth, Australia.