



president's report



Dear Colleagues

As you will be aware ICA is involved in several international organizations, like the International Science Council and its Geo-Unions, but also in the United Nations

Committee of Experts on Global Geospatial Information Management (UN-GGIM).

Before getting involved in the UN-GGIM, ICA was active in the UN Regional Cartographic Conferences (RCCs), which have now been absorbed by the UN-GGIM. Those RCCs were oriented towards national mapping agencies, which still are important to the UN-GGIM, but

the topics have broadened considerably over time. ICA tries to keep the map on the agenda, and two years ago we organized a poster exhibition on maps and Sustainable Development Goals (SDGs) in the UN Headquarters in New York (see *ICA News* No 67, December 2016, p 1-2). Currently we are working on a book with the working title *Mapping Sustainability*. We do this together with the UN Geo-Information Section. We participate in UN-GGIM activities together with other geo-societies in the UN-GGIM Geospatial Societies which are currently chaired by ICA.

The UN-GGIM hold their official annual events in New York, and every couple of years they organize a theme oriented High Level Forum. Last November 2018 for the first time they organized the United Nations World

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Rainbow Bridge, Tokyo | *Photography courtesy of ICC 2019 LOC*

29th international cartographic conference 2019 tokyo · japan



The 29th International Cartographic Conference (ICC 2019) will take place in Tokyo, Japan, 15–20 July 2019. Join us and share the latest innovations and developments in mapping techniques, technological advancements, and current research in cartography and

GIScience. Greater Tokyo, a megacity with over 37 million residents, is known to be one of the safest cities in the world. The city has various charms to visit and experience, from historical monuments to museums to theatres. Shopping in large retail stores, as well as small shops in the back alleys, is another enjoyable activity. Tokyo is also known for its gourmet cuisine, with over 100,000 restaurants that boast the most Michelin stars in the world. We are confident that you will all enjoy the Japanese hospitality in Tokyo.

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Recently I've had to move to a new space in another part of the Library building. My old office had a large bookshelf containing a reasonable volume of ICA documents collected over many years – correspondence, reports, publications, *ICA News* archives – that had to be moved as well. While packing I had a chance to look at each document one by one and was astounded and pleasantly surprised by the variety of design employed to create them. Although this is particularly applicable to the ICA conferences and commission events, such as proceedings, programmes and exhibition catalogues, one can also observe the evolution of formats, styles, graphics and typography of other ICA publications, from simple, but aesthetically pleasing in the 1960s to more standardised, but less exciting in the 1990s. As the ICA conferences move from country to country, this is further accentuated by the 'look and feel' of associated publications – the covers proudly display the national flavour in their design, from maps of Australia (ICC 1984) and Sweden (ICC 1997) to the Eiffel Tower (ICC 2011) and stunning views of Rio (ICC 2015). As for various commission events, we have images of mountains (Mountain Cartography), reproductions of ancient maps (the History of Cartography), and cartographically inspired mosaics that interweave the old with the new (Cartographic Heritage into the Digital). To me, the creative spirit that drives cartography was very much at play when designing these publications to produce a visual appeal that is meaningful, unique and... identifiable.

The advent of the ICA online proceedings brings an entire range of enhancements, from searching and ubiquitous access to indexing and research impacts. However, at the same time we strip them of what is at the heart of cartography – the visual beauty and purpose. I wonder whether there is room for both; technology seems to be accommodating.

An update on ICC 2019 in Tokyo provides another incentive to attend this ICA flagship event. We are reminded about the upcoming General Assembly and treated to a number of reports from cartographic events around the globe.

Igor Drecki | Editor ICA News | ICA ■

The *ica news* is published by the International Cartographic Association (ICA).

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Secretary General & Treasurer: **László Zentai** | Eötvös Loránd University | *Hungary*

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© International Cartographic Association (ICA) 2018



Plenary discussion with keynote speakers including former ICA Vice President Tim Trainor (third from left) | Photography Menno-Jan Kraak

Geographic Information Congress (UNWVIC), in Deqing, China, hosted by the Chinese Ministry of Natural Resources, and the Government of Zhejiang Province. The city of Deqing is said to be the geoinformation capital of China, with many companies present and a huge dedicated conference centre for our discipline.

The congress motto was *The geospatial way to a better world*. The Congress comprised of a series of thematic streams that stem from the overall theme of the meeting, principally focusing on strengthening national geospatial information management and systems, and national implementation of the 2030 Agenda for Sustainable Development. Amongst others, there were sessions on:

- Measuring and monitoring the SDGs
- Growing global geospatial capability and capacity
- Sustainable development in action

It was in this last session where ICA organized a one and half hour workshop *My maps, the good, the bad and the ugly*, discussing the design of effective visualizations, maps and diagrams to better understand the SDGs. The

workshop demonstrated that although visualizing the SDG indicator data seems trivial, experience shows that during this process many decisions related to the data and visualization have to be made, which are all prone to errors. The participants had an opportunity to design their own maps and diagrams, and critique those of their colleagues. The workshop attracted about 50 participants. For details see the conference website www.unwvic2018.org.

Another contribution was made by Serena Coetzee (South Africa), chair of the ICA Commission on Spatial Data Infrastructures and Standards, who was one of the presenters in the *Standards that Make Innovation Possible* session, delivering a talk on international addressing standards. Former ICA Vice President Tim Trainor (USA), was a key member of the organizing committee.

It is important for ICA to participate in events like this because this allows us to make the world a better place with maps.

Menno-Jan Kraak | President | ICA ■

Deqing International Convention Center, located at the Zhejiang Geospatial Information Industrial Park in Deqing, Zhejiang Province, China | Photography Menno-Jan Kraak



ica news children's map awards 2019

The biennial Barbara Petchenik Children's World Map Competition was created by the International Cartographic Association (ICA) in 1993, as a memorial for Barbara Bartz Petchenik, a former Vice President of the ICA and American cartographer who worked through her life with maps related to children. The aim of the contest is to promote the creative representation of the world in graphic form by children.

All ICA national and affiliate members can participate in the competition, sending a maximum of six drawings that will be displayed at the International Children's Map Exhibition to be organized during the 29th International Cartographic Conference held in Tokyo, Japan, between 15-20 July 2019. Nations that are not members of the ICA cannot participate in the competition, but they can send entries to be displayed at the exhibition. The theme for the 2019 competition remains the same as in 2017, i.e. **We love maps**. Entries can be sent to any of the four age groups: under 6 years, 6-8 years, 9-12 years and 13-15 years.

The International Jury will award three prizes for each age group and a maximum of one prize will be awarded per country across all of the four age groups. Delegates of the conference and visitors of the exhibition would be able to cast their votes for the Public Award, which is given to only one exhibited drawing. At same time, the ICA Commission on Art and Cartography will select one drawing for the Creativity Award. Winners are announced during the Closing Ceremony of the conference and national representatives participating in the conference will be asked to accept the diplomas and prizes on winner's behalf.

The deadline to submit entries is 1 May 2019. Detailed information can be found at icaci.org/petchenik/, lazarus.elte.hu/ccc/ccc.htm, and www.facebook.com/icacc/.

José Jesús Reyes Nuñez | ICA Commission on Cartography and Children | Hungary ■



18th general assembly of ica

The 18th General Assembly of the International Cartographic Association will take place in Tokyo, Japan, on 15 and 20 July 2019. The ICA national members are asked to note:

- Each national member is expected to officially nominate a principal delegate and a deputy who will attend the General Assembly (GA) in person and participate in voting. Nominations must be submitted to the Secretary General before 31 May 2019.
- Each national member is entitled to make proposals to the GA; they must be submitted to the Secretary General before 15 February 2019. Proposals can include i) motions for changes to the ICA Statutes and By-Laws, and any other motions for inclusion in the Agenda; ii) nominations for positions on the Executive Committee for 2019-2023; iii) nominations for honorary auditors for 2019-2023; iv) proposals for new and continuation of existing Commissions for 2019-2023; v) bids to organise the 31st International Cartographic Conference and the 19th General Assembly (see icaci.org/icc2023/ for details).
- National members may nominate cartographers for ICA Awards. Nominations must be submitted to the Secretary General by 31 January 2019 (see icaci.org/awards/ for descriptions of the ICA awards)
- Each national member must produce a national report for distribution at the General Assembly. The reports must be submitted to the Secretary General by 15 June 2019 (see ICA Directory 2015-2019 on icaci.org/documents/ for guidelines – page 83).

László Zentai | Secretary General & Treasurer | ICA ■

ica news 25 years ago...

From the passing of David Bickmore, a pioneer in the introduction of computers into cartography and a recipient of an ICA Honorary Fellowship (1987), to chartering 'MD83' (that's the McDonnell Douglas MD-83 passenger aircraft) for transporting conference delegates, visiting a space rocket base and providing warm clothes for an outdoor lunch in the middle of Swedish winter, the Eurocarto XI announcement below has it all... And the prospect of having an event without daylight is considered a bonus – incredible!

Igor Drecki | Editor ICA News | ICA ■

ICA Newsletter, No 22, October 1993

EURO CARTO XI 1993

Sad news has been brought to all of us who are or have been involved in the conference series Eurocarto. With David Bickmore's death we have lost much of the energy needed to find a new conference organizer each year. Nevertheless, the Swedish Cartographic Society is determined to fulfil its obligation and arrange the eleventh conference in Sweden.

Eurocarto XI will be held in Kiruna in the north of Sweden, December 8-12. Since Kiruna is located north of the Polar Circle there will be no daylight. This is an experience every geographer should have once in his lifetime.

The format of the conference is tight. There are no parallel sessions, no exhibition and only one hotel – surely a situation that will stimulate discussion and the exchange of ideas. Almost a whole day will be used for a study tour of companies in the Space House and to the Space rocket base Erstage. An outdoor lunch has been arranged and warm clothes will be provided!

The theme of the conference is 'The Editor's Dilemma in the World of Spatial Databases'. The call for papers with a second deadline of September 20 has resulted in a satisfying number of abstracts. At first glance, the session on Spatial metadata appears to be a very interesting one.

For travel between Stockholm and Kiruna an MD83 has been chartered. It will take participants from Stockholm Arlanda to Kiruna in the afternoon of December 8 and back on the morning of December 12. For further information contact Bengt Rystedt [...].

Bengt Rystedt / 15 September 1993

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ica news contributions

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Submission Deadlines

15 May for June editions

15 November for December editions

29th international cartographic



Tokyo: (clockwise from top left) Geo-Cosmos, a star attraction of Miraikan; National Museum of Emerging Science and Innovation (Miraikan); Shibuya crossing; a view of Mount Fuji

Conference Venue

The conference venue is the National Museum of Emerging Science and Innovation (Miraikan) and Tokyo International Exchange Center, located in the beautiful Tokyo bay area. The area is where some of the main facilities of the 2020 Olympic and Paralympic Games will be located, sure to be one of the most attractive spots in Tokyo. The Geo-Cosmos, the symbol exhibit of Miraikan, produces a rendition of our Earth shining brightly in space with a super high precision, which is the world's first globe-like display using organic LED panels. Miraikan is also equipped with excellent space for our conference sessions, map exhibition and technical exhibition.

Paper Submissions

The Organizing Committee of ICC 2019 invites all interested participants from across the globe to submit papers and abstracts on the latest scientific developments in cartography and GIScience. Conference themes and topics are listed on the ICC website (www.icc2019.org/papers.html). The event is a unique opportunity to exchange ideas and encourage collaboration with colleagues from academia, government and industry.

ICC 2019 publications conform to the new ICA's Publication Policy adopted in 2017. For more details on the new policy, see ICA Publications (icaci.org/publications/). All details and the submission form can be found on the ICC website (www.icc2019.org/papers.html).

Technical Tours and Social Program

An extensive list of cultural activities is planned for delegates and their companions, including technical visit to cartographic organizations,

libraries and museums, as well as several tours in Tokyo and neighboring cities. Coffee breaks and an ice-breaker cocktail reception are included in the registration fee. We will also have a Gala dinner at Happon-en restaurant that has a traditional Japanese garden. Other social events are under consideration.

Exhibitions

Three important exhibitions will take place at ICC 2019. The International Cartographic Exhibition allows ICA member countries and affiliate members to display cartographic products of the highest achievement originating in their country. The Barbara Petchenik Children's World Map Competition promotes creative representation of the world in graphic form by children from around the world. Both of these exhibitions will be open to the public. The International Technical-Commercial

ICC 2019 Important Dates

Open	Call for papers
5 Dec 2018	Submission of full papers (<i>Advances of the ICA</i>)
12 Dec 2018	Submission to the International Cartographic Exhibition opens
19 Dec 2018	Submission of abstracts (<i>Abstracts of the ICA and Proceedings of the ICA</i>)
Feb 2019	Registration opens
20 Feb 2019	Notification of acceptance
6 Mar 2019	Submission to the International Cartographic Exhibition closes
3 Apr 2019	Submission of final manuscripts (<i>Advances of the ICA and Proceedings of the ICA</i>)
3 Apr 2019	Registration for presenters/authors closes / Early registration deadline

wcf.icaci.org/

ICC 2019 Conference Program			
Date	Morning	Afternoon	Evening
Sunday 14 July	Workshops	Workshops	—
Monday 15 July	Workshops ICA General Assembly (Day 1)	Workshops ICA General Assembly (Day 1)	Opening Ceremony ICA Awards
Tuesday 16 July	Plenary (1) Technical Sessions Exhibition	Technical Sessions Scientific Posters Exhibition	Opening Reception
Wednesday 17 July	Plenary (2) Technical Sessions Scientific Posters Exhibition	Technical Sessions Scientific Posters Exhibition	Young Cartographers Social Gathering
Thursday 18 July	Plenary (3) Technical Sessions Scientific Posters Exhibition	Technical Sessions Scientific Posters Exhibition	—
Friday 19 July	Plenary (4) Technical Sessions Scientific Posters Exhibition	Technical Sessions Scientific Posters Exhibition	Gala Dinner
Saturday 20 July	Technical Sessions ICA General Assembly (Day 2)	Closing Ceremony	—

Exhibition offers an excellent opportunity to connect with leaders and influencers representing government, academia, and international companies from all over the world.

Sponsorships

Three kinds of sponsorship packages – i.e. Global, Hemisphere, and Continental – are available according to accumulated amount of applications, such as co-sponsored fee of the symposium, exhibition fee and advertising fee. You will receive benefits and acknowledgements according to the level of contribution. Please consult with the ICC 2019 Secretariat if you would like to customize the content of available packages.

Scholarships

The ICA Scholarships are available to support those young scientists in your country who

would like to actively contribute to and participate in the upcoming ICC 2019. See ICA website (icaci.org/scholarship/) for further details.

The ICC 2019 organizers will provide information on additional assistance to young scientists through an ICC-related scholarship or assistantship program. Details on these opportunities will be provided on the ICC 2019 website (www.icc2019.org) as they become available.

Other information concerning the conference will be published on the conference website as it becomes available. Please visit ICC 2019 website (www.icc2019.org) for updates.

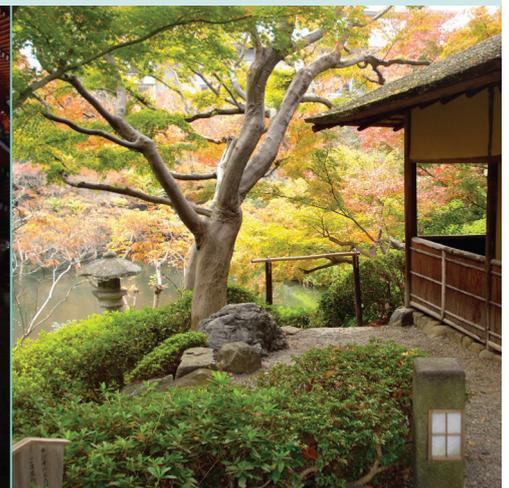
Yoshiki Wakabayashi | Secretary General | ICC 2019 Local Organizing Committee | Japan ■

The World Cartographic Forum (WCF) brings together leaders of national cartographic societies from around the globe to discuss common issues such as membership, collaboration and supporting the provision of cartographic training and education. Following its successful inauguration at International Cartographic Conference (ICC) 2017 in Washington D.C., USA, which was attended by over 40 delegates from 20 countries, we are planning to hold our next meeting at ICC 2019 in Tokyo. This will take the form of a workshop and we invite short presentations on successful initiatives. Please get in touch with the Chair (alexander.kent@canterbury.ac.uk) if you would like to contribute to the session in this way and enable others to learn from sharing your experiences and good practice.

The WCF website (wcf.icaci.org) offers a growing range of online resources, including the results of the 2017 survey of member societies, which contains a range of information about our organisations and outlines approaches towards membership (particularly fees and benefits). We are also building a repository of constitutions and organisational strategies, for which we invite contributions from national cartographic societies.

Alexander Kent | Chair | World Cartographic Forum | United Kingdom ■

Tokyo: (from left) Tokyo Skytree; Sensōji – an ancient Buddhist temple; Happō-en restaurant overlooking the Japanese garden, the venue of the ICC 2019 Gala dinner



eva sahlin

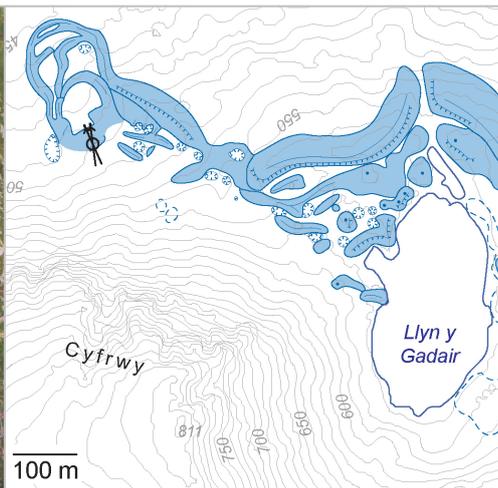
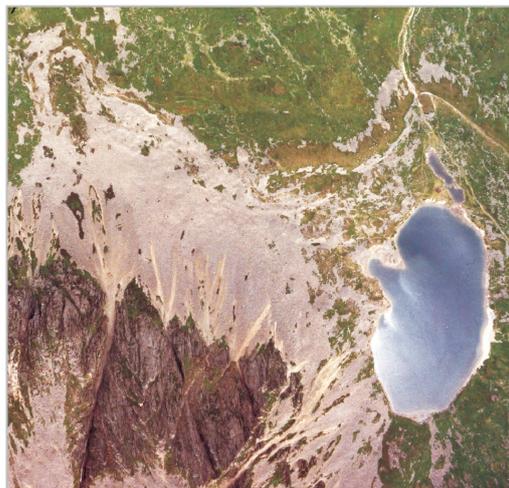


Like many children I could spend hours with colourful atlases and marvel at exotic-sounding place names; a spin on the globe would give my finger new places to study and fantasize about.

Growing up, interests changed and maps were just part of everyday life. I ended up studying art after high school and thought about becoming a scientific illustrator. Being practical regarding the job market, I turned instead to studying Earth Science at Stockholm University.

So what set me on the path to become a cartographer? It happened in my fourth year at university when I took a course in cartography parallel with my master degree project. This resulted in maps depicting the glacial and periglacial geomorphology of two mountain areas in northern Sweden. The research was exciting, but what really captivated me was that I realised maps made my study understandable and showable, they condensed my knowledge into images. I could make sense out of contradicting clues, by sorting out the elements of the landscape, layering the time periods and the processes, making a system. And if an image is worth a 1000 words, a map has the bonus of including a map key, providing an interpretation of the image to the reader.

My interest in cartography got me a research assistant job contributing to producing a glacial map of Canada, as well as another geomorphological map job with the Royal Swedish Academy of Sciences. I was encouraged to apply for a PhD at University of Wales Aberystwyth, UK, where I had the pleasure of making more maps. The first paper I submitted, describing the



glacial geomorphology of Cadair Idris, won the first *Journal of Maps* Map Award in 2008. With this, I was truly caught by the mapmaking bug and without aiming to, I realised I had after all ended up as a scientific illustrator!

trekking maps, special maps, city maps and other large scale maps for urban areas. SOI predicts tides at 44 ports and publishes Tide Table to support navigational activities. SOI carries out all geodetic and geophysical surveys.

SOI maintains a web-based GeoPortal offering authoritative and reliable data services to citizens and Government. SOI is currently in the process of modernizing National Spatial Reference Framework by establishing Continuously Operating Reference Stations (CORS) in India.

The endeavour of SOI will always be to address the challenges of cartography and GIS and shall promote the use of geospatial knowledge so that the maps and GIS are essentially consumed for sustainable growth of society.

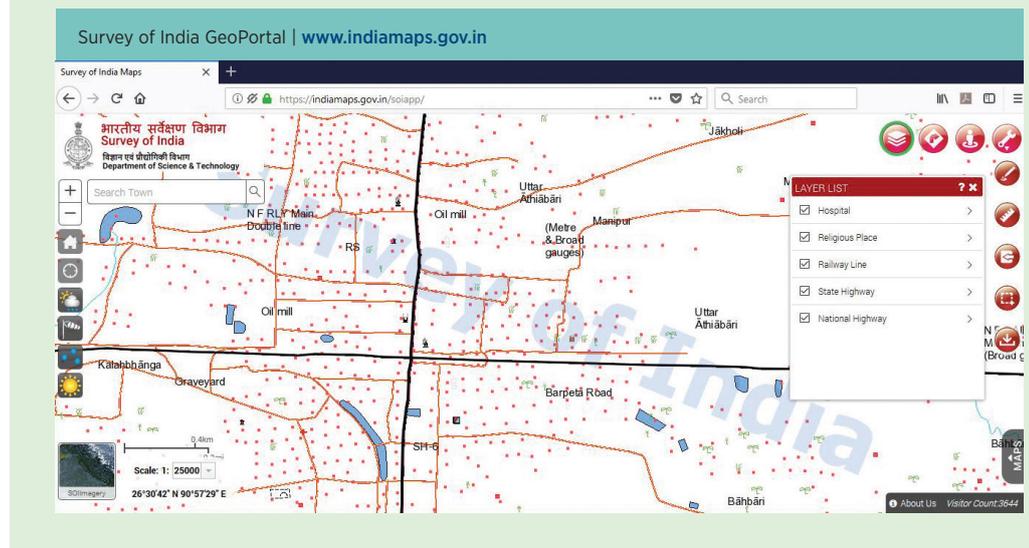
Lt Gen Girish Kumar, VSM | Surveyor General | Survey of India | India ■

profiles survey of india

www.surveyofindia.gov.in/

Survey of India (SOI), the national survey and mapping organisation of India was set up in 1767 and has evolved rich traditions over the years. SOI takes a leadership role in providing customer-focused, cost effective and timely geospatial data, information and intelligence for meeting the needs of security, sustainable national development and new information markets. Survey of India is the official national representative of India to the International Cartographic Association since 1961.

SOI's mandate is to create, maintain and make available the National Topographic Database (NTDB) of India conforming to national standards. NTDB consists of National Spatial Reference Frame, National Digital Elevation Model, National Topographic Template, Administrative Boundaries and Toponymy (place names). SOI produces and publishes topographical maps on various scales such as 1:250,000, 1:50,000, or 1:25,000. SOI also produces geographical maps, guide maps,



Nowadays, working as a lecturer in Geomatics at the University of Gävle, my research has expanded into map didactics. How can I as a cartographer facilitate the map reader's ability to understand and value complex scientific maps? In a time of climate debate, it is more urgent than ever to identify and map elements of the landscape in order to detect changes – and for the physical planners and decision makers to understand these maps and the messages they convey. After all, a sustainable and resilient society is only as good as the maps it is based on.

Eva Sahlin | University of Gävle | Sweden | eva.sahlin@hig.se ■

An aerial photograph of Llyn y Gadair in Cadair Idris, Wales, UK (left), constitutes the basis for the interpretation of glacial depositional landforms, which are illustrated in blue colour on the corresponding geomorphological map (right). Aerial photograph © Countryside Council for Wales, 1992.

www.geospatial.com/

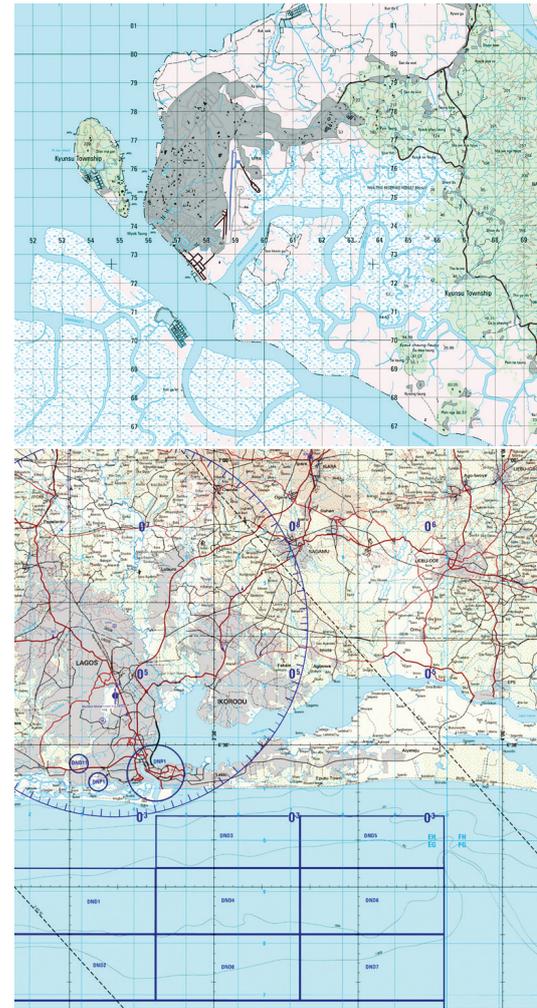
East View Geospatial (EVG) is a leading aggregator and value-added distributor of authoritative maps and geospatial data from around the world. EVG has been part of the International Cartographic Association (ICA) community since the 1990s and in 2007 became ICA's Affiliate Member. Very comfortable in both advanced geospatial applications and technologies, as well as traditional cartography and paper products, EVG houses one of the world's largest collections of map and geospatial publications and metadata of all kinds. We monitor and record the world's geospatial output via GeoPAD, a sophisticated geo-cataloging system focused on governmental and commercial mapping organizations and their respective output: topographic, geological, thematic, nautical, aeronautical and other maps, charts, and data products produced by mapping authorities worldwide and in all languages. EVG's GeoPAD powers a suite of platforms and products, including MapVault, comprehensive e-commerce websites for professionals and laypersons, and research databases like the Global Census Archive. As experts on international mapping and cartography, as well as geospatial copyright, access, and public domain issues, EVG is the trusted partner for many government, commercial, and academic organizations, providing unparalleled sourcing and procurement services as well as custom production capabilities.

In addition to maps, EVG offers an array of geospatial datasets, including aerial and satellite imagery, digital elevation models, population and demographic data, and a variety of vector and raster databases. With a complete production staff ranging from GIS Analysts to Remote Sensing Scientists, EVG provides tailored geospatial solutions that ensure delivery fit for numerous applications. Additionally, EVG regularly provides consulting and capacity building services, equipping organizations with the necessary tools and training to bring geospatial analytics in-house. EVG has a long history of serving client markets in academia, defense and security, energy and natural resources, civil engineering, telecom and transportation, and many more.

Founded in 1989 and headquartered in Minneapolis, Minnesota (USA), EVG occupies a unique niche in the geospatial industry. With our exceptional network of international partners and field offices in Europe, Africa, Asia, South America, and Australia, EVG offers unique access and insight to both the developed and developing world's geospatial products and data.

Grant Bistram | Director of Marketing | East View Companies | USA ■

1:50,000 scale topographic map over coastal Myanmar (top); 1:250,000 scale Joint Operation Graphic over Lagos, Nigeria (bottom) | Images East View Geospatial



reports ica commissions

International Cartographic Association Member International Council of Scientific Unions

THESSALONIKI 2019

See the maps with the history of today

14th Conference International Cartographic Association Commission on Cartographic Heritage into the Digital

DIGITAL APPROACHES TO CARTOGRAPHIC HERITAGE

Hosted by the Aristotle University Library and the Museum of Byzantine Culture

8-10.5 2019

40 Years Cartography of Thessaloniki 1979-2019

<http://cartography.web.auth.gr/ICA-Heritage/Thessaloniki2019>

Cartographic Heritage into the Digital

cartography.web.auth.gr/ica-heritage/

Conference in Thessaloniki, Greece

The ICA Commission on Cartographic Heritage into the Digital, continuing the tradition of its annual Cartoheritage Conferences since 2006, is organising the 14th Conference *Digital Approaches to Cartographic Heritage* (ICA DACH) in Thessaloniki, Greece, 8-10 May 2019, in partnership with the Aristotle University of Thessaloniki (AUTH) and supported by the Map and Geoinformation Curators Group (MAGIC).

The Programme includes thematic sessions dedicated to relevant subjects usually covered by these conferences, as well as our Commission's Terms of Reference (2015-2019) and the topics researched by its Working Units. This is the second ICA DACH Conference with a special focus dedicated to the contribution of

cartoheritage to digital humanities:

- Digitisation – Georeferencing
- Content analysis in terms of geometry and thematics of cartodiversity
- Landscape change studies based on map archival sources.
- Visualisation of cartoheritage, including thematic portals
- Interconnection of cartographic archival sources, especially map and textual data
- Historical terrestrial and aerial photography, including photo-related postcards and relevant material – cartographic parametrisation
- Issues relating to dissemination of cartoheritage via the web
- Interaction of cartoheritage with map and geoinformation curatorship of cartodiversity
- Development of cartoheritage as a cultural issue within the context of GLAM (Galleries, Libraries, Archives, Museums) addressing education and the general public
- Geographic affinities with cartoheritage

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- Cartoheritage and digital humanities
- Other relevant issues of the cartoheritage ecosystem

Papers presented at the meeting will be published in the Conference Proceedings (ISSN 2459-3893) and available in digital form during the Conference.

For more information, please visit the Conference website cartography.web.auth.gr/ICA-Heritage/Thessaloniki2019/.

Evangelos Livieratos | Chair | ICA Commission on Cartographic Heritage into the Digital | Greece ■

Cartography and Children

lazarus.elte.hu/ccc/ccc.htm

Meeting in Sozopol, Bulgaria

The first meeting of the ICA Commission on Cartography and Children following the International Cartographic Conference (ICC) 2017 in Washington D.C. was held on Wednesday, 20 June 2018 in the afternoon, during the 7th International Conference on Cartography and GIS in Sozopol, Bulgaria. Colleagues from Bulgaria, France, Hungary, Poland, Turkey, Czech Republic, Korea, Croatia and other countries participated in the meeting, which was led by the Commission's Vice Chair, José Jesús Reyes Nuñez from Hungary. The meeting provided an opportunity to report on the Commission's website and Facebook page, as well as to address more specific issues such as the organization of the upcoming Barbara Petchenik Competition and the current situation and plans surrounding publication of books related to the competition.

In relation to the Barbara Petchenik Competition, there is no change to the rules for the participating countries, the theme of the competition remains the same (*We love maps*) and the deadline for sending the works is 1 May 2019.

The only significant modification to be introduced in 2019 is that all national coordinators will be invited to participate in the voting process prior to the final decision made by the International Jury during ICC 2019. As usual, the international coordinator will collect and scan all valid entries submitted to the competition and create a temporary website for voting purposes. According to our plans, the votes will be cast by the national coordinators by e-mail during the month of June and each voter must follow the same rules as the International Jury, for example they cannot vote for entries from their own country. The votes given by the national coordinators and the Jury members will be counted by the Chair, and the final decisions will be taken by the eight members of International Jury during the Barbara Petchenik International Children's Map Exhibition in Tokyo.

Meeting in São Paulo, Brazil

Two weeks after the meeting in Sozopol, Carla Sena (Commission Chair) and José Jesús Reyes Nuñez met with the Vice Chair of the ICA Commission on Maps and Graphics for Blind and Partially Sighted People, Waldirene Ribeiro (Brazil) during the X Colloquium on School Cartography, which was organized at the University of São Paulo, Brazil, 9-12 July 2018. At the meeting they analysed various options to improve future collaborations between both commissions. They agreed to organize joint workshops in association with the future International Cartographic Conferences, the first being prior to the ICC 2019 in Tokyo. Another idea involved working together on a special issue of the *International Journal of Cartography (IJC)* dedicated to School Cartography. First contacts were made with William Cartwright, *IJC*'s co-editor, and the expected date for the publication was set for 2020.

The X Colloquium on School Cartography and the 1st International Meeting on Cartographic Thinking gathered over 300 Brazilian colleagues from universities, as well as secondary and primary schools. The Brazilian community

working on School Cartography can be considered the largest community of its kind in the world and their members are organized in national research groups under the umbrella of the National Council for Scientific and Technological Development. The colloquium has a long tradition among Brazilian colleagues and it has been held for more than 25 years. This year, internationally recognized researchers from USA, United Kingdom, Canada, Hungary and Chile were invited to participate. Sessions were organized as roundtables with four to five participants discussing specific themes, such as *Atlas and technology in School Cartography*, *School Cartography and Inclusion*, *Cartography and Spatial Thinking in Elementary and Secondary Schools*, etc. Colleagues had the opportunity to hear and actively participate in discussions and presentations, for example the opening speech by Prof Sarah Witham Bernadz (Texas A&M University, USA) titled *Space Thinking: a powerful tool for educators to empower youth, improve society, and change the world* and a special presentation by Emeritus Prof Simon Catling (Oxford Brookes University, UK) – *To know maps: Primary school children and contextualised map learning*. The next colloquium will be organized at the Federal University of Pelotas, Rio Grande do Sul State in 2020.

José Jesús Reyes Nuñez | Vice Chair | ICA Commission on Cartography and Children | Hungary ■

Cartography in Early Warning and Crisis Management

map.casm.ac.cn/ewcm/

Over the last six months, the ICA Commission on Cartography in Early Warning and Crisis Management (CCEW&CM) facilitated several events listed below. One of the highlights

(From left) ICA Commission on Cartography and Children meeting in Sozopol, Bulgaria; exhibition of maps made by Brazilian children displayed at the X Colloquium on School Cartography in São Paulo, Brazil; José Jesús Reyes Nuñez addresses the audience | Photographs courtesy of José Jesús Reyes Nuñez





(Left) Participants of the ICA Commission on Cartography in Early Warning and Crisis Management meeting in Sozopol, Bulgaria; (right) participants of the Interdisciplinary Conference on Geoinformation and Sustainable Development in Bonn, Germany | Photographs courtesy of Milan Konečný

involved forging a new partnership between our Commission and the Red Cross in the area in emergency management, both civilian and military. This is particularly relevant in context of potential application of cartography and mapping in crisis situations, as well as in the fulfilment of the United Nations Sendai Framework for Disaster Risk Reduction (DRR) 2015-2030 (www.wcdrr.org/conference/outcomes).

Seminar in Sozopol, Bulgaria

A two-day *Seminar with EU Cooperation on Early Warning and Disaster/Crisis Management* was held in Sozopol, Bulgaria, 19-20 June 2018, as part of the 7th International Conference on Cartography and GIS programme (see page 14 for the conference report). The event was organized by Prof Milan Konečný, Chair of CCEW&CM and conducted under the auspices of the Czech Ambassador to Bulgaria – His Excellency Mr Dušan Štrauch. The event was co-organized by the Masaryk University in Brno, Czech Republic. The Seminar was organized in 3 sessions, two on Tuesday, 19 June from 2.30 p.m. to 6 p.m., the third one on Wednesday, 20 June.

The seminar started with a keynote by Milan Konečný (Czech Republic), Temenoujka Bandrova (Bulgaria) and Jipping Liu (China) titled *Cartography for Disaster Risk Reduction: Research Agenda in the Dawn of Big Data Era*. The seminar programme included a further 13 papers presented by speakers from Bulgaria, China, Croatia, Czech Republic and the USA (full programme is available from iccgis2018.cartography-gis.com/programme/).

In his closing remarks Milan Konečný welcomed the participation of Red Cross representatives in the CCEW&CM event. Others noted the importance of cartographic support in their pursuits and operations, which they wish to develop further. In context of the UN Sendai Framework, projects between DRR and global warming should be pursued and enhanced.

At the Commission meeting held in the evening of the first day, participants discussed the need for developing new guidelines for future work, particularly post 2019. The key tasks will involve elaborations of topics from the UN Sendai Framework for Disaster Risk Reduction. Prof Jipping Liu, Vice Chair and Prof Yong Wang, Secretary attended the meeting.

Conference in Bonn, Germany

Our Commission participated in the German edition of the InterCarto Conference in Bonn, 24-28 July 2018. The 24th Interdisciplinary Conference *Geoinformation and Sustainable Development* was organised by Prof Vladimír Tikunov (Russia) and Eng Horst Kremers (Germany). Commission Chair Prof Milan Konečný delivered a talk *Disaster Risk Reduction and Sustainable Development: New Challenges in the Big Data Era* on 26 July 2018. The conference attracted a group of Georgian cartographers led by Prof Tengiz Gordeziani from Ivane Javakishvili Tbilisi State University – they expressed an interest in the works of the Commission.

The conference demonstrated a need for deeper cooperation between environmentalists, cartographers and geographers with specialists in geoinformatics in order to solve complex problems of disaster risk reduction.

Seminar in Beijing, China

On 30 August 2018, two members of CCEW&CM, Milan Konečný and Tomáš Řezník, participated in a seminar devoted to new trends in geoinformatics and cartography organized by the Chinese Academy for Surveying and Mapping (CASM) in Beijing, China. They presented two papers: *New Challenges of Geoinformatics and Cartography in Disaster Risk Reduction Smart Solutions* (Konečný) and *Novel Geoinformatic Approaches Enhancing the Concept of Precision Agriculture* (Řezník). The seminar was chaired by Vice President of CASM and Vice Chair of our commission Prof Jipping Liu and Prof Yong Wang.

Forum in Prague, Czech Republic

Prof Milan Konečný, Commission Chair, was invited to lead and moderate a special round table at the *Future Forces Forum* (FFF) held in Prague, Czech Republic, 17-19 October 2018. The event, attracting both military and civilian participants, is a highly recognized and widely endorsed international platform for defence and security information exchange and for promotion of the allied countries and their partners' objectives within national and global security (www.future-forces-forum.org/events/default/21_geometoc-2018?lang=en). The FFF was held under the auspices of the President of the Czech Republic Mr Miloš Zeman, and attracted delegates representing state and regional authorities, as well as national and international security and defense organizations.

Prof Konečný chaired a round table at the *Geospatial, Hydrometeorological and GNSS Conference (GEOMETOC) 2018* at FFF. Participants included amongst others BG (Ret.) Abraham Bachar, Israeli Homeland Security Team (Israel); HE Richard Brabec, Deputy Prime Minister and the Minister for the Environment; Col Jan Čírek, GEOMETOC Chairman, Chief of Hydrometeorological Service, General Staff, Czech Armed Forces; Jaroslav Šmíd, Deputy Director, National Cyber and Information Security Agency; Col Daniel Miklós, Deputy Director General, General Directorate of Fire Rescue Service; Marek Rieder, Director, Czech Hydrometeorological Institute (all Czech Republic).

Topics at Strategic Level included:

- Understanding of Environmental and Technological Risks
- Civil-Military Cooperation to Improve Disaster Preparedness and Prevention
- Sendai Framework Disaster Risk Reduction (2015-2030)

Discussion was exciting and presented a huge potential for cooperation between military and civilian sectors. Of course, different countries have different systems of



Round table discussion at the *GEOMETOC 2018* conference in Prague, (left to right) Col Daniel Miklós, BG (Ret.) Abraham Bachar, Prof Milan Konečný, Col Jan Čírek, Mr Jaroslav Šmíd, and Mr Václav Kobera | *Photograph courtesy of Milan Konečný*

emergency management, but they should be standardised as much as possible. From a cartographic point of view the discussion was enriched by contributions from Mr Karel Brazdil, Head of the Czech Land Survey Office, and Mr Karel Raděj, Director of the Research Institute for Geodesy, Topography and Cartography (both Czech Republic). Geographic information and maps were appreciated for their positioning and visualization potential. One of the identified problems concerned differences in the terminology used in the UN Sendai Framework documents, and European Union or individual state directives – something that should be solved as soon as possible.

Conference in Sofia, Bulgaria

Bulgarian geographers celebrated the 100th Anniversary of the Bulgarian Geographical Society in Sofia, by organizing the *International Conference "Smart Geography"*, 2-4 November 2018. Commission Chair Prof Milan Konečný was invited to deliver a keynote address *Disaster Risk Reduction: The Challenges and Smart Solutions in Big Spatial Data Era*. The address sparked an interesting discussion, which stressed the need for cooperation on the United Nations Sendai Framework for Disaster Risk Reduction, a task that should involve the participation of Bulgarian and European Union research communities.

Future Plans

In the next several months, the Commission plans the following events:

- A keynote address on behalf of CCEW&CM *Disaster Risk Reduction Agenda: Challenges for Modern Cartography in Big Data Era* at the Cartography and GIS conference in Wuhan, China
- ICA Symposium on Early Warning and Crises Management in the Big Data Era to be held in Shenzhen, China, 1-3 December 2018 (www.fishmap.site:9778/)
- Participation in the joint International Conference InterCarto/InterGIS-25 GIS

Support of Sustainable Development of Territories and the 3rd International Conference SilkGIS 2019 in Murmansk, Russia, 30 January 30 – 2 February 2019

- Organization of the 10th Disaster Risk Management Conference in Novosibirsk, Russia, 24-26 April 2019, as a part of Geo-Siberia 2019
- A meeting in association with the International Cartographic Conference in Tokyo, Japan, in July 2019 (details are being discussed with the organizers)

Milan Konečný | Chair | ICA Commission on Cartography in Early Warning and Crisis Management | *Czech Republic* ■

Education and Training

education.icaci.org/

Commission Activities

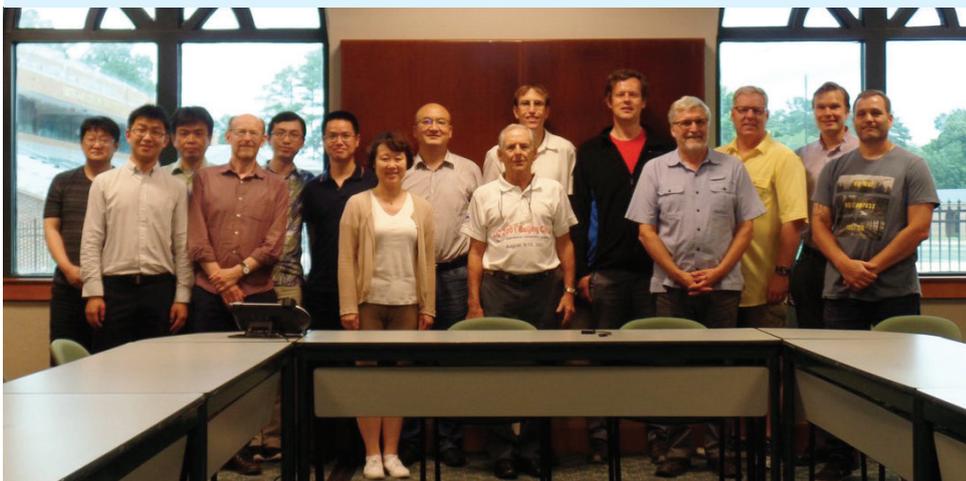
The ICA Commission on Education and Training (CET) has been less active than initially envisaged in the past year. Partly, this is due to

the stalling of activity related to one of its major terms of reference – exploring the idea of a Body of Knowledge (BoK) for cartography. Our initial attempts to develop the BoK were frustrated by i) the lack of interest and engagement on the part of many in the cartographic community, ii) the perceived overlap and duplication with other initiatives, iii) the antipathy of some close to (but outside) our discipline, iv) the recognition that cartography is a democratised and unfocused activity that should not, perhaps, have a restrictive BoK, v) a view that the creation of a BoK cannot be a ‘top-down’ activity, and vi) a realisation that there is such a vast range of material available to inform and instruct people in cartography, that putting cartography into a ‘box’ marked ‘BoK’ may deny the wide-ranging, diverse and vigorous nature of our discipline.

The Commission still retains the opinion that a BoK would be useful: the replacement of in-depth instruction in cartography by pursuit of short-term competency attainments; the dilution of cartographic practice and a de-skilling of its practitioners; and the divergence of definitions of the nature of cartography, and consequent difficulties in demonstrating its value, all suggest that a formal BoK is necessary. The initiative for pursuing a BoK has been passed to the ICA’s Executive Committee, although the Commission retains an interest and is willing to assist in such endeavours.

The other activities of the Commission have been pursued at varying levels since the last CET report in these pages: the presentation of workshops has not happened in the current period after the withdrawal of initial invitations from Fiji and from the Maldives; the course list has been subject to some attention, notably through input from Eötvös Loránd University cartographers; in the light of the response to the BoK, accreditation has not been considered. However, CET has engaged in joint meetings with other ICA Commissions (Maps and the Internet; Ubiquitous Mapping), with the

Pre-conference workshop, ICA Commission on Maps and the Internet with ICA Commission on Education and Training, Williamsburg, Virginia, July 2017 | *Photography Pyry Kettunen*



International Map Year Working Group, and has contributed to the ICA Conferences.

Future Plans

The Commission expects to participate fully in next year's Tokyo ICC, and has plans for a pre-conference workshop in a country which is an example of high profile cartographic education, China. Running from 10-12 July 2019 and hosted by Capital Normal University, Beijing, we are offering the chance to stopover on the way to Japan, to meet with leading figures in Chinese cartographic education. Joining them, and an international audience, participants at the workshop (provisionally titled *Geospatial and cartographic education – contemporary challenges and opportunities*), will address a wide range of issues including teaching experiences, cartographic education for non-specialists, curriculum design, cartography/GIS linkages, employers demands, technical support for academic cartography, the role of open source, accreditation etc. Please visit the CET website to view updates to this programme, and reserve the dates for your travel plans.

David Fairbairn | Chair | ICA Commission on Education and Training | *United Kingdom* ■

Location Based Services

lbs.icaci.org/

LBS Research Agenda

To motivate further Location Based Services (LBS) research and stimulate collective efforts, the ICA Commission on Location Based Services started an initiative in 2016 to develop a cross-cutting research agenda and identify key research questions and challenges that are essential for the LBS development in the next five or ten years.

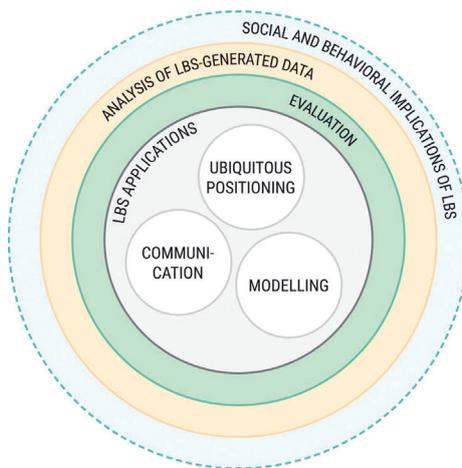
Based on the feedback, comments, and suggestions collected from the workshops held in Vienna and Washington D.C., the Commission chairs, together with several invited experts, compiled and revised the LBS Research Agenda. A relevant paper was published as an open access article in the *Journal of Location Based Services* (for more detail, please refer to lbs.icaci.org/research-agenda/). In a nutshell, the LBS Research Agenda highlights a series of research challenges (see diagram below), which can be summarised as follow:

Ubiquitous positioning

- Outdoor and indoor positioning
- Multi-sensor system and sensor fusion

Context modelling and context-awareness

- Smart environments and ambient spatial intelligence



- Indoor spatial data modelling and mapping
- Context modelling, personalisation and context-aware adaptation

Mobile user interface and interaction

- Visualisation techniques for LBS
- Mobile human-computer interaction
- Augmented reality

Analysis of LBS-generated data

- LBS, crowdsourcing, and volunteered geographic information (VGI)
- Analytics for location-based big data
- Computational movement analysis

User studies and evaluation

- Evaluation methodologies for LBS
- User experiences of LBS
- Mobile spatial cognition

Social and behavioural implications of LBS

- Privacy
- Legal, ethical and business aspects in LBS

Innovative LBS and applications

- Smart cities and transportation
- Mobile healthcare
- Location based social networks and games
- LBS in the era of autonomous cars and artificial intelligence

LBS 2019

15th Conference on Location Based Services
Vienna, 11–13 November 2019



Conference in Vienna, Austria

The ICA Commission on Location Based Services and TU Wien are pleased to invite you to the 15th International Conference on Location-Based Services (LBS 2019), which will take place in Vienna, Austria, 11-13 November 2019.

Built on the success of previous conferences in this series, LBS 2019 aims to offer a common ground to colleagues from various disciplines and practice where they can meet, interact and exchange knowledge, experience, plans and

ideas on how LBS can and could be improved and on how it will influence both science and society.

We are currently preparing the conference website as well as the submission system. The call for papers will be announced soon. As usual, we will call for full papers, work in progress, and showcases.

More information regarding LBS 2019 can be found at lbsconference.org. We are looking forwards to your contributions and to meeting you in Vienna!

Future Plans

Two pre-conference workshops related to LBS are being planned in association with the upcoming International Cartographic Conference (ICC) 2019 in Tokyo:

- Workshop entitled *Mobile Map User Experience (UX) Design*, organised jointly with the ICA Commissions on Use, User and Usability Issues; Cognitive Issues in Geographic Information Visualization; and Visual Analytics. This workshop will be held in Beijing, China (more details soon).
- International Symposium on Location-Based Big Data 2019 (LocBigData 2019), organised jointly with the ICA Commission on Geospatial Analysis and Modelling. The symposium will be held in Tokyo, Japan, on 15 July 2019, immediately before ICC 2019. It will cover various key topics related to location-based big data, including i) theories and foundations of location-based big data, ii) acquisition and management of location-based big data, iii) analytics for location-based big data, and iv) applications of location-based big data. For details, such as call for papers and important dates, please refer to the symposium's website lbs.icaci.org/locbig-data/.

Haosheng Huang | Chair | ICA Commission on Location Based Services | *Switzerland / China* ■

Map Projections

ica-proj.kartografija.hr/

Meeting in Sozopol, Bulgaria

The meeting of the ICA Commission on Map Projections took place on 20 June 2018 in Sozopol, Bulgaria. The meeting was a part of the 7th International Conference on Cartography and GIS organized by Prof Temenoujka Bandrova and her team. After a brief introduction by Miljenko Lapaine, Commission Chair, a tribute to Waldo Tobler was given by E. Lynn Usery. Then, Krisztián Kerkovits delivered a lecture on the main results of his PhD research. After a very interesting lecture, it was an excellent opportunity to present Krisztián, a young colleague from Hungary, with the

> 12



Krisztián Kerkovits (right), recipient of the ICA Scholarship award, with Miljenko Lapaine, Chair of the ICA Commission on Map Projections | Photograph courtesy of Miljenko Lapaine

ICA Scholarship award. The scholarship included €250 and a diploma that read: *ICA scholarship presented to Krisztián Kerkovits in recognition of his scientific commitment and to stimulate him to direct his career towards fundamental studies in the discipline of Cartography and GIScience.*

Conference in Zagreb, Croatia

The 14th International Conference on Geoinformation and Cartography and the 10th SDI Days 2018 were organized by the Croatian Cartographic Society, the State Geodetic Administration and the Faculty of Geodesy of the University of Zagreb (see a report on page 14). A well attended meeting of the ICA Commission on Map Projections was included in the conference program (www.kartografija.hr) and was held on 28 September 2018. After a short update on the Commission activities, the agenda included three lectures:

- *Misunderstanding Map Projections*
- *Map Projection of the Glavač's Map*
- *Unconventional Cylindrical Projections*

Future Plans

The next Commission meeting is planned at the International Cartographic Conference to be held in Tokyo in July 2019.

Miljenko Lapaine | Chair | ICA Commission on Map Projections | Croatia ■

SDI and Standards

sdistandards.icaci.org/

Workshop in Pretoria, South Africa

The ICA Commission on SDI and Standards, the ICA Commission on Map Production and Geoinformation Management and the South African Committee for Spatial Information Subcommittee on Education and Training hosted a joint pre-conference workshop on collaborative custodianship and collaborative cloud mapping on 14-15 September 2018 at the University of Pretoria in South Africa. Collaborative custodianship refers to an arrangement where a number of custodians collaborate to produce a national SDI dataset, e.g. local authorities contributing address or street data to a national SDI dataset. Collaborative cloud mapping allows for ubiquitous, convenient, on-demand configured and tailor-made mapping with shared resources between various entities collaborating on a specific initiative such as an SDI or for disaster management.

Attendees were introduced to collaborative custodianship, collaborative cloud mapping and the principle of custodianship in the South

African SDI. Subsequently, Martijn Odijk (Project Manager: Policy Geo Information (National SDI), Ministry of the Interior and Kingdom Relations, Netherlands), Ziggy Vanlshout (Programme Manager: Authoritative Data Sources, Informatie Vlaanderen, Flanders, Belgium) and Markus Jobst (Co-Chair: ICA Commission on Map Production and Geoinformation Management) presented case studies of collaborative custodianship and collaborative mapping from their respective countries.

According to the South African Spatial Data Infrastructure Act (No 54 2003), custodians may enter into a collaborative maintenance agreement to coordinate the regular updating of base datasets within an agreed period. The question posted to attendees was whether new technologies, such as collaborative cloud mapping, can be used to efficiently and effectively implement such collaborative maintenance agreements. Challenges and opportunities were explored in break-away sessions and discussions. The results of the break-away sessions were shared with the local geospatial community at the AfricaGEO 2018 conference, held on 17-19 September 2018 in Ekurhuleni, South Africa.

Presentations from the workshop are available from the Commission website. The workshop was supported by funding from the National Research Foundation.

Future Plans

A pre-conference workshop on spatial data infrastructures, standards, open source and open data for geospatial (SDI-Open 2019) is planned for the weekend before the 29th International Cartographic Conference, to be held 15-20 July 2019 in Tokyo, Japan. The workshop will be jointly organized by the Commission on SDI and Standards, the Commission on Open Source Geospatial

(Clockwise from left) Delegates at the workshop in Pretoria, South Africa; Martijn Odijk presenting about the *Basisregistraties Adressen en Gebouwen* (BAG) in the Netherlands; Ziggy Vanlshout presenting about the *Centraal Referentieadressenbestand* (CRAB) in Flanders | Photographs courtesy of Serena Coetzee



Technologies and the Commission on Map Production and Geoinformation Management. We are planning a collaborative mapping session in OpenStreetMap, an introduction to OGC and its geospatial interoperability standards and an introduction to the ISO/TC 211 framework of international standards for geographic information. More details will be made available closer to the time on the Commission website.

Serena Coetzee | Chair | ICA Commission on SDI and Standards | *South Africa* ■

Topographic Mapping

topo.icaci.org/

Commission Activities

The ICA Commission on Topographic Mapping recently joined forces with the ICA Commission on the History of Cartography to organize the conference *Mapping Empires: Colonial Cartographies of Land and Sea*, which was held in Oxford, 13-15 September 2018. Over 60 delegates from around the world took part in this excellent event, which was hosted by the Bodleian Libraries and held at the Weston Library. A wide range of over 40 oral and poster presentations gave new insights on colonial cartography and brought fresh perspectives on the legacy of topographic mapping initiatives. The proceedings will be published in a special volume by Springer in 2019, edited by the organizers. After the conference, delegates enjoyed a superb excursion to Blenheim Palace and were given an exclusive viewing of its map collection. Our thanks go to Imre Demhardt and Soetkin Vervust of the ICA Commission on the History of Cartography and to the local organizer Nick Millea and his team for making this a truly first-class event. Both Commissions are already planning a joint pre-conference workshop for ICC 2019, focusing on the theme of cartography as a cultural encounter between East and West. More details will follow soon.

Following our call for papers, the Commission has produced a Special Issue of *The Cartographic Journal* (55.4) entitled *Topographic Mapping: Past, Present and Future*. Many excellent contributions were submitted and gave the editors a very difficult task as there was not space to include all of them! The Special Issue includes a broad range of topics, from historical and regional perspectives to viewpoints from national mapping organizations and research on virtual reality.

We continue our aspiration to build a portal for information about national mapping organizations and welcome your collaboration and support with this initiative. To find out more, please visit our website or contact us via the online form. As we are looking ahead to planning our activities and terms of reference



Participants of the conference *Mapping Empires: Colonial Cartographies of Land and Sea* held at the Weston Library, Oxford in September 2018 | Photograph courtesy of Alexander Kent

for the next four years, we encourage you to sign up via our website for news and updates.

Alexander Kent | Chair | ICA Commission on Topographic Mapping | *United Kingdom* ■

Toponymy

www.igu-icatoponymy.org/

Commission Activities

The Joint ICA/IGU Commission on Toponymy was established in 2012 and its statutory goal is to foster toponymic research in geography as well as in cartography that complements both the United Nations Group of Experts on Geographical Names (UNGEGN) with its focus on standardization, and the International Council of Onomastic Sciences (ICOS) with its focus on linguistics. This goal is to be achieved by organizing sessions at international conferences, such as the ICA and IGU conferences, as well as separate symposia on specific topics, mostly in cooperation with a local institutions. Since 2017, the Commission is chaired by Peter Jordan from Austria, representing ICA, Cosimo Palagiano from Italy, representing IGU, and a common Vice Chair Paulo de Menezes from Brazil, as well as a steering board consisting of five members: Peter Raper (South Africa), Ferjan Ormeling (Netherlands), Sungjae Choo (Republic of Korea), Kohei Watanabe (Japan) and Yaïves Ferland (Canada). In 2018, the Commission organized the following sessions:

- IGU Thematic Conference, Moscow, 4-6 June 2018: session on *Use of Place Names in Public Space*, organized by Cosimo Palagiano and Peter Jordan, chaired by Cosimo Palagiano and Paulo de Menezes, 7 papers.
- IGU Regional Conference, Quebec, 6-10 August 2018: session on *Place Names as Means of Structuring Geographical Space*,

organized by Cosimo Palagiano and Peter Jordan, chaired by Yaïves Ferland, 9 papers.

Future Plans

For 2019, the Commission has the following program:

- To organize a session at the 29th International Cartographic Conference (ICC), Tokyo, 15-20 July 2019, devoted to all toponymic issues. The deadline for submitting abstracts is 19 December 2018.
- To organize a pre-ICC 2019 symposium in Tokyo, 11-12 July 2019 (locally coordinated by Kohei Watanabe), to highlight the role and structure of national names boards; this is to support considerations to establish a national names board of Japan, for which international models and benchmarks could be helpful. The call for papers will be disseminated by the end of 2018.
- Together with the University of the Free State, Bloemfontein, South Africa, to organize a symposium in Clarens, South Africa, 18-20 September 2019, devoted to indigenous names. The symposium will be preceded (16-17 September) by a toponymic training course.
- On the occasion of the 50th anniversary of the Austrian Board's foundation, to organize jointly with the Austrian Board on Geographical Names, the Permanent Committee on Geographical Names (StAGN) and the UNGEGN Dutch- and German-speaking Division (DGSD), a symposium in Vienna, Austria, 6-8 November 2019, on the general topic *Place names and migration*, where aspects and examples of historical and recent migrations focusing on the question how newcomers dealt with the names they found can be highlighted. A call for papers will be disseminated by the end of 2018.

Peter Jordan | ICA Chair | Joint ICA/IGU Commission on Toponymy | *Austria* ■

Marine Cartography

Working Group Activities

During the last week of July 2018, the Chair and Vice-Chair of the ICA Working Group on Marine Cartography (WGMC) participated in three different events that were part of the Cartography Week organized by the US National Oceanic and Atmospheric Administration's Nautical Charting Division (NOAA) in Silver Spring, Maryland, USA. The first event was a workshop focused on adequacy issues of US nautical charts, where NOAA's approach on the subject was analyzed through several working examples and applications run by the participants. The workshop showed that the developments on various topics of Earth Science (i.e. Remote Sensing) should be utilized in nautical chart production to improve the quality of the final product and better serve the safety of navigation.

The second event was a meeting of the WGMC. The purpose of convening this meeting opportunistically was to inform the participants on the activities of the WGMC, to attract new members from all over the world and to encourage and prepare them for an active presence at the International Cartographic Conference (ICC) to be held in Tokyo in July 2019. The goal in 2019 will be to elevate the status of the WGMC to that of a Commission on Marine Cartography at the ICA General Assembly in Tokyo. The meeting promoted the ICC 2019 and specifically sought papers and presentations from marine cartographers for the relevant ICC Marine Cartography sessions.

The third event was a day entitled *NOAA Open House* that was dedicated to the presentation of the nautical charting activities of the organization and the relevant learning activities of the educational bodies in the wider Washington D.C. area. A number of invited speakers from Europe, Canada and the US presented papers on the activities of their institutions. The Vice Chair of the WGMC presented a paper entitled *Standards of Competence for Nautical Cartographers: Conceptual Approach and Development* that was well received by the audience. In part, the presentation emphasized the work of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers to establish recognized Standards of Competence for Nautical Cartographers.

CoastGIS is a series of biennial symposia generally entitled *GIS and Computer Cartography for Coastal Zone Management*. Originally con-



A keynote presentation by Eydis Lindal Finnbogadóttir from the National Land Survey of Iceland on the Arctic Spatial Data Infrastructure at CoastGIS, Ísafjörður, Iceland | Photography by Ron Furness

ceived in 1995 as a "one off" symposium supported by the then ICA Commission on Marine Cartography (and currently by WGMC in collaboration with the International Geographical Union's Commission on Coastal Systems), this now perennial meeting conducted its thirteenth manifestation in Ísafjörður, Iceland, 27-29 September 2018. The theme, *Spatial Planning and Climate Change*, was well addressed by participants and the meeting was attended by the Chair of this WG. The final day comprised a field trip through stunning coastal scenery from Ísafjörður to Reykjavik. Those readers interested in following up the programme may find details at www.uw.is/conferences/coastgis_2018/.

A keynote presentation by Eydis Lindal Finnbogadóttir, Acting Director General of the National Land Survey of Iceland, focused on the Arctic Spatial Data Infrastructure and emphasized data accessibility and reusability through international cooperation. An Arctic SDI harmonized base map, using existing data from the Arctic Mapping Agencies, provides a unified view over the entire Arctic (geoportal.arctic-sdi.org/).

Early discussions are afoot with the ICA Commission on the History of Cartography for a joint event featuring historical marine cartography.

Ron Furness and Lysandros Tsoulos | Chair / Vice Chair | ICA Working Group on Marine Cartography | *Australia / Greece* ■

reports cartographic meetings and events

7th International Conference on Cartography and GIS

The 7th International Conference on Cartography and GIS was organized under the patronage of the President of the National Assembly of Bulgaria Mrs Tsveta Karayancheva during Bulgarian Presidency of the Council of the European Union (EU) in 2018. The conference was organized by the Bulgarian Cartographic Association, International Cartographic Association (ICA) and University of Architecture, Civil Engineering and Geodesy (UACEG), Sofia, and co-organized by the Military Geographic Service, Bulgaria and Bulgarian Red Cross. The

event was supported by the Bulgarian Science Fund. The picturesque Black Sea town of Sozopol hosted the conference from 18 to 23 June 2018.

The main conference themes were:

- GIS Technologies and Related Disciplines
- GIS for Geology
- Natural Sciences and Ecosystems
- Web Cartography and Digital Atlases
- Map Design and Production
- Cartographic Visualization
- Geodetic Coordinate Systems and Map Projections
- 3D Cartographic Modelling
- Cartography and GIS in Education
- Geoinformation for Smart Cities
- Geo-Spatial Analysis and Data Mining
- Virtual Geographic Environment

- UAV Applications and New Trends
- Geospatial Data Acquisition by Remote Sensing Technologies for Cartographic Purposes

A special session *Digital Earth for Smart Solutions* was held with the support of International Society for Digital Earth (ISDE). In addition, two-day *Seminar with EU cooperation on Early Warning and Disaster/Crisis Management* was organized by the ICA Commission on Cartography in Early Warning and Crisis Management and held during the conference (see Commission's report on page 8).

The conference was supported by various ministries and government institutions, as well as a number of leading geospatial and cartographic companies and business, including Asseco (platinum sponsor), Esri (gold sponsor),

DataMap-Europe, KartGeo, and Geopan. GIS Professional, GeoConnexion, Coordinates, Remote Sensing Journal, ISPRS International Journal for Geo-Information and Bulgarian Geomedia were the media partners.

The ICA was prominently represented by László Zentai, Secretary General & Treasurer; E. Lynn Usery, Vice President; Georg Gartner, immediate Past President; Commission Chairs – Milan Konečný (Cartography in Early Warning and Crisis Management) and Miljenko Lapaine (Map Projections); and Commission Vice Chairs – José Jesús Reyes Nuñez (Cartography and Children) and Jipping Liu (Cartography in Early Warning and Crisis Management). The conference attracted 200 attendees who all contributed to the creation of a special map of the participants in the scientific event.

Prof Temenoujka Bandrova, President of the Bulgarian Cartographic Association (BCA) and Chair of the Local Organizing Committee, welcomed all participants to Bulgaria and noted that cartographers and GIS specialists from more than 30 countries came to share their knowledge, find future business or research partners, and benefit from cooperation with colleagues. Mrs Tsveta Karayancheva; Prof Ivan Markov, Rector of UACEG; Mrs Ivelina Vasileva, Chair of the Environment and Water Committee at the National Assembly; Mr Petar Kanev, Chair of the Economic Policy and Tourism at the National Assembly; Hristo Grigorov, President of the Bulgarian Red Cross; and Dr Sofia Stoimenova, Director of the Bulgarian Red Cross sent their greetings and wished all participants a fruitful conference.

During the opening ceremony, Mr Yavor Notev awarded the honorary plaque of the National Assembly and the Bulgarian EU Presidency to Temenoujka Bandrova. Children's folklore dance group *Atanas Manchev* from the city of Burgas greeted delegates with a wonderful performance that received huge applause. José Jesús Reyes Nuñez presented a diploma and a prize to Preslava Ivanova (8)

whose drawing was awarded at the Barbara Petchenik Children's World Map Competition during the 28th International Cartographic Conference in Washington D.C., USA, July 2017.

As usual, several commissions of the ICA held their annual meetings during the conference: Commission on Cartography in Early Warning and Crisis Management; Commission on Map Projections; and Commission on Cartography and Children. These meetings contributed to the development of guidelines for future work – see the commission reports section (pages 7-13) for more details.

The conference keynote speakers included:

- Prof E. Lynn Usery, USA
- Prof Changlin Wang, Executive Director of International Society for Digital Earth, China
- Prof Wolfgang Kainz, University of Vienna, Austria
- Mr Nick Land, Esri Europe, United Kingdom
- Mr Filip Kaderabek, Asseco – Central Europe, Czech Republic

Presented right after the Opening ceremony, the keynote addresses set a positive direction for the rest of the conference sessions.

A free training course *RUS: Exploiting Copernicus satellite data within a cloud computing environment for GIS and cartographic applications* was held on the fourth day of the conference. It was facilitated by Miguel Castro-Gomez from SERCO, Italy, who demonstrated to the participants how to request a RUS Virtual Machine for Earth Observation projects and activities exploiting the Copernicus Sentinel data.

At the conference, Prof Temenoujka Bandrova, President of the BCA and Prof Changlin Wang, Executive Director of the International Society for Digital Earth (ISDE), signed a Memorandum for future cooperation between the two organizations.

An exhibition of ancient maps hosted by the Diplomatic Institute, Ministry of Foreign Affairs, complemented the conference program. In addition, selection of Bulgarian children's

drawings, that took part in the national edition of the ICA Barbara Petchenik Children's World Map Competition were exhibited in front of the main conference hall.

The conference provided an opportunity to present a number of awards. The Best Paper Award of 500 CHF sponsored by the *Remote Sensing* journal went to Prof Ivica Milevski from FYRo Macedonia for his paper *GIS-based Landslide Susceptibility Modelling for the Territory of the Republic of Macedonia*. 35 aspiring researchers entered the Young Scientist Awards. The international jury awarded two prizes, one to Matjaž Štanfel, a PhD student from Croatia, and the other to Paulina Raeva, a PhD student from Czech Republic. Finally, the best two papers presented in the Special Session *Digital Earth for Smart Solutions* were authored by Prof Jie Shen and Dr Alexey Noskov. They will be forwarded to the *International Journal of Digital Earth* (IJDE) for peer-reviewing.

All participants were invited to a Welcome reception at the end of the first day of the conference. This was a great opportunity to meet each other and share initial inspirations for the event. The Gala dinner gathered the participants again. This time the good mood was supported by a collaboration game, special folklore program, and delicious Bulgarian cuisine. Some of the attendees enjoyed a full day excursion, including a boat trip along the Ropotamo River, a visit to the Beglik Tash Thracian sanctuary, and a walk through the newly-built castle *In Love with the Wind* in the village of Ravadinovo.

Organizers of the 7th International Conference on Cartography and GIS express their gratitude to all presenters, chairs, reviewers, sponsors, attendees and distinguished guests! More information about the event is available from iccgis2018.cartography-gis.com/.

Temenoujka Bandrova and Silvia Marinova | Bulgarian Cartographic Association | Bulgaria ■

(clockwise from right) Participants of the 7th International Conference on Cartography and GIS in Sozopol, Bulgaria; children's folk dance group *Atanas Manchev*; a map with pins pointing to the participants' countries of origin; Prof Temenoujka Bandrova and Prof Changlin Wang exchange a memorandum for future cooperation between the Bulgarian Cartographic Association and the International Society for Digital Earth | Photographs courtesy of Temenoujka Bandrova





GI_Forum 2018 banner (left); networking opportunities at the conference | Photography Hans-Christian Gruber

GI_Forum 2018

Paying with a credit card, swiping the monthly pass at the subway station, or recording workouts with a fitness tracker, all contribute to a detailed picture of our movement patterns and associated activities. Most of us constantly carry a mobile phone, which produces an even more detailed and continuous personal-level location history. At the same time, location raises concerns about privacy and security. The human individual is set at the detailed end of a space-time scale range: today's pervasive positioning empowers operational geoinformatics across scales. Human individuals were at the centre of attention at the 2018 GI_Forum – *me | places | spaces*, which took place in Salzburg, Austria, 3-6 July 2018 (www.gi-forum.org/archive2018). Almost 1,000 participants from 35 countries could choose from 17 sessions, 4 workshops and 7 special sessions in GI_Forum alone. Many of these participants were young researchers gathering their first conference participation, presentation and journal publication experiences.

GI_Forum 2018, the 12th annual conference along with its sister conference AGIT (www.agit.at/), was organised by the University of Salzburg and coordinated by the Department of Geoinformatics – Z_GIS (zgis.at/) in cooperation with the GIScience Commission of the Austrian Academy of Sciences. Representatives of research and development, and the business sector met and discussed current trends in GIScience and best practice solutions with end users. The 2018 special sessions included a wide variety of topics from Big Earth Data to Healthy Mobility, providing ample opportunities for discussion amongst participants. This year's keynotes came from both academia and industry. The speakers shared their views of advances in GIScience and Technology with rooms full of participants willing to engage in lively discussion.

This year's best student paper presented at the conference was awarded to Florian Ledermann, TU Vienna, for his contribution entitled *Analysing Digital Maps Online: A*

Reverse Engineering Approach. Julia Schmitz, Jonas Pieper, Natalie Baier, Verena Vogt and Jürgen Schweikart of Beuth Hochschule für Technik Berlin won the competition for best poster. Luke Clasper and Marijke Bekkema presented their contributions as winners of the UNIGIS International Association Award, and Rafael Titz was awarded this year's Esri grant.

GI_Forum Journal

GI_Forum publishes high quality original research across the transdisciplinary field of Geographic Information Science in two issues annually. The journal provides a platform for dialogue among GI-Scientists and educators, technologists and critical thinkers in an ongoing effort to advance the field and ultimately contribute to the creation of an informed GISociety. Submissions concentrate on innovation in education, science, methodology and technologies in the spatial domain and their role towards a more just, ethical and sustainable science and society. GI_Forum implements the policy of open access publication following a double-blind peer review process through an international team of established scientists and field experts for quality assurance. Special emphasis is put on actively supporting young scientists through formative reviews of their submissions. Only English language contributions are considered for publication. The Call for Papers for the GI_Forum 2019 opened on 1 October 2018.

Julia Stepan | GI_Forum | University of Salzburg | Austria ■

GeoCart'2018 Conference

Cartographies of Change: Then, Now and Tomorrow

The 9th National Cartographic Conference GeoCart'2018 and the 46th Australian and New Zealand Map Society Conference convened on

5–7 September 2018 in the *Coollest Little Capital in the World* – Wellington, New Zealand. As in 2016, the National Library of New Zealand opened their doors to welcome us and offer their superb facilities to come and celebrate cartography. GeoCart'2018 was jointly organised by the New Zealand Cartographic Society (NZCS), a national representative in the International Cartographic Association (ICA), and the Australian and New Zealand Map Society (ANZMapS). The conference attracted over 120 delegates from Australia, Japan, United Kingdom, USA and New Zealand.

Submissions were invited on any topic in cartography, map curatorship, history of cartography or exploration, geovisualisation and GIScience, or related disciplines, covering work of a professional and academic nature. All submitted papers and abstracts were refereed by at least one national or international expert. 71 conference paper, poster – and for the first time – Young Geospatial Competition (YGC) presentations were received, and these were allocated into six plenary sessions, twelve parallel paper sessions, one poster session and one YGC session. Presentations were given by representatives from academia, government and commercial organisations from New Zealand and overseas.

The conference was opened by Hon Eugenie Sage, Minister of Land Information. We had six inspiring keynote addresses that spanned professional and academic cartography, and beyond. We learned about the *Mapping New Zealand 2025* strategy – an important Land Information New Zealand (LINZ) initiative that concerns the future of New Zealand mapping, charting, imaging and surveying (Roger Carman and Graeme Blick, LINZ). We were invited to the National Library of Scotland to hear about their curatorial work around geospatial collections (Christopher Fleet, National Library of Scotland). We were told the story of Russian military mapping during the Cold War era and their recent appearance on the market (Kent Lee, East View Geospatial, USA). We were asked to stop and ponder the meaning of maps and mapping, and the various influences that determine map conception and creation (Aileen Buckley, Esri, USA). We were taken on a tour of atlas creation, the ideas, concepts, design, thematic considerations, all to achieve a different view of New Zealand geography (Chris McDowall, New Zealand). Finally we have experienced analytical cartography from the 'other side', through the lens of a developer of cartographic software and tools (Linda Beale, Esri, United Kingdom).

The contributions in the area of historical and exploration cartography, map curatorship and cartographic art have now become an established theme since the first joint NZCS and ANZMapS GeoCart conference in 2014. Talks in the *History of Cartography* session focused on developments, both national and international,

concerning early mapping and techniques used to draw maps accurately. The *Map Curatorship and Gazetteers* session dealt with issues directly concerning map curatorship, such as organisation and description of unpublished cartographic materials and large scale digitisation of plans (in this case plans of New Zealand mines). An interesting talk on the evolution of New Zealand gazetteer wrapped up this theme. The next session in this group, *History and Exploration Cartography*, brought together a number of papers dealing with description and examination of old maps (and globes!). It was certainly refreshing to witness the breadth and scope of the research undertaken by the authors.

Talks in the *Art and Critical Cartography* session included a critical thread, 'the use, abuse and misuse of geographic data', as well as provided examples of the interplay between art and cartography, and their manifestation in both analogue and digital environments, including digital humanities. The last talk of the session highlighted the child's take on cartography and map making by reporting on the New Zealand participation in the international Barbara Petchenik Children's World Map Awards run biennially by the ICA.

A complementary session *Mapping in Space and Time* took a look back through time with camping, farming and public access feature mapping trends examined. It also provided an update on current GIScience research undertaken, through two papers reporting on the use of maps and geospatial resources in storytelling (one on the Vietnam War and the other on tracing an old canal in Waikato).

As is customary with GeoCart, content stretched into the corners of geospatial and GIScience, as well as covered the core of cartography and geovisualisation. A session on *Topographic and Terrain* covered a mix of government initiatives concerning topographic data and academic research focusing on innovations in terrestrial surveying and GPS tracking. The *Marine Cartography* session featured a number of papers covering various initiatives and developments concerning New Zealand waters. These talks were particularly relevant to the work currently being undertaken by LINZ to organise and provide improved access to hydrographic data and charts. The *Mountain and Ice* session introduced a mix of applied and research cartography. The talks described the processes involved in producing historic and contemporary maps and visualisations of New Zealand mountains, as well as reported on ice research in Central Otago and Ross Dependency in Antarctica. The *Web Cartography* session covered a range of papers with a common theme of harnessing web technology to deliver mapping solutions. Speakers demonstrated an online application to deliver digitised atlases, as well as described university building information systems, aeronautical services and web mapping of scientific data. Other applied sessions included those focused on urban and human, coasts and water, and health topics.

GeoCart'2018 delivered a programme of unprecedented depth and quality that undoubtedly left a permanent imprint on our 'cartographer's heart'. The conference sessions

provided a customary mix of personal, professional, research and national approaches to these topics. The papers and posters presented at GeoCart'2018 contributed to dialogue and the dissemination of cartographic, map research and curatorship, and geospatial knowledge, particularly in New Zealand, Australia and Oceania.

One of the highlights of the conference was no doubt the presentation of the inaugural Young Geospatial Competition award to Tessa Pocock from the School of Physical Education, Sport and Exercise Sciences at the University of Otago for her paper *School Neighbourhood Environment and Adolescents' Transport to School* – congratulations!

The accompanying National Cartographic Exhibition provided a sampling of New Zealand and international cartography, with the best national maps being subject to the NZCS Map Awards 2018. The winning entries and a selection of other entries will represent New Zealand at the International Cartographic Exhibition in Tokyo, Japan. The Conference Proceedings were published as the fourth volume of the CartoPRESS Occasional Publication series (ISBN 978-0-473-45257-5 / ISSN 2382-0381) and distributed at the conference.

The organising team led by Co-directors Michelle Knight, Shannon McColley (both NZCS) and Mark Bagnall (ANZMapS), and supported by Geoff O'Malley (NZCS), was simply exceptional – we are all grateful for their dedication, energy and drive to make GeoCart'2018 a success. We would also like to acknowledge our sponsors – Land Information New Zealand, > 18

GeoCart'2018 in pictures: (top row from left) Tessa Pocock; keynote speakers Linda Beale, Chris McDowall and Aileen Buckley with Mairéad de Róiste moderating a discussion; Hon Eugenie Sage; Kent Lee; Pascal Sirguey; (middle row) one of the plenary sessions; Jan Pierce and Roger Carman; Anton Thomas; Anja Boehme; (bottom row) Chris Fleet; welcome reception; the organising committee – Shannon McColley, Michelle Knight, Mark Bagnall and Geoff O'Malley; Merryn McAulay | Photography Shannon McColley





Participants of the SDI Day and 14th International Conference on Geoinformation and Cartography in Zagreb, Croatia | Photograph courtesy of Miljenko Lapaine

an affiliate member of the ICA; National Library of New Zealand; Eagle Technology; e-Spatial; Mapping Sciences Institute, Australia; NewTopo; and Survey and Spatial New Zealand – thank you!

Overall, the conference was extremely relevant, informative, thought provoking and inspirational. It also served as an ideal networking opportunity, providing multiple platforms to engage with various communities – cartographers, researchers, practitioners, data producers, map librarians and curators. Bring on GeoCart'2020!

Igor Drecki and Tony Moore | New Zealand Cartographic Society | [New Zealand](#)

SDI Day and 14th Conference on Cartography and Geoinformation

Between 27-29 September 2018, an event was held in Zagreb, which consisted of two parts: Spatial Data Infrastructures (SDI) Day and 14th International Conference on Geoinformation and Cartography. The organizers were the State Geodetic Administration, the Croatian Cartographic Society, and the Faculty of Geodesy of the University of Zagreb. Almost 300 participants were registered. The event was held under the auspices of President of the Republic of Croatia Kolinda Grabar-Kitarović, International Cartographic Association (ICA), Croatian Academy of Engineering, University of Zagreb and University of Zadar.

At the opening ceremony Prof László Zentai, ICA Secretary General & Treasurer, delivered a welcome address. Later, the Director of the State Geodetic Administration emphasized the positive steps taken by the Administration to meet the requirements of the INSPIRE directive and its application. The common conclusion shared by all participants was that there is

certainly room for progress in the national spatial data infrastructure (NSDI) and that in the next three years all NSDI stakeholders will have to work to implement the INSPIRE directive, with a focus on data harmonization and network development service. A detailed program of the SDI Day with all presentations is available from event.nipp.hr/default.aspx?id=46.

The following day, the 14th International Conference on Geoinformation and Cartography took place. On the first day, 22 lectures and two posters were presented. The invited speakers included Prof Joep Cromptvoets, Prof Paulo de Menezes and Dr Ivana Crljenko. The main topics covered that day covered NSDI in higher education institutions and geographic names. There was also a meeting of the ICA Commission on Map Projections, as well as a discussion on the establishment of the State Committee on Geographic Names and an exhibition of old cadastral maps of Istria.

The second day of the conference featured a guided tour to Kloštar Ivanički and Čazma. The participants were very pleased with both events. Here are messages from participants received by the organisers:

We have arrived back in Brno safe and sound (full of wonderful experiences). We would like to thank you once again for your great hospitality. We will keep in touch.

[Dalibor Bartonek and Radovan Machotka, Technical University Brno, Czech Republic]

Thank you so much all assistance given to me [...]. They were upon my expectations, and my experience here, in Croatia was amazing.

[Paulo Márcio Leal de Menezes, Vice Chair of the Joint ICA/IGU Commission on Toponymy, Brazil]

Thank you also for the lovely tour of Čazma and the surrounding area. I grew up on a farm so being in the country was a great experience. Also seeing the Geodetic land mark was great. [...] I can't thank you enough for a great Croatian Experience.

[Rex Cammack, Chair of the ICA Commission on Maps and the Internet, USA]

Miljenko Lapaine | Croatian Cartographic Society | [Croatia](#)

december 2018

10-11: ICA Maps and the Internet Commission Working Meeting | Zadar | [Croatia](#) | internet.icaci.org/wp-content/uploads/2018/10/Zadar.pdf

april 2019

02-04: Geospatial World Forum 2019 | [#geospatialbydefault - Empowering Billions!](#) | Amsterdam | [Netherlands](#) | geospatial-worldforum.org/

03-07: Session at AAG Annual Conference (organised by the ICA Commission on Art and Cartography) | [Mapping Difficult Stories](#) | Washington, D.C. | [USA](#) | icaci.org/cfp-mapping-difficult-stories-aag/

may

08-10: 14th Conference Digital Approaches to Cartographic Heritage (organised by the ICA Commission on Cartographic Heritage into the Digital) | Thessaloniki | [Greece](#) | cartography.web.auth.gr/ICA-Heritage/Thessaloniki2019/

july

02-05: GI_Forum 2019 / AGIT 2019 (organised by the ICA affiliate member UNIGIS International Association) | Salzburg | [Austria](#) | www.gi-forum.org/

10-12: ICA Commissions on Education and Training Workshop | [Geospatial and Cartographic Education – Contemporary Challenges and Opportunities](#) | Beijing | [China](#) | education.icaci.org/commission-workshop-2019-beijing/

11-12: ICA Commissions on Use, Users, and Usability Issues; Cognitive Issues in Geographic Information Visualization; Location Based Services & Visual Analytics Joint Workshop | [User Experience Design for Mobile Cartography](#) | Beijing | [China](#) | use.icaci.org/user-experience-design-for-mobile-cartography-setting-the-agenda/

11-12: Joint ICA/IGU Commissions on Toponymy Symposium | [Geospatial and Cartographic Education – Contemporary Challenges and Opportunities](#) | Tokyo | [Japan](#)

12: ICA Commission on the History of Cartography Workshop | [User Experience Design for Mobile Cartography](#) | Utrecht | [Netherlands](#) | history.icaci.org/utrecht-2019/

15: ICA Commissions on Location Based Services & Geospatial Analysis and Modeling Symposium on Location-based Big Data (LocBigData 2019) | Tokyo | [Japan](#) | lbs.icaci.org/locbigdata/

15-20: 29th International Cartographic Conference and 18th General Assembly | Tokyo | [Japan](#) | www.icc2019.org/

november 2019

02-04: 15th International Conference on Location-Based Services (organised by the ICA Commission on Location Based Services) | Vienna | [Austria](#) | lbsconference.org/

ica affiliate members

Organisations, institutions and companies wishing to support the mission and activities of the International Cartographic Association can become affiliate members. The following organisations support the ICA:

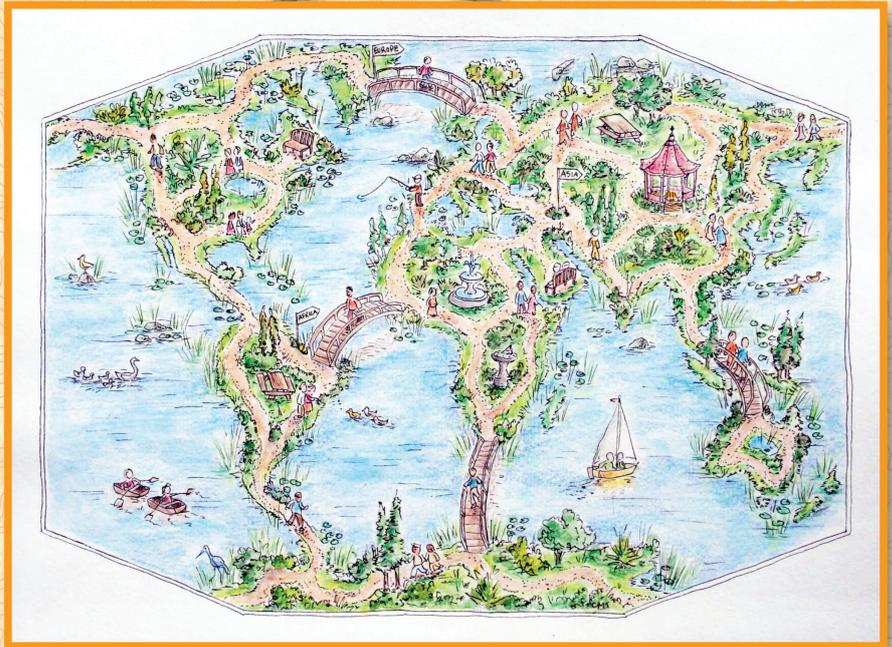
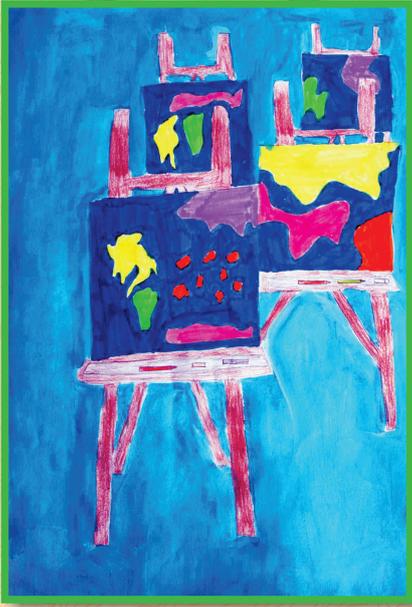
- 2011** **Association of Polish Cartographers** | *Poland* | www.polishcartography.pl
Attn: Assoc Prof Joanna Bac-Bronowicz | joanna.bac-bronowicz@pwr.wroc.pl
- 1999** **Centro Argentino de Cartografía** | *Argentina* | www.centroargentinodecartografia.org
Attn: Jorge Horacio Machuca | cac@centroargentinodecartografia.org
- 2011** **Chinese Cartographic Association (Chinese Taipei)** | *Taiwan-China* | www.ccartoa.org.tw
Attn: Dr Ching Jen Kao | ccartoa@gmail.com
- 2007** **Dubai Municipality** | *United Arab Emirates* | www.dm.gov.ae
Attn: Hussein Mohammed Abdulmuttalib | huseinma@dm.gov.ae
- 2007** **East View Geospatial** | *United States of America* | www.geospatial.com
Attn: Kent Lee | geospatial@eastview.com
- 2005** **Eko-Graf Publishing House** | *Poland* | www.ekograf.pl
Attn: Roman Janusiewicz | ekograf@ekograf.pl
- 2017** **El Servicio Aerofotogrametrico del General Juan Soler Manfredini de la Fuerza Aerea de Chile (SAF)** | *Chile* | www.saf.cl
Attn: Viviana Barrientos Lardonis | vivina.barrientos@saf.cl
- 2003** **Esri** | *United States of America* | www.esri.com
Attn: Mark Cygan | mcygan@esri.com
- 1995** **Geospatial Information Authority of Japan** | *Japan* | www.gsi.go.jp
Attn: Secretariat of ISCGM | gsi-sec-iscgm@ml.mlit.go.jp
- 2015** **GeoTechVision Enterprise Limited** | *Jamaica* | www.techvisionenterprise.com
Attn: Valrie Grant | valrie@techvisionenterprise.com
- 2007** **German Federal Agency for Cartography and Geodesy** | *Germany* | www.bkg.bund.de
Attn: Prof Dr Ing Hansjörg Kutterer | hansjoerg.kutterer@bkg.bund.de
- 2015** **HERE** | *Germany* | www.here.com
Attn: Astrid Dawson | astrid.dawson@here.com
- 1995** **Hexagon Geospatial** | *United States of America* | www.hexagongeospatial.com
Attn: Jon Thies | jon.thies@hexagongeospatial.com
- 2003** **Indian National Cartographic Association (INCA)** | *India* | www.incaindia.org
Attn: Shri Rabindranath Nanda | secretarygeneralinca935@gmail.com
- 1995** **Institut Cartogràfic i Geològic de Catalunya (ICGC)** | *Spain* | www.icgc.cat
Attn: Jaume Massó i Cartagena | direccio.icgc@icgc.cat
- 1995** **Institut National de l'Information Géographique at Forestière (IGN)** | *France* | www.ign.fr
Attn: Dr Sébastien Mustiere | sebastien.mustiere@ign.fr
- 2007** **Instituto Geográfico Nacional España** | *Spain* | www.ign.es
Attn: Francisco Javier González Matesanz | fjgmatesanz@fomento.es
- 2011** **Land Information New Zealand** | *New Zealand* | www.linz.govt.nz
Attn: National Topographic Office | media@linz.govt.nz
- 2017** **Library and Archives Canada** | *Canada* | www.bac-lac.gc.ca
Attn: Sebastien Daneau | sebastien.daneau@canada.ca
- 1995** **Moscow State University of Geodesy and Cartography** | *Russia* | www.miigaik.ru
Attn: Prof Vasilii A. Malinnikov | Igm@miigaik.ru
- 1995** **National Hydrographic Office** | *India* | www.hydrobharat.nic.in
Attn: Vice Admiral Vinay Badhwar, NM | ia-inho@navy.gov.in
- 2011** **National Land Survey of Finland** | *Finland* | www.nls.fi
Attn: Heli Ursin | heli.ursin@nls.fi
- 2007** **Ordnance Survey** | *United Kingdom* | www.ordnance-survey.co.uk
Attn: Paul Naylor | paul.naylor@ordnancesurvey.co.uk
- 2003** **Regional Centre for Mapping of Resources for Development (RCMRD)** | *Kenya* | www.rcmr.org
Attn: Dr Hussein O. Farah | rcmrdr@rcmr.org
- 2015** **Surveying and Spatial Sciences Institute (SSSI)** | *Australia* | www.sssi.org.au
Attn: Penny Baldock | chair.sicc@sssi.org.au
- 2015** **UNIGIS International Association** | *Austria* | www.unigis.net
Attn: Prof Dr Josef Strobl | josef.strobl@sbg.ac.at
- 2003** **Union of Chambers of Turkish Engineers and Architects, Chamber of Surveying and Cadastre Engineers (UCTEA-CSCE)** | *Turkey* | www.hkmo.org.tr
Attn: Prof Dr Necla Uluğtekin | hkmo@hkmo.org.tr
- 2015** **United Arab Emirates University** | *United Arab Emirates* | www.chss.uaeu.ac.ae/en/
Attn: Dr Naeema Alhosani | naeemam@uaeu.ac.ae
- 2011** **United Nations Geospatial Information Section** | *United Nations* | www.un.org/depts/cartographic/english/htmain.htm
Attn: Ayako Kagawa | kagawa@un.org
- 1995** **United States Geological Survey** | *United States of America* | cegis.usgs.gov
Attn: Dr E. Lynn Usery | usery@usgs.gov
- 2007** **University of Architecture, Civil Engineering and Geodesy** | *Bulgaria* | www.uacg.bg
Attn: Assoc Prof Peter Penev | ppenev@gmail.com
- 2017** **University of Lay Adventists of Kigali** | *Rwanda* | www.unilak.ac.rw
Attn: Dr Gabriel Habiyaremye | research@unilak.ac.rw
- 1995** **University of Twente, Faculty of Geo-Information Science and Earth Observation (ITC)** | *The Netherlands* | www.itc.nl
Attn: Dr Corné van Elzakker | c.vanelzakker@utwente.nl
- 2015** **Wuda Geoinformatics** | *China* | www.geostar.com.cn
Attn: Song Aihong | songaihong@geostar.com.cn

ICA welcomes new affiliate members; for more information, please visit icaci.org/membership-types/ or contact László Zentai, ICA Secretary General & Treasurer (sg@icaci.org).

1995 – year of ratification by the ICA General Assembly

65 – affiliate member's profile published in *ICA News* (issue number)

children's map gallery 2017 winners



Beatrice Leoutsakou | 8 |
Drawing Maps | Ekpedeftiki
Anagennisi: Afidne | Greece

Champ Turner | 15 | *Maps: Our path
for exploration* | Liberal Arts and
Science Academy: Austin, Texas | USA



Rebecca Kneale and Akira
McTavish-Huriwai | 15 |
Through a Child's eyes |
Tauranga Girls' College:
Tauranga | New Zealand



Ioana Larisa Gurita | 13 | *We
love maps* | 'M'arta' Children's
Art Studio: Focşani | Romania

Okubo Kasumi | 9 | *Happy Earth!*
| Elementary School attached to
Hiroshima University: Te Hiroshima
| Japan

