

president's corner



Dear Colleagues

On behalf of the International Cartographic Association (ICA) community, I hope that each of you is healthy and safe during these challenging times. In a very

short period of time, this deadly virus swept across the globe with a vengeance. Our hearts go out to those who have suffered the loss of a family member, friend, or acquaintance during the pandemic. You are in our thoughts.

Efforts to curtail the aggressive spread of the virus have seen variable results with the greatest positive impacts realized from steps to stay at home and engage in social distancing. The quick response in limiting or curtailing personal contact transformed many of us into a new "shut-in" society. This is at odds with our normal lives as we are social beings. The constraints of reducing personal contact has taken its toll on employment and businesses. Without question, local, national, and global economies have been dealt a serious blow and

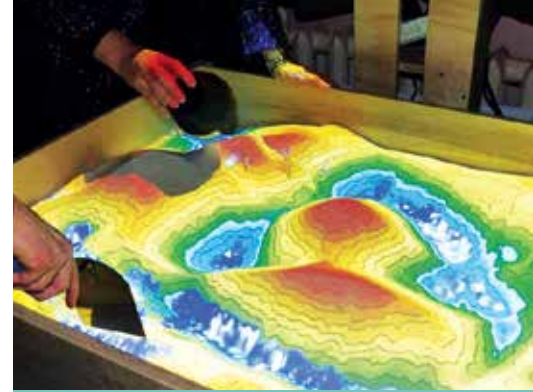
it will take some time to recover. I am sure that many in our cartographic community have been negatively impacted by the pandemic.

Testing, measuring and monitoring, and some instances of contact tracing are contributing to controlling the spread of the virus. But as of this writing, please realize that this deadly virus is no less deadly today than when it first began. Until treatments are accessible and, ultimately, a vaccine is available and distributed, we have to remain on our guard and disciplined to protect ourselves and our families.

Some of us have been impacted in our work, particularly those who have done and/or doing their work remotely. This pandemic is requiring basic changes to some professions and work habits, where more virtual and remote work is encouraged. Educational institutions that historically communicated and taught in-person to exchange knowledge, share experiences and conduct research must find new ways in which to do this work. In other cases, some of you have been called upon to help your country, organization, or institution to better understand the prevalence and impact of the pandemic.

This is a time and an opportunity for us to think

> 02



Augmented reality sandtable used for teaching in the Cartography Lab, University of Architecture, Civil Engineering and Geodesy, Sofia | Photograph courtesy of Temenoujka Bandrova

in this issue

president's corner :: 01

the map of my future world :: 01

from the editor :: 02

ica news

ica executive committee meets
virtually :: 03

25 years ago... :: 03

ica executive committee :: 04

ica news contributions :: 04

tositomo kanakubo – 90th
anniversary :: 05

profiles

jaeyong lee :: 06

geodesy and cartography :: 06

israeli association for cartography and
geographical information systems :: 07
university of architecture, civil engineering
and geodesy :: 07

icc 2021 :: 08

reports

ica commissions :: 09

ica working groups :: 13

cartographic meetings and events :: 14

calendar :: 18

ica affiliate members :: 19

children's map gallery :: 20

the map of my future world

Every four years, the ICA Commission on Cartography and Children is responsible for the selection of a theme for the next two Barbara Petchenik Children's World Map Awards. In 2016, the decision was made to adopt the International Map Year 2015-2016 motto *We love maps* for competitions run in 2017 and 2019.

This year the Commission decided to organize a survey to select a new theme for the 2021 and 2023 competitions. First, the ICA community was asked to propose a new theme. In about three weeks, 69 proposals were submitted by colleagues from 17 countries. An online voting form was

> 03

Children maps displayed at the 2009 International Cartographic Conference held in Santiago, Chile | Photography José Jesús Reyes Nuñez



The ICA World Cartographic Forum provides a wonderful platform for national cartographic societies to discuss various issues concerning their operation. I had the privilege to attend the Forum's inaugural meeting in Washington D.C. in 2017 and the next one in Tokyo last year. Listening to discussions and participating in the exchange of good practices made me think about the importance of succession especially applicable to committees, interest groups and commissions.

With regards to the ICA, succession is guaranteed by our Statutes and By-laws, which set a maximum of two consecutive terms for any position within the Executive Committee (Article 13) and Commission chairs (Article 24). This model, exercised by some cartographic societies, has a number of clear benefits: it provides regular opportunities for taking on leadership roles, it draws new members by showing a path for promotion, and it helps to minimise stagnation within the organisation.

However, it seems that majority of national cartographic societies do not have such rules in place and succession takes a more organic approach without temporal constraints. Again, there is a number of benefits in having such model: it helps to maintain operational and strategic consistency, it provides opportunities for charismatic leaders to carry on, and it mitigates uncertainties associated with the changes of leadership.

While coaching and mentoring is particularly beneficial to those looking to invest their time and talents into an organisation, encouragement and support is appreciated by visionary leaders. It is always heartening to see strong and consistent leadership, but it is equally reassuring to see new people taking up responsible positions with confidence. Regardless of the model, succession is an important benefit of any organisation and it should not be taken lightly.

In this issue of ICA News we are invited to celebrate Tositomo Kanakubo's 90th anniversary and are treated to an in-depth report from the recent meeting of the Executive Committee.

Igor Drecki | Editor ICA News | ICA ■

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

President: **Tim Trainor** | *United States of America*

Secretary General & Treasurer: **Thomas Schulz** | *Swiss Federal Statistical Office | Switzerland*

Editor ICA News: **Igor Drecki** | *The University of Auckland | New Zealand*

© **International Cartographic Association (ICA) 2020**

president's report cont...

about how maps and mapping can support transformations like this.

Why the focus on the pandemic? Well, like all international societies, the ICA has been impacted, but we have weathered its effects well thus far. There were many events by the ICA Commissions and national and regional cartographic associations that were planned for the first half of 2020. These were postponed for another time, which is unfortunate, but prudent. Still other events are in various states of consideration for the second half of 2020. We have seen (and participated in) virtual events that help to keep our profession moving forward. For updates on future plans of the ICA Commission events and cartographic meetings and conferences, please see the ICA website (www.icaci.org). Information concerning postponements, transitions to virtual events or cancellations are there to help us in our future planning.

In recent blogs and ICA articles in Esri's *Arc News* publication, I have written about the role we cartographers play in working toward solutions and positive outcomes from the pandemic. Our field is technologically advanced and we as cartographers are knowledgeable about data and are experts at effectively communicating information through maps and other data visualizations. As I have encouraged over the past months, each of us should do what we can to maximize our part in challenges that we face during the pandemic.

The realities of this fast-paced change have been a strain on daily life. Institutions have had to react very quickly. Let me assure you that the ICA is healthy and continues to serve our members and colleagues in cartography. Highlighting a few past events, the ICA Executive Committee (EC) met for the first time in November 2019. Our colleague, Philippe De Maeyer as Vice President from Belgium, kindly hosted events in Ghent. The rich history and worldly charms of the city aligned with a full agenda to advance the work of the ICA. One outcome was a refocus on leadership for the vice presidents. In recent terms, vice presidents were responsible for one of several operational environments that were part of the ICA's Strategic Plan where special focus was directed to science, education, professional practice, and society. While adhering to the spirit of these environments and to continue the good work during the last term, the EC is directing its attention to four specific themes: cartography and sustainable development; cartographic body of knowledge; history of the ICA; and a new research agenda in cartography. Each theme is coordinated through four new ICA Working Groups. More information will be available in the coming months as these new Working Groups are formed.

Immediately following the EC meeting, the ICA Commission Chairs arrived in Ghent to begin two days of intense efforts to collaborate and share their plans with the 28 ICA Commissions. This was an opportunity to coordinate

similar interests and to promote the future goal of joint workshops, seminars, and meetings. During the meeting, Commission Chairs had the opportunity to collaborate with their ICA VP mentor. Small group work ensued where Commission Chairs and EC members provided suggestions on topics important to the ICA during this four-year term. Overall, our days together were exceptionally congenial and productive. We shared common objectives while forging and strengthening friendships.

One project that transitioned from the last to the present term is the work of Immediate Past President Menno-Jan Kraak who has collaborated on a forthcoming book **Mapping a Sustainable World** with the United Nations and the University of Wisconsin that shows how cartography contributes to realizing the UN Sustainable Development Goals.

Our website is a valuable source of information and our team of ICA contributors to its content and those managing the website provide a valuable service to our society. For up-to-date information, please refer to the ICA website.

Realizing the realities of our times, the ICA EC met a second time in recent days, this time virtually. We originally had planned to meet in Florence, Italy for ICA business and to meet with the Local Organizing Committee of the 2021 International Cartographic Conference (ICC). While we would have preferred a physical meeting, we were able to conduct the regular ICA EC meeting agenda. All of us agreed that the two-days of meetings were productive and highly successful. One new item that the EC approved was the formulation of an additional ICA Working Group on the Transformation of National Mapping Agencies. More information on the five working groups will be a topic for future President's blogs.

Now on to the future. The Secretary General and I have been in regular contact with our hosts of the ICC 2021 planned for July 2021 in Florence. We have been meeting virtually with Professor Giuseppe Scanu of the Italian Cartographic Society, along with Paola Zamperlin, the Conference Director, and the Local Organizing Committee and the venue management company. Plans continue based on the proposal for the event. We recently agreed on the list of conference topics within the ICC theme and will offer a first call for abstracts very soon. Our goal is to continue planning as if under normal circumstances. We are hopeful that we will meet in person in Florence in 2021.

As we look to the future, it is not yet clear when in-person events will begin in earnest for the ICA. We continue to monitor the situation very closely. Any updates or changes will be noted on the website, including new information about the ICC 2021. As a final note, please continue to stay safe and well. Hopefully, we will see each other soon.

Tim Trainor | President | ICA ■

the map of my future world cont...

then created using Google Forms listing all themes. Members of the ICA Executive Committee, ICA Commissions and Working Groups, as well as the entire ICA community were invited to cast their votes for their preferred themes between 15 May and 15 June 2020. The announcement about the survey was disseminated by email, ICA website and the Commission on Cartography and Children Facebook profile to ensure wide participation. Eventually, 132 colleagues voted on up to five preferred themes.

The winning theme *A Map of My Future World*, submitted by the ICA Vice President Liqiu Meng from the Technical University of Munich in Germany, received 41 votes. Consequently, the ICA Commission on Cartography and Children selected **The Map of My Future World** as the theme for the next two Barbara Petchenik Children's World Map Awards in 2021 and 2023. The runner up theme *Mapping for Hope*, submitted by Alexander Kent from the United Kingdom, received 29 votes. The third place was shared by two themes: *The Changing World*, submitted by Giedrė Beconytė from Lithuania, and *With a Map I Can...!*, proposed by the Centro Argentino de Cartografía, each receiving 26 votes.

The next step will involve official opening of the 2021 Barbara Petchenik Children's World Map Competition by sending a call for participation and other relevant documents in September 2020. The ICA Commission on Cartography and Children would like to express their deepest appreciation to all who submitted competition themes and took part in the survey.

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

ica news ica executive committee meets virtually

On 12 and 13 June 2020, the ICA Executive Committee (EC) held their regularly scheduled meeting for the first time virtually in response to the travel restrictions imposed by the Covid-19 pandemic. While the pandemic has forced many of us to alter our daily routines, it is important to note that progress and work continues on all levels within the ICA.

This was the second meeting of the EC that was elected at the ICA General Assembly in Tokyo in July 2019. As most of the EC members are new to their positions, we are continuing to learn and get acquainted with various responsibilities. One task for each Vice President (VP) is to summarize news and information submitted to them by the various ICA Commissions for which they serve as the liaison to the EC. The impact of the virus was made evident by the lack of reporting. In normal times, several Commissions would have met or would be planning events that would be reported out. The significant reduction in activity was a topic at this EC meeting where it was agreed that Commissions are encouraged to continue meeting and advancing their work while finding new virtual ways to make that possible. The EC will be increasingly committed with ideas and advice in pointing out such new paths through the liaisons.

At the first EC meeting in Ghent in November 2019, four new ICA Working Groups were officially approved and formed (see *ICA News*, No 73, December 2019, page 7). Each new working group has a VP to lead and/or guide the effort in the initial stage with support from other EC members:

- Cartographic Body of Knowledge (Terje Midtbø with Vít Voženilek and Temenoujka Bandrova)
- Cartography and Sustainable Development (Philippe De Maeyer with Andrés Arístegui)

> 04



ica news 25 years ago...

The recent call to evaluate *ICA News* discussed at the 18th General Assembly of ICA held in Tokyo seems to have its precursor 25 years ago! The piece below reports on a plan to enhance the ICA newsletter and provides a list of 'natural' sections that would serve as a benchmark against which one can measure the success of the newsletter, even today. I am pleased to say that thanks to the support of the 'ICA Family', *ICA News* delivers on all fronts (and possibly more).

But there are some less known facts about the *ICA Newsletter* No 25. It was the last one issued under this title (from issue No 26, the newsletter is known as *ICA News*) and the only one edited by Jean-Philippe Grelot. Also, it was the only issue published in 1995; Chris Board called it an 'emergency issue' to fill the gap between the retirement of the former co-editor Bernard Gutsell in 1994 and his own appointment towards the end of 1995.

Igor Drecki | Editor ICA News | ICA ■

ICA Newsletter, No 25, September 1995

Editorial

This is the 25th issue of the *ICA Newsletter*: this number should be an indication of the interest shown by the 'ICA Family' upon the circulation of information among its members. This is the vision of the Executive Committee, but the *Newsletter* should not only be a 'top-down' media. We are now considering a new structure for the journal in order to improve its accessibility. Some basic sections are natural:

- administration of the International Cartographic Association: reference documents such as statutes, guidelines, etc.;
- reports of the meetings of the Executive Committee;
- activities of the commissions and working groups;
- publications;
- joint activities with international sister societies;
- International Cartographic Conferences and other cartographic meetings.

Other sections could be added, especially if input is given by many of you: the *ICA Newsletter* is **your** journal. The Executive Committee asked Christopher Board for proposals: do not hesitate to contact him. [...]

Jean-Philippe Grelot, Secretary General of ICA

President

Tim Trainor | *United States of America*

Secretary General & Treasurer

Thomas Schulz | Swiss Federal Statistical Office | *Switzerland*

Vice Presidents

Andrés Arístegui | Instituto Geográfico Nacional España | *Spain*

Temenoujka Bandrova | University of Architecture, Civil Engineering and Geodesy | *Bulgaria*

Philippe De Maeyer | Universiteit Gent | *Belgium*

Liqiu Meng | Technische Universität München | *Germany*

Terje Midtbø | Norges Teknisk-Naturvitenskapelige Universitet | *Norway*

Vít Voženílek | Univerzita Palackého v Olomouci | *Czech Republic*

László Zentai | Eötvös Loránd University | *Hungary*

Past President

Menno-Jan Kraak | University of Twente | *The Netherlands*

Editor ICA News

Igor Drecki | The University of Auckland | *New Zealand*

ica news contributions

Please send your contributions to

Igor Drecki | Editor ICA News |
i.drecki@auckland.ac.nz

Postal Address

Research Services
The University of Auckland Library
Private Bag 92019
Auckland 1142
New Zealand

Submission Deadlines

15 May for June editions

15 November for December editions

ica news ica executive committee meets virtually cont...

- History of the ICA (László Zentai)
- A New Research Agenda in Cartography (Liqiu Meng with Temenoujka Bandrova, Vít Voženílek and Terje Midtbø)

As indicated by the level of attention by the EC members, these topics are deemed as additional important priorities for the ICA. EC members continue to provide guidance to the current ICA Commissions. During the June virtual meeting, a fifth Working Group, proposed by national members of ICA, was approved on the **Digital Transformation of National Mapping Agencies** (Chair Bin Jiang, Sweden; EC liaison Tim Trainor) in response to the increasing role of cartography and GIScience in national geospatial organizations. This action aligns with increasing technological developments and the addition of more data and data types. Furthermore, Igor Drecki (New Zealand) was approved by the EC as Chair to the recently installed Working Group on the History of ICA. The ICA Commissions and Working Groups continue to be a core part of the ICA mission. For information on the activities of all Commissions and Working Groups, please visit our website: icaci.org.

Discussions on the various ICA publication outlets included highlights from reports submitted on the *International Journal of Cartography*, the *ICA News*, the ICA website and other opportunities in promoting cartography and GIScience. One action was to continue a dialogue with Georg Gartner, Chair of the Publications Committee, on considerations of evolving publication trends in the digital and open world. Menno-Jan Kraak, immediate Past President, updated the EC on the forthcoming book collaboration between the UN and the ICA on *Mapping a Sustainable World*. The ICA continues its prominent role in other publications including *GIM* and Esri's *ArcNews*.

The ICA website continues to offer current and interesting information for our community and those interested in mapping. It serves as a window into diverse topics occurring in cartography and GIScience throughout the globe and in various sectors. Thomas Schulz, Secretary General, coordinates website content and updates with the ICA webmasters. The EC was informed of plans to redesign the ICA website technically and visually. Initial planning has begun and more will be shared with the EC and the ICA community in the coming months.

Reports from EC members were offered on recent activities of the International Science Council (ISC), and Temenoujka Bandrova contributed recent updates from the International Society for a Digital Earth. The EC strengthened the ICA's formal relationship with the Open Geospatial Consortium (OGC) by approving action to become an Associate Non-Profit/NGO member at the recommendation of Serena Coetzee, Chair of the ICA Commission on SDI and Standards – the second membership of ICA in an international organization (after the ISC). Relationships with other professional organizations and NGOs is a strength of the ICA. Currently, the ICA serves as the lead of the Geospatial Societies Thematic Group within the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) under the stewardship of Menno-Jan Kraak. The United Nations has taken a leading role in coordinating the importance of geospatial information at the national, regional, and global level. The ICA has been instrumental in the formulation of a new Integrated Geospatial Information Framework (IGIF). This framework benefits from prior work on developing NSDIs. This is one reason why the ICA EC approved the fifth working group on Digital Transformation of National Mapping Agencies.

The last major topic for the virtual EC meeting focused on the next International Cartographic Conference (ICC) in Florence, Italy in 2021. Thomas Schulz and Tim Trainor updated the EC on frequent meetings that occurred following the Ghent EC meeting. The Italian Cartographic Society, under President Giuseppe Scanu and the Coordinator of the Local Organizing Committee (LOC) Paola Zamperlin and her team, have been meeting with the President and General Secretary regularly to discuss planning activities for ICC 2021. For the foreseeable period, the plan is to have an in-person meeting in Florence. The ICA and LOC are monitoring the pandemic situation very closely and will offer updates through the conference website as they become available. The EC had a spirited discussion on the conference themes as they strove to break away from past tendencies of maintaining the same themes from previous ICCs. The ICA Commission Chairs reviewed proposed topics from the LOC and provided valuable input as the EC deliberated on a final list of topics that was given to the local organizers for completion and implementation. While some topics are mainstays, other new or revised topics reflect our changing cartographic world. Visit the ICC 2021 website (www.icc2021.net) for details on the conference, the list of conference topics, and a forthcoming call for abstracts and participation in the next International Map Exhibition.

Due to our current pandemic realities, the next EC meeting will also be virtual and will occur in October. A week later, the ICA Commission and Working Group Chairs will also meet virtually with the EC on 24 October 2020 (replacing the originally scheduled meeting for September in Vienna). An important topic for the Commission and Working Group Chairs meeting will focus on publications, another one on ways to engage and bring forward Commission work in a virtual environment. We look forward to information sharing and engagement to advance the ICA program. While we sadly missed the camaraderie of meeting in person during this June EC meeting, it was good to see our friends and colleagues during the many hours we spent together over these two days.

Tim Trainor | ICA President | *United States of America* ■



and honour we have for him. Let me recall some facts about his career and involvement in the International Cartographic Association (ICA), supplemented by a few personal notes.

Tositomo Kanakubo was born in Nagoya City, Aichi Prefecture, Japan in 1930. He graduated in geography from the Tohoku University in 1953 and started his career at the Geographical Survey Institute (GSI), Ministry of Construction. His employment at GSI lasted 33 years and involved various roles in the Institute's many departments: Cartographic, Topographic, Surveying, Map Management, and Planning, before becoming Director General in 1984. After resigning from the Director General position in April 1986, Kanakubo moved to the Japan Map Center as the Standing Director. He was elected President of the Center in February 1994. He retired in February 1998 and became an advisor to the Center. Kanakubo's thesis *Development of Contemporary Theoretical Cartography* earned him a Doctor of Science degree from the Tohoku University in November 1989.

Between February and June 1974, he was sent by GSI to Europe as a researcher abroad with a mission to visit several institutions, universities and companies, and learn about the latest innovations in thematic mapping and atlas cartography. During his stay in Europe, he attended the 7th ICA Conference in Madrid and read his paper *On the Fundamental Cartographic Survey for Development of Coastal Area in Japan*.

Kanakubo was involved in the work of the Programme Committee for the 10th ICC held in Tokyo in 1980. By the time of the 12th ICA Conference in Perth in 1984, he was already heavily involved in the activities of the ICA Commission on Communication in Cartography, which unfortunately ceased its work at the Perth meeting. Instead, two Working Groups were created, one on Map Use, and the other on Concept and Methodology in Cartography. However, the latter Working Group suspended its activities in 1986 and Kanakubo discussed its revitalisation with its Chair, Ulrich Freitag (Germany). A year later, the ICA Commission on Concepts in Cartography chaired by Kanakubo was approved by the 8th General Assembly of the ICA held in Morelia in 1987. The Commission produced an important report tabled at the 15th ICA Conference in Bournemouth in 1991, which included the *Output List of the ICA Bibliographic Database on Concepts in Cartography*. This compilation featured all articles that appeared in the *International Yearbook of Cartography*.

In 1991, Kanakubo was elected Vice President of the ICA, and became a Chair of the ICA Working Group to Define the Main Theoretical Issues on Cartography. The Working Group published a report on *The Selected Main Theoretical Issues Facing Cartography* for the 16th ICA Conference in Cologne in 1993. At the 10th General Assembly in Barcelona in 1995, Kanakubo was re-elected Vice President of the ICA. He was also approved as Chair of the ICA Commission on Theoretical Fields and Definitions in Cartography. The Commission work focused on three areas: Cognition in Cartography, Map Semiotics, and Definition in Cartography. At the ICC 1999 in Ottawa, the Map Semiotics group (lead by Hansgeorg Schlichtmann, Canada) produced a report on *Map Semiotics Around the World*.

Kanakubo was instrumental in organising a joint seminar of three ICA Commissions and a Working Group on *Cognitive Map, Children and Education in Cartography* in Gifu, Japan, in November 1996. Michael Wood, ICA President at that time, attended the event and delivered an address to 300 participants. Proceedings of the seminar were submitted to the 18th ICA Conference in Stockholm in 1997. Another of the Commission's events was a seminar organised in Thessaloniki in November 1998.

At the ICC 1999 in Ottawa, Kanakubo completed his second and final term as Vice President of the ICA. He also concluded his term as Chair of

the ICA Commission on Theoretical Fields and Definitions in Cartography. The Commission carried on under a new name of ICA Commission on Theoretical Cartography, and a new Chair – Alexander Wolodtschenko (Germany). On 21 August 1999, the second day of the 11th General Assembly held in Ottawa, Tositomo Kanakubo was awarded the Honorary Fellowship of the ICA. The following year in April, he was awarded the Third Order of the Sacred Treasure by the Emperor of Japan. In February 2008 Kanakubo was elected Honorary Fellow of the Japan Cartographers Association.

I met Kanakubo for the first time at a GIS Conference in Lisbon in 1987, and then in Morelia later that year. In 1990, I offered to organise a meeting of the ICA Commission on Concepts in Cartography in Brno, Czech Republic. The meeting, held in October, attracted around 25 participants. Kanakubo delivered a paper on *The Development of Contemporary Theoretical Cartography*. The social programme provided an opportunity for the participants to enjoy beautiful landscapes and castles, as well as a wonderful private wine cellar where Kanakubo demonstrated a great knowledge of wine and so called *burčák* (partially fermented young wine). As a side note, Kanakubo was also interested to meet Antonín Kolář (Czech Republic), who developed the first theoretical concept of map communication in late 1960s. Unfortunately, Kolář could not attend the Commission meeting due to personal and health reasons.

In November 2000 I had an honour to meet Kanakubo in Japan. I visited the Japan Map Centre and looked behind the scenes at the brilliantly-run organization, a true testimony to his former leadership.

In 2006, I asked Kanakubo to attend a commemorative seminar in Tbilisi dedicated to the late Alexander F. Aslanikashvili (Georgia) on my behalf (I was then ICA President). Kanakubo translated Aslanikashvili's book *Metacartography* into Japanese, hence he accepted my request and prepared an address. The seminar was scheduled for March, but due to the death of Professor Nikolas L. Beruchashvili, the local organiser, the seminar was cancelled.

Kanakubo wanted to start his talk by saying: *"I am very pleased to be here and to attend this seminar commemorating the nineties anniversary of the late Professor Alexander F. Aslanikashvili. I translated his book Metacartography into Japanese in 1998, and my heart is still full of deep emotion when reading this address for him."* Then he wanted to describe how difficult the translation work was: *"However, unexpectedly I spent a lot of time on the translation because of 'double barriers' of the Russian language and the philosophical content of the book that was hard to understand. Such troubles with the selection of proper words used in the translation happened frequently. Even after completing the work, I was afraid that there were many errors in the translation or defects caused by my ignorance of the subject."*

On the day of his 90th birthday he sent me the following personal message: *"T. Kanakubo became 90 years old in this year 2020. He was celebrated by his family on his birthday. He is a very happy old man."*

Dear Tositomo, on behalf of the whole cartographic community and on my own, I wish you good health, happiness and other joys that your fruitful life brings in the years to come.

Milan Konečný | Former President of ICA (2003-2007) | Czech Republic ■

Tositomo Kanakubo with his grandson Hirohiko Fukuchi at the ICC 2019 in Tokyo | Photography Temenoujka Bandrova



jaeyong lee



Having often enjoyed looking at online maps and Google Earth, I am well aware of the role and importance of maps that visually show changing cities and landscapes. Since

childhood, I was fascinated by the fun of finding locations or topographic features in atlases, so I looked forward to learning geology or geography early on. These interests eventually began to shape my career and study choices later on.

When enlisted to the military service in South Korea, I naturally applied to the terrain and satellite image analysis unit. For two years I studied map design, GIS and image processing techniques, and applied both theory and practice to collect coordinates and produce maps of the South-North Korean border and surrounding minefields. Map design in particular was one of the important tasks, and I felt rewarded when troop operations and tactics were planned based on my maps. At the same time, I developed a good understanding of the importance of maps in military operations and appreciated not only the responsibility behind the mapping processes and design, but also my mission as a cartographer.

Since starting at the graduate school in the Department of Earth Sciences at a university in Japan, I had an opportunity to study various places, from Mars to North Korea, and am now focusing on mapping topographic changes in Svalbard due to the importance of the Arctic regions in relation to global warming. My research interests focus on collecting terrain and vegetation data using a UAV and high-resolution imaging equipment, as well as image correction. For that purpose, I assembled and operated a UAV suitable for cold environments present in Svalbard, and collaborated with scientists from various fields. Since I cannot visit my study site due to Covid-19 pandemic, I am currently upgrading the equipment, performing analysis using satellite data and taking time to improve my skill in cartographic design.

I am also advocating for the adoption of the latest Japanese national land policy trends at the Korea Research Institute for Human Settlements, and advising the Korean Association of Military Studies on the use of satellite images for North Korea. Research-wise, I am making steady progress as PhD candidate.

Jaeyong Lee | The University of Tokyo | South Korea / Japan | lee@csis.u-tokyo.ac.jp ■

journals.vgtu.lt/index.php/gac/

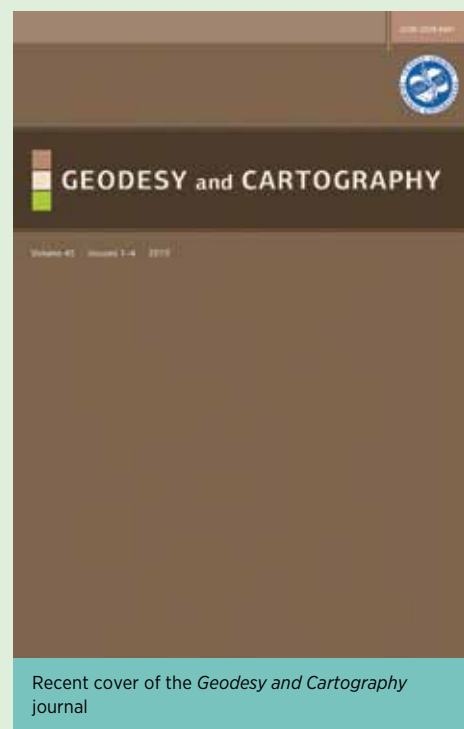
Geodesy and Cartography (ISSN: 2029-6991 / eISSN: 2029-7009) is a peer-reviewed open access journal publishing original research papers covering the study, establishment and improvement of the geodesy and mapping technologies, as well as geodetic networks; theoretical and practical principles of developing standards for geodetic measurements; mathematical treatment of the geodetic and photogrammetric measurements; control and application of the permanent GPS stations; study and measurements of Earth's figure and parameters of the gravity field; study and development the geoid models, as well as vertical and horizontal movements of the Earth's crust; geodetic information systems; information systems for land management and real estate cadastre; cadastral surveying; photogrammetric methods in mapping systems; and digital mapping methods.

Geodesy and Cartography is published since 1963, first as *Geodezijos skyriaus darbai (Papers of Geodetic Department)* by the Institute of Geology and Geography, Academy of Science of Lithuania and Geographical Society of Lithuania (1963), and then as *Geodezijos darbai (Papers of Geodesy)* by Vilnius Department of Kaunas Polytechnic Institute and Geographical Society of Lithuania (1964-1994), and *Geodezija ir kartografija (Geodesy and Cartography)* by Vilnius Technical University (1995-2010). Since 2011, *Geodesy and Cartography* is published by Vilnius Gediminas Technical University.

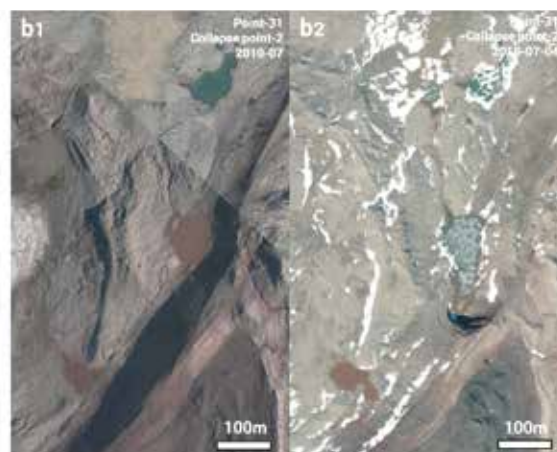
Journal editors-in-chief included Antanas Ražinskas (1963-1980), Vytautas Tulevičius (1981-1992) and Jonas Skeivalas (1993-2011). From 2012, Eimuntas Kazimieras Paršeliūnas is the editor. At present, the number of international editorial staff is 29 representing 11 countries.

All papers are assigned a Crossref Digital Object Identifier (DOI) and Universal Decimal Classification (UDC), which makes them easy to find, cite, link, and assess for any project world-wide. The journal is covered by indexing and abstracting services and features many established bibliographic databases, such as Dimensions, Academic Search, Scopus, GEOBASE, Google Scholar, ProQuest, Gale, and many more. *Geodesy and Cartography* accepts manuscripts in English and uses double-blind peer reviewing. It appears quarterly as an A4 print journal (subscription based) and is also available online free of charge, subject to Creative Commons Attribution 4.0 International licence. The submitted papers are usually published online within six weeks from acceptance.

Eimuntas Kazimieras Paršeliūnas | Editor-in-Chief | *Geodesy and Cartography* | Lithuania ■



Recent cover of the *Geodesy and Cartography* journal



Glacier terrain near Ny-Ålesund, Svalbard (a); Topographic changes between 2010 (b1) and 2019 (b2): the slope collapsed creating a pond from a melting ice

profiles israeli association for cartography and geographical information systems

isrcartogis.wixsite.com/isrcartogis/

The Israeli Association for Cartography and Geographical Information Systems (ICS) is a meeting point and a center of knowledge for those involved in mapping and cartography, and for users of geographic information systems. ICS is registered at the Israeli Justice Ministry as a non-profit organization since the 1970s and is run by volunteers. It is open to members from Israel representing academia, education, private companies and businesses, government bodies, non-profit organizations and of course to all with an interest in the field.

The main goals of the Association are:

- to initiate exchanges of information between members of the association and others
- to conduct professional conferences
- to publish professional publications
- to maintain ties with institutions with similar goals in Israel and abroad
- to serve as Israel's representative to the International Cartographic Association (ICA)

Israel is a national member of the ICA since the first general assembly held in Paris in 1961. In recent years, Israel had representatives attending International Cartographic Conferences and ICA general assemblies, and participated in the International Cartographic Exhibitions and published national reports. Israel renewed its participation in the Barbara Petchenik Children's World Map Competition in 2015, after many years of absence. The ICS, in collaboration with the Ministry of Education, conducted two national competitions in 2017 and 2019. The winning maps were then sent to the international competition at the ICA conferences in Washington D.C. (2017) and Tokyo (2019). These events are of growing interest from

schools and help with the mission of exposing children to cartography.

ICS holds an annual conference in collaboration with the Israeli Society for Photogrammetry and Remote Sensing and the Survey of Israel. These conferences are a full day gatherings, consisting of four plenary sessions—two for each society. At its 2020 annual conference, the Association offered its help to a forum of map curators, established on the initiative of Professor Rehav Rubin to fund a National Archive of Maps of Israel, by promoting this idea and hosting the forum's second meeting.

Recently the ICS has extended its invitation to the ICA to hold their activities in Israel. So far two events took place. In 2018, a workshop on *Mapping in the Cloud* was conducted in collaboration with the ICA Commission on Maps and the Internet and the Hebrew University in Jerusalem. This year, the ICS hosted three ICA guests at the annual conference (see a report from this event on page 14). These visits were accompanied with technical visits to various institutions, such as National Library Laor Cartographic Collection, Survey of Israel, Central Bureau of Statistics and the Map Library of the Hebrew University of Jerusalem. In 2022, Israel is scheduled to host a workshop of the ICA Commission on Atlases.

Regarding future initiatives, ICS is planning a national map competition, with the winners to represent Israel at the next International Cartographic Exhibition in Florence. Another goal is to establish an online annual scientific journal in Hebrew.

Tamar Soffer and Oren Raz | President / Secretary & Treasurer | Israeli Association for Cartography and Geographical Information Systems | Israel ■

profiles university of architecture, civil engineering and geodesy

The University of Architecture, Civil Engineering and Geodesy (UACEG) in Sofia was founded in 1942 as the first technical university in Bulgaria. The number of academic staff is currently about 360 and they teach more than 4,700 students. According to its public mission, UACEG is a secular university with a focus on education and research.

The Department of Photogrammetry and Cartography is one of five departments in the Faculty of Geodesy. The Department has two specialised laboratories, one dedicated to Cartography and the other to Photogrammetry.

The Cartography Lab, led by Professor Temenoujka Bandrova, President of the Bulgarian Cartographic Association and Vice President of the International Cartographic Association (ICA), was recently modernized with high end hardware and a suite of software for cartographic teaching and research (www.youtube.com/watch?v=wzQudecljKM&feature=share&fbclid=IwAR2gBx00zbn9qVXwYVoYszSdcKgun56EjiHaZ-7UnZ2JqtKyJtw568g5FAQ).

According to the study programme, students can choose one of the six different specializations offered by the Faculty of Geodesy with Cartography and GIS being one of the speciali-

zations. Many students continue their studies at the postgraduate level, which involves writing diploma theses on cartography, GIS or related topics. PhD students researching in cartography come from Bulgaria as well as from abroad, mainly from countries of Balkan Peninsula.

Introductory courses in cartography include: Basic Cartography; Topographic Mapping; Map Projections; Cartography; and Thematic Mapping and GIS. Specialized courses include: Visualization of Geodata; Digital Cartography and GIS; 3D Cartographic Modelling; Map Publishing; and Web Cartography.

Bulgarian Cartographic Association together with the Cartography Lab organizes a range of GIS and cartography courses for professional communities. Full-time and part-time students and lecturers from the Department participate in different research programs, such as FP7 or Erasmus, and play active roles in international projects. In 2007, the University of Architecture, Civil Engineering and Geodesy became an affiliate member of the International Cartographic Association.

Petar Penev | University of Architecture, Civil Engineering and Geodesy | Bulgaria ■

www.uacg.bg

Buildings of the University of Architecture, Civil Engineering and Geodesy in Sofia, Bulgaria | Photography courtesy of Petar Penev



icc 2021 florence · italy

www.icc2021.net



The first months of 2020 have been marred by the spread of the Covid-19 pandemic, which placed the world in front of a new and unexpected situation that quickly highlighted the vulnerability of individual national systems in such extraordinary times. Italy was the first to introduce a total lockdown from 10

March 2020. In the weeks to come, this move was followed by most countries, albeit with varying degrees of restrictions, that saw the curve of infections and deaths gradually rise.

Globally we are experiencing a period of great uncertainty which makes it difficult to understand exactly what the short and long-term scenarios are going to be. Despite this, the Local Organizing Committee (LOC) is continuing to work on the organization of the 30th International Cartographic Conference in Florence with the firm conviction to make it happen. The coming months though will be decisive in understanding whether the current global health and economic crisis will diminish and consequently create suitable conditions for international mobility and social distancing.

The ICC 2021 has 36 themes (www.icc2021.net/topics/), which are based on the thematic areas of the ICA commissions and working groups. Further themes, e.g. relating to the interweaving of cartography and pandemic (surveillance, public health, disease modelling, etc.) will be added soon.

The LOC is accepting submissions of abstracts and papers starting from 1 September 2020. We invite all authors to visit the ICC 2021 website and submit abstracts according to the published guidelines and respecting the given due dates ►.

Due Dates

24 October 2020	: Full paper submission closing
21 December 2020	: Abstract submission closing
01 February 2021	: Notification of acceptance for full papers
02 March 2021	: Notification of acceptance for abstracts
21 March 2021	: Submission of final manuscripts

The ICC 2021 venue is Villa Vittoria in the heart of Florence, near outstanding cultural monuments and museums and very close to all facilities the city has to offer. But above all, this choice allows us to set up the International Trade Exhibition, the International Cartographic Exhibition, and the Children's Map Competition in a single venue.

In addition, the LOC is arranging special events in close collaboration with the Italian Geographic Military Institute. These will include historical map exhibits, and the Sala delle Carte geografiche in Palazzo Vecchio, the Ximeniamo Observatory and the Arcetri Astrophysical Observatory. The social program will offer many events in the Florence area, with several receptions, such as a welcome party and a gala dinner. An orienteering competition will be held in the historical city center, among some of the most extraordinary architectural works of the Italian Middle Ages and Renaissance.

A complete list of sponsorship opportunities, sponsorship items, costs, and benefits is provided in the ICC 2021 Exhibit and Sponsorship Prospectus (www.icc2021.net/wp-content/uploads/2020/07/ICC_2021_Sponsor_Prospectus_ENG_200709.pdf).

All the outcomes of the conference and workshops will be published in three series: ICA Advances (full papers), ICA Proceedings (abstracts / full papers) and ICA Abstracts (abstracts). Moreover, the *International Journal of Cartography* will select eight to twelve papers from the full paper peer-reviewed track for a special issue published for the event.

We will do everything possible to create an unforgettable experience. Looking forward to receiving your contributions and seeing you in Florence, safe and healthy!

Giuseppe Scanu | Conference Director | ICC 2021 Local Organising Committee | Italy ■

(from top left to bottom right) Loggia del Mercato Nuovo, detail of the niches with the statues of Bernardo Cennini and Michele di Lando; Michelangelo's David, marble copy in front of Palazzo della Signoria; Piazza San Giovanni. View with the Baptistry, the Cathedral of Saint Maria del Fiore and Giotto's bell tower; Ponte Vecchio, a medieval arch bridge over the Arno River | *Photographs courtesy of ICC 2021 LOC*





Visit of Professor Milan Konečný at the Chinese Academy of Surveying and Mapping, Beijing, China | Photograph courtesy of Liu Jiping

Art and Cartography

artcarto.wordpress.com/

Workshop in Guimares, Portugal

One of the earliest instances of disaster mapping was John Snow's Cholera Map, which was likely the first clear evidence that linked cholera to contaminated wells in 19th century London. Today's equivalent is of course the Covid-19 GIS hub (coronavirus-resources.esri.com), but there are many other kinds of disasters as well: climate change, colonialism, and neoliberalism, to name only a few. How do we sense and deal with impending doom in our everyday lives and in our creative work? How do walking and mapping practices help or impede? Although the theme is perhaps tongue-in-cheek, we are also serious about the need to think through and counter the sense of impending doom in our everyday lives.

The Commission for Art and Cartography, in partnership with the artist-research collective Hamilton Perambulatory Unit (HPU), will present a 'walkshop' entitled *A Sense of Impending Doom: strata-walking in turbulent times* at the International Meeting/Conference on Walking Arts *Drifting bodies / Fluent spaces*, to be held in Guimares, Portugal, between 21-25 July 2020. This hybrid online/local event will begin with a presentation on the Strata-Walk, HPU's framework of stratigraphic place-making and mapping. We will present case-studies of the HPU's past Strata-Walks that have dealt with such themes as decolonization and surveillance, as well as more playful approaches such as futurist imaginings. We then propose to hold simultaneous Strata-Walks that can occur anywhere participants might live, with contributors already signed up from Australia, Los Angeles, Montreal and Toronto. Participants can respond to the theme of "Impending Doom" through their own walking and mapping research methods, using data collected from the day's walk to make physical or digital works such as texts and images, maps, small scul-

tures, constructions, sounds or videos. Together these will construct an ad hoc art exhibition of the workshop's gleanings. We will ask participants to send documentation of their works for online publication. Any interested members of the ICA are welcome to join. Of particular interest to ArtCarto members: Karen O'Rourke, author of the book *Walking and Mapping: Artists as Cartographers*, will be giving one of the online keynote addresses.

More information is available from the Conference website: walk.lab2pt.net.

Taien Ng-Chan | Chair | ICA Commission on Art and Cartography | *Canada* ■

Cartography in Early Warning and Crisis Management

map.casm.ac.cn/ewcm/home/

Commission Activities

Between 10-16 October 2019, the Government Geographic Information System Research Center of the Chinese Academy of Surveying and Mapping hosted Professor Milan Konečný from Masaryk University, Czech Republic, and former Chair of this Commission. During his visit in Beijing, China, Professor Konečný delivered several lectures covering the following topics:

- Early Warning, Crisis Management and Disaster Risk Reduction: United Nations
- World Geo-Aspects of Emergencies, Risks, Disasters and Crises
- Geospatial Data and Tools for Requests Recording: Situational awareness, information and analysis of complex humanitarian emergencies
- BIG DATA Potentials in Early Warning and Crisis Management
- Global, Regional and Local Geospatial

Projects and Role of Cartography and Geoinformatics: Methodology concepts of SDI – past, today, tomorrow.

- Geoinformation Strategies: targets, building, realization as a synergy with SDIs
- Trends in Cartographic Developments

These lectures provided great opportunity for Chinese technical personnel, technical managers, and relevant professional students, to understand the international frontiers in emergency mapping, software and hardware security, key technologies, rules and regulations, organizational implementation strategies, and core technology products. They provided valuable contributions to Early Warning, Crisis Management and Disaster Risk Reduction developments in China.

In November and December, the Commission co-organized two events, a workshop in Kunming and a seminar in Haikou – see below for details.

On 16 December 2019, Professor Philippe De Maeyer from the University of Ghent, Belgium, and Vice President of the ICA, visited the Chinese Academy of Surveying and Mapping in Beijing, China. He was invited by Liu Jiping, Commission Chair, to give an address on *A Vector Method for Flood Risk Modelling*. Professor De Maeyer is also our Commission liaison on the ICA Executive Committee.

His talk stressed that the flood risk must be understood as the combination of the probability that a flood occurs and the extent of its consequences. Flood risks can be determined for different categories of consequences. The most common categories are the economic consequences and the human loss, but there are also other categories that must be considered, such as social, ecological and cultural risk.

Ghent University developed various methods for calculation of the flood risk. The first one, called LATIS, is a raster based method and it is used today by different governmental authorities in Belgium. As with similar raster models, the main downfall of this impact assessment

> 10



Participants of the Capacity Building of Emergency Mapping Support in Asian Region workshop held in Kunming, China (left); one of the sessions at the Intelligent Emergency Mapping and Disaster Reduction Mapping Service seminar held in Haikou, China | Photographs courtesy of Liu Jiping

tool is that raster approach cannot effectively handle multiple metadata of vital infrastructures, crucial buildings, and vulnerable land use (among other challenges).

For this reason researchers at Ghent University developed a new method, called FLIAT® (Flood Impact Assessment Tool). It uses a vector approach, linked to a relational database and using open source programming languages, which can perform parallel computations allowing an immediate computing of the impact of floods on a community. It can manage multiple detailed datasets, whereby there is no loss of geometric information. Beside different categories of risk calculation, the model allows also the calculation of priority maps using multi-criteria analysis.

Workshop in Kunming, Yunnan, China

A workshop on Capacity Building of Emergency Mapping Support in Asian Region, organized by the Chinese Academy of Surveying and Mapping (CASM), ICA Commission on Cartography in Early Warning and Crisis Management and Beihang University, was held in Kunming, Yunnan Province on 10-16 November 2019.

Wang Weiguo, deputy director of the Natural Resources Department of Yunnan Province, Peng Zhenzhong, Secretary General of the China Society of Surveying and Mapping, Dean Jing Guifei from Beijing University of Aeronautics and Astronautics, and Wu Lan, Vice President of CASM, attended the opening ceremony. More than 20 participants from Laos, Thailand, Cambodia, Bangladesh and Singapore, as well as more than 200 Chinese scholars from Yunnan Province attended the workshop.

The five-day workshop aimed at sharing and exchanging knowledge, data, technology and experience in geographic information technology services, disaster prevention and mitigation, and promoting international cooperation in emergency mapping technology in the Asian region. During the event, researchers from CASM, Beijing University of Aeronautics and

Astronautics, Yunnan Normal University and other scientific research institutions and universities, as well as representatives from Chinese surveying and mapping organizations, North Branch Sky and other high-tech companies, delivered 12 lectures and showcased a comprehensive disaster reduction intelligent services, such as: Beidou navigation and GNSS support services emergency mapping support; Chinese domestic mapping equipment systems and disaster reduction applications; domestic drones and laser radar services for disaster reduction and remote sensing images, as well as the latest technology and application progress in automatic high-precision extraction and disaster monitoring, global geographic information resource construction and application, land tenure investigation and real estate registration information platform construction.

Dr Wang Yong, representing our Commission, delivered a paper *Design and Application of Integrated Disaster Reduction Intelligent Services*. In order to strengthen mutual understanding, workshop attendees from different countries were invited to introduce and describe their national mapping and remote sensing technologies, and their applications in disaster mitigation, resource management and government decision-making. In addition, there were visits organized to the Yunnan Basic Geographic Information Center, Yunnan Remote Sensing Information Center, and Southern Surveying and Mapping Yunnan Branch, during which the participants had an opportunity to develop a detailed understanding of the Chinese surveying and mapping hardware and software equipment and its application in provincial disaster reduction. Finally, Dr Jing Guifei and Dr Wang Yong presented certificates to all participants.

Seminar in Haikou, Hainan, China

A seminar on Intelligent Emergency Mapping and Disaster Reduction Mapping Service

sponsored by the Chinese Academy of Surveying and Mapping (CASM) and ICA Commission on Cartography in Early Warning and Crisis Management was held in Haikou City, Hainan Province on 16 December 2019. Yue Jianli and Wu Qiong from Hainan Surveying, Mapping and Geographic Information Bureau, Wu Lan, Vice President of CASM, and Liu Jiping, Commission Chair, attended the opening ceremony. About 40 experts, including four guests from China, Poland, Switzerland and Japan, attended the seminar.

The three-day seminar focused on smart emergency and disaster mitigation mapping. Experts and scholars were invited to explore cutting-edge ideas and practical technologies to support emergency communication and disaster reduction mapping. A total of 15 academic presentations were delivered on themes relating to improvement of rapid sensing, accurate measurement, intelligent analysis and forecasting, and early warning of geospatial information in the process of emergency response management. In addition, a visit to the Hainan Nanning Surveying, Mapping and Geographical Information Bureau was organized for seminar attendees.

The seminar provided an opportunity to share technologies and experiences in intelligent disaster prevention and mitigation, emergency mapping support, and focused on disaster management and emergency preparedness, prevention, alerting, response and mitigation, and intelligent and adaptive disaster mapping. In-depth discussions on geographic information technology and applications shed a new light on the effectiveness of response to various disasters. It is of great significance to improve the overall response efficiency of relevant emergency mapping and disaster reduction mapping agencies in Asia, and jointly create a better future for humanity.

Liu Jiping | Chair | ICA Commission on Cartography in Early Warning and Crisis Management | China ■



LBS 2019 held in Vienna, Austria: one of the plenary sessions (left); Professor Georg Gartner's address at the opening session (middle); *The Future of Mobile Cartography* panel facilitated by three ICA Commissions | Photographs courtesy of Research Group Cartography, TU Wien

Location Based Services

lbs.icaci.org/

LBS 2019 Conference in Vienna, Austria



The 15th International Conference on Location-Based Services (LBS 2019) organized by the

ICA Commission on Location Based Services and Technische Universität Wien (TU Wien) took place in Vienna, Austria, 11-13 November 2019. Around 100 participants from all over the world gathered in the historical main building of TU Wien. The conference was opened by the University's Rector Professor Sabine Seidler and Conference Chair Professor Georg Gartner. Following their address, Commission Chair Haosheng Huang summarized the recent research development in LBS and presented a series of open research challenges. He proposed that there is a pressing need to recognize and develop the role of science in LBS, and posed two related questions:

- Is there a Location Based Science (LBScience) for LBS, like Geographic Information Science (GIScience) for geographic information systems (GIS)?
- If yes, what are the generic (rather than specific to particular fields of applications or particular technologies) questions that make up LBScience?

The conference featured a keynote presentation by Ioannis Giannopoulos from TU Wien. A total of 39 oral presentations were given in 9 single-stream sessions over three days. Another 15 posters and 3 showcases complemented the conference programme following a pitch oral session. The programme provided a general view of recent research activities in the LBS domain, such as outdoor/indoor positioning,

smart environment, spatial modelling, personalization, context-awareness, cartographic communication, novel user interfaces, crowdsourcing, social media, big data analysis, usability and privacy.

The conference also featured a panel discussion on the *Future of Mobile Cartography*, jointly chaired by Amy Griffin (Chair of the ICA Commission on Cognitive Issues in Geographic Information Visualization), Haosheng Huang, and Robert Roth (Co-chair of the ICA Commission on User Experience). Three main research topics around mobile cartography were discussed: mobile cognition, data modelling and processing, and mobile map design. A joint research agenda by the above ICA Commissions and our Commission are planned.

A selection of peer-reviewed full papers has been published as Volume 2 in the series of *Advances in Cartography and GIScience of the International Cartographic Association*, which are open access at www.adv-cartogr-giscience-int-cartogr-assoc.net/2/index.html. Work in progress and showcase submissions are included in the conference online proceeding, published by TU Wien (DOI: [10.34726/lbs2019](https://doi.org/10.34726/lbs2019)).

Besides the technical and scientific program, the conference provided several social networking opportunities, including an ice-breaker reception on the first day, a conference dinner at an old traditional Viennese wine cellar on the second day, and a farewell drinks event.

More details regarding LBS 2019 can be found at lbs2019.lbsconference.org.

LBS Data Analysis Publication

A special issue on *Geospatial Big Data Analytics for Smart Cities* of the *Computers, Environment and Urban Systems* journal is planned for later in the year. It is a joint activity with the ICA Commission on Geospatial Analysis and Modeling. The special issue will contain invited submissions from the ICC 2019 pre-conference symposium on Location-based Big Data

(LocBigData 2019), as well as other relevant papers. All the submissions have been peer-reviewed, and initial decisions made.

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

Maps and the Internet

internet.icaci.org/

Commission Activities



There have been a number of changes and developments this year in the ICA Commission on Maps and the Internet. Stefan Bonchev (Bulgaria) has been appointed Vice Chair of the Commission. He also created a logo for our Commission.

Before the Covid-19 pandemic, we managed to co-organize the Prague INSPIRE Hackathon 2020 (www.plan4all.eu/prague-inspire-hackathon-2020/). This event connected thirteen international teams to solve burning challenges, such as mapping regional attractiveness or using AI algorithms for defining boundaries of agricultural fields based on Sentinel-2 satellite imagery (the winning team).

This year, we have planned several Commission meetings, e.g. in Redlands and Nesebar. Unfortunately, all those events are cancelled or postponed. We hope that at least one face to face event will be held later in the year.

Instead of a face to face meeting, we currently rely on digital communication. Apart for the official website, we keep in touch with members and supporters through social media, such as Facebook, Twitter or LinkedIn, and a simple information aggregator Web Map Business - News about cartographic solutions on the Internet.

Otakar Čerba | Chair | ICA Commission on Maps and the Internet | Czech Republic ■

Marine Cartography

Commission Activities

ICA support to the work of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) continues and it is pleasing to report that Ron Furness, representing ICA, has now assumed the role of Chair of the IBSC (2019-2022). The last meeting of the IBSC, its forty-third (IBSC43), was conducted under difficult circumstances in Cartagena de Indias, Colombia. The then impending declaration of the Covid-19 pandemic made it imperative to cancel at the last minute the attendance of the representative delegations from the fifteen submitting institutions and one national certification recognition scheme that were scheduled to be considered during IBSC43. Seven of the ten Members of IBSC and its Secretary were able to attend for most of the meeting. Those IBSC members not present and the representatives of the submitting institutions participated in the meeting reasonably successfully by online video facilities. Some IBSC members had to depart Colombia suddenly when national borders started to be closed, so it can be said, rightly, that the meeting was somewhat challenging. Even so, two submissions had to be considered by online video facilities after the formal close of the meeting and after all IBSC members had finally made it safely back to their homes and entered compulsory isolation periods.

Of interest for marine cartography were two submissions against the recently promulgated, Standards of Competence for Nautical Cartography (S-8B) currently in force. It is accurate to mention that the Standards are gaining strong recognition within the international educational world. Recognition has been granted to institutions from academia, national hydrographic agencies, and industry.

The IBSC has recently updated the Guidelines accompanying document (Version 2.1.1) that accompanies all the Standards as well as a series of Frequently Asked Questions. These are aimed at assisting institutions in the preparation of their submissions. Those interested can download the documents from iho.int/en/standards-and-specifications/.

The authors continue to promote the succession planning that will enable their eventual replacement as the ICA nominated representatives and increase ICA representation on IBSC. It is not proving easy to find the mix of professional experiences appropriate to the role, but liaison continues within Commissions of the International Hydrographic Organization, such as the IHO Nautical Cartography Working Group.

We recognise that we are all working in difficult national and international circumstances

and send fraternal greetings to all our colleagues in ICA and the wider profession. Please take care and stay safe and, above all, healthy.

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

Mountain Cartography

www.mountaincartography.org/

Workshop at Snow Mountain Ranch, Colorado, USA

The ICA Commission on Mountain Cartography planned to organize the traditional Mountain Cartography Workshop in the middle of April at Snow Mountain Ranch in Colorado, USA. Due to the global Covid-19 pandemic, the workshop could not go ahead as planned. Our hope is to reschedule the workshop for 6-10 April 2021 at the same place, provided that it is once again safe to travel and gather in groups at that time. We will be monitoring the situation throughout the coming months. A final decision on whether to hold the workshop next year will be made no later than 15 October 2020.

Dušan Petrovič | Chair | ICA Commission on Mountain Cartography | Slovenia ■

Planetary Cartography

planetcarto.wordpress.com/

Commission Activities 2015-2019

Over the last term, we have focused on outreach and development of services for the planetary cartography community. In particular, we have completed the *Encyclopedia of Planetary Landforms* (published by Springer) with contributions from over 300 planetary scientists. We have started a GIS project of digitizing thematic maps and creating vector GIS from various tabular databases for use in planetary mapping. We called this project *Integrated Database of Planetary Features* (planetarydatabase.wordpress.com). We intend to continue this project by providing more reliable thematic GIS layers from past publications that will eventually enable even commercial publishers to easily produce planetary maps for their own purposes. The users will be able to utilise vector-based cartographic layers instead of hard-to-interpret photomosaic layers.

Finally, we have started working on compiling a complete bibliographic database of planetary maps. We have created a searchable catalogue at planetarymapping.elte.hu with around 3,000 individual items since 1600 AD. We will continue developing these projects further.

Session at EGU 2020

In May 2020, Andrea Naß (Germany), Stephan van Gasselt (Taiwan), Angelo Pio Rossi (Germany), Alessandro Frigeri (Italy) and Valentina Galluzzi (Italy) held a session on Planetary Cartography at the European Geosciences Union (EGU) Conference, which attracts thousands of researchers in the geosciences domain from all over Europe and beyond annually.

Due to the international impact of Covid-19, the conference was switched to an online format by the organizers on a relative short notice. It featured a large number of session chatrooms into which the interested audience was able to log in and contribute to a discussion by a live text chat led by Stephan van Gasselt. For the Planetary Cartography community this was a new and challenging experience. It was the first time that we could contribute to the EGU Conference by organizing a dedicated session. However, it was unclear whether or not the session would receive enough feedback and active participation from the community.

Fortunately, the Planetary Cartography session turned out to be a great success. During the 3-hour session, we had 15 scheduled talks on planetary and terrestrial cartographic topics ranging from data management and infrastructures, to map production, web mapping and visualization. The mixed background of participants in particular, contributed to a rich and open-minded discussion during which we were able to identify and consolidate important challenges that the Planetary Cartography community is currently facing.

Despite the 'new' style of the conference, we believe that the online event and chatroom arrangements actually helped to get the discussion going and to receive feedback from participants that would otherwise have not been heard. Also the relatively slower pace of the proceedings, due to the nature of text chat, helped to review and think about topics in more detail.

We all hope that next year we will be able to set up the session again, and have the opportunity to meet in person and continue our discussion on and offline. For more information, please visit the EGU website at meetingorganizer.copernicus.org/EGU2020/displays/36526.

Special Issue of Remote Sensing Journal

We are very excited to announce a Special Issue on *Cartography of the Solar System* to be published in the MDPI's (Multidisciplinary Digital Publishing Institute) *Remote Sensing* journal (IF 4.1). We are asking the community to submit original research and review papers.

The Special Issue aims at collecting contributions focusing on cartographic topics dealing with planetary surfaces, natural satellites, dwarf planets, and small bodies, based on data from

satellite remote sensing. The topical framework is explicitly broad and includes basic research as well as applications of remote sensing methods and cartographic techniques to build cartographic products. We welcome contributions in the fields of cartographic communication, mapping techniques, map projections, and reference systems, as well as topics covering analytical and algorithm-oriented cartography. With geographic information system science and technology playing an integral role, we would like to see contributions in the fields of digital remote-sensing data management, spatial model building, data models, and spatial databases, as well as spatial infrastructures and metadata in the field of planetary sciences.

Papers covering applied topics and decision-making processes, e.g. landing-site selection, natural resource mapping, geologic mapping, hazards, and others, would provide a balance to theoretical contributions.

For more information, please visit the MDPI website at www.mdpi.com/journal/remote-sensing/special_issues/Cartography_Solar_System.

Future Plans

As we see cartography as one of the key components in enabling and communicating planetary exploration and science, we would like to facilitate the following activities:

- connect planetary researchers working at different national agencies, universities and research institutes
- encourage cartographers, researchers, artists, and students to join the planetary cartographic community, also in countries without their own space program
- provide access to feature databases and base maps to map publishers and encourage them to include thematic planetary maps in their atlases and publication portfolios
- help in the development of international standards in planetary cartography
- document and promote planetary cartographic products and activities
- focus on thematic map products, such as geomorphic maps, physical geographic maps, geological maps, thematic surface-feature maps

Beside this, here are some open issues we would like to address in the future:

- standardization of map symbols
- planetary map projections
- collaborative mapping workflows and data models
- planetary map archives
- challenges of multi-temporal mapping
- communication and collaboration
- Earth and planetary mapping – lessons learned and experiences

To address these issues and to encourage a fruitful exchange with other commissions we are looking forward to building stronger relationships with the ICA Commissions on the History of Cartography; Toponymy; Map Projections; Maps and Graphics for Blind and Partially Sighted People; SDI and Standards; and others. Encouraging start was made during the last Commission Chairs meeting in Ghent, Belgium in November 2019.

Andrea Naß, Trent Hare, Henrik Hargitai and Stephan van Gassel | Chair / Vice Chair / Members
| ICA Commission on Planetary Cartography | Germany / USA / Hungary / Taiwan ■

reports ica working groups

History of ICA

icahistory.icaci.org/

Formation, Plans and Challenges

In 2019, the International Cartographic Association (ICA) celebrated its 60th anniversary. This milestone called for a professional approach to documenting and preserving records of our mature organisation and its rich heritage. In response, the ICA Executive Committee approved the formation of the ICA Working Group on the History of ICA at their meeting in Ghent in November 2019.

The Working Group seeks to engage international community of cartographers affiliated with ICA to build the Association's archives and record its history. It is looking forward to collaborate with the ICA Committees, Commissions and Working Groups, current and former, to assist in documenting their activities, as well as in providing support and expertise relating to their lineage and history. The Working Group is determined to pursue active research concerning people, events and accomplishments that shaped the ICA, and develop authoritative chronicle of the Association. Through its work, the Working Group hopes to promote the ICA at international stage and contribute to the Association's identity building.

The Terms of Reference (ToR) for 2019-2023 term focus on three broad areas:

ICA Archives

- to identify, assess, organise, digitise and preserve ICA records and documents held at various locations around the world
- to recommend strategies for discoverability, accessibility and storage of ICA archives
- to recommend management solutions concerning ICA records
- to actively search for new documents relevant to ICA history
- to record, document and preserve oral history concerned with ICA

ICA Chronicle

- to research and document the history of ICA
- to develop foundations for the knowledge base concerning ICA
- to publish results of the work undertaken (ICA News, journal articles, etc)

ICA Hub

- to provide support and expertise to ICA community (Committees, Commissions, ICA members) relating to Association's history and heritage
- to answer general enquiries concerning ICA and its history
- to recommend strategies for sustaining institutional knowledge into the future

At their most recent virtual meeting held on 12-13 June 2020, the Executive Committee approved the above ToR and appointed Igor Drecki as Chair of the Working Group. In addition, the following individuals were endorsed as members: Christopher Board (UK), Imre Demhardt (USA), David Fairbairn (UK), Lorenz Hurni (Switzerland), François Lecordix (France), Ferjan Ormeling (The Netherlands) and Stefan Räber (Switzerland).

The current focus of the Working Group is on establishing its website (to be launched in October 2020), as well as collating a full set of Minutes from the ICA General Assemblies (GA). The latter task seems to be particularly challenging; we are currently missing documents from the 5th GA held in Moscow in 1976 (we only have a brief report), 7th GA held in Perth in 1984, 8th GA held in Morelia in 1987, and 9th GA held in Bournemouth in 1991. We would appreciate hearing back from anyone that could help us in completing the set.

Since the Working Group is still at its formation stage, we are looking forward to welcoming new members that can support our work, particularly in fulfilling the ToR. If you are interested, please contact the Chair (i.drecki@auckland.ac.nz) or any member listed above.

Igor Drecki | Chair | ICA Working Group on the History of ICA | New Zealand ■



National Children's Map Competition awards ceremony at the Israeli Society for Cartography and GIS Annual Conference held in Tel Aviv-Yafo | Photograph courtesy of Oren Raz

Israeli Society for Cartography and GIS Annual Conference

On 20 February 2020, just a few weeks before the national borders around the world started to close due to Covid-19 pandemic, the Israeli Society for Cartography and GIS (ICS) in conjunction with the Israeli Society for Remote Sensing and Photogrammetry, held its annual conference in Tel Aviv-Yafo. The event was attended by 120 participants. The ICS was honoured to host for the first time three representatives of the International Cartographic Association: former President Professor Georg Gartner (Austria), and current Vice President Professor Vít Voženilek (Czech Republic) and Secretary General and Treasurer Dr Thomas Schultz (Switzerland). This was a great opportunity for the Israeli audience to learn first-hand about the Association and the current issues in cartography. The conference held a ceremony for the winners of the National Children's Map Competition, whose maps represented Israel in the Barbara Petchenik Children's World Map Competition run at the 2019 International Cartographic Conference in Tokyo. The children, with their parents and school teachers, were thrilled to receive awards and certificates from the ICA officials. Later that day, ICA representatives attended the Israeli map collections and libraries forum, and shared their insights about how to proceed in creating a national historic map archive of Israel.

The conference concluded a three-day visit by the ICA guests, which also consisted of a technical visit to the Survey of Israel in Tel Aviv-Yafo; a seminar on statistical mapping at the Central Bureau of Statistics in Jerusalem attended by 100 participants; and special tours of the Old City of Jerusalem, Tel Aviv White City, Jaffa, and Massada National Park by the Dead Sea.

The ICS wishes to extend its thanks to all participants and hopes to host ICA officials, commission meetings and workshops in the future.

Oren Raz | Israeli Association for Cartography and Geographical Information Systems | *Israel* ■

Croatian Dictionary of Cartography



The Croatian Cartographic Society recently published *Kartografski Rječnik* (*Dictionary of Cartography*). Compiled by Professor Emeritus Nedjeljko Frančula, Professor Emeritus Miljenko Lapaine and Ivo-Pavao Jazbec, the book has 2,500 entries arranged alphabetically. If the entry consists of two or more words, the first word is always a noun. For example, *thematic map* is listed in the dictionary under *map, thematic*. The *Dictionary* is a hardcover publication in B5 format, containing 350 pages (ISBN 978-953-95815-7-0).

Each entry begins with a definition, which is usually concise, consisting of one sentence. If further explanation is required, the reader is directed to relevant entries. The brief definition is usually followed by a note, sometimes extensive, giving the reader more information if needed. All the definitions are in Croatian. However, cartography knows no borders, so most entries are accompanied by synonyms in English, French and German. At the end of the dictionary there is a glossary which helps readers find the right expressions in the above languages with references to the appropriate entry in Croatian.

More than forty years have passed since the publication of the first and only *Multilingual Cartographic Dictionary* in Croatia. During the intervening period, the world witnessed many new developments, hence the authors of the new *Dictionary* have tried to include those, which are relevant to the field of cartography. It is expected that the *Dictionary of Cartography* will find a wide circle of users whose activities and interests involve space and the use of maps in a wide range of applications. More information is available from the publisher: hkd@kartografija.hr.

Miljenko Lapaine | Croatian Cartographic Society | Croatia ■

Australian and New Zealand Map Society

Society Activities

The Australian and New Zealand Map Society's (ANZMapS) Annual General Meeting (AGM) was held at the National Library of Australia, Canberra on 24 September 2019, during the 47th Annual ANZMapS Conference *Mapping in Action*. Dr Martin Woods, Senior Curator at the Library stepped down as President after serving a four year term, and Maggie Patton, Manager, Research and Discovery at the State Library of New South Wales was duly elected President. The 2019 conference included a student session, with the prize for best paper awarded to James Cook University's Robert Streit for his work mapping reef fish ecology.

In 2020 the ANZMapS AGM is to be held either at the scheduled conference again in Canberra, on 10 September, or online as Covid-19 travel restrictions allow. 2020 conference arrangements were severely curtailed by the Coronavirus pandemic, with the international event planned for Sydney in September deferred until 25-27 August 2021. A companion event to be held in Canberra this year, is at this stage planned to go ahead on 10-11 September. The theme of the symposium, *Magellanica, the Pacific after Magellan* will, all going well, comprise a two day symposium and a 'white gloves' tour of the National Library's Pacific map treasures. Once again a postgraduate student session is planned, called *Pacific Spaces*, featuring lightning talks by students across a range of research areas, featuring maps, spatial information and data visualisation in the Pacific.

On Wednesday, 5 February 2020, a seminar *The State of the Map*, with Julie Sweetkind-singer was held at the State Library of New South Wales. ANZMapS sponsored the attendance of a student to this session, part of the 2020 Sydney Summer Rare Book School. The talk explored ways data trapped in paper



Participants of a student session held during the 47th Annual ANZMapS Conference in Canberra, ACT, Australia | Photograph courtesy of Martin Woods

maps are being transformed into actionable information, how satellite imagery is being used to affect health outcomes, and how historical maps interact with imagery to compare the past with the future.

In early March, American historian Chet van Duzer gave a series of talks to members and public audience at the State Library of New South Wales, National Library of Australia, and university of Melbourne. Chets' well attended seminars spanned diverse topics within early Renaissance cartography.

Notable Achievements

- In May 2020, the National Library of Australia announced it had reached 100,000 historical maps released online. While the Library's program has been digitising maps since the early 2000s, this milestone came after a concentrated 3-year 'modernisation' project focusing on improving access to twentieth century mapping. A related georectification project is now under way, with plans for release of a new layered user interface in late 2020.
- In 2019-2020, the State Library of Victoria reported that approximately 1,600 sheets of 1:2,500 scale Melbourne and Metropolitan Board of Works plans from the 1970-1980s had been scanned and uploaded. These detailed (40 feet to the inch) plans, produced by the Board of Works from the 1890s onwards to improve sanitation at the time, are an ongoing and now digital resource for architects, students, environmental consultants, archaeologists and historians.
- Australian National University's (ANU) CartoGIS Services have collaborated with the University of the South Pacific (USP) Laucala Campus library over the past three years to digitise the USP library's Pacific map holdings. The objective of the project is to preserve, conserve and make accessible these map holdings. The collaboration is a low-cost, high-return project with the

transporting of hardcopy maps dependent on the generosity of travelling scholars willing to carry maps between USP and ANU. Along with the original hardcopy maps, the digital files are made available to USP for use on campus by staff and students. With USP's agreement, any non-copyrighted digital map files are also lodged with the ANU Library's Open Research Archive as part of the Asia-Pacific Map Collection. The CartoGIS Services' Asia-Pacific Digital Map Collection stems from a hardcopy map collection of 30,000 that originated within the ANU's College of Asia and the Pacific in the 1950s. At present a third of this collection has been digitised with upcoming projects aimed at digitising the remainder of the hardcopy collection. The success of the collaboration between the USP and ANU illustrates an economic philanthropic model that develops relations and assists in the preservation, conservation and access of valuable cultural material.

The Globe

The first issue for 2020 of the Society's refereed journal *The Globe* (www.anzmaps.org/the-globe-journal/) was published, with articles including:

- King, Robert J., *Cartographic Drift: Pulo Condor and the isles de magna and ye de sail on the Dieppe Maps*
- Mawer, Granville Allen, *Treasured Islands: Charting the imagination*
- Lipscombe, Trevor, *Lt. James Cook's Misplaced Landmarks of the Coasts of Victoria and NSW*
- Whyte, Brendan, *'Where's my Embassy, Comrade?': An examination of the 1981 Soviet military city plan of Canberra*
- Lipscombe, Trevor, *Cook Conspiracy at Point Hicks?*

Martin Woods | Australian and New Zealand Map Society | Australia

Mapping Remotely in the Age of a Pandemic

Working remotely during a pandemic presents unique challenges for every company and occupation. Within the geospatial industry, one challenge that Covid-19 has brought to light is the ability to create new cartographic productions while working in isolation, both from the area being mapped as well as cartographic team members. Coordinating data sources can also prove to be especially difficult with few commercial and government offices open for business.

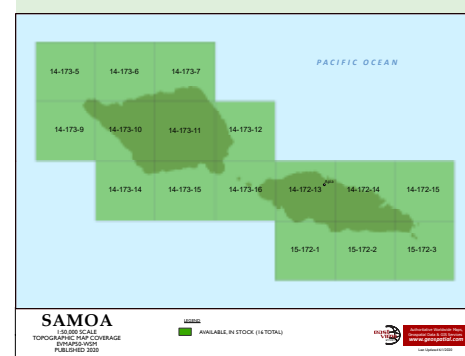
East View Geospatial (EVG) has put this challenge to the test in one of their most recent projects, producing 1:50,000 scale maps of Samoa and the immediate surrounding waters. The most recent printed maps of Samoa at this scale were published back in 2000, demonstrating a clear need to update the series. EVG obtained data from a combination of existing resources from the New Zealand Defence Force, and locally sourced cultural and political-administrative information, as well as elevation data derived from SRTM and other aerial surveys.

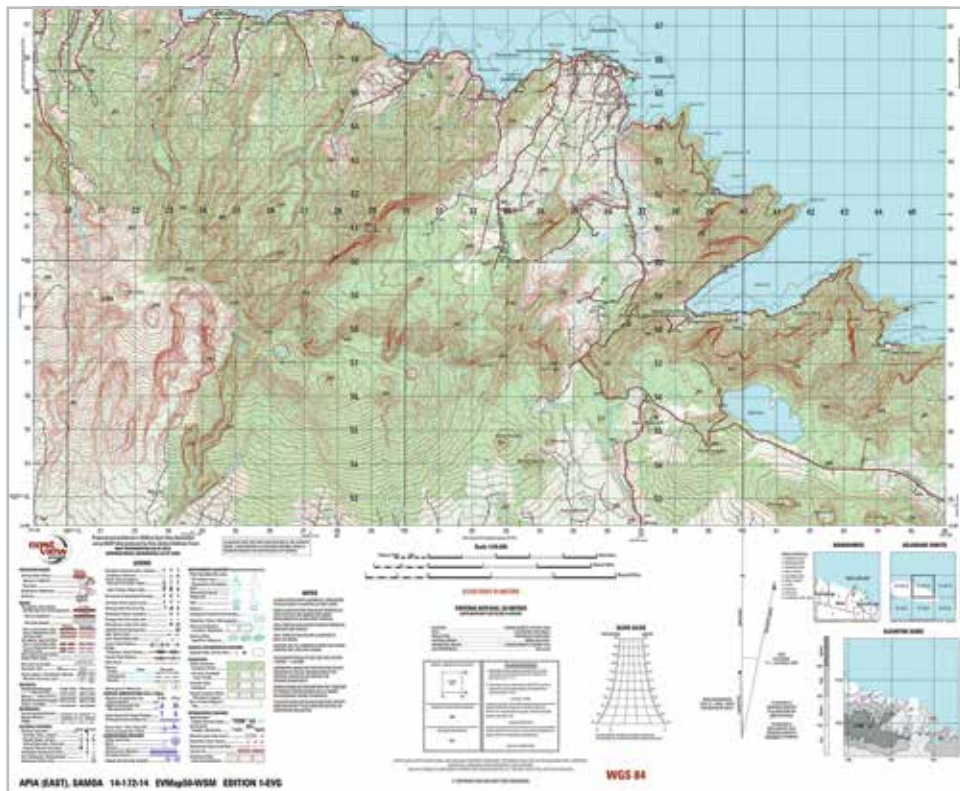
The mapping is well underway. The final result will culminate in the form of a complete, updated 1:50,000 Map Series of Samoa comprised of 16 topographic sheets. This map series is being produced in full compliance with MTM milspec requirements and will represent the latest mapping solution (2018 data) at 1:50,000 over Samoa and the surrounding waters. EVG's cartographic team is leveraging a suite of workflow enhancement tools developed by the Esri Defense Team. This methodology allows the team to save roughly 50% on production time. This proves to be especially helpful given the difficulty in coordinating full country map creation, remotely.

During the times of unique circumstance and minimal access to resources, it is crucial to pivot strategies and adapt to the situation. East View Geospatial is committed to its ongoing cartographic efforts and demonstrating the

> 16

Index of the 1:50,000 topographic maps of Samoa





A sample of the 1:50,000 topographic map of Samoa produced by East View Geospatial

capability of producing full country map coverage without on the ground coordination.

Alex Evert | East View Geospatial | United States of America ■

Digital Transformation in Mapping During Coronavirus

All of us have seen the heroic efforts of health professionals and other essential workers, but there are so many others collaborating to support the fight against novel coronavirus disease 2019 (Covid-19). This includes stellar efforts of cartographers. For mapping professionals, who were often faced with limited resources before this latest disease outbreak, they have now been challenged to create new cartographic products for decision support to respond to this pandemic. Next generation mapping driven by geographic information system (GIS) technology is equipping them with the capabilities they need to generate high quality maps more efficiently than ever before.

The Covid-19 coronavirus spread so quickly and extensively that we are still discovering new ways to understand the virus and guide response efforts. Its disruptive effect on government agencies and industries is not unlike large-scale disasters and events like fires or floods. Many of the same technologies used

to enable successful response to these events is also being used successfully against Covid-19. GIS is helping mapping teams ensure evidence-based decision-making, collaboration and information sharing in response to this health emergency.

From Isolated Mapping to Unified Cartographic Collaboration

For many cartographers, data collection to map representations are still very manual processes even with computers. Searching for and capturing data is time consuming. Data is often siloed in different systems until analysts can harvest, compile, and analyze it. Now the additional challenges wrought by Covid-19, including dispersed teams, data locked on inaccessible servers, and security access issues, can make the job even more challenging. A complete geospatial platform can provide much needed relief. Beyond the basic GIS maps that are ubiquitous, a geospatial platform brings data collection, geographic analysis, and mapping together into a single unified environment where information can be easily and securely shared among mapping team members, whether they are in the office or in the field. Native collaboration tools and smart workflows allow teams to respond to new information product requests and complete day to day tasks efficiently and accurately.

Accurate Covid-19 Mapping

As the Covid-19 situation evolves, mapping by geographic information system (GIS) can help

teams monitor, manage, and communicate the impact of the outbreak. It ensures data is portrayed as accurately as possible assisting health professionals, governments, and other organizations track the disease, and scientists determine its cause and behavior. For example, they create maps of hard-hit areas to alert residents; and locate vulnerable populations to inform a data driven response. The following resources are available to help professionals consider how to best map a Covid-19 response.

- Improve Your Covid-19 Cases Map (story-maps.arcgis.com/stories/1cbce9094e88438fa75148cb35f99caf). This StoryMap addresses challenges in the literal mapping and map design of the Covid-19 count, including where to get data, and how to visualize relevant information.
- Mapping Epidemics: From SARS, Zika and Ebola to the Pandemic of Covid-19 (www.esri.com/about/newsroom/blog/maps-that-mitigate-epidemics/). Esri's Chief Medical Officer, Este Geraghty, MD, MS, MPH, GISP explains how governments and health organizations use GIS mapping to slow the spread of viruses like SARS, Zika, Ebola, and Covid-19.
- Age and Social Vulnerability in the Context of Coronavirus (www.esri.com/arcgis-blog/products/arcgis-living-atlas/health/age-and-social-vulnerability-in-the-context-of-coronavirus/). Esri Cartographer John Nelson visually explains how to create a map by addressing data, visualization, and clarity in an easy-to-understand StoryMap.

Start Small, Then Scale

In normal times, mapping teams are often constrained by shrinking budgets and bureaucratic red tape, making it difficult to gain approval for much-needed technology upgrades. But now, the current need for more data, faster delivery, and better quality of information driven by Covid-19 could help speed up the digital transformation that many organizations have been putting off. Demonstrating how GIS driven mapping can address challenges in times of crisis is one way to expose team members to the new technology while simultaneously proving its value to key decision makers.

Confronting Disasters Head-On

Facing increasing natural disasters caused by climate change, one organization set out to do just that. In the wake of devastating floods compounded by a massive cyclone, a cross-departmental mapping agency (esriaustralia.com.au/blog/best-practice-approach-recovering-australias-bushfire-crisis) was formed to aid in recovery from those disasters and also prepare for future events. Using Esri's ArcGIS enterprise platform, the team created maps that provided the public with comprehensive, real-time updates on infrastructure and asset

recovery efforts and also allowed two-way communication between the public and the agency. They also created the first ever state-wide, catchment-based flood risk mapping tool to identify the state's floodplains. Years later, the transition from a manual process of collecting and analyzing data to an automated process leveraging machine learning to assess damage and inform rebuilding efforts is still paying off. The collaborative system has enabled smarter disaster response through more than 14 natural disasters and has been used to conduct more than 45,000 individual damage assessments.

Make the Case

It may feel counterintuitive to make a significant technological investment while in the middle of a pandemic. Many organizations are cutting back financially due to shortfalls in revenue as well as budgets being spread thin. But the potential time and cost savings generated from unifying mapping efforts are exponential. One national mapping agency commissioned an independent study to assess the economic value of adopting an enterprise GIS platform (www.esri.com/about/newsroom/blog/ireland-transforms-mapping/) and found the following yearly benefits:

- Reduction of public sector costs of data acquisition by \$92 million
- Time savings by equipping navigation devices with accurate geospatial data, amounting to \$312 million
- Direct value of employment in the mapping sector equal to \$141 million
- Lower search costs and the subsequent intensifying of competition with a citizen benefit of \$116 million

A Worldwide Spotlight on GIS

GIS is one of the most powerful tools the mapping community has to enable evidence-based decision-making. Thanks to the mapping community's incredible response to Covid-19 (www.esri.com/en-us/covid-19/overview), the world is literally seeing how GIS can be used to

analyze and visualize real-time data to support life-giving decisions.

GIS-driven maps are empowering people around the globe to visualize an invisible threat and generate intelligent solutions.

Mark Cygan | Esri | United States of America ■

Cartographic Activities at United Arab Emirates University

On 15 January 2020, the Geography and Urban Sustainability Department at the United Arab Emirates University (UAEU) received the Excellence in GIS Implementation (EGI) Award, in *GIS in Education* category. The EGI Award was instituted in 2007 to promote innovation and experimentation in GIS implementation. Since its first edition, the EGI Award has become the most recognised and prestigious distinction given to organizations that use GIS in unique and innovative ways in the United Arab Emirates (UAE) and the Gulf Cooperation Council countries.

The Geography and Urban Sustainability Department organised several training events for its students between January and February 2020. They were delivered by Dr Naeema Alhosani, Associate Professor in Cartography in the College of Humanities and Social Sciences:

- **28 January:** a lecture *Geography of the UAE* to Asian Universities Alliance Program Students.
- **4-5 February:** a presentation *ArcGIS Apps for Education*, together with Pakrad Balabanian and Dr Robert Bridit; and a poster *Social Media for Education: Case of the United Arab Emirates University (UAEU)*, together with her students, both at the Annual Research and Innovation Conference.
- **23 February:** a workshop *Make Maps People Want to Look At* to UAEU faculty and students.

- **25 February:** a workshop *Innovation in Education: Innovated Templates for Graphic Design* at the Sustainable Geographies of Innovation: The Future of Geoinformatics, Urban Planning, and the Environment Symposium; and a workshop *Entrepreneurship in Geospatial Sciences* to UAEU faculty and students.

On 24-27 February 2020, students of UAEU's Geography and Urban Sustainability Department attended the International Geodesign Collaboration Conference organized at Esri Headquarters in Redlands, California, USA. UAEU students were invited to participate in this event by the renowned Urban Design and Harvard University Professor Carl Steinitz. They delivered a presentation about a workshop conducted by Professor Steinitz at the UAEU in November 2019. The presentation focused on showcasing different urban planning and development models for Al Ain City by the year 2050. The first model focused on a normal urban expansion prediction that does not take into account innovation systems such as modern transportation systems, house design, urban zoning, etc. The second model presented the urban expansion of the city taking into account these innovations, but at a later stage of development. The third model presented by the students incorporated expected innovations at the very early stage of the city's urban design, as well as addressed the international sustainable development goals. The three resulting model maps showed the benefits of incorporating sustainable development goals and innovations in the future city and urban planning. The presentation by UAEU students, the only invited group from the Middle-East and Arab world, was well received by the attendees. Furthermore, what caught the attendees' attention was that UAEU students were all undergraduate students, while most of the other presenters coming from other academic institutions were delivered either by graduate students or academics.

Naeema Alhosani | United Arab Emirates University
| United Arab Emirates ■

(from left) Dr Naeema Alhosani accepts the Excellence in GIS Implementation Award; Dr Naeema Alhosani at the Annual Research and Innovation Conference; UAEU students and hosts at the International Geodesign Collaboration Conference organized by Esri, Redlands, CA, USA | Photographs courtesy of Naeema Alhosani



calendar

Due to the novel coronavirus pandemic, many cartographic events scheduled in 2020 had to be cancelled, postponed or run virtually. The Calendar below includes the most recent information concerning these events, but in many cases dates and other details are indicative only. Please check the ICA website (www.icaci.org) regularly for updates.

july 2020

06-08: **SilkGIS2020** | Ghent | Belgium | geoweb.ugent.be/silkgis2020/ - **POSTPONED** to 16-17 December 2020

07-10: **GI_Forum 2020** | *Connecting Spatially* | Salzburg | Austria | gi-forum.org - **VIRTUAL**

august

26-27: **6th Interdisciplinary International Conference on RISK Information Management, Risk Models and Applications** (coorganised by the ICA Commission on Cartography in Early Warning and Crisis Management) | Berlin | Germany | rimma2020.org/ - **CANCELLED**

26-28: **GeoCart'2020** | *Uncharted Frontiers: Cartographic Innovation and Discovery* | Wellington | New Zealand | cartography.org.nz/geocart2020/ - **POSTPONED** to 14-16 April 2021

september

09-12: **20. Kartographiehistorisches Colloquium** | Basel | Switzerland | www.kartengeschichte.ch/dach/ - **POSTPONED** to 1-4 September 2021

14: **CartoVis20: ICA Commissions Joint Workshop on Analytical Reasoning** | *Cartography, Visualization, Design* (coorganised by the ICA Commissions on Cognitive Issues in Geographic Information Visualization; Visual Analytics; and User Experience) | Warsaw | Poland | carto-vis-workshop.uw.edu.pl/ - **POSTPONED** to 14 September 2021

21-25: **EuroCarto 2020 – Central European Conference / 68. Deutscher Kartographie Kongress** | Vienna | Austria | www.eurocarto2020.org - **VIRTUAL**

24-26: **15th ICA Conference on Digital Approaches to Cartographic Heritage / 22nd Conference of the Map & Geoinformation Curators Group** | *Challenges in Modern Map Librarianship* (organised by the ICA Commission on Cartographic Heritage into the Digital) | Cluj-Napoca | Romania | cartography.web.auth.gr/ICA-Heritage/Cluj-Napoca2020/ - **POSTPONED** to European Spring 2021

october

15-17: **International Conference Encyclopedistics 2020** | *Achievements and Challenges* | Zagreb | Croatia | www.lzmk.hr/enciklopedika-2020/

november

05-06: **ICAGen2020: 23rd ICA Workshop on Map Generalisation and Multiple Representation** | Delft | The Netherlands | varioscale.bk.tudelft.nl/events/icagen2020/ - **VIRTUAL**

11-13: **16th International Conference on Location Based Services** (coorganised by the ICA Commission on Location Based Services and the University College London) | London | United Kingdom | lbsconference.org - **POSTPONED** to November 2021

17: **ICA Commission Workshops** (AutoCarto 2020 pre-conference workshops) | Redlands, California | USA | cartogis.org/autocarto/autocarto-2020/program/workshops/ - **VIRTUAL**

18-20: **AutoCarto 2020** | Redlands, California | USA | cartogis.org/autocarto/ - **VIRTUAL**

december 2020

16-17: **SilkGIS2020** | Ghent | Belgium | geoweb.ugent.be/silkgis2020/

april 2021

06-10: **12th Mountain Cartography Workshop** (organised by the ICA Commission on Mountain Cartography) | Snow Mountain Ranch, Colorado | USA | mountaincartography.org/

22-24: **ICA Commissions Joint Workshop** | *Atlases in Time – National and Regional Issues* (organised by the ICA Commission on Atlases and the ICA/IGU Commission on Toponymy, in collaboration with the National Geographic Institute of Spain) | Madrid | Spain | map-service.de/madrid2020/

14-16: **GeoCart'2021** | *Uncharted Frontiers: Cartographic Innovation and Discovery* | Wellington | New Zealand | cartography.org.nz/

june

14-19: **8th International Conference on Cartography & GIS** | Nessebar | Bulgaria | iccgis2020.cartography-gis.com

july

19-23: **30th International Cartographic Conference** | Florence | Italy | www.icc2021.net

september 2021

01-04: **20. Kartographiehistorisches Colloquium** | Basel | Switzerland | www.kartengeschichte.ch/dach/

14: **CartoVis20: ICA Commissions Joint Workshop on Analytical Reasoning** | *Cartography, Visualization, Design* (coorganised by the ICA Commissions on Cognitive Issues in Geographic Information Visualization; Visual Analytics; and User Experience) | Warsaw | Poland | carto-vis-workshop.uw.edu.pl/

september 2022

17-19: **EuroCarto 2022 – Central European Conference / 70. Deutscher Kartographie Kongress** | Vienna | Austria | www.eurocarto2022.org

august 2023

19-23: **31th International Cartographic Conference and 19th General Assembly of the International Cartographic Association** | Cape Town | South Africa

CONTRIBUTE TO THE ICA HISTORY

The recently established ICA Working Group on the History of ICA (see page 13) is interested to hear from anyone who is willing to share their ICA archives and collections. We are interested in documents, records, official correspondence, publications, photographs, conference materials, promotional brochures, and any other items of relevance.

Receiving a detailed list of items in your possession would assist the Working Group in developing a good understanding of the extent of your collection, as well as in identifying items of particular interest. In a wider context, such lists would contribute to creating a global record of the ICA archives and collections and inform the Working Group to develop a strategy concerning their discoverability and preservation.

If you are interested in contributing to this important work, please get in touch with Igor Drecki, Chair of the Working Group (i.drecki@auckland.ac.nz) or any member listed on page 13. Looking forward to hearing from you!

ica affiliate members

- 2011** **Association of Polish Cartographers** | *Poland* | www.polishcartography.pl
Attn: Assoc Prof Joanna Bac-Bronowicz | joanna.bac-bronowicz@pwr.wroc.pl
- 2019** **Australian and New Zealand Map Society** | *Australia / New Zealand* | www.anzmaps.org
Attn: Dr Martin Woods | mwoods@nla.gov.au
- 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 | mcycgan@esri.com
- 1995** **Geospatial Information Authority of Japan** | *Japan* | www.gsi.go.jp
Attn: GIA Secretariat | gsi-intex@ml.mlit.go.jp
- 2007** **German Federal Agency for Cartography and Geodesy** | *Germany* | www.bkg.bund.de
Attn: Dr Paul Becker | vorzimmerpraesident@bkg.bund.de
- 2015** **HERE** | *Germany* | www.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: Col Sunil S Fatehpur | secretarygeneralinca935@gmail.com
- 1991** **Institut Cartogràfic i Geològic de Catalunya (ICGC)** | *Spain* | www.icgc.cat
Attn: Jaume Massó i Cartagena | direccio.icgc@icgc.cat
- 1991** **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: Melissa West | mwest@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 Vasily A. Malinnikov | lgm@miigaik.ru
- 1991** **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.rcmrd.org
Attn: Dr Hussein O. Farah | rcmrd@rcmrd.org
- 2015** **Surveying and Spatial Sciences Institute (SSSI)** | *Australia* | www.sssi.org.au
Attn: Kerry Smyth | 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
- 1991** **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 Petar Penev | ppenev@gmail.com
- 2019** **University of Belgrade, Department of Geography** | *Serbia* | www.gef.bg.ac.rs/en/
Attn: Dr Aleksandar Đorđević | adjordjevic@gef.bg.ac.rs
- 2017** **University of Lay Adventists of Kigali** | *Rwanda* | www.unilak.ac.rw
Attn: Dr Gabriel Habiyaemye | research@unilak.ac.rw
- 1995** **University of Twente, Faculty of Geo-Information Science and Earth Observation (ITC)** | *The Netherlands* | www.itc.nl
Attn: Prof Menno-Jan Kraak | m.j.kraak@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 **Thomas Schulz**, 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 2019 winners



Noemi Sanchez | 14 | *Good Morning World* | Colegio Arturo Soria: Madrid | Spain

Rada Skumova | 15 | *Creating Worlds* | -: Sofia | Bulgaria

Luca Kunos | 7 | *My Imagination* | Újpesti Szűcs Sándor Elementary School: Budapest | Hungary

Liepa Jokubaitytė | 7 | *Between the Clouds* | -: Veizaiciai | Lithuania

Bianca Belović | 5 | *The Queen of the World* | -: Lendava | Slovenia

