# Eight Session of the UN Committee of Experts on

# Global Geospatial Information Management

# 1-3 August 2018, New York

## Report: UN-GGIM Geospatial Societies (formerly the Joint Board of Geospatial Information Societies). http://www.fig.net/jbgis/

## 1. Summary

This document provides a report from the UN-GGIM Geospatial Societies Thematic Group (formerly the Joint Board of Geospatial Information Societies - JBGIS) to the Eighth Session of the UN Committee of Experts on Global Geospatial Information Management, 1-3August 2018, New York.

### 2. UN-GGIM Geospatial Societies (UN-GGIM GS)

The UN GGIM Geospatial Societies Thematic Group is a coalition of the Presidents, Secretaries-General or equivalent office bearers or their nominees that lead recognized international organisations involved in the coordination, development, management, standardisation or regulation of geospatial information and related matters. These organisations are:

- **Global Spatial Data Infrastructure (GSDI) Association**
- **IEEE Geoscience and Remote Sensing Society (GRSS)**
- **International Association of Geodesy (IAG)**
- **International Cartographic Association (ICA)**
- **International Federation of Surveyors (FIG)**
- **International Geographical Union (IGU)**
- **International Map Industry Association (IMIA)**
- **International Society of Photogrammetry and Remote Sensing (ISPRS)**

UN GGIM GS meets formally once each year, typically when the UN-GGIM Committee of Experts meet, and informally when schedules permit.

This report provides an update on the activities of the organisations listed above where they have been provided.

## 3. Global Spatial Data Infrastructure (GSDI) Association

### 3.1 Activities and Areas of Work

Since its first international conference in 1996 and especially after its formal constitution in 2004, the GSDI Association has led a global campaign to advance awareness and implementation of Spatial Data Infrastructures(SDI) worldwide. Throughout this time, the Association's mission and purpose has been to enable society to leverage the power of geospatial information and associated tools to improve decision making relating to, amongst other things, economic, social and environmental challenges that permeate local, regional and international boundaries.

With a focus on prioritizing assistance to developing nations, the GSDI has led educational programs and capacity building activities, funding over 100 small grants to enable communities to benefit from SDI practices. GSDI members were first in creating knowledge resources like 'The GSDI Cookbook' to help communities rapidly adopt SDI practices for creating, cataloguing, managing and delivering and exchanging geospatial information.

In the last year GSDI provided grants to fund SDI projects in Cabo Verde, Indonesia, Kenya, Mongolia and the People's Republic of China. http://gsdiassociation.org/index.php/projects/small-grants.html

With the help of GSDI many nations around the world have aligned with common SDI principles, practices and standards to facilitate improved collaboration and sharing of geospatial information across multiple domains and thus realized the benefits of doing so.

GSDI members therefore look back with considerable satisfaction on the successes of their Association and the GSDI movement. Whilst acknowledging that additional work, particularly in the developing world, is still required to expand capabilities, and that practices worldwide must be continually updated to take advantage of developments in information technology and evolving policies, they see that their original core mission and purpose has been achieved in many areas of the world. The GSDI movement has helped to produce a global network of professionals and spawned a number of new organizations and initiatives dedicated to the continued advancement of the benefits enabled through implementation of spatial data infrastructures.

### 3.2 Perspectives and Future Plans

With the creation of the United Nations Committee of Experts on Global Geospatial Information Management the UN now offers its member nations and GSDI professionals from across the public and private sectors the opportunity to advance the very principles and practices that the GSDI has developed and advanced over many years.

Taking note of these developments; in February GSDI members decided that the time was right to wind down the GSDI Association as a legal entity and use its remaining financial resources to support the United Nations Committee of Experts on Global Geospatial Information Management.

We believe and sincerely hope that the GSDI mission will continue through the thousands of professionals around the world who have contributed to and benefitted from GSDI. The GSDI website will continue for as long as possible to provide a rich information resource for those implementing Spatial Data Infrastructures http://gsdiassociation.org/index.php

# 4. IEEE Geoscience and Remote Sensing Society (GRSS)

## 4.1 Activities and Areas of Work

The Institute of Electrical and Electronics Engineers (IEEE), Geoscience and Remote Sensing Society (GRSS), is one of the world's leading professional societies in remote sensing and geospatial information. One of its objectives is to support decision making for the sustainable development of earth resources and humanitarian well being. GRSS has an overall membership of 3500 in 92 countries with a network 59 local Chapters. http://www.grss-ieee.org/

The IGARSS17 Symposium held in Fort Worth, Texas in July 2017 focused on *International Cooperation and Global Awareness* and held special Technology, Industry and Education (TIE) sessions on the Group of Earth Observation (GEO); Global Awareness and Earth Observation and Sustainable Goals and the United Nations 2030 Program. Barbara Ryan, GEO Director, participated as a Conference Plenary Speaker and TIE Presenter.

In addition, GRSS has been instrumental in initiating a Letter of Agreement between GEO and IEEE to increase cooperation in the advance of geospatial sciences and engineering in IEEE Humanitarian Programs. GRSS also funded a project on "Soil Moisture and Agricultural Outreach Support for African countries which is incorporated in the official GEO-AfriGEOSS Work Plan for 2016-2019. It also supported IEEE in developing a trial programme entitled 'North and South Poles (INSP) Challenges and Activity in the Polar Regions'focussing on technology, measurement and information from earth observation and engineering for Cold Region environments.

## 4.2 Partnerships and Regional and International Collaboration

GRSS has MOU Agreement with the African Association of Remote Sensing of the Environment (AARSE). This MoU sets out the details for cooperation between the two societies including the co-sponsoring of events and conferences; execution of joint projects, workshops and training courses and mutual access to journals and publications of the two societies and the provision of Travel Fellowship's for African Remote Sensing Young Scientists. GRSS also has MOU's with the Canadian Remote Sensing Society (CRSS); the International Society for Photogrammetry and Remote Sensing (ISPRS) ); supports the work of the Asian Remote Sensing Association, and is a Programme Board Member of GEO (2017-19) and is a Member of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). It has a part-time staff member working in Beijing, China and close links with Latin American organisations and Universities in training and infrastructure support.

## 4.3 Priority Issues and Challenges

In recent years GRSS has begun three major cross-cutting initiatives, namely, Globalization, Education, and Industry Engagement.

Membership in GEO as a Participating Organization for the period of 2017-2019 will increase Society visibility among the GEO community and help identify specific opportunities for GRSS members to become more involved in GEO Work Programs and help identify ways to link GEO, GRSS and IEEE humanitarian initiatives in the context of Sustainable Development (SDG).

In the Education realm, GRSS continues to organize an annual Geoscience and Remote Sensing Summer School in conjunction with its IGARSS Conference. In addition, GRSS organizes a Summer School at the African Association of Remote Sensing of the Environment (AARSE) conference. In 2017 GRSS conducted a number of two-week Short Courses in four different venues in Kenya and middle Africa.

As an Industry Engagement Initiative, GRSS has hired a company to help define a strategy to more effectively engage industry and commercial partners in the development of Society activities.

### 4.4 Perspectives and Future Plans

Future Globalization plans include maintaining the current regional initiatives in Africa including short courses, summer schools and soil moisture analysis support; in China continuing GRSS regional programs to help new members and Local Chapters improve skills; in India playing a more important role in conferences organization as well as assessing the possibility of having a Indian Program Office) and in Latin America organizing more summer schools, training courses and Young Professional (YP) conferences.

Our plans for Education in 2017-2018 include maintaining the travel grants to support our youngest members to attend IGARSS; categorizing all of the existing educational materials on our web site; webcasting a series of monthly webinars by Distinguished Speakers and putting in place a program for 'student-to-professional transition' after graduation.

Finally, our plans for Industry Engagement in 2017-2018 are to take advantage of the explosive growth of the constellations of small satellites taking place and the increasing ubiquity of 'remote sensors' in cars and on other platforms and research the connectivity of these sensor systems to the Internet. We also plan to study the feasibility of creating a new Technical Committee on Standards through which industry and academia can work together to define the format and interface of the data generated by Earth Observation sensors. GRSS will also study the feasibility of starting a new publication on this topic, jointly with other IEEE societies.

## 5. International Association of Geodesy (IAG)

### 5.1 Activities and Areas of Work

The most significant activity in 2017 was the Joint Scientific Assembly of IAG together with the International Association of Seismology and Physics of the Earth's Interior (IASPEI), held in Kobe, Japan, from July 30 to August 4. Overall 43 symposia were organized, 34 of the individual Associations and 9 joint symposia. Scientists from 74 countries had submitted 1270 contributions, which were presented in 146 oral and 4 comprehensive poster sessions. Altogether 1107 attendees from 65 countries registered for the Assembly. 15 IAG travel awards were granted to young scientists, and 2 young author awards were presented for best publications in the Journal of Geodesy in 2015 and 2016, respectively.

The IAG Executive Committee (EC) met during the Scientific Assembly in Kobe and on occasion of the EGU General Assembly in Vienna, April 2018. Major topics were the strategy discussion on the future scientific orientation of the IAG and the development of the IAG scientific services. The contribution of IAG to the Global Geodetic Reference Frame (GGRF) within the United Nations' Global Geospatial Information Management (UN-GGIM) was a

major point of discussion, in particular in view of IAG's involvement in the UN-GGIM Subcommittee on Geodesy.

### 5.2 Partnerships and Regional and International Collaboration

Besides the close cooperation with the other IUGG Association and the UN-GGIM relation, the official liaisons of IAG include

- Advisory Board on the Law of the Sea (ABLOS)
- Group on Earth Observation (GEO)
- International Council for Science (ICSU) Commission on Space Research (COSPAR)
- International Astronomic Union (IAU) Commission A2 "Rotation of the Earth"
- International Standards Organization (ISO) TC 211
- United Nations Initiative on Global Geospatial Information Management (UN-GGIM)
- UN-GGIM: Geospatial Societies (previously Joint Board of GIS, JBGIS)
- United Nations Office for Outer Space Affairs (UNOOSA)
- UNOOSA Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)
- UNOOSA International Committee on Global Navigation Satellite Systems (ICG)

Representatives of IAG participated in the meetings of these bodies and reported to the IAG EC. The reports of all IAG components (Commissions, Inter-commission Committee on Theory, Global Geodetic Observing System (GGOS), IAG Office and Communication and Outreach Branch were published in the IAG reports (Travaux de l'AIG, https://iag.dgfi.tum.de/fileadmin/IAG-docs/Travaux_2015-2017.pdf ).

### 5.3 Priority Issues and Challenges

The IAG is significantly involved in the Global Geodetic Reference Frame (GGRF) of the United Nations' Global Geospatial Information Management (UN-GGIM). Priority issues in this respect are the consistency of geometric, gravimetric and height reference frames, and the adoption of identical standards and conventions for all data processing. There are several IAG Study and Working Groups dedicated to this problem, coordinated by IAG's Global Geodetic Observing System (GGOS).

Another priority issue is the common research with other IUGG Associations, e.g. in joint commissions or projects. Actual activities started with seismology (International Association of Seismology and Physics of the Earth's Interior, IASPEI) and volcanology (International Association of Volcanology and Chemistry of the Earth's Interior, IAVCEI). Marine geodesy and geodetic aspects in planetary sciences were recently initiated as inter-commission and inter-association projects, respectively. Further challenges focus on the study and development of novel technologies and sensors in geodesy (e.g. optical and atomic clocks, quantum sensors).

### 5.4 Perspectives and Plans

Geodesy has changed dramatically in the last decades. Space techniques allowed inter-continental and global measurements, precise clocks replaced mechanical distance measurements, and powerful computers enabled the processing of the huge amount of data. The objective of geodesy extended to the observation and quantification of the global change effects. This process is going on by the ultramodern technologies. The IAG strategy discussion shall lead to the adaption of the IAG Statutes and Bylaws to these challenges including a

modified structure of the IAG research components. The IAG scientific services have to conform to all the requirements, in particular by adopting and developing modern technologies. The Global Geodetic Observing System (GGOS) shall coordinate the contributions from geometry, gravimetry and chronometry in general relativity approaches.

## 6. International Cartographic Association (ICA)

### 6.1 Activities, Areas of Work

After the 2017 International Cartographic Conference (ICC) in Washington the Commission returned to their usual activities in organized smaller events and producing output. Starting in 2017, the ICA records this output of their Conferences like ICC, RCC as well as all other ICA events in three new official publication outlets, which are hosted by a commercial publisher, Copernicus GmbH. The titles are; Advances in Cartography and GIScience of the International Cartographic Association; Proceedings of the International Cartographic Association, and Abstracts of the International Cartographic Association

With these three series, the ICA can offer excellent opportunities for authors to present their work with full papers for more research-oriented work, abstract based full papers for advanced work-in-progress, as well as abstracts for practically oriented work or artwork, which typically are not adequately represented in a full paper. The first papers published in the new series are the papers from the ICC in Washington, which appear in the "Proceedings of the International Cartographic Association" as Volume 1. ICA's top publications is the International Journal of Cartography. They are accessible via https://www.proc-int-cartogr-assoc.net/

### 6.2 Partnerships and Regional and International Collaboration

Nothing special to report

### 6.3 Priority Issues and Challenges

ICA is currently focused on the book project 'Mapping a Sustainable World', which was announced during the High Level Forum in Mexico. The book is not intended as a cartographic textbook, nor an atlas of SDGs; it will focus on the challenges and pitfalls faced by those who are interesting in mapping the SDG indicators. Publication is projected during the next ICC in Tokyo 2019. It is being developed in close cooperation with the UN's Geospatial Information Section.

### 6.4 Perspectives and Future Plans

Education and Research go hand in hand. Research is necessary to make sure our discipline remains relevant. Education disseminates this new knowledge and trains future generations. Each domain has common or basic knowledge, sometimes typified as a domain's Body of Knowledge (BoK) with a complete set of concepts, terms and activities that make up a professional domain as defined by the relevant learned society or professional association. In this context ICA sees it as its duty to help educators by defining such BoK for cartography. To do so the Executive Committee has decided to establish a new working group Cartographic Body of Knowledge (CartoBoK). Based on the terms of reference the working group will start with an inventory of existing Bodies of Knowledge (BoKs) from UCGIS, AGILE,

NGA/USGS, ACM, and others that have cartographic elements and extract those parts relevant to CartoBoK.

# 7. International Federation of Surveyors (FIG)

## 7.1 Activities, Areas of Work

For the 2015-2018 time period FIG council has agreed on the following overall theme: *"Ensuring the Rapid Response to Change, Ensuring the Surveyor of Tomorrow"*

The FIG Congress 2018 was held in Istanbul, Turkey 6-11 May 2018 with the overall theme: "Embracing our smart world where the continents connect: enhancing the geospatial maturity of societies" and with more than 2300 participants from almost 100 countries. Both rural and urban areas need special attention, the technologies that are currently available are crucial for the sustainable development and the digital economy.

FIG focused on the importance of the *digitalization* of our society: the need to increase our technical skills in order to provide the needed data in a timely manner for smart decision-making; the need to improve our skills to be able to use the *crowd* in a powerful way and to manage and process authoritative and non-authoritative data; the need to open geospatial data to society; and the need to increase the *usability* of these data, to ensure that data and tools are practical for use by all for maximum benefits.

The major efforts in 2017 focused on raising awareness and providing fit-for-purpose land administration tools for secure property rights for all. We recognize that the great economic divide in the world today is between the 2.5 billion people who *can register* property rights and the 5 billion who are impoverished, in part *because they cannot*. The reality of private rights provides the assurance people need in order to invest and protect their property from abuse and is one of the drivers of *economic growth and economic freedom*. Products include the publication of an excellent, thorough researched study on global progress in 3d cadasters, and the compilation of technical guidelines for fit-for-purpose formalization of informal development based on the experience from UNECE region. The guidelines are still under development and FIG has signed an agreement with the International Real Estate Federation (FIABCI) to work closely in this field. Several commission events contributed to the overall FIG vision. We also put an emphasis on the value of standardization of our data, tools and services in order to facilitate global growth, minimize risks, reduce costs and improve transparency.

## 7.2 Partnerships and Regional and International Collaboration

With the systematic work of the European surveyors CLGE and NSPS/U.S. a Global Surveyors' Day has been established and will be celebrated on the 21st of March each year. Through our international collaboration with FIG members, sister professional associations, regional professional bodies as well as UN bodies and the World Bank, FIG aims to transform all surveyors into global surveyors. Surveyors who will have a global education for the progress of surveying in all its fields and applications everywhere; but also surveyors who will have an understanding of global challenges and will be able to develop the profession for the betterment of all parts of our world, so that no one is left behind.

FIG works closely with several UN organizations, hereunder GLTN and FAO. FIG held more STDM training sessions and has finalized the important publication on Valuation of Unregistered Lands. UN-Habitat/GLTN-FIG Young Surveyors Volunteer Community Surveyor Programme (VCSP) is an innovative volunteer program that is a powerful driver for both social impact and professional development. The VCSP leverages on the skills, experience, talents and education of young surveyors, matches this competence with the needs of GLTN, particularly in GLTN's country level implementation plans and programs. 13 Young Surveyors from Senegal, Nigeria, Nepal, New Zealand, Uganda, Denmark, Namibia, Philippines and Zimbabwe have successfully been working on GLTN Projects for 2–4 weeks in DR Congo, Kenya, Nepal, Uganda, Philippines and Zambia.

### 7.3 Priority Issues and Challenges

One vision is to see an even greater diversity of participation in FIG commissions as well as in the top level of FIG administration. Participation in FIG brings satisfaction by knowing that through our evidence-based geospatial data, land tools and services we manage to enable the geospatial transformation of our society and to contribute to the ambitious Global Sustainable Development Agenda 2030 and to the dream of a happy city and a sustainable management of natural resources.

### 7.4 Perspectives and Future Plans

FIG will continue to work in the commissions, with sister organizations and with FIG members on the UN Sustainable Development Goals. Surveyors play an essential role in several of the 17 SDGs. FIG aims to make an active effort on those goals that involve surveyors and surveying in order to assist in achieving the goals and their targets by 2030 and set the world on a path towards sustainable development.

FIG General Assembly elected a new President and Vice Presidents for the term 2019-2022. They will in the second half of 2018 work on the main focus areas for the coming term.

### 7.5 Matters/Issues for Consideration

A clear message out of our 2018 congress and its specific theme is our commitment to contribute in increasing the world's *connectivity* as well as the world's *urbanity* in order to ensure *democratization* and to make *digitalization a peaceful transition power* for the benefit *of all*.

We propose that an issue for further consideration during the NY meeting might be "How to increase fruitful cooperation and how to join efforts within the UNGGIM Geospatial Societies to further improve the digital and computing, as well as the communication and ethical skills among surveyors and other geospatial experts in order to provide *appropriate* tools and *digital* services for the society". (e.g., focused joint conference/ publication)

## 8. International Geographical Union (IGU)

## 8.1 Activities, Areas of Work – Achievements

An Applied GIS and Spatial Modeling Conference in association with IGU Commissions in Applied Geography, Dynamics of Economic Spaces, GIS and Modeling Geographical Systems was held in Leeds, England from May 29 to June 2, 2013. The conference was hosted by the Centre for Spatial Analysis and Policy, School of Geography, University of Leeds.

The seventeenth International Symposium on Spatial Data Handling (SDH 2016), co-organized by the Commission on Geographic Information Science and the Commission on Modelling Geographical Systems, was held in the Institute of Geographic Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences in Beijing, China from August 18-20, 2016. The theme of the symposium was "Facing the Challenges of Big Data with GIS".

The eleventh International Conference on "Geographical Analysis, Urban Modeling, Spatial Statistics" GEOG-AND-MOD 16 was held in Beijing, China from July 4-7, 2016, in conjunction with the International Conference on Computational Science and its Applications (ICCSA 2016). This Conference aimed at providing innovative and original contribution to the ongoing debate on the above mentioned issues and at improving the process of knowledge acquisition, by means of the development of new techniques and methods.

## 8.2 Partnerships and Regional and International Collaboration

The Geographical Information Science commission has collaborated with the Applied Geography commission in the organization of sessions at IGU regional conferences and also worked to maintain and deepen exchanges between our commissions' members. The Geographical Information Science commission has also collaboration with the International Society for Photogrammetry and Remote Sensing, commenced in the year 2014.

The Geography of the Global Information Society commission works closely with two international journals, i.e., NETCOM and Journal of Urban Technology that publish peer reviewed papers central to the fields of communications and information technology. The Modeling Geographical Systems Commission has continued to establish new linkages with major associations, such as the European Regional Science Association; International Spatial Accuracy Research Association (ISARA), and the International Environmetrics Society.

There has been collaboration with ICSU CODATA in organizing an international capacity building training workshop on 'Big Data for Science and Sustainability in Developing Countries'. An international training workshop on the same theme was also held at Hyderabad during the IGU India Conference of 2016. It was jointly organized by Osmania University, the National Remote Sensing Agency and representatives from the Chinese Academy of Sciences. Around 57 participants took part in this three day workshop.

Several commissions aim to provide a prestigious outlet to geographers, cartographers, computer scientists and others in this rapidly developing multidisciplinary arena. Geospatial technologies provide a positive thrust to assess and monitor complete socio-bio-physical characteristics of the earth such as geomorphology, climatology, oceanography, natural resources, disasters, settlement, agriculture, economy and many more to manage and sustaining global environment.

## 8.3 Priority Issues and Challenges

IGU Commissions published a book on Geospatial Technologies and Geography Education in a Changing World under the IGU Springer Series-Advances in Geographical and Environmental Sciences.

As part of the Springer Series IGU Vice President Singh initiated a book on Spatial Information Technology for Sustainable Development Goals which is currently in press. This technology has huge potential to mitigate the SDGs by 2030: ambitious action plans for people, prosperity and the planet were accepted in 2015 to achieve the agenda for Sustainable Development by 2030. The book discusses the requirements of spatial information technology by incorporating remote sensing, GPS and GIS as well as linkages between them. Geographers explain the database which is considered as the backbone of the GIS environment. IGU is also focusing on applied aspects with the help of case studies representing different challenging areas such as land use models for agricultural sustainability, flood inundation mapping, watershed characterization and prioritization, infrastructure assessment and crop modeling in order to contribute towards Sustainable Development Goals.

### 8.4 Perspectives and Future Plans

Various IGU Commissions will focus on:

• An artificial neural network model for estimating crop yield in Precision Agriculture. Information and Communication Technology to be introduced for precision agricultural practices, fishing, forest fire and hazard warning.

• Development of spectral libraries by collecting UAV based Hyperspectral data.

• Preparation of multi-temporal geospatial maps.

• Analysis of the field data for generation of user friendly reports and alerts to provide agro advisory services.

• Continue attention on micro-wave remote sensing.

### 8.5 Matters/Issues for Consideration

• Geo-spatial technologies should be linked with formal and informal levels of education.

• Future research focus should be given on emerging areas of sciences linking with disaster risk reduction, food security, air pollution, human health and well-being and bio-diversity.

• Lessons learned and best practices should be disseminated at community level using mass media and social-media.

• Preference should be given to geo-spatial technology based modeling for reducing the gap between conventional methods of approach and dynamic forecasting approach.

### 8.6 Conclusion

The IGU promotes knowledge about the spatial information technology as a way of contributing to the United Nation’s Sustainable Development Goals among students, researchers, professionals and common people. IGU aims to disseminate the basic concept of Geographic Information System (GIS), Remote Sensing and Global Positioning System (GPS) in an integrated manner for resource and infrastructure planning and their management to develop these skills among students and young researchers to tackle multi-disciplinary challenges and suggesting remedial measures. Geo-scientists can also enhance their knowledge through this technology. Geo-spatial technologies have become indispensable tools for

examining and resolving geographical issues and should be part of both school and university education. The IGU aspires to reach out to a wide spectrum of people aiming to bridge geo-spatial technologies with geographical education.

## 9. International Map Industry Association (IMIA)

The International Map Industry Association (IMIA) is a global organization that represents the business of maps. IMIA is where mapmakers, publishers, geospatial technology companies, distributors, location-based services and content producers come together to conduct the business of maps.

IMIA has a number of activities planned in our regions and continues to publish relevant content via our blog, member newsletter and social media.

### 9.1 Activities, Areas of Work

IMIA Americas held its first annual DC Meetup in Washington DC, followed by a meeting of the Americas Board and invited members. This meetup is the second venue for this new model of creating regional single-day events to bring together leaders in the mapping community.

IMIA Americas will host its thirds annual Denver Meetup event on 14 June 2018 at the University of Colorado. We anticipate that the Meetup attendance will continue to grow year over year and continue to provide a forum for leaders in the mapping industry to meet, network and be an active part of topical discussions and presentations and bring new members to the Association.

IMIA plans to expand its program of regional Meetup events, with plans being made for Meetups in Washington, DC tentatively scheduled for December 7/8 2017 as well as a member event at the Esri User Conference in July. Other venues under consideration for events are Seattle, Ottawa. And Mountain View, CA. and Ottawa Canada.

The IMIA will also continue its presence at the Frankfurt Bookfair with a collective stand for member companies and a networking event.

IMIA has pledge continued support for the ICA/IMIA map award to be presented at the Esri User Conference in July.

The IMIA is collaborating with I T Solutions to create a survey of the size and scope of the worldwide offset map printing market. We anticipate that the results of this survey will be reported Summer 2018.

### 9.2 Priority Issues and Challenges

The IMIA Regional Boards of Directors have approved plans to consolidate operations of the Association into a single, expanded International Board of Directors and eliminate the separate regional structures. This new structure will better position the Association to provide value to its members and position it for growth in the burgeoning geospatial economy.

### 9.3 Perspectives/Outlook, Future Plans

As the only Association solely focuses on the business of maps, we see a bright future for the Association to support the growing ecosystem of businesses in the mapping industry. We have created a new model for connecting leaders in the industry that we will implement around the globe.

# 10. International Society of Photogrammetry and Remote Sensing (ISPRS)

## 10.1 Activities and Areas of Work

The year of 2018 is ISPRS Midterm Symposia year. (http://www.isprs.org/society/midterm.aspx). Each of the five ISPRS Technical Commissions (TC) organises one Symposium presenting developments in science, research, education and applications in their area of interest: sensors and systems (TC I), photogrammetry (TC II), remote sensing (TC III) spatial sciences (TC IV) and education and outreach (TC V).

17 Sustainable Development Goals (SDGs) were adopted by world leaders in September 2015 at the historic UN Summit. On 1 January 2016, the 17 t officially came into force. With respect to the Sustainable Development Goals of the 2030 Agenda for Sustainable Development, ISPRS activities are focused on;

• Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture – DRR – drought (TC III).

• Goal 3. Ensure healthy lives and promote well-being for all at all ages – DRR – air pollution (TC III).

• Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable – DRR – flood, landslide, earthquake, … (TC III/TCIV).

• Goal 13. Take urgent action to combat climate change and its impacts (TC III).

• Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity (TC III).

Presently, individual activities focused on SDG are mainly in the form of publications of results of projects processed by our members. See ISPRS Publications http://www.isprs.org/publications/default.aspx

## 10.2 Partnerships and Regional and International Collaboration

ISPRS is also involved in GP-STAR project of UNISDR.