



Fifth Meeting of the United Nations Expert Group on the Integration of Statistical and Geospatial Information (EG-ISGI)

22-23 November 2018

UN World Geospatial Information Congress, Deqing, China

Introduction

The Fifth Meeting of the United Nations Expert Group on the Integration of Statistical and Geospatial Information (EG-ISGI) was convened in Deqing, Zhejiang Province, China on 22-23 November 2018. It was held on the margins of the United Nations World Geospatial Information Congress (UNWGIC), hosted by the United Nations Department of Economic and Social Affairs with the support of the Government of China, through the Ministry of Natural Resources and the Zhejiang Provincial Government. The convening of the EG-ISGI meeting on the margins of the UNWGIC provided an opportunity to widen the synergies and impact that the outputs of the EG-ISGI can have within the geospatial realm.

The EG-ISGI was attended by 21 participants from: Australia, Brazil, China, Egypt, Germany, Kuwait, Mexico, Oman, Poland, Senegal, South Africa, Uganda, and the United Kingdom, as well as by representatives from ESRI, United Nations Population Fund (UNFPA), United Nations Economic Commission for Latin America and the Caribbean (UNECLAC), United Nations Economic Commission for Africa (UNECA), and the United Nations Global Geospatial Information Management Secretariat composed of the United Nations Statistics Division (UNSD) and United Nations Department for Field Support's Geospatial Information Section. The meeting was Co-Chaired by Mr. Martin Brady (Australia) and Ms. Paloma Merodio (Mexico).

The primary objective of the EG-ISGI meeting was to finalize the elaboration of the Five Principles of the Global Statistical Geospatial Framework (GSGF). Other objectives of the meeting included: Review the outcomes of the 49th United Nations Statistical Commission (UNSC) and the eighth session of the Committee of Experts on Global Geospatial Information Management (UN-GGIM); Consider the United Nations Integrated Geospatial Information Framework (IGIF) and, inter-alia, the GSGF; Discuss linkages with the Open Geospatial Consortium (OGC) Statistical Domain Working Group (Statistical DWG), the Inter-Agency and EG-ISGI on the Sustainable Development Goal Indicators Working Group on Geospatial Information (IAEG-SDGs: WGGI), and any other existing or upcoming work programmes of the Committee of Experts and/or the Statistical Commission; Consider the communication, promotion, and refinement of the GSGF; Consider resourcing options for EG-ISGI activities; and, discuss, formulate and review the EG-ISGI's future work plan. The programme agenda of the meeting is provided in Annex I to this report.

Summary

At its fifth meeting, the EG-ISGI reviewed in detail the progress of elaborating the Five Principles of the GSGF and discussed the proposed timeline for their endorsement and consultation. The EG-ISGI decided to close comments to the draft documents prior to 30 November 2018 and establish an editorial task team to finalize the elaboration of the Principles. Specific focus will be drawn towards ensuring that the vocabulary and use of terminology is consistent across both statistical and geospatial domains throughout the Five Principles of the GSGF. The timeline will then be to provide an update on the development and consultation process of the elaboration of the Five Principles of the GSGF to the 50th Session of the Statistical Commission in March 2019, subsequently seeking to submit a paper which provides the elaborated Five Principles of the GSGF for endorsement, after a proposed global consultation, to the Committee of Experts at its ninth session in August 2019. Subsequently, and pending adoption by the Committee of Experts, this paper will be submitted to the Statistical Commission at its 51st session in 2020 for its endorsement.

The EG-ISGI decided to use the proposed wiki platform presented by the Secretariat during the meeting as the main platform to collaborate within the EG-ISGI, to disseminate and promote relevant documentation of activities and outcomes of the EG-ISGI. This platform will also assist EG-ISGI in its decision to produce a glossary of terminology for the documentation produced in coordination and collaboration with other Expert and Working Groups of UN-GGIM. This will support efforts towards the definition and harmonisation of vocabularies between the statistical and geospatial domains. The EG-ISGI stressed the importance of interoperability and the need to build on the agenda set from the joint UNECE/UN-GGIM: Europe Workshop on Integration of Geospatial and Statistical Standards, held 6-8 November 2017 in Stockholm, Sweden. Initiatives such as the OGC's Statistical Domain Working Group are key opportunity to progress the substantive work on integrating statistical and geospatial information, and to drive participation globally from both National Statistical Offices and National Mapping/Geospatial Information Agencies.

The EG-ISGI agreed to continue its proceedings in accordance with its Terms of Reference as in its original proposed work programme but noted the resource constraints of working on voluntary and "best effort" basis. The EG-ISGI reiterated appreciation of the continued efforts of its members and encouraged commitment to participate further in EG-ISGI activities, underlining that the current state of work is made through volunteered contributions. For a wider engagement, the EG-ISGI seeks contributions from its members in technical as well as practical means, including translations of its documents and proposals to host meetings of the EG-ISGI. Finally, the EG-ISGI also decided to undertake a renewal process of its membership to ensure a larger participation and increased contribution in the beginning of 2019.

Session 1 – Introductory Session

Chair: EG-ISGI Co-Chairs

Purpose: Update EG-ISGI members on progress and other relevant meetings.

Following welcome remarks by the EG-ISGI Co-Chairs and the Secretariat, the introductory session opened with a review and summary of progress since the last EG-ISGI meeting, 9-10 November 2017¹ in Stockholm, Sweden. Since this time, the EG-ISGI has been working on the operationalisation of the GSGF through the elaboration, promotion, and implementation of the GSGF, and through the elaboration of the Five Principles of the GSGF. Furthermore, the EG-ISGI has supported capacity building and knowledge management initiatives, including showcasing country and regional implementations, and the promotion and statistical-geospatial interoperability initiatives at both the 49th session of the UNSC and the eighth session of the Committee of Experts.

Going forward, the EG-ISGI will finalise the elaboration of the Five Principles of the GSGF into a paper, presenting a final GSGF. The Co-Chairs underlined that there is a bright future for the EG-ISGI, considering the deep connections within the EG-ISGI and other programmes that can support the integration of statistical and geospatial information.

Pertinent observations by the Co-Chairs for consideration by the EG-ISGI included:

- The Co-Chairs thanked all EG-ISGI members and contributors to the work of the EG-ISGI, noting that there has been a strong volunteer effort but stressed the importance of the support from countries and its members, especially considering the EG-ISGI's expanded mandate and the scale of its work programme;
- The reporting timeline for EG-ISGI will be as follows: Provide information on the development and process of consultation regarding the elaboration of the Five Principles of the GSGF to the UNSC at its 50th Session in March 2019; Submit this paper for adoption, after a global consultation, to the ninth session of the Committee of Experts in August 2019. Pending adoption by the Committee of Experts, this paper will be submitted to the UNSC at its 51ST session in 2020 for endorsement; and,
- Case studies that detail the adoption, implementation, and outcomes of implementing the GSGF are welcomed to illustrate capacity development and pathways forward for countries to progress their statistical-geospatial capacity.

The following discussion raised the following points:

- Oman suggested the EG-ISGI develops a timeframe for the implementation of GSGF, further calling for capacity building support and expressed concerns with respect to translations. The Co-Chairs noted the resource constraints and requested EG-ISGI members to support with translations where practical;
- Oman further proposed that members which contributed to the elaboration of the Five Principles of the GSGF continue to support the work programme of the EG-ISGI through the provision of technical support as countries implement the GSGF;
- Brazil suggested that countries communicate to UNFPA to assist with resourcing for the census process. The United Kingdom noted that there is a need for enhanced collaboration and identification of international capacity building programs. In noting that many countries provide technical assistance and

¹ <http://ggim.un.org/meetings/2017-Sweden/index.cshtml>

if there was an identification of where these programs are in place, it could support the optimisation of resources;

- Kuwait observed that there are opportunities for capacity building within regional development banks, this was echoed by Oman, reinforcing the need to identify experts in statistical-geospatial integration to provide workshops and capacity development; and,
- South Africa noted the need to capture the main challenges within the implementation of the GSGF and iterate resolutions to bridge challenges, and ultimately develop lessons learned that will support others within our communities with implementing the GSGF.

Side Events

The Co-Chairs covered the various side-events which the EG-ISGI has contributed to at both the recent sessions of the UNSC² and the Committee of Experts³. Each side event supported the awareness raising of the EG-ISGI's activities in both the statistical and geospatial communities' respectively and offered opportunities to deepen engagement in these communities. The Co-Chairs also noted the good participation of regional commissions (UNECLAC/UNECA) to the events of the EG-ISGI.

Information Dissemination

The EG-ISGI considered the ongoing discussions regarding the dissemination of information pertaining to the outputs of the EG-ISGI. Leading on previous discussions in its virtual meetings between the EG-ISGI and the Secretariat, a wiki has been prototyped, this was presented by the Secretariat⁴. The wiki can collate and archive previous meeting minutes and key documents, and potentially can offer the EG-ISGI with a collaboration space prior to publishing finalised documents. The EG-ISGI decided to adopt the wiki and requested the Secretariat to consider how to develop a governance model which considers access rights and privacy of documents in time for the EG-ISGI membership renewal process.

Vocabulary and Definitions

In the ensuing discussion, the EG-ISGI reinforced the need to standardise definitions and vocabulary, aiming to use the wiki as a space where a living document of definitions can be hosted. The Secretariat has already compiled various resources that pertain to Statistical and Geospatial vocabularies⁵. The EG-ISGI welcomed its members to contribute to expand this resource.

Session 2 – Regional Implementation and Development Initiatives

Chair: EG-ISGI Co-Chairs

Purpose: Update EG-ISGI members on complementary initiatives and update from regional representatives.

The United Kingdom provided a review following the Stockholm Interoperability meeting, noting:

- There is a need to involve National Statistical Offices (NSOs) within the standards development process, to ensure that their needs are captured. The OGC Statistical DWG was introduced, to provide a

² <https://unstats.un.org/unsd/statcom/49th-session/side-events/20180305-1M-statistical-geospatial-integration-forum/>

³ http://ggim.un.org/meetings/GGIM-committee/8th-Session/side_events/EG-ISGI%20GGIM8%20Side%20Event%20Concept%20Note.pdf

⁴ <https://unstats.un.org/wiki/display/ISGI/United+Nations+Expert+Group+on+the+Integration+of+Statistical+and+Geospatial+Information>

⁵ <https://unstats.un.org/wiki/display/ISGI/Statistical+and+Geospatial+Vocabularies>

mechanism for statistical agencies to convene and discuss standardisation. The Statistical DWG is chartered to identify requirements and use-cases of how geospatial and statistical standards can support the integration of geospatial information into the statistical system and for the purposes of broad discovery, analysis, and use; and,

- The EG-ISGI noted the need for Statistical DWG to establish the membership from OGC members and non-OGC members and elaborate on its programme of work. The Statistical DWG is seeking a joint OGC and EG-ISGI meeting during 2019 to establish this.

The Co-Chairs expressed their appreciations on behalf of the EG-ISGI to the OGC and United Kingdom for progressing the work on geospatial and statistical standards and requested regional updates from representatives from Latin America and the Caribbean, Africa, and Europe.

Regional Updates

Latin America and the Caribbean

UNECLAC updated the EG-ISGI from the fifth session of UN-GGIM: Americas and the Regional Workshop on the Integration of Statistical and Geospatial Information. This workshop was aimed at promoting the integration of statistical and geospatial information at the sub-regional and national level. It was noted that UN-GGIM: Americas will:

- Support the promotion of the GSGF, disseminate the IGIF, and, execute the next steps of the MEGA Project⁶;
- Promote cooperation activities across countries, leveraging the experience and learning of the countries;
- Collect and disseminate experiences in the integration of statistical and geospatial information;
- Support the advancement of national assessment of geospatial capacities with respect to the IAEG-SDGs: WGGI shortlist results of the analysis of the Global Indicator Framework with a “geographic location” lens⁷; and,
- Provided capacity building support for the region.

Africa

UNECA updated the EG-ISGI with their activities. This included a review of the African Statistical Spatial Framework, the Africa regional implementation of the GSGF. UNECA presented their aim to translate the principles of the GSGF into actionable priorities that can be further implemented across Africa, with the following next steps with the African Statistical Spatial Framework to be undertaken in 2019:

- The provision of guidelines for the development of National Spatial Data Infrastructure (NSDI);
- Revisit the National Strategies for the Development of Statistics to incorporate NSDI concept(s); and,
- Strengthen the use of geospatial information into NSO activities through training, data, and processes.

Europe

Poland updated the EG-ISGI on activities within Europe, presenting updates on GEOSTAT3, which is:

- Supporting the generation of data which informs the Sustainable Development Indicator Framework in Europe;

⁶ Statistical and Geospatial Framework for the Americas abbreviated as MEGA

⁷ http://ggim.un.org/meetings/2017-4th_Mtg_IAEG-SDG-NY/documents/WG's_Initial_Shortlist-Table_A_B.pdf

- Developing a proposed Regional Implementation Guide to further enable the regional implementation of the GSGF within Europe; and,
- Promoting a population-grid dataset as a first example of a European Union population grid.

Discussion points included:

- UNECLAC commended the rich experience of the African Statistical Spatial Framework and the African Action Plan and counselled the EG-ISGI to reflect on these experiences;
- The Co-Chairs noted that the exchange between regions is going to be critical as a mechanism to share knowledge;
- Mexico noted that this was one of the first times and mechanisms for getting NSOs and National Mapping Agencies (NMAs) in the same room, this was echoed by UNECA, commenting that a similar observation was seen at Statistical and Geospatial Integration Day, held on 25 April as an overlapping day between two workshops, the Sub-regional workshop on integration of administrative data, big data and geospatial information for the compilation of SDG indicators for English-speaking African countries⁸ and the International Workshop on Global Fundamental Geospatial Data Themes for Africa⁹, UNECA, Addis Ababa, 23 – 27 April;
- Uganda observed the challenge posed by constantly changing geographies, noting that often the underlying statistics and reference of time is outdated. Poland responded that it is possible to move to a grid to have consistency within its geography and support the standardised delivery of statistical data at a granularity of the NSO's choice. This can mitigate the impact of political decisions such as redistricting. Australia reinforced this, noting that the changing boundaries was a driver for the Australia Spatial Statistical Framework, the precursor for the GSGF, however, it is not a one or the other discussion with administrative or gridded geography, as both should be implemented; and,
- The Co-Chairs counselled the EG-ISGI to consider that statistical data should be independent, but geographies are often not independent, this raises the question should NSOs be more responsible for the generation of geographies? This was echoed by Egypt, who also advocated for a gridded population data for Africa, and the integration of national population grids at the regional level.

The Co-Chairs summarised the session, commending the advancement of developing, implementing and socialising the GSGF at the regional level, stressing that the regional cross fertilization is leading to the distillation of good practices and opportunities.

Session 3 – The Integrated Geospatial Information Framework (IGIF)

Chair: EG-ISGI Co-Chairs

Purpose: Review the Integrated Geospatial Information Framework.

UNSD introduced the IGIF, a United Nations endorsed Framework that was developed in collaboration between the United Nations and the World Bank, originally to provide a basis and guide for lower to middle income countries to reference when developing and strengthening their national and sub-national arrangements in geospatial information management and related infrastructures, but with broad application to all countries, irrespective of economic and human development. UNSD reiterated the role and challenges of the

⁸ <https://www.uneca.org/sr-bigdata-geospatial-sdg-2018>

⁹ http://ggim.un.org/meetings/2018-Addis_Ababa/

United Nations with respect to national and sub-national technical implementation, noting that this can be delivered in collaboration with the World Bank. In implementing the IGIF, UNSD noted the need for ministerial leadership and for the implementation agency to identify prioritise capacity building activities, so to identify data silos and to identify the economic benefits and opportunities that geospatial information can bring a nation. Furthermore, UNSD, considering the harmonisation between the GSGF and the IGIF, emphasised the need for common definitions, vocabularies, and geographies to support the integration of geospatial and statistical information.

Discussion points included:

- South Africa noted that there is a potential issue of terminology, the IGIF has a clear application in both statistical and geospatial domains, stressing that it is necessary to ensure that it is communicated to statisticians that this has a relevance to them also. UNSD agreed, noting that there is still progress to be made to develop the IGIF, and that the work of the EG-ISGI is crucial to supporting the integration and interoperability needs of the IGIF;
- Poland and Uganda commended the opportunity and development of the IGIF, underlining the opportunity of bringing the IGIF and GSGF closer together to support the measurement of people, society, economy, and the environment; and,
- The Co-Chairs stressed the importance of partnerships and to consider other complementary programmes and initiatives, such as the Global Fundamental Geospatial Data Themes¹⁰, to strengthen geospatial information management alongside the GSGF and the IGIF.

The Co-Chairs summarised the session and thanked all for their contribution.

Sessions 4 to 9 – The Five Principles Document of the Global Statistical Geospatial Framework

Chair: EG-ISGI Co-Chairs

Purpose: Review the Five Principle Documents of the GSGF.

Sessions four through nine reviewed the respective principle documents developed following decision 8/108 of the Committee of Experts, requesting the elaboration of the GSGF's principles. After in-depth discussion, the EG-ISGI decided to create a smaller task team to finalise, refine, and ensure that the elaborated five principles of the GSGF are homogenous and consolidated into a single paper.

The furthermore, the EG-ISGI decided:

- A small task team composed of the Co-Chairs and the Secretariat will create the elaborated GSGF paper;
- This will be annexed to the report for the 50th Statistical Commission for information; and,
- Subsequently be presented at the Ninth Session of the Committee of Experts for their decision, with hopeful endorsement by the Statistical Commission at its 51st session in 2020.

Principle 1: Use of fundamental geospatial infrastructure and geocoding **Germany and Mexico**

Following a review of Principle One by Germany, discussion points included:

¹⁰ <https://undesa.maps.arcgis.com/apps/Cascade/index.html?appid=4741ad51ff7a463d833d18cbcec29fff>

- South Africa requested that the Principle 1 Task Team consider recommending that all data should be distilled to a coordinate point. Germany agreed it would be considered;
- Senegal suggested highlighting reference for the need for availability of authoritative data and NSDI, Germany agreed;
- Brazil noted that there we are not using the Global Fundamental Geospatial Data Themes definitions. South Africa proposed that the definitions of the Global Fundamental Geospatial Data Themes should be used. The EG-ISGI endorsed this decision;
- The EG-ISGI decided to engage with the UN-GGIM Legal and Policy Expert Group to notify it of the needs of the EG-ISGI with respect to external data dependencies and data accessibility so to not duplicate efforts of work;
- Brazil queried the language within the structure of Principle 1, querying whether standards should be “recommended” or “required”. The Co-Chairs noted that “relevant” would be a more suitable term and the EG-ISGI agreed; and,
- The Co-Chairs noted that the "out of scope" section needs to be revised. Suggestions include language around the variety of potential information resources, including topographic maps and the Global Fundamental Geospatial Data Themes. The EG-ISGI noted that this further underlines the limited resourcing and discussing that while the focus is currently regarding traditional data right now, it should not exclude investigating and including other items in the future. The EG-ISGI decided that the language and clarification on he out of scope section should be revised to clarify this point and ultimately, that the principles of the GSGF should be considered as living documents to be updated as and when required.

Principle 2: Geocoded unit record data in a data management environment

Australia and Sweden

Following a review of Principle Two by Australia, discussion points included:

- Australia's perspective is that geographic areas should be attached with a location identifier, enabling a common geography, and therefore providing a location either by coordinates or by grid reference. This is also pertinent to Principle 3, Poland concurred, noting that this aligns with three geometric principles, point, line, and geometry, Oman concurred;
- South Africa raised the concern of accuracy and the associated confidentiality of data and stressed the need for statistical agencies to consider their responsibilities with ensuring that integrated information is provided in-line with privacy concerns;
- The EG-ISGI revisited the discussion on terminology and further reinforced the recognition that the GSGF needs concrete definitions across the principles as meanings may differ across the statistical and geospatial communities, this would also support statistical-geospatial integration efforts more broadly.

Principle 3: Common geographies for the dissemination of statistics

Poland and Canada

Following a review of Principle Three by Poland, discussion points included:

- Poland noted that the confidentiality of statistical data can be managed through the aggregation geography. Australia agreed, noting that it is not the only way to ensure confidentiality of data, as such Principle 3 should also identify when and when not to disclose data;

- It was discussed that there is currently no mention of gridded statistical information within Principle 3. Poland noted that grids are covered elsewhere, proposing that a reference to grids should be included when harmonising the document into one. The EG-ISGI agreed;
- Oman proposed that statisticians support the definitions of common geographies to further raise awareness of geographical definitions within the statistical domain. Australia agreed, further noting that each country differs in how each country divides its country, South Africa interjected, noting that boundaries in many countries are constantly changing, increasing the difficulty load for NSOs. As such, the time dimension should be further considered by this principle. The EG-ISGI agreed;
- Poland discussed the tension between NMAs seemingly wanting to provide information according to the geographic boundaries, whereas NSOs wanting to provide statistical geographies in a consistent form, such as a grid. The Secretariat counselled the EG-ISGI noting that the EG-ISGI should recognise that developing countries do not always have all the underlying data needs to support the creation of geographic information. Australia agreed, noting that there should be further text within the principle document that illuminates the Global Fundamental Geospatial Data Themes. South Africa agreed, stressing the importance of the themes and using all accessible forms of data. The EG-ISGI agreed; and,
- South Africa requested that the vocabulary within this principle, and in others, is generalised and elevated to remove references to regional specific programs within the text, instead providing regional specific programmes and exemplars as footnotes. The EG-ISGI agreed.

Principle 4 – Statistical and geospatial interoperability – Data, Standards and Processes

The Co-Chairs in place of UNECE and Eurostat

Following a review of Principle Four by the Co-Chairs, discussion points included:

- Australia noted that domestic standards should take priority over international standards, and that vocabulary should be added that stresses the need for “open and international standards to be used whenever available”. The EG-ISGI agreed;
- The Co-Chairs noted that there is a need to include more information about other regional implementations, away from European centric approach, noting that there has been great progress with the African Action Plan¹¹. Brazil urged that this principle also considers the national approach, as the GSGF will be implemented at the national level. Australia strongly agreed, recommending that there is a need to more strongly engage with NSOs, initiatives such as the OGC’s Statistical DWG can support this as a broader effort; and,

With respect to this discussion, the EG-ISGI decided to create a glossary of acronyms and terms and seeks Secretariat to consider how to support this.

Principle 5: Accessible and usable geospatially enabled statistics

United States of America and the United Kingdom

Following a review of Principle Five by the United Kingdom, discussion points included:

- Brazil noted that data can be flexible and be repurposed for reuse. This principle needs to reflect this and highlight that the goal of the principle is to avail data around the user requirements and needs regarding the format, protocol, and usage of data. The EG-ISGI agreed;

¹¹ <https://repository.uneca.org/handle/10855/23834>

- Australia strongly advised against vocabulary relating to the so-called ‘balance’ between accessibility and confidentiality, stressing that confidentiality is a legal imperative, if it is not achieved then it could be possible for NSOs and their staff to be prosecuted. The EG-ISGI agreed.
- The Secretariat noted that countries may not have a NSDI and as such should consider how initiatives such as the IGIF can enable accessible, usable, and geospatially enabled statistics that can be referenced within the principle(s). The Co-Chairs agreed, noting that while the discussion on NSDI should not be reiterated throughout the document, it would be advisable to close the loop on the NSDI mentioned within Principle One and reference the broader UN-GGIM initiatives on global geospatial information management and NSDI. The EG-ISGI agreed.

Session 10 – Summary

Chair: EG-ISGI Co-Chairs

Purpose: Agree on outcomes and direction and close the meeting.

In closing the meeting, the Co-Chairs summarized the main points and thanked the members of the EG-ISGI for their attendance and continued contributions to the EG-ISGI. They extended special thanks to China for hosting the meeting. The next meeting is to be identified and will be to the announced to the EG-ISGI at its next video conference in early 2019. The next face-to-face meeting is yet to be identified but would likely occur at the ninth session of the UN-GGIM in August 2019. Finally, the Co-Chairs and Secretariat will seek to explore how to renew the membership of the EG-ISGI to strengthen capacity and contributions to its work programme.