
Economic and Social Council

25 June 2014

Committee of Experts on Global Geospatial Information Management

Fourth session

New York, 6-8 August 2014

Item 10 of the provisional agenda*

Reports by regional entities and thematic groups

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Note by the Secretariat

Summary

The present paper contains the report on the regional and thematic activities and achievements of the six entities referred to below for consideration by the Committee of Experts on Global Geospatial Information Management.

The report provides information on the regional and thematic activities and achievements of the following six entities: the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific; the Regional Committee of United Nations Global Geospatial Information Management for the Americas; the Committee on Development Information, Science and Technology of the Economic Commission for Africa; the Preparatory Committee of United Nations Global Geospatial Information Management for Europe; the Regional Committee of United Nations Global Geospatial Information Management for the Arab States; and the Joint Board of Geospatial Information Societies. The reports of the regional and thematic entities describe their activities and achievements since the third session of the Committee of Experts, held in July 2013. The reports also provide an overview of their work in the following areas: (a) contribution to United Nations activities on global geospatial information management; (b) legal and policy issues; (c) administrative arrangements; (d) capacity development; (e) publicity and outreach; (f) partnerships; (g) regional and international collaboration; (h) technical issues; (i) priority issues and challenges; and (j) future plans. In its report the Joint Board of Geospatial Information Societies invites the Committee to endorse and participate in activities recognising International Map Year, 2015-2016. In its report, the Preparatory Committee of United Nations Global Geospatial Information Management for Europe invites the Committee of Experts to endorse the formal establishment of the Regional Committee of United Nations Global Geospatial Information Management for Europe.

* E/C.20/2014/1.

I. Report of the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific

1. Summary

1. This report provides activities carried out by the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP) since the last report submitted to the third session of the United Nations Committee of Experts on Global Geospatial Information Management held in Cambridge, United Kingdom from 24-26 July. The report highlights the Committee's three working groups' activities and proposes the key priority issues for Asia and the Pacific Region that should be considered by the Committee of Experts.

2. Background

2. UN-GGIM-AP was established on 1 November 2012 on the basis of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP), in accordance with the Resolution adopted at the Nineteenth United Nations Regional Cartographic Conference for Asia and the Pacific (UNRCC-AP). UN-GGIM-AP inherits exactly the same missions and membership as those of PCGIAP.

3. As the representing body of the National Geospatial Information Authority of 56 countries and regions in Asia and the Pacific region, the committee aims to promote the unique needs and interests of the region globally while cooperating with other regional and global entities.

3. Activities

3.1 Contribution to UN-GGIM Activities

4. UN-GGIM-AP Working Group 1 (WG1) on Geodetic Reference Framework for Sustainable Development has been closely involved and supported UN-GGIM activities through contribution to the UN-GGIM Global Geodetic Reference Frame Working Group. The WG1 specifically assisted with the development of the draft UN-GGIM Concept Note, the draft Geodesy resolution, the Geodesy the Fact Sheet, the Geodesy presentation, and the UN-GGIM Geodesy Animation (see <https://vimeo.com/89695290>).

5. UN-GGIM-AP Working Group 3 (WG3) on Place-based Information Management for Economic Growth conducted the analysis of the UN-GGIM questionnaire on the current status of mapping in the world with a focus on Asia and the Pacific countries/regions under the authorization by Prof. Gottfried Konecny.

6. Also, UN-GGIM-AP substantively supported the UN-GGIM International Workshop on Integrating Geospatial and Statistical Information held in Beijing, China, from 9-12 June 2014. The Workshop discussed the development of a global statistical-geospatial framework and shared country experiences that the national geospatial information authorities have derived from meeting the specific needs of census geography/cartography and statistical analysis, and their overall cooperation with national statistical offices. The participants affirmed the importance of geography and geospatial

information to census activities, and for collecting, processing, storing, integrating, aggregating, and disseminating the data on appropriate platforms.

3.2 Working Group Activities

7. The three Working Groups: Geodetic Reference Framework for Sustainable Development; Data Sharing and Integration for Disaster Management; and Place-based Information Management for Economic Growth; continue their activities based on the 2012-2015 work plan. These activities of each of the Working Groups can be summarized as follows:

8. **Working Group 1 on Geodetic Reference Framework for Sustainable Development** is chaired by Dr. John Dawson (Australia) and tasked to facilitate cooperation in geodetic data sharing amongst national agencies in order to build a common geodetic reference framework across the region and the project priorities.

9. WG1 continues its activities on the Asia Pacific Reference Frame (APREF) Project, Asia Pacific Regional Geodetic Project (APRGP), Asia Pacific Regional Height System Unification (APRHSU) Project, and Asia-Pacific Geodetic Capacity Building (APGCB) Project.

10. The APREF project is now incorporating Global Navigation Satellite System (GNSS) data from a Continuously Operating Reference Stations (CORS) network of approximately 550 stations contributed by 28 countries in the Asia Pacific. The stations have increased from 480 since 2013. Data are routinely processed by three Analysis Centres and made available publicly.

11. Along with the APREF project, an APRGP Annual GNSS campaign was carried out from 8 to 14 September 2013. Data were contributed from 12 countries. The data set has been uploaded to the ftp link: <ftp://ftp.ga.gov.au/geodesy-outgoing/apref/APRGP/2013/>. The analysis of the data set is complete. In 2014, the GNSS campaign (APRGP2014) is planned for 7 to 13 September 2014, inclusive.

12. The APRHSU Project established the steering committee, chaired by Dr. Jayhyoun Kwon (Republic of Korea). The project conducted a questionnaire on height systems and to date 12 responses have been received from government agencies or organizations responsible for the vertical reference systems. Initial analysis on the APRHSU questionnaire has been completed. The future action of the project will include: redistribution of the questionnaire; distribution of the analysis; development of an optimal methodology for height system unification; development of standards for vertical reference systems; and development of a web-based map for accessing products from APRHSU.

13. Aimed at geodetic capacity building in the Asia Pacific, the APGCB Project involved a number of regional workshops including: the Reference Frame in Practice Symposium (Manila, Philippines 21-22 June 2013); the FIG Pacific Small Island Developing States Symposium (Suva, Fiji 18-20 September 2013); and FIG Commission 5 Special Technical Forum – UN-GGIM-AP/FIG/IAG/UN-ICG Reference Frames in Practice - The Future held during the XXV FIG International Congress (Kuala Lumpur, Malaysia 18 June 2014).

14. In addition to the above activities, as mentioned in the previous sections, WG1 has been closely involved in and supporting the UN-GGIM activities on progressing the global geodetic reference frame.

15. **Working Group 2 on Data Sharing and Integration for Disaster Management** is chaired by Mr. Peyman Baktash (Iran). WG2 carries on projects to support data sharing for disaster management, including research to identify user requirements associated with risk assessments, preparedness planning, rescue and recovery.

16. WG2 completed its investigation of disaster management geoportals at national and regional levels. In its investigation, the architectures of Geoportals including Indonesia, India, Europe (INSPIRE) and ESRI were mainly studied.

17. WG2 also investigated the two case studies, flood and earthquakes and clarified required data for disaster management Geoportals.

18. Based on the findings of these investigations, WG2 has started its considerations to develop an appropriate guideline and the process of developing architecture towards implementation of a regional Geoportal for disaster management.

19. **Working Group 3 on Place-based Information Management for Economic Growth** is chaired by Dr. Jiang Jie (China) and conducts projects to encourage national geospatial information authorities in the region to utilize and share geospatial information through web/cloud based platforms and other smart based services, as well as to support development of a legal framework required to support the integration, sharing, access to and dissemination of this emerging place-based data.

20. WG3 continues its activities on the user requirement analysis, and case studies on measurement of return on investment for Australia, the case study on web-based distributed geo-data management and on-line services in China, and the studies on fast acquisition and update of place-based data in Malaysia.

21. Funding has been provided from the Ministry of Commerce of China for the training of the Global web-based geoinformation services for the developing countries. In addition, WG3 has approached for funding from the special fund of the regional cooperation in Asia and Pacific regions for capacity building projects.

22. WG3 has closely cooperated with ISPRS to support the symposium on “GeoSpatial databases and location based services” which was held in Suzhou, China from 14-16 May, 2014.

23. In addition to above activities, WG3 has supported the analysis of the UN-GGIM questionnaire on the current status of mapping in the world with focus on Asia and the Pacific countries/regions

4. Regional Priority Issues

24. Priority issues of the Asia-Pacific region were collected from the UN-GGIM-AP member countries through a questionnaire, which was distributed in November 2013. As of May 2014, priority issues from 13 member countries were received.

25. Among these various issues, the UN-GGIM-AP Executive Board has selected two core priority issues. UN-GGIM-AP requests that the following two issues to be addressed

and discussed by the Committee of Experts: (i) Disaster Management; and (ii) Working towards Sustainable Development Goals (SDGs) and post Millennium Development Goals (MDGs).

- i. Disaster Management
 - Promoting the development of disaster management geoportals.
 - Identifying the inputs to the World Conference on Disaster Risk Reduction (WCDR).

Reference document: Hyogo Framework for Action (HFA):

HFA Para 17 states: “Develop, update periodically and widely disseminate risk maps and related information to decision-makers, the general public, and communities at risk in an appropriate format.”¹

- ii. Working towards SDGs and post MDGs
 - Identifying inputs to SDGs and post MDGs.
 - Promoting an appeal to SDGs and MDGs communities.

Reference document: Future We Want:

Para 274 states: “We recognize the importance of space-technology-based data, in situ monitoring and reliable geospatial information for sustainable development policymaking, programming and project operations.”²

5. Partnership, Regional and International Collaboration

26. UN-GGIM-AP continues to work to build partnerships with regional and international organizations through participation to the various forums at regional and global levels and exchange of views and best practices.

27. The Committee members participated in the 10th United Nations Regional Cartographic Conference for Americas (UNRCC-A) held in August 2013 and the Meeting of the UN-GGIM for the Arab States held in February 2014. The representatives of the Committee presented papers and shared the experiences of the Committee’s successful transition from PCGIAP to UN-GGIM-AP with regional audiences.

28. The Committee, in collaboration with the International Federation of Surveyors (FIG), held joint geodetic capacity building forums and sessions at the FIG Pacific Small Island Developing States Symposium in Fiji in September 2013, and the XXV FIG International Congress in Malaysia in June 2014.

29. In an attempt to establish closer cooperation between the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Committee proposed to set up the Committee’s mirror site at the ESCAP website.

30. The Committee continues to maintain close relationships with other liaison organizations including FIG, ISO/TC 211, International Steering Committee for Global Mapping (ISCGM), and EuroGeographics through participation to the meetings and submission of the liaison reports.

¹ See A/CONF.206/L.2/Rev.1

² See A/CONF.216/L.1

6. Future Plans

31. The future meetings of UN-GGIM-AP are planned as follows:
 - The 3rd Plenary Meeting (10-12 November Bali, Indonesia, 2014)
 - Executive Board Meeting (2015)
 - The 4th Plenary Meetings in conjunction with the 20th United Nations Regional Cartographic Conference for Asia and the Pacific (Republic of Korea, 2015)

32. UN-GGIM-AP members will continue to actively contribute to the work of the UN-GGIM and take necessary actions upon requests by the Committee of Experts.

II. Report of the Regional Committee of United Nations Global Geospatial Information Management for the Americas

1. Summary

33. The Regional Committee of United Nations Global Geospatial Information Management for the Americas (UN-GGIM: Americas) was established in August 2013, replacing the Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA). In its first year the new regional committee has drafted new statutes; created new working groups in line with the resolutions of the 10th United Nations Regional Cartographic Conference for the Americas (UNRCC-A); continued the cooperation among the institutions³ of the Joint Action Plan and forged new regional and international relations. Another significant work item has been the planning and execution of a regional project to strengthen the Spatial Data Infrastructure in the Caribbean and to incorporate the Caribbean Member States into the UN-GGIM Americas efforts.

2. Introduction

34. On August 23, 2013, the Regional Committee of United Nations Global Geospatial Information Management for the Americas (UN-GGIM: Americas) was established. This new regional body replaces the Permanent Committee for Geospatial Data Infrastructure of the Americas (PC-IDEA). This significant action was determined in accordance with resolution 7, adopted at the 10th UN Regional Cartographic Conference for the Americas at the UN Headquarters in New York. The name change is in keeping with the regional body's renewed mandate to have increased close cooperation and coordination with UN-GGIM.

35. Mr. Stefan Schweinfest, Acting-Director, United Nations Statistics Division in his opening statement at the 10th UNRCC-A noted that "the new regional committee will be aligned to the global architecture, which will better address regional and global challenges especially in the context of sustainable development and humanitarian assistance".

3. Objectives

36. The Regional Committee shall determine the regional issues relevant to the management of geospatial information. It shall take the necessary action on these issues to maximize the economic, social and environmental benefits resulting from the use of geospatial information based on the member countries' knowledge and exchange of experiences and technologies to enable the development of the Geospatial Data Infrastructure for the Americas. It will also support the strengthening of national initiatives, as well as the progress of the discussions in the UNRCC-A, and contribute to the discussions in the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM).

³ "2013-2015 Joint Action Plan to Expedite the Development of Spatial Data Infrastructure of the Americas" – PAIGH, SIRGAS, GeoSUR and PC-IDEA

4. Activities, Areas of Work and Achievements

4.1 Contribution to UN-GGIM Activities

37. The Regional Committee functions under the jurisdiction of the United Nations Regional Cartographic Conference for the Americas, so the contributions to the activities of UN-GGIM are directly related to the resolutions. According to the resolutions of the 10th UNRCC-A, the following Working Groups (WG) were developed:

UN-GGIM: Americas' Working Groups	
1.	WG on geospatial data collection and management. Coordinated by Juan Antonio Nieto Escalante, Director General of the Geographic Institute of Colombia Agustin Codazzi. Related to the 2nd resolution "Spatially enabling government through geospatial data collection, management and dissemination." Some of the specific objectives are to promote the integration and use of geospatial information, promote the creation of quality geospatial data and the integration of statistical and geographic information.
2.	WG on access and use of geospatial information in disaster risk reduction and climate change. Coordinated by Rigoberto Magaña Director of the National Institute of Geography and Cadaster of El Salvador. Related resolutions 5th and 6th: "Business cases in support of the creation and use of geospatial Information" and "Access and use of geospatial information for disaster risk reduction and climate change decision making" respectively.
3.	WG on promotion and evaluation of Spatial Data Infrastructure (SDI). Coordinated by the Executive Secretariat of the National Coordination of Territorial Information (SNIT) of Chile. Related to the 1st and 2nd resolutions: "Regional coordination and cooperation" and "Spatially enabling government through geospatial data collection, management and dissemination" respectively. Some of the specific objectives of this Working Group are creating an evaluation scheme of National SDI, the study operational models and promote the development of SDI in the Caribbean.
4.	WG on Standards and technical specifications. Coordinated by the Geog. Carlos Guerrero Elemen, Director General of Geography and Environment of the National Institute of Statistics and Geography (INEGI) of Mexico. This working group has the objectives of collecting and disseminating best practices, technical standards and specifications, the creation of technical standards that complement those developed by international organizations that have that mandate such as the International Organization for Standardization (ISO) and Open Geospatial Consortium (OGC), facilitating the process of selecting and prioritizing them to continue the efforts of PC-IDEA.
5.	WG on regional coordination and cooperation. Coordinated by Rolando Ocampo, President of the Regional Committee and Vice President of INEGI Mexico. The work of this WG is related to the first resolution of the UNRCC-A with the same name. Its objectives is to increase, integrate and strengthen the projects developed by and for the region on geospatial information, and

strengthen the collaboration and coordination with the institutions of the Joint Action Plan signed by CP-IDEA, the Pan American Institute of Geography and History (PAIGH), the Geocentric Reference System for the Americas (SIRGAS) and Geospatial Network of Latin America and the Caribbean (GeoSUR); work to integrate and collaborate with the Caribbean region; and promote the collaboration with regional and international organizations, private sector agents and the academic community.

38. The Committee's, President has been actively involved in the following activities of UN-GGIM. He is Co-Chair of the Group of Experts on the Integration of Statistics and Geospatial Information alongside Ms. Gemma Van Halderen of the Australian Bureau of Statistics, and collaborates actively in the Working Group on Global Map for Sustainable Development and the Working Group on Trends in National Institutional Arrangements for Geospatial Information Management.

4.2 Legal and Policy

39. Statutes UN-GGIM: Americas: The new statutes of the Regional Committee were prepared based on the last PC-IDEA and the UN-GGIM for Asia and the Pacific Regional Committee statutes. The Executive Board of the Regional Committee in consensus submitted for consideration a draft of the statutes and after consultation with the 24 member countries and the Secretariat of UN-GGIM, the approved statutes were distributed and published in the new website: <http://www.un-ggim-americas.org/> on February 14th, 2014.

40. New Logo: The new logo of the Regional Committee was created in line with the design of the logos of UN-GGIM for Asia and Pacific, and the UN-GGIM Committee of Experts.

4.3 Administrative Arrangements

41. Project PAIGH 2013: The PAIGH supported the PC-IDEA project with \$ 8,000 USD for 2013 which was used for air tickets and per diem for the following members of the Regional Committee: Pedro Cabezas Gallegos, Valéria Oliveira Henrique de Araujo and Edwin Santos Guillermo Mansilla to attend the Extraordinary Meeting of UN-GGIM: Americas held at the General Assembly of PAIGH on November, 2013 in Montevideo, Uruguay.

42. Application for PAIGH Project 2015: Project application for financial support for 2015 was sent to the General Secretariat of PAIGH in a timely manner by the President of the National Section of Mexico, Amb. María del Socorro Rovirosa.

43. Collaboration Agreement between the Ministry of Foreign Affairs of Mexico (SRE) and INEGI. This agreement is intended to be the framework for collaboration between the two institutions, to develop the project of strengthening the Geospatial Data Infrastructure in the Caribbean in the framework of UN-GGIM: Americas Regional Committee. With a fund for the project of \$ 4,500, 000 USD.

44. Geospatial Media & Communications: This global company, which focuses on working in the field of geospatial technologies and has expertise in organizing conferences globally, has committed with UN-GGIM: Americas to host the first session of the Regional Committee during the Latin America Geospatial Forum in Mexico City

in September 2014, Funding has been earmarked to assist 20 members of the Committee to participate in the meeting.

4.4 Publicity and Outreach

45. The Regional Committee has international presence by the participation of the President of the Committee, in various forums listed below:

- Latin America Geospatial Forum, R o de Janeiro Brazil, September 2013.
- High Level Forum on UN-GGIM Global Map for Sustainable Development, Chengdu, China, October 2013.
- First meeting of the Expert Group on the Integration of Statistical Geospatial Information, New York, November 2013.
- General Assembly of PAIGH and Extraordinary Meeting of UN-GGIM: Americas, Montevideo, Uruguay, November 2013.
- UN-GGIM meeting on the Role of Geospatial Information in Measuring and Monitoring the Sustainable Development Goals. New York, January 2014.
- India Geospatial Forum, Hyderabad, India, February 2014.
- Regional High Level Meeting and the Caribbean Regional Workshop of the Urban and Regional Information Systems Association (URISA) Caribbean Chapter in St. Maarten, February 2014.
- 45th Session of the United Nations Statistical Commission, New York, March 2014.
- State of Gulf of Mexico Summit 2014 of the Harte Research Institute for Gulf of Mexico Studies from the Texas A&M University, Houston, Texas, March 2014.
- First Workshop for the Caribbean Project, Panama City, Panama, April 2014.
- MundoGeo #Connect 2014, represented by the Executive Secretary, M nica Aguayo, Sao Paulo, Brazil, May 2014.
- Geospatial World Forum, Geneva, Switzerland, May 2014.
- First Colombian Spatial Data infrastructure Forum, Bogota, Colombia, May 2014.
- International Workshop Integrating Geospatial and Statistical Information, Beijing, China, June 2014.

46. In addition, the latest news and advances of the Regional Committee were shared in the GeoSUR Newsletter - News of interest for the geospatial community in the Americas.

5. Partnerships, Regional and International Collaboration

5.1 Caribbean Project

47. Acknowledging the seventh resolution adopted at the Ninth United Nations Regional Cartographic Conference for the Americas, held in New York from 10 to 14 August 2009, which specifically recommended the development of local, national and regional spatial data infrastructures in particularly in the Caribbean, due to the unique geographical position of the region and natural disasters that affect them specifically. In conforming to the first resolution of the 10th UNRCC-A on Coordination and Regional Cooperation, the Regional Committee has developed a project to strengthen the infrastructure for geospatial data management in the Caribbean.

48. The following are the two objectives of the project:

- Reduce the gap in the management of geospatial information in the countries of the Caribbean region with respect to the other countries of the continent.
- Support the integration and participation of Caribbean countries in the UN-GGIM: Americas initiatives

49. The development of this project would not be possible without the cooperation of the Ministry of Foreign Affairs of Mexico and with the constant collaboration of the Association of Caribbean States.

50. The Ministry of Foreign Affairs of Mexico which, in its role as President Pro Tempore of the Council of Ministers of the Association of Caribbean States, assumed its responsibility with the region and committed to the Caribbean Project in the frame of the Regional Committee UN-GGIM: Americas, with a budget of about \$ 4,500, 000 USD to be financed by the Government of Mexico.

51. The objectives of this project will be achieved through four specific actions:

i. **Diagnosis of the geospatial information management in the Caribbean:**

52. A Diagnosis will be made through a questionnaire that was distributed to the Caribbean Countries. At the first workshop held in Panama City, Panama, in April 2014, the geospatial experts came together and complemented the information reflected in the questionnaire. Also accomplished the preparation of an outline of a work program, a critical path and task distribution. Experts from the following 16 countries attended this workshop: Antigua and Barbuda, Bahamas, Barbados, Dominique, Grenada, Guadeloupe, Guyana, Haiti, Jamaica, Martinique, Dominican Republic, St. Kitts and Nevis, Saint Vincent and the Grenadines, St. Lucia, St. Maarten and Trinidad and Tobago.

ii. **Capacity Building:**

53. Once the Diagnosis from the region is obtained, trainings, workshops and webinars, will be carried out in three main areas: Spatial data infrastructures, Land cover and vegetation classification System and Geospatial information systems.

iii. **Infrastructure Acquisition:**

54. GNSS continuous operating reference stations, computer equipment and telecommunications will be acquired. The aim is to create the Caribbean Geodetic Reference Frame through the strategic allocation of equipment and according to international standards. In addition, a geomatic solution will be developed consisting of hardware, software and integrated procedures, in order to facilitate the analysis and publication of statistical and geo-referenced geographical information, which will contribute to regional interoperability and strengthening the Caribbean SDI.

iv. **Caribbean Integration to UN-GGIM:**

55. As part of the Caribbean project and with the propose of incorporating into UN-GGIM: Americas, representatives of the Caribbean countries involved in this effort, will be invited to participate in the fourth session of the Committee of Experts, to be held in New York from 6 to 8 August 2014. This is being done to integrate them into the regular activities of the Regional Committee and the working groups. They will also be invited to

the first session of UN-GGIM: Americas to be held from 22 to 25 September 2014 in Mexico City.

56. Besides the Caribbean Project, the Regional Committee has been following up on the Join Action Plan between PAIGH, SIRGAS and GeoSUR by diverse meetings and videoconferences which has been creating the paths to follow in the context of geospatial regional cooperation.

57. The UN-GGIM Secretariat, through Cecille Blake, advised on this and other important issues of the Regional Committee during a visit to Aguascalientes, Mexico at the end of 2013.

58. The Association for experts in Geospatial Information Systems (URISA) has committed to support the project of the Regional Committee in the Caribbean, by sharing lessons learned and geospatial knowledge of the region.

59. The Association of Caribbean States (ACS) has been a fundamental part of the Caribbean Project, the collaboration between the two organizations intends to support the Caribbean to carry out this important task.

60. Since the event MundoGEO #Connect 2014, the institution has offered cooperation to the Regional Committee on capacity building; updating the news banner on the website of UN-GGIM: Americas; stronger presence in the next MundoGEO #Connect 2015, among others. This is a strategic partnership for wider dissemination and strengthening of the Committee.

6. Perspectives/Outlook, Future Plans

61. The Regional Committee will participate in the fourth session of the Committee of Experts and in the Global Forum on Statistical and Geospatial Information in New York, August 2014.

62. The first session of the Regional Committee in Mexico City will be held at the Latin American Geospatial Forum from 22 to 25 September 2014.

63. The Working Groups will continue developing work programs and incorporating the countries, accumulating regional cooperation and achievements in all of them.

7. Conclusion

64. In its first year of work, the Regional Committee has defined the critical path to follow in geospatial information management in the Americas for the coming years. The challenge is big and with the cooperation of member countries and institutions committed to this regional effort, the achievements will be satisfactory.

65. Our gratitude to the representatives of the member countries, the former Executive Secretary of PC-IDEA Valéria Oliveira Henrique de Araujo, the Executive Secretary of the SNIT of Chile for the administration of the website, International and Regional Organizations, Agents of the Private Sector and Academic Institutions that have joined this important project towards developing geospatial capabilities of governments through the collection, management and dissemination of geospatial data to achieve disaster risk reduction and the adoption of decisions on climate change, among other important goals.

66. Also and finally, thanks to the Secretariat of UN-GGIM for coordinating and leading the global and regional efforts on geospatial information management, working closely with UN-GGIM: Americas.

Report by: Monica Aguayo González, Executive Secretary of UN-GGIM: Americas
Report reviewed by: Rolando Ocampo Alcántar, President of UN-GGIM: Americas

III. Report of the United Nations Economic Commission for Africa on UN-GGIM Regional Activities in Africa

1. Introduction

67. This report covers activities carried out by the Africa region with regard to geospatial information management since the third session of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). The report includes actions taken as a follow-up of resolutions adopted by UN-GGIM and other activities considered as being of interest to Member States and partners.

68. The activities are focussed on: (i) Policy issues; (ii) Technical issues; (iii) Capacity and Outreach.

2. Policy Issues: To Foster Policies and e-Strategies

69. During the period under review, the region continued to encourage the development and implementation of spatial data infrastructures as the appropriate mechanism for the production, management, dissemination and use of spatial data and information products at regional and national level.

- Provision of advisory services to the African Union to develop an African Space Policy and Strategy. The policy aims at harnessing the potential benefits of space science and technology in addressing Africa's socio-economic opportunities and challenges.
- Contribution to the definition, the development and the initial operations of AfriGEOSS, an initiative developed within the Group on Earth Observation (GEO) framework to strengthen the link between the current GEO activities with existing capabilities and initiatives in Africa and provide the necessary framework for countries and organizations to access and leverage on-going bilateral and multilateral EO-based initiatives across Africa, thereby creating synergies and minimizing duplication for the benefit of the entire continent. An AfriGEOSS implementation plan is currently being developed to enable coordination of national activities into sub-regional and continental level and tailor GEO global initiatives to meet Africa needs.

70. At national level, technical support and advisory services are routinely provided to Member States to advance their geo-information policies and resources.

- Niger: Advisory services to set the stage of the process of developing an action plan for the “Plan Géomatique National”, the country proposed NSDI, along with establishing a Geographic Information Systems for territorial management in local councils.
- UN-GGIM in Africa: The following activities were undertaken for the implementation of the Africa component of UN-GGIM:
- Participation in the third session of the Committee of Experts, held in Cambridge in July 2013. The Africa region was then appointed Rapporteur of the session.
- Commencing the necessary dialogue to mainstream the enabling capabilities of geospatial technology into National Statistics Offices, activities so as to ensure that national statistical, planning and cartographic authorities have effective collaboration between them in the development of respective data infrastructures and systems.

- Finalisation of the African Action Plan on UN-GGIM. The document will be validated later in the year by Member States and partners.

3. Technical Issues : Geo-information Resources for Development

71. The activities carried out in this area aim to increase the number of information and knowledge resources, and services developed at the regional, sub-regional and national levels to improve availability and use of spatially-enabled information for development in Africa. The activities also encompass promotion of the common and interoperable tools and standards.

72. **Development of Geospatial Datasets and applications:** Several regional geospatial databases are being developed, incrementally updated and accrued to support regional initiatives. These databases form the core of the African Regional Spatial Data Infrastructure. These include: the continuous update of the African component of the Second Level Administrative Boundaries (SALB) geodatabases; and the sourcing, collecting, processing, validating and building of the African infrastructures geodatabases.

73. **Field projects:** The Region pursued its effort to develop through the African Reference Frame (AFREF) Project, a unified geodetic reference frame for Africa so that maps and other geo-information products can be represented seamlessly. The activities undertaken include:

- Setting the stage for the computation of the first AFREF static solution for African unified vertical datum and geoid.
- Finalizing with Ordnance Survey the logistic details of the roll out of the 72-donated reference stations to the AFREF Project. The AFREF International Steering Committee has developed criteria for selecting the locations to install the donated stations. The agreed installation sites are: Kenya/RCMRD, Sierra Leone, Liberia (or Ghana), Chad, Côte d'Ivoire, Zimbabwe, Zambia, Namibia, Burundi, and DRC. Custodianship agreements were developed to be signed by the national authority with primary responsibility for geodetic control and surveys in those countries.

4. Capacity Building and Outreach Activities

74. In terms of capacity building and outreach in the area of geospatial information management, the region has continued to collaborate and coordinate activities with its partners to organize seminars and workshops to raise awareness and share knowledge on the importance of using geospatial technology for Africa development agenda.

75. The region successfully contributed to organize the Global Geospatial Conference 2013, a joint GSDI 14 World Conference and AfricaGIS 2013 Conference. The latter is the premier conference and exhibition focusing on geo-information science and technologies in Africa. The joint conferences provided a forum for geo-information professionals to meet, interact, and be updated on new developments, products and emerging trends and issues. It also offered a unique opportunity for interaction among practitioners to share information and knowledge to advance the development and application of geospatial science and technologies in Africa.

76. The African endeavour to build partnership with regional and international organizations has continued to voice the continent perspective in the global arena of geospatial information

management through provisions of technical inputs and advisory service to several regional initiatives and participation to various forums on geo-information at national and regional levels.

5. Perspectives

77. The region is conducting studies as needed on emerging concepts and disseminates the knowledge to Member States. In the future, the region will endeavor to carry out –together with partners and other regional initiatives – a number of synergistic actions to foster the development of geo-information resources

78. **Inventory of geospatial data in Africa:** As part of its commitment for creating and managing knowledge in the continent, the region will publish the status of core geospatial datasets in Africa through a comprehensive compilation and inventory of presently available fundamental datasets in each Member State. The action should lead to a background study on policies, strategies, and operational plans of action to fill the data gaps in Africa.

79. **Community Mapping:** Several GIS solutions providers have developed tools and methodologies for involving the community at large in mapping their respective neighborhoods. This is based on the principle that members of the community know their neighborhoods more than any expert from outside. The region would like to develop a general programme on community mapping with the aim of having National Mapping Agencies to adopt community mapping as a way to increase the mapping coverage of their countries. Africa looks forward to work with partners and possibly other interested technology solution providers to organize a technical workshop so as to introduce the concept to national mapping agencies and develop a methodology for them to incorporate the results of such community mapping into their national mapping programme. This could involve training designated focal points on the moderation of edits by the community so that they can review proposed changes to their maps and either moderates them or alert designated moderators of errors or outright misrepresentations.

80. **Forthcoming Geo-related Events:** There are several geo-related events that will take place in the coming months in Africa.

- **ARRSE.2014 Conference.** The AARSE international conference is conducted biennially across Africa, alternately with the Africa GIS conference, and is the premier forum in Africa for research on remote sensing technologies and geospatial information science, gathering leading scholars from the remote sensing and related communities. The AARSE conference series commenced in 1996, and the 10th conference (AARSE.2014) will take place on 27-31 October 2014 and will be hosted by the University of Johannesburg, South Africa. The conference is open to a wide variety of stakeholders including high level policy-makers, individual and corporate practitioners from Africa and outside; United Nations agencies; sub-regional, regional and international inter-governmental and non-governmental organizations; academic and research institutions; multi-national corporations; small and medium enterprises; and civil society organizations.
- The conference will give once again a unique opportunity for participants and organizations to interact with practitioners and other stakeholders so as to present their expertise, products and capabilities.

- Derek Clarke (Chief Director: National Geo-spatial Information, South Africa - DClarke@ruraldevelopment.gov.za)- Chair CODIST-Geo Bureau
- Andre Nonguierma (Senior GIS Officer, UNECA – Anonguierma@uneca.org)- CODIST-Geo Secretariat
- <http://geoinfo.uneca.org/sdiafrica/>

IV. Report of the Preparatory Committee of United Nations Global Geospatial Information Management for Europe

1. Executive Summary

81. The Preparatory Committee of United Nations Global Geospatial Information for Europe and three working groups established by them have continued its work and submit a solid proposal as the basis for the future work of UN-GGIM: Europe.

82. The proposal includes Articles and Rules of Procedure which have been extensively discussed and agreed with the National Mapping and Cadastral Authorities, in the European UN Member States, and with representatives of the National Statistical Institutes, European Commission and European Environmental Agency.

83. The situation in Europe, regarding geospatial information management and the integration of statistics and other information with it, is unique mainly because a relevant legal framework exists covering the 28 countries of the European Union (EU) and 4 countries forming the European Free Trade Association (EFTA), where the INSPIRE⁴ directive (Infrastructure for Spatial Information in the European Community) lays down legal requirements for geospatial information and the European Statistical System (ESS) for the collection, analysis and reporting of national statistics.

84. For this reason UN-GGIM: Europe aims at building on existing efforts to maximise the benefits and investments in geospatial information and statistics.

85. Whilst a number of projects and initiatives already exist in Europe dealing with data definition and access conditions; it is considered desirable to intensify the coordination between countries and the European institutions and global bodies to identify, define, produce and distribute pan-European harmonised geospatial core data. UN-GGIM is seen as an ideal framework in which to do this.

86. In pursuing this it is proposed to proceed in two stages respectively reflecting the European users demand level and the global users demand level. The first stage would focus on reinforcing synergies in Europe, which are currently insufficient; the second stage would strive to better respond to global requirements.

87. The ESS provides a vast amount of geo-referenced statistics, in many cases broken down to subnational administrative output areas of varying size and at different administrative levels. There is however a growing demand from users for more detailed information which can only be met by incorporating more geospatial information into statistical products and production processes.

88. Despite some interaction at a working level in the annual Geographical Information System of the European Commission working group meetings, between NMCA's and NSIs, a structure at senior or even political level has never been established. The existence of UN-GGIM: Europe will provide a strategic opportunity to create a permanent structure that brings geospatial information management, statistics and other thematic communities together to develop a comprehensive information framework supporting sustainable development,

⁴ <http://inspire.ec.europa.eu>

whereby statistics describes the ‘Who’, ‘What’ and ‘When’ and geospatial information describes the ‘Where’. This integration of statistics and geospatial information and its exploitation in spatial analysis will support understanding of the ‘Why’ enabling decision makers to take appropriate policy decisions.

89. A number of actions have been proposed which will be considered by the members of UN-GGIM: Europe, when they meet on 1st October to elect their Executive Committee and determine a relevant work plan for the coming period.

2. Introduction

90. Representatives of the European UN Member States and the Preparatory Committee of United Nations Global Geospatial Information for Europe have pleasure in submitting this report in response to Minute 3/14 d) of the 3rd meeting of the Committee of Experts in GGIM; in which the Committee: *‘Noted with satisfaction the progress being made towards establishing UN-GGIM Europe, and invited European representatives to report back to the Committee at its next session.’*

91. The Preparatory Committee of United Nations Global Geospatial Information for Europe continued its work in the intent of submitting to the 4th meeting of the Committee of Experts in GGIM a solid proposal that can serve as a basis for a constructive work of the UN-GGIM: Europe in the future. It convened a meeting with representatives of the European UN Member States in Warsaw on 2nd October 2013. On that occasion three Working Groups with specific tasks were established.

92. WG3 led work on creating the institutional arrangements for Europe to support the goals of UN-GGIM. Furthermore, the UN-GGIM inventory of issues was used as a basis for WG1 to develop a European perspective on data definition and access conditions and for WG2 to define a European approach for interoperability and data infrastructures for geospatial information.

93. By presenting this report to the Committee of Experts on Global Geospatial Information Management European UN Member States sets out their plans to establish a Regional Committee of UN-GGIM for Europe.

3. Institutional arrangements for Europe to support UN-GGIM goals

94. The situation in Europe is quite unique compared with the rest of the world mainly because a relevant legal framework exists covering the 28 countries of the European Union (EU) and 4 countries forming the European Free Trade Association (EFTA), where the INSPIRE⁶ directive (Infrastructure for Spatial Information in the European Community) lays down legal requirements for geospatial information and the European Statistical System (ESS) for the collection, analysis and reporting of national statistics.

95. For this reason UN-GGIM: Europe aims at building on existing efforts to maximise the benefits and investments in INSPIRE, ESS and related initiatives. A major challenge will be in how to help and facilitate convergence of non EU/EFTA countries to avoid duplication of efforts and resources.

⁵ WG1 lead by France; WG2 lead by Sweden and WG3 lead by Italy

⁶ <http://inspire.ec.europa.eu>

96. The fact that an EU legal framework exists, and some European Institutions have responsibilities towards geospatial and related information, is reflected in the proposed Articles and Rules of Procedures.

97. Additionally, to be able to effectively target one of the main topics of UN GGIM ‘to integrate geographic information and statistics’, the need for a stronger collaboration between National Mapping and Cadastral Authorities (NMCAs) and National Statistical Institutes (NSIs) has been recognised in the preparatory work for UN-GGIM: Europe.

98. The Articles and Rules of procedure which have been developed were widely discussed with representatives of 20 UN Member States, European Commission officials, the European Environment Agency (EEA7) and EuroGeographics⁸, the membership association of European NMCAs.

99. A draft of the Articles and Rules of procedure was discussed with the UN-GGIM Secretariat to ensure that they were not in conflict with any UN procedures and protocols, and in order to make the European proposal more uniform with the caucuses already established, the draft was also shared with UN-GGIM: ASIA-Pacific and UN-GGIM: Americas.

100. In parallel with this work, due to its importance, contact has been made briefly with UNECE. No cooperation has yet commenced and although this could be developed once UN-GGIM: Europe is established.

101. As decided at the third session of the Committee of Experts, the Preparatory Committee provides this report to the Committee at its fourth session and presents the outcomes of the three working groups and a proposal for the formal establishment of UN-GGIM: Europe. Tentatively its inaugural meeting will occur in October 2014 in Moldova back-to-back to the EuroGeographics General Assembly.

102. The Articles and Rules of procedure adopted by the European UN Member State Representatives are included in Annex A.

103. In addition the first version of an inventory of the European NMCAs and NSIs responsibilities and policies has been compiled. This will be hosted in due course on the web site of UN-GGIM: Europe.

104. The European Union Member States and other bodies active in the preparation of the institutional arrangements for Europe have been clear throughout the process that they wish to proceed taking care to avoid duplication of efforts with existing and planned European initiatives and projects in the field of geospatial information and statistics. Particular attention will be devoted to the work being undertaken in the European Location Framework project (ELF9) and in the European Union Location Framework project (EULF10), which together address most of the UN-GGIM issues from two different but complementary perspectives. ELF is focusing on reference data harmonisation and services, and EULF on policy streamlining and best practices across sectors for integrating geospatial information in e-government. Both projects will improve the conditions for building cross-border applications and the integration of statistics consistent with the work of the ESS and groups of experts on geospatial and statistical information such as the European Forum for Geostatistics (EFGS)¹¹.

⁷ www.eea.europa.eu/

⁸ www.eurogeographics.org/

⁹ <http://www.elfproject.eu>

¹⁰ http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-13action_en.htm

¹¹ www.efgs.info

105. INSPIRE is currently considered in non EU Member States. Relevant references are the outcomes of the, recently finished, INSPIRATION project¹² that covered the western Balkan countries, and EC reports on: i) NSDI status in Ukraine, ii) NSDI status in Moldova and iii) Report on the status of INSPIRE in the Balkan countries.

106. Finally it should be said that representation of NMCAs and NSIs on an equal footing in all UN-GGIM groups is considered essential. The UN Statistical Geospatial Expert Group is welcomed as a first positive step which can benefit from regional UN-GGIM Committees. This will speed up the handling of strategic, organisational, legal, and operational/technical issues at the appropriate level.

4. European Perspectives on Data Definition And Access Conditions

4.1 Background of Harmonised pan-European data

107. Authoritative geospatial data are used to support both the implementation of public policies and the development of downstream services. Moreover, geospatial data are required to be homogenous to enable the implementation of public policies in a coherent and coordinated way among countries and at regional or global level. Likewise, significant opportunities exist if services developed by industry can be exploited without requiring country specific adaptation.

108. Unfortunately, these requirements are not currently met in Europe as the available geospatial data remain heterogeneous between countries. Although some pan-European harmonised data is compiled from national data, other datasets are commissioned centrally at European level which may duplicate and be inconsistent with the existing data in use at a national level.

109. Therefore it is desirable to intensify the coordination between countries and the European institutions and global bodies to identify, define, produce and distribute pan-European harmonised geospatial core data.

4.2 How to identify and define core data?

4.2.1 State of the art of existing initiatives

110. The contribution of the INSPIRE Directive is to provide the EU with a legal and technical framework requiring sharing of existing data on different thematic domains (including statistical data referenced with geospatial data) and make them interoperable through common data models and web services. However, INSPIRE does not require harmonised quality of existing data and only has legal force in the EU and in the EFTA countries. Therefore gaps in the needed pan-European datasets are not completely fulfilled by the INSPIRE Directive alone.

111. Achieving a minimum core datasets is in the scope of the ELF project, which commenced in March 2013 and is co-funded by the European Commission and by the

¹² <http://www.inspiration-westernbalkans.eu/>

participating countries. ELF improves the harmonisation and edge-matching between EU Member States data in the INSPIRE framework as well as addressing licensing issues.

112. Successful and coordinated initiatives for core data, especially Corine Land Cover from the European Environmental Agency (EEA) already exist as well as various products from EuroGeographics, however they are not sufficient to meet the requirements, e.g. in terms of resolution and coverage.

4.2.2 Definition of Core Data to Meet the Requirements

113. At a general level, it is proposed to define core data as the authoritative data from UN Member States that satisfy minimal needs at cross-border, European and global level. The rationale of this definition:

- It is essential from a user perspective that national data and European data are coherent;
- It is essential to meet the requirements from the 2020-2021 round of census for geospatial core data;
- Core data would facilitate the production and would guarantee the quality and geometrical consistency of other richer, more detailed, more thematic geospatial data, which would rely on core data.

114. To meet the requirements, a dialogue is needed between the stakeholders and both the National Mapping and Cadastral Agencies (NMCAs) providing the data and balancing the needs with the costs. There is currently no place for this dialogue and decision making at European level, the gaps may be procedural or organizational. The European UN Member States therefore welcome the introduction of UN-GGIM: Europe as a useful Forum in which to proceed and recommend a process leading to the establishment of core data at European level by identifying “what” is needed and by “whom” interfacing and capturing results from existing requirement definition processes.

115. It is proposed to proceed in two stages respectively reflecting the European users demand level and the global users demand level. The first stage would focus on reinforcing synergies in Europe, which are currently insufficient. The second stage would strive to better respond to the global level requirements. The existing requirement processes pertaining to the two levels are the following:

- European level: UN-GGIM: Europe process; INSPIRE process and ELF process (both should be used as technical specification framework for defining core data in detail); ESS process (to address requirements from statistics); Copernicus process (including In-situ Coordination); Process on the re-use of public sector information; Thematic areas representation processes;
- Global level: UN-GGIM process; Global Map for Sustainable Development (GM4SD); Process to develop a set of Sustainable Development Goals (SDG); Group on Earth Observation (GEO); International Hydrographic Organization (IHO).

4.3 How to Produce Core Data?

4.3.1 Strategic and Organizational Framework

116. The concept of a European agency for geospatial information was raised to the attention of the European Commission in 2009. The Commission reaction was that there is no mandate in the European Treaties and no political will to extend the number of European agencies.

117. Actually, coordination was already ensured through EuroGeographics which is an operational entity relying on the goodwill of its members that has no authority to require anything from European countries. So at European Union level, political ownership of geospatial data is currently lacking.

118. UN-GGIM could be a unique opportunity to address the issue of 'core data' and to persuade UN Member States to do things according to minimum requirements.

4.3.2 Technical framework

119. In order to obtain consistent core data at European level, the coordination and the distribution of core data production has to be considered. Technical solutions will have to be found to deal with core data production sources and processes and their possible mutualisation. In this respect ELF is currently defining and developing an infrastructure that will facilitate the efficient creation of core data.

4.4 How to Fund Core Data Production, what Charging Principles to Adopt for Core Data?

120. Funding is a key issue to be addressed, in any case funding must be available to produce and maintain the data; otherwise it will be very difficult to achieve core datasets. It was noted that for many NMCAs public finance does not cover 100% of their production and distribution costs, this is not often fully recognized at European level. Therefore the approach should clarify the economic model applied to core data: Which core data can be free and open and therefore up-stream funded and by whom? Which core data are required to generate revenues therefore down-stream funded by the users?

121. It should be noted that statistical offices work in a context that is very different, whereby all official statistics, the equivalent to core geospatial data, are fully funded by government budget appropriations and distributed as open data. This opening up of statistics has been a huge success which has boosted the uptake of official statistics. Working together in UN-GGIM: Europe provides a good opportunity for the NMCAs to learn how this was achieved and make use of this in achieving their aspiration to make their data more widely used. In the immediate future these different approaches to funding will have to be satisfied within NMCA and statistical offices' collaborative work, taking into account the need to meet the expectations of users of official statistics, who are used to open data, the public funding available for this work and the added value obtained by the integration of statistics with geospatial information.

122. The production of core data only on a voluntary basis, with no financial incentive, is unlikely to work; nothing will happen. Therefore using an incentive financial mechanism is probably the only way to ensure that core data are produced in all countries. Some European incentive mechanisms already exist in Europe, but those most relevant for achieving sustainable comprehensive data access arrangements for core data will have to be identified and put in place

123. Within the EU it is suggested that core data funding, as serves a common EU and national interest and benefit, should come at least from both the EU Member States and the European Commission. The Copernicus program could be seen as an opportunity to support the creation and harmonisation of core data. More cooperation between the Copernicus programme and the MS needs to be set up.

124. If a first momentum is created for core data in the EU it could be extended to the European UN countries that are not EU members. In other words, if core data becomes a reality within the EU, their usefulness will be demonstrated to non-EU European countries and this may motivate them to produce core data.

4.5 How to Develop Harmonised Licences For Core Data?

125. There is disparity around the types of licensing models and an inevitable diversity in details of terms and conditions, reflecting national traditions, legal frameworks and a lack of common legal terminologies.

126. It is proposed that UN-GGIM: Europe, once formally established, supports work to agree common definitions and terminology around open geospatial data licensing and to establish some principles for simplification around the licensing of paid-for data, building on existing work and carrying out an alignment exercise with other bodies looking at these issues e.g. INSPIRE, ELF, EULF and GEO.

5. European Approach to Interoperability and data infrastructures for geospatial information and statistics

5.1 The European Context

127. ESS provides a vast amount of geo-referenced statistics, mainly on subnational administrative output areas of varying size and at different administrative levels. There is however a growing demand from users for more detailed information¹³ as well as information on shifting functional areas and the ESS will only be able to meet this demand by incorporating more geospatial information into their products and production processes.

128. INSPIRE, as series of European and national legal acts and agreements, when fully implemented in 2020, will lead to a European-wide Spatial Data Infrastructure. It is a far-reaching policy related to geospatial interoperability as it covers coordination, data sharing as well as technical arrangements to achieve interoperability and harmonisation of spatial data and services.

129. Conceived for environmental policies and policies that affect the environment, INSPIRE is truly a multi-purpose infrastructure. It is linked to policies for the creation and sharing of spatial information such as Galileo, GMES/Copernicus, and the Directive on the Re-Use of Public Sector Information (PSI). In particular the revised PSI Directive and the recent G8 charter on open government data (that considers geographic information and environmental data as core data) are expected to influence the way geospatial information is being shared and used.

130. The Shared Environmental Information System for Europe (SEIS)¹⁴ initiative, which in Europe complements activities like INSPIRE and Copernicus and supports better data availability under the European environmental legislation, enables cooperation with EU member states aiming at closing knowledge and data gaps. In an international context, SEIS supports joint activities with countries under the Aarhus convention, acts as priority activity of the European Neighbourhood Policy jointly with UNECE, supports UNEP-Live and contributes to GEO/GEOSS processes.

¹³ e.g. European Commission publishes Cohesion reports with a wealth of detailed regional comparison studies.

¹⁴ http://europa.eu/rapid/press-release_MEMO-12-159_en.htm

131. Already in the 1990s the ESS created a permanent technical committee for a better coordination of statistics and geographical information for statistical purposes, the Geographical Information System of the Commission (GISCO)¹⁵ working group, with varying levels of participation by NMCAs. In a similar time frame the fore-runners of EuroGeographics (CERCO and MEGRIN) were established as the membership association of the NMCAs.

132. Despite some interaction at a working level in the annual GISCO working group meetings, between NMCAs and NSIs, a structure at senior or even political level has never been established. Furthermore both the geospatial and the statistical community too often work within their traditional remits.

133. UN-GGIM: Europe provides a strategic opportunity to create a permanent structure that brings geospatial information management, statistics and other thematic communities together to develop a comprehensive information framework supporting sustainable development, whereby statistics describes the human societies and the ‘Who’, ‘What’ and ‘When’ of its activities and geospatial information describes the physical environment and the ‘Where’. This integration of statistics and geospatial information and its exploitation in spatial analysis would then allow understanding the ‘Why’ enabling decision makers to take direct action.

5.2 Policy Alignment in an Evolving Data Sharing Landscape

134. The alignment of policies and strategies is important in order to fully reap the benefits of synergies, both at European and national levels. EU and national studies are being conducted to assess the adaptability of INSPIRE to other policy areas. For instance, following an impact assessment of the cost and benefits, the Danish government has launched a basic-data initiative as part of the Danish eGovernment strategy (2011-2015), which is anchored on INSPIRE. Similar actions have been developed by other European countries.

135. There are two ways to align INSPIRE with other policies: the INSPIRE Maintenance and Implementation Framework (MIF), and the 2014 INSPIRE policy evaluation and its follow-up, both of which should be informative for the international community. The MIF, which continues INSPIRE’s open and transparent approach of stakeholder’s engagement, addresses the support to the further implementation of INSPIRE in the Member States, lessons learned from the implementation, and takes into account emerging requirements.

136. The above-mentioned activities allow UN-GGIM: Europe to follow closely what works well in INSPIRE, and what needs to be improved. Suggested roles of UN-GGIM: Europe are to help in identifying evidence as to how investments in the use of geographic information and services can foster innovation in both the public and private sectors; to assess which additional measures would be needed in order to increase the user-base of INSPIRE and to build capacity in other areas of the world who want to adopt parts of INSPIRE.

5.3 Operational considerations

¹⁵http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Geographical_information_system_of_the_Commission_%28GISCO%29

137. The international statistical community has adopted the Generic Statistical Business Process Model¹⁶ as a standard to describe the production process of official statistics. Geospatial information can improve the processes at all stages starting with the input, continuing with the throughput and ending with the output. It is expected that a better integration of geographical information into statistics will contribute to the ambition of the ESS to create multi-purpose statistics using harmonised methods and tools.

138. The spatial reference framework for statistics is, in most cases, based on national address and building registers. To be as flexible as possible, statistical information should be associated to a location at the most individual level of the observation, in most cases a point. It is expected that a better integration of geographical information into statistics will contribute to the ambition of the ESS to create multi-purpose statistics using harmonised methods and tools.

139. The NSIs in most cases are not responsible for maintaining this spatial reference framework and it is essential that the geospatial information used to geocode statistics meets several conditions. It must have the right resolution, the necessary scope of attributes, and be updated in a regular, defined way. The same spatial reference framework should be used for all public data, and the access to the data must be as easy as possible.

140. UN-GGIM: Europe could create the necessary foundation and promote the creation of a single, official point based geospatial reference framework per country that takes on board the requirements from statistics and other thematic communities, and has favourable and affordable access conditions for public users.

141. The upcoming 2020-2021 round of censuses operation would greatly benefit from a point based reference framework; its availability would allow drawing on the combination of geospatial and statistical information, and should be seen as an opportunity to evolve in this direction.

142. As the INSPIRE directive includes data sharing as one important aspect, access to geospatial data is likely to improve within the EU. The ELF project delivers pan European web services to build on the existing work of the INSPIRE Directive and enable access to harmonised data, including address and building points. Several initiatives to expand INSPIRE and to develop a more comprehensive location framework for Europe including the ESS, ELF and EULF have recently been launched and promise to look beyond purely topographic information and stakeholders.

5.4 Interoperability

143. Statistical data are exchanged and disseminated in various formats but one established standard is SDMX which is increasingly adopted by the ESS. This standard does not only contain the actual data but also provides a means for metadata and even structural data definitions. INSPIRE on the other hand is the legal framework in EU and EFTA countries for sharing spatial information. It covers aspects such as the structure and scope of data as well as metadata and technical protocols of web services.¹⁷ So far, these standards have been developed independently from each other resulting in a lack of cross-domain interoperability. Both standards are based on XML and web services, and therefore technical interoperability

¹⁶ <http://www1.unece.org/stat/platform/display/metis/The+Generic+Statistical+Business+Process+Model>

¹⁷ For example the following ISO standards are used: Geographic information – Geography Markup Language, (GML) (ISO 19136:2007); Geographic information – Web Feature Service (ISO 19142:2010); Geographic information – Web map server interface (ISO 19128:2005)

seems possible. First semantic and syntactical mappings have been attempted between INSPIRE and SDMX and research will continue. The Data Documentation Initiative (DDI) is another XML based metadata standard for the description of the data lifecycle of social and economic data, mainly micro-data, and its integration with geospatial standards should be investigated. The OGC standard on Table-Joining-Services is pointing in the same direction of technical integration and interoperability.

144. The European Commission Communication¹⁸ “Towards interoperability for European public services” introduces the European Interoperability Strategy (EIS) and the European Interoperability Framework (EIF) for European public services, two key elements in the Digital Agenda for Europe. Together, they promote interoperability among public administrations. Within this context, the EULF project is working to test the concept of a EU-wide, cross-sector interoperability framework for the exchange and sharing of location data and services addressing legal, organisational, semantic and technical aspects.

5.5 Integrated Quality framework for statistics and geospatial information

145. The UN Fundamental Principles of Official Statistics together with the European Code of Practice¹⁹ (CoP) sets the standard for developing, producing and disseminating official statistics. These frameworks have proven very successful in the statistical domain, with international comparable statistics based on solid ethical fundamentals as a result. The INSPIRE Directive is a good example on how to get spatial information harmonised and accessible for Europe. The UN-GGIM should play an important role in developing and promoting an international quality framework for spatial information, including geospatial statistics, building on principles similar to the CoP.

5.6 Creating and maintaining a knowledge-base

146. When it comes to the sharing and re-use of the wealth of information across Europe and the rest of the world relating to the use, analysis and management of geospatial information we find wheels being reinvented. This is caused by a lack of consistency in the content and the difficulty in discovering and accessing useful information in a timely and structured way.

147. In Europe, a large body of knowledge is already available but the resources would benefit of a more structured access. The identified need for a global knowledge base²⁰ has been carried forward to be addressed by a future UN-GGIM: Europe but with an initial specific focus on a best practice/knowledge database of spatial analysis projects in order to make the activity manageable.

148. It is recommended that UN-GGIM: Europe supports a harmonised access to existing knowledge. This includes: 1) identifying relevant repositories; 2) identifying requirements for knowledge management and discovery; and 3) exploring how analyses can be done across different communities and languages. This will serve as input to the global UN GGIM Knowledge Base.

5.7 The Use of Multiple Data Sources for the Production of Geospatial Information

¹⁸ http://ec.europa.eu/isa/documents/isa_iop_communication_en.pdf

¹⁹ http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/code_of_practice

²⁰ <http://ggim.un.org/2nd%20Session/E-C20-2012-5%20Inventory%20of%20Issues%205%20July.pdf>

149. The increased ability of citizens to use new technologies to create and share useful data and information leads to an urgent need to address challenges and to exploit the opportunities of data from multiple sources.

150. The two most obvious data sources are crowd-sourced voluntary geographical information and geo-referenced Big Data which results from mobile devices, machine to machine transactions and sensors. Big Data also plays an increasing role in the statistical world and in fact in the UN.

151. The reusability of data from multiple sources offers great potential, but also the challenge of bypassing traditional methods of quality management, access control and privacy safeguards. This creates new situations for intellectual property rights, liability issues, and the possibility of unintended or even harmful reuse by third parties. Related to this issue is the question of accountability for private sector companies or public administrations who store such information.

152. UN-GGIM: Europe could, when established, consider work that helps address challenges as well as the growing importance and added value of geospatial information from multiple sources. Topics to be addressed are many: roles and actors; purpose; data ownership / IPR / privacy; interoperability; quality, completeness, homogeneity and accuracy (including inequalities introduced by social aspects), etc. A situation should be avoided whereby only big businesses can afford the processing of these data, leading to a structural disadvantage of smaller businesses.

153. The European and national spatial data infrastructures should be able to integrate and combine such data (and related infrastructures) with authoritative data and to address some of the challenges mentioned above. In this respect, the ELF platform may be a good basis to combine and interoperate authoritative data and data from multiple sources. This work is consistent with and will enrich the Data Value Chain Strategy of the European Commission which aims at extracting maximum value from data by building on the intelligent use of multiple data sources.

5.8 Cooperation to Remove Barriers at the Point of Use

154. Access to many countries reference data is limited by licence conditions, and in some countries the level of associated charging is high due to the fact that for many NMCAs public finance does not cover 100% of their production and distribution costs. The way these restrictions are implemented may create obstacles at the point of use. Removing these obstacles is important for applications such as sustainable development and emergency management services necessitating specific access conditions compatible with their requirements.

155. Europe has gained important experience in this area, in particular related to the Copernicus Emergency Management Services (EMS). For example, specific data access arrangements were established and in 2013 online services in 20 countries have already been made available to, and used by, Copernicus EMS. It is recommended that UN-GGIM: Europe i) promotes the adoption of the principles underlying the provision of data to Copernicus EMS across all the countries of UN-GGIM: Europe; ii) stimulates other thematic communities to adopt data sharing provisions for dynamic and statistical data (e.g. hydrographical measurements, population statistics, extents of historical flood areas, and land use); and iii) helps to improve coordination and harmonisation of data.

5.9 Joint projects

156. In Europe there is good experience in resolving technical challenges through projects.

157. Some progress has been made on licence harmonisation (for example 3 European products were delivered under harmonised licenses for up to 45 countries).

158. The geospatial and statistical communities have recently agreed, for the first time, to propose joint projects to develop functioning data infrastructures and information systems. The upcoming 2020 round of censuses in Europe is a strong driver for this and will be a very good opportunity to enhance the cooperation between NSI and NMCAs, but other statistical topics, e.g. transport or land use must also remain on the agenda.

159. A Eurostat Task Force is working on the integration of statistics and geospatial information together with a number of Eurostat projects playing an important role in progress the aim of advancing the integration of statistical data and geospatial information at the national and European level. Joint projects can benefit from the existing professional network, the European Forum for Geostatistics, where involvement from NMCA's have been and will be crucial to further develop grid based statistics. These efforts will be supported by the work in UN-GGIM: Europe.

☆ Note: “*Articles of the Europe Region of the United Nations Committee of Experts on Global Geospatial Information Management*” and “*UN-GGIM: Europe Rules of Procedure*” are in a separate background document.

V. Report of the Regional Committee of United Nations Global Geospatial Information Management for Arab States

160. Recalling United Nations resolution 3/114 of the third session of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), held in Cambridge in July 2013.

161. Based on the comprehensive efforts paid by the national geospatial information authorities and the national statistical offices in the Arab States which were confirmed by the conduct of the UN-GGIM for the Arab States meeting organized by the United Nations Statistics Division (UNSD), in collaboration with the United Nations Economic and Social Commission for Western Asia (ESCWA) and the Royal Jordanian Geographic Center of the Government of Jordan.

162. The regional meeting was attended by 33 participants of whom 24 were from the following 13 countries in the region: Bahrain, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Qatar, Oman, State of Palestine, Sudan, Syrian Arab Republic and Tunisia. Also in attendance was the Director General of the Statistical Centre for the Cooperation Council for the Arab Countries of the Gulf (GCC-Stat), as well as representatives from the UN-GGIM-AP, UN-GGIM-Europe, UN-GGIM, UN-ESCWA, and the United Nations Statistics Division (UNSD).

163. The purpose of the meeting was to provide a forum for sharing national practices and experiences in the use of geospatial information and affirm the importance of having a stable, credible and reliable national geospatial information infrastructure in each country especially in the Arab states, built on internationally recognized standards that will integrate, manage, and deliver geospatial information and statistical information. In addition, the meeting sought to discuss and work collaboratively to enhance the availability of training programs in the Arab States on all regional and global levels, and to contribute to global knowledge and the sharing of experiences and best applications.

164. The participants presented their national experiences in geo-spatial information in their countries, as well as statistical activities, and showed great interest in the construction of national geospatial infrastructure, and the use of geographic information, especially combined with statistical information. Also addressed were activities to promote regional cooperation in the development of geospatial information management and integrated statistical information, and the establishment of appropriate regional coordination mechanisms, as evidenced by the UN-GGIM for Asia and the Pacific.

165. Participants recommended that a Transitional Bureau should be formed. The Transitional Bureau for the UN-GGIM Arab States will be led by Mr. Awni Khasawneh from Jordan, Director General of the Royal Jordanian Geographic Centre (RJGC), representing the national mapping agencies of the region, and Mr. Sabir Al Harbi, from Oman, Director General of the Statistical Centre for the Cooperation Council for the Arab Countries of the Gulf (GCC-Stat), representing the national statistical offices in the region. Participants also agreed to form two working groups:

- Working Group 1- to prepare the Mission and Statutes for the UN-GGIM for the Arab States, to be represented by Bahrain, Jordan, State of Palestine, Kuwait, Qatar, Sudan, Lebanon and Syrian Arab Republic.

- Working Group 2, to prepare the Work Programme with representatives from Jordan, Iraq, Morocco, Libya, Oman and Tunisia.

166. The UN-GGIM Co-Chair and the UN-Secretariat (UN Statistics Division and UN-ESCWA) will continue to provide support and guide the process to establish and assist the long term work plan of UN-GGIM: Arab States. All Arab UN Member States were strongly encouraged to send significant delegations to New York for the entire program of the UN-GGIM from 4 -8 August 2014.

167. Thirteen Member countries asked the Transitional Bureau to encourage the nine other Arab Member States to be involved in this important work.

168. Recalling that the United Nations Initiative on Global Geospatial Information Management (UN-GGIM) welcomes regional committees as an efficient way to make progress and provide useful input to the global UN-GGIM process and that, at its third session held in July 2013, the Committee of Experts, by its decision 3/114, “Recalled the Second High-level Forum on Global Geospatial Information Management held in Doha, Qatar, from 4 to 6 February 2013, and the meeting held on the sidelines of the Forum by the Group of Arab States, at which it was agreed that a regional mechanism for coordination in geospatial information management would be created, commended the action taken at the meeting towards the establishment of the mechanism under the auspices of the Economic and Social Commission for Western Asia, and invited the Group to report back to the Committee at the next session of the Committee”

169. Therefore the Transitional Bureau, on behalf of the Arab States, would like to request the Committee of Experts its final approval during this session for the establishment of a regional committee on GGIM under the auspices of ESCWA, to be named UN-GGIM for Arab States.

Prepared by

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VI. Report of the Joint Board of Geospatial Information Societies

1. Summary

170. This document provides a Report from the Joint Board of Geospatial Information Societies (JB GIS) to the Third Session of the UN Committee of Experts on Global Geospatial Information Management 6-8 August 2012, New York

2. Joint Board of Geospatial Information Societies

171. The Joint Board of Geospatial Information Societies (JBGIS) is a coalition of the Presidents, Secretaries-General or equivalent office bearers or their nominees that lead recognized international organizations involved in the coordination, development, management, standardization or regulation of geospatial information and related matters.

These organizations are:

- Global Spatial Data Infrastructure (GSDI) Association
- IEEE Geoscience and Remote Sensing Society (IEEE-GRSS)
- International Association of Geodesy (IAG)
- International Cartographic Association (ICA)
- International Federation of Surveyors (FIG)
- International Geographical Union (IGU)
- International Hydrographic Organization (IHO)
- International Map Industry Association (IMIA)
- International Society of Photogrammetry and Remote Sensing (ISPRS)
- International Steering Committee for Global Mapping (ISCGM)

The JB GIS meets formally once each year and informally when schedules permit.

3. Report Content

172. This report provides an update on the activities of the organizations listed above.

4. International Association of Geodesy (IAG)

173. The IAG is structured into four Commissions, the Inter-Commission Committee on Theory, fifteen International Scientific Services, the Global Geodetic Observing System (GGOS), and the Communication and Outreach Branch. The Commissions are divided into Sub-commissions, Projects, Study Groups and Working Groups. The ICCT investigates geodetic science problems in close cooperation with the Commissions. The Services generate scientific products by means of Operations, Data and Analysis Centres. GGOS has as one of its roles the coordination of the work of the different IAG components, relating in particular to the maintenance of the global reference frame for measuring and consistently interpreting key global change processes, and to promote its use to the scientific community, policy

makers and the public. The detailed programme of the IAG is published in the quadrennial Geodesist's Handbook, and reports are published in the biannual Travaux de l'AIG.

174. **IAG 150th Anniversary.** Celebration of the founding of the IAG's predecessor organisation in 1862, in Potsdam, Germany, 1-6 September 2013.

175. **Global Geodetic Observing System.** GGOS is the IAG's "Observing System" and in 2014 has been restructured to better align with Commissions and Services. At the heart of GGOS are its Bureaus. The Bureau of Networks and Observations contains working groups on satellite missions, simulations, and data and information systems. As a complement the Bureau of Products and Standards oversees working groups on Earth system modelling and standards, as well as promoting the development of new geodetic products associated with the three GGOS Themes: Unified Height System, Geohazards Monitoring, and Sea Level Change.

176. **Reference Frames.** The latest realisation of the International Terrestrial Reference Frame (ITRF) will be released in late 2014, and will be known as ITRF2013. ITRF2013 will be the most precise Global Geodetic Reference Frame (GGRF) to date. In addition considerable work has been done in defining the means of unifying all sea level-based height datums. In this way the International Vertical Reference Frame (IVRF) can be defined and realised. Work is also well advanced on an update to the absolute gravity reference frame (last defined in 1971).

177. **GNSS.** The importance of GNSS for geodesy, and for geospatial information applications in general, is well recognised by the IAG. Its International GNSS Service (IGS) is working closely with the UNOOSA's International Committee on GNSS (ICG). The IGS is readying itself for a future of multi-constellation GNSS by launching the Multi-GNSS Experiment (MGEX) in 2012. Since April 2013 new IGS products include the Real-Time Service (RTS), enabling the development of free Precise Point Positioning (PPP) services.

178. **UN-GGIM.** The IAG is strongly committed to working with the broader geospatial community within forums associated with the UN-GGIM. In addition to the GGRF, the IAG is promoting open data policies and greater international cooperation.

5. International Hydrographic Organization (IHO)

179. The International Hydrographic Organization (IHO) is an intergovernmental consultative and technical organization. 82 States are currently member of the Organization, with 7 more States in the process of acceding to membership. Each Member State is normally represented by its national Hydrographer.

180. The overarching objective of the IHO is to ensure that all the world's seas, oceans and navigable waters are surveyed and charted. As the competent inter-governmental authority for surveying and charting the world's oceans, seas and coastal waters, the IHO coordinates the provision of the marine component of spatial data infrastructures at the regional and worldwide levels. It does this through the setting of international standards, the co-ordination of the endeavours of national hydrographic offices and through capacity building.

181. The Secretariat of the IHO is represented in JB-GIS in order to assist in the coordination of related activities across the various geospatial disciplines.

182. **Global standards for hydrography.** The IHO sets the standards for hydrographic data and for the provision of hydrographic services, such as nautical charts, in support of safety of navigation and the protection and sustainable use of the marine environment. As reported to the 3rd session of UN-GGIM, the relevant IHO standards relating to hydrographic surveying and nautical charting services have been universally adopted.

183. **Lack of bathymetric data.** The principal shortcoming in the hydrographic domain remains the lack of depth measurements and related hydrographic information for most of the world's seas and oceans coupled with the limited resources being made available to address the problem. The lack of a comprehensive, detailed global bathymetric dataset is a major constraint on the safe, cost effective and sustainable development of the blue economy. The IHO maintains IHO Publication C-55 - Status of Surveying and Nautical Charting Worldwide. C-55 provides statistics for each coastal State on the percentage of sea area that is unsurveyed and the percentage that meets modern requirements. C-55 is available from the IHO website: www.iho.int.

184. As well as encouraging all coastal States to increase their emphasis on hydrographic surveying and charting, the IHO and the Intergovernmental Oceanographic Commission (IOC) of UNESCO jointly govern the long-running General Bathymetric Chart of the Ocean (GEBCO) project. The GEBCO project seeks to provide the most authoritative and openly available bathymetric dataset by harvesting observations from all sources. Further details are available on the dedicated GEBCO web site at <http://www.gebco.net/>.

185. **Capacity building.** The IHO operates its own Capacity Building Programme aimed at assisting individual States and regions to develop their hydrographic capabilities. The IHO also cooperates with various other intergovernmental and international organizations in complementary capacity building programmes under the UN theme of “delivering as one”. Capacity Building partners include the International Maritime Organization (IMO), the World Meteorological Organization (WMO), IOC, and the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

6. International Steering Committee for Global Mapping (ISCGM)

6.1 Progress of Global Mapping Project

186. **Progress of Global Map development.** Global Map data (national and regional version) were released for 110 countries and eight regions from the ISCGM website at <http://www.iscgm.org/> or from those of some participating organizations as of 1 April 2014. These data correspond to 65% of the whole land area of the earth (Figure 1).

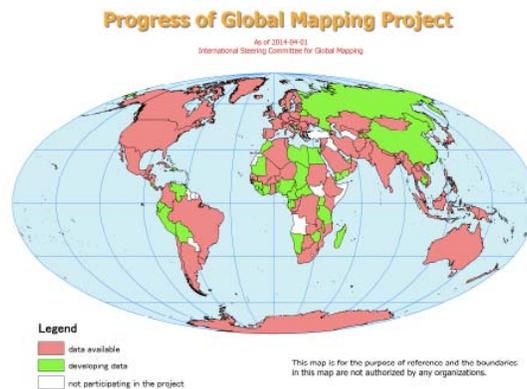


Figure 1: Progress of Global Mapping Project

187. In addition, ISCGM released Global Map Version 2, Global Land Cover and Percent Tree Cover, in July 2013.

188. **Participation in Global Mapping Project.** Participating countries and regions are steadily increasing and now come to 167 countries and 16 regions. This corresponds to 96% of the whole land area of the earth.

6.2 ISCGM activities

6.2.1 *ISCGM's Mission*

189. The ISCGM was established in February 1996 to spearhead 'global mapping' in response to the call for urgent actions at the 1992 Earth Summit in Rio de Janeiro for greater information support on 'the status and trends of the planet's ecosystem, natural resources, pollution and socioeconomic variables'. The mission of the ISCGM is "to examine measures that concerned national, regional, and international organizations can take to foster the development of Global Mapping in order to facilitate the implementation of global agreements and conventions for environmental protection as well as the mitigation of natural disasters and to encourage economic growth within the context of sustainable development" (Article 2 of the Rules).

6.2.2 *ISCGM's Contribution to UNGGIM/GM4SD*

190. At the third session of UN Committee of Experts on Global Geospatial Information Management (UNCE-GGIM), the committee advised a closer working relationship should be developed between the working group on the GM4SD (Global Map for Sustainable Development) and ISCGM and expected that ISCGM will play a central operating role.

6.2.3 *Administrative Issues*

191. After ten years' service as chair of ISCGM, Professor D. R. Fraser Taylor successfully concluded his term as the chair of ISCGM at the 20th meeting of ISCGM in July 2013.

192. ISCGM appointed Professor Paul Cheung, National University of Singapore and former Director of UN Statistics Division, as new chair of ISCGM. In addition, Mr. Toru Nagayama was appointed as secretary general of ISCGM in April 2014, taking over from Mr. Yoshikazu Fukushima.

6.2.4 *ISCGM Meeting*

193. The 21st meeting of ISCGM was held in New York, USA on 5 August 2014, preceding the fourth session of UNCE-GGIM. An important item on the agenda was on technical experience in global mapping. The secretariat has been thinking through future strategic plans of ISCGM in view of increasing demand of global mapping information. We would greatly appreciate your advice on our future direction and work program.

7. IEEE-Geoscience and Remote Sensing Society (IEEE-GRSS)

7.1 The Society

194. The Geoscience and Remote Sensing Society (GRSS) seeks to advance science and technology in geoscience, remote sensing and related fields using conferences, education, and through member participation in Technical Committees, Workshops, Publications and local and regional based Society Chapters. With over 3500 individual members GRSS is continuing to contribute to the use and application of remote sensing technologies related to environmental and societal needs worldwide.

7.2 The International Geoscience and Remote Sensing Symposium (IGARSS)

195. The International Geoscience and Remote Sensing Symposium (IGARSS) is the flagship conference of the society and has grown from 430 participants 30 years ago to over 2200 today. The next IGARSS will be held in Milan, Italy, from July 26-31, 2015. GRSS also co-sponsors more than twenty international Symposia on an annual or bi-annual basis.

7.3 Journals

196. The Society publishes three journals. The Transactions on Geoscience and Remote Sensing (TGRS), focuses on advances in the development of sensing instruments and techniques used for the acquisition of geoscientific information. Geoscience and Remote Sensing Letters (GRSL) is a quarterly publication for short papers addressing new ideas and formative concepts in remote sensing as well as new results. Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS) addresses current issues and techniques in applied remote and in-situ sensing, their integration and applied modeling and information creation for understanding earth environments.

7.4 Technical Committees

197. Technical Committees are open to all and serve the GRSS community by providing a forum for technical assessments, research collaborations and guidance to the Society on key issues in remote sensing policy and practice. Current Committee's include; Earth Science Informatics; Frequency Allocation in Remote Sensing; Instrumentation and Future Technologies; Image Analysis and Data Fusion and International Imaging Spectroscopy.

7.5 Chapters

198. Over 50 Local GRSS Chapters currently exist around the globe. Chapters offer both technical and social events as well as networking and career advancement opportunities to members.

7.6 Collaboration with international agencies

199. At a Society level GRSS is working with international agencies including UN-SPIDER and GEO and with regional country organizations to improve access to remotely sensed data. Through its Globalisation Initiatives Program GRSS assists scientists and engineers in Africa, Latin America and Asia to enhance information extraction processes from space imagery in order to help meet the information needs for community based mapping, monitoring for environmental assessment and mitigation planning for disaster management.

8. International Cartographic Association (ICA)

8.1 The Association

200. The International Cartographic Association (ICA) is “the world authoritative body for Cartography, the discipline dealing with the conception, production, dissemination and study of maps.” The mission of the Association is to promote the discipline and profession of Cartography and GIScience in an international context.

8.2 International Cartographic Conferences

201. As one of the most important instruments of ICA the organisation of the International Cartographic Conferences are undertaken every second year. The ICC 2015 will take place in Rio de Janeiro, Brasil from 23.-28.August 2015 and the ICC 2017 in Washington D.C, USA.

8.3 Publications

202. The ICA promotes the generation of extensive publications, generally through its Commissions and Working Groups. The publications include an ICA book series within the Lecture Notes on Geoinformation and Cartography book series of Springer-Verlag, ICA-recognised journals, ICA News and the ICA Website including blogs and the newly introduced e-carto news. Starting from beginning of 2015 ICA will launch the "International Journal of Cartography".

8.4 Outreach

203. In terms of outreach activities ICA has run successfully workshops, like the one on "Web Mapping and OpenSource Technologies" for the Caribbean Nations at Saint-Maarten in 2014. This links into the fast growing initiatives of launching ICA-OSGeo Labs all over the world with the aim on fostering OpenSource Technologies.

8.5 Fora and activities

204. The International Cartographic Association understand itself as a forum for those who work with, produce, and use maps; are interested in map design; want to know about cartographic generalization; want to be informed about the newest mapmaking technologies; or simply love maps. In this respect instruments like the Barbara Petchenik Children Map Drawing Competition are very popular, as well as cartographic exhibitions, cartographic conferences.

8.6 International Map Year 2015

205. The International Map Year 2015 (www.internationalmapyear.org). is meant as allowing everybody in relation to whatever "Geo" Domain to use the popularity, relevance and attractiveness of maps to raise awareness for Geospatial Information and Cartography. This is based on the idea, that the big potential of geo information is often not fully seen and used. In order to make sure, that spatial data is really applicable for governments, for decision makers, for planners, for citizens through applications, products, systems maps and

cartography play a key role. Maps are most efficient in enabling human users to understand complex situations. Maps can be understood as tools to order information by their spatial context. Maps can be seen as the perfect interface between a human user and all those big data and thus enable human users to answer location-related questions, to support spatial behaviour, to enable spatial problem solving or simply to be able to become aware of space.

206. The ICA has recommended to JBGIS that it should seek UN-GGIM endorsement of IMY during the UN-GGIM Committee of Experts Meeting in New York in August 2014. ICA also recommends that the request for UN-GGIM endorsement of IMY be made formally by the Chair of JBGIS during the delivery of the JBGIS report to the UN-GGIM Committee of Experts Meeting in New York in August 2014.

207. Information about IMY, is provided as an appendix to this JBGIS report to the UN-GGIM Committee of Experts meeting.

9. International Federation of Surveyors (FIG)

208. **XXV FIG Congress, June 16-21, 2014, Kuala Lumpur** with the theme “Engaging the Challenges: Enhancing the Relevance” Participants at the joint FIG/UN-GGIM-AP Technical Sessions on Global Geodetic Reference Frame met in the context to share knowledge, promote understanding and to enhance cooperation for the sustainability and enhancement of the Global Geodetic Reference Frame, issued the UN-GGIM-AP/FIG Statement on Global Geodetic Reference Frame. The Statement recognised the growing need for an accurate and stable Global Geodetic Reference Frame was subsequently presented to and adopted by the UN-GGIM-AP Executive Board at its meeting on 20th June 2014 as well as FIG’s 37th General Assembly at the Congress at its second session on 21st June 2014.

209. The Statement reaffirmed the collective commitment of UN-GGIM-AP and FIG to support the implementation of an accurate and stable geodetic reference frame being crucially important to a wide range of activities in all territories of the World, at land and at sea and urges Member States and their representatives within UN-GGIM-AP together with all member states and their representatives at the fourth session of the Committee of Experts on Global Geospatial Information Management, to support the approval of a draft resolution on Global Geodetic Reference Frame for Sustainable Development, and to submit to the 2013-14 session of the UN General Assembly for final adoption. The Statement also urges FIG member associations and all other membership groups within FIG to take appropriate initiatives to inform and encourage the representatives of their respective countries to the fourth session of the Committee of Experts on Global Geospatial Information Management, to support the approval of the draft resolution on Global Geodetic Reference Frame for Sustainable Development and its submission to the UN General Assembly.

210. **2014 World Bank Conference on Land and Poverty, March 24 – 29, 2014**, Washington DC with the theme “Integrating Land Governance into the Post-2015 Agenda: Harnessing Synergies for Implementation and Monitoring Impact”

211. The World Bank and FIG launched its joint publication on “Fit-for-Purpose Land Administration” that included the World Bank/FIG Declaration on fit-for-purpose land administration.

212. The Declaration recognize an urgent need to build cost-effective and sustainable systems which identify the way land is occupied and used and accordingly provide for secure

land and property rights focusing on a “fit-for-purpose approach” that will meet the needs of society today and that can be incrementally improved over time.

213. This fit-for-purpose approach will ensure that appropriate land administration systems are built within a relatively short time frame and affordable. The approach allows for incremental updating and upgrading and should contribute to economic growth, social equity and environmental sustainability.

214. **2013 FIG Pacific Small Island States Symposium, September 18-20, 2013**, Suva, Fiji with the theme “Policies and Practices for Responsible Governance” The Symposium was supported by FAO, UN-GGIM and GLTN (facilitated by UN-Habitat) and participants, the majority from Pacific island states, recognized that all activities have a geographical and temporal context, and where communities and governments make decisions and organize their affairs through the effective and efficient use of geospatial data, information and services. The Suva Statement on Spatially Responsible Governance was adopted and issued at the end of the Symposium.

215. The Statement stated that information on geography, custodianship and ownership is foundational for informed decision-making, resilience and sustainability. It is therefore essential that such foundational data and information has authority, currency and is comprehensive, freely available, accessible and usable; that weak governance hinders sustainable use of the environment, hinders economic growth, can condemn people to hunger and poverty and the loss of lives through violent conflicts; that responsible governance of tenure systems, of geospatial infrastructure and information management, of human resources and capacities can help reduce undernourishment and hunger, poverty and create opportunities to support social and economic development; and that rights to land as lying on a continuum where tenure can take a variety of forms and may overlap with one another, and the more appropriate form depends on the particular situation and where customary rights, for example, may be preferred in certain situations.

10. International Map Industry Association (IMIA)

10.1 The Association

216. The International Map Industry Association (IMIA) represents a world of maps. IMIA is where mapmakers, publishers, geospatial technology companies, location-based services, content producers, and distributors come together to conduct the business of maps. IMIA connects you to colleagues, customers and business partners and keeps you abreast of developments in the mapping industry.

10.2 A global organization

217. IMIA is a truly global organization. It welcomes members from every corner of the world, from Ireland to India, from Nigeria to New Zealand and from Russia to the Dominican Republic. The association is made up of three regions: IMIA (EAME), IMIA (Americas) and IMIA (Asia Pacific). In addition to IMIA's global program, each region organizes its own local activities.

10.3 Publications

218. To keep members up-to-date IMIA produces a regular bi-monthly email newsletter called the IMIA Report. This publication contains a broad range of articles and features new developments, trends in the industry and member news.

11. International Society for Photogrammetry and Remote Sensing (ISPRS)

11.1 ISPRS Scientific Initiative

219. During the last 12 months ISPRS has started a host of new activities. In autumn 2013 the ISPRS Scientific Initiative was launched with a budget of 40.000,- CHF, resulting in the funding of six scientific projects over the next 12 to 24 months. Topics range from benchmark test on image matching and object extraction to the development of a photogrammetric curriculum for Northern Africa, a report on the status of global topographic mapping and a tracking and imaging challenge (see the Nov-17, 2013 entry at www.isprs.org/news/announcements/default.aspx and www.isprs.org/news/announcements/131117-ISPRS-Scientific_Initiative-summaries.pdf for details).

11.2 ISPRS Geospatial Week

220. Starting in November 2013 ISPRS has introduced a series of scientific meetings called the ISPRS Geospatial Week. The motivation is to offer interested participants from research, development and applications in photogrammetry, remote sensing and geospatial sciences a platform for discussion also in odd years (before, ISPRS only had major events in even years) and thus to increase the visibility of the society. The ISPRS Geospatial Week is a bundle of workshops with different topics, organised under a common roof. The first edition took place in Antalya, Turkey under the leadership of Filiz Sunar, TU Istanbul. the next one will be held in Montpellier, France from Sept. 28 to October 2, 2015 and will be organised by Nicolas Paparoditis, IGN.

11.3 Individual Membership of ISPRS

221. As of May 2014 ISPRS offers individuals to become a member of the society (if interested, apply here: www.isprs.org/members/individuals/RegisterIndividuals.aspx). Membership is free of charge, the offer is primarily directed to people in areas without an active ISPRS ordinary member. Over the first two months, over 4 dozen individuals have already applied for individual membership of ISPRS.

11.4 Commission Structure Review

222. ISPRS has also started to review its commission structure. Discussions are held at each of the eight midterm symposia (see www.isprs.org/society/midterm.aspx for a complete list) A blog is currently open to collect opinions also from a wider audience, see www2.isprs.org/news/blog/detail/items/council-explores-revision-of-isprs-commission-structure.html.

223. More details on recent ISPRS activities can be found in the new biennial report, which is available from ISPRS headquarters, and also at www.isprs.org/documents/pdf/ISPRS_Biennial_Report_2012-13.pdf.

12. International Geographical Union (IGU)

12.1 IGU

224. The International Geographical Union (IGU) is an international, non-governmental, professional organization devoted to the development of the discipline of Geography.

225. The purposes of the IGU are primarily to promote Geography through initiating and coordinating geographical research and teaching in all countries of the world. Its work is conducted through the instruments of its National Committees, Commissions and Task Forces.

12.2 Congress

226. The IGU hosts the International Geographical Congress every four years and also promotes regional conferences and other meetings that further of the objectives of the Union. The IGU also facilitates the participation of geographers in the global community of scientists through its formal affiliation as a Member Union within both the International Council for Science (ICSU) and the International Social Science Council (ISSC).

12.3 Commissions and Task Forces

227. Commissions and Task Forces are research bodies of the IGU that cover a very wide range of research topics within the discipline of Geography.

12.4 International Year on Global Understanding (IYGU)

228. IGU strongly supports the trans-disciplinary project of the International Year on Global Understanding (IYGU) which was created on the IGU initiative and is coordinated by Professor Benno Werlen, Chair of IGU Commission on Cultural Geography. 2013 was marked by spectacular progress in the implementation of this project.

13. Global Spatial Data Infrastructure (GSDI) Association

13.1 The Association

229. The GSDI Association is an inclusive organization of organizations, agencies, firms, and individuals from around the world. The purpose of the organization is to promote international cooperation and collaboration in support of local, national and international spatial data infrastructure developments that will allow nations to better address social, economic, and environmental issues of pressing importance.

13.2 5-year GSDI & IGS Strategic Plan

230. Work continues on developing the 5-year GSDI & IGS Strategic Plan via the working group led by President-elect Dave Lovell (EuroGeographics). The first full draft of the revised document has been completed and is receiving final comments from members of the working group, with the plan to circulate a final version to the GSDI Board before the end of June, 2014. Delay in completing this draft arose from the time taken to explore some of the more radical options to be considered in regard to future operation of the Association, including integrating individual members more closely into the main organisation and investigating possible merger options.

13.3 2014 GSDI Association Small Grants Program

231. Since its launch in 2003, the GSDI Association's Small Grants Program has supported more than 100 projects across the globe. Through 2012, the program was sponsored via a partnership between the GSDI Association, the U.S. Federal Geographic Data Committee, and the GISCorps of URISA. Three types of awards are available: a cash award of up to US\$ 2500 per project; SDI/GIS consulting services up to the value of US\$ 2500; or a combination of cash award and SDI/GIS consulting services. The consulting services are offered through the GISCorps.

232. In 2014, GSDI secured funding for four Small Grants projects from GeoConnections, a national collaborative initiative led by GSDI Association member Natural Resources Canada. GeoConnections supports the integration and use of the Canadian Geospatial Data Infrastructure (CGDI), an on-line resource that improves the sharing, access and use of open geospatial information. The CGDI helps decision-makers from all levels of government, the private sector, non-government organizations and academia make better decisions on social, economic and environmental priorities. The infrastructure itself consists of data, standards, policies, technologies and partnerships that are in place to allow the sharing and visualization of information on the Internet.

14. Commitment

233. The JBGIS has successfully participated in and contributed to the 1st and 2nd High Level Forums on UN-GGIM.

234. As well, in February 2013, JBGIS, in collaboration with the UN Statistics Division, organised and conducted the Exchange with the Geospatial Industry for Global Geospatial Information Management in Doha, at the 2nd High Level Forum on UN-GGIM.

235. The JBGIS offers to help with developing an Agenda and sourcing speakers for the 3rd High Level Forum on UN-GGIM.

Joint Board of Geospatial Information Societies
June 2014

Note: *“Concept Note on the International Map Year”* is in a separate background document.

VII. Points for Discussion

236. **The Committee is invited to:**

(a) Take note of the reports, and express its views on the operation and achievements of the regional entities and thematic groups;

(b) Endorse and participate in activities recognizing the International Map Year, 2015-2016;

(c) Endorse the formal establishment of the Regional Committee of the United Nations Global Geospatial Information Management for Europe;

(d) Endorse the formal establishment of the Regional Committee of the United Nations Global Geospatial Information Management for Arab States.