Global Geospatial Information Management (UN-GGIM)

UN-GGIM Academic Network Annual Report

(September 2022 - August 2023)

Jul 3, 2023

The [UN-GGIM Academic Network](#) is a coalition of recognized universities and research and education centers involved in research, development and education on geospatial, land information and related matters, operating on a volunteer basis.

The Network's primary objective is to support the aims and objectives of the Committee of Experts on Global Geospatial Information Management (UN-GGIM) by facilitating access globally to research and education capabilities for UN-GGIM and its affiliated members to identify and respond to challenges and opportunities for UN-GGIM and related UN offices.

The activity of the network, thanks to the habit of using online platforms, has become stronger and continues. In particular, the Board continued to meet regularly to discuss the relevant points (proposals for common activities, discussion of the topics to be proposed at UN GGIM events, etc). Currently, the Board, under the guidance of the Executive Team, is busy organizing the side event at the Thirteenth Session of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). Since the 12th UN-GGIM Session, particular activities included webinar and workshops in collaboration with AI for Good. Overall, activities are progressing increasingly satisfactorily and the network is consolidated and active.

Meetings and Administration

Current officers and board members for the period of Jan 2023 - Dec 2024 are as follows:

EXECUTIVE COMMITTEE:

CHAIR: Maria Antonia Brovelli, Politecnico di Milano, Italy
DEPUTY CHAIR: Songnian Li, Toronto Metropolitan University, Canada
SECRETARY: Ivana Ivánová, Curtin University, Australia

ADVISORY BOARD:

Georg Gartner, Vienna University of Technology, Austria
Abbas Rajabifard, University of Melbourne, Australia (Immediate Past President)
Michael Starek, Texas A&M University – Corpus Christi, USA
Christy Claudil – Carleton University, Canada
Chryssy Potsiou – National Technical University of Athens, Greece
Saeid Pirastesh – Shaoxing University, China

REGIONAL REPRESENTATIVES:

AFRICA: Serena Coetzee, University of Pretoria, South Africa
AMERICAS: Rosario Casanova, Universidad dela República, Uruguay
ASIA-PACIFIC: Huayi Wu, wuhan University, China
EUROPE: Joep Crompvoets, Katholieke Universiteit Leuven, Belgium

GOVERNANCE OPERATION (January - June 2023):

The newly elected Executive Committee and Advisory Board commenced its activities in January 2023 with outlining the Network's plan of activities for 2023-2024 term. As part of activities, revision of the Network's Terms of Reference is anticipated.

Membership

The Network currently has 62 members from 36 countries. The details of the members are available on the Network website. Since September 2022, the network has admitted four new members and the approval of six applications is currently pending. The Network members are regularly promoting the Network and its activities via events advertised on the Network's website.

Figure 1. Geographical distribution of the Network members

Members of the Network's volunteer in other UN-GGIM bodies and working groups - see in Appendix the list of current Network's representatives in each UN-GGIM body or working group.

Activities

PARTICIPATION IN UN-GGIM EVENTS

The UN-GGIM Academic Network organized two side events:
1. "Trustful and Ethical Use of Geospatial Data: the Role of Academics" organized during the Twelfth UN-GGIM Session in August 2022, and
2. together with the UN-GGIM Private Sector Network, during the Second United Nations World Geospatial Information Conference (program and presentations are available here).

The outcomes of both events serve for expanding activities of the Network in the area of ethical use of Geospatial AI and distribution of educational material helping to achieve SDGs.

The UN-GGIM Academic Network jointly with UN-GGIM Private Sector Network will convene a Side Event of the Thirteenth Session on "GEO-AI: opportunities and challenges".

UN-GGIM Academic Network Side-Event at 12th UN-GGIM Session
The Network organized an online webinar on "Trustful and Ethical Use of Geospatial Data: the Role of Academics" on 3 August 2022 as part of the side-events along with the 12th UN-GGIM Session. The event was well attended with three presentations followed by well-engaged discussions. The presentations covered some important aspects of the event topic, including trust in geospatial data and its visualization, ethical use of geospatial information and results of a recent survey on the status of education about ethical use of and trust in geospatial data. There have been some ongoing and scattered efforts on exploring the issues related to the ethical use of and trust in geospatial data, however, the participants agreed that more coordinated effort is needed to better promote dialogues, investigations, and debates on these issues. The UN-GGIM Academic Network is in a good position in leading part of this effort. The side event also concluded that future work should focus on development of public lectures and seminars (including online teaching videos and follow-up evaluations), providing online materials through the UN-GGIM Academic Network, setting up exemplary use cases, and development of guidelines to support the inclusion of the related topics in curricula.

As part of the follow-up from the discussion commenced at the side event, the Network organized a special issue of the International Journal of Geo-Information on 'Trustful and Ethical Use of Geospatial Data' - the call for submissions to the issue is still open.

GEOAI for GOOD
The Network is actively contributing to ITU's events on AI for Good - currently is organizing a workshop on 'Building a foundation for geospatial AI: defining a syllabus and body of knowledge' with members participating in 'GeoAI Challenge'. A webinar with panel discussion on GeoAI Education was held on 14 June 2023.

GEOSPATIAL RESEARCH AND INNOVATION IN IMPLEMENTING SDGS

As part of work plan 2019-2022, the Academic Network has defined a research project to leverage spatial data infrastructure and integrated analytical platform to support implementation, benchmarking, measuring and monitoring the SDG indicators. This research project is investigating the challenges in effective and sustained access to digital technology, the Internet of Things (IoT), to the provision and exploitation of new data needs, information systems, analytics and associated enabling tools, and technologies to support the timely and reliable implementation and monitoring of the progress in SDGs. The activities and benefits of the project include:
- Enhancing the methodologies and implementation frameworks to support evidence-based policy making towards achieving the SDGs
- Formalizing reusable geospatial tools for producing the SDG indicators, enabling benchmarking and comparison
- Designing a dynamic platform rather than available static dashboards
- Supporting national and local jurisdiction to improve their current static monitoring dashboards
- Assisting governments to predict the future trends of SDG indicators.

This is still an ongoing initiative and partial outputs involve the work of Academic Network members.

UN OPEN GIS INITIATIVE

The UN Open GIS Initiative is a Partnership Initiative led by the United Nations Geospatial Operations. The Initiative, established in March 2016, is supported by several UN Member States, UN Field Missions, UN Agencies and technology contributing partners (international organizations, academia, NGOs, and the private sector) and takes full advantage of their expertise. The aim is the creation of an extended spatial data infrastructure that meets the requirements of the UN Secretariat (including UN field missions and regional commissions). It

then expands to UN agencies, UN operating partners, and developing countries. The contribution of Academic Network members include co-organization of the following events with other members of the UN Open GIS (ITU leading), the World Geospatial Industry Council (WGIC), and OGC within the AI For Good Initiative of the series related to Geospatial Information:

- The future of GeoAI for Good with Google Earth Engine The future of GeoAI for Good with Google Earth Engine - AI for Good (itu.int) 23 June 2022
- Deep Earth Query: Information Discovery from Big Earth Observation Data Archives Deep Earth Query: Information Discovery from Big Earth Observation Data Archives - AI for Good (itu.int) 12 July 2022
- Machine learning supporting ecology Machine learning supporting ecology - AI for Good (itu.int) 21 November 2022
- 2022 ITU GeoAI Cropland Mapping Challenge Finale 2022 ITU GeoAI Cropland Mapping Challenge Finale - AI for Good 16 December 2022
- Synergy between geography and mapping with the nation's energy mission Synergy between geography and mapping with the nation's energy mission - AI for Good (itu.int) 20 April 2023
- GeoAI Education GeoAI Education - AI for Good (itu.int) 14 June 2023
- Building a foundation for geospatial AI: defining a syllabus and body of knowledge Building a foundation for geospatial AI: defining a syllabus and body of knowledge - AI for Good (itu.int) 5 July 2023

Communications and Promotion

The UN-GGIM Academic Network communicates with members from a newly set-up email account: unggim.academicnetwork@gmail.com.

Information about member news and interesting events are posted on Network's website: http://unggim.academicnetwork.org/newsevents/

Members are regularly promoting the UN-GGIM Academic Network and its activities via their networks.

Future Plan

One of the main missions of the UN-GGIM Academic Network is education and capacity building. The pandemic has obliged us to consider new ways of teaching and we can think of reusing what we learned in the last months also for reaching a wider floor, pushing ahead the knowledge in the geo-spatial domain. The network started a collection of educational platforms/repositories/courses with the emphasis on educational material that helps achieve the SDGs. A white paper on innovation in the global geospatial education, considering both the means and the content is currently in progress.

The following is a list of activities the Network has planned for the year 2023-2024, besides continuing the long-term initiatives already active in the previous year:

- Workshops or seminars on developing high-education in geospatial information: they will be open to all members and associate members of the Network but also open to other participants. The plan is to organize them in-person, if the pandemic situation allows.
- Biennial General Meeting (BGM): this meeting aims at gathering the Network members to discuss important issues concerned by the entire network membership. BGM will be held right before the next UN-GGIM Session (June/July 2024).
- Establishing a student group or chapter under the UN-GGIM Academic Network

The Network will further strengthen the relationships and cooperation of the Network's members with the other bodies of UN-GGIM, like for instance collaborating in pilot projects with the Private Sector Network.

Appendix: Table of UN-GGIM Academic Network's delegates to other UN-GGIM functions or working groups.

UN-GGIM Africa		
Maria Antonia Brovelli	Politecnico di Milano	maria.brovelli@polimi.it
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UN-GGIM Americas		
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UN-GGIM Expert Group on the Integration of Statistical and Geospatial Information		
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UN-GGIM Working Group on Legal and Policy Frameworks for Geospatial Information Management		
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Paul Box	CSIRO	paul.j.box@csiro.au
UN-GGIM Inter-Agency and Expert Group on Sustainable Development Goals Indicators (IAEG-SDGs)		
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UN-GGIM Geospatial Societies

Menno-Jan Kraak	University of Twente	m.j.kraak@utwente.nl
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UN-GGIM Private Sector Network

Cheryl Desha	Griffith University	c.desha@griffith.edu.au
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UN-GGIM Working Group on Geospatial Information and Services for Disasters

Huayi Wu	Wuhan University	wuhuayi@whu.edu.cn
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UN-GGIM Expert Group on Land Administration and Management

Gary JEFFRESS	Texas A&M University-Corpus Christi	gary.jeffress@tamucc.edu
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UN-GGIM Subcommittee on Geodesy (formerly WG on Global Geodetic Reference Frame)

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UN-GGIM Working Group on Marine Geospatial Information

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