

UN-GGIM Subcommittee on Geodesy

Update on Global Geodetic Centre of Excellence

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UN-GGIM Subcommittee on Geodesy

- The General Assembly adopted resolution 69/266 in February 2015, entitled ‘A Global Geodetic Reference Frame for Sustainable Development’.
- In doing so, the General Assembly ‘noted with appreciation the establishment of a Working Group by UN-GGIM to develop a global geodetic road map that addresses key elements relating to the development and sustainability of the global geodetic reference frame.’
- In 2017, this ‘Working Group’ became the ‘Subcommittee on Geodesy’



UN-GGIM Subcommittee on Geodesy

Subcommittee Membership:

42 Member States

Asia-Pacific Membership:

- 1) Australia
- 2) China
- 3) Fiji
- 4) Iran
- 5) Japan
- 6) Korea (Republic of)
- 7) Kyrgyzstan
- 8) Malaysia
- 9) New Zealand
- 10) Philippines



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UN-GGIM Subcommittee on Geodesy

Bureau of the Subcommittee:

- 1) Australia (Nicholas Brown) – co-Chair
- 2) Canada (Calvin Klatt)
- 3) France (Zuheir Altamimi)
- 4) Mexico (Francisco Medina Parra and Guido Alejandro Gonzalez)
- 5) Norway (Laila Lovhoiden and Anne Jorgensen)
- 6) Russia (Alexey Trifonov) – co-Chair
- 7) Sweden (Mikael Lilje)
- 8) Tonga (Viliani Folau)

Working Groups and Chair

- 1) Governance (Laila/Norway)
- 2) Outreach and Communications (Anne/Norway)
- 3) Geodetic Infrastructure (Zuheir/France)
- 4) Standards, Policies and Conventions (Nicholas/Australia)
- 5) Education, Training and Capability Building (Mikael/Sweden)



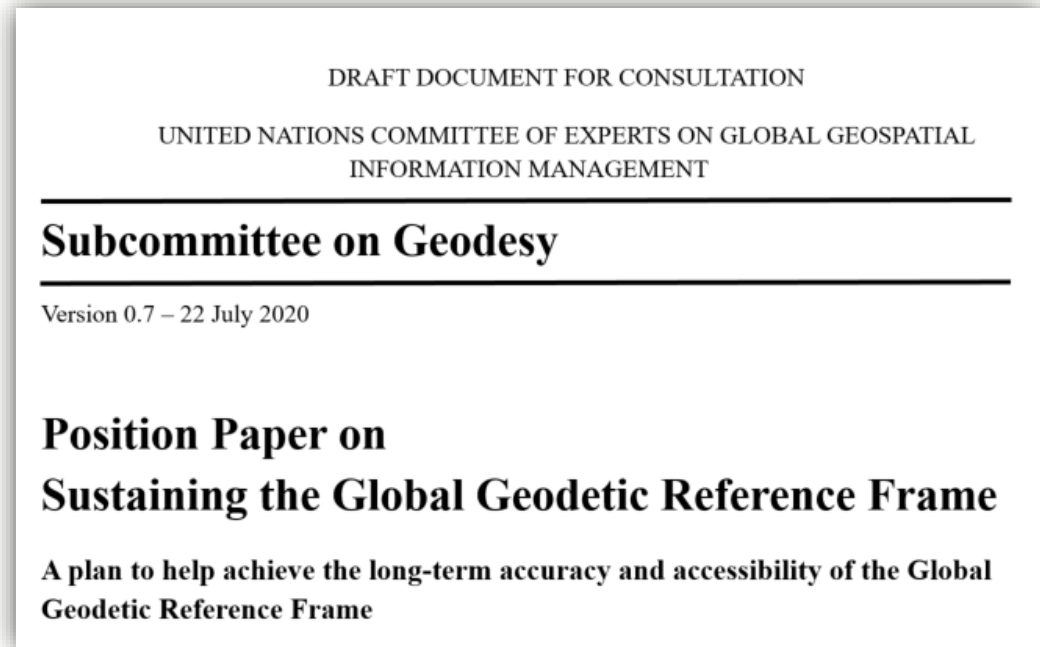
Global Geodetic Reference Frame

- The Global Geodetic Reference Frame (GGRF) is the foundation for evidence-based policies, decisions and program delivery.
- In addition to the traditional survey, mapping and navigation fields, location-based positioning applications are increasingly critical for civil engineering, industrial automation, agriculture, construction, mining, recreation, financial transactions, intelligent transport systems, disaster response and emergency management, environmental studies and scientific research.
- The GGRF enables accurate and robust alignment of spatial datasets – a key requirement for good decision making.



Position Paper on Sustaining the GGRF

- 10th Session of the UN-GGIM Committee of Experts (August 2020)
- The Subcommittee on Geodesy presented a Position Paper on Sustaining the GGRF which provides a plan to help achieve the long-term sustainability and quality of the GGRF by delivering improvement in five focus areas.



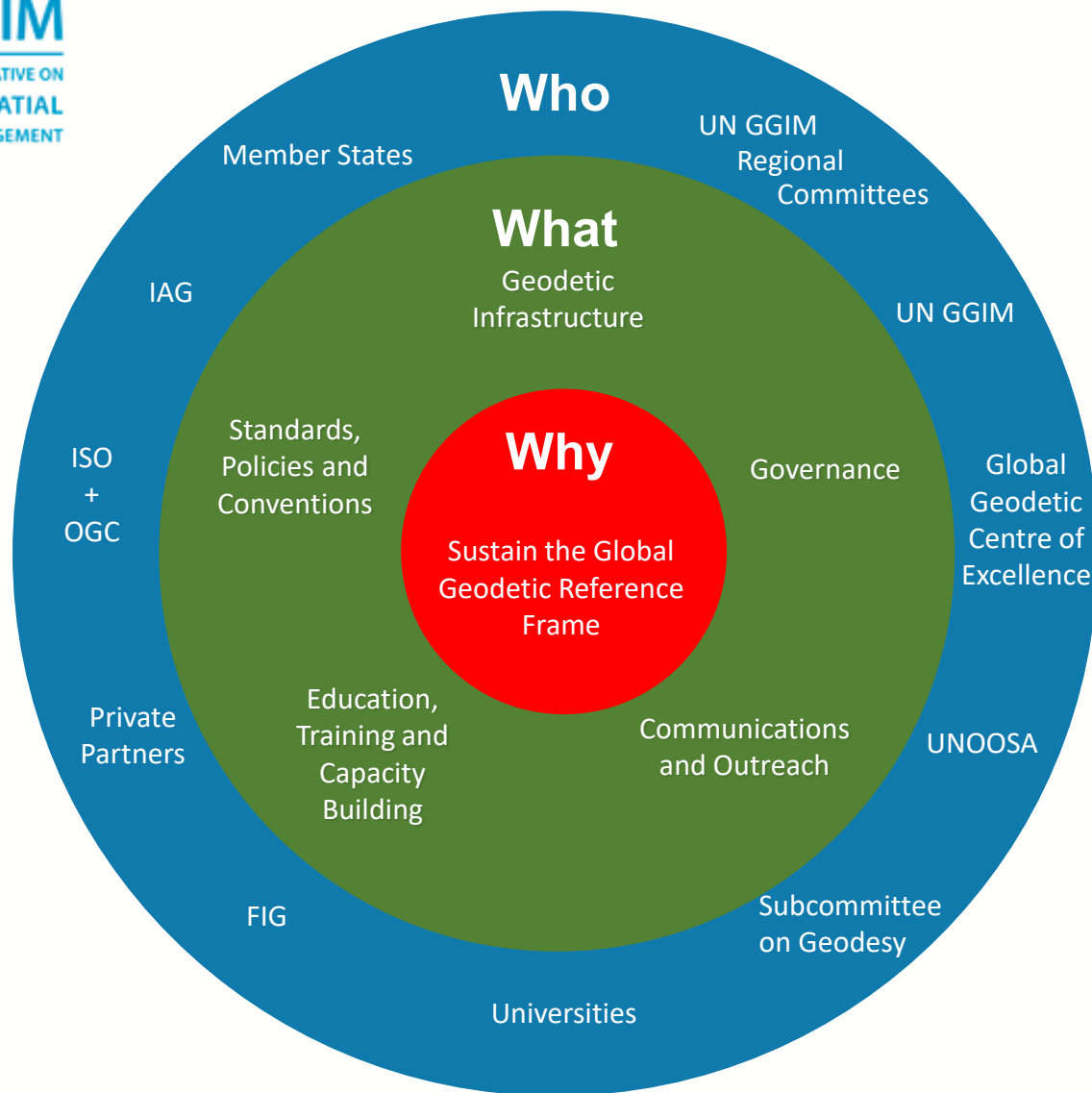
1. Governance
2. Geodetic Infrastructure
3. Policies, Standards and Conventions
4. Education, Training and Capacity Building
5. Communication and Outreach





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3.2 Geodetic Infrastructure

ID	Goal
INF.1	<p>Undertake a user requirements study to define and document existing, and where required, (historical), geodetic infrastructure and parameters in a standardized manner.</p> <p>Undertake a user requirements study to define what geodetic infrastructure is required to provide an accurate, sustainable and accessible GGRF.</p> <p><i>NOTE: This study should build on the geodetic infrastructure questionnaire completed by IAG Services in 2019/2020.</i></p> <p>The user requirements study should seek to understand the requirements for geodetic instruments, technology, data, data repositories, analysis, human resources, products and services required to answer economic, societal and environmental questions / challenges such as:</p> <ol style="list-style-type: none">i. Sustainable Development Goals;ii. Sendai Framework for Disaster Risk Reductioniii. Monitoring and adapting to climate change (incl. sea level rise)iv. Real time applications (e.g. location-based services, intelligent transport services);v. High integrity applications (e.g. aviation);vi. Requirements of the land administration systems; andvii. Requirements of industry to help them grow and innovate.
INF.2	<p>Develop, implement and communicate a Global Geodesy Development Plan in cooperation with relevant stakeholders for geodetic infrastructure based on results from INF.1.</p> <p>The initial Global Geodesy Development Plan should:</p> <ol style="list-style-type: none">i. Address both the accuracy and access requirements of the GGRF;ii. Identify and mitigate the critical gaps / lack of redundancy in the GGRF;iii. Communicate plans from IAG services to be used to modernize / improve geodetic infrastructure;iv. Recognize regional differences in requirements, political, social and regulatory impediments to adoption, capability and capacity;v. Assist Member States to develop a modern coordinate reference system using current infrastructure;vi. Promote and facilitate multilateral cooperation that addresses infrastructure gaps and duplications, in order to ensure an optimal geometry and coverage; and

Position Paper on Sustaining the GGRF

3.1 Governance

ID	Goal
GOV.1	Develop a Concept Paper on the establishment of a Centre and consult with Member States on the rationale, justification and operational modalities.
GOV 2	Ensure that short, medium and long-term goals exist for the five focus areas in order to: <ul style="list-style-type: none"><li>i. enhance global cooperation across Member States and relevant geodetic stakeholders, including IAG and FIG<li>ii. ensure coherence and avoid duplication of effort<li>iii. develop policy guidance, adoption and implementation of standards<li>iv. ensure robust data analysis and product services, and infrastructure<li>v. assist with education, training and capacity building<li>vi. improve communications and outreach
GOV.3	Assist Member States in identifying their geodetic needs, and pathways to meet these needs in line with the Integrated Geospatial Information Framework.



UN-GGIM Global Geodetic Centre of Excellence

To sustain the Global Geodetic Reference Frame, the UN-GGIM Subcommittee on Geodesy have promoted the idea of a Global Geodetic Centre of Excellence.

- enhance **global cooperation and coordination** across Member States and relevant geodetic stakeholders to maximise the benefit of ongoing geodetic efforts, ensure coherence, and avoid duplication of effort.
- strengthen **geodetic infrastructure**
- assist Member States in making their geodetic data Findable, Accessible, Interoperable and Reusable in line with **standards, policies and conventions.**
- support **education, training and capacity building**
- improve **communication and raise awareness**



UN-GGIM Global Geodetic Centre of Excellence

- At the 10th Session of the UN-GGIM Committee of Experts (August 2020), Germany announced its plans to host the Global Geodetic Centre of Excellence in Bonn
- Germany has provided funding for an initial five year period
- The UN-GGIM Secretariat are currently working with Germany on the MoU, Host Country Agreement and other legal aspects
- The Global Geodetic Centre of Excellence is planned to start operating in 2021 or 2022.
- There were received eight letters of support including from IAG, Japan and Australia



UN-GGIM Global Geodetic Centre of Excellence

- A Federated Centre is the preferred option - caters for a range with multiple contributors, partners, multiple sources of funding, and multiple locations.
- Norway have offered a person to the Centre to assist with Communications
- The Centre will have a Steering Committee (to assist with governance of the Centre), and an Advisory Committee (to provide scientific and operational guidance)



“Decision makers need to know the safest place for people to stay and live and where to evacuate to in times of disasters. Linking of local positioning systems to the Global Geodetic Reference Frame provides these much-needed accurate positions. Even though there is a gap between the Small Island Developing States and developed countries in terms of having modern positioning infrastructure and systems and also in technical capabilities, it can still be narrowed.”

*-- H.E. Mr. Viliami Va'inga Tone,
Ambassador Extraordinary and
Plenipotentiary Permanent Mission
of Tonga to the United Nations*



UN-GGIM SCoG requests

1. Please review and provide feedback on:

- a) Position Paper on Sustaining the Global Geodetic Reference Frame
- b) Concept Paper on Establishment of the Global Geodetic Centre for Excellence

Both Papers are available on the UN-GGIM website under 10th Session documents.

The Subcommittee will be accepting feedback throughout the intersessional period.

2. Join the Subcommittee on Geodesy



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