



United Nations Global Geodetic Centre of Excellence

Strategy and Operating Plan

Version 1.0: 11.12.2023

PUBLIC RELEASE VERSION

Our Motto

“Stronger. Together.”

Our Vision

Our vision for the future is one where all countries have strong political support for geodesy which enables them to – together – accelerate the achievements of the Sustainable Development Goals and derive social, environmental and economic benefits.

Strategic Objectives

Our objective is to work with Member States and geodetic organizations to strengthen our collective impact to:

- Enhance investment in the global geodesy supply chain*.
- Improve coordination and collaboration amongst Member States and geodetic organizations.
- Share geodetic data and improve standards, on a voluntary basis, to contribute to the global reference frame and regional densifications.
- Provide greater technical assistance, especially for capacity development in geodesy for developing countries.
- Make geodesy and its benefit more visible and understandable to society.

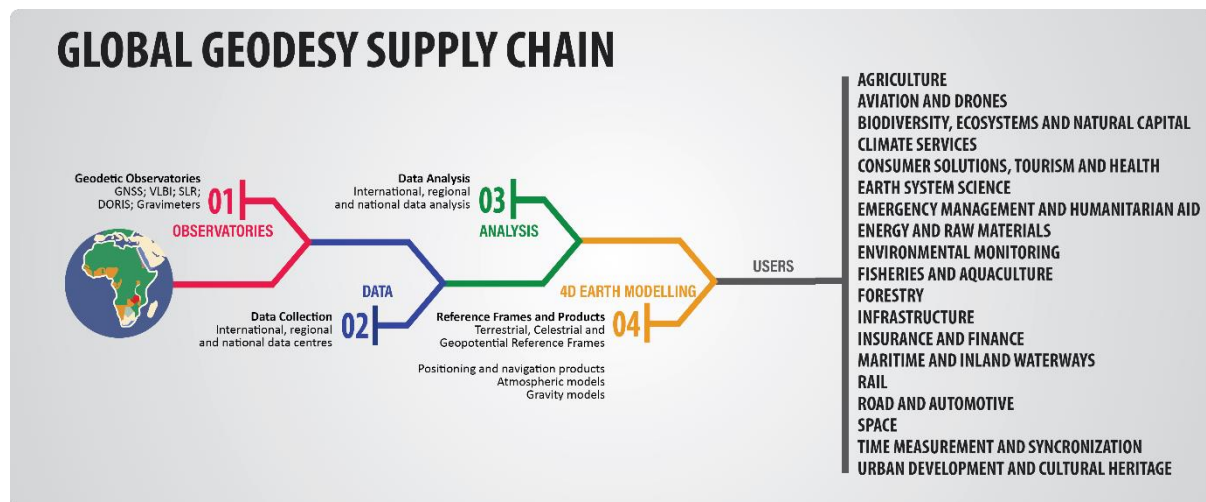


Figure 1: The global geodesy supply chain.

**The global geodesy supply chain includes:*

- *Geodetic observatories (e.g. Global Navigation Satellite Systems Continuously Operating Reference Stations (GNSS CORS), Very Long Baseline Interferometry (VLBI), Satellite Laser Ranging (SLR), Doppler Orbitography and Radiopositioning Integrated by Satellite (DORIS), gravimeters etc.)*
- *Data collection (e.g. international, regional and national data centres)*
- *Data analysis (e.g. international, regional and national analysis centres)*
- *Products (e.g. clock and orbit products, atmospheric models, Earth Orientation Parameters (needed by satellites to accurately observe and communication with applications on Earth)).*
- *Product transmission (e.g. real-time data streams)*
- *Frames of reference:*
 - *Terrestrial reference frame (e.g. realizations of the International Terrestrial Reference Frame)*
 - *Celestial reference frame (e.g. realizations of the International Celestial Reference Frame)*
 - *Gravity reference frame, height reference frame and geopotential model.*
- *Capacities and capabilities residing in Member States and organizations (like the services of the International Association of Geodesy) who perform the work in the global geodesy supply chain to analyse, compute, create and sustain the frames of reference.*

Our Core Values

- Diversity and inclusion
- Participation
- No Member State should be left behind
- Sustainability and continuity
- Collaboration and partnerships
- Translating strategy into action

Our Team

The United Nations Global Geodetic Centre of Excellence (UN-GGCE) team is composed of personnel internationally recruited by the United Nations together with some seconded personnel from national geodetic entities of Member States.

The personnel recruited by the United Nations are:

- | | |
|--|----------------|
| • Head of Office | Nicholas Brown |
| • Geospatial Information Officer | tba |
| • Associate Geospatial Information Officer | tba |
| • Administrative Assistant | tba |

The personnel seconded to the UN-GGCE are:

- Technical Advisor Jan Dostal (BKG, Germany)
- Technical Advisor Sarah Kowal (BKG, Germany)

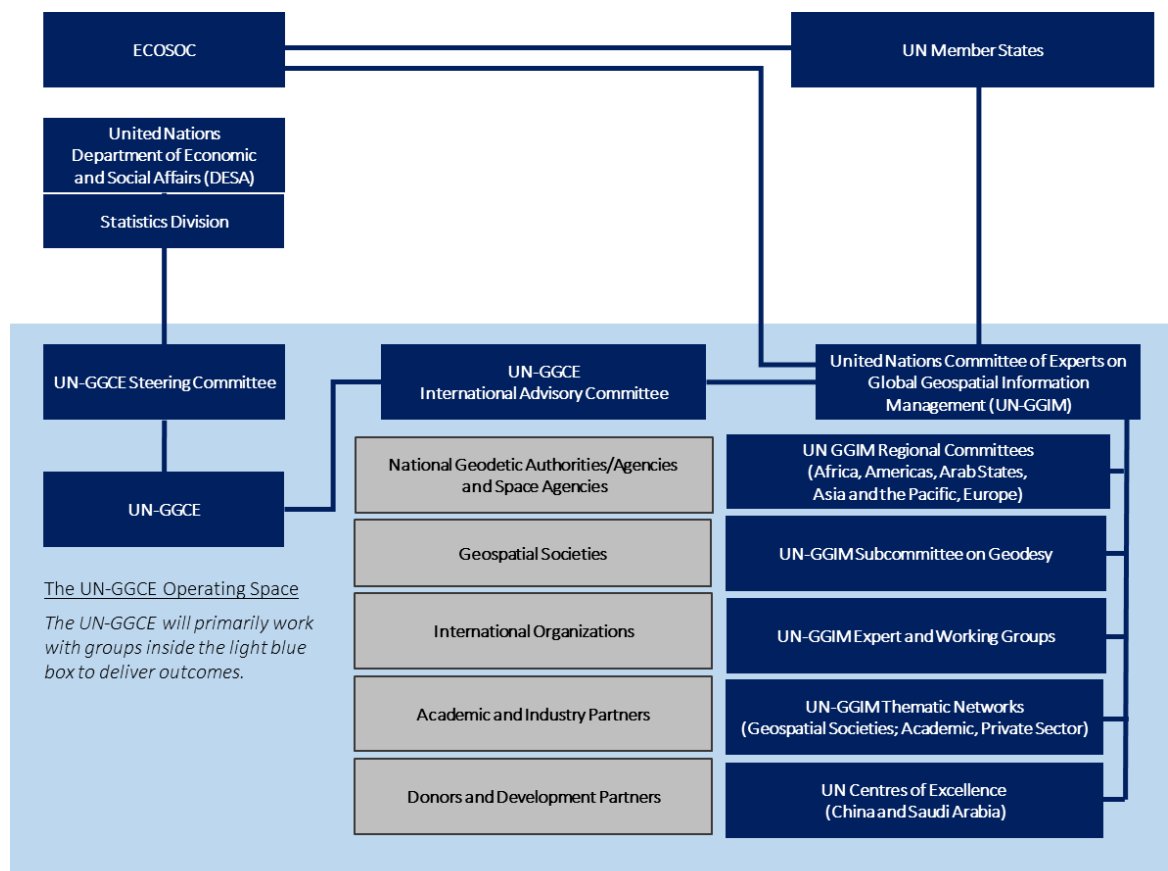
The personnel virtually seconded to the UN-GGCE are:

- Communications Advisor Anne Jørgensen (Kartverket, Norway)
- Technical Advisor José Rodríguez (IGN, Spain)

Previous virtual secondees to the UN-GGCE are:

- Technical Advisor Victor Puente Garcia (IGN, Spain)

UN-GGCE Operating Model



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Figure 2: The UN-GGCE Operating Model.

The UN-GGCE Operating Space (shown in light blue in Figure 2) includes a broad range of stakeholders. The staff in the UN-GGCE will work with governments, and partners within science organizations, donors and industry to deliver outcomes. The UN-GGCE will ensure the work program and activities of the UN-GGCE are closely aligned with those from the UN-GGIM Subcommittee on Geodesy to maximize our collective impact and reduce duplication.

The UN-GGCE has a Steering Committee, comprising representatives designated by the UN Department of Economic and Social Affairs and the Federal Ministry of the Interior and Community (BMI). The Steering Committee will provide strategic advice on the annual plan of work and overall implementation of the agreed framework plan. The UN-GGCE also has an International Advisory Committee (IAC) comprising scientific and operational experts that will provide the required guidance and advice on the development, implementation and review of the annual plan of work. UN-GGCE is expected to convene annual meetings of its IAC and provide the necessary reports and support.

Operating Plan

Implementation of the UN-GGCE strategic objective is facilitated by the UN-GGCE Operating Plan 2023 - 2025 which details the activities the UN-GGCE will undertake in five focus areas.

- **Evidence:** Improve the evidence Member States need to quantify the importance of geodesy for societal, environmental and economic benefits to enable them to develop strong business cases to improve weak links in the geodesy supply chain.
- **Resources:** Increase in dedicated people and funding to achieve global, regional, and national geodesy requirements.
- **Governance:** Strengthen international governance and institutional arrangements.
- **Capacity:** Enhance geodetic capacity and training opportunities in Member States, especially in developing countries.
- **Awareness:** Improve awareness of the importance of geodesy by policy makers in Member States.

For each focus area, the Operating Plan provides details on:

- Performance Indicators
- Outputs
- Milestones
- Risks
- Regional Considerations
- Budget
- Partners

Focus Area 1 – Evidence | Improve the evidence Member States need

Focus Area 1 – Evidence: Improve the evidence Member States need to quantify the importance of geodesy for societal, environmental and economic benefits to enable them to develop strong business cases to improve weak links in the geodesy supply chain.			
Performance Indicators	Baseline 2023	Target 2024	Target 2025
Indicator 1.1: A report on national and regional geodetic needs and critical geodetic infrastructure requirements endorsed by the IAC.	Two expert consultation sessions Two regional committee consultations	Completed all consultations Documented user requirements Endorsement by IAC	
Indicator 1.2: A consulted global geodesy development plan endorsed by UN-GGIM by its fourteenth session.	Draft Global Geodesy Development Plan	Final Global Geodesy Development Plan	
Outputs, Activities and Milestones	2023	2024	
<p>Output: Informed and Consulted Stakeholders</p> <p>Consultancies, consultations and expert meetings to develop, communicate and implement a global geodesy development plan that addresses requirements, gaps and opportunities to sustain the GGRF</p> <p>Output: Global Geodesy Development Plan</p> <p>Develop, implement and communicate a Global Geodesy Development Plan which addresses the sustainability and quality, accuracy and access requirements of the GGRF which includes developing targeted and tailored capacity-building programs at regional and country levels, utilizing the templates and common vocabulary of the UN-IGIF.</p>	<ul style="list-style-type: none"> Stakeholder mapping “Listening World Tour” sessions to introduce UN-GGCE and perform needs assessment Analysis of user needs information from existing resources Host Expert Consultation Meeting on Global Geodesy Development Plan 	<ul style="list-style-type: none"> “Listening World Tour” sessions to introduce UN-GGCE and perform needs assessment Draft Global Geodesy Needs Assessment Host 2nd meeting of the International Advisory Committee and 4th plenary meeting of the UN-GGIM Subcommittee on Geodesy Draft Global Geodesy Development Plan for Consultation with IAC Global Geodesy Development Plan presented to UN-GGIM Committee of Experts 	
Risks	Mitigation Measures		
<ul style="list-style-type: none"> Short timeframe to complete consultation sessions Lack of attendance at consultation sessions – particularly a lack of developing countries 	<ul style="list-style-type: none"> UN-GGCE staff to confirm dates as soon as possible Early engagement to tell people about the consultation sessions and a particular focus on engaging with developing countries by phone and email. 		
Regional Considerations <i>Recognize and accommodate regional differences in requirements, political, social, security and regulatory impediments to adoption, capability and capacity and provide specific recommendations for the five UN regions.</i>			
<ul style="list-style-type: none"> For each consultation session, the UN-GGCE should engage regional staff to translate the concept note and questions into as many languages as possible. 			

Focus Area 1 – Evidence | Improve the evidence Member States need

Focus Area 1 – Evidence: Improve the evidence Member States need to quantify the importance of geodesy for societal, environmental and economic benefits to enable them to develop strong business cases to improve weak links in the geodesy supply chain.			
Performance Indicators	Baseline 2023	Target 2024	Target 2025
Indicator 1.3: A consulted policy brief/s on how to address sea level rise and economic risk from degrading quality in PNT presented to UN-GGIM CoE by its fourteenth session		Completed all consultations Endorsement by IAC Presented to UN-GGIM CoE	Use of Policy Brief by Member States
Outputs, Activities and Milestones	2023	2024	
<p>Output: Policy Brief with advice on how geodesy is needed to address sea level rise (aligned to IGIF strategic pathways) (e.g. DRR; Data Trust)</p> <p>Output: Policy Brief on the importance of geodesy to influence policy makers / economic risk from degrading quality in PNT (aligned to IGIF strategic pathways) (e.g. DRR; Data Trust)</p> <p>Output: Facts from Policy Briefs are implemented in global and national reports and programs</p> <p>Output: Facts from Policy Briefs are known by key UN Climate change and disaster risk reduction organizations</p> <p>Output: Facts from Policy Briefs are know through presentations and key notes at high level summits and conferences</p>	<ul style="list-style-type: none"> Identify Contractor Identify Translation Services Identify high profile reports where geodesy should be mentioned 	<ul style="list-style-type: none"> Draft Policy Brief 1 Identify UN climate change orgs for introductory meetings with UN-GGCE IAC review of Policy Brief Policy Brief released and promoted Draft Policy Brief 2 	
Risks	Mitigation Measures		
<ul style="list-style-type: none"> Unable to identify translation services Unable to identify suitable contractor 	<ul style="list-style-type: none"> UN-GGCE staff to identify translation services soon as possible Early engagement identify suitable contractor. 		
Regional Considerations <i>Recognize and accommodate regional differences in requirements, political, social, security and regulatory impediments to adoption, capability and capacity and provide specific recommendations for the five UN regions.</i>			
<ul style="list-style-type: none"> For each consultation session, the UN-GGCE should engage regional staff to translate the policy brief the 6 UN languages. 			

Focus Area 2 – Resources | Increase in dedicated people and funding to achieve global, regional, and national geodesy requirements

Focus Area 2 – Resources: Increase in dedicated people and funding to achieve global, regional, and national geodesy requirements.			
Performance Indicators	Baseline 2023	Target 2024	Target 2025
Indicator 2.1: Sustainable resourcing of the UN-GGCE (quantified by assessing cash and in-kind contributions to the Centre).		Equal resourcing from 2023	Increase in resourcing compared to 2024

Outputs, Activities and Milestones	2023	2024
<p>Output: Strategy and action plan to sustain GGCE beyond current funding allocation</p> <p>Output: Communicate options to Member States to provide cash contribution or secondment (including virtual) to the GGCE in 6 UN languages</p>	<ul style="list-style-type: none"> Develop strategy to sustain UN-GGCE development in the short, medium and longer term. Execute short term plan. 	<ul style="list-style-type: none"> Develop strategy to sustain UN-GGCE development in the short, medium and longer term. Execute short term plan. Refine medium term plan as required.
<p>Risks</p> <ul style="list-style-type: none"> The UN-GGCE needs to ensure we are not taking over activities of other organizations like GGOS who provide signs for IAG core sites. We will need to work with GGOS on a partner recognition program in which IAG and UN-GGCE both play a role. The messaging to government Secretaries and Ministers will need to be developed for specific meetings. General talking points are helpful, but specific information for meetings will also be required. 	<p>Mitigation Measures</p> <ul style="list-style-type: none"> UN-GGCE will need to engage with GGOS to determine our roles and responsibilities. Head of Office and the communications team will need to prepare specific information for meetings ahead of time. 	
<p>Regional Considerations <i>Recognize and accommodate regional differences in requirements, political, social, security and regulatory impediments to adoption, capability and capacity and provide specific recommendations for the five UN regions.</i></p> <ul style="list-style-type: none"> Develop a range of content which can be used by Member States all around the world. This includes: <ul style="list-style-type: none"> Information useful for developing countries as well as developed countries. Use cases for a range of different scenarios (e.g. agriculture, intelligent transport, land management etc) Information translated into 6 UN languages (at least). 		

Focus Area 2 – Resources | Increase in dedicated people and funding to achieve global, regional, and national geodesy requirements

Focus Area 2 – Resources: Increase in dedicated people and funding to achieve global, regional, and national geodesy requirements.			
Performance Indicators	Baseline 2023	Target 2024	Target 2025
Indicator 2.2: Increased resources to address gaps identified in the Global Geodesy Development Plan		Increase in funding or people compared to 2023 (quantified through questions to Member States in consultation sessions)	Increase in funding or people compared to 2023 (quantified through questions to Member States in consultation sessions)
Outputs, Activities and Milestones	2023	2024	
<p>Output: Register of regional / country needs (based on findings in Global Geodesy Needs Assessment) and potential donors</p> <p>Output: Establish regional pools of geodetic equipment (e.g. GNSS CORS, gravimeters, total stations including software)</p> <p>Output: Assist Member States with their plans to build, develop and/or maintain or enhance their geodetic infrastructure, resources and capacity; especially Very Long Baseline Interferometry (VLBI) and Satellite Laser Ranging (SLR), and their analysis capability, product development and delivery services.</p>		<ul style="list-style-type: none"> Register of regional / country needs 	

Output: Best practice case studies showing successful examples of the use of the equipment pools, infrastructure development etc.		
Risks <ul style="list-style-type: none"> To be determined following evaluation of information in the Listening World Tour 	Mitigation Measures <ul style="list-style-type: none"> To be determined following evaluation of information in the Listening World Tour 	
Regional Considerations <i>Recognize and accommodate regional differences in requirements, political, social, security and regulatory impediments to adoption, capability and capacity and provide specific recommendations for the five UN regions.</i> <ul style="list-style-type: none"> To be determined following evaluation of information in the Listening World Tour 		

Focus Area 3 – Governance | Strengthened international governance and institutional arrangements.

Focus Area 3 – Governance: Strengthen international governance and institutional arrangements.			
Performance Indicators	Baseline 2023	Target 2024	Target 2025
Indicator 3.1: Increasing number of Member States (year on year) engaging in dialogues and coordination activities with international geodetic organizations	4 Member States including the host, Germany (quantified using reports from consultancies and workshops)	An additional 8 Member States (total 12 Member States) (quantified using reports from consultancies and workshops)	An additional 12 Member States (total 24 Member States) (quantified using reports from consultancies and workshops)
Indicator 3.2: Additional number of Member States sharing their national geodetic data for a stable and sustainable GGRF	2 Member States (quantified using reports from consultancies and workshops)	6 Member States (quantified using reports from consultancies and workshops)	12 Member States (quantified using reports from consultancies and workshops)
Indicator 3.3: Additional number of Member States sign bilateral agreement with UN-GGCE		1 Member State	2 Member States
Outputs, Activities and Milestones	2023	2024	
<p>Output: Develop and implement a modality for dialogue and exchange with Member States, relevant international geodetic organizations and stakeholders towards enhancing coordination and coherence in global geodesy (develop this based on information gathered in the “Listening World Tour”)</p> <p>Output: Convene annual meetings of the International Advisory Committee together with expert meetings amongst participating and invited experts on efforts to maximize the benefit of ongoing geodetic efforts, ensure coherence, and avoid duplication of efforts</p> <p>Output: Sustainable funding and support for the ISO Geodetic Register</p> <p>Output: Evaluate possibilities of cooperation with the United Nations Global Geospatial Knowledge and Innovation Centre (Deqing, China) and UN Global Geospatial Ecosystem Centre (Riyadh, Saudi Arabia)</p> <p>Output: Convene meetings with key stakeholders/ infrastructure owners on bilateral agreements</p>	<ul style="list-style-type: none"> To be determined based on feedback from the Listening World Tour. 	<ul style="list-style-type: none"> To be determined based on feedback from the Listening World Tour. 	
Risks	Mitigation Measures		
<ul style="list-style-type: none"> Member States are not willing / or see the value in engaging Member States are not financially capable or engaging 	<ul style="list-style-type: none"> During the Listening Tours, UN-GGCE need to make the benefits of engaging with very clear and specific to the Member States. UN-GGCE need to ensure we invite and are able to pay for staff from developing countries to attend in person consultation meetings. 		
Regional Considerations <i>Recognize and accommodate regional differences in requirements, political, social, security and regulatory impediments to adoption, capability and capacity and provide specific recommendations for the five UN regions.</i>			
<ul style="list-style-type: none"> Have Listening Tours with Member States in all regions Seek assistance to translate information into local languages to increase engagement Aim for strong representation from developing countries at consultation meetings 			

Focus Area 4 – Capacity | Enhance geodetic capacity and training opportunities in Member States, especially in developing countries.

Focus Area 4 – Capacity: Enhance geodetic capacity and training opportunities in Member States, especially in developing countries.			
Performance Indicators	Baseline 2023	Target 2024	Target 2025
Indicator 4.1: Number of Member States with improved national capabilities and competencies in geodesy.	0 Member States (quantified by surveys of participants of workshops (at conclusion and a year later))	4 Member States (quantified by surveys of participants of workshops (at conclusion and a year later))	8 Member States (quantified by surveys of participants of workshops (at conclusion and a year later))
Indicator 4.2: Increasing amount of geodetic capacity and training content available on the UN-GGCE website.		Website set up with content	Increase in content from 2024
Indicator 4.3: Geodetic capacity and training opportunities provided in five UN-GGIM regions.		Geodetic capacity and training opportunities provided in two UN-GGIM regions	Geodetic capacity and training opportunities provided in three UN-GGIM regions
Indicator 4.4: More than 50% of representatives attending geodetic capacity and training opportunities are from developing countries.		>50% from developing countries	>50% from developing countries
Outputs, Activities and Milestones	2023	2024	
<p>Output: Make publicly accessible geodetic education and training materials available on GGCE website. Include links to education material, schools, universities and courses (GGCE Education Hub).</p> <p>Output: Guidance (report and website material) on how to develop a modern Geospatial Reference System utilizing the templates and common vocabulary of the IGIF (use IGIF-H and FELA as an example)</p> <p>Output: Webinar series describing the process of developing a modern Geospatial Reference System utilizing the templates and common vocabulary of the IGIF.</p>	<ul style="list-style-type: none"> Identify capacity development materials and content and make it more accessible. Start drafting a guidance report. 	<ul style="list-style-type: none"> Webinar series on developing a modern Geospatial Reference System. 	
Risks	Mitigation Measures		
<ul style="list-style-type: none"> Inability to translate all information the UN-GGCE develop into 6 UN languages 	<ul style="list-style-type: none"> UN-GGCE staff are seeking advice from UN regional committee Secretariat staff on the best way to handle this issue 		
Regional Considerations <i>Recognize and accommodate regional differences in requirements, political, social, security and regulatory impediments to adoption, capability and capacity and provide specific recommendations for the five UN regions.</i>			
<ul style="list-style-type: none"> To be determine following discussions with Member States in the Listening Tour meetings. 			

Focus Area 5 – Awareness | Improve awareness of the importance of geodesy by policy makers in Member States

Focus Area 5 – Awareness: Improve awareness of the importance of geodesy by policy makers in Member States.			
Performance Indicators	Baseline 2023	Target 2024	Target 2025
Indicator 5.1: Availability of UN-GGCE logo and website	Logo and website available		
Indicator 5.2: Increasing number of Member States (year on year) accessing the UN-GGCE website regarding the importance of geodesy		Set baseline for number of users of the GGCE website	Increase in number of users of GGCE website relative to 2024
Indicator 5.3: Increasing number of Member States (year on year) attending UN-GGCE events	4 Member States including the host, Germany (quantified using reports from consultancies and workshops)	An additional 8 Member States (total 12 Member States) (quantified using reports from consultancies and workshops)	An additional 12 Member States (total 24 Member States) (quantified using reports from consultancies and workshops)
Indicator 5.4: Increasing number of global geodesy side events at high level summits / sessions	UN-GGIM 13 th session: Subcommittee on Geodesy Side Event – UN-GGCE panel discussion, New York Involvement in SDG Action Weekend: Geospatial Information Accelerating the implementation of the SDG: Geodesy session incl. UN-GGCE, New York	UNFCCC Ocean Climate Dialogue (Peter Thomson), Bonn UN-GGIM 14 th session side event, New York SDG Summit of the Future, New York UN-GGIM High Level Forum, Mexico City	
Indicator 5.5: Increasing number of global and national reports includes geodesy paragraphs, as fundamental to sustainable development	Recognition of geodesy in report from: - SDG Action Weekend: Geospatial Information Accelerating the implementation of the SDG: Geodesy session incl. UN-GGCE, New York	Recognition of geodesy in reports from: - UNFCCC Ocean Climate Dialogue (Peter Thomson), Bonn - UN-GGIM 14 th session side event, New York - SDG Summit of the Future, New York - UN-GGIM High Level Forum, Mexico City	
Outputs, Activities and Milestones	2023	2024	
Output: UN-GGCE logo and website Output: Communications and Stakeholder Engagement Strategy and Action Plan (for first 100 days)	<ul style="list-style-type: none"> • Logo and visual identity • Website • Develop 100 Day Communications and Stakeholder Engagement Strategy and Action Plan 	<ul style="list-style-type: none"> • Further development of new website in line with and in dialogue with UN 	

<p>Risks</p> <ul style="list-style-type: none">• Capacity (personnel)• Lack of operational activity funding money	<p>Mitigation Measures</p> <ul style="list-style-type: none">• Everyone in the UN-GGCE will take on a role to assist with communications of our work.• We will seek assistance from the UN Secretariat in NY to see if we are able to use licences for software to develop communications material rather than buying in services.
<p>Regional Considerations <i>Recognize and accommodate regional differences in requirements, political, social, security and regulatory impediments to adoption, capability and capacity and provide specific recommendations for the five UN regions.</i></p> <ul style="list-style-type: none">• Translation to multiple languages.	

