

Stronger. Together.

The United Nations Global Geodetic Centre of Excellence (UN-GGCE) vision is a future where all countries have strong political support for geodesy which enables them to – together – implement the General Assembly Resolution 69/266 ‘A Global Geodetic Reference Frame for Sustainable Development’, and accelerate the achievements of the Sustainable Development Goals to derive social, environmental and economic benefits.

GLOBAL GEODESY SUPPLY CHAIN

Members of International Committee on GNSS acknowledge risks

At the 18th meeting of the International Committee on Global Navigation Satellite Systems in Wellington, New Zealand the members recognized that strengthening the global geodesy supply chain should be prioritised to ensure GNSS services are robust.



PHOTO: RYAN KEENAN

WELLINGTON, NEW ZEALAND: Nick Brown, UN-GGCE, at the ICG 18th meeting.

In October, United Nations Global Geodetic Centre of Excellence (UN-GGCE) Head of Office, Nick Brown (photo), presented on the weaknesses in the global geodesy supply chain and how these weaknesses could result in geodetic products being unreliable. Mr. Brown presented several assumptions to the participants describing how unreliable geodetic products could make positioning, navigation and timing (PNT) satellites services unreliable.

“Following a week of discussions with the providers of Global Navigation Satellite Services (GNSS), it turns out my assumptions are right; unreliable geodetic products like Earth Orientation Parameters and Terrestrial Reference Frames are on the critical path for the delivery of robust PNT satellite services,” says Mr. Brown.

The members of the International Committee on GNSS (ICG) openly acknowledged the risks highlighted by the UN-GGCE and recognized strengthening the global geodesy supply chain should be prioritised to ensure GNSS services are more robust.

“I was very impressed by the openness of the ICG members and their willingness to discuss options to strengthen the global geodesy supply chain in the future. I look forward to staying engaged with, and working with, the wonderful people in this community”, Brown says.

Sitting under the umbrella of the United Nations, ICG brings together the providers of global and regional navigation satellite systems including the Global Positioning System (GPS; USA), GLONASS (Russian Federation), Galileo (EU) and BeiDou (PRC), and promotes voluntary cooperation on matters of mutual interest related to civil satellite-based positioning, navigation, timing (PNT), and value-added services.

This is the paragraph from the ICG-18 Joint Statement which is agreed text from all the GNSS providers: “In a Joint Working Group discussion, the United Nations Global Geodetic Centre of Excellence (UN-GGCE) highlighted weaknesses in the global geodesy supply chain; in particular issues relating to the reliability of geodetic products such as

Earth Orientation Parameters (EOP) and future realisations of the International Terrestrial Reference Frame which are essential to the operation of GNSS satellites. ICG members openly acknowledged the risks highlighted by the UN-GGCE and recognized strengthening the global geodesy supply chain should be prioritised to ensure GNSS services are more robust.”

Broad interaction with stakeholders

In addition to the International Committee on GNSS meeting in New Zealand, the UN-GGCE team has interacted with a broad range of stakeholders in the past few months .

In September, the team contributed to the Africa Rising session at the UN General Assembly Science Summit in New York which discussed the geodesy challenges and opportunities across Africa. The event united experts, professionals, and enthusiasts to discuss critical issues related to the implementation of United Nations General Assembly Resolution A/RES/69/266: “Global Geodetic Reference Frame for Sustainable Development” looking through an Africa lense.

In October, team members interacted with industry and the geospatial community representatives at the Intergeo Conference in Stuttgart and discussed the 1st Joint Development Plan for Global Geodesy with the geodetic community at the successful GGOS Days event in Potsdam.





PHOTO: VOLKER LANNERT, UN BONN

UN CAMPUS, BONN: The workshops will take place in person either at the UN-GGCE facility in Bonn, Germany or within the respective region.

GEODESY CAPACITY DEVELOPMENT WORKSHOP SERIES 2025

-We aim to bring all participants at the same level

The UN-GGCE team is now developing the agenda for regional workshops which will assist participants understand how to collaborate with colleagues in government to transition to a modern Geospatial Reference System.

“This is a series of workshops for surveying and geodetic professionals working for, or with, Member States government agencies, says Nick Brown, Head of Office at the UN-GGCE.

The UN-GGCE will provide workshops across the five regions: Europe, Africa, Americas, Arab States and Asia-Pacific. Each workshop will run for five days and will take place in person either at the UN-GGCE facility in Bonn, Germany, or within the respective region.

“We are now finalizing the details for the first workshop in Europe 17 to 21 February next year and hope the workshops will help to grow capacity in all regions, says Mr. Brown.

The UN-GGCE envisions the future where all countries have a strong support for geodesy, enabling them – together – to implement the General Assembly Resolution 69/266 and to accelerate the achievements of the Sustainable Development Goals to derive social, environmental and economic benefits.

“Key to achieving these benefits is the establishment of a modern Geospatial Reference System on which geospatial data can be aligned and combined for improved decision making,” Brown explains.

The workshop will include interactive sessions, expert discussions, technical assistance and networking events. The agenda is structured in building blocks that systematically address the WHY, HOW, WHO, WHAT, and WHERE of modernizing the geospatial reference system.

A modern Geospatial Reference System is a collection of:

- **Datums**, used to define latitude, longitude and height.
- **Infrastructure**, including a network of Global Navigation Satellite System Continuously Operating Reference Stations and survey marks to provide an authoritative and accurate network in support of positioning applications.
- **Models**, describing dynamic, geophysical processes that affect spatial measurements.
- **Standards**, to ensure positioning information is Findable, Accessible, Interoperable and Reusable (FAIR).

Benefits of participation:

By attending the workshop, participants will:

- Develop tailored roadmaps for modernizing their national geospatial reference system.
- Gain practical experience with geodetic technologies and methods.
- Network with international geodesy professionals and share best practices.
- Learn to effectively communicate the importance of geodesy to decision-makers.

“We hope the workshop series will serve as a platform to strengthen global geodetic capabilities, ensuring that all Member States are equipped to support sustainable development through accurate and reliable geospatial information, leaving no one behind.”

Nick Brown, UN-GGCE

