

# UN Subcommittee on Geodesy (SCoG) Update

SIRGAS Symposium 07 November 2022

Dr. Daniel Roman Chair, WG ETCB



UN-GGIM

United Nations Initiative on  
Global Geospatial Information Management

*Positioning geospatial information to address global challenges*

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# Report filed at UN GGIM 12<sup>th</sup> Session

- Commended work of SCoG
  - Broad stakeholder engagement
  - Foster greater planning and international coordination
  - Two position papers
    - Sustaining the GGRF
    - Establish need for GGCE
- Global Geodetic Centre of Excellence (GGCE)
  - Facilitate discussions between Germany and UN at Bonn campus
  - Foster international support

United Nations



**Economic and Social Council**

E/C.20/2022/10/Add.1

**Committee of Experts on Global Geospatial  
Information Management**

18 July 2022

**Twelfth session**

New York, 3–5 August 2022

Item 8 of the provisional agenda\*

**Global geodetic reference frame**

**Global geodetic reference frame**



**UN-GGIM**

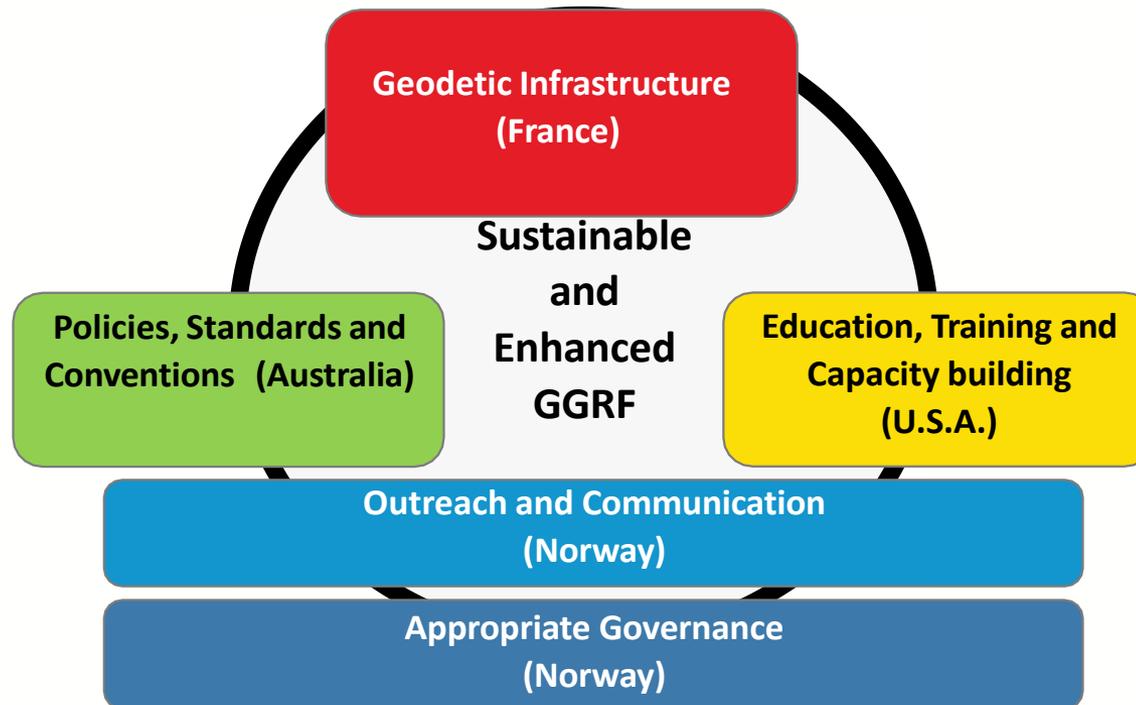
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# The UN SCoG and the GGRF

**SUBCOMMITTEE ON GEODESY VISION**  
An accurate, sustainable and accessible Global Geodetic Reference  
Frame to support science and society



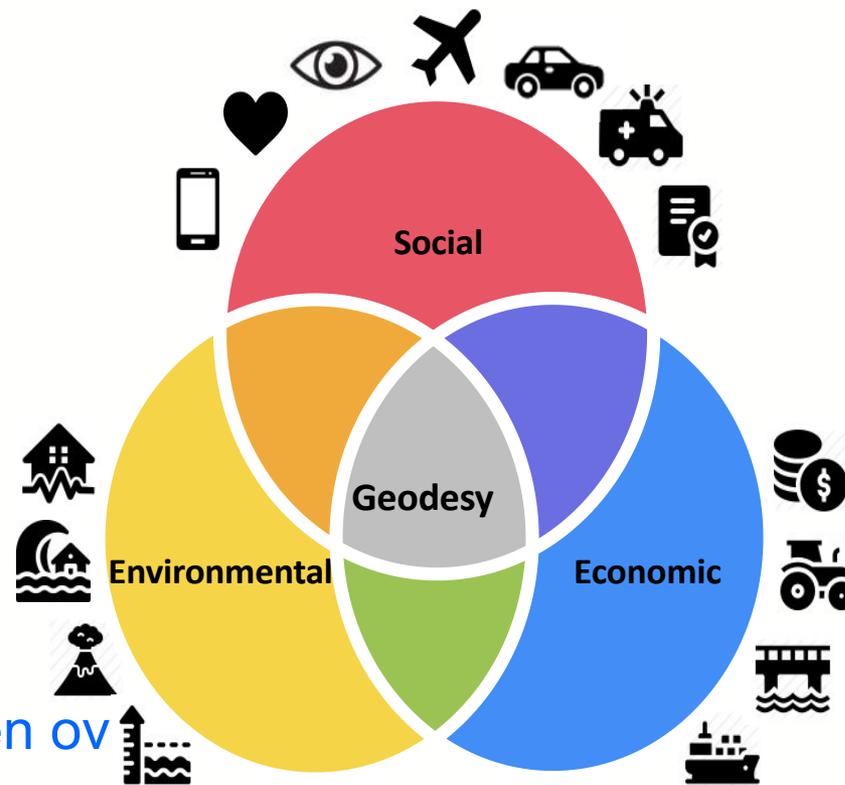
# What is the GGRF? Many things ...

- ITRF – authoritative model of the Earth
- ICRF – to orient the Earth in the universe
- GI - VLBI, SLR, DORIS, GNSS
- Gravity and vertical control for physical heights
- Laws, international agreements and norms for Nations
- Standards, techniques & policies for clear guidance
- Equipment, tools and educated people to make it work
- More than just a reference frame – a lot more



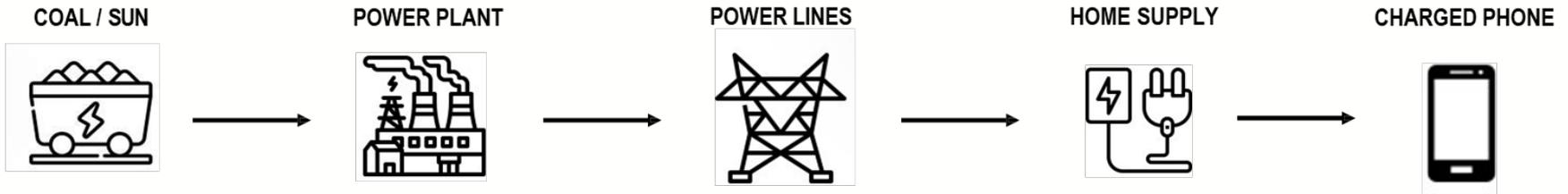
# What does it support?

- Evidenced based policies
  - Environmental
  - Social
  - Economic
- Accurate positioning data
- In an accessible framework
- With consistent standards
- Synergy from interoperability
- But the geodesy at the core is often overlooked and under-appreciated



# It is all connected ...

## Sustain the entire value chain



Source

Production

Transmission

Access

Application

GEODETIC  
INFRASTRUCTURE



IAG SERVICES



INTERNET



SATELLITES



LOCATION  
ENABLED



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# The Two Position Papers

FINAL DRAFT FOR ENDORSEMENT

UNITED NATIONS COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL  
INFORMATION MANAGEMENT

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## Subcommittee on Geodesy

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Version: 29 July 2021

E/C.20/2021/7/Add.2

### Position Paper on Sustaining the Global Geodetic Reference Frame

A plan to help achieve the long-term accuracy and accessibility of the Global Geodetic Reference Frame

*Strategy and Action Plan to sustain all elements of the geodesy value chain*

FINAL DRAFT FOR ENDORSEMENT

UNITED NATIONS COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL  
INFORMATION MANAGEMENT

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## Subcommittee on Geodesy

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Version: 29 July 2021

E/C.20/2021/7/Add.3

### Concept Paper on Establishing a Global Geodetic Centre of Excellence

*Dedicated people focused on improving collaboration and coordination amongst the global geodetic community*



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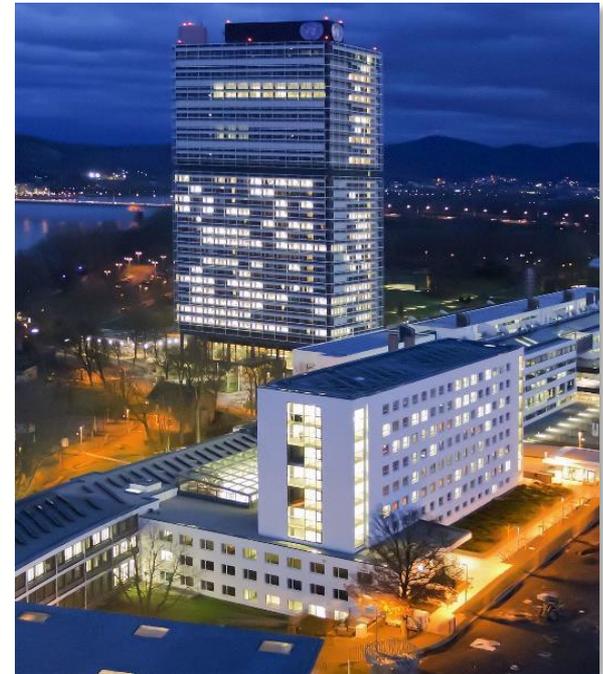
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# Establishment of the GGCE in Germany

Offer of the German Federal Government was accepted and supported on 11.09.2020 at the 10th UN-GGIM Committee of Experts

## The GGCE in Germany

- located at the UN Campus Bonn
  - financed and supported by BKG
  - supported with virtual secondment by Norway
  - Steering Committee (UN DESA + Germany)
  - Technical Advisory Committee (SCoG, IAG, FIG, Space Agencies, ...)
- } ~ 6 FTE



UN Campus Bonn

Source: Press office of the city of Bonn

Courtesy Johannes Bouman



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# Global cooperation and coordination

## Economic benefits from investment in geodesy



IGS INTERNATIONAL  
GNSS SERVICE



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# Global Outreach – All in NYC

- Held a side event in addition to the UN SCoG meeting
- Outreach & Communication to global leaders
- Can't just talk with ourselves
- Need to expand to decision makers and leaders
- Help society to understand the power of where



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Geodesy Event  
@ UN-GGIM 12  
August 2022

## UN-GGIM – Subcommittee on Geodesy

Learn how geodesy is fundamental for Earth science missions and climate adaptation.

### United Nations Forum on a Global Geodetic Reference Frame (GGRF) for Sustainable Development

UN-GGIM 12th Session Side Event - 2 August 2022 at 1:30 pm  
Conference Room 2 - UN Headquarters - New York

unggim.org

FUNDAMENTAL FOR EARTH SCIENCE AND CLIMATE ADAPTATION

## Forum to discuss the Critical Role of Global Geodesy

Did you know that the measurements that we make from satellite systems help to inform decisions around the world, including measurements of sea level rise? Learn more at a forum discussing how the Global Geodetic Reference Frame (GGRF) informs decision-making, taking place as a **UN-GGIM 12th Session Side Event on the GGRF for Sustainable Development** and how it's fundamental for Earth science missions and climate adaptation.

**“These measurements depend on having a very well understood reference point: a global geodetic reference frame”**

Keynote presentation by Dr. Karen St. Germain  
Earth Science Division Director  
NASA Science Mission Directorate

**Moderator:**  
Nicholas Brown  
Co-Chair of the UN-GGIM Subcommittee on Geodesy  
Director of National Geodesy  
Geoscience Australia

Understanding the consequences of sea level rise in the South Pacific  
Ms. Melzyana Hicks  
Director of Geospatial Information  
Tj. Ministry of Lands and Mineral Resources

Geodesy as a fundamental component of climate adaptation and sea level monitoring  
Dr. Matthew Simpson  
Research Geophysicist  
Norwegian Mapping Authority

**“If we want precise positioning and accurate sea level measurements, we need to continue to observe and produce the very best of geodetic products”**

Opening remarks by  
H. E. Ambassador Peter Thompson  
United Nations Secretary-General's Special Envoy for the Ocean  
UN-IGF Good Geodesy Ambassador

## Establishing a United Nations Global Geodetic Centre of Excellence

To sustain the GGRF, the Subcommittee on Geodesy proposed establishing a United Nations Global Geodetic Centre of Excellence in 2019. This was followed in 2020 by an offer by the Federal Republic of Germany to host the Centre, a proposal that was supported by the UN-GGIM Committee of Experts.

Johannes Bouman, head of the geodesy department at the Federal Agency for Cartography and Geodesy in Germany will present on the progress made by the Government of Germany and the United Nations to host and establish a Global Geodetic Centre of Excellence at the United Nations campus in Bonn, Germany.

Peter: UN-IGF Good Geodesy Ambassador, UN-IGF Special Envoy for the Ocean  
Johannes: Federal Agency for Cartography and Geodesy, Germany | Good Geodesy Ambassador



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## UN SCoG Representatives from the Americas:

Argentina: **Federico Arpe**

Canada: **Calvin Klatt**

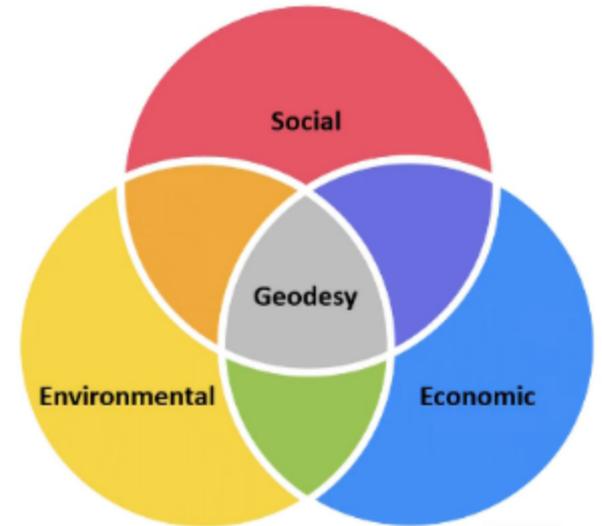
Costa Rica: **Álvaro Álvarez**

Jamaica: **Nolan Aikens**

Mexico: **Francisco Medina**

United States: **Daniel Roman**

Uruguay: **Juan Croquis**



# THANK YOU FOR YOUR ATTENTION



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