

BPS WG2: Establishment of the Global Geodetic Reference Frame (GGRF)

Chair: Urs Marti (Switzerland)

Terms of Reference

The United Nations General Assembly adopted the resolution on a Global Geodetic Reference Frame for Sustainable Development (A/RES/69/266) on February 26, 2015.

IAG, as the responsible scientific organization for the establishment and maintenance of global reference systems and reference frames establishes a joint working group (JWG) for the realization of this UN resolution under the umbrella of the Bureau of Products and Standards (BPS) of the Global Geodetic Observing System (GGOS). This JWG works together with representatives of IAG Commissions 1 and 2, the Inter-Commission-Committee on Theory (ICCT) the International Earth Rotation and Reference Systems Service (IERS) and the International Gravity Field Service (IGFS).

Besides the UN resolution, the following two IAG resolutions adopted at the IUGG General Assembly 2015 in Prague are the basis of the actions of this working group:

- Resolution 1 for the definition and realization of an International Height Reference System (IHRS)
- Resolution 2 for the establishment of a Global Absolute Gravity Reference System

A preparatory paper “Description of the Global Geodetic Reference Frame” has been prepared by IAG in 2015. This JWG will work on the establishment and coordination of the geometric reference frame, the global height system, the global gravity network and their temporal changes. The application of Earth orientation parameters and tidal models and the underlying standard and reference models has to be brought into consistency.

Objectives and activities

Main objectives and activities of the Working Group are:

- Assist GGOS in defining the fundamental network and observing systems for the realization of the global geometric reference frame
- Assist the working group for establishing the International Height Reference System (IHRS) in the realization
- Integrating and combining the global gravity network with other techniques

- Advance the realization of a conventional global reference gravity field model
- Study the influence of earth orientation parameters and tidal models on the realization of a consistent global reference frame in geometry, height and gravity
- Study the necessity to replace / update the global reference system GRS80
- Foster the free exchange of geodetic data and products
- Organize and assist sessions and symposia on the global reference frame at conferences
- Development of a roadmap for the definition and realization of a Global Geodetic Reference System

Members

Urs Marti (Switzerland), Chair
 Jonas Ågren (Sweden), Commission 2
 Detlef Angermann (Germany), Chair of GGOS BPS
 Riccardo Barzaghi (Italy), IGFS
 Johannes Ihde (Germany), WG on Height Systems
 Hansjörg Kutterer (Germany), GGOS Chair
 Jaakko Mäkinen (Finland), Tidal Systems
 Pavel Novak (Czech Republic), ICCT
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 Laura Sánchez (Germany), WG on Height Systems
 Harald Schuh (Germany), IAG President
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