

UN RESOLUTION

The UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) decided in July 2013 to formulate and facilitate a draft resolution for a Global Geodetic Reference Frame.

In February 2015 the UN General Assembly adopted the resolution *A Global Geodetic Reference Frame for Sustainable Development* – the first resolution recognizing the importance of a globally-coordinated approach to geodesy.

unggrf.org

A roadmap for the enhancement of geodesy

The Working Group on the Global Geodetic Reference Frame has begun working on the roadmap to build a framework to implement the Global Geodetic Reference Frame.

PHOTO: ANNE JØRGENSEN



ROADMAP: Global Geodetic Reference Frame Working Group co-chair Gary Johnston (Australia, from left) at the GGRF Workshop in Vienna together with participants from Norway (Kristiansen), Germany (Craddock), France (Altamimi) and Finland (Poutanen).

“The Global Geodetic Reference Frame (GGRF) Roadmap will be built with passion and involvement”, said Working Group co-chair Gary Johnston from Australia when opening the GGRF Working Group Workshop on the Roadmap in Vienna in April.

The Workshop was convened six weeks after Ambassador Peter Thomson, Fiji’s Permanent Representative to the United Nations, introduced the draft resolution to the General Assembly.

A momentum for GGRF

“The momentum the adoption of this resolution has created will position the global geodetic community well for the complex task ahead, developing

a Roadmap for GGRF enhancement”, says Johnston.

Global survey

After the General Assembly adopted the resolution on 26 February a global questionnaire was sent to Member States for the purpose of gathering opinions on the key elements of the GGRF and its sustainability. The survey was closed on 5 May and resulted in 92 responses from 84 countries, a significant response rate.

The survey reports that the key elements to achieving a sustainable GGRF are governmental and country commitment and funding, common standards, and international obligations. The most important key elements reported for development of the GGRF are to maintain and build infrastructure, common standards and internationally coordinated policies.

International governance

“The survey clearly identifies that a joint international governance effort is needed in order to meet the objectives of the GGRF resolution. It does not however give any details as to how this can best be achieved. The Working Group will test some ideas and concepts for possible governance arrangements”, Johnston explains.

The work on the Roadmap continued at the second GGRF Working Group Workshop in Prague in June, and will be summed up at the next Working Group meeting during the fifth session of the Committee of Experts on UN-GGIM in early August 2015.

At that time, the Committee of Experts will be invited to commit to providing the necessary support and guidance in the process of developing the GGRF Roadmap.



ROADMAP: GGRF Workshop participants from Mexico (Gonzales), Germany (Ihde), USA (Neilan), Sweden (Lilje), Spain (Vaquero) and Norway (Opseth) are analysing the global survey on GGRF.

PHOTO: ANNE JØRGENSEN





AUSTRALIA

Goes global to meet future needs

Australia’s national committee on Surveying and Mapping have agreed to update the national datum to the latest version of the Global Geodetic Reference Frame (GGRF). Australia will be the first nation to do this.

“As Australia’s coordinate datum underpins all fit-for-purpose position, navigation and timing (PNT) applications it is necessary to ensure that it will meet the needs of current and future users. It is widely recognised that the current datum, the Geocentric Datum of Australia 1994 (GDA94), is not meeting user requirements, says John Dawson, Geodesy section leader at Geoscience Australia. He’s in charge of Australia’s update to the GGRF.

A datum is an official, fully-defined, spatial reference system or surface to which measurements and coordinates upon the earth may be defined and related. It underpins all geospatial data. The ability to position both information and objects accurately will be an increasingly important driver of productivity into the next decade.

“In Australia, Global Navigation Satellite System (GNSS) has the potential to generate a cumulative benefit of close to AUD 200 billion over the next 20 years”, Dawson says. He explains that this growth will be further leveraged by efficiency gains if we ensure that the positioning, navigation and timing information from global positioning systems are interoperable with the Australian datum.

Implementation of the new datum will commence on 1 January 2017 with a new and more rigorous national adjustment with the coordinates projected to a reference date of 1 January 2020.

PHOTO: GEOSCIENCE AUSTRALIA



AUSTRALIA: The current national datum is not meeting user requirements.

JAPAN

Key enabler for monitoring disasters



PHOTO: GEOSPATIAL INFORMATION AUTHORITY, JAPAN

JAPAN: After The 2011 off the Pacific coast of Tohoku Earthquake.

In Japan nearly all geospatial services are provided through the Global Geodetic Reference Frame.

“The Global Geodetic Reference Frame (GGRF) is the essential infrastructure and legally defined platform for mapping and surveying as well as geospatial information management conducted by public organizations in Japan,” says Basara Miyahara, director at the Geospatial Information Authority of Japan.

In Japan four active plates are colliding, making the country prone to a lot of disastrous earthquakes and volcanic activities.

“Japan has an important reason to adopt GGRF as a key enabler not only for monitoring these disasters, but also recovering from them”, Miyahara says.

In the case of The 2011 off the Pacific coast of Tohoku Earthquake on 11 March 2011, the ground surface displacement of as large as 5.4 m in the horizontal and 1.2 m in the vertical directions was measured with the CORS network of GNSS Earth Observation Network System (GEONET) within a few hours after the earthquake.

In addition, GEONET enabled to revise the geodetic reference framework in about seven months after the earthquake, and greatly facilitated the reconstruction activities in the areas devastated by the tsunamis.

“It is now fair to say that GGRF is an integral part of the Japanese society. And nobody would be able to imagine what would take place in Japan without GGRF,” says Miyahara.

