Simposio SIRGAS 2014

SIRGAS y el Grupo de Trabajo sobre el Marco de Referencia Geodésico Global para el Desarrollo Sostenible UN-GGIM: GGRF

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Simposio SIRGAS 2014. La Paz, Bolivia. Noviembre 24 - 26, 2014

Contenido

- La iniciativa UN-GGIM
- El Grupo de Trabajo GGRF
- Actividades realizadas por el GGRF-WG
- SIRGAS y el GGRF-WG

Sobre UN-GGIM

UN-GGIM: Iniciativa de las Naciones Unidas sobre Gestión Global de la Información Geoespacial: http://ggim.un.org/

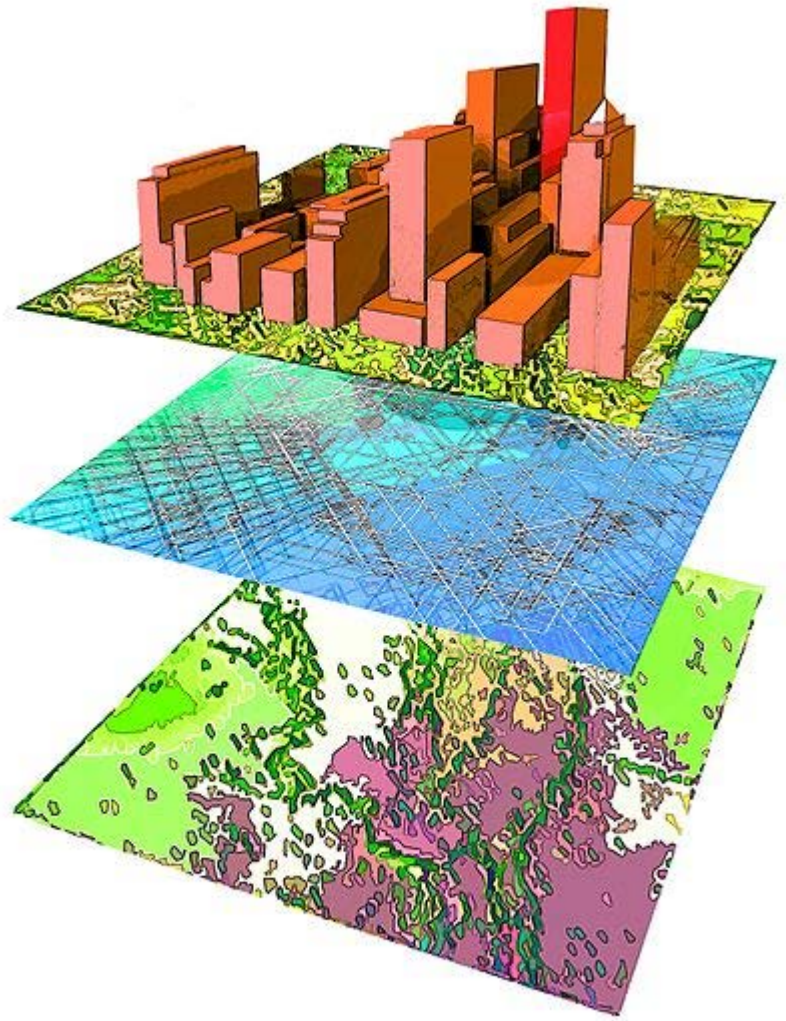
- GIM: Administración, liderazgo, estructura y práctica necesarios para la operación exitosa de los SIG en una entidad.
- UN-GGIM fue creada por la resolución 2011/24 del Comité Económico y Social de las Naciones Unidas -ECOSOC-.
- Mecanismo intergubernamental : decisiones y orientaciones conjuntas para producir y utilizar información geoespacial.
- Visión: Hacer que la información geoespacial precisa, autorizada y confiable esté disponible para apoyar el desarrollo nacional, regional y global.

UN-GGIM
UNITED NATIONS INITIATIVE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

Retos globales de UN-GGIM

UN-GGIM promueve el uso de la información geoespacial para abordar retos globales clave:

- Valor e importancia de la información geoespacial para los gobiernos.
- Bases de datos globales autorizadas, coordinadas y disponibles.
- Cobertura sobre áreas marinas y de información basada en el espacio.
- Guías y estándares para arreglos institucionales y legales frente a la GGIM.
- Conocimiento, educación y soporte para quienes entran al scenario nacional geoespacial.
- Promoción de la divulgación, acceso y distribución de datos.



http://en.wikipedia.org/wiki/File:Layers_of_information_lolly.jpg

GGRF es un Grupo de Trabajo de UN-GGIM

GGRF: Conformación

http://ggim.un.org/UN_GGIM_wg1.html

Gary Johnston (Geoscience Australia)

Australian Government
Geoscience Australia

Co- presidentes

Anne Jørgensen (Autoridad Cartográfica de Noruega)

Kartverket

Expertos de gobiernos nacionales	IAG	Marcos regionales	GGOS	UN-OOSA	ICG	FIG	GEO / GEOSS

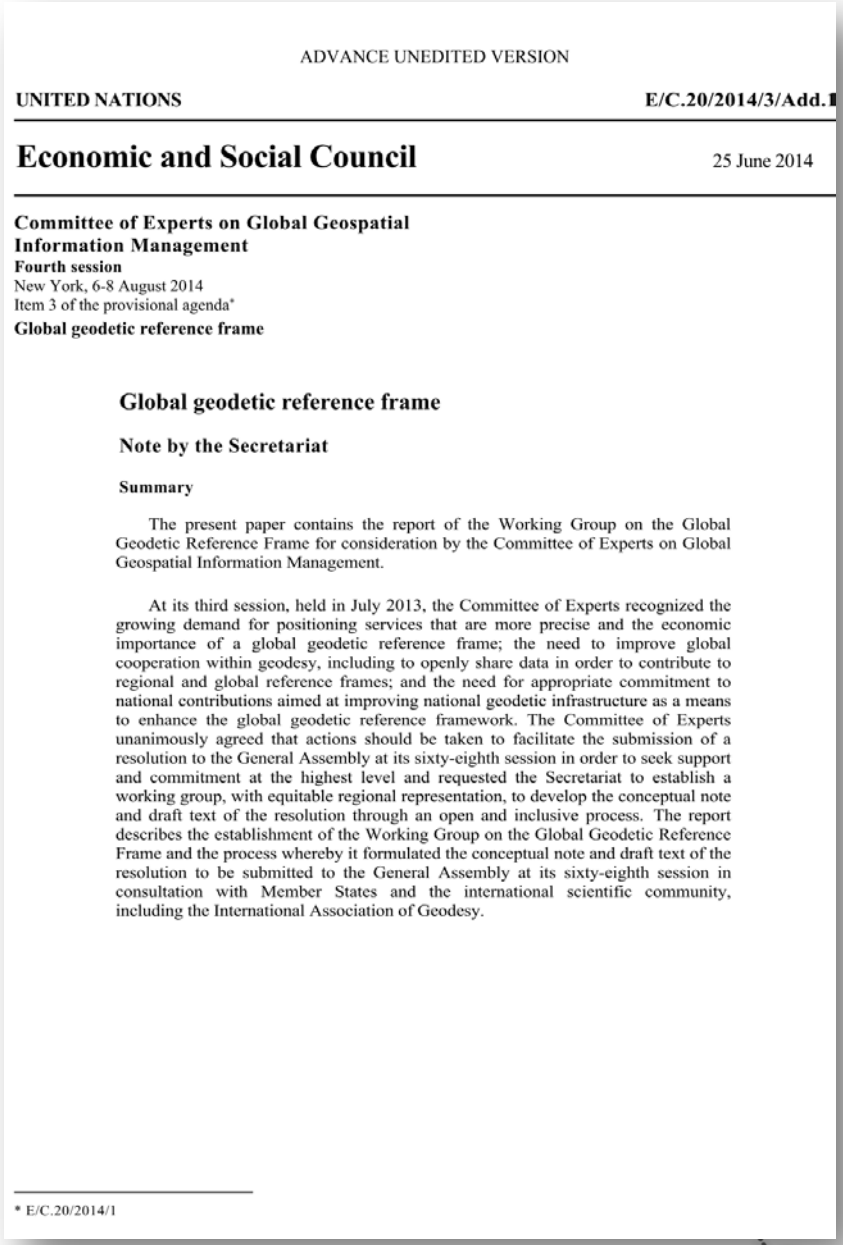
GGRF: Definición

GGRF: Objetivos

- Desarrollar Nota Conceptual y Borrador de Resolución de las Naciones Unidas
- Proporcionar un foro intergubernamental: representación equitativa
- Hoja de ruta para la observación geodésica global colaborativa
- Promover la disposición información y datos geodésicos
- Abogar por el uso de estándares guías: intercambio e interoperabilidad
- Hacer frente a los asuntos técnicos, institucionales y de política.
- Mantener el diálogo con y entre la comunidad geodésica
- Buscar la implementación del GGRF junto con la IAG
- Divulgar y promover el uso del GGRF como base de los datos espaciales

GGRF: Reporte ante UN-GGIM

- Cuestionario geodésico global: UN – IAG (GGOS), respondido por 100 estados miembros (81%).
- 75% reconocen el valor económico de las capacidades en posicionamiento preciso: infraestructura, toma de decisiones, datos abiertos, interés, contribución.
- Responsabilidades geodésicas nacionales como cimiento del GGRF.
- Borrador de Resolución y compromise del más alto nivel.
- Cooperación intranacional y contribución internacional , bajo la sombrilla de UN
- El apoyo de la FIG al GGRF
- Iniciativas como GEO y CEOS reconocen al GGRF
- **Aprobado el 17/11/2014 por el ECOSOC y lo recomienda para aprobación de la Asamblea General**



ADVANCE UNEDITED VERSION

UNITED NATIONS E/C.20/2014/3/Add.1

Economic and Social Council 25 June 2014

Committee of Experts on Global Geospatial Information Management
Fourth session
New York, 6-8 August 2014
Item 3 of the provisional agenda*
Global geodetic reference frame

Global geodetic reference frame

Note by the Secretariat

Summary

The present paper contains the report of the Working Group on the Global Geodetic Reference Frame for consideration by the Committee of Experts on Global Geospatial Information Management.

At its third session, held in July 2013, the Committee of Experts recognized the growing demand for positioning services that are more precise and the economic importance of a global geodetic reference frame; the need to improve global cooperation within geodesy, including to openly share data in order to contribute to regional and global reference frames; and the need for appropriate commitment to national contributions aimed at improving national geodetic infrastructure as a means to enhance the global geodetic reference framework. The Committee of Experts unanimously agreed that actions should be taken to facilitate the submission of a resolution to the General Assembly at its sixty-eighth session in order to seek support and commitment at the highest level and requested the Secretariat to establish a working group, with equitable regional representation, to develop the conceptual note and draft text of the resolution through an open and inclusive process. The report describes the establishment of the Working Group on the Global Geodetic Reference Frame and the process whereby it formulated the conceptual note and draft text of the resolution to be submitted to the General Assembly at its sixty-eighth session in consultation with Member States and the international scientific community, including the International Association of Geodesy.

* E/C.20/2014/1

GGRF: Hoja informativa 1

Newsletter
March / April 2014
01

UN-GGIM – Global Geodetic Reference Frame Working Group

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.

UN-GGIM recognises the growing demand for more precise positioning services, the economic importance of a global geodetic reference frame and the need to improve the global cooperation within geodesy. The resolution will be tabled at the 2013-14 Session of the UN General Assembly.

How geodesy contributes to strengthen the study of our changing planet

Measuring the planet

Through geodesy, we measure and define the Earth's shape, rotation and gravitational field and changes to these.

Geodesy is fundamental for monitoring changes to the Earth including the continents, ice caps, oceans and the atmosphere. Geodesy is also fundamental for mapping, navigation and universal timing.

THE EARTH TIDE *THE EARTH ROTATION* *PLATE TECTONICS* *GLOBAL MASS TRANSPORT*

***EARTH IS A DYNAMIC PLANET** and is in constant motion. We monitor the different processes which cause these motions.*

Where places and people are

Because the Earth is in constant motion, an accurate point of reference is needed for making measurements. Geodesy provides a very accurate and stable coordinate reference frame for the whole planet: A global geodetic reference frame.

This coordinate system allows us to relate measurements taken anywhere on the Earth with similar measurements taken at a different time or location.

***A GLOBAL GEODETIC REFERENCE FRAME** which allows us to know where people and places are on the Earth.*

UN-GGIM | United Nations Initiative on Global Geospatial Information Management ggim.un.org

Newsletter 01 | UN-GGIM – Global Geodetic Reference Frame Working Group

Natural hazard and disaster management

To make good decisions for the future, information is needed about sea level changes, plate movements, land uplift and ice sheet and glacier changes.

The global geodetic reference frame provides the basis for such decisions. Without this system, it would be difficult to identify areas under threat of flooding, earthquakes or drought and to adopt preventive measures to protect them.

PHOTO: ANNE JØRGENSEN

PHOTO: BJØRN-OWE HOLMBERG

The basis for geospatial information

A global geodetic reference frame is in growing demand. Monitoring changes to the Earth is important for environmental studies and for the global economy.

It's the basis for geospatial information and navigation used in many Earth sciences and societal applications and in a whole series of industries, such as construction, mining, agriculture, financial transactions and transport.

PHOTO: MORTEN BRUN

More precise observations

Earth observations must become more precise. We require information about current trends at a scale measured in millimetres to detect changes of the Earth system with sufficient precision, to meet society's future needs.

Global Geodesy is dependent on contributions from nations all around the globe, since no single country can maintain the global geodetic reference frame alone.

We aim to change from the current system where contributions to the development of a global geodetic reference frame are undertaken on a "best efforts" basis to one where they are made through a multilateral collaboration under a UN mandate.

UN-GGIM | United Nations Initiative on Global Geospatial Information Management ggim.un.org

GGRF: Hoja informativa 2

Newsletter
July / August 2014
02

UN-GGIM – Global Geodetic Reference Frame Working Group

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.

UN-GGIM recognises the growing demand for more precise positioning services, the economic importance of a global geodetic reference frame and the need to improve the global cooperation within geodesy. The resolution will be tabled at the 2013-14 Session of the UN General Assembly.

Fundamental for monitoring climate change

Dr. Rajendra Pachauri, Chairman of the Intergovernmental Panel on Climate Change, commented about geodesy at a recent climate symposium in Ny-Ålesund, Svalbard.

PHOTO: IPCC

***ARCTIC:** IPCC Chairman Dr. Rajendra Pachauri supports the work on a draft UN resolution on global geodesy*

"Geodetic Earth observation contributes significantly to strengthen the study of our changing planet and provides valuable information to policy makers who are exploring ways to address climate change," Dr. Pachauri said.

The geodesists around the globe measure and define the Earth's shape, rotation and gravitation and changes to these. Geodetic Earth observation provides a coordinate reference frame for the whole planet, which is fundamental for monitoring changes to the Earth.

Dr. Pachauri said UN-GGIM and the Global Geodetic Reference Frame Working Group are making important contributions to scientific understanding.

"I was gratified to learn about their work on a draft UN resolution on global geodesy," he said. "Their work is making a vital contribution to our understanding of climate change."

MALAYSIA

- Vital for policy development

The value of geospatial information and the global geodetic reference frame to science and society is becoming well recognised. In a recent speech to the International Federation of Surveyors (FIG) General Assembly the Malaysian Prime Minister announced:

"Spatial information is vital for policy development; it informs our approach to everything from urban planning to emergency service response. It plays a key part in the fight against environmental degradation and runaway climate change."

The Prime Minister also referred to the draft resolution on the global geodetic reference frame:

"This resolution seeks to encourage enhanced global cooperation and free and open data access policies. Malaysia welcomes and supports this development."

FIG supports the resolution

The International Federation of Surveyors (FIG) made a unanimous decision on the global geodetic reference frame at the General Assembly, 21 June. Recognising a growing need for an accurate and stable global geodetic reference frame to support, inter alia, earth observation, including sea level and climate change monitoring, natural hazard and disaster management.

The FIG General Assembly urged Member States and their representatives within UN-GGIM-AP together with all Member States and their representatives at the fourth session of UN-GGIM, to support the approval of a draft resolution on the global geodetic reference frame, and to submit to the 2013-14 session of the UN General Assembly for final adoption.

UN-GGIM | United Nations Initiative on Global Geospatial Information Management ggim.un.org

Newsletter 02 | UN-GGIM – Global Geodetic Reference Frame Working Group

NEW ZEALAND

Earthquakes emphasise the need for reference frames

New Zealand is at high risk of earthquakes and associated land surface deformations.
- A global geodetic reference frame is therefore important to New Zealand, says Land Information New Zealand Chief Geodesist, Graeme Blick.

The Canterbury earthquakes of 2010 and 2011 in New Zealand caused significant damage to Canterbury, including the Christchurch urban area.

-Having a common reference frame allows geodetic datasets to be combined in order to better understand the nature of these events, Blick says.

It's a view shared by Kelvin Berryman. He is manager of Natural Hazards Research Platform hosted by GNS Science, a New Zealand earth and geoscience research center.

- A common reference frame makes it possible to combine GNSS, geological observations, LiDAR and other datasets to increase our understanding of the earthquakes and their impacts on the land, says Berryman.

In Christchurch, the geodetic reference frame has provided an accurate benchmark for infrastructure recovery projects, allowing adjacent or overlapping work to be carried out as efficiently as possible.

It has also meant that land changes associated with earthquake fault movement and liquefaction can be used to evaluate the risk of river flooding.

PHOTO: ROSS RECKER/THE CANTERBURY EARTHQUAKE RECOVERY AUTHORITY

***NEW ZEALAND:** After the Canterbury earthquake 2011, Christchurch Cathedral.*

JAMAICA

Small islands at risk

PHOTO: NATIONAL SPATIAL DATA MANAGEMENT DIVISION, JAMAICA

***JAMAICA:** 90 percent of Jamaica's GDP is produced within coastal areas.*

Over the years Jamaica and other Caribbean Islands have seen significant loss of life and damage to infrastructure due to weather related catastrophes such as tropical storms and hurricanes.

- It is critical that we have knowledge in the area of weather, climate and sea level change, and that an understanding of a global geodetic reference frame is applied to inform mitigation efforts and decision making for sustainable development, says Rohan Richards, Principal Director in the National Spatial Data Management Division of the Ministry of Water, Land, Environment and Climate Change.

Over 400 of Jamaica's 900 communities are ranked high or moderately high to natural hazards. Between 2004 and 2012 the country experienced eight major hurricane events each bringing with it varying levels of damage to infrastructure and effects on Jamaican economy.

One of every four persons employed in Jamaica is part of the tourism industry, according to Jamaica Tourist Board. 25 percent of Jamaica's population lives within coastal areas and 90 percent of Jamaica's GDP is produced within these areas. This makes this island nation extremely vulnerable.
- We must therefore protect the natural resources on which the economy of small islands such as Jamaica depends, says Rohan Richards.

UN-GGIM | United Nations Initiative on Global Geospatial Information Management ggim.un.org

GGRF: Presentación Power point

- Observaciones más precisas.
- Gestión del riesgo y desastres.
- La base para la información geoespacial.
- Colaboración global: mandato de las Naciones Unidas

GGRF: Declaración conjunta con la FIG

Urges member states and their representatives within UN-GGIM-AP together with all member states and their representatives at the fourth session of the Committee of Experts on Global Geospatial Information Management, to support the approval of a draft resolution on Global Geodetic Reference Frame for Sustainable Development, and to submit to the 2013-14 session of the UN General Assembly for final adoption

FIG XXV FIG Congress
KUALA LUMPUR 2014 "Engaging the Challenges, Enhancing the Relevance"
16 - 21 JUNE 2014, MALAYSIA

WE, the participants of the **FIG/UN-GGIM-AP Technical Sessions on Global Geodetic Reference Frame** at the XXV FIG Congress on 19th June 2014, having met in the context to share knowledge, promote understanding and to enhance cooperation for the sustainability and enhancement of the Global Geodetic Reference Frame, hereby issue the:

UN-GGIM-AP/FIG Statement on Global Geodetic Reference Frame

Recognising the growing need for an accurate and stable Global Geodetic Reference Frame to support, *inter alia*, earth observation, including sea level and climate change monitoring, natural hazard and disaster management and a wide range of other activities in public and private sectors throughout the World, contributing towards inclusive social progress, environmental sustainability and economic development,

Noticing the decision adopted by the Committee of Experts on UN-GGIM at its third session in Cambridge in July 2013, on taking actions to facilitate the submission of a resolution on Global Geodetic Reference Frame to be tabled at the 2013-14 session of the UN General Assembly and to establish a Working Group to develop the conceptual note and draft text of a UN General Assembly resolution,

Noticing further that the draft resolution is planned to be discussed at the fourth session of the Committee of Experts on Global Geospatial Information Management in New York on 6 – 8 August 2014,

Reaffirming the collective commitment of UN-GGIM-AP and FIG to support the implementation of an accurate and stable geodetic reference frame being crucially important to a wide range of activities in all territories of the World, at land and at sea,

Urges member states and their representatives within UN-GGIM-AP together with all member states and their representatives at the fourth session of the Committee of Experts on Global Geospatial Information Management, to support the approval of a draft resolution on Global Geodetic Reference Frame for Sustainable Development, and to submit to the 2013-14 session of the UN General Assembly for final adoption

Urges FIG member associations and all other membership groups of FIG, to take appropriate initiatives to inform and encourage the representatives of their respective countries to the fourth session of the Committee of Experts on Global Geospatial Information Management, to support the approval of the draft resolution on Global Geodetic Reference Frame for Sustainable Development and its submission to the UN General Assembly.

Kuala Lumpur
19th June 2014

Urges FIG member associations and all other membership groups of FIG, to take appropriate initiatives to inform and encourage the representatives of their respective countries to the fourth session of the Committee of Experts on Global Geospatial Information Management, to support the approval of the draft resolution on Global Geodetic Reference Frame for Sustainable Development and its submission to the UN General Assembly.

Borrador de Resolución Naciones UNidas

1. *Endorses* decision 3/102: Global Geodetic Reference Frame of the Committee of Experts of UN-GGIM on the work of its third session; that the Committee of Experts of UN-GGIM establish a Working Group, with equitable regional representation, to develop a global geodetic roadmap that addresses key elements of the Global Geodetic Reference Frame development and sustainability;

2. *Encourages* Member States and relevant international organizations to enhance global cooperation in providing technical assistance, especially for capacity development in geodesy for developing countries, to ensure the development, sustainability and advancement of a Global Geodetic Reference Frame;

3. *Urges* Member States to implement open sharing of geodetic data, standards and conventions to contribute to the global reference frame and regional densifications through relevant national mechanisms and intergovernmental cooperation, and in coordination with the International Association of Geodesy;

4. *Invites* Member States to commit to improve and maintain appropriate national geodetic infrastructure as an essential means to enhance the Global Geodetic Reference Frame;

5. *Invites* Member States to have multilateral cooperation that addresses infrastructure gaps and duplications towards the development of a more sustainable Global Geodetic Reference Frame;

6. *Invites* Member States to develop outreach programs that make the Global Geodetic Reference Frame more visible and understandable to society;

7. *Recommends* this resolution further to the General Assembly for endorsement.

Respaldo al borrador de Resolución

UN-GGIM endorses draft resolution on GGRF

Newly elected bureau of UN-GGIM. From L to R, Li Pengde, Eduardo Sojo, Vanessa Lawrence, Sultan Mohamed Alya

Courtesy: UN-GGIM Bureau

The United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) backed a draft resolution on the Global Geodetic Reference Frame (GGRF). During its recent meeting at the UN Headquarters in New York, the Committee recognised that there is a growing requirement for more accurate measuring of the changing planet, down to millimetres. It is also considering how to enhance intergovernmental cooperation that will lead to geospatial data interoperability as no single country can maintain the GGRF alone. The committee felt that more member states can work towards increased open sharing of geodetic data, standards and conventions. The UN member states also elected a new bureau. Dr Vanessa Lawrence from the United Kingdom, Dr Li Pengde from China and Dr Eduardo Sojo from Mexico have been announced as co-chairs. Sultan Mohamed Alya from Ethiopia has been announced as the Rapporteur.

http://geospatialworld.net/uploads/magazine/Geospatial-World-September-2014.pdf

Video

Video: http://vimeo.com/89695290

SIRGAS y UN-GGIM Américas (1)

- SIRGAS es GGRF.
- SIRGAS se ha mantenido al tanto de las actividades y las seis reuniones celebradas por el grupo de trabajo GGRF. La próxima reunión se celebrará en San Francisco, el 14 de diciembre en el marco de la Reunión de la AGU.
- Mediante comunicación enviada a los miembros del Consejo Directivo, SIRGAS remitió el material de apoyo, así como las instrucciones para que cada agencia promueva dentro de sus cuerpos diplomáticos nacionales el apoyo a la iniciativa GGRF, así como el voto positivo de la Resolución sobre el GGRF (mayo 17 de 2014).
- La acogida fue positiva y se recibieron mensajes de respuesta por parte de la mayoría de los países miembros.

http://www.cp-idea.org/cache/lofthumbs/420x300-capacitacion.jpg

SIRGAS y UN-GGIM Américas (2)

1ª Sesión del Comité regional UN-GGIM Americas en el Marco del Geospatial Forum 2014, Ciudad de México, septiembre 2014.

UN-GGIM: Américas

COMITÉ REGIONAL DE LAS NACIONES UNIDAS SOBRE LA GESTIÓN GLOBAL DE INFORMACIÓN GEOESPACIAL PARA LAS AMÉRICAS

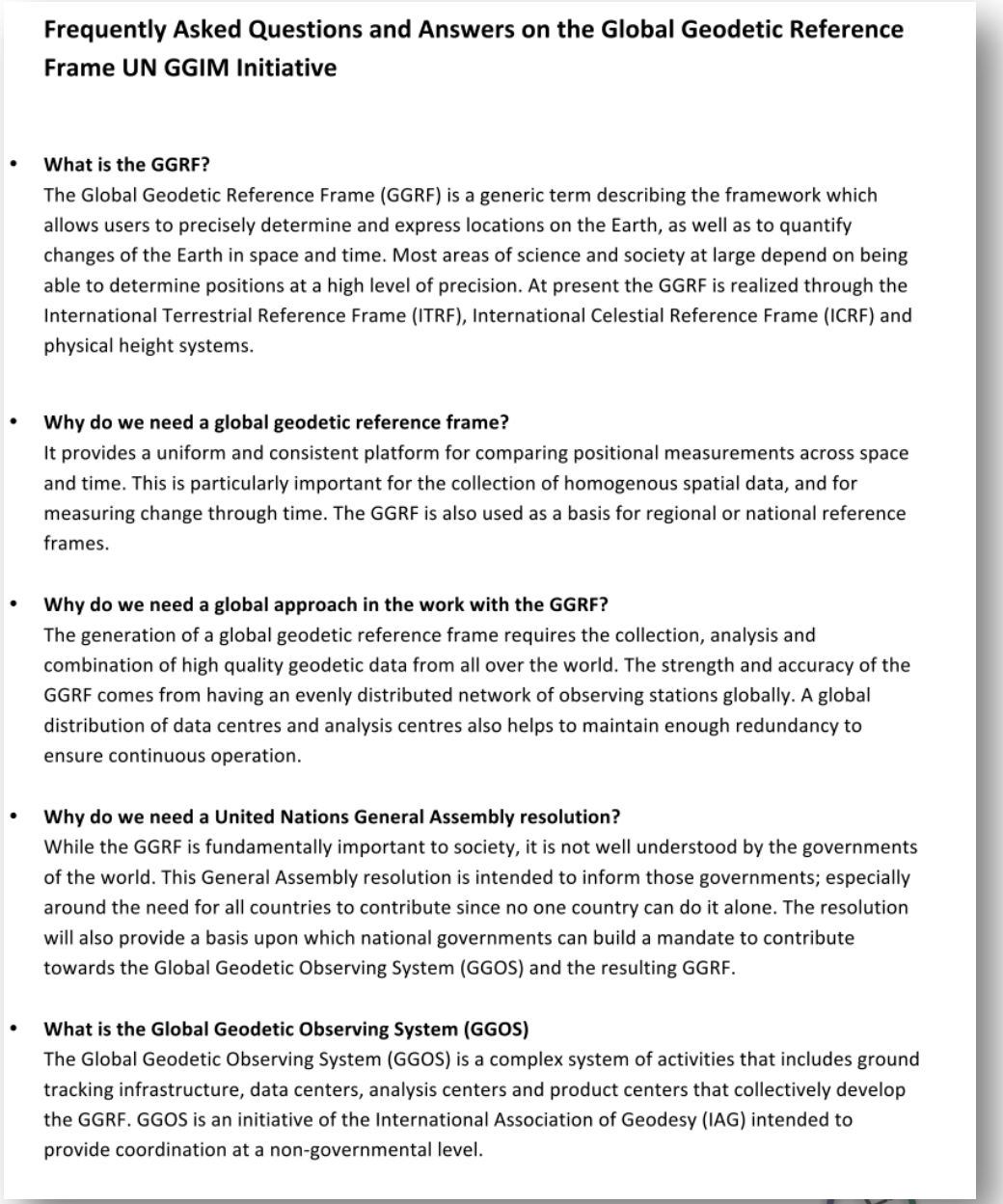
Apoyo al Grupo de Trabajo sobre fortalecimiento de las IDE en El Caribe.

SIRGAS y UN-GGIM Américas (3)

Para asegurar el apoyo nacional, los representantes nacionales deben informar a:

- ✓ Las directivas de la organización
- ✓ Entidad o ministerio de orden superior
- ✓ Ministerio de Relaciones Exteriores (antes de diciembre 8)
- ✓ Misión ante las Naciones Unidas en Nueva York (antes de enero 15)

- ✓ **Como apoyo utilizar el documento GGRF FAQ**



Frequently Asked Questions and Answers on the Global Geodetic Reference Frame UN GGIM Initiative

- **What is the GGRF?**
  The Global Geodetic Reference Frame (GGRF) is a generic term describing the framework which allows users to precisely determine and express locations on the Earth, as well as to quantify changes of the Earth in space and time. Most areas of science and society at large depend on being able to determine positions at a high level of precision. At present the GGRF is realized through the International Terrestrial Reference Frame (ITRF), International Celestial Reference Frame (ICRF) and physical height systems.

- **Why do we need a global geodetic reference frame?**
  It provides a uniform and consistent platform for comparing positional measurements across space and time. This is particularly important for the collection of homogenous spatial data, and for measuring change through time. The GGRF is also used as a basis for regional or national reference frames.

- **Why do we need a global approach in the work with the GGRF?**
  The generation of a global geodetic reference frame requires the collection, analysis and combination of high quality geodetic data from all over the world. The strength and accuracy of the GGRF comes from having an evenly distributed network of observing stations globally. A global distribution of data centres and analysis centres also helps to maintain enough redundancy to ensure continuous operation.

- **Why do we need a United Nations General Assembly resolution?**
  While the GGRF is fundamentally important to society, it is not well understood by the governments of the world. This General Assembly resolution is intended to inform those governments; especially around the need for all countries to contribute since no one country can do it alone. The resolution will also provide a basis upon which national governments can build a mandate to contribute towards the Global Geodetic Observing System (GGOS) and the resulting GGRF.

- **What is the Global Geodetic Observing System (GGOS)**
  The Global Geodetic Observing System (GGOS) is a complex system of activities that includes ground tracking infrastructure, data centers, analysis centers and product centers that collectively develop the GGRF. GGOS is an initiative of the International Association of Geodesy (IAG) intended to provide coordination at a non-governmental level.

Resolución SIRGAS sobre GGRF

Resolución SIRGAS 2014 No. xx de noviembre 26 de 2014.

Sobre el Marco de Referencia Geodésico Global (GGRF) de la Iniciativa de las Naciones Unidas para la Gestión Global de la Información Geoespacial (UN-GGIM)

Considerando:

1. La importancia que tiene un marco de referencia global unificado y preciso para el desarrollo sostenible y la toma de decisiones, la prevención y atención de emergencias, el posicionamiento satelital y la observación de la Tierra;
2. La necesidad de fortalecer en los países miembros los arreglos institucionales, legales y de política para facilitar el intercambio de datos geodésicos abiertos;
3. La contribución de la geodesia, sus ciencias relacionadas, sus aplicaciones y sus organizaciones a la construcción de sociedades económicamente más fuertes y espacialmente capacitadas;

Se resuelve:

1. Promover entre los países miembros la divulgación y adopción final de la Resolución de las Naciones Unidas sobre el GGRF;
2. Fortalecer las actividades de SIRGAS bajo la sombrilla y los mandatos de UN-GGIM y el Grupo de Trabajo GGRF;
3. Invitar a los países miembros a mantener y mejorar los marcos de referencia nacionales como soporte del GGRF;
4. Promover el conocimiento social sobre la importancia de los marcos de referencia geodésicos en los ámbitos nacional, regional y global;

Muchas gracias