

Call for Proposals for the GGOS Bureau for Networks and Communications

(Version: July 7, 2008)

INTRODUCTION

The Global Geodetic Observing System (GGOS) was established by the International Association of Geodesy (IAG) in July 2003 as a project of the IAG. In April 2004 the IAG, represented by GGOS, became a participating organization of the Group on Earth Observations (GEO), in May 2006 GGOS was accepted as a member of the Integrated Global Observation Strategy Partnership (IGOS-P) and in July 2007 at the IUGG General Assembly GGOS became an official component of the IAG, i.e., the Global Geodetic Observing System of the IAG.

GGOS is the contribution of geodesy to a global Earth monitoring system. In particular, it provides the metrological basis and the reference systems and frames, which are crucial nowadays for all Earth observing systems. GGOS is built on the IAG Services (IGS, IVS, ILRS, IDS, IERS, IGFS, etc.) and the products they derive on an operational basis for Earth monitoring making use of a large variety of space- and ground-based geodetic techniques such as Very Long Baseline Interferometry (VLBI), Satellite and Lunar Laser Ranging (SLR/LLR), Global Navigation Satellite Systems (GNSS), Doppler Orbitography and Radiopositioning Integrated by Satellite (DORIS), altimetry, InSAR (Interferometric Synthetic Aperture Radar) and gravity satellite missions, gravimetry, etc. All of these observation techniques are considered integral parts of GGOS, allowing the monitoring of the Earth's shape and deformation (including water surface), the Earth's orientation and rotation and the Earth's gravity field and its temporal variations with an unprecedented accuracy. The observed quantities give direct evidence of many global processes that have a crucial impact on human society such as earthquakes, volcanism, floods, sea level change, climate change, water redistribution, mass balance of the polar ice sheets, etc.

GGOS relies on the observing systems and analysis capabilities already in place in the IAG Services and envisions the continued development of innovative technologies, methods and models to improve our understanding of global change processes. GGOS provides a framework that ranges from the acquisition, transfer and processing of a tremendous amount of observational data to its consistent integration.

With specific Calls for Proposals (CfP), GGOS intends to complement its present structure (see www.ggos.org) with the addition of the following four components (see Figure 1 below):

- Coordination Office and GGOS Portal
- Bureau for Standards and Conventions
- Bureau for Satellite Missions
- Bureau for Networks and Communication

This document contains the details on the Call for Proposals for the GGOS Bureau for Networks and Communications.

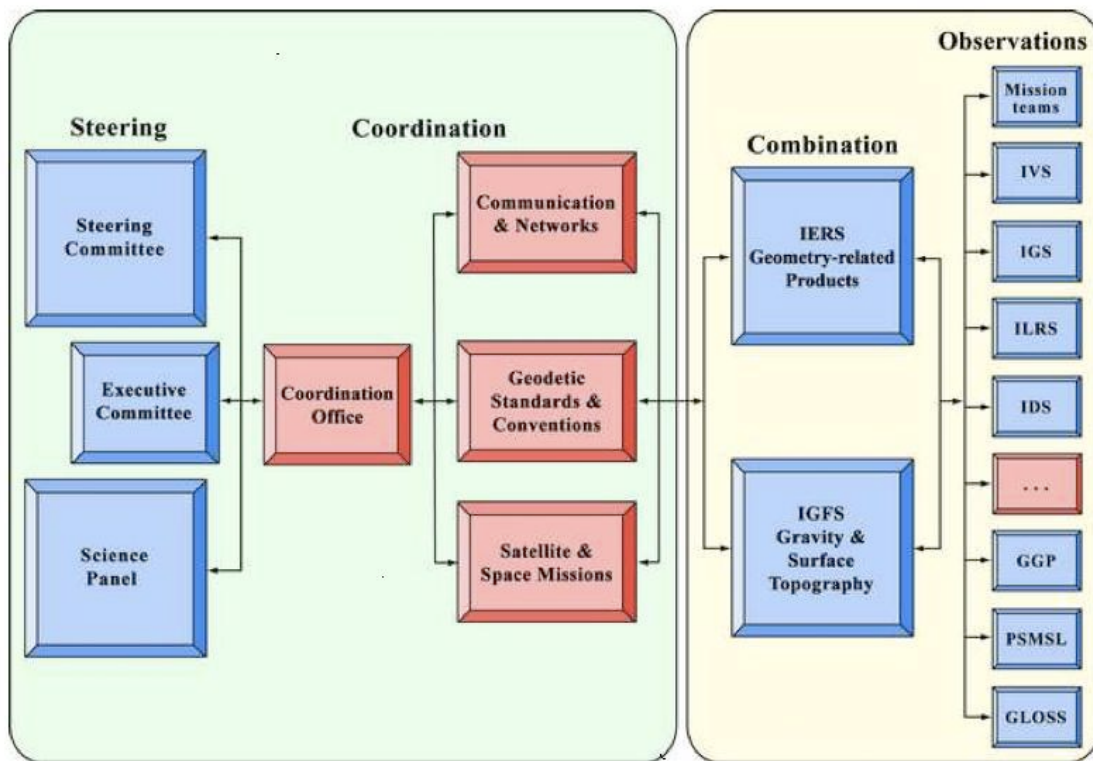


Figure 1: Structure of the GGOS with the four new components, for which a Call for Proposals is issued, in red.

THE BUREAU

Charter

- Develop a strategy to design, integrate and maintain the fundamental geodetic network of co-located instruments and supporting infrastructure in a sustainable way to satisfy the long term (10 - 20 years) requirements identified by the GGOS Science Panel.
- At the base of GGOS are the sensors and the observatories situated around the world providing the timely, precise, and fundamental data essential for creating the GGOS products.
- Primary emphasis must be on sustaining the infrastructure needed to maintain the evolving global reference frames, while at the same time ensuring the broader support of the scientific applications of the collected data.

Synergistic opportunities to better integrate or co-locate with the infrastructure and communications networks of the many other Earth Observation disciplines organized under GEOSS should be considered and exploited.

High Level Tasks

- Promote communication and integration among the Services by regular meetings, telecons and web postings; the services should provide an official liaison (perhaps the Network Coordinators) to the Bureau to support information flow and coordination among the services and with the Bureau;
- Develop and maintain a ground network station information base and data product directory;
- Develop a model that predicts the accuracy and stability of the reference frame as a function of the number of co-located SLR, VLBI and GNSS stations, their geographic distribution, their data quality and yield, and other properties to address GGOS requirements; utilize the model to provide guidelines for the design of the core ITRF network;
- Estimate the size and distribution of the GNSS network necessary to provide reference frame access globally, commensurate with GGOS requirements;
- Work with the Bureau for Satellite Missions to establish the design of the ground network needed to meet mission POD requirements;
- Work with the IGFS to define its network requirements and to scope the size and geometry of the IGFS ground network;
- Establish and maintain a data base of co-location survey vectors, data and procedures used to infer these vectors, and a data base of misclosures between the co-location vectors and the analysis results;
 - Provide quality control for survey procedures and analysis,
 - Facilitate surveys at critical co-location stations as necessary,
 - Work with the IERS and the technique services to resolve the misclosures;
- Seek an effective way to monitor inter-technique vectors at co-location sites;
- Maintain a data base for co-location-vector time series;
- Identify and facilitate the communications services necessary to support data flow from the stations through to archiving of data and data products;

Establish a data base of the meteorological instruments, measurements, and procedures at all network stations; review the information for consistency and establish standards for meteorological measurements.

Organization

- Tasks of a permanent nature will reside within the Bureau; Tasks of temporal nature maybe delegated to task forces or standing committees;
- The Bureau will be headed by a director and will include a secretariat to attend to administrative, communications, data base and web support;
- The Bureau will include such expertise as is necessary to conduct Bureau business and provide guidance and oversight to the supporting entities;
- The Bureau must have official representation from all of the relevant IAG Services and Commissions to act as liaison with the Bureau;
- The Bureau Head will be a member of the GGOS Steering Committee (pending);

- The Bureau will report to the GGOS Steering Committee.

CALL FOR PROPOSALS

GGOS requests proposals for the operation of the GGOS Bureau for Networks and Communications. Proposals may include more than one organization cooperating on the activities. One organization must be identified as the lead. An organizational structure to operate the Bureau and an operational plan must be provided in the proposal. The proposal should clearly address the capabilities being offered by the institution (or institutions), its financial ability to carry them out, and appropriate points of contact.

RESOURCES

The funds required for the GGOS Bureau for Networks and Communications have to be provided by the proposing institution(s). Proposers may also solicit support from external entities in terms of financial contributions and expertise. From the proposal it should become clear that the proposing institution(s) has/have the expertise, capabilities and financial background to perform the proposed tasks.

TERM

The term of this appointment will be 4 years. It may be terminated by either party with a 6 months notice. The term will be automatically renewed, unless either party gives notice 6 months prior to the end of the term.

PROPOSAL STRUCTURE, DEADLINE AND SUBMISSION

The proposal should contain the following parts: title, proposing institution(s) with its/their address(es), designated Head of the new component, abstract, goals, expertise, work and schedule, responsibilities (if more than one institution involved), and allocated resources. Proposals should be concise, 4 – 5 pages in length. Proposals should be submitted electronically and by mail not later than October 15, 2008, signed by the responsible head(s) of the proposing institution(s) with the authority for the commitment of human and financial resources, to the Chair of the GGOS Steering Committee

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SCHEDULE:

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| July 15, 2008: | Dissemination of the Call for Proposals |
| October 15, 2008: | Due date for proposals |
| November 30, 2008: | Report by the evaluation committee to the GGOS Steering Committee |
| December 14, 2008: | Decision by GGOS Steering Committee |
| December 16, 2008: | Notification of proposers on proposal acceptance |
| January 1, 2009: | Start of the GGOS Bureau for Networks and Communication activities |

PROPOSAL REVIEW

The proposals will be evaluated and ranked by an independent evaluation committee and decided upon at a special meeting of the GGOS Steering Committee to be held in San Francisco on December 14, 2008. Successful proposers will be notified by December 16, 2008 with the goal to start the GGOS Bureau for Networks and Communication activities and work by January 1, 2009.