

Starting Point: The GGOS 2020 Process:

**“The Global Geodetic Observing System:
Meeting the Requirements of a Global
Society on a Changing Planet in 2020”**

expected to finish in July 2007.

**First delivery of proposed task AR-07-03
“Global Geodetic Reference Frames”
of the GEO Work Plan 2007-2009**

Starting Point: The GGOS 2020 Process:

Expected key outputs:

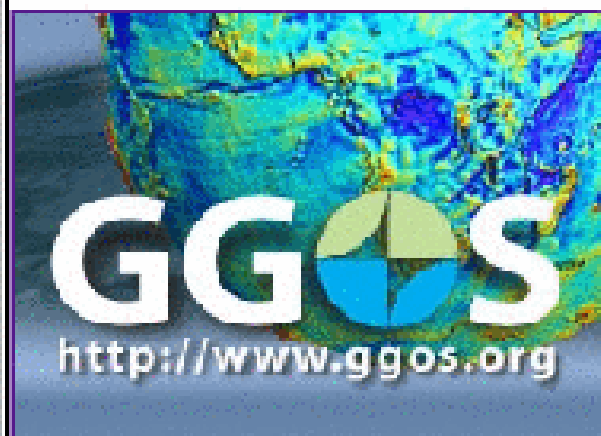
- Overview of user requirements
- Recommendations for the design of the observing system
- Recommendations for the organizational background
- Recommendations for steps towards implementation

Next Step: Outreach Workshop

The Global Geodetic Observing System

Workshop 2007

November 5-6, 2007
Frascati, Italy



Last edited 27 November 2006

Preliminary Information

The *Global Geodetic Observing System* (GGOS) of the *International Association of Geodesy* (IAG) is coordinating the geodetic support for the Earth sciences. Building upon the work of the IAG Services, GGOS provides the geodetic infrastructure necessary to support the monitoring of the Earth system and global change research. It is integrating the three pillars of geodesy, that is geometry and kinematics, Earth orientation and rotation, and gravity field and dynamics, in order to maximize the benefit for the scientific community and society in general.

The 2007 GGOS Workshop is intended as an outreach activity of GGOS. The Workshop will be organized to help facilitate the communication between scientific user communities and those who will provide the geodetic products. Therefore, the Workshop will be organized in conjunction with the Third Workshop of the [IGOS-P Geohazards Theme](#), which will take place after the GGOS Workshop.

Both Workshops will take place at ESRIN in Frascati, Italy. More information will be available with the First Circular, which is expected to become available around December 2006.

Workshop focus:
The GGOS contribution to GEOSS
(with particular weight on the solid Earth)

Draft Workshop Program

The Workshop program will be organized in three main session, each of them lasting half a day, and addressing

- observation,
- interpretation, and
- application to geohazards,

Session 1: Observing changes in Earth's shape, rotation and gravity field with an integrated observing system:

This session will document recent advances in observing the three principle quantities of geodesy, in particular through increasing integration of the in situ and spaceborne components of GGOS. Likewise, the session will address the technological methodological challenges in bringing GGOS to the next level of accuracy. Topics to be discussed include the advances in observing surface displacements down to local scales, integration of the in situ and spaceborne gravity observing system, linking the observations of the geometry and gravity field, and observations of Earth's rotation with increased resolution and decreased latency. A key focus will be on observations allowing to improve the instantaneous accuracy of the terrestrial reference frame.

Potential papers:

- Observing Earth's shape: the evolving polyhedron
- Observing Earth gravity field: linking surface gravity and spaceborne observations to a coherent picture
- Linking the celestial and terrestrial reference frames with low latency: the rotating Earth in space
- The gravito-geometric reference frame: The dynamic Earth movie
- Providing a stable reference frame for Earth observation and society: the observations and products

Session 2: Understanding the Earth system: The contribution of GGOS:

In this session, focus will be on recent contributions of geodetic observations to a better understanding of the main processes in the Earth system relevant for global and climate change, hazards and disasters, and other issues affecting our living on a restless planet. Topics to be discussed include the progress in monitoring the mass transport in the water cycle, determining the strain field of the Earth surface, and linking Earth rotation perturbation to dynamical processes in the Earth system.

Potential papers:

- The global surface velocity and strain fields: recent advances and remaining gaps
- Understanding the processes: The geodetic constraints on seismic processes from regional to local scales
- The effect of the big ones: the global geodetic signature of great earthquakes and the implications
- Intraseasonal mass transport: monitoring the flow of water in the Earth system
- The seasonal cycle: Combining geodetic observations to get the picture
- Fluctuations in the dynamics: the contributions of weather, climate, and climate change

Session 3: GGOS and Geohazards: The importance of GGOS in the frame of a solid Earth observation system will be the focus of this session. GGOS not only provides the reference frame for local observations of key quantities relevant for geohazards (in particular, surface displacements, strain rates, gravity changes), but also observations of these quantities on regional to global scale. Topics to be addressed will be the contribution of geodetic observations for hazard assessment, understanding of underlying processes, and rapid detection of developing hazards for early warning applications.

Potential papers:

- Assessing the hazards: the case of surface kinematics and strain
- Earthquakes, volcanoes, and landslides: Providing the reference for local and regional monitoring systems
- Land slides: Geodetic contributions and challenges for geodesy
- Observing active areas from local to regional scales: combination of local, regional and global networks
- Observing hazardous areas: disposable geodetic equipment for extreme locations
- Early warning: towards real-time geodesy

Will take place at ESRIN, Frascaty, Italy, 5-6 November 2007.

Current cost estimates (Marc Paganini, 7 December 2006):

You will find below a cost estimation for the hosting, organisation and logistics support of the GGOS 2007 conference in ESRIN.

<i>Euro 1200</i>	<i>Bus</i>
<i>Euro 4000</i>	<i>Dinner (Monday evening social event)</i>
<i>Euro 600</i>	<i>Coffee Break</i>
<i>Euro 1200</i>	<i>20 Posters support double face (40 posters)</i>
<i>Euro 3250</i>	<i>Conference Bureau</i>
<i>Euro 500</i>	<i>Hostess for 1day and 1/2</i>
<i>Euro 1000</i>	<i>Miscellaneous</i>

TOTAL:

EURO 11,750 : 80 = Euro 146,875 pp

I would suggest 150 Euro pp if GGOS does not support financially the organisation of the workshop.

This cost estimation has been based on a minimum number of persons of 80 people.

Will take place at ESRIN, Frascati, Italy, 5-6 November 2007.

Will be a IAG/GGOS/GEO Workshop

Will take place in conjunction with the Third IGOS-P/GEO Geohazards Workshop (6-8 November)

Will aim to reach geohazards community as well as space agencies and GEO Participating Organizations.

Next steps:

- Program Committee
- Decision on key note topics and speakers
- 1st Circular: Mid January