

GGOS and the IAG



The Global Geodetic Observing System (GGOS) is a vital component of the IAG, at the same level as the Commissions and Services (see IAG's contributions in the February and March 2012 editions of GIM International). GGOS was officially launched in mid-2007. The role of GGOS, however, is unique, with a vision to advancing understanding of the dynamic 'Earth System' by measuring and interpreting the planet's geometric and gravity changes in space and time.

The mission of GGOS is: (1) to provide the observations needed to monitor, map and understand changes in the Earth's shape, rotation and mass distribution; (2) to define the global reference frames that provide the fundamental backbone for measuring and consistently interpreting key global change processes; and (3) to support a variety of

applications in geoscience and society for precise positioning, and gravity field mapping and modelling.

GGOS and the IAG Services

Rather than being a separate organisation or service, GGOS plays an integrative function within the IAG by taking advantage of the current (and future) outputs of the IAG Services to address several themes that require 'higher order products'. There are 15 IAG Services, most of them associated with geodetic tools and methodologies focused on either 'geometric' or 'gravimetric' measurements and products.

GGOS Transition Phase

One of the first major activities for GGOS has been the transition to a new structure, which was finalised during the meeting of the GGOS Coordinating Board on 27 April 2012 in Vienna, Austria, and is expected to last until 2015. The new GGOS structure comprises the following components: the Consortium as the steering committee, the Coordinating Board as the decision-making body, the Executive Committee as well as the Coordinating Office responsible for day-to-day management, and the Science Panel for advice on science outputs. Details of the GGOS Terms of Reference and a description of its structure are provided in the Geodesist's Handbook.

Future Activities

A GGOS Retreat will take place in Frankfurt am Main, Germany, in late June 2012. Main topics include the development of strategies for improving the interaction of GGOS with the IAG Services and other IAG entities and the enhancement of GGOS outreach. For this purpose, the GGOS Themes will be elaborated in more detail in order to better illustrate the GGOS vision of integrating different types of geodetic observations and Earth System models, to support geoscience applications.

Further efforts will be made for the extension of the GGOS core network of collocated geodetic observation techniques. The Geodetic Observatory Wettzell (Germany) is an example of the core network station that GGOS is promoting. Particular attention will be paid to creating a dozen or more 'super sites' such as this located around the world, where tracking stations for several space geodetic techniques can be established in close proximity so as to allow cross-checking of individual geodetic techniques and products. This effort involves a co-operation between GGOS and the GIAC (GGOS Inter-Agency Committee). Nevertheless the individual GNSS, SLR, VLBI and DORIS networks will be maintained and upgraded.