The Global Geodetic Infrastructure – A Framework for Development

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Key words:

SUMMARY

The global geodetic infrastructure is a fundamental component of any program that aims to utilize applications relying on geospatial information for development of national or regional programs, social benefit services, and in particular the shared objectives of national surveying and mapping authorities.

Of key interest to this community is the robust geodetic grid of precisely positioned points that comprise the International Terrestrial Reference Frame (ITRF) and how this enables national or regional reference frames. This is the basis for geographic information systems and allows data and observations to be inter-relatable within a common framework. Global Navigation Satellite Systems (GNSS) and the activities of the International GNSS Service (IGS) (formerly the International GPS Service) will be discussed in this regard as a key technology for accessing the ITRF as well as other unique GNSS applications.

This presentation will provide an overview of the global geodetic infrastructure, recognizing the activities of the International Association of Geodesy (IAG) within its program Global Geodetic Observing System (GGOS), a participant in Group on Earth Observations (GEO). Practical focus on the implementation of the African Reference Frame (AFREF) will be addressed, however, framed in the context of these global systems, GNSS applications, and the advances this satellite-based technology brings to societal benefit.

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