



GEODESY & ENGINEERING –DEFORMATION STUDIES AT LARGE SCALES FROM A GEODETIC VIEWPOINT

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Abstract: Geodesy is the foundations of Surveying and Mapping. Yet Geodesy is also a critical geoscience discipline. Geodesy's contributions to global change studies, crustal dynamics, seismological and volcanic research, sea level rise and ocean circulation, mass transport in the atmosphere, oceans and solid earth, are well known and increasingly important. The International Association of Geodesy (IAG) has developed a new component of its activities known as the Global Geodetic Observing System (GGOS). GGOS unifies the work of the various IAG Services (the IGS, IVS, ILRS, IDS, etc) and the Commissions. However GGOS is not just about global scale observing and analysis systems, there will also be local components. Deformation due to ground subsidence, coastline erosion, landslide hazards, building structural monitoring, etc., using a range of technologies, is hence an important part of GGOS. In addition, increasing development of GNSS technologies and methodologies promise improved positioning performance for all users, including geodesy and precise deformation applications. One important initiative is the establishment of real time products and services from the International GNSS Service (IGS). Many of these developments in modern geodesy will impact on sister disciplines represented by the FIG. This paper will discuss developments in the IAG, and within geodesy in general, and relate them to the work of FIG Working Group 6.1 and IAG Sub-Commission 4.2.

Key words: Geodesy, IGS, IAG, GGOS, GNSS, deformation.

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