

The International Gravity Field Service (IGFS) and its contributions to the GGOS infrastructure

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The International Gravity Field Service (IGFS) promotes the interaction, cooperation and synergy between the Gravity Services, namely the Bureau Gravimétrique International (BGI), the International Service for the Geoid (ISG), the International Geodynamics and Earth Tides Service (IGETS), the International Center for Global Earth Models (ICGEM) and the International Digital Elevation Model Service (IDEMS).

Furthermore, through its Product Center, namely the International Combination Service for Time-variable Gravity Fields (COST-G), IGFS provides consolidated monthly global gravity models in terms of spherical harmonic coefficients and thereof derived grids by combining solutions from individual Analysis Centers.

The IGFS Central Bureau is hosted at the Aristotle University of Thessaloniki (Greece) and, besides other activities, provides a link to the Global Geodetic Observing System (GGOS) Bureaus in order to communicate their requirements and recommendations to the IGFS-Centers. Moreover, IGFS provides a coordination host for the utilization of gravity-field related products and services towards their inclusion within a GGOS consistent frame.

In this work, an outline is given on the recent activities of IGFS, namely those related to the contributions to the implementation of the International Height Reference System/Frame; the Global Geodetic Reference System/Frame; the new Global Absolute Gravity Reference System/Frame and the combination of temporal monthly global gravity field models. Particularly, the impact that these activities have and will have in improving the estimation of the Earth's gravity field, either at global and local scale, is highlighted also in the framework of GGOS.

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