

# IAG's Global Geodetic Observing System

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The Global Geodetic Observing System (GGOS) of the International Association of Geodesy (IAG) provides the basis on which future advances in geosciences can be built. By considering the Earth system as a whole (including the geosphere, hydrosphere, cryosphere, atmosphere and biosphere), monitoring Earth system components and their interactions by geodetic techniques and studying them from the geodetic point of view, the geodetic community provides the global geosciences community with a powerful tool consisting mainly of high-quality services, standards and references, and theoretical and observational innovations. The mission of GGOS is to advance geodetic observing methods for Earth and planetary system science and applications by: (a) defining the geodetic infrastructure needed by science and society; (b) advocating for the establishment and maintenance of this geodetic infrastructure; (c) improving the quality and accessibility of geodetic observations and products; (d) coordinating interaction between the IAG Services, Commissions, and stakeholders; and (e) educating the scientific community about the benefits of geodetic research and the public about the fundamental role that geodesy plays in society. The goals and tasks of GGOS are to: (1) provide the scientific and infrastructure basis as geodesy's significant contribution to Earth sciences and other scientific and application disciplines to assert the position of geodesy in geosciences; (2) collect and archive, through the IAG Services, Commissions and their participating organizations, geodetic observations, products and models, and ensure their reliability, consistency and availability; (3) maintain the stability of and provide open access to the geometric and gravimetric reference frames as well as time series of data and products by ensuring the generation of uninterrupted state-of-the-art global observations related to the three fundamental aspects of geodesy, namely, geometry and kinematics, Earth orientation and rotation, and the gravity field and its variability; (4) ensure the consistency between the different geodetic standards used in the IAG Services and the geosciences community in agreement with the international unions; (5) identify and promote a consistent set of geodetic products and establish requirements concerning the products' accuracy, time resolution, and consistency, targeting an overall accuracy and consistency of GGOS products as required for the most demanding applications; (6) identify IAG Service gaps and develop strategies to close them; (7) improve and integrate different techniques, different models, and different approaches in order to achieve a better consistency, long-term reliability and understanding of geodetic, geodynamic and global change processes; and (8) integrate the work of IAG and emphasize the complementarity of the broad spectrum of geodetic research and application fields. In order to accomplish its mission and goals, GGOS depends on the IAG Services and Commissions. The Services provide the infrastructure and products on which all contributions of GGOS are based. The IAG Commissions provide expertise and support for the scientific development within GGOS. In summary, GGOS is IAG's central interface to the scientific community and to society in general.