IAG Services

International Earth Rotation and Reference Systems Service
http://www.iers.org

Time Section of the Int. Bureau of Weights and Measures
http://www.bipm.org

International GNSS Service
http://igscb.jpl.nasa.gov

International Laser Ranging Service
http://ilrs.gsfc.nasa.gov

International VLBI Service for Geodesy and Astrometry
http://ivscc.gsfc.nasa.gov

International DORIS Service
http://ids.cls.fr

International Gravity Field Service
http://www.igfs.net

Permanent Service for Mean Sea Level
http://www.pol.ac.uk/psmsl

International Gravimetric Bureau
http://bgi.cnes.fr

International Center for Earth Tides
http://www.astro.oma.be/ICET

International Geoid Service
http://www.iges.polimi.it

International Center for Global Earth Models
http://icgem.gfz-potsdam.de/ICGEM

International DEM Service
http://igfs.net

International Altimetry Service
http://igfs.net

IAG Bibliographic Service
http://www.leipzig.ifag.de

The Global Geodetic Observing System (GGOS)

http://www.ggos.org

Vision:

- To integrate different techniques, models and different approaches to achieve better consistency of geodetic, geodynamic and global change processes,
- To provide the scientific and infrastructure basis to global change research in Earth sciences,
- To view the Earth system as a whole including the solid Earth as well as the fluid components, and the static and time-varying gravity field,
- To provide geodesy's contribution to Earth and other sciences, and thus to assert the position of geodesy in geosciences,
- To integrate the work of IAG and to emphasize the complementaries of the broad spectrum of geodetic research and application field.

Mission:

- To promote the data and products of the Services,
- To ensure the stability of the monitoring of the three fundamental fields of geodesy:
  - geometry and kinematics of Earth's surface,
  - Earth orientation and rotation, and
  - the Earth's gravity field and its variability.
- To identify IAG service gaps and develop strategies to close them,
- To stimulate close cooperation between existing and new IAG Services,
- To promote and improve the visibility of scientific research in geodesy,
- To achieve maximum benefit for the scientific community and society in general.

For more information on IAG please visit our website:

http://www.iag-aig.org

Background image courtesy of Earth Sciences and Image Analysis Laboratory, NASA Johnson Space Center. STS057-73-75 (http://eol.jsc.nasa.gov)

A Constituent Association of the International Union of Geodesy and Geophysics

The International Association of Geodesy

... advancing geodesy ...

The Mission of IAG

is the advancement of geodesy, an Earth science that studies the size, shape, orientation and gravity field of the Earth, planets and their satellites including the temporal variations of these features.

The IAG accomplishes its mission

- by furthering geodetic theory through research and teaching;
- by collecting, analysing, modelling and interpreting observational data;
- by stimulating technological development; and
- by providing a consistent representation of the figure, rotation and gravity field of the Earth and planets, and their temporal variations.

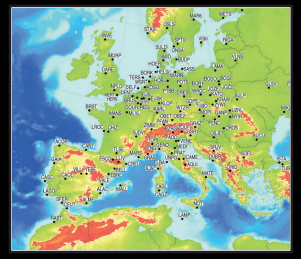
IAG's objectives

- To study, at the highest possible level of accuracy, all geodetic problems related to Earth observation and global change, including:
  - Definition, establishment and maintenance of global and regional reference systems,
  - Rotation of the Earth and planets,
  - Positioning and deformation studies,
  - Gravity field determination,
  - Ocean, ice and sea level variations,
  - Time transfer,
  - Signal propagation through the planets' atmospheres.
- To support and maintain geodetic reference systems for continuous, long-term observations.
- To provide observational and processed data, standards, methodologies and models.
- To stimulate development of space techniques to increase the resolution of geodetic data.
- To initiate, coordinate and promote international cooperations and knowledge exchange.
- To cooperate with national and international agencies in establishing research goals, missions and projects.
- To collaborate with the international science and engineering community in supporting the application of geodetic theory and the interpretation of the results.
- To foster the development of geodetic activities and infrastructure in the world, especially in developing countries.

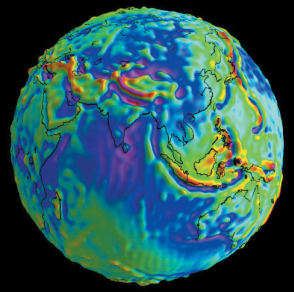
The structure of IAG

Commission 1: Reference Frames

- Establishment, maintenance, improvement of the geodetic reference frames.
- Advanced terrestrial and space observation techniques development.
- International collaboration for the definition and deployment of networks of terrestrially based space geodetic observatories.
- Theory and coordination of astrometric observations.
- Collaboration with space geodesy/ref. frame related international services, agencies and organizations.



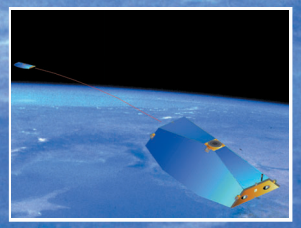
The EPN Network



Gravity anomalies from EIGEN-GRACE01S model (GFZ Potsdam)

Commission 2: Gravity field

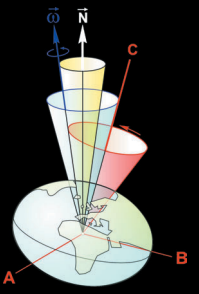
- Terrestrial, marine, and airborne gravimetry.
- Satellite gravity field observations.
- Gravity field modelling.
- Time variable gravity field.
- Geoid determination.
- Satellite orbit modelling and determination.



GRACE Satellites (Illustration)

Commission 3: Earth Rotation and Geodynamics

- Earth orientation (Earth rotation, polar motion, nutation and precession).
- Earth tides.
- Tectonics and Crustal Deformation.
- Sea surface topography and sea level changes.
- Planetary and lunar dynamics.
- Effects of the Earth's fluid layers (e.g. post-glacial rebound, loading).



Earth's precession and nutation

Commission 4: Positioning and Applications

- Terrestrial and satellite based positioning system development, including sensor and information fusion.
- Navigation and guidance of platforms.
- Interferometric laser and radar applications (e.g. InSAR).
- Application of geodetic positioning using three dimensional geodetic networks including monitoring of deformations.
- Applications of geodesy to engineering.
- Atmospheric investigations using space geodetic techniques.

EnviSat (Photo: ESA

Individual Membership Benefits

IAG provides many benefits for its individual members, such as:

- Substantial reduction on the individual subscription rate to the Journal of Geodesy
- Becoming a member of an IAG Commission of choice
- Reduction of registration fee for IAG meetings
- Right to participate in the IAG election process as nominator and/or nominee