

**RESOLUTIONS ADOPTED BY THE COUNCIL at the
XXIV IUGG GENERAL ASSEMBLY, PERUGIA, ITALY, JULY 2 – 13, 2007**

Resolution 1: Precession, nomenclature, and definition of TDB (Temps Dynamique Barycentrique)

The International Union of Geodesy and Geophysics,

Considering,

That the IUGG adopted in 2003 the International Astronomical Union (IAU) 2000 resolutions related to reference systems; and
That the IAU adopted three resolutions in 2006 which are complimentary to the previous IAU2000/IUGG2003 resolutions;

Recognizing,

The importance of reference frame, Earth orientation, and time systems used by the geosciences community;

Endorses,

The 2006 IAU resolution, Resolution B1, which notes that the IAU2000 precession model was not dynamically consistent and recommends that it should be replaced by the P03 precession model;
The 2006 IAU resolution, Resolution B2, which, in the first part, deals with the nomenclature related to the intermediate reference systems, while the second part fixes the orientation of the axes of the celestial reference system Barycentric Celestial Reference System (BCRS) and Geocentric Celestial Reference System (GCRS); and
The 2006 IAU resolution, Resolution B3, which recommends the use of a fixed linear relation between Temps Dynamique Barycentrique (TDB) and Temps-Coordonnée Barycentrique (TCB), and solves the ambiguity between these time systems.

Resolution 2: Geocentric and International Terrestrial Reference Systems (GTRS and ITRS)

The International Union of Geodesy and Geophysics,

Considering,

The increasing importance of geodetic reference systems in geosciences, and more generally in numerous scientific and technical activities, such as satellite navigation systems and geospatial information;

Noting,

The IUGG Resolution 2 and International Association of Geodesy (IAG) Resolution 1, both adopted in 1991 at the Vienna IUGG General Assembly, which defined the Conventional Terrestrial Reference System (CTRS);

Recognizing,

The quality of the work done by several IAG services (IERS, IGS, ILRS, IVS, IDS) to realize these systems and provide access for numerous users within and beyond the geosciences community;

Endorses

The definition of a **Geocentric Terrestrial Reference System (GTRS)** in agreement with the 2003 IAU resolution B1.3;
The definition of the **International Terrestrial Reference System (ITRS)** as the specific GTRS for which the orientation is operationally maintained in continuity with past international agreements (BIH orientation); and

Adopts

The **ITRS** as the preferred GTRS for scientific and technical applications; and

Urges

Other communities, such as the geo-spatial information and navigation communities, to do the same.

Resolution 3: Global Geodetic Observing System (GGOS) of the International Association of Geodesy (IAG)

The International Union of Geodesy and Geophysics,

Recognizing,

The great progress made during the last decades in the use of space and ground-based techniques for monitoring the Earth System, and the efforts made towards the integration of geodetic observation techniques, data processing, and evaluation and process modeling;
The significant progress of IAG's project Integrated Global Geodetic Observing System (IGGOS) since 2003, which was renamed Global Geodetic Observing System (GGOS) in 2005;
That the IAG is represented on the Group on Earth Observation (GEO) by GGOS,;
The urgent need to further develop and strengthen the scientific and organizational collaboration of geodesy within geosciences; and
The necessity of generation and accessibility of consistent products for users in Earth observation, Earth sciences, neighboring disciplines and society in general;

Considering,

That, due to the progress of GGOS, the IAG decided to elevate its status from a project to a full component of IAG in order to further realize the IUGG Resolution No. 1 adopted at the 22nd General Assembly in Birmingham and the IUGG Resolution No. 3 at the 23rd General Assembly in Sapporo;

Noting,

The new structure of IAG reflected by the designation of GGOS as a permanent component;

Urges,

Sponsoring organizations and institutions to continue their support of the elements of GGOS, which is crucial for sustaining long-term monitoring and understanding of the Earth System; and

Encourages,

The Associations to support further development of GGOS through participation and cooperation by sharing/providing data, models, products, and expertise useful for GGOS, and to establish close links with GGOS through the relevant components in their structure, and to assist in symposia, meetings, and joint activities.

Resolution 4: Electronic Geophysical Year, 2007-2008 (eGY) and Data Rescue

The International Union of Geodesy and Geophysics,

Noting,

The ability of modern information and communications technologies to revolutionize the science and management of data and information;
The growing recognition of the need for, and the benefits of a science information commons;
The urgent need to rescue and store data at risk of being lost; and
That 2007-2008 is the 50-year anniversary of the International Geophysical Year, which pioneered the concept of international cooperation and sharing of data and information about the Earth for the common good;

Urges,

The funding agencies to support the effort to rescue valuable historical data; and

Encourages,

Scientists and their scientific bodies worldwide to use the occasion of the Electronic Geophysical Year, 2007-2008 to undertake activities to improve data access, data preservation, data discovery, data release, education and outreach, to reduce the digital divide, and to sign the *eGY Declaration for an Earth and Space Science Information Commons**.

*<http://www.egy.org/declaration.html>

Resolution 5: Ionosphere Satellites

The International Union of Geodesy and Geophysics,

Noting,

The ability of low Earth orbiting satellites to provide spatial and temporal monitoring of the topside ionosphere and to define the near-Earth environment;

Recognizing,

That an extended time series of satellite observations of magnetic/electric fields and of plasmas in the Earth's ionosphere

are crucial for a wide spectrum of geoscience and space science studies;
The unique equatorial orbiting Italian Space Agency satellite ESPERIA; and

Understanding,

That the DEMETER mission will end in 2008;

Welcomes,

The plans by several nations to launch ionospheric monitoring satellite missions.

Resolution 6: The Urgency of Addressing Climate Change

The International Union of Geodesy and Geophysics,

Considering,

The advances in scientific understanding of the Earth system generated by collaborative international, regional, and national observations and research programs; and

The comprehensive and widely accepted and endorsed scientific assessments carried out by the Intergovernmental Panel on Climate Change and regional and national bodies, which have firmly established, on the basis of scientific evidence, that human activities are the primary cause of recent climate change;

Realizing,

Continuing reliance on combustion of fossil fuels as the world's primary source of energy will lead to much higher atmospheric concentrations of greenhouse gases, which will, in turn, cause significant increases in surface temperature, sea level, ocean acidification, and their related consequences to the environment and society;

Stabilization of climate to avoid "dangerous anthropogenic interference with the climate system", as called for in the UN Framework Convention on Climate Change, will require significant cutbacks in greenhouse gas emissions during the 21st century; and

Mitigation of and adaptation to climate change can be made more effective by reducing uncertainties regarding feedbacks and the associated mechanisms;

Urges,

Nations collectively to begin to reduce sharply global atmospheric emissions of greenhouse gases and absorbing aerosols, with the goal of urgently halting their accumulation in the atmosphere and holding atmospheric levels at their lowest practicable value;

National and international agencies to adequately support comprehensive observation and research programs that can clarify the urgency and extent of needed mitigation and promote adaptation to the consequences of climate change;

Resource managers, planners, and leaders of public and private organizations to incorporate information on ongoing and projected changes in climate and its ramifications into their decision-making,

with goals of limiting emissions, reducing the negative consequences of climate change, and enhancing adaptation, public well-being, safety, and economic vitality; and Organizations around the world to join with IUGG and its member Associations to encourage scientists to communicate freely and widely with public and private decision-makers about the consequences and risks of on-going climate change and actions that can be taken to limit climate change and promote adaptation; and

Resolves,

To act with its member Associations to develop and implement an integrated communication and outreach plan to increase public understanding of the nature and implications of human-induced impacts on the Earth system, with the aim of reducing detrimental consequences.

Resolution 7: Intensified Study of Aerosol Pollution Effects on Precipitation

The International Union of Geodesy and Geophysics,

Welcoming,

The comprehensive and peer reviewed report “Aerosol Pollution Impact on Precipitation, A scientific Review” that provides an in-depth study of the relationship between aerosol pollution and precipitation, called for by the IUGG XXII General Assembly in Sapporo and the WMO Congress CgXIV in Geneva, and prepared by the International Aerosol-Precipitation Scientific Assessment Group (IAPSAG);

Considering,

That aerosol pollution resulting from biomass burning, fossil-fuel burning, and wild fires can significantly alter precipitation and its distribution;

That the changes in precipitation that can occur depend on the characteristics of aerosol pollution and the geographic and meteorological situations; and

That changes and re-distribution in precipitation have significant societal and economic impacts; and

Noting,

That the recommendations of the review mentioned above call for actions by international bodies, individual governments, and the scientific community at large;

Invites,

WMO to join with IUGG and form an Aerosol-Precipitation Project Group charged with converting the recommendations of the Review into an international action plan;

WMO to join with IUGG in approaching the Food and Agricultural Organization (FAO) and other international organizations to join the IUGG/WMO efforts and participate in the planning;

Encourages,

IAMAS, IAHS, and other IUGG Associations, in collaboration with WMO, to continue their efforts to improve understanding of aerosol pollution with the goal of moderating adverse effects; and The scientific community to study the direct impacts of aerosol pollution on precipitation and global and regional precipitation climate.

Resolution 8: Reduction of Risk from Natural Hazards

The International Union of Geodesy and Geophysics,

Considering,

Global, regional, and local increases of vulnerability and all changes of environmental conditions including climate; and
The continuous increase of fatalities, the number of people affected, and property damage caused by natural events;

Realizing,

That climate changes will continue into the future even with decreasing greenhouse gas emissions;
That disaster reduction, management, and preparedness as well as warning systems need long term planning; and
That reducing the impact of disasters should be carried out mainly at the local level;

Urges,

The international science community to quantify natural hazards and extreme events at all scales;
To adopt integrative and comprehensive interdisciplinary approaches towards developing adaptation in order to decrease vulnerability; and
To produce planning tools for disaster risk reduction at all scales.

Resolution 9: Thanks

The International Union of Geodesy and Geophysics,

Gratefully records its appreciation for the organization, arrangements, and hospitality at the XXIV General Assembly. On behalf of all participants, the Council expresses its warm thanks to the Italian National Committee for IUGG, the University of Perugia, the Local Organizing Committee, the Program Committee, and all others for their efforts to make the XXIV General Assembly a scientific success in the beautiful city of Perugia.