CLOSING PLENARY SESSION

The Closing Plenary Session of the XX General Assembly of the IUGG was held in Hall G of the Messepalast, at 9:00 a.m. on Saturday, 24 August 1991.

President V. Keilis-Borok introduced the presidents of the associations, who gave brief reports on the activities of their respective associations during the Assembly.

Prof. P. Melchior read the resolutions adopted by the Union. These are reported elsewhere in this volume.

President Keilis-Borok introduced the new Bureau.

The incoming President, Prof. H. Moritz, made a short address and then he closed the Assembly.

RESOLUTIONS OF THE UNION ADOPTED AT THE XX GENERAL ASSEMBLY, Vienna 23 August 1991

Resolution N°1

The International Union of Geodesy and Geophysics

Recognizing the importance of an observation network in oceanic areas and the almost total lack of ocean-bottom installations of geophysical instruments, and

Noting the urgency of saving the submarine cables that are going to be abandoned by the telephone companies,

Recommends the scientific community to take appropriate action to keep the submarine cables for scientific use,

Encourages the establishment of an observation network in oceanic areas by use of these cables, and

Urges national science agencies to provide funding support for the installation and operation of ocean-bottom observing systems that use these cables.

Resolution N°2

The International Union of Geodesy and Geophysics

Considering the need to define a Conventional Terrestrial Reference System (CTRS) which would be unambiguous at the millimetre level at the Earth's surface and that this level of accuracy must take account of relativity and of Earth deformations, and

Noting the resolutions on Reference Systems adopted by the XXI General Assembly of the International Astronomical Union (IAU) at Buenos Aires, 1991,

Endorses the Reference System as defined by the IAU at their XXI General Assembly at Buenos Aires, 1991, and

Recommends the following definitions of the CTRS:

1) CTRS to be defined from a geocentric non-rotating system by a spatial rotation leading to a quasi-Cartesian system,
2) the geocentric non-rotating system to be identical to the Geocentric Reference System (GRS) as defined in the IAU resolutions,
3) the coordinate-time of the CTRS as well as the GRS to be the Geocentric Coordinate Time (TCG),
4) the origin of the system to be the geocentre of the Earth's masses including oceans and atmosphere, and
5) the system to have no global residual rotation with respect to horizontal motions at the Earth's surface.

Resolution N°3

The International Union of Geodesy and Geophysics

Recognizing the importance of determination of rapide variations in Earth rotation and their implication for geodynamics, and the resulting need to measure variations in Earth orientation with an accuracy of at least 0.1 mill-arc seconds and at a high temporal resolution, better than daily,

Noting the resolution of the XXIst International Astronomical Union (IAU) General Assembly at Buenos Aires, 1991, on this subject, and

Considering the plans of the International GPS Geodynamic Service (IGS) to realize a first intensive campaign in summer 1992, and the need for auxiliary data from geophysical, oceanographic and atmospheric sources for the interpretation of high-resolution measurements of Earth rotation variations,
Recommends

1) that a joint IUGG/IAU Working Group be established to pursue the goal of the determination of rapid variations in Earth rotation, and
2) that a major campaign for high time resolution measurement of Earth rotation by space techniques, be coordinated with the International Earth Rotation Service (IERS), be held during the planned IGS campaign and that the best possible auxiliary data be obtained during that period.

Resolution N°4

The International Union of Geodesy and Geophysics
Recalling Resolution N°4 of the XIX General Assembly, Vancouver, 1987, on the urgent need for an improved determination of the global gravity field of the Earth, and Resolution N°5 of the International Association of Geomagnetism and Aeronomy (IAGA) at the XIX IUGG General Assembly concerning satellite measurements of the geomagnetic field at both low and high altitudes and of long duration, and
Noting that ESA and NASA have joint plants to develop a dedicated mission (ARISTOTELES) for the improved determination of the Earth's gravity and magnetic fields with important implications for Earth system studies,
Recommends the implementation of this mission, the objectives of which promise to meet the expectations of the above-mentioned Resolutions.

Resolution N°5

The International Union of Geodesy and Geophysics
Recognizing that the use of the Global Positioning System (GPS) for Geodesy and Geophysics is rapidly increasing and that this system will play a major role over the next decades in global and regional studies of the Earth and its evolution, and
Noting that its full scientific potential can only be realized with international cooperation and coordination to deploy and operate a global tracking network with data analysis and effective dissemination of data,
Recommends that the concept of an International GPS Geodynamic Service (IGS) be explored over the next four years, that as a first step one or more campaigns be conducted to test and evaluate the concept, that all Member Countries participate to the best of their ability, and that this activity be coordinated as closely as possible with comparable global deployments by other member associations, as well as those by other organizations, and
Requests that existing global geodetic systems such as Very Long Baseline Interferometry (VLBI) and Satellite Laser Ranging (SLR) be used to carry out intensive observing campaigns in conjunction with the proposed IGS work.

Resolution N°6

The International Union of Geodesy and Geophysics
Recognizing that the United Nations have created the "International Decade for Natural Disaster Reduction" for the 1990's, that the International Council of Scientific Unions is working to promote and coordinate the activities of the Unions in this effort, and that terrible human suffering and economic disruption are caused each year by phenomena, the study of which is within the scope of IUGG,
Recommends that scientists associated with IUGG join in the endeavour to develop the additional knowledge needed to reduce the disastrous effects of extreme natural events, and that the Member Countries of IUGG enthusiastically and vigorously support the research needed to meet this great human need.

Resolution N°7

The International Union of Geodesy and Geophysics
Considering the fragility of the global environment to anthropogenic influences,
Recognizing that water and air are the primary substances subject to these influences and effect their transfer to the biosphere, and
Noting that water and air are the primary objects of study of the fluid earth sciences which are represented in IUGG chiefly by the three Associations, IAMAP, IAHS and IAPSO,
Recommends the establishment of a "Fluid Earth Sciences Committee comprising the Presidents of IAMAP, IAHS and IAPSO and chaired by the IUGG President, which will act as the Union's advisory body in the fluid earth sciences and Raise with international organizations on this matter.

Resolution N°8

The International Union of Geodesy and Geophysics

Recognizing that global geophysical and geodetic studies are urgently needed to obtain a better understanding of the function of the geosphere-biosphere system.

Noting that with recent technological advances, the collection and analysis of digital geodetic and geophysical data is now possible on a global scale, and

Considering that economies of scale and scientific benefits can be derived from optimally located ground and seabed measurements, including their integration with space-based observations,

Urges that relevant organizations, agencies and Member Countries should review the geographical distribution of those geophysical stations under their control which make continuous earth and space observations, and should jointly locate as many of these stations as is practical, so that data gathering on a global basis by ground and space-based measurements be optimised.

Resolution N°9

The International Union of Geodesy and Geophysics

Gratefully records its appreciation for the organization and arrangements made for the XX General Assembly. On behalf of all participants, the Council expresses its warm thanks to Professors H. Sűnkel, K. Bretterbauer and B. Hofmann-Wellenhof, and to the National Committee of Austria, the Local Organizing Committee and all others concerned in making the XX General Assembly such a scientifically successful and enjoyable meeting in the beautiful city of Vienna.