CLOSING PLENARY SESSION

The Closing Plenary Session of the XIXth General Assembly of the IUGG was held in the IRC2 of the University of British Columbia, at 9:00 a.m. on Saturday, 22 August 1987.

President Lal 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 Lal introduced the new Bureau.
The incoming President, Prof. V.I. Keilis-Borok, made a short address and then closed the Assembly.

XIX GENERAL ASSEMBLY
VANCOUVER 21 AUGUST 1987
RESOLUTIONS OF THE UNION

Resolution N°1

The International Union of Geodesy and Geophysics

Noting that the improved determination of the Earth's orientation parameters resulting from the MERIT and COTES programmes of observation and analysis is highly significant,

Considering the importance for scientific research and operational purposes of regularly monitoring the Earth's orientation and of establishing and maintaining a new conventional terrestrial frame of reference,

Approving the replacement of the International Polar Motion Services (IPMS) and of the Bureau International de l'Heure (BIH) by the International Earth Rotation Services (IERS) which will be responsible both for earth rotation and for the associated conventional frames of reference, and

Recognizing that organisations in many countries have indicated their willingness to participate in such a new service,

Endorses the recommendations of its Provisional Directing Board on the terms of reference, structure and composition of the new service,

Decides to establish, in cooperation with the International, Astronomical Union, the International Earth Rotation Service within the Federation of Astronomical and Geophysical Data Analysis Services (FAGS) as from 1 January 1988, and

Thanks all organisations and individuals who have helped to develop and implement the MERIT and COTES programmes, all who have operated IPMS and BIH in the past and all who have indicated their willingness to participate in the new Service.

Resolution N°2

The International Union of Geodesy and Geophysics

Noting that:

1. International Atomic Time (TAI) and Coordinated Universal Time (UTC) are at present established by the Bureau International de l'Heure (BIH), and
2. The parent Unions of the BIH are the International Union of Geodesy and Geophysics (IUGG), the International Astronomical Union (IAU) and the International Union of Radioscience (URSI), and

Recognizing that:

1. Atomic time scales have numerous and important scientific, technical and public applications,
2. TAI is based solely on physical measurements independent of the motions of the Earth,
3. There is an Intergovernmental Organisation, with the Bureau International des Poids et Mesures (BIPM) as its executive body, charged with unifying the units of measurement of the major physical quantities, and
4. UTC is based both on TAI and on the astronomical time scale designated as Universal Time (UTI), and

Considering the URSI recommendation A1, 1984 and the IAU resolution B1, 1985, on the transfer of TAI to the BIPM

Approves TAI becoming solely the responsibility of the BIPM, under the authority of the Comité International des Poids et Mesures (CIPM) and of the Conférence Générale des Poids et Mesures,

Recommends that:

1. The determination and publication of the leap seconds of the UTC system and of the DUT1 corrections should be by the new International Earth Rotation Services (who have been charged by the IAU and IUGG with monitoring earth rotation) as soon as they are able to fulfill this function, and
2. A permanent committee with IUGG representation should be created, with CIPM as sponsor, to protect the interests of TAI users, and

Expresses its thanks to the Paris Observatory for their service to the International community in supporting the BIH.

Resolution N°3

The International Union of Geodesy and Geophysics

Noting that variations of sea level are of great importance when monitoring ocean circulation and flow through straits as well as climatic change over a timescale of tens of years,

Noting also that such monitored variations are useful when calibrating satellite altimetry, and

Recognising that:

1. Satellite altimetry applications need only two months of transmitted data, and
2. Interpretation of long time scale changes is complicated by vertical land movement,

Recommends that all national authorities make maximum effort to install new tide gauges and to maintain, renew and recalibrate existing ones to modem scientific precision; these should be at as many oceanic sites as possible, especially at those spanning straits and major jet flows, and

Recommends further that such sites should regularly measure atmospheric pressure and precise absolute geodetic position, with telemetry of all the data to collecting centres, such as Permanent Service for Mean Sea Level.

Resolution N°4

The International Union of Geodesy and Geophysics

Recognizing that an improved determination of the global gravity field of the earth is urgently needed to support:

1. continental geophysics
2. a high precision and high resolution geoid for physical oceanography
3. geodetic positioning and land surveying, and
4. high precision orbits for earth observation satellites

Noting the encouraging ability to meet that need in modem space technique such as satellite-to-satellite tracking and satellite gradiometry, but considering the potentially high cost and complexity of satellite systems using these techniques,

Recommends that:

1. The space agencies should continue to develop a dedicated gravity mission
2. Efforts continue to be made to foster a spirit of international cooperation for developing a joint mission, and
3. Steps be taken to launch the dedicated gravity mission by the mid 1990's.

Resolution N°5

The International Union of Geodesy and Geophysics

Noting the growing toll of natural disasters - such as those caused by earthquakes, wind storms, floods, tsunamis, droughts, landslides, volcanic eruptions, and wildfires - to life and economic welfare in a great many countries of the world,

Recognising that catastrophic life loss, property damage, and social and economic disruption from natural hazards can be greatly reduced by a major international program that develops further scientific and engineering knowledge, extends technology transfer and technical assistance, and accelerates education and training worldwide,

Considering the central scientific contributions of the member associations of the Union to knowledge of natural hazards,

Endorses the establishment of the International Decade for Natural Hazard Reduction (IDNHR) for the period 1990 to 2000, and

Requests the full participation of the United Nations, ICSU, all concerned nations and all relevant scientific, engineering and socio-economic organizations, and

Urges all IUGG Associations to assist the IDNHR program by providing scientific leadership in the relevant fields, and by seeking support from governments, foundations, and professional and scientific organizations

Resolution N°6

The International Union of Geodesy and Geophysics

Noting the successes of the World Data Centres founded during the IGY, which continue to provide collection and analysis services, the success of the FAGS Centres in maintaining their work, and of CODATA in organizing special data conferences on technical and other problems concerning various physical and chemical constants, and more recently the time-varying geophysical data,

Recognizing that new technologies, such as CD-ROMs and computer-based digital networking, are continuing to revolutionize the collection, processing, archiving and distribution of data and information, and

Noting that the new ICSU programme on Global Change will require extending the World Data Centre concept to entirely new disciplines relating to the biosphere,

Urges ICSU to re-examine the role and operation of its various data-related bodies with a view to devising the most appropriate mechanism for data managements to support ICSU programmes.

Resolution N°7

The International Union of Geodesy and Geophysics

Recognizing the great importance of prolonged and continuous earth directed observations to the increase in basic knowledge of geophysical phenomena,

Notes with regret and anxiety that several countries in pursuance of operational economies, are closing down, or planning to close down, earth-directed observatories and stations of long-standing quality and history, and

Urges the appropriate national scientific agencies to contact, with support of IUGG, the appropriate governmental authorities to prevent irretrievable loss of data essential to the well-being of earth science, and its applications to society.

Resolution N°8

The International Union of Geodesy and Geophysics

Considering the key role of IUGG in the accomplishment of the International Geosphere-Biosphere Programme (IGBP) and the high scientific potential of the Scientific Community involved in IUGG activities,

Endorses the establishment within the IUGG framework of a Consultative Committee for the Coordination of activities of all Associations of IUGG in cooperation with the special Committee for IGBP,

Encourages Associations to take a full part in IGBP by organizing Symposia and other appropriate activities.

Resolution N°9

The International Union of Geodesy and Geophysics

The Council of the IUGG records with gratitude its deep appreciation of the efficient organization and excellent arrangements of both the scientific and supporting programmes. On behalf of all participants, the Council expresses its heartfelt thanks to the National Committee of Canada, the Local Organizing Committee, the University of British Columbia and all others concerned with making the XIXth General Assembly such a pleasant and scientifically profitable meeting.