

**RESOLUTIONS ADOPTED BY THE COUNCIL AT THE  
XXV IUGG GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA  
(26 JUNE – 7 JULY 2011)**

**Resolution 1:                   Standardised schemes for the terminology for glacier mass balance measurements and for classification of snow on the ground**

The International Union of Geodesy and Geophysics,

*Considering*

- the fundamental importance of common terminology and classification schemes for the exchange of scientific knowledge between nations and across disciplines,

*Noting*

- that a recognized glossary of glacier mass balance terminology and a standardized classification for snow on the ground had not been updated since the 1970s and 1990s respectively, and
- that our scientific understanding and measurement capabilities and techniques have evolved and expanded since then,

*Recognizing*

- the work done by IACS Working Groups to update, publish and freely disseminate new standardized schemes:
- *The International Classification for Seasonal Snow on the Ground*. IHP-VII Technical Documents in Hydrology No. 83, IACS Contribution No. 1, UNESCO-IHP, Paris. 2009. 80 p.  
(<http://unesdoc.unesco.org/images/0018/001864/186462e.pdf>),
- *Glossary of Glacier Mass Balance and Related Terms*. IHP-VII Technical Documents in Hydrology No. 86, IACS Contribution No. 2, UNESCO-IHP, Paris. 2011. 114 p.  
(<http://unesdoc.unesco.org/images/0019/001925/192525E.pdf>),

*Urges*

- snow and ice scientists, practitioners, and scientists from related disciplines to adopt these new schemes as standards.

**Resolution 2:                   Gravity and magnetic field satellite missions**

The International Union of Geodesy and Geophysics,

*Considering*

- the interest of the IUGG scientific community in knowing with the highest accuracy and resolution the Earth gravity and magnetic fields and their time evolutions as one of the fundamental components of the Earth system, also to understanding the climate evolution of the Earth,

*Acknowledging*

- the large experience acquired within the IUGG in the last 10 years in analysing data from dedicated satellite missions like GRACE, GOCE, CHAMP and Oersted, for the purpose of estimating the gravity and magnetic fields and their time variations,

*Noting*

- the need for a long-term monitoring of the potential fields for Earth System science beyond the current and decided missions lifetime,

*Urges*

- international and national institutions, agencies and governmental bodies in charge of supporting Earth science research to make all efforts in implementing new gravity and magnetic field satellite missions that would respond to the aforementioned need for continued observation.

### **Resolution 3: Second Realization of the International Celestial Reference Frame**

The International Union of Geodesy and Geophysics,

*Considering*

- that the International Union of Geodesy and Geophysics adopted at the 23<sup>rd</sup> General Assembly in Sapporo 2003 Resolution 4 on the first realization of the International Celestial Reference Frame,
- that the International Astronomical Union (IAU) adopted Resolution B3 at its XXVII General Assembly (2009) ([www.iau.org/static/resolutions/IAU2009\\_English.pdf](http://www.iau.org/static/resolutions/IAU2009_English.pdf)) that resolves to consider the Second Realization of the International Celestial Reference Frame (ICRF2) as the fundamental realization of the International Celestial Reference System (ICRS)<sup>1</sup>,
- that the celestial reference system and the nutation-precession model have a large influence on geodetic and geodynamic observations, analyses and interpretations,
- that the ICRF2 was constructed by the International Earth Rotation and Reference Systems Service (IERS) and the International VLBI Service for Geodesy and Astrometry (IVS),

*Urges*

- that the ICRF2 shall be used as a standard for all future applications in geodesy and astrometry,
- that the organizations responsible for geodetic VLBI observing programs take appropriate measures to continue existing and develop improved VLBI observing and analysis programs to both maintain and improve ICRF2,
- that highest consistency between the ICRF, the International Terrestrial Reference Frame (ITRF), and the Earth Orientation Parameters (EOP) as observed and realized by the IAG and its components such as the IERS should be a primary goal in all future realizations of the ICRS.

### **Resolution 4: Adoption of the International Thermodynamic Equation Of Seawater – 2010 (TEOS-10)**

The International Union of Geodesy and Geophysics,

*Considering*

- that since the International Thermodynamic Equation Of Seawater – 2010 (TEOS-10) has been adopted by the Intergovernmental Oceanographic Commission (IOC) at its 25<sup>th</sup> Assembly in June 2009 as the official description for the properties of seawater, of ice and of humid air,

*Urges*

- all marine scientists to use TEOS-10<sup>2</sup> in place of EOS-80 in their research and publications.

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<sup>1</sup> *The Second Realization of the International Celestial Reference Frame by Very Long Baseline Interferometry*, presented on behalf of the IERS / IVS Working Group, Alan Fey and David Gordon (eds.). (IERS Technical Note; 35) Frankfurt am Main: Verlag des Bundesamts für Kartographie und Geodäsie, 2009. See [www.iers.org/MainDisp.csl?pid=46-25772](http://www.iers.org/MainDisp.csl?pid=46-25772) or <http://iers.obspm.fr/icrs-pc/>.

<sup>2</sup> The software to implement this change is available at the web site [www.TEOS-10.org](http://www.TEOS-10.org). The formal description of TEOS-10 is the “TEOS-10 Manual”; IOC, SCOR and IAPSO, 2010: *The international thermodynamic equation of seawater – 2010: Calculation and use of thermodynamic properties*. Intergovernmental Oceanographic Commission, Manuals and Guides No. 56, UNESCO (English), 196 pp. The following two introductory articles are also available from the TEOS-10 web site [www.TEOS-10.org](http://www.TEOS-10.org):

- “Getting started with TEOS-10 and the Gibbs Seawater (GSW) Oceanographic Toolbox”, and
- “What every oceanographer needs to know about TEOS-10:- The TEOS-10 Primer”.

**Resolution 5:           Thanks**

The International Union of Geodesy and Geophysics

Gratefully records its appreciation for the organization, arrangements, and hospitality at the XXV General Assembly. On behalf of all participants, the Council expresses its warm thanks to the Australian Academy of Science and the Royal Society of New Zealand, the Local Organizing Committee, the Scientific Program Committee, and all others for their efforts to make the XXV General Assembly a scientific success in the beautiful city of Melbourne.

**Resolutions adopted by the IUGG Executive Committee during the inter-General Assemblies period:**

- Special Resolution "Science on Natural Hazards and Environmental Disasters", 29 January 2010
- Statement "Volcanic Ash Clouds", 20 April 2010
- Statement "Volcanological and Meteorological Support for Volcanic Ash Monitoring", 28 May 2010
- Statement "Freedom to Conduct Science and Responsibilities of Scientists", 28 June 2010
- Statement "The Great East Japan Earthquake and Tsunami", 18 April 2011

These can all be found at: <http://www.iugg.org/about/special.php>