The International Seismological Centre now maintains the IASPEI list of Reference earthquakes and explosions for which epicentre information is known with high confidence (to 10km or better (GT10)) with seismic signals recorded at regional and/or teleseismic distances. Thanks to the efforts of István Bondár, James Harris and Oriol Gaspà Rebull, this list is now available from the front page of the ISC website.

The global effort of collecting and validating GT events was co-ordinated by the CoSOI/IASPEI Working Group on Reference Events for Improved Locations chaired by Bob Engdahl and Paul Richards.

This database of a significantly large number of reference events facilitates better visualization of the Earth structure, better modelling of velocities of seismic waves, more accurate travel time determinations and increased accuracy of event locations.

Researchers are encouraged to submit further candidate events through the ISC website.

2006 ISC Bulletin complete

The analysis of the 2006 ISC Bulletin is now complete. Thanks to the efforts of ISC analysts: Beatriz Vera, Baokun Li and Przemas Kowalski, the Bulletin review now stands at 23 months behind real time. The 2006 CD-ROM is also now available. It is worth mentioning that Bob Engdahl has already downloaded 2006 data to update the EHB hypocentres.

ISS arrival data for 1960-1963 released

The ISC data collection, normally available through the ISC web-search, essentially consists of two different parts. The period from 1964 till present day is represented by the ISC Bulletin data. The period from the beginning of 20th Century till the end of 1963 is filled with hypocentres from the so-called Historical File, largely based on the works of the ISC predecessor – the International Seismological Summary (ISS). Until recently, no station arrival data were available at the ISC for this period.

The break-through came in December when Oriol Gaspà Rebull and James Harris finally released the station arrival data for events in 1960-1963 through the ISC web-site. These data were kindly provided to the ISC by Antonio Villaseñor of the Institute of Earth Sciences “Jaume Almera” in Barcelona and Bob Engdahl of the University of Colorado in Boulder.

Availability of these data is a result of the ongoing effort to scan and digitize the ISS paperbacks in order to obtain station data in digital form to relocate events in the first part of the 20th Century using modern techniques. (A. Villaseñor & E.R. Engdahl, Systematic Relocation of Early Instrumental Seismicity: Earthquakes in the International Seismological Summary for 1960–1963, Bull. Seism. Soc Am., 97, 1820–1832, 2007)

To the left is a map of seismic stations that contributed arrival data to the ISS 1960-1963.
ASC, Tsukuba, Nov 2008

The Assembly of the Asian Seismological Commission took place in Tsukuba in November. Several papers demonstrating the use of the ISC data were presented at this meeting.

Dr Nobuo Hurukawa (pictured above) of the International Institute of Seismology and Earthquake Engineering (IISEE/BRI), used ISC arrival data to relocate several large aftershock sequences using the modified joint hypocentre determination technique. The resulting configurations of the aftershock areas allowed a reliable estimate of the fault planes of 67 large main-shocks in remote areas like Tonga, Fiji and Solomon islands.

Dr Hurukawa is the Director of IISEE that provides training on seismology and earthquake engineering for engineers and researchers from earthquake prone developing countries. During these courses the participants from approximately 95 countries are introduced to the ISC Bulletin data and take ISC Bulletin CD-ROMs with them when they finally return home.

Two of the IISEE course participants, Mamy Andrianirina from Madagascar and Esmeralda Banganan from Philippines, subsequently worked at the ISC as Bulletin editors. ISC is grateful to IISEE for this indirect contribution.

Yoshihiro Yamamoto (pictured below) presented a poster on the high-resolution global P-wave tomographic model by applying a flexible grid approach to a large volume of the ISC/EHB data. This work was done by Yoshihiro under the supervision of his professor at Tohoku University, Dr Dapeng Zhao.

Another poster on the three dimensional mantle P-wave velocity model, derived from the multitude of the ISC data and used to characterise the slab tear at the junction between Japan and Izu-Bonin slabs was presented by Masayuki Obayashi, Junko Yoshimitsu and Yoshio Fukao, all from IFREE/JAMSTEC.

Whilst in Tsukuba, Dmitry Storchak visited several institutions and met with Shigeo Mori and Shinya Tsukada of JMA, Kiyoshi Suyehiro and Seiji Tsuboi of JAMSTEC, Shuhei Okubo of ERI, and Nobuo Hurukawa of IISEE/BRI.

WCEE, Beijing, Oct 2008

Thanks to additional support provided by China Earthquake Administration (CEA), Oriol Gaspà and Dmitry Storchak were able to present the ISC data and the new tool for computing seismic parameters for seismic engineers at the 14th World Conference on Earthquake Engineering (WCEE) in Beijing in October.

Whilst at the conference, Dmitry was able to meet with Mr Zhao Ming, the Deputy Director of the Department of International Cooperation of CEA. Matters of cooperation between CEA and ISC were discussed in the presence of Dr Chen Qi-fu, the CEA representative to the ISC Governing Council. Dmitry was also able to meet with colleagues from two major CEA institutions: Institute of Geophysics (IG) and China Earthquake Networks Center (CENC). Issues of improving the ISC data collection in China were discussed with Wu Zhongliang, Zhu Chuanzhen, Qiao Sen, Chen Qi-fu, Liu Ruifeng, Huang Zhabin, Zhang Liwen, Haijing Qiu, Kexing Ren and other colleagues.

Recognising the ISC’s efforts in compilation of the definitive global summary of world seismicity, one of the leading re-insurance companies, Munich Re, has confirmed its intention to sponsor the ISC for further two years. We are grateful to Dr Anselm Smolka for his kind support and assistance.


CTBTO-link proposal funded

UK Foreign and Commonwealth Office (FCO) has decided to fund at 90% level the ISC proposal to establish a secure and dedicated link to the ISC database for the CTBTO’s Provisional Technical Secretariat (PTS) and National Data Centers (NDC). Four geophysical institutions from Denmark, Finland, Norway and Sweden promised a joint commitment at 10% level that secured the FCO’s decision to release funding to the ISC.

The project involves setting up a mirror of the ISC database at the designated server at the ISC premises that can be accessed by States Parties to CTBTO through PTS in Vienna through a secure web-link. As part of this project the ISC will develop new software that will serve the monitoring community with queries and applications typical in the field. It will enable the PTS and NDC to complement the data obtained by means of the IMS with data obtained by governmental, civil, academic and educational institutions around the world that would allow verification of already known events, independent assessment of parameters of individual events and the CTBT’s Reviewed Event Bulletin as a whole. This software and data will serve as a tool for evaluation and development of the PTS products.

This grant is viewed by the FCO as an initial investment, helping to get the link up and running in two and a half years time. CTBTO will then evaluate its usefulness and consider feasibility of supporting the maintenance of the link as part of its operations. The ISC is grateful to John Walker and Graham Styles of FCO, David Bowers of AWE Blacknest, our colleagues in Nordic countries as well as colleagues at PTS CTBTO for their efforts to secure this funding for the ISC.

Przemyslaw Kowalski leaves ISC

Following many of his countrymen, Przemyslaw Kowalski has decided to return to Poland and restart his career and personal life at home in Warsaw. Przemas joined the ISC in October 2006 along with our other bulletin editor, Baokun Li. Training two analysts simultaneously was a first ever experiment in the ISC history and was dictated by a desperate need to eliminate the delay in the review of the ISC Bulletin as soon as possible.

Brilliant in practical aspects of any job, Przemas voluntarily took care of all issues that required his technical ingenuity: dealing with massive jobs on the ISC printers, performing complicated SQL queries and sorting individual problems with specific data contributions. Together with Dr Pawel Wiejacz from IG PAS, Przemas sorted out irregularities with Polish seismic data contributions. He also managed to maintain and repair three high-mileage cars and a motorbike that he used whilst in England.

We are grateful to Przemas for his efforts. The best indication of a good attitude to Przemas from all ISC staff members was the speed at which his rather complicated name, already shortened for convenience, was learned by everyone as well as a good attendance of his Friday Pub Club. Good traditions tend to survive difficult times. Cheers Przemas.