ISC celebrates 50 years of service to seismology

Although formally the ISC marked half-a-century of operations in 2014, there was no large international meeting suitable for an appropriate celebration in the community until 2015. A dedicated all-day scientific session “50 years of the ISC Service to Seismology” nicknamed as “ISC-50” took place in Prague, Czech Republic, during the 26th General Assembly of the IUGG. Twenty two presentations from leading international scientists, including the two invited from Adam Dziewonski and Brian Kennett, demonstrated the usefulness of the ISC data in all areas of Earth Sciences including tectonics, Earth’s structure, seismic hazard assessment, global nuclear test monitoring and education. The meeting hall was also decorated with poster-testimonials provided by a further ten scientists describing successful use of the ISC data. Most importantly, the session speakers provided suggestions on how the services of all global parametric data centres can be advanced and extended to meet the requirements of current and future geophysicists. The session was convened by Dmitry Storchak (ISC), Stephen Myers (LLNL, USA), Marcelo Assumpção (USP, Brazil) and Bertrand Delouis (GeoAzur/CNRS, France).

New ISC Members

Two new institutions have joined the ISC as formal Members in 2015.

USP

ICGC

The Institute of Astronomy, Geophysics & Atmospheric Sciences (IAG) is part of the University of São Paulo (USP) in Brazil. The Seismological Centre of IAG is charged with monitoring Brazilian earthquakes and cooperating with other national and international research institutions in studies of seismicity and Earth structure. The Centre operates, archives and distributes waveform data from the BL sub-network of the Brazilian Seismographic Network.

The Institute Cartogràfic i Geològic de Catalunya (ICGC) is a new institute, created in 2014 following a merge of several organizations. Its present duties are related to the geodesy, cartography and the spatial data infrastructure in Catalonia. The ICGC manages the geodetic, seismic and avalanche monitoring networks. Catalonia has a long tradition in observational seismology. The FBR and EBR stations, founded in ~1904, continue to operate and to keep detailed archives of seismic records and other related materials. The modern Catalan seismic network, now a part of ICGC, was developed in the early eighties. Starting from year 2000, the network was modernized to include the BB and VSAT transmission. In addition to regular tasks, special care is given to assessment of seismic hazard and risk. At present, the ICGC seismic network operates 16 BB, three FBA and one OBS station with continuous recording. They are deployed in the Catalan territory (NE Spain), Andorra (in collaboration with IEA) and French side of the Pyrenees (operated jointly with BRGM). Waveforms are available to all researchers on demand.

CTBTO Link Contract extended

The Provisional Technical Secretariat (PTS) of the Comprehensive Test Ban Treaty Organization (CTBTO) has signed a new five-year contract with the ISC to provide the Link to the ISC database. This service allows PTS and States Parties to CTBT to have a convenient access to the ISC data relevant to seismic events in the Reviewed Event Bulletin of the International Data Centre (IDC) and stations of the International Monitoring System (IMS). The Link also provides convenient request tool for waveforms of non-IMS stations that recorded REB events as well as the Ground Truth (GT) events stored in the IASPEI Reference Event List maintained by the ISC on behalf of IASPEI.

USGS supports ISC-GEM Extension

The Earthquake Hazard Program of United States Geological Survey (USGS) has given its vital support for part of the cost of the remaining three years of the ISC-GEM catalogue Extension project. The work is underway to re-evaluate parameters and include all known earthquakes of magnitude 5.5 and larger that occurred during the first half of the 20th century worldwide. In cooperation with Bob Engdahl of Colorado University in Boulder, we are currently working on earthquakes that occurred during 1935-1949. The next version of the catalogue is to be released in early November.
The meetings of the ISC Executive Committee and the Governing Council also took place in Prague during the IUGG Assembly. The Committee and the Council received the report of the ISC Director, debated the issues of the ISC development and made decisions on financial matters. The Governing Council has elected representatives of two of its members to serve on the Executive Committee for the next four years: Goran Ekström (Columbia University/NSF, USA) and Marcelo Assumpção (USP, Brazil). At the end of IUGG meeting the IASPEI elected Prof. Peter Suhadolc of University of Trieste (Italy) to represent the IASPEI on the Executive Committee for the next two years.

This traditional photo (above) of the ISC Executive Committee includes (left-to-right) Kenji Satake (ERI, University of Tokyo, Japan), Johannes Schweitzer (Chair, NORSAR, Norway), Marcelo Assumpcao (USP, Brazil), Bertrand Delouis (GeoAzur/CNRS, France), John Woodhouse (Oxford University, UK), and John Adams (GSC, Canada). The two members unable to attend were Oleg Starovoit (GS RAS, Russia) and the newly elected Goran Ekström (left) (Columbia University/ NSF, USA) who was busy with an extension to his family at the time of the meeting.

The full suite of scientific articles describing the tasks involved in producing the ISC-GEM Global Instrumental Earthquake Catalogue has finally been published as a Special Issue by the Physics of the Earth and Planetary Interiors (PEPI) journal. Despite the efforts of the Guest Editor, George Helffrich, the Elsevier production team has managed to publish the articles in reverse order with the Introduction peacefully concluding the volume. We hope that despite this and several other unfortunate deficiencies, this special issue will be valued by numerous users of the ISC-GEM catalogue predominantly working in the area of seismic hazard assessment.

The strong cooperation between NEIC and ISC has continued on as generations of staff members from both organizations have come and gone over many tens of years. The picture above, symbolising this cooperation, was borrowed from Paul Earle’s presentation at the recent ISC-50 session in Prague. The ISC currently assists USGS in compilation of its Comprehensive Catalog (ComCat) that will include bulletin data of NEIC and all US networks, complemented by the ISC data up to the early 1970s. Regular conference calls are run after lunch on Washington DC time that find ISC staff closer to bedtime in UK.

Until very recently, users of the ISC Bulletin could not obtain any arrival time or amplitude/period information for earthquakes during the period 1904-1959. This has now become possible for those earthquakes that are included in either the main or supplementary ISC-GEM catalogues. In addition, the Bulletin phase data for 1960-1977 were upgraded from the same source, mostly as far as amplitudes and periods are concerned. We shall continue including newly digitised station measurements into the ISC Bulletin as we extend the ISC-GEM catalogue for the early 20th century.

**ISC ExecCom and Governing Council**

**Special Issue on ISC-GEM Catalogue**

**USGS ComCat conference calls**

**ISC-GEM station data**
**Visits to the ISC**

In May, a phone call from the neighbouring Guralp Systems Ltd alerted us to an imminent visit of a delegation from Korea Meteorological Administration (KMA). Our South Korean colleagues were introduced to the general mission and seismological products of the ISC as well as delicacies of British food in the nearby pub.

---

**Co-operation with Guangdong, China**

In January, Dmitry Storchak and the ISC’s former Senior Seismologist István Bondár were invited to the Guangdong provincial Earthquake Administration in China. Dmitry and István shared their knowledge of ISC operations with the colleagues at Guangzhou who are responsible for preparation of the waveform processing software (JOPENS) to be used in earthquake monitoring all over China. In addition to the staff of the Guangdong provincial Earthquake Administration, they also had discussions with Dr. Liu Jie (Deputy Director), Dai Guanghui and Baokun Li of CENC, Zheng Sihua and Zhao Cuiping of the Institute of Earthquake Sciences in Beijing as well as the Representative of CEA to the ISC Governing Council – Dr. Huang Fuqiong of CENC.

---

**Staff highlight: Rose Wylie, Analyst/Administrator**

In 2010, with background in Physical Geography & Geology, and a job that had diverged from this, I spotted a tiny advert in the local paper for a job at the ISC. Intrigued as to what this place was, and why an earthquake data centre was based in the fairly seismically stable UK, I thought “why not”, applied, and the rest is history... literally! My first job here was entering historical bulletin data, some as early as the 1890’s, and written in beautiful calligraphy! After a year and a half I joined the analyst team, via a training trip to NEIC and PGC, which strengthened my knowledge of operational seismology at a regional and global scale. As well as analysing the bulletin, I now prepare the data for editing, and manage the workload for the team. August 2015 will mark my 5 year anniversary here, and over this time I have enjoyed organising social activities for the ISC: with such a diverse group of people, we are never short of something to discuss, deliberate and debate! When I’m not busy analysing earthquake data, I run... for fun!

---

In June, Prof Marcelo Assumpção (left) from IAG/USP Brazil also visited the ISC to learn the details of the ISC operations as well as to discuss an improvement to the regular bulletin data contribution that IAG performs based on the waveform data of all current sub-networks in Brazil.

---

**International Seismological Centre**

Tel: +44 (0) 1635 861022
Fax: +44 (0) 1635 872351
Email: admin@isc.ac.uk
www.isc.ac.uk
Lift installed at the ISC

Perhaps an installation of a lift would go unnoticed in many institutions. For the ISC, responsible for maintaining its own small building, it is a big event unparalleled in its history. The lift has been installed and put into operation for the convenience of the staff and to comply with current regulations for access to disabled people. The lift is already well used and the ISC staff members were trained to rescue a potential victim of a power cut from the lift shaft.

Printed Bulletin Summary 2011 July-December

The Summary of the ISC Bulletin covering the second half of 2011 has been printed. This issue includes analysis of the Bulletin and collected data, lists of the most prominent data contributors and includes an invited article from Taimi Mulder (Geological Survey of Canada) describing the Canadian National Seismic Network.

Two issues of the Summary for 2012 are currently in preparation. The ISC invites scientific articles related to either a notable seismic event or a history, current status and procedures at a seismic network contributing data to the ISC.

Co-operation with GFU, Czech Republic

Whilst in Prague, Domenico Di Giacomo and Dmitry Storchak took the opportunity to visit the Geophysical Institute (GFU) of the Czech Academy of Sciences. Jan Zednik has helped to find missing issues of various historical station bulletins from the collection of Vit Karník. These bulletins are now being used in the project of extending the ISC-GEM catalogue and will be later returned to GFU. During this visit the bulletin data contribution from the West Bohemia Seismic Network (WEBNET) was also discussed with the regular contributor Alena Boušková.

ISC Prize Winner at Oxford

This year the ISC Prize in Geophysics and Mathematics for the 1st Year student of Oxford University was awarded to Andrew Orkney. In his thank-you letter Andrew acknowledged that the Prize has provided financial security to his summer fieldwork and persuaded him to focus further on the mathematical options of his future degree at the Department of Earth Sciences in Oxford.

Co-operation with GFU, Czech Republic

New articles on the history of the ISC

Until only a few years ago, there was very little information written or published on the history of the ISC. Some time has been set aside to collect facts, photos and personal accounts which are all available on the ISC website http://www.isc.ac.uk/about/history/. Recently, two new articles were added on the steel globe of the ISS, written by a former ISC Director Anthony Hughes, and an article on early days at the ISC, written by the first ISC employee and the former Deputy-Director David McGregor.

Previously posted articles include those by Robin Adams, Bruce Bolt, Henry Spall, Chris Argent, Anatoli Levshin and Slawomir Gibowicz.