

# ISCNEWS

Winter 2007 [www.isc.ac.uk](http://www.isc.ac.uk)



The latest updates, news and activities from the ISC

## Avi Shapira to leave ISC

Avi Shapira has decided not to extend his contract as Director of the ISC and will be returning to Israel at the end of this year. Consequently, John Adams, Chairman of the ISC Governing council, Gary Gibson, Chairman of ISC Executive Committee and John Woodhouse, representative of Oxford University, the host institution of ISC in the UK, came to the Centre in March for an update on the activities of ISC and to initiate the process of selecting the new ISC Director and they issued the following announcement:

### JOB VACANCY DIRECTOR OF THE INTERNATIONAL SEISMOLOGICAL CENTRE

The Governing Council of the International Seismological Centre plans to appoint a new Director of the Centre, to take up the post on or before 1st January 2008. Applications should be sent by 14 May 2007 to the ISC ([admin@isc.ac.uk](mailto:admin@isc.ac.uk)) and should include contact details for two referees in plain text. The applicant should supply a 1-2 page outline of their vision for the ISC, together with what they would hope to achieve during their appointment.

The full announcement appears at  
<http://www.isc.ac.uk/director/index.html>

## We knew what to expect

As anticipated, the first quarter of 2007 is characterised by the great workload of editing the ISC Bulletin for December 2004 and January 2005 which includes an unprecedented number of earthquakes to be edited following to the Sumatra-Andaman Mw=9 earthquake. ISC has prepared for this eventuality by recruiting more seismologists and training them. It appears to be a huge job of great complexity. Every seismologist appreciates the difficulty of analysing seismograms from earthquakes that occurred within seconds of each other. Be reminded that ISC seismologists have to deal with the much more difficult situation of only using phase readings from a variety of contributors. This is a good opportunity to express high appreciation and sincere thanks to the ISC editors; Beatriz Vera, Baokun Li and Przemyslaw Kowalski, lead by Dmitry Storchak. At the time of writing this newsletter, ISC editors are still struggling with the analysis of December 2004 data.

## New Practice

Starting with the analysis of January 2005 earthquakes and as we have notified in advance six months ago, we will not review earthquakes with magnitudes lower than 2.5, even when reported by several agencies. This will only slightly reduce the number of events to be edited by ISC editors. Nevertheless, we encourage data contributors to send us ALL data, irrespective of the magnitude. These data will be made available to the global seismological community through the ISC Comprehensive Bulletin.

## Send us what you have

We should use this opportunity to remind everyone that the ISC Comprehensive Bulletin provides information about recent earthquakes. Many agencies swiftly report their data to ISC and consequently, within days the ISC automated processes will group the location solutions provided by different agencies and will associate phase readings to one of those preferred solutions. This process repeats itself continuously and provides relatively fast up-to-date information much before the publication of the ISC edited Bulletin. However, ISC solutions will only be provided after being edited by ISC editors, approximately 24 months later.

To make this service more useful, we encourage all seismological centres to send us their location results and phase readings as soon as they are available.



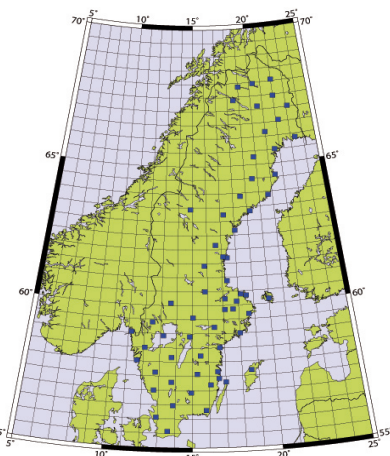
*Smiles of relief that December 2004  
analysis is almost complete*

## Swedish National Seismic Network



Over the last few years, 60 new, permanent, digital, broadband seismological stations have been deployed in Sweden, from Lannavara in Lappland in the north to Skåne in the south. The network operates largely automatically and is now essentially complete. The primary objective of the network is to monitor local seismicity. With the current station spacing of about 100km, completeness down to magnitude 0 is assured within the network. This magnitude corresponds to very small movements, for example to a motion of 0.01mm over a fault area with a radius of about 50m. Several hundred Swedish earthquakes are detected every year. Only a few (5 to 10) of these are so large that they are felt by people living close to the epicentre.

While Sweden is a low seismicity area, the high sensitivity of the system means that ongoing deformation processes in the crust can be monitored in detail. As a larger data set is gradually acquired, it will also be possible to use information from these events to elucidate structures within the Swedish crust. In addition, the network records signals from larger distant (teleseismic) earthquakes, and also regional events of sufficient magnitude. These data are analysed to reveal details of the structure within the crust and upper mantle below the recording stations. ISC welcomes SNSN at Uppsala University as new members



Station locations for SNSN

### Amplitudes required

We repeat the appeal to send us amplitude measurements in accordance with the new IASPEI recommendations for magnitude determinations. The new measurements should be made alongside the A and T measurements done so far (e.g. AMB, AMS and the corresponding periods) and be denoted by adding I (for IASPEI). Please view our web page

<http://www.isc.ac.uk/doc/analysis/2006p03/magletter.html> for further explanations and details. Also, please provide information on how magnitudes are determined by your organization. We invite you to view the magnitude determination practices of different institutions by linking to

[http://www.isc.ac.uk/magnitude/mag\\_info.html](http://www.isc.ac.uk/magnitude/mag_info.html)



International  
Seismological  
Centre

## JB versus AK-135

Following the decisions made during the IASPEI meeting in 2005 in Santiago, Chile we have relocated the earthquakes published in the ISC Bulletin for the period January-October 2004 using both the JB and the AK-135 travel time models. In fact, we extended the testing period to 10 months rather than the original plan of using only 3 months. This enables a better examination of the effects of using AK-135 instead of JB to locate earthquakes occurring in different parts of the globe. The results of the relocation will be the subject of a special workshop held during the IUGG meeting in Perugia.

### Computing department progress

The ISC technical team; James Harris, Peter Dawson and Oriol Gaspa Rebull continue with their efforts to move from the UNIX system to the Linux including the use of an open source Relational Database running on PC based Linux Hardware. The main programs in use by ISC have already been modified but there are still hundreds of programs and routines to be checked and if needed, modified.

Along with the migration to Linux, new software is being developed to improve interactive analysis for the ISC Bulletin editors and add new on-line services to the seismological community. Progress has also been made in building capabilities to receive on-line information about candidate reference events and provide information on such events. This service is part of the activities of the IASPEI Working Group on Reference Events to Improve Location (WG-REIL). Contributors are invited to view the page and give us your comments.

<http://www.isc.ac.uk/reference/reference.html>

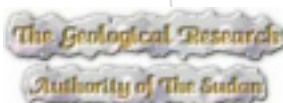
Two other initiatives, currently in the initial stage of development, involve analysis of the data available in the ISC database; (1) Extract data for a specified area, defined time window and magnitude range and provide estimates of the frequency-magnitude relationship parameters that are often used in earthquake hazard assessments. (2) Automatically compare ISC location results with those contributed by an agency. These analyses can be used for further investigations in monitoring capabilities and to facilitate a feed-back to the ISC Bulletin.

### Gulf Seismic Forum

In March 2007 the ISC's Chief Seismologist, Dmitry Storchak, participated in the 4th Gulf Seismic Forum. He was invited by the Kuwait Institute of Scientific Research (KISR) to share his experience in integrating the local seismic bulletins in the region. Dmitry's key note lecture outlined techniques used in the ISC operations and showed the advantages of sharing data in this highly interesting seismic area. Whilst in Kuwait Dmitry was able to investigate possibilities of improvement of ISC data collection in the region as well as to search for new ISC members. ISC is grateful to KISR for funding this trip that will no doubt lead to direct benefits to the ISC and local seismic networks in near future.

### New GC Member

We are happy to welcome the Geological Research Authority of Sudan (GRAS), a new member in 2007. GRAS operates the Sudan Seismic Network and recently began contributing its seismic bulletin to the ISC.



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