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27th General Assembly, IASPEI
Wellington, New Zealand
10-21 January 1994

Local Arrangements

The organization of the 27th General Assembly of IASPEI in January 1994 at Victoria University in Wellington, New Zealand, is well underway. There has been a very good response to the Call for Papers, with almost 800 abstracts being received by the Local Organizing Committee and passed out to Symposium and Workshop Convenors for programme planning. The system of centralized collection of abstracts in digital form via email worked well, in general, but some delays were experienced with hard copy abstracts, which needed digitizing, and where Convenors were not on the email system. The abstracts are all being converted to a uniform format, with the result that the Abstracts Volume will be a very attractive one. Many thanks to those who made the effort to send their abstracts in computer-readable form.

The programs for Symposia and Workshops have been received by the Local Organizing Committee and a final program is being put together for the scientific sessions, the meetings of Commissions and Working Groups, and the social events. An additional special session has been added to include topical and local papers not included in the main programme. The level of response has meant that there will be almost an equal number of oral and poster presentations. Initially, the plan was to run only two parallel sessions, but in cases where the response has been very high we have made some minor adjustments to the programme or have planned a third concurrent session. A series of illustrated lunchtime lectures on New Zealand's unique flora and fauna has also been arranged.

More than 350 paid registrations have been received, with additional people expressing interest and anticipating registering at the meeting. Hotel space is still available. A number of delegates have registered for tours associated with the Assembly. There is still space on most of these, so further interest is invited.

There is a full social programme planned, beginning with an icebreaker and then a reception at Parliament buildings hosted by the Minister of Research, Science and Technology. Other official functions include a Maori meal and concert party, and in the second week the conference dinner at the Wellington Town Hall.

Because January is the summer holiday season in New Zealand we have arranged many optional trips in and around Wellington for accompanying members and/or delegates. The middle weekend of the conference has outdoor adventure, scenic or conference field trips organized so there will be no excuses for being bored. There is still space on most of the tours associated with the Assembly.

One problem that has affected some registrants is travel. Airline reservations are extremely heavy for the southern summer. This is partly because one of the major airlines has recently ceased flying to the South Pacific. If anybody cannot get confirmed reservations, Air New Zealand has offered to help. The procedure is to get your name on a waiting list, then contact the Local Organizing Committee (fax +64-4-471-0977 or e-mail iaspei94@m2g.gns.cri.nz) and they will inform Air New Zealand.

Opening Plenary

The Opening Plenary will be held at 10:30 am on Monday January 10, immediately after the Opening Ceremonies. An agenda follows:

1. President's welcome.
2. Respect for deceased members.
3. Secretary-General's statement.
4. Appointment of Resolutions Committee.

IASPEI accounts for the years 1991 and 1992 are presented on the following page.

Isolated Swarms of Small Earthquakes

Occasionally in intraplate areas, there are isolated swarms of small earthquakes with hypocenters only a kilometer or two apart that are many kilometers away from any other seismic activity [*Crampin*, 1991]. The Blue Mountain Lake swarm, New York, 1972/73, and the Enola swarm, Arkansas, 1982/83, were two such swarms. The largest events in isolated swarms, which I shall call *typical events*, are usually smaller than $M = 4$ and typically tend to repeat with similar magnitudes and locations every few days or every few weeks. These typical events have shown precursory phenomena similar to those seen before much larger earthquakes in regions of higher seismicity. Changes in *Vp*/*Vs* ratios were observed at Blue Mountain Lake [*Aggarwal*, 1973] and at Enola [*Chiu et al.*, 1984], and changes in shear-wave splitting were also observed at Enola [*Booth et al.*, 1990]. Presumably the reason for the sensitivity that allows precursors to be observed before comparatively small events in isolated swarms is that the behavior before small earthquakes can be identified in quiet aseismic areas that would be hidden in the tectonic complexity of more active seismic regions.

The repetition of these typical events, where time, location, mechanism, and magnitude are known with some certainty, means that they can be used as controlled seismic sources for networks investigating earthquake source-related precursors. The study of small repeated earthquakes has enormous advantages over conventional studies of large earthquakes in that: 1) instrument networks can be tuned for a repeated source until they have optimum geometry for the particular phenomenon; and 2) the frequent repetition of typical events means that results can be obtained within days, weeks, or months, rather than possibly waiting years or tens of years for a large event with all the uncertainties that involves.

Isolated swarms with repeated typical events allow proper scientific experiments to be designed. Of course, the behavior of a source before a small intraplate earthquake may not scale to the behavior before a large earthquake. However, even if they do not scale directly, studying precursors of small

earthquakes is likely to give us some insight into the parameters which are sensitive to the build up of stress before larger earthquakes. In any case, I suggest it is unlikely that phenomena that show changes before small earthquakes will not also show changes before larger events, although the effects may be more complicated and more difficult to interpret.

Despite many years of investigations, we are still attempting to investigate the earthquake source from a very low base of knowledge. We do not yet know what geophysical phenomena, if any, display changes before earthquakes. Investigating such typical events from isolated swarms in controlled experiments might supply some answers comparatively quickly and comparatively cheaply.

The problem

The problem is finding the isolated swarms to investigate [*Crampin*, 1991]. Since they occur in regions without major seismic activity, they are almost certainly not near networks of closely-spaced seismic instruments. This means that such a swarm is unlikely to be recognized, if the magnitude of its typical events is too small to be reliably located by the regional seismic network, and in any case, most seismologists are not usually interested in such small events.

Do you know of any isolated swarms?

If observing small earthquakes is as significant as my comments suggest [*Crampin*, 1991], it is important for geophysicists to be alert to reports of repeated small events in areas without suitable seismic instrumentation. I have been looking for isolated swarms for several years without much success. If you know of any earthquake activity that meets the specifications given below, I suggest you get in touch with me by telephone (+44(0)31 650 4908), facsimile (+44(0)31 668 3184), or email (e_gs01@va.nmh.ac.uk), so that we can discuss what action to take. However, there is a **CAUTION:** swarms that do not meet all the essential specifications, Items 1 to 3 under **Specifications for Isolated Swarms**, are unlikely to be useful. Item 4 is arbitrary, but unless the level of activity is sufficient the swarm is also not likely to be useful. The information that would be required to make an assessment of any swarm is listed in **Details Necessary for Assessment**.

Specifications for Isolated Swarms

Essential: 1) epicenters within a one or two km diameter circle; 2) at least 20 km from any other seismic activity; 3) activity continuing for a year or more and still continuing; and 4) at least 5 events per week.
Coincidental: Swarms with the essential properties are also likely to have: 5) typical events repeating every few days or every few weeks; and 6) typical events with magnitudes less than $M = 4$.

Details Necessary for Assessment

1) catalogues for several years of earthquakes within 30 km of the swarm, listing magnitudes, epicenters, and depths; 2) lists of locations and specifications of local seismic network ; 3) geological and tectonic structure and seismic history; 4) information about any local study of the swarm; 5) information about local availability of high-gain, high-sampling rate digital seismic equipment.

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A Unified Field Recording Format for Mobile Seismic Stations: The SUDS Experiment.

An initiative by the ILP/IASPEI-MEMSAC Group

The International Lithosphere Program (ILP) and the International Association for Seismology and Physics of the Earth's Interior (IASPEI), recognizing the need for an international uniform data recording format in future large-scale seismic experiments, formed jointly an expert group MEMSAC (Mega Earth Mobile Seismic Array Consortium), which held its first meeting on 30th April and 1st May, 1993, in Karlsruhe, Germany. Experts from Europe and North America met together with industry representatives for the first time to discuss the feasibility and the avenues for such a uniform format. After a review of recording and processing equipment and formats (REFTEK-PASSCAL, Canadian Lithoprobe Pool, GEOTECH-PDAS, LENNARTZ-MARS88, French Lithoscope Pool) deliberations focussed on where in the flow of data uniformity should be achieved.

Some argued for uniformity at the output of individual field recorders, but the group settled on uniformity at the output of the field computers used to combine data from many field recorders. The primary reason, as stressed by J. Fowler (PASSCAL), is that quality control of the data including timing, instrument settings, and station location information is both very important and very instrument-dependent and is thus best done in the field computers before converting to a standardized format. Others stressed that standardization at the output of field computers could be achieved relatively easily, but that standardization at the output of existing field recorders would not be possible. The group decided that first a platform-independent data format should be agreed on, then manufacturers could provide programs that convert existing instrument data formats into this standard format, ensuring backward compatibility. Finally some manufacturers may decide in the future to produce instruments that write this standard format directly. In the meantime, programmers could convert existing analysis programs to read the new format. While the SEG-Y format is currently used to merge large data sets, it does not meet future needs and has been widely used in non-standard ways.

P. Ward gave a concise summary of SUDS (the Seismic Uniform Data System) developed by the USGS/Menlo Park in conjunction with the University of Alaska. SUDS-1, also known as PC-SUDS is the data format used by the IASPEI Software Library implemented at more than 50 sites around the world on IBM compatible computers running under MS-DOS. SUDS-2 is a substantial upgrade that is computer and operating-system independent. It provides immediate interface to relational databases, simplifies programming, and encourages exchange of programs as well as data. SUDS-2 is a superset of widely-used, existing seismic-data formats. There was general agreement among the group and the industry representatives that SUDS-2 should be explored as a possible future standard. The participants decided to undertake a SUDS Experiment, writing programs to convert existing data sets from many different arrays of instruments.

The MEMSAC group met again on 3-4 December near San Francisco, California, together with representatives from five instrument manufacturers. Experience in converting data to SUDS-2 was reported for data from Canadian Lithoprobe, Lennartz/MARS88, Geotech/PDAS, and REFTEK/PASSCAL instruments as well as the Alaska and northern California seismic networks. Data in SUDS-2 format was displayed from several countries. The experience of several software developers with SUDS-2 was discussed. All speakers found that SUDS-2 was easy to use and was well suited for merging data of interest to the MEMSAC committee. Based on this experience, a number of modifications to SUDS-2 were discussed. These changes are being incorporated in SUDS Version 2.5 to be released in late December, 1993. The committee decided to further test this version through experience with conversion of existing data and analysis programs and to meet on 21-22 May, 1994, in Baltimore, Maryland, with the intent to agree on a version of SUDS suitable for an international standard.

The group also discussed file formats on various media since this is not part of the SUDS standard. D. Stoll (Lennartz Electronics) proposed taking advantage of rapidly evolving platform-independent file systems such as ISO-9660 presently used on CD-ROMs and to standards being discussed by the European Computer Manufacturers Association and other such groups.

All participants were impressed by the atmosphere of these two meetings where for the first time experts from various groups working in mobile seismology discussed future needs with experts from industry. The MEMSAC Committee encourages participation by any seismologists, computer experts, or instrument designers or manufacturers in the evaluation of SUDS, the search for a standard file format, and in discussions at their next meeting. The committee chairman is K. Fuchs (Geophysikalisches Institut, University Karlsruhe, Hertz-Str. 16, 76187 Karlsruhe, GERMANY; fax: +49-721-71173 e-mail: fuchs@gpiwap1.physik.uni-karlsruhe.de).

Technical information on SUDS is available from P. Ward (USGS, MS 977, 345 Middlefield Road, Menlo Park, California 94025, USA (tel: +1-415-329-4736; e-mail: ward@andreas.wr.usgs.gov; fax: +1-415-329-5163). An email discussion group is posted on the bulletin board at the computer dmc.iris.washington.edu. Login using the name 'bulletin' and the password 'board'. Send comments to suds@dmc.iris.washington.edu. You may request that the discussions be sent by email directly to you. SUDS Version 2.5 for UNIX-based computers is available by anonymous ftp at dmc.iris.washington.edu in the directory pub/suds/suds_2.5. Versions for MS-DOS based PCs or Macintosh computers may be derived on a UNIX-based computer from this master distribution or are available on floppy diskette from P. Ward. SUDS-2 should operate on any 16 or 32 bit computer. If you wish to test it on your computer and operating system, please contact P. Ward.

SUDS-2 is not presently a turnkey environment for processing your data, but it does provide the foundation for such a system. There will be a clear migration path between PC-SUDS and SUDS-2. A number of analysis programs designed for specific computers are being converted to read SUDS-2 data and a machine independent library for user interface using windows is being developed to enhance portability of such programs to other computers. Now is an excellent time, before the standard is adopted, to evaluate whether SUDS-2 would meet your needs.

SUDS is described in EOS: Transactions of the American Geophysical Union, v. 73, no. 35, p. 380, 1992. MEMSAC is described in EOS v. 74, no. 37, p. 421, 1993.

Yemen Seminar on Seismic Hazard and Earthquake Disaster Mitigation Sana'a, Republic of Yemen 12-17 June 1993

This seminar was organized by the Mineral Exploration Board of the Yemen Ministry of Oil and Mineral Resources, which controls the newly established Seismological Observatory Center at Dhamar, about 100 km south of Sana'a. The meeting was opened by the Deputy Prime Minister and the closing session was attended by the Minister of Oil and Minerals. About 40 papers were given over a four-day period, covering a wide range of hazard-related topics in the general fields of seismology, tectonics, hazard assessment, earthquake engineering and civil defense. As well as Yemeni participants from relevant government and university departments, there was strong representation from other Arab countries, including Algeria, Djibouti, Egypt, Iraq, Jordan, Libya, Sudan and Tunis, as well as some representatives from other countries. The final day of the seminar was devoted to a field trip to the area affected by the 1982 earthquake centered near Dhamar and the nearby Seismological Observatory Center.

The 1982 earthquake, of magnitude about 6, resulted in widespread damage and about 2,000 deaths. This toll would have been higher if the earthquake had not occurred in the early afternoon, when many people were outdoors. We visited the village of Risabah, in the inter-mountain plain about 20 km north of Dhamar. Here, because of the distance from mountainous areas, the buildings were mainly of adobe-type construction, rather than the stone and brick generally used in Yemen, and the destruction was almost complete, estimated at Intensity VIII. The ruins of the old village remain, and new seismic-resistant houses have been built on an adjoining site.

The Seismological Observatory Center at Dhamar, with a staff of about 35 under its Director, Mr. Jamal M. Sholan, will be the headquarters of the Yemen National Seismograph Network of six broad-band and 13 short-period instruments (Lennartz equipment) and the National Strong-Motion Network of about 18 accelerographs (Kinemetrics equipment). All signals will be

telemetered to Dhamar. Test recording is already being carried out with portable instruments.

The new network will make a substantial contribution to the seismological monitoring of this important region, supplementing recording currently being carried out in Saudi Arabia, Djibouti and Ethiopia. Yemen remains the only seismically active part of the Arabian peninsula and practical studies of earthquakes and their effects appear to have high official priority. In particular, civil defense activities are strongly supported. Yemen also appears keen to play its part in appropriate international organizations, such as the International Union of Geodesy and Geophysics (including IASPEI) and the International Seismological Centre.

R.D. Adams (Chairman, Committee on Developing Countries)

Meeting of Working Group on Economic Losses from Earthquakes Moscow, Russia 14-16 September 1993

Earthquakes have menaced mankind since the beginning of history, and earthquake vulnerability is increasing significantly with the acceleration of urbanization and economical development. It is essential to know quantitatively beforehand about the losses that could be caused by future earthquakes to minimize earthquake vulnerability, especially for the United Nations Organization, scientific institutions, insurance companies, etc.

In accordance with the International Decade of Natural Disaster Reduction (IDNDR), IASPEI has endorsed the proposal made in Vienna of a "World-Wide Map of Future Earthquake Losses" in August, 1991. The First Workshop was convened on October 10, 1992, during the 2nd International Conference on Continental Earthquakes in Beijing, China. At the Beijing Workshop, the outlines of the Project were drawn up, such as the aims, methods, data, management, steps, and funds. It was also decided to meet in 1993 in Moscow to discuss in detail the methodology and the data to be used.

Hosted by the National Geophysical Committee of the Russian Academy of Sciences, the meeting was held in September 14-16, 1993, in Moscow. The participants carefully reviewed the state-of-the-art of "Economic Losses of Earthquakes" in their own countries or regions, i.e., in Russia, China, Czech Republic, Mexico and Israel. Based on these reviews, some important issues in compiling the map were discussed in detail, e.g., the scale, users, time interval, methods, input data, test areas (sites), and funding. The following are the views for concentration and conclusions:

a) Scale, Users - There can be five scale choices in compiling the map: global, regional, country, mega-cities, special sites. The users are: IASPEI, UN organizations, insurance companies, governments, and so on. It is obvious that different users are interested in the maps in different scales. Considering the data and methods available and the users' requirements, the Meeting decided to compile the map in the REGIONAL scale as a first step.

b) Output - Two results can be obtained from the map: absolute losses and loss rate.

c) Time interval - Having noticed the former ELE work in some region, e.g., in China, the Meeting considered that 50 years is the proper time interval for the map. This problem needs further discussion with IASPEI, insurance companies, and other users.

d) Data and method - The comparative method was chosen to be used for the map. It is suggested to select several methods for the test.

e) Testing site - The compilation of the regional map will be made in the same scale, finally in one or two regions. The suggested regions are: Central America, east of Mediterranean, Caucasus, Baikal region. It is decided to have the next Working Group Meeting in 1994. The time and place of the ELE-WG Meeting will be chosen later: either Israel, the Czech Republic, or Mexico.

f) Funds - Possible funding may come from IASPEI, UNDRO, insurance companies, and regional governments before the next meeting. This task can be carried out with the help of the IASPEI/IDNDR Secretariat.

The Working Group gives heartfelt thanks to the local organizers, the National Geophysical Committee of the Russian Academy of Sciences for their considerate arrangement and

hospitality extended to the participants of the Meeting.

G.A. Sobolev (Chairman, Working Group on Economic Losses from Earthquakes)

Workshop on Regional Seismology in Eurasia Obninsk, Russia 17-18 September 1993

A two-day workshop was held in Obninsk, near Moscow, on September 17-18 as part of the Sub-Commission on Earthquake Algorithms (SCEA) activities in 1993, with the goal of reviewing the existing activities in regional seismology in the Eurasian region and in preparation for the 1994 IASPEI 27th General Assembly.

The present political-economical situation in the countries of the CIS (former USSR) is severely limiting the scientific research: only a few scientists were able to attend the 1992 Fall AGU Meeting in San Francisco and will attend the 1994 IASPEI 27th General Assembly in New Zealand; today in the CIS it is increasingly difficult to communicate with foreign research groups or to afford publication of results in international journals, and even to maintain internal communication among groups that used to work together.

To ensure that the work conducted by seismologists of the CIS in the field of regional seismology be recognized abroad, the SCEA has organized a regional workshop, in cooperation with the Joint Institutes of Physics of the Earth (JIPE) and with the MITPAN of Moscow. The workshop targeted a limited (24) number of specialists in regional seismology from the Eurasian area and consisted of two days of presentations and discussion. The workshop was organized by B. Bukchin of MITPAN and L. Slavina of JIPE, both members of the SCEA, with the local help from I. Chernoby of Obninsk. In addition, a guided tour of the facilities of the Seismological Center of the Institute of Physics of the Earth of Obninsk was conducted by I. Chernoby.

The support for the meeting was provided by a US$2,000 grant from IASPEI, to cover local living expenses and meeting organization, and as seed travel funds to ensure the presence of experts from several countries of the former USSR. It should be noted that the funds used would be barely sufficient to cover the participation of only one scientist to the New Zealand assembly.

The meeting was considered highly successful by the participants, for the level of the presentations and the lively discussion. A summary of the workshop will be given at the IASPEI Symposium S10 in New Zealand, with a presentation titled: "Regional Seismology in Northern Eurasia". The meeting closed with the resolution to organize this type of workshop again in the future, possibly on a yearly basis.

D. Giardini (Chairman, Sub-Commission on Earthquake Algorithms)

International Conference on Continental Collision Zone Earthquakes and Seismic Hazard Reduction Yerevan-Sevan, Armenia 1-6 October 1993

One of the great seismological tragedies of this century struck northern Armenia on December 7th, 1988. the government estimated that 25,000 people perished and the earthquake left at least 514,000 homeless and 30,000 injured. There was heavy damage to many building and key structures in many cities and villages of northwest Armenia. Subsequently, geologists, seismologists and engineers in a number of countries studied the seismological and vulnerability aspects of this earthquake, both in regional terms and in those of the more general problem of seismic hazards in Continental Collision Zones.

Subsequent to the earthquake, responsibility for seismic hazard mitigation in Armenia was reorganized and a lead organization established entitled "The National Survey of Seismic Protection" (NSSP) under the government of the Republic of Armenia. The first president of the NSSP is Dr. S. Balassanian. Also as a consequence of the earthquake, a new academic venture, "The American University of Armenia" was established in association with the University of California. The leading scientists associated with the new university are Prof. M. Agbabian (USC) and Prof. A. der Kiureghian (UCB), both well known in the earthquake engineering field.

It was decided in 1992 to arrange an international conference on the fifth

anniversary of the Spitak earthquake in which specialists in the relevant disciplines would be invited to Armenia to discuss general problems related to continental collision zone earthquakes and seismic hazard reduction, and, in particular, to bring together the latest studies on the 1988 Armenian earthquake. This conference was immediately endorsed by the IASPEI Commission for the IDNDR. Other co-sponsoring organizations were the U.S. Geological Survey, the American University of Armenia, the National Academy of Sciences of Armenia, the Academy of Sciences of Georgia, the Russian Academy of Sciences, and the International Institute of Earthquake Engineering and Seismology, Iran.

In order to cover travel expenses, IASPEI made a small subvention of dollar funds and the U.S. Geological Survey generously provide a grant of $10,000 towards the overall expenses of the conference (travel aid, conference fees, preparation of program and abstracts, and publication of a Proceedings).

Some 84 scientists and specialists from Armenia, China, France, Georgia, Germany, India, Iran, Japan, Portugal, Russia and U.S. took part in the conference. Because travel to Armenia is, at the present time, difficult, this wide international attendance demonstrated the interest in it. There were 101 papers presented at the conference and 10 discussion papers read during primary sessions (program and abstracts available on request).

The local organizers (NSSP) made extraordinary efforts to make arrangements which were conducive to a successful meeting. The hospitality was outstanding; on the first day, buses were arranged from the airport to temporary accommodations in Armenia; all members were then transported by bus to an elegant conference site on the shores of Lake Sevan, where adequate accommodations and meeting rooms were available on the premises. One day, Sunday, was devoted to an extensive field trip in which parties were transported to both the Spitak fault traces and to examine the present state of the damaged structures in Leninakan (Gumri) and surrounding cities.

The conference was carried out in two sections: Section 1 - seismology, geophysics, geology, geochemistry, seismobiology, geodesy and organization of earthquake monitoring and processing. In this Section there were 69 papers and 24 poster reports. Section 2 consisted of earthquake engineering, seismic risk analysis, engineering and architectural aspects, education of the population for earthquake safety and preparedness in emergency situations. In this Section there were 42 reports, including 2 posters.

Details of the local Steering Committee for the Conference, general information, the working program and abstracts, and the three resolutions which were unanimously passed by the attendees at the final plenary session on October 6 are available on request.

There are to be refereed Proceedings of papers submitted by participants. At the final plenary session, there were strong indications of intention to submit papers for the Proceedings which will be refereed, edited and published in a permanent format. It is anticipated that the selection of papers will be finalized by the end of December 1993 and that the Proceedings of this important conference will be published and available in mid-1994.

B.A. Bolt (Chairman, Commission for IDNDR)

Regional Seismological Assembly in South America Brasilia, Brazil 22-26 August 1994

A Regional Seismological Assembly in South America will be held in Brasilia, Brazil, during the period 22-26 August 1994. This Assembly is sponsored by IASPEI, ILP and UNESCO, and is being organized by CERESIS and the Universities of Brasilia and São Paulo. The scientific program has been constructed within the framework of the International Decade for Natural Disaster Reduction (IDNDR) and will emphasize studies directed to the reduction of seismic risk in the Carribean and Latin American regions.

Several symposia, workshops and round-table sessions are being organized on the following topics: seismicity; earthquake hazard and risk; tectonic features and lithospheric structure; stress and source mechanism; strong motion seismology; seismological studies related to vulcanological phenomena; geothermal studies and temperature variations preceding earthquakes; modern seismographic instrumentation; and deep seismic reflection

and refraction experiments. Training courses on the analysis of digital seismic data are also being organized and shall be given the week following the Assembly.

The Second Circular for this Assembly will be distributed in January 1994. The deadline for abstract submittal will be April 15, 1994. To receive the Second Circular, please contact the Local Organizing Committee: Observatório Sismológico, Universidade de Brasilia, 70910-900 Brasilia, DF - BRASIL (Tel: 55 61 348 2145/2675; Fax: 55 61 274 5927; E-mail: OBSIS@BRUNB.BITNET; Telex: 612730 UNBS BR)

J. Berrocal (University of São Paulo)

21st General Assembly, IUGG
28th General Assembly, IASPEI
Boulder, Colorado, U.S.A.
2-14 July 1995

The Second Circular for this meeting will be issued in February 1994. This circular will list Union and Inter-Association Symposia, as well as the Association program to be developed at the IASPEI General Assembly in Wellington.

Doornbos Memorial Fund

We are all saddened at the tragic death of Durk J. Doornbos on April 27, 1993. The Doornbos Memorial Fund was set up as a way of commemorating the unselfish contributions of Durk to the international community. It has been organized through IASPEI with the object of setting up a prize for a young scientist working on some aspect of the Physics of the Earth's Interior. Donations should be sent payable to IASPEI (c/o Dr. E.R. Engdahl, IASPEI Secretary-General, U.S. Geological Survey, DFC, Box 25046, Stop 967, Denver, CO 80225, U.S.A.).

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Ranalli, G. (Editor), Special section, Heat Flow, Rock Mechanics, and Seismicity, Proceedings of the IASPEI Symposium held during the 26th General Assembly in Vienna, Austria, Tectonophysics, v. 217, 1993.

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Green, A.G., Kröner, A., Götze, H.-J., and Pavlenkova, N. (Editors), Special Issue, Plate Tectonic Signatures in the Continental Lithosphere, Proceedings of the IASPEI Symposium held during the 26th General Assembly in Vienna, Austria, Tectonophysics, v. 219, 1993.

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FORTHCOMING MEETINGS

The following is a selection of forthcoming meetings in fields of interest to the Association:

1994 January 10-21
27th GENERAL ASSEMBLY, IASPEI, Wellington, NEW ZEALAND
The Secretary, IASPEI 94, Institute of Geological and Nuclear Sciences, P.O. Box 1320, Wellington, NEW ZEALAND (Tel :+64-4-473-8208; Fax: +64-4-471-0977; E-mail: IASPEI94@m2g.gns.cri.nz)

1994 January 27-February 4
INTERNATIONAL WORKSHOP ON SEISMOTECTONICS AND SEISMIC HAZARD IN SOUTH EAST ASIA, Hanoi, VIETNAM
The Organizing Committee, National Center for Scientific Research of Vietnam, Institute of Geophysics, Box: 411, Buu Dien Bo Ho, Hanoi, VIETNAM (Tel: 84 43 52380; Fax: 84 43 52483; Telex: 411525 NCSRVT)

1994 April 25-29
XIX GENERAL ASSEMBLY OF THE EUROPEAN GEOPHYSICAL SOCIETY, Grenoble, FRANCE
EGS Office, Postfach 49, 37189 Katlenburg-Lindau, GERMANY (Tel: +49-5556-1440; Fax: +49-5556-4709; Telex: 965 515 cop d; E-mail: EGS@LINMPI.GWDG.DE)

1994 May 23-27
WORLD CONFERENCE ON NATURAL DISASTER REDUCTION, Yokahama, JAPAN
IDNDR Secretariat, Palais des Nations, CH-1211 Geneva 10, SWITZERLAND (Fax: 41-22-755-8695)

1994 June 19-24
20TH INTERNATIONAL CONFERENCE ON MATHEMATICAL GEOPHYSICS, La Citadelle, Villefranche sur mer, FRANCE
Chairman, Local Organizing Committee, Didier Sornette, Laboratoire de Physique de la Matiere Condensée, Université de Nice-Sophia Antipolis, Parc Valrose, 06108 Nice Cedex 2, FRANCE (Tel: 33 93 52 99 73; Fax: 33 93 52 98 08; E-mail: sornette@naxos.unice.fr)

1994 August 8-12
4TH SEDI SYMPOSIUM, Whistler Mountain, British Columbia, CANADA,
SEDI 94 Secretariat, Department of Earth and Planetary Sciences, McGill University, 3450 University Street, Montreal, Quebec, CANADA H3A 2A7 (Tel: 514-398-4886; Fax: 514-398-4680; E-mail: sedi94@erda.geophys.mcgill.ca)

1994 August 14-19
INTERNATIONAL SYMPOSIUM ON THE PHYSICS AND CHEMISTRY OF THE UPPER MANTLE, São Paulo, BRAZIL
Prof. Wilson Teixeira, Instituto de Geosciencias, Universidade de São Paulo, P.O. Box 20899, 01498-970 São Paulo, BRAZIL (Tel: 55 11 8138777 ext. 3987; Fax: 55 11 2104958; E-mail: brenha@iag.usp.br)

1994 August 22-26
REGIONAL SEISMOLOGICAL ASSEMBLY IN SOUTH AMERICA, Brasilia, BRAZIL
Local Organizing Committee, Observatório Sismológico, Universidade de Brasilia, 70910-900 Brasilia, DF-BRASIL (Tel: 55 61 348 2145/2675; Fax: 55 61 274 5927; E-mail: OBSIS@BRUNB.BITNET; Telex: 612730 UNBS BR)

1994 September 12-17
6TH INTERNATIONAL SYMPOSIUM ON SEISMIC REFLECTION PROBING OF THE CONTINENTS AND THEIR MARGINS, Budapest, HUNGARY
Dr. Károly Posgay, Eötvös Lorand Geophysical Institute of Hungary, Budapest POB-35, H-1140, HUNGARY (Tel: 361-183-6533; Fax: 361-163 -256; Telex: 61 22 6194 elgi h; E-mail: H6123Tit@ELLA.HU)

1994 September 19-24
XXIV GENERAL ASSEMBLY OF THE EUROPEAN SEISMOLOGICAL COMMISSION, Athens, GREECE
L.O.C. XXIV General Assembly ESC, Attn: Prof. K. Makropoulos, Department of Geophysics and Geothermy, University of Athens, Panepistimioupolis, Ilissia, Athens 157 84, GREECE (Tel: +301 7243217, 7284425, 7247425; Fax: +301 7243217; E-mail: seis@grathunl.bitnet)

1994 October 23-27
64TH ANNUAL MEETING OF THE SOCIETY OF EXPLORATION GEOPHYSICISTS, New Orleans, LA, U.S.A.

1994 November 14-25
SECOND REGIONAL GEODESY AND GEOPHYSICS ASSEMBLY IN AFRICA, Ibadan, NIGERIA, LOC of ICESA Scientific Assembly, ICESA International Secretariat,

P.O Box 22383, University of Ibadan Post Office, Ibadan, NIGERIA

1995 July 2-14
21st GENERAL ASSEMBLY, IUGG,
28th GENERAL ASSEMBLY, IASPEI
Boulder, Colorado, U.S.A.
USNC/IUGG, 2000 Florida Ave., N.W.,
Washington, DC 20009, U.S.A.