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The IASPEI Newsletter is distributed to National Correspondents and other national representatives we know of, to all IASPEI officers, to IASPEI scientists who attended recent IASPEI Assemblies, and to various research organisations in countries around the world.

The January 12, 2010 Haiti M7 Earthquake

One more devastating earthquake has occurred in this first decade of the century marked by the Sumatra-Andaman 2004, Kashmir 2005 and Sichuan 2008 disasters. On January 12, 2010 an M7 event had a dramatic impact on Port-au-Prince, Haiti, Central America. The estimated number of fatalities is over 100,000, with about 200,000 injured and 800,000 homeless.

Our hearts go out to those in Haiti who have suffered losses of loved ones and personal properties during the earthquake disaster.

Quoting the February IUGG Newsletter: "Haiti was not prepared to cope with the large earthquake, although geophysicists warned about the next big event (e.g. Geophysical Journal International, 174, 889-903, 2008). 'The tendency to reduce the funding for preventive disaster management of natural catastrophes rarely follows the rules of responsible stewardship for future generations neither in developing countries nor in highly developed economies' (Ismail-Zadeh and Takeuchi, Natural Hazards, 42, 459-467, 2007). The investment to avoid losses tends not to be easily accepted in political decision making as compared with that to gain positive benefits. It is because the benefit of preventing losses, however long lasting it is, is not easily visible while the positive benefit is obvious and can easily be agreed by people. A large investment is made, when a big disaster due to an earthquake occurs, and the investment decreases till the next large earthquake. If about 5 to 10% of the funds, necessary for recovery and rehabilitation after a disaster, would be spent to mitigate an anticipated extreme event, it could in effect save lives, constructions, and other resources."

Foreword



Dear readers,

Another catastrophic earthquake has occurred, and once more in a not wealthy area of the world, making the consequences extremely dramatic. Some considerations and ideas based

on discussions among IASPEI and IUGG officers are given in this issue.

Preparations for the Scientific Programme of the IUGG2011 General Assembly in Melbourne and the preparations in terms of the general programme are well under way. We are looking forward to receiving the last scopes for symposia from IASPEI conveners. **The deadline is FEBRUARY 20.** Lead conveners please contact me!

Peter Suhadolc
Secretary General

Please note:

I am sending out the Newsletter as an attachment to an e-mail, trying to limit its size. It can also be downloaded from the IASPEI website:

<http://www.iaspei.org/newsletters/newsletters.html>

The same proposal was put forward last year by Brian Tucker of Geohazards, International. We are reproducing it with his permission in the next section.

However, although we seismologists knew that Haiti was in danger if the Enriquillo fault were to release in a single event the entire elastic strain accumulated since the last major earthquake, the hazard map of the region based on the GSHAP results, significantly under-predicted the hazard.

This is due to the fact that such maps show the expected peak ground acceleration having 10% probabilities not to be exceeded in a period of 50 years. Moreover, most hazard maps suffer today from the great weakness of their being based on the observed data set ONLY. Not only historical large earthquakes in the region must be taken into account, but also all active faults capable of generating large events! And time-dependent earthquake hazard has to be estimated every five or ten years and definitely after an extreme event. Our community is now aware of this and IASPEI trusts it is reacting accordingly. The recent GEM program is only one example of this approach.

On 26 January, the IUGG Commission on Geophysical Risk and Sustainability issued the Statement on natural hazards following the Haiti earthquake. Its principal messages are that whilst we cannot prevent extreme events we can mitigate their impacts through heightened awareness of the threats, issuing warnings, improved planning and the provision of information to reduce risks through appropriate building standards. The full statement can be found at: www.iugg-georisk.org/Statement_NatHaz2010.pdf. Based on the Statement, IUGG Bureau revised its Resolution on natural hazards. The text of the Resolution can be found at <http://www.iugg.org/resolutions/nathaz2010.pdf> and below.



IUGG RESOLUTION

Science on Natural Hazards and Environmental Disasters - Adopted by the IUGG Bureau, 10 January 2005, Revised and adopted by the IUGG Bureau, 29 January 2010

Whereas, the first decade of the XXIst century has been marked by a significant number of environmental disasters due to natural extreme events, such as earthquakes (e.g. 2004 Sumatra-Andaman in the Indian Ocean, 2005 Kashmir in Pakistan, 2008 Sichuan in China, and 2010 Haiti), which triggered landslides and/or tsunamis; floods (e.g. in western and central Europe in 2002, China in 2007; Taiwan and Philippines in 2009); cyclones and hurricanes (e.g. Katrina in 2005; Nargis in 2008); and some others, resulting in tragic loss of life and property;

The International Union of Geodesy and Geophysics (IUGG):

Considering, Global, regional, and local increases of vulnerability and all changes of environmental conditions including climate; and

2. The continuous increase of fatalities, the number of people affected, and property damage caused by natural events;

Realizing, That disaster reduction, management, and preparedness as well as warning systems need long term planning; and

2. That reducing the impact of disasters should be carried out mainly at the local level;

Noting, That existing technology observations for topography, real-time monitoring of land, ocean and atmosphere activity, satellite observations from space, and natural hazard prediction models could prevent loss of life if predictions were timely and warnings were heeded; and

2. That the economic impact of natural disasters exceeds the cost of mitigation; and

3. That in the aftermath of a natural disaster, existing scientific knowledge and technology could provide rescue agencies and civil defense managers immediate quantitative estimates of the extent and severity of the disaster; and

4. That the reduction of predictive uncertainty is the most important scientific agenda in natural hazards reduction;

Recommends, That multidisciplinary and multinational research programs and research networks on geophysical hazards and risks be developed to integrate diverse data streams, to improve understanding of the natural phenomena associated with the disasters, and to develop predictive modeling capability; and

2. That systems and procedures be prescribed for early warning, public awareness, regional evacuation routes and shelters based on charts of natural hazards, vulnerability, and risk assessments; and

3. That regional disaster management centers be established where they do not now exist to catalog information on the population and infrastructure at risk, and to monitor land, ocean and atmosphere in relation to all kinds of natural hazards; and

4. That regional natural hazard warning systems be set up in order to generate and disseminate timely and accurate information needed by decision makers and the public, and

Urges, The international science community to quantify natural hazards and extreme events at all scales;

2. To adopt integrative and comprehensive interdisciplinary approaches towards developing adaptation in order to decrease vulnerability; and

3. To produce planning tools for disaster risk reduction at all scales.

Resolves, To promote the development and application of scientific expertise and experience in modeling and visualization of physical, technological, biological and social processes and their implications to the mitigation of natural disasters; and

2. To share this critical information to the greatest extent possible with government officials, emergency planners, the insurance industry, policy makers, and the public.

IASPEI-ISC Networking

Another problem that we are currently facing is the "weak" science link to society following natural extreme events. IASPEI has correspondence in most (if not all) IUGG member countries (but there are only 65 of them). We are always facing the problem of finding a geophysicist in a country that is not an IUGG member. If IASPEI could develop a project of networking of world seismologists (with and without their affiliation to IUGG), it will definitely help our science.

Following the Sumatra 2004 event, ISC developed a network or chain of seismologists and asked the individual countries to nominate one or two people for this network. The idea was to have the personal network operating during a large earthquake. The current status of the network can be seen at www.isc.ac.uk/contact/index.html, but ISC has not been able to maintain it and one possibility is to manage and update the network jointly with IASPEI. IASPEI could also use the network to achieve wider contacts with seismologists around the world. IASPEI and ISC are currently exploring this possibility.

The 10% Solution: How to Respond to the Haitian Earthquake

Brian E. Tucker

A slightly different version of this article appeared in: The Guardian (UK)

The death and injury of thousands of innocent people as a result of the M 7.0 earthquake that struck Haiti on January 12th and the economic hardship of tens of thousands of Haitians that will surely follow in the near future is absolutely tragic, in the sense that these people are not responsible for their suffering. But this suffering is not due to an "act of God" that no one could foresee. While earthquakes are not as frequent as hurricanes in the Caribbean, they are common. Also, it is well known that poor design and construction practice results in buildings that collapse during earthquakes – killing and injuring the inhabitants and causing social disruption, sometimes for generations. Japan and the State of California have improved their building codes and construction practices and as a result, the lethality

of earthquakes in both places has been reduced over the last century by an order of magnitude. We know how to mitigate the devastating effects of earthquakes.

For someone like myself, who has devoted most of his professional life to reducing loss of life and suffering due to natural disasters, to see the images coming out of Haiti is like seeing the scene of an accident caused by a drunk driver whom you had tried again and again to stop from drinking and driving. The suffering of innocents is terrible to witness. But almost as terrible is the fear that government authorities will not learn and take corrective actions to keep this from happening in the future, elsewhere.

After taking care of the victims in Haiti, we should approach the people who allowed hospitals and schools to be constructed in ways that would collapse during an earthquake. Wouldn't it have been a wonderful symbol if the United Nations building in Haiti had been properly built or retrofitted to resist earthquakes, and we could all observe it standing now? That could have taught many people the life lesson that we can plan for and mitigate against natural hazards.

It is not enough to "build back better," and it is not enough to focus only on Port au Prince. After the victims have been treated, we should quickly focus attention and resources on reducing the consequences of the earthquakes that we know will hit Haiti in the future. Any foreign investments in infrastructure development should account for the risk of natural disasters. Any construction funded by foreign sources should involve local masons, who should be trained to build structures that can resist the effects of natural disasters. A school earthquake safety program, similar to California's, should be launched in Haiti. Laws should be passed that establish earthquake safety standards for hospital construction. A school-based public awareness campaign should educate the young about earthquakes and hurricanes, and what can be done to mitigate their effects.

"How will impoverished Haiti pay for these programs?"

I propose that agencies soliciting funds for the response to and recovery from the Haitian earthquake commit 10% of the amount that they collect to mitigating future earthquakes: to preparedness and prevention activities like mason training, public awareness programs, improved engineering curricula in local universities, geologic hazards mapping, and developing effective earthquake safety public policies. Why 10%? Because the rule of thumb is that each dollar invested in preventing natural disasters saves ten dollars in future damage.

If we fail to learn from this earthquake to do all that we can to prevent such losses in the future, that will be a second tragedy.

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IUGG2011 Melbourne, Australia, Scientific Program

The Scientific Program for the IUGG2011 General Assembly is well underway, but we are still missing the scopes from several conveners for both Inter-Association and IASPEI symposia. The science program should be finalized by **February 20, 2010**.

All IASPEI-related symposia lead conveners were asked in January to finalize the already proposed symposia aims and select co-conveners.

Many of you have not reacted yet. Please URGENTLY CONTACT the IASPEI Secretary General in order to finalize your proposed symposia. Failure to do so will result in canceling the related proposals and lead to a much less interesting General Assembly!

IUGG Grant Applications

IUGG grant applications deadline is **March 1, 2010**. The guidelines can be found at the web page: <http://www.iugg.org/grants/>. The grant application form can be requested from the IASPEI Secretary General. The form duly completed with the proposal has to be returned to IASPEI, who will decide whether to endorse it or not and will submit it to IUGG.

Job Opportunities

QUEST - A European training network in computational seismology

QUEST (**QU**antitative Estimation of Earth's Seismic Sources and **ST**ructure) is a Marie Curie Initial Training Network in the 7th Framework Program of the European Commission. Its aim is research and training on all aspects of inverse problems in seismology with a strong focus on full waveform inversion. The 4-year project starts on **December 1, 2009**. The network is coordinated by the Geophysics Section of the Department of Earth and Environmental Sciences of the Ludwig-Maximilians-University Munich, Germany.

The **QUEST** network will offer **18 Ph.D. and 8 post-doc positions** in various fields of seismic imaging (structural inversion, source inversion, passive imaging) and their applications in general and applied problems. The network organizes yearly open research-and-training workshops and special sessions at international meetings. The first training workshop on fundamentals of seismic imaging will take place at the Hotel Capo Caccia in Alghero (Sardinia)

Italy, 19-25 September 2010. Positions are available in 15 partner institutions within Europe including **Germany** (Ludwig-Maximilians-University Munich, and University of Potsdam), **France** (Institut de Physique du Globe, Paris, and Université Joseph Fourier, Grenoble), **Italy** (INGV Rome, OGS Trieste), **Slovakia** (Comenius University, Bratislava), **Czech Republic** (Charles University, Prague), **Ireland** (University College, Dublin), **United Kingdom** (Schlumberger Research Cambridge, University of Oxford, and University of East Anglia Norwich), **Switzerland** (ETH Zurich, and Spectraseis AG Zurich) and the **Netherlands** (University of Utrecht). Researchers must be from outside the country of the institution they apply for (with few exceptions). Salaries are complemented by substantial support for mobility, career development and travel.

Further information on application procedures is available on the project webpage www.quest-itn.org or by contacting the QUEST project administrator, Greta Kueppers: kueppers@geophysik.uni-muenchen.de. Applications are accepted until all positions are filled. The status of each position will be reported on the project www pages.

Scholarship for PhD and post-doctoral studies in Sweden

The program provides PhD students and researchers with an excellent opportunity to conduct a study or research visit to a Swedish university within all fields of study. As a Guest Scholarship Program candidate you can choose to apply for a study/research visit to Sweden according to the following models:

- * Post-doctoral research: a long-term postdoctoral research visit of 6 or 12 months.
- * PhD studies: a long-term PhD research visit of 6 or 12 months.
- * PhD-studies: PhD research visit according to a sandwich setup, i.e. several shorter research visits.

Read more:

<http://cambodijajobs.blogspot.com/2010/01/scholarship-for-phd-and-post-doctoral.html>

Meetings Calendar

A calendar of scientific meetings relevant to the interests of IASPEI scientists is maintained at:

<http://www.iaspei.org/meetings/forthcoming.html>

where more details can be found. We report below just the titles, dates, places and websites of the forthcoming meetings.

2010

SISMO2010

Seismic Risk: Management and Impact on the Environment

26-28 February, 2010, Agadir, Morocco

The Ibn Zohr University of Agadir, Morocco, is organizing this meeting to commemorate the 50th anniversary of Agadir big earthquake of February 29, 1960.

Abstract and registration deadlines: December 31, 2009

Information at: sismo2010@gmail.com

Website: <http://sismo.fsa.ac.ma>

Third International Earthquake Symposium, Bangladesh (IESB-3)

5-6 March, 2010, Dhaka, Bangladesh

Organized by the Bangladesh Earthquake Society jointly with Bangladesh University of Engineering and Technology.

The conference will address a wide range of topics related to earthquake disaster mitigation. Engineers, geologists, planners, architects, disaster managers, government officials as well as social scientists are expected to participate.

Contact person: Dr. Raquib Ahsan (Organizing Secretary, IESB-3) <iesb3dhaka@gmail.com>

SSA 2010 Annual Meeting

20-23 April 2010, Portland, Oregon

Program Committee co-chairs Seth Moran (USGS - Cascades Volcano Observatory) and Nick Beeler (USGS - Vancouver)

Information at <http://www.seismosoc.org>

Advanced conference on "Seismic Risk Mitigation and Sustainable Development"

10-14 May 2010, ICTP, Trieste, Italy

The Conference will span from theoretical issues to practical engineering and decision-making problems, recognizing the societal need for a critical and realistic view to earthquake hazard assessment.

E-mail: smr2142@ictp.it

Website: <http://agenda.ictp.it/smr.php?2142>

AGU Chapman Conference on giant earthquakes and their tsunamis

May 2010, Chile

The conference window will include the 50th anniversary of the 1960 Chilean mainshock, of magnitude 9.5.

Contact person:

Brian F. Atwater: atwater@usgs.gov

Website:

<http://www.agu.org/meetings/chapman/2010/acall/>

IDRC DAVOS 2010

International Disaster and Risk Conference

May 31 - Jun 3, 2010 – Davos, Switzerland

Abstract deadline: December 13, 2009

Website: <http://www.davos2010.org/>

Workshop on "Seismic waves in laterally inhomogeneous media VII"

June 21-26, 2010, Nové Hradý Castle, Czech Republic

Contact person: Ivan Psencik <ivan@ig.cas.cz>

Website: <http://sw3d.cz/swlim/>

2010 AGU Joint Assembly in Brazil

August 8-13, 2010, Iguassu Falls, Brazil

Call for session proposals:

www.geophysics2010.org

Enquiries: Marcelo S. Assumpcao

<marcelo@iag.usp.br>

European Conference on Earthquake Engineering

August 30 – September 3, 2010, Ohrid, Republic of Macedonia

The organiser of the conference is the Macedonian Association for Earthquake Engineering (MAEE), under the auspices of EAEE.

Website: <http://www.14ecee.mk>

ESC2010 (European Seismological Commission 2010)

September 6-10, 2010, Montpellier, France

Venue: Corum Conference Centre

Contact: Rémy Bossu (bossu@emsc-csem.org)

Website: www.esc2010.eu

XIX Congress of the Carpathian Balkan Geological Association

23-26 September 2010, Thessaloniki, Greece

NEW DEADLINE:

The new deadline for submitting a full paper is December 31, 2009. This is a hard deadline and no paper will be accepted after that date.

The same date is also the deadline for early registration.

Email: info@cbga2010.org

Website: www.cbga2010.org

EMSEV 2010

Electromagnetic Studies of Earthquakes and Volcanoes

October 3-6, 2010, Chapman University, Orange, California

Websites:

<http://sites.google.com/site/emsev2010/>

<http://www.emsev-iugg.org/emsev/page011.html>

ASC2010 (Asian Seismological Commission 2010)

November 8-10, 2010, in Hanoi, Vietnam

This will be the 8th ASC General Assembly.

The first circular can be downloaded from the website.

Website: <http://www.asc1996.com/>

General Information about IASPEI

The International Association of Seismology and Physics of the Earth's Interior is one of the eight Associations of the International Union of Geodesy and Geophysics [[IUGG](#)].

The other IUGG Associations are:

International Association of Cryospheric Sciences ([IACS](#))

International Association of Geodesy [[IAG](#)]

International Association of Hydrological Sciences [[IAHS](#)]

International Association of Meteorology and Atmospheric Sciences [[IAMAS](#)]

International Association for the Physical Sciences of the Oceans [[IAPSO](#)]

International Association of Geomagnetism and Aeronomy ([IAGA](#))

International Association of Volcanology and Chemistry of the Earth's Interior [[IAVCEI](#)]

Scientific Assemblies

IASPEI holds an Ordinary General Assembly every four years in conjunction with each Ordinary General Assembly of IUGG. Between the General Assemblies, IASPEI holds a Scientific Assembly, sometimes meeting with one of the other Associations of IUGG.

Participation in IASPEI Activities

IASPEI welcomes all scientists throughout the world to join in research into Seismology. IASPEI is subdivided into a number of Commissions, many of which have working groups for the study of particular subjects in their general areas of interest. On occasion, these internal IASPEI groups issue their own newsletters or circulars and many maintain their own web sites. At the IASPEI Assemblies, the groups organize specialist symposia, invite scholarly reviews and receive contributed papers that present up-to-the-minute results of current research. The IASPEI web site gives, or provides links to, information on the range of IASPEI activities.

The IASPEI Web site

Information on IASPEI can be found at:
<http://www.iaspei.org/>

Contacting IASPEI

The Secretary-General is the main point of contact for all matters concerning IASPEI.

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