
IUGS E-BULLETIN (NO. 49, MARCH 2010)

THE CHILEAN EARTHQUAKE OF 27 FEBRUARY 2010 - SOME LESSONS

On February 27, 2010 a massive earthquake (magnitude 8.8 Mw) occurred that lasted 90 seconds, with its epicenter off the coast of Chile at a depth of 35 kilometres, between Constitución and Talcahuano, 105 km north-northeast of Chile's second largest city Concepción. The earthquake was generated at the boundary between the Nazca and the South American plates. The two plates are converging at 7 meters per century. An aftershock of 6.2 was recorded 20 minutes after the initial quake and by March 22 a total of 262 aftershocks of magnitude 5.0 or greater had been registered, eighteen of them of magnitude 6.0 or greater. At least 200,000 homes were estimated to be damaged in Chile and the actual identified death toll was estimated at several hundred.

On behalf of the international geoscientific community represented by the IUGS, the IUGS sends its sympathies and condolences to the geological community of Chile and to the many people affected by this massive earthquake.

This earthquake occurred 46 days after the devastating earthquake, with a magnitude of 7.0 Mw, struck off Haiti at a depth of 13 km and approximately 25 km west of Haiti's capital Port-au-Prince on 12 January 2010. The Haiti earthquake occurred in the boundary region separating the Caribbean plate and the North America plate, which is dominated by left-lateral strike slip motion and compression, and accommodates about 20 mm/y slip, with the Caribbean plate moving eastward with respect to the North America plate. A 6.0 Mw aftershock occurred 7 minutes after the main shock and by 23 February 50 aftershocks measuring between 4.5 and 5.9 had been recorded. The Haitian Government reported about 225,000 people dead, an estimated 300,000 injured and 1,000,000 homeless.

Even if circumstances are not strictly comparable, the contrast between these figures highlight some items mentioned in the IUGS resolution on natural disasters which was published in IUGS e-Bulletin 47 of January 2010, especially with regard to the facts:

- 1) that the lack of education in, and awareness of, Geological Sciences worldwide tends to decrease awareness of the possibility of natural disasters and preparation for them and thus exacerbate their human and economic toll when they inevitably occur;

- 2) that the reduction of the predictive uncertainty of a natural disaster is the most important issue in natural hazards reduction, but that reduction requires a thorough understanding of the nature of the geological processes giving rise to the disaster;

- 3) that the reduction of damages by a natural disaster requires a series of actions previous to its occurrence, where the understanding of the geological scenario is essential to a sound and safe planning of human settlements;

- 4) that in the aftermath of a natural disaster, widespread knowledge of the geological sciences and of existing technology could assist rescue agencies and civil defence managers to obtain faster understanding of the extent of the damage from the event and how to cope with it.

All this is not only the natural outcome of appropriate economic and government contingency planning circumstances but also of geoscientific development and is shown in differences in geological knowledge, building codes, emergency response and handling of natural catastrophes. Thus the high quality of the geosciences in Chile where there are many world-renowned earth scientists, has been clearly exhibited not only by the timely public statements produced by the Geological Society of Chile and the Geological College of Chile, including far-reaching concepts, especially with regard to the significance of geology for earthquake

hazard preparedness and disaster mitigation, but also by the existence of previous published studies (see RUEGG et al., 2009, Physics of the Earth and Planetary Interiors 175, pp. 75-85) demonstrating the potential of the Concepción-Constitucion area for an earthquake of magnitude 8-8.5. We express not only our sympathies to our Chilean colleagues, but also our congratulations for their outstanding contributions.

ICSU GRANT 2010

IUGS has been awarded an ICSU Grant for EUR 20,000 for the "MicroPerm" Project to initiate the circumpolar integration of permafrost microbiological studies. The proposal was submitted by the IUGS on behalf of the International Permafrost Association (IPA). Supporting applicants were the International Union of Geodesy and Geophysics (IUGG), the International Union for Quaternary Research (INQUA), the International Arctic Science Committee (IASC), and the Scientific Committee on Antarctic Research (SCAR), and the Alfred Wegener Institute for Polar and Marine Research (AWI). The main objectives of MicroPerm are: 1) Organize a process leading to the establishment of a panarctic study programme on permafrost microbiology; 2) convene a kick-off workshop to gather the leaders in the field of permafrost microbiology and qualify the framework of the programme; 3) seek additional endorsement and sponsorship through the supporting applicants to firmly embed the future program in global scientific and observing efforts. AN overview is on < <http://ipa.arcticportal.org/index.php/permafrost-microbiology-on-the-move.html>>. More details in future e-bulletins.

EXTREME NATURAL HAZARDS AND SOCIETAL IMPLICATIONS (ENHANS) PROJECT COMMENCED

On the subject of natural hazards the ENHANS project has recently been accepted by the International Council of Science (ICSU). The lead organisation for the project is the International Union of Geodesy and Geophysics (IUGG) in collaboration with the project partners: IUGS, International Geographical Union (IGU), International Society for Photogrammetry and Remote Sensing (ISPRS), International Union of Theoretical and Applied Mechanics (IUTAM), Integrated Research on Disaster Risk (IRDR), American Geophysical Union (AGU) and the UNESCO bodies the Global Ocean Observing System (GOOS) and the Intergovernmental Oceanographic Commission (IOC), together with the ICSU Science Plan for Integrated Research on Disaster Risk (IRDR), and the ICSU Regional Offices for: Asia & Pacific (ROAP), Latin America and the Caribbean (ROLAC). It is planned for some additional organisations to also be involved.

The principal goals of the ENHANS project are:

- To improve understanding of critical phenomena associated with extreme natural events and to analyse impacts of the natural hazards on sustainable development of society;
- To promote studies on prediction of extreme events reducing predictive uncertainty and on natural hazards mitigation; to bring the issues into the political and economical policies;
- To disseminate knowledge and data on natural hazards for the advancement of research and education in general and especially in developing countries;
- To establish links and networks with the international organizations involved in research on extreme natural hazards and their societal implications.

The first event in the framework of the ICSU project will be a symposium on "Natural Hazards and Disaster Risk in Latin America and the Caribbean" during the American Geophysical Union Meeting "The Meeting of the Americas", 8-13 August 2010, in Foz do Iguassu, Brazil. See <<http://www.agu.org/meetings/ja10/>> More information about ENHANS will be on their website <<http://www.enhans.org/>> currently under construction and scheduled to be operational in April 2010.

IUGS TASK GROUP ON GLOBAL GEOSCIENCE WORKFORCE (TGGW)

The Task Group on the Global Geoscience Workforce (TGGW) was created in 2009 to work on three distinct issues: 1) Establish definitions of comparability of data and information regarding the jobs, education, fields, and international mobility of geoscientists; 2) Determine a global baseline knowledge of the quantity and diversity of the geoscience workforce; 3) Identify capacity-building strategies for a durable global competency in the Earth sciences. In the recent IUGS Executive Committee (EC) meeting (Paris, 22-25 February, 2010) it was decided to request the IUGS National Committees to propose people to participate in the activities of the TGGW. Participants in the taskforce are recruited from national organizations such as national geological surveys or national societies who have specific knowledge of the human resource capacity of the geosciences in their geographic region and/or a specific employment regime. Most of these individuals are expected to be middle-level professionals who have as a primary responsibility to monitor these issues for their institution and to advise their leadership.

GEPARKS AND IUGS NATIONAL COMMITTEES

As a member of the Bureau of the Global Geoparks Network (GGN) the IUGS is assisting in both the promotion of the Global Geoparks Network, and in locating geoscientists who may be able to assist in the assessment of new and existing Geoparks. At the recent IUGS Executive Committee meeting (Paris, 22-25 February, 2010) it was decided to request the IUGS National Committees to also actively participate on behalf of, and support the concept of, Geoparks, by assisting with proposals for new Geoparks and/or helping in the assessment of new proposals. For Geoparks information see both: <<http://www.globalgeopark.org/>> and <<http://www.globalgeopark.org/publish/portall1/tab190/>>.

UNESCO EARTH SCIENCE EDUCATION INITIATIVE IN AFRICA

In the recent IUGS Executive Committee (EC) meeting (Paris, 22-25 February, 2010) it was decided to actively support UNESCO's Earth Science Education Initiative in Africa. The overall intention of this initiative is to support the development of the next generation of earth scientists in Africa so that they are equipped with the necessary tools, networks and perspectives to apply sound science to solving and benefiting from the challenges and opportunities of sustainable development. In relation to this initiative the IUGS decided to request the input of National Committees and Affiliates Organizations to support exchange of scientists and specific research projects in Africa. More information on the Earth Science Education Initiative in Africa can be found at: <http://portal.unesco.org/science/en/ev.php-URL_ID=7669&URL_DO=DO_TOPIC&URL_SECTION=201.html>

IUGS AND THE GROUP ON EARTH OBSERVATIONS (GEO) - GEOSS SYSTEM

As informed in the IUGS e-Bulletin 46 (December 2009) on 17 November 2009 the IUGS was accepted as a participating organization in the Group on Earth Observations (GEO) (<http://www.earthobservations.org/>), which is coordinating international efforts to build a Global Earth Observation System of Systems (GEOSS), with the aim of constructing a global public infrastructure for Earth observations that, like the Internet, will consist of a flexible and distributed network that connects users to existing data bases and portals and provides reliable, up-to-date and user friendly information. GEOSS is simultaneously addressing 9 Societal Benefit Areas of critical importance to people and society: Disasters, Health, Energy, Climate, Agriculture, Ecosystems, Biodiversity, Water, and Weather. <<http://www.earthobservations.org/geoss.shtml>> The IUGS was also requested to nominate members to the Geo Committees and to

join the Tasks in the GEO 2009-2011 Work plan which provides the agreed framework for implementing the GEOSS 10 Year Implementation plan (2005-2015). To work on these areas GEO has four permanent committees on: Architecture and Data, Science and Technology, User Interface and Capacity Building. The 2009-011 GEO Work plans includes a list of task for these committees as well as for the 9 GEOSS Societal Benefit Areas.

It is evident that IUGS purposes and coverage have a direct connection with the Purposes of GEO and GEOSS, as defined in the GEOSS 10-Year Implementation Plan, in relation, among others, to natural and human-induced disasters, environmental factors affecting human health and well-being, management of energy resources, water resource management, desertification and understanding, monitoring and observing biodiversity.

In the recent IUGS Executive Committee (EC) meeting (Paris, 22-25 February, 2010) it was decided to request IUGS Commissions (COGE, CGI, GEM) and Affiliated Members to identify and nominate candidates to various GEO committees, and to inform in which way they could contribute to the tasks of the 2009-2011 GEO Work Plan.

50-YEAR HISTORY OF THE IUGS

As informed in e-Bulletin 46 (December 2009) the IUGS is working in a 50th anniversary history for the period 1961-2011. In this context the IUGS seeks the input of the IUGS National Committees on items that could be included in the History of the IUGS (1961-2011). Please direct input or queries to the IUGS Secretariat at email: IUGS@usgs.gov

IMPORTANT IUGS-GEM ENVIRONMENTAL SURVEY CLOSING SOON

As advised in the IUGS e-Bulletin NO. 47, January 2010 the Working Group on "Communicating Environmental Geoscience" (CEG) <<http://communication.iugs-gem.org/>>

of the IUGS Commission "Geoscience for Environmental Management" (IUGS-GEM) is surveying environmental geoscientists worldwide on their attitude to, and experience of, communicating their results to the public, policy makers, and others. The objective of the survey is to determine attitudes of environmental geoscientists towards communication and public engagement, as a compliment to similar surveys of scientists in general.

The survey has 39 questions, most of which require only short answers, but there is also the opportunity to provide more extended answers if you choose. The survey should take 20-30 minutes to complete.

You can take the survey online in either English or Spanish versions

English: <http://www.surveymonkey.com/s.aspx?sm=MlcLa8yth99Gfqj_2fChKnsg_3d_3d>

Spanish: <http://www.surveymonkey.com/s.aspx?sm=yvNigB6HK8fwZ4umjODNzQ_3d_3d>

If you are involved in environmental geoscience issues please complete the survey, and also please distribute this information to any environmental geoscientists you may know, as GEM needs a good response rate to make meaningful conclusions.

CALL FOR ARTICLES - EPISODES THE IUGS QUARTERLY JOURNAL

Dr. Mudlappa JAYANANDA, the Editor for Episodes welcomes short, innovative, scientific articles, as well as items dealing with geological sciences and society. For guidance on contributions etc. visit the web address at <<http://www.episodes.org/Files/Guidance.htm>>. Spectacular geological photographs for the magazine cover etc are also welcome. To submit your papers, or to make any other enquiries, contact Dr. JAYANANDA at email: episodes.editor@gmail.com. Back issues of "Episodes" from 1978 to 2008 are available on-line at

<http://www.episodes.org/backissues.htm> and the latest back issues will be available shortly on the Indian website for Episodes.

MAJOR GSSP DISCUSSIONS AT THE FORTHCOMING PRAGUE 2010 ICS WORKSHOP

The International Commission on Stratigraphy (ICS) workshop Organizing Committee warmly invites all members of the full Commission of ICS (ICS executive officers and chairs of all Subcommissions), all members of ICS Subcommissions (both titular and corresponding) and other interested members of the stratigraphic community, including young scientists, to attend the ICS workshop in Prague, Czech Republic, from 30 May-3 June 2010. The primary focus of Prague 2010 will be on the success of the Global Boundary Stratotype Sections and Points (GSSP) process. For information see: <http://www.stratigraphy.org/view.php?id=24> and <http://www.stratigraphy.org/index.php?id=GSSPs>

IUGS GEOSTANDARDS INVENTORY

Geostandards have been the "core business" of IUGS since its foundation in 1961

From stratigraphic classification to igneous petrologic terminology, from the establishment of radiometric decay constants to interlaboratory calibration techniques, IUGS has always stimulated and supported initiatives for developing geostandards. This objective satisfies the IUGS mandate of fostering international agreement on geological matters;

facilitating international cooperation in geological research; improving publication, dissemination, and use of coherent geological information internationally. In order to maximize IUGS scientific and societal visibility, the current Executive Committee has identified as priority tasks:

- (i) to make an inventory of all geostandards sponsored by IUGS in the past,
- (ii) to identify existing geostandards which could be endorsed by IUGS, and
- (iii) to propose new geostandards for future development.

To assist the Executive Committee with the preparation of the inventory a brief questionnaire addressing these items has been prepared. Please take the time to help IUGS with this important matter. For a copy of the doc format Inventory form please e-mail William Cavazza at william.cavazza@unibo.it.

NSF ANNOUNCES PARTNERSHIP WITH AAPG TO INCREASE FUNDING FOR EARTH SCIENCES

The US National Science Foundation (NSF) announced a partnership with the American Association of Petroleum Geologists (AAPG) to increase funding in the earth sciences over the next five years. The agreement on 25 March 2010 is the first NSF-energy industry collaboration of its kind, opening doors to new possibilities that bring together contributions and expertise from both organizations. See the press release at:

http://www.nsf.gov/news/news_summ.jsp?cntn_id=116639&WT.mc_id=USNSF_51&WT.mc_ev=click

34TH INTERNATIONAL GEOLOGICAL CONGRESS (IGC) BRISBANE, AUSTRALIA, 2012

Do you want to suggest, or participate in, a particular session topic, or wish to exhibit/sponsor at the 34th International Geological Congress in Brisbane, Australia from 2-10 August 2012 (<http://www.34igc.org/>). The organisers are keen to receive your suggestions. Also to get your name on the list for future announcements you are invited to register your interest now at the IGC website <http://www.34igc.org/expression-of-interest.html>, through the "Register your interest" tab. By registering your details you will be amongst the first to be advised when IGC registration opens in 2011. Registrations received within the first 100 days of the Early Bird registration opening will be in the running to

win a free airfare (economy class) to Australia. Also visit the website to check out some of the wide range of scientific tours/field-trips currently being planned in Australia, New Zealand, and Malaysia etc. Go to the "Congress Field Trips" tab on the front page of the IGC website at <<http://www.34igc.org/>> The IUGS invites the IUGS Commissions, IGCP Projects, and Affiliate Members to participate actively (with specific sessions, etc.) in the next IGC

NEED TO CONTACT A GEOSCIENCE ORGANIZATION SOMEWHERE AROUND THE WORLD?

Check the Directory of Geoscience Organizations of the World website: <<http://www.gsj.jp/Intl/Dir/a.htm>>

PUBLICATIONS, JOURNALS AND NEWSLETTERS

--The African Association of Women in Geosciences (AAWG). For information about the AAWG, important conferences, or to download their e-Bulletins, etc go to the AAWG website at: <<http://www.aawg.org>>

--The Global Geoparks Network (GGN) of UNESCO. Keep up to date with current activities at <<http://www.globalgeopark.org/publish/portall/tab59/>>. The European Geoparks Network (EFN) website is at: <<http://www.europeangeoparks.org/isite/home/1%2C1%2C0.asp>>

--The Geological Societies Africa (GSaf) website has the Newsletters/Bulletins of Eastern Africa GSaf, Northern Africa GSaf, Southern Africa GSaf, and Western Africa GSaf. Go to: <<http://www.geologicalsocietyofafrica.org/news/newsletter/>>. To receive the GSaf newsletters via email contact Dr. Abdelkader Saadallah at: kader@saadgeo.com. GSaf website: <<http://www.geologicalsocietyofafrica.org>>

--"Water Talk" the official newsletter of the Global Water Partnership (GWP) of Central and Eastern Europe (CEE) is published twice a year. To download copies go to the Publications tab on their website at: <<http://www.gwpceeforum.org>>

--The International Association of Hydrologists (IAH) newsletter "IAH Groundwater eNews" is available at: <http://www.iah.org/news_eneas.asp>.

--The International Council for Science (ICSU) - the non-governmental organization representing a global membership that includes both national scientific bodies (117 members) and international scientific unions (30 members) including the IUGS. The latest ICSU newsletter "Insight" is available at: <http://www.icsu.org/3_mediacentre/INSIGHT_03_2010.html>

--The International Erosion Control Association (IECA) journal "Erosion Control" is available at: <<http://www.ieca.org>>.

-- The International Geosphere-Biosphere Programme (IGBP) information website on IGBP meetings, publications, e-newsletters etc see their Resources at: <<http://www.igbp.net/page.php?pid=151>>

--The International Geographical Union (IGU) - Union Géographique Internationale (UGI) Quarterly E-Newsletter is available at: <<http://www.homeofgeography.org/>>

--International Medical Geology Association (IMGA). Visit the IMGA website at <<http://www.medicalgeology.org/>>. The "NEWS button on the Home Page provides the latest information on activities, conferences, etc.

--The International Union for Quaternary Research (INQUA) newsletter "Quaternary Perspectives" is available at: <http://www.inqua.tcd.ie/publications_quaternary_perspectives.html>

--The International Union of Geodesy and Geophysics (IUGG) electronic Journal is available at: <<http://www.iugg.org/publications/ejournals>>.

--The International Union of Soil Sciences (IUSS) Bulletin is available at: <<http://www.iuss.org/index.htm>>.

--The National Ground Water Association (NGWA) of the USA hosts an ongoing series of events, educational courses, and publications. For information visit their website at: <<http://www.ngwa.org/>>.

--The "Earth Portal" website includes a free weekly newsletter that you can view at: <<http://www.earthportal.org/news/>>.

--International Geosphere-Biosphere Programme (IGBP) NEWSLETTER. The latest edition can be downloaded at: <<http://www.igbp.net/page.php?pid=231>>.

--ProGEO The European Association for the Conservation of the Geological Heritage publishes a quarterly newsletter ProGEO NEWS available online at <<http://www.progeo.se/index.html>>.

--The "Glaciares de Argentina" website <<http://www.glaciares.org.ar>> is a non-profit, purely educational initiative designed for discussion and dissemination of everything related to Andean glaciers in Argentina. The site was created and is maintained by personnel of the Argentinean Institute for Snow, Ice and Environmental Research (IANIGLA-CONICET) in Mendoza. Contact Mariano MASIOKAS, email: mmasiokas@mendoza-conicet.gov.ar

--"Bloc de camp" (Field Notebook) blog dedicated to the geological heritage of Catalonia (country of Barcelona, NE Iberian Peninsula). It currently includes 50 points of geological interest in Catalonia and can be read in Catalan, Spanish and English. Visit the site to participate.
<<http://blocdecamp.blogspot.com>>, <<http://issuu.com/blocdecamp>>
<<http://www.facebook.com/pages/Bloc-de-camp/449717540176>>

OneGeology. An international initiative of the geological surveys of the world who are working together to create dynamic digital geological map data for the world. Further information about the initiative at: <<http://www.onegeology.org>>
For the monthly newsletter see: <<http://www.onegeology.org/misc/news.html>>

--Book "PaleoParks - The protection and conservation of fossil sites worldwide" by Jere H. LIPPS & Bruno R.C. GRANIER (Special Editors) is available free. See: <http://paleopolis.rediris.es/cg/uk-bookmarks.html#CG2009_BOOK_03>.

Book "Atlas of Geopark and Geotourism Resources of Iran" by Alireza AMRIKAZEMI. A new publication by the Geological Survey of Iran (<http://www.gsi.ir>)
Contact the author at pinkeye9@yahoo.com.

--Journal "Earth Science India e-Journal" is now available on the web at: <<http://www.earthscienceindia.info/>>. This open access quarterly e-journal is a not-for-profit website under the umbrella of The Society of Earth Scientists and is devoted to the development of Earth/Environmental Sciences of India.

--Journal "Environmental Hazards" a new journal by Earthscan, addressing the full range of extreme geological, hydrological, atmospheric and biological hazard events. For information see: <<http://www.earthscan.co.uk/?tabid=37213>>
For Enquiries email: journals@earthscan.co.uk.

--"Journal of Geology and Mining Research" (JGMR). An Open Access Journal is currently accepting manuscripts for publication. JGMR covers all areas of the subject and welcomes manuscripts that meet the general criteria of significance and scientific excellence. JGMR publishes: Original articles in basic and

applied research; Case studies; and Critical reviews, surveys, opinions, commentaries and essays. Manuscripts must be sent as e-mail attachment to jgmr.academicjournals@gmail.com. See: <http://www.academicjournals.org/JGMR>.

--Journal "Springer's Environmental Journals" - Free Access to latest issues. The Springer Environmental Sciences Reading Room is a free service that provides unlimited access to Environmental journals, 6 times a year. Go to: <http://sci.scientific-direct.net/c.asp?814564&a0979e101192e124&3>

FORTHCOMING MEETINGS

For a listing of forthcoming geoscience meetings, conferences, and workshops of interest check the Calendar section of the IUGS website: <http://www.iugs.org/Calendar.html>.

April 6-9, 2010. 13th Quadrennial IAGOD (International Association on the Genesis of Ore Deposits) Symposium "Giant ore deposits down-under". Adelaide Convention Centre, Adelaide, South Australia. Includes pre- and post conference fieldtrips. Details at: <http://www.alloccassionsgroup.com/IAGOD2010>.

April 11-15, 2010. National Ground Water Association (NGWA) Ground Water Summit and 2010 Ground Water Protection Council Spring Meeting. The Westin Tabor Center, 672 Lawrence Street, Denver, Colorado, USA. This year's annual event with the theme "Groundwater for a Thirsty World," will focus on the role of groundwater as a global resource. <http://www.ngwa.org/summit2010/index.aspx>.

April 11-17, 2010. The 5th Conference of the African Association of Women Geoscientists. Grand-Bassam, Côte d'Ivoire. Theme "Women & Geosciences for Peace". See the Second circular at: http://www.aawg.org/AAWG/IMG/pdf/SECOND_CIRCULAR.pdf. Contact: Juliette TEA, President AAWG-CI & Chairwoman of the conference, email: jtea@petroci.ci. Consult the website at www.aawg.org

April 26-28, 2010. 1st International Applied Geological Congress. Department of Geology (IAGC), Faculty of Sciences Islamic Azad University - Mashhad Branch (IAUM) Mashhad-Iran. Theme "New Directions of Investigations in Earth Sciences and Related Subjects". Web: <http://www.iagc.ir/>. Email: info@iagc.ir

April 26-30, 2010. INTERPRAEVENT 2010 International Symposium in Pacific Rim. Taipei, China. The main topic of the symposium "Natural Disasters Mitigation Including Floods, Storms, Debris flows, Mass movements and Earthquakes etc." Abstracts submitted on the web at: <http://interprevent2010.nchu.edu.tw/>.

May 10-14, 2010. Advanced Conference on Seismic Risk Mitigation & Sustainable Development, Trieste, Italy. First announcement and Online application available at: http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a09145 Local Organizer Prof. G.F. PANZA email: stnr2142@ictp.it

May 21-23, 2010. Society for Sedimentary Geology (SEPM) Field Conference on "Microbial Mats in Siliciclastic Sediments from the Archean to Present", Denver, Colorado, and Dinosaur Ridge, Denver, USA. Visit the website at: http://www.sepm.org/activities/researchconferences/microbial/microbial_home.htm
>
Convenors: Nora NOFFKE nnoffke@odu.edu and Henry CHAFETZ hchafetz@uh.edu.

May 26-29, 2010. "15th Congress of the Geologists of Serbia" with international participation. Belgrade, Serbia. Organised by the Serbian Geological Society,

the Faculty of Mining and Geology, and the Association of Geological Engineers and Technicians. The Congress events will include plenary sessions, oral and poster sessions, panel discussions, special sessions and field trips.
See: <<http://www.nsgd.org/>> and <<http://www.nsgd.org/15Congress2010/English.htm>>

May 30-June 3, 2010. Prague 2010 - ICS Workshop. Theme "The GSSP Concept". Charles University, Prague, Czech Republic. See the ICS website at: <<http://www.stratigraphy.org/view.php?id=24>>.

May 30-June 3, 2010. 3rd International Disaster and Risk Conference "Davos via Zurich, Switzerland. Organised by The Global Risk Forum (GRF). Full details and program at their website <<http://www.idrc.info/>>

June 3-6, 2010. International Geobiology Conference 2010 (ICG2010). China University of Geosciences, Wuhan, China. Sponsors include: ICS, IPA, IGCP507, IGCP555, IGCP572, NSFC etc. Web: <<http://www.geobiology.net.cn/2010meeting>>.

June 13-17, 2010. Third European Conference on Permafrost (EUCOP111). Svalbard, Norway. See the website at: <<http://www.eucop2010.no>>. Organizers contact email: post@EUCOP2010.no.

June 13-18, 2010. Goldschmidt 2010 -"Earth, Energy, and the Environment". Knoxville, Tennessee, USA. The Goldschmidt Conference is the premier international meeting for geochemistry.
Full details at: <<http://www.goldschmidt2010.org/index>>.

June 15-17, 2010. International Groundwater Conference "Toward Sustainable Groundwater in Agriculture: An International Conference Linking Science and Policy". Hyatt Regency, San Francisco Airport, Burlingame, California, USA. Organized by the Water Education Foundation and the University of California, Davis. Cosponsors include the Groundwater Resources Association of California, the International Association of Hydrogeologists, and the USGS.
Full details at <www.ag-groundwater.org>

June 20-25, 2010. The 10th International Multidisciplinary Scientific GeoConference & Expo (SGEM 2010) will be held at the Flamingo Grand Congress Centre, Albena Resort Complex, Bulgaria. Theme "Modern management of mine producing, geology and environmental protection". Information and online registration at <www.sgem.org>. Secretariat Bureau Tel: +359 2 975 3982, E-mail: sgem@sgem.org or sgem@stef92.com

July 1-14, 2010. INHIGEO Symposium 35 - Madrid-Almadén, SPAIN. The International Commission on the History of Geological Sciences Annual Conference. Theme: "History of Research in Mineral Resources". Scientific Sessions 5-10 July, 2010. The conference language will be English. Website: <<http://www.inhigeo.org>>. First Circular available at <<http://www.inhigeo.org/coming-symposia>>. Abstract deadline 30 April 2010. Conference Secretary: José Eugenio Ortiz MENÉNDEZ, email: joseeugenio.ortiz@upm.es.

July 12-16, 2010. The 5th International Conference on Environmental Science and Technology, Houston, Texas, USA, has announced a Call for Abstracts. The conference is sponsored by the American Academy of Sciences and will provide a multidisciplinary platform for environmental scientists, engineers, management professionals and government regulators to discuss the latest developments in environmental research and applications. Visit the conference Website at: <<http://www.AASci.org/conference/env/2010>>. For inquiries or more information email: nv-conference@AASci.org. Send abstracts to: env-abstract@AASci.org

July 10-18, 2010. The 8th International Conference of INZA on the Occurrence, Properties and Utilization of the Natural Zeolite "Zeolite2010", Sofia, Bulgaria (including field-trip). See: <<http://www.zeolite2010.org>>.

August 1-6, 2010. The 19th World Congress of Soil Science, Brisbane, Australia. Theme "Soil Solutions for a Changing World". See: <<http://www.19wcso.org.au/>>.

August 3-6, 2010. SCAR XXXI - Scientific Committee on Antarctic Research (SCAR) & Open Science Conference, Buenos Aires - Argentina. Theme "Antarctica - Witness to the Past and Guide to the Future". Full details on the SCAR website at <<http://www.scar.org/conferences/>>. NOTE : Travel grants are available for students and early career scientists who will present a talk or poster at this SCAR Open Science Conference. Grants will provide full or partial support for travel and related expenses. Applications must be submitted on the form (available from the SCAR website) to Renuka BADHE (email: rb302@cam.ac.uk) by 17:00 GMT on Thursday 15 April 2010. Further details, at the OSC Travel Grants page at: <<http://www.scar.org/conferences/osctravelgrants.html>>

August 8-13, 2010. AGU Joint Assembly, and "The Meeting of the Americas 2010", Iguassu Falls, Brazil. All topics of the Earth Sciences will be covered: Earth, Oceans, Atmosphere, Space, & Planets. This meeting is co-sponsored by the Brazilian Geophysical Society, IASPEI, and many other Latin-American organizations. Including a symposium on "Natural Hazards and Disaster Risk in Latin America and the Caribbean". Abstracts will be accepted in February-March 2010. More information at: <<http://www.agu.org/meetings/ja10>>.

August 21-27, 2010. IMA2010 (International Mineralogical Association) 20th Anniversary Conference, Budapest, Hungary. Details on the Scientific Programme, including 14 themes grouping more than 80 sessions, as well as 6 pre-, mid- and post-conference workshops, available on the conference homepage at: <http://www.ima2010.hu/?my_view=nice&p=sp0>. IMA2010 also offers 30 exciting field trips, on subsidised prices also for the accompanying persons, to 10 countries of Central-SE Europe see: <http://www.ima2010.hu/?my_view=nice&p=ft0>. Abstract deadline is 6 April 2010. Field trip registration closes on April 30.

August 29-September 3, 2010. 6th Quadrennial Conference (GeoSciEd VI) of the International Geoscience Education Organisation (IGEO). "Geoscience Education Developing the World", University of the Witwatersrand, Johannesburg, South Africa. Abstract Submission Deadline: 3 March 2010. Registration Deadline: 30 April 2010. Deadline for papers for proceedings: 29 October 2010. For more information, and to register, see the website at: <<http://web.wits.ac.za/NewsRoom/Conferences/GeoSciEd>> or contact Dr. Ian MCKAY (witsgeoutreach@gmail.com) or Prof Gillian DRENNAN (Gillian.Drennan@wits.ac.za).

August 29-September 4, 2010. SEISMIX 2010. The 14th International Symposium on Deep Seismic Profiling of the Continents and their Margins. Cairns, Australia. Major sponsors - Geological Society of Australia, Geoscience Australia, and IGCP 559, Research School of Earth Sciences, Australian National University. Contact <Seismix10@ga.gov.au>. For further information see: <<http://www.earthscrust.org/earthscrust/seismix2010.htm>>.

August 30-September 2, 2010. STRATI 2010 The 4th French Congress of Stratigraphy. Paris 6 (UPMC), France. (The main official language is English). This international event is hosted by the University Pierre and Marie Curie. Website (UNDER construction) at <<http://paleopolis.rediris.es/STRATI2010/>>. Additional information available at <<http://strati-info.blogspot.com/2009/02/strati-2010-4-eme-congres-francais-de.html>> and <<http://www.univ-brest.fr/geosciences/CFS/>>.

August 30-September 3 2010. 6th Quadrennial Conference of the International Geoscience Educators Organisation (IGEO) Johannesburg, South Africa. See: <<http://web.wits.ac.za/NewsRoom/Conferences/GeoSciEd>>.

September 5-9, 2010. International Mine Water Association IMWA 2010 Symposium. Cape Breton University, Sydney, Nova Scotia, Canada. Theme "Mine Water & Innovative Thinking". Website <<http://www.IMWA2010.info>>. Announcements at: <http://www.imwa2010.info/docs/IMWA2010_1stcall.pdf>. Conference Secretary: Amy KOKOSKA: amy@IMWA2010.info.

September 12-16, 2010. The 6th Canadian Conference on Permafrost (CanCOP6) in conjunction with the 63rd Canadian Geotechnical Conference. Calgary, Alberta, Canada.
Web: <<http://ninja.pro.net/disk2/geocalgary10/papers.php?lang=en>>.
Contact: Jim HENDERSON, email: permafrost@geo2010.ca

September 15-18, 2010. International Conference on Geoevents, Geological Heritage, and the Role of the IGCP. Caravaca de la Cruz, Spain. Jointly organized by the Spanish Committee for the IGCP, and the European Association for the Conservation of Geological Heritage. Sponsored by the Caravaca de la Cruz Municipal Council.
Web: <<http://www.ugr.es/~mlamolda/congresos/geoevents/>>.

September 20-24, 2010. "Structures and processes of the initial ecosystem development phase in an artificial water catchment". The 1st International Conference of the Transregional Collaborative Research Centre 38, Cottbus, Germany, and jointly organized with the 4th Meeting of Young Researches in Earth Science (MYRES IV).
For further information see: <http://www.tu-cottbus.de/sfb_trr/eng/index.htm>

September 20-25, 2010. "10th International Workshop on the Geological Aspects of Radon Risk Mapping" (22-25 September); and "Radon Intercomparison Measurements (RIM) at Radon Reference Sites" (20-21 September)-(focused mainly on soil gas radon concentration measurements). Prague, Czech Republic. Important dates: Second announcement March 2010; Deadline for paper submission June 15, 2010. See the joint Workshop and RIM website for details and Registration at: <<http://www.radon.eu/workshop2010>>

September 23-26, 2010. 19th Congress of the Carpathian-Balkan Geological Association (CBGA 2010). Thessaloniki, Greece. The primary goal of the Congress is the presentation of the most recent advances in Earth and Environmental Sciences, mainly in the Carpathian-Balkan Region and the surroundings, aiming at highlighting their impacts on natural resources, natural hazards, and environmental problems. See the website: <<http://www.cbga2010.org/>>

September 26-October 1, 2010. 45° Congresso Brasileiro de Geologia. Bethlehem, Para, Brazil. - The 45th Brazilian Congress of Geology with the theme "Development and Global Change: The Importance of Geosciences".
Information at: <<http://www.45cbg.com.br>>.

September 27-October 9, 2010. "Advanced School on Direct and Inverse Problems of Seismology". Held at The Abdus Salam International Centre for Theoretical Physics, Miramare - Trieste, Italy, in collaboration with the Department of Geosciences of the University of Trieste. The School is endorsed by the Commission on Earthquake Hazard, Risk and Strong Motion of the International Association for Seismology and Physics of the Earth Interior.
Deadline for requesting participation 30 May 2010. Online application is now available at the following link:
<http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a09169>

September 30-October 9, 2010. Society of Economic Geologists 2010 Conference (SEG2010). Keystone Resort, Colorado, USA. "The Challenge of Finding New Mineral Resources: Global Metallogeny, Innovative Exploration, and New Discoveries." Pre-and post field trips and short courses planned.
For contacts and abstract dates etc see: <<http://www.seg2010.org/>>.

November 15-17, 2010. Sixth Nepal Geological Congress (NGC-VI). Kathmandu, Nepal. The Main themes of the congress are: Geology, Natural Resources, Infrastructures, Climate Change and Natural Disasters. Organized by the Nepal Geological Society. Important dates: Abstract submissions: by end of April 2010, Full paper submissions: End of August 2010. Full details on the website at: web visit: <<http://www.ngs.org.np/NGSVI/ngsvi.htm>>. For enquiries etc email: info@ngs.org.np.

December 6-8, 2010. International Conference on Transboundary Aquifers (ISARM2010), UNESCO HQ, Paris, France. Jointly organised by the International Association of Hydrogeologists (IAH) with UNESCO. The conference results from the close cooperation of the IAH Commission for Transboundary Aquifer Resource Management (TARM) and the initiative on Internationally Shared Aquifer Resource Management (ISARM) under the UNESCO-IHP Programme. Further details can be found at: <<http://www.isarm.net/publications/344>>.

December 7-10, 2010 National Ground Water Association (NGWA) Ground Water Expo and Annual Meeting, Las Vegas Convention Center, Las Vegas, Nevada. Expo website at: <<http://www.ngwa.org/2010expo/index.aspx>>. For the Groundwater industry full calendar of events see: <<http://www.ngwa.org/development/calendar.aspx>>

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January 8-14, 2011. 23rd Colloquium of African Geology (CAG23) with the theme "Together in Africa for a leading role in Geosciences". University of Johannesburg, South Africa. The CAG is being held for the first time in South Africa. Scientific contributions in all aspects of geosciences are very welcome with particular emphasis on new methodologies and applications to the benefit of the society. Expressions of interest by 31/12/2009. Deadline for early registration & abstracts submission 30/06/2010. Deadline for late registration & abstracts submission 30/09/2010. See: <<http://www.cag23.co.za/>>

April 4-8, 2011. IV Cuban Earth Science Convention. Convention Palace, Havana, Cuba. Full details at: <<http://www.cubacienciasdelatierra.com>>.

July 20-27, 2011. International Union for Quaternary Research (INQUA) XXVIII Congress. Bern, Switzerland. <<http://www.inqua.tcd.ie/congress.html>>

June 28 - July 7, 2011. XXV International Union of Geodesy and Geophysics (IUGG) General Assembly "Earth on the Edge: Science for a Sustainable Planet". Melbourne Convention & Exhibition Centre, Melbourne, Australia. Register your name for information notices etc at: <<http://www.iugg2011.com/>>

August 1-5, 2011. 10th International Congress for Applied Mineralogy (ICAM2011). Trondheim, Norway. Regularly check for updates and register your address on the ICAM mailing list at <www.icam2011.org> or contact: secretary.icam2011@ngu.no.

August 22-26, 2011. 25th International Applied Geochemistry Symposium (IAGS2011). Rovaniemi, Finland. Jointly organized by the Geology section of the Finnish Association of Mining and Metallurgical Engineering, the Geological Survey of Finland, the Institute of Geosciences-University of Oulu, the Association of Applied Geochemists (AAG), and with support from professionals in the mineral exploration industry. Deadline for abstracts 31 March 2011. Full details at: <<http://www.iags2011.fi/>>.

September 19-23, 2011. GEOITALIA 2011 The VIII Forum of the Italian Federation of Earth Sciences (FIST) in Turin, Italy. Theme "Earth Sciences for sustainable development". September 19-20 will be devoted to workshops and short courses. September 21-23 will be oral and poster sessions. Deadline for the "Call for programme" is 12 April 2010. Download proposal forms from the congress website

at <<http://www.geoitalia.org>>. Email the completed form to 2011@geoitalia.org.
The "Call for Papers" is open from mid-January to May 2011

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August 2-10, 2012. "34th International Geological Congress" (IGC) in Brisbane, Australia. The primary IUGS conference that is held every 4 years.
See the Congress website at: <<http://www.34igc.org/>>

With best regards,
Colin SIMPSON, IUGS Councillor
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