



## International Association of Geomorphologists

*Association Internationale des Géomorphologues*

**IAG/AIG Newsletter No. 26 (1 /2010)**

### From the Editor's Desk

Dear Geomorphologists

I am very much thankful to all of you for your kind help and co-operation for enabling me to publish the newsletter in time. I would request you to continue this co-operation to publish the future issues of the newsletter in time.

**Sunil Kumar De**

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### 1. Solidarity

From the very beginning of the year 2010 a range of natural hazards events/disasters have taken place in different parts of the world causing a huge death toll and suffering, resource loss, and geomorphic change. Examples include calamities such as the **2010 Haiti earthquake** (12 January 2010), the **2010 Chilean earthquake** (February 27), the **China earthquake** (13<sup>th</sup> April, 2010), about **12 major landslide events**, 5 severe flood events, Volcanic eruption in Iceland, severe cyclone attack in Eastern India and many more. Together these have affected thousands of people through loss of life, injury, damage to dwellings and destruction of livelihood. The occurrence of some of such events are beyond the control of any science but we know that an understanding of geomorphic systems and how they interact with human systems can help to reduce losses in such events. This presents a challenge to the geomorphic community that IAG is ready and willing to meet. The International Association of Geomorphologists (IAG) wishes to express its concern and solidarity towards the victims of such events. The Association also wishes to extend its condolences to the Polish people in the wake of air tragedy that killed many of its leading government members.

*Michael CROZIER, President, IAG/AIG*

### 2. Publications

- a. Two special issues of internationally well-known journals, arising from the workshop held in Inner Mongolia in September, 2007, co-sponsored by the International Association of Geomorphologists, were finally printed earlier this year and last year, respectively.
  - i. **Xiaoping Yang & Louis Scuderi (Guest Editors). Environmental Changes in Arid and Semi-arid Regions. *Quaternary Research*, Volume 73, Issue 1 (2010).**

This issue of *Quaternary Research* consists of papers about environmental changes presented in the IAG-co-organized 'International Workshop on Environmental Changes and Sustainable Development in Arid and Semi-arid Regions' (IAG Newsletter 2/2008) and regular papers submitted to the journal. The special issue articles are mainly focused on the environmental changes in arid and semi-arid regions. The regular papers selected by the journal's editor, are nicely within the scope of this special issue also. This issue presents some of the most recent progresses and timely discussions about dryland studies.

The cover photo showing a beautiful lake surrounded by the tallest dunes in the world, awakes already the readers' interests greatly. In the introduction paper, the guest editors did a comprehensive review about the hydrological and climatic changes in deserts of China since the Late Pleistocene. All kinds of available records including geomorphological data are given careful consideration and far-reaching conclusions have been achieved. Facing the uncertainties in understanding climate changes in Chinese deserts, they pointed

out that during the Late Glacial Maximum, some of the western Chinese deserts experienced wetter conditions; however, at the same time the sandy lands in the eastern Chinese desert belt experienced an activation of aeolian dunes. Further more, they questioned the reliability of the commonly used aridity indexes such as the *Artemisia/Chenopodiaceae* ratio. With good arguments they emphasized the importance of field work and local system analysis before any 'global' interpretations.

The first research paper in the special by Yang et al. presents new estimates on the evaporation and groundwater recharge in the Badain Jaran Desert where the post-conference field trip successfully took place (IAG Newsletter 2/2008). The studies were shown to the field trip participants in a great detail by the authors. Different to the earlier assumptions, the authors have successfully demonstrated the recharge of the desert lakes and the large amplitudes of the Holocene environmental changes in this desert. The paper is an outstanding study combing geomorphology, geochronology, hydrology, palaeoclimatology and geochemistry. I believe that much more such multidisciplinary work will appear in the years to come and this paper can serve as a good example. Other fifteen papers published in this special issue do have clearly multidisciplinary characteristics, a close relationship with geomorphology and environmental change in dry lands, and of course worth careful reading also.

<http://www3.interscience.wiley.com/journal/122220982/issue>

**ii. Xiaoping Yang & Arthur Conacher (Guest Editors): 'Land degradation and rehabilitation in ecologically fragile areas'. *Geographical Research*, Volume 47, Issue 1 (2009).**

This special issue of *Geographical Research*, arising also from the IAG-co-organized 'International Workshop on Environmental Changes and Sustainable Development in Arid and Semi-arid Regions' (IAG Newsletter 2/2008), published papers about land degradation and rehabilitation presented at the workshop. The studies and rehabilitation of degraded lands cannot be successful without a good collaboration between natural and social scientists. The publication of this special issue can be regarded as a great step in this direction, as the journal is indexed in SSCI (Social Science Citation Indexes) and the majority of the authors here are activists in the geomorphological community. In the introduction paper, Yang and Conacher critically reviewed the research status, gaps and uncertainties concerning the extent and level of land degradation, and they concluded that there is a lack of quantified assessments at both regional and global scales. They reconfirmed that land degradation involves two complex systems: the natural ecosystem and the human social system. Three of the six research papers published here are focused more on natural sciences, and the others on history and social aspects. All these papers have successfully combined the concepts and methods both from natural and social sciences.

Following the introduction paper by Xiaoping Yang and Arthur Conacher, the papers are: Drivers of unsustainable land use in the semi-arid Khabur River Basin, Syria (Frank Hole); History of deforestation and reforestation in the Dinaric Karst (Andrej Kranjc); The role of land management in shaping arid/semi-arid landscapes: the case of the Catholic Church (CICM) in Western Inner Mongolia from the 1870s (Late Qing dynasty) to the 1940s (Republic of China) (Xiaohong Zhang, Tao Sun and Jingshu Zhang); MODIS-derived NDVI characterisation of drought-induced evergreen dieoff in western North America (Andrew N Yugas and Louis A Scuderi); The role of fire disturbance on runoff and erosion processes - a long-term approach, Mt Carmel case study, Israel (Lea Wittenberg and Moshe Inbar); Chemical weathering of detrital sediments in the Taklamakan Desert, Northwestern China (Bingqi Zhu and Xiaoping Yang); The design and development of a closed chamber for the *in situ* quantification of dryland soil carbon dioxide fluxes (Stephen R Hoon, Andrew D Thomas and Patricia E Linton).

The papers of this special issue covering studies carried out in America, Africa, Asia, Australia and Europe, demonstrate a strong international interest and research efforts, and they will be important references for studying land degradation and rehabilitation as well as their potential roles in global biogeochemical cycles.

<http://www.sciencedirect.com/science/journal/00335894>

- b. Piotr Migon (editor). *Geomorphological Landscapes of the World*. Springer Verlag. The book has the patronage of the IAG.**

About the book- Physical landscapes are one of the most fascinating facets of our Planet, which tell stories about the evolution of the surface of the Earth. This book provides an up-to-date information about the geomorphology of the selected 'classic' sites from around the world and shows the variety of geomorphological landscapes as moulded by different sets of processes acting over different timescales, from millions of years to days. The volume is written by nearly fifty geomorphologists from more than twenty countries who for many years have researched some of the unique sceneries on the planet. The thirty six chapters present each continent of the world. They describe landscapes of different origin, so that the reader can learn about the complexity of processes behind the sceneries. Among the geomorphological landscapes covered are South Nahanni, Grand Canyon, Iguazu Falls, Namib Desert, Dolomites, Dead Sea Graben, Guangxi karst, Uluru, and many others. For details of the content please see <http://www.springerlink.com/content/978-90-481-3054-2>

- c. Irasema Alcantara-Ayala and Andrew S. Goudie (Editors). *Geomorphological Hazards and Disaster Prevention*. Cambridge University Press, 2010.**

Human activities, especially in the last two centuries, have had a huge impact on the environment and landscape through industrialization and land-use change, leading to climate change, deforestation, desertification, land degradation, and air and water pollution. These impacts are strongly linked to the occurrence of geomorphological hazards, such as floods, landslides, snow avalanches, soil erosion, and others. This book, with chapters written by an international team of geomorphologists provides state-of-the-art knowledge about the contribution of geomorphology to the comprehension of hazards, links the work undertaken by geomorphologists to the framework of the likely impacts of climatic change and global environmental change, shows the significance of technology (remote sensing and Geographical Information Systems) for hazard and risk assessment and management, and demonstrates the role of geomorphology in vulnerability and risk analysis, disaster prevention and sustainability.

### 3. Young Geomorphologists Section

- a. Report on “Intensive Course on Geodiversity and Geological Heritage Assessment” - Braga, Portugal, 9-13 September 2009**

This report is about my stay and scientific experience in Braga for the “Intensive Course on Geodiversity and Geological Heritage Assessment” during September 2009, as the winner of the 500 Euros IAG Grant. I found out an excellent scientific team, not only involved in organizing lessons but also in the organization of the stay in Braga.

The Chairman Prof. Brilha, his colleagues and students cordially welcome us. Prof Brilha helped us to overcome the difficulty in English conversation. We all and specially me, appreciated his kindness, because it was my first experience in an international gathering outside my country.

The organization of the course was very good; the didactic material was enough to keep the sense of each intervention, anyway we were involved and must pay attention during the lessons. The possibility of presenting our own research project gave me the possibility both to make an experience in front of an international public and to receive comments, advices and suggestions in order to improve or enrich my job and solve some problems.

The fieldtrip and the consequent organization of the discussion and results presentation gave me the occasion to confront with an international framework and ideas regarding quantitative evaluation and the problems deriving from them. I appreciated the team of Prof. Brilha because of questioning their own methodology, accepting advices and critics as well as appreciations.

In addition the possibility of applying the methodology acquired during the course reveals to be very useful in my studied areas. In fact I am going to test it along my didactic itinerary in Val Trebbia in order to propose a quantification of a complex fluvial geomorphosites highlighting the didactic valence of its scientific value and stressing the analysis of hazard and vulnerability along the trail.

The organization of both the fieldtrips in were good and the locations were also meaningful from several point of view, not only the attractive one. The day length was effectively suitable for an "intensive" course. I received each additional document I required for my attendance as well as my remaining grant money. As a whole the balance of the experience was excellent.

I wish to thank You for the opportunity I was offered. Best Regards,

*Irene Bollati*

*Phd Stud., Doctorate School Earth, Environment, Biodiversity, Earth Science Department - "A. Desio" - UNIMI*

- b. **III National AIGeo Conference** (in honour of Prof. Mario Panizza) Modena & Alta Badia, Italy - 13-18 September 2009 (A Report from IAG/AIG Young Geomorphologist Grant Holder)

### ***Scientific and human experience***

I would like to use the first paragraph of this report to thank to the International Association of Geomorphology for give me the opportunity to participate at the III National AIGeo Conference in honour of Professor Mario Panizza, held in Modena last September.

I would like to thank also to the organising committee for preparing this exciting event and for welcome me in a kind way. They offered me to participate in the Young Geomorphologist Day, presenting a summary of the main conclusions of my PhD in Spain. However, the most important aspect for me was to know which are the main research lines and works of the young Italian Geomorphologists, their problems, findings, passions, experiences and frustrations. The Young Geomorphologist Day allowed me to discuss all these topics in a colloquial environment. In fact, I think this idea (a pre-conference day for young Geomorphologists) could be export successfully to the meetings of the Spanish Society of Geomorphology (SEG).

In the following days, I had the pleasure of attending to the *Lectio Magistralis* and Invited Lectures. "*Dolomites, the UNESCO World natural Heritage site: the contribution of Geomorphology*" by Professor Mario Panizza, took me to this spectacular landscape and discovered the special elements supporting the candidacy and declaration of Dolomites as UNESCO World natural Heritage site.

I would like to highlight also the high quality of the other invited lectures, I specially enjoyed the lecture "*The Himalayas: a complex Tectonics-Climate-Erosion system in a developing country*" by Monique Fort who showed the complexity of geomorphological processes in the highest mountains in the world and their relationship with human activity.

I specially want to point out the importance of the AIGeo Conference that can be seen in the different nationalities of the participants. Researches from Italy, New Zealand, Poland, Netherlands, Canada, Spain, Romania, United States, France, Germany, Turkey, Portugal, Switzerland, and Finland participated at the III National AIGeo Conference.

On the other hand, the conference allowed us to know the human world heritage of Modena: *Il Duomo* and the *Ghirlandina*, providing guided visits of great interest conducted by different experts. However, I realized walking along the streets of the real life of Modena. I could summary my impressions about this great city, like this was a scientific paper in a few keywords: niceness, gastronomy, bicycles, history and gentle.

Finally, I want to finish this document encouraging the IAG/AIG and national associations of Geomorphology supporting the attendance of young Geomorphologists to these kind of meetings and the exchange of ideas, experiences, problems, concerns, findings. Definitely, SCIENCE.

Cáceres, Spain 27th October, 2009

*Álvaro Gómez Gutiérrez*

*Geoenvironmental Research Group, University of Extremadura, Spain*

### ***c. Grants for Young Scientists***

CBGA 2010 will offer a limited number of grants to young scientists from CBGA countries. Grants will mainly cover participation fees and, in some cases, partly accommodation.

Potential applicants should take note that grants will only be given to a young scientist that:

- i. are citizen of a CBGA country (only applications from nationals of one of the following countries will be considered: Albania, Austria, Bulgaria, Czech Republic, FYR Macedonia, Greece, Hungary, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia and Ukraine).
- ii. were born in 1976 or later.

- iii. have submitted a full paper or an abstract.
- iv. have paid his/her participation fees.

To apply for a grant, download the application form from <http://www.cbga2010.org/Documents.htm> and send it to [grants@cbga2010.org](mailto:grants@cbga2010.org) by April 30, 2010, at the latest. For any additional information you may contact CBGA 2010 Secretariat at [info@cbga2010.org](mailto:info@cbga2010.org).

*Dr. Alexandros Chatzipetros, Executive Secretary*

#### 4. National Conference Reports

##### **III National AIGeo Conference (in honour of Prof. Mario Panizza) on 'The role of geomorphology in land planning'- Modena & Alta Badia, Italy - 13-18 September 2009**

The III National Conference of the Italian Association of Physical Geography and Geomorphology (AIGeo) took place in Modena and Alta Badia (Dolomites) between 13 and 18 September 2009 (website: <http://www.aigeomodena.unimore.it/en/>). The Conference, which focused on "The role of Geomorphology in land management", was held in honour of Professor Mario Panizza, Past-President of the IAG, outstanding scientist of Italian Geomorphology and founder member of the AIGeo.

The event was organized by the Department of Earth Sciences of the University of Modena and Reggio Emilia and foresaw scientific sessions in Modena, a pre-Conference field-trip in the Northern Apennines and a post-Conference field-trip in the Dolomites.

The scientific sessions were opened by a lectio magistralis given by Mario Panizza (Italy) concerning the recent proclamation of the Dolomites as a UNESCO World Heritage Site toward which he provided an invaluable contribution on geomorphological aspects. The speech was followed by outstanding invited lectures given by internationally renowned geomorphologists, such as the President of IAG Michael Crozier (New Zealand), Monique Fort (France), Giuseppe Orombelli (Italy), Leszek Starkel (Poland), Theo Van Asch (The Netherlands) and Herman Verstappen (The Netherlands).

An important poster session enriched the Conference underlining the irreplaceable role of Geomorphology in the study of landform evolution and in the monitoring of Earth surface processes, which are necessary requirements for a correct and sustainable land management.

The Conference ended with a field trip in the wonderful landscape of Alta Badia (Dolomites), in which the scientific interest was constantly coupled with a friendly atmosphere.

*Paola Fredi, AIGeo President*

#### 5. Upcoming Seminars/Conferences/Workshops/Trainings Programmes

1. Romania  
14<sup>th</sup> Joint Geomorphological Meeting (JGM) (Italy – Romania –Belgium – France – Greece) on *CONTEMPORARY DIRECTIONS IN THE STUDY OF THE RELIEF* - Romania, Bucharest–Sinaia, May 26-29, 2010 (Contact: [geomorpology2010@yahoo.com](mailto:geomorpology2010@yahoo.com))
2. France  
A 5-Day Short Course on 'River Restoration: Fluvial-Geomorphic and Ecological Tools' - 7-11 June 2010, Lyon and Provence, France. For more information, please visit: [www.http://www.insitutbeaumont.com/](http://www.insitutbeaumont.com/)
3. South Africa  
SAAG 2010 Biennial Conference on Landscape Denudation or Land Degradation? Interrogating the Geomorphic Processes of Landscape Change in Southern Africa - Grahamstown, South Africa, September 3-5, 2010 (conference website <http://web.me.com/kate.rowntree/SAAG2010/Home.html>)
4. Brazil  
8TH NATIONAL GEOMORPHOLOGY SYMPOSIUM - Recife, Brazil, September 12-16, 2010 (For more information: [http://www.ufpe.br/gequa/home\\_en.htm](http://www.ufpe.br/gequa/home_en.htm))

5. Romania  
Aerial Archaeology Research Group (AARG) Meeting, 2010 ; Bucharest, Romania - 15- 18<sup>th</sup> September 2010. (For more information visit: <http://aarg2010.cimec.ro>).
6. Egypt  
The international colloquium on *LANDSCAPE ARCHAEOLOGY EGYPT AND THE MEDITERRANEAN WORLD* - organized by the Institut Francais D'Archeologie Orientale (IFAO) in association with the Centre Europeen de Recherche et D'enseignement des Geosciences de L'Environnement (CEREGE,UMR 6635, CNRS) and the Centre Franco-Egyptien D'Etude des Temples de Karnak (CFEETK, USR 3172, CNRS) under the patronage of the IAG Working Group on Geo-Archaeology - Cairo, 19-21 September, 2010  
(For more information please visit  
Website of the conference : <http://www.ifao.egnet.net/geoarcheologie2010>  
or Contact the organizers: [archeopaysage2010@ifao.egnet.net](mailto:archeopaysage2010@ifao.egnet.net) )
7. Iceland  
Fifth I.A.G./A.I.G. SEDIBUD Workshop on *Qualitative and Quantitative Analysis of Sedimentary Fluxes and Budgets in Changing Cold Climate Environments: Field-Based Approaches and Monitoring* -Sauðárkrúkur, Iceland, September 19-25, 2010. (For further information please contact Prof. Armelle Decaulne. E-mail: [armelle.sedibud@gmail.com](mailto:armelle.sedibud@gmail.com)).
8. United Kingdom  
William Smith Meeting 2010 on Landscapes Into Rock - London, United Kingdom, September 21-23, 2010  
(Meeting website: <http://www.geolsoc.org.uk/williamsmith2010>)
9. Greece  
The 19th Congress of the Carpathian-Balkan Geological Association (CBGA 2010) will take place in Thessaloniki, Greece, on 23-26 September 2010 (For more information please visit the conference site: <http://www.cbga2010.org> or contact CBGA 2010 Secretariat at [info@cbga2010.org](mailto:info@cbga2010.org))
10. Israel  
4th International Seminar on Small Catchments Dynamics: Connectivity in Time and Space- Israel, 22 - 25 November, 2010  
(For more information please visit the IAG/AIG website: <http://www.geomorph.org> or contact Roey Egozi, Research Hydrologist, The Soil Erosion Research Station, Ministry of Agriculture & Rural Development, Israel.  
E-mail: [regozi@moag.gov.il](mailto:regozi@moag.gov.il). Tel: +972-9-8900432; Fax: +972-9-8985563; Mobile: +972-50-624-1805)
11. New Zealand  
The 15th Biennial Conference of the ANZGG will be held in Oamaru, South Island, New Zealand, from 31st January to 4th February 2011. A preliminary circular is available for downloading (.pdf file).  
For additional information, contact the Conference Chair, Dr David Kennedy, Victoria University of Wellington ([david.kennedy@vuw.ac.nz](mailto:david.kennedy@vuw.ac.nz)).
12. Ethiopia  
IAG/AIG Regional Conference 2011 on GEOMORPHOLOGY FOR HUMAN ADAPTATION TO CHANGING TROPICAL ENVIRONMENTS - *ADDIS ABABA, ETHIOPIA February 18 - 22, 2011* Organized by the Ethiopian Association of Geomorphologists (EAG)  
For further information please log on to the website of IAG/AIG (<http://www.geomorph.org> ) or contact the Conference Secretariat:  
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The details of the conferences indicated above are also available at [www.geomorph.org](http://www.geomorph.org)

**Editor's Note**

The success of the IAG/AIG Newsletter depends upon the contributions that we receive. On behalf of IAG/AIG, I would request you to assist us by supplying information related to the forthcoming activities and innovations in geomorphology in your respective countries (commentaries, reviews of regional or national meetings and field trips, summaries of issues pertinent to geomorphology and announcements of future meetings and workshops. Your contributions should be forwarded to the IAG/AIG Publications Officer.

*Published by*

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