

**IGU  
UGI**



Commission on

**Arid Lands, Humankind, and Environment**

**AHE**

## **Newsletter June 2006**

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### **1. AHE steering committee and aims**

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**Aims**

Arid lands cover about 1/3 of the world area and comprise a belt extending from Central and West Asia to North Africa, Australia, South Africa, the American West, Peru and the Atacama. Water resources are very scarce due to three factors. First, most of the surface water comes from adjacent humid regions. Second, the underground water is mostly fossil and not renewable. Thirdly, rainfall is often hazardous.

Arid regions, especially in Africa, have seen the first steps of mankind. Therefore, they are the subject of geoarchaeological investigations reconstructing the interaction of humans with the environment. Today, the human impact differs among the arid land regions depending on the cultural levels. In contrast to arid regions of the new world, population pressure is very high in those of the old world. Urban growth contributed much to the acute problem of the croplands. These human impacts exhausted local water resources. Development planning in several countries of the arid regions does not take into consideration liabilities to water shortage, e.g. by initiating agricultural projects or digging water wells in the rangeland, and hereby causes much damage to that fragile ecosystem.

These major aspects among others support the suggestion of establishing an IGU commission for "Arid Lands, Humankind, and Environment" that wants to:

- Promote the study of geographical problems in arid lands.
- Monitor human and environmental changes in arid lands.
- Build a database for these works related to the arid lands to facilitate and promote future research.
- Support comprehensive fieldwork in arid regions.

- Develop academic and research networks in order to cooperate with other projects (e.g. DesertNet, UNCCD, ACACIA, IGCP 500, INQUA).
- Promote standardization and compatibility of methods, nomenclature and symbols employed by geographers and other interrelated disciplines.
- Organize meetings to bring together geographers; especially to re-establish better interactions with colleagues in the Arab world since these have not participated much in the IGU.

## **2. Past activities: constitution, conferences, meetings and field trips**

### **Constitution of the commission**

Documents and application were submitted to the IGU general secretary and were exposed to the general assembly during its meeting in Glasgow, 2004, on the occasion of the 31st IGU conference. It was agreed to form a new IGU commission "Arid lands, Humankind and Environment" to be the commission No C04.02.

### **Past conferences**

Professors Nabil S. Embabi and Mahmoud M. Ashour participated in a meeting organized and hosted by the Sultan Qaboos University, Muscat, Oman in April 2005. The main theme of the meeting was desertification and sand encroachment. Coordinator of the meeting was Dr. Ahmed Abdul Salam, member of the steering committee of AHE.

11<sup>th</sup> International Conference on Luminescence and Electron Spin Resonance Dating, 24-29 July 2005, Cologne, Germany.

During the conference it became obvious that the demonstrated dating techniques provide excellent opportunities to get better stratigraphic information of Quaternary sediments, especially in arid regions where organic material is normally very scarce. Olaf Bubenzer contributed a poster on "Luminescence dating and archaeology of Holocene fluvio-lacustrine sediments of Abu Tartur, Eastern Sahara".

6<sup>th</sup> International Conference on Geomorphology, 7-11 September 2005, Zaragoza, Spain

The conference offered interesting plenary lectures, scientific sessions and field trips dealing with arid lands. Xiaoping Yang gave a plenary lecture on "Desert and Earth system – with a special reference to China". In Session 2 "Geomorphology of arid Regions", Olaf Bubenzer (together with A. Bolten) spoke about "Investigation of Pleistocene Megadunes (Draa) of the Eastern Sahara and the Southern Namib Using New Elevation Data (SRTM/ASTER)", Nabil Embabi (with M.M.A. Azab) about "Ghard Abu Moharik Sand Sea, the Western Desert, Egypt: Geomorphology, movement and age". In session 9 "Costal Geomorphology", Mahmoud Ashour discussed "Geomorphic features on the surfaces of sabkhas, Qatar Peninsula".

Xiaoping Yang presided the working group "Interaction between fluvial, eolian and lacustrine processes" and gave a lecture (together with F. Preusser and U. Radtke) within this working group on "Geomorphological processes forming the Taklamakan Desert, western China".

Professors Ashour and Embabi pursued their work in the Western Desert of Egypt with professor Donner of Helsinki University (Finland). A paper about Dating of lacustrine deposits will be published soon.

## **Field trip, May 2006**

During a seven-day field trip in Utah, Nevada, California and Arizona, the magnificent landforms of this arid zone were visited by Professors George Brook, Nabil Embabi and Mahmoud Ashour during May 2005. A detailed illustrative report is in preparation.

## **Meeting and field trips of the AHE-Commission, April 2-6, 2006**

Jointly sponsored by the International Geographical Union (IGU) and the Egyptian Geographical Society (EGS), the meeting was held together with the commissions for "Cultures and Civilisations for Human Development (CCHD)" and the "Mediterranean Renaissance Program (MRP)". Participants included Egyptian colleagues from the Universities of Alexandria, Zagagig, Mansura, Cairo and Ain Shams, and a number of students from Ain Shams University.

Foreign delegates were cordially welcomed at the magnificent quarters of the Egyptian Geographical Society by the President, Professor Mohammed Abulezz. He opened the meeting with a warm welcome to participants. Furthermore, he assured that he, in his role as President of EGS, had promised IGU President Adalberto Vallega Egypt's potential role in supporting the initiative on the UN Year of Cultures and Civilisations for Human Development. Professor Mahmoud Ashour then outlined the agenda for the two-day event and invited Professor Anne Buttmer, representative and past president of the IGU, to address the meeting. She reported that special efforts had been taken to re-establish better interactions with colleagues in the Arab world, e.g. by choosing Tunis as site for the next IGC 2008. Other recent schemes include Corresponding Membership for individuals and institutions, the Promotion and Solidarity Scheme, the Country Partnership program, the Home of Geography in Rome and the re-vitalisation of regional networks. With respect to arid regions she argued that in the long historical sweep of human civilizations throughout the arid zones of the Mediterranean world, issues of water availability, access and use have been acute. Among the many potential common denominators of shared concern, surely those of water, aridity and sustainable ways of life are among the most urgent.

The opening paper of the session (Chair: Giuliano Bellezza) by Professor Nabil S. Embabi, author of the impressive volume, *Geomorphology of Egypt*, raised the evocative question "Why playas attract so much interest in Egypt?" His remarks soon provided answers. Playas (temporary or ephemeral lakes in the desert) have served as gathering points for animals and humans in arid lands throughout history; they reveal substantial mineral wealth; they have been sites for agricultural innovations and products; and recently they reveal vital information on climate change over time. This well-illustrated presentation included graphic evidence from archaeological analyses of artefacts as well as from geo-chemical analyses of sediments especially revealing the evidence of climate change. Illustrations from the relatively recent playa of Farafra also demonstrated their relevance for agricultural innovation and sustainable production.

Dr. Olaf Bubenzer, newly appointed Secretary of the Commission, presented images of new technological possibilities for remote sensing of topography, esp. playa depressions and sand dunes. His paper entitled "New elevation data for geomorphological and geo-archaeological research in arid regions" provided fresh perspectives on the issue of representation - how to capture the changing configuration over time in the height (as well as the shape and the volume) of sand dunes. Illustrations not only included measurements (and identification of height errors) made within the Rhine valley in Germany, but also sites within Egypt where improved accuracy was gained with respect to the identification of water resources as well as of aeolian influences on playa depression and sand dune formation during the Holocene.

Finally, Professor Mahmoud Ashour presented a lecture on the playa of Ebu-El-Egl in Egypt's Western Desert. This complimented the earlier presentation by Professor Embabi. Details on the importance of woodland shade within the playa, archaeological evidence from Neolithic caves, combined with analyses of layered rock, all point towards the multi-faceted importance of playas in historical times.

Before the dispersal of participants, a brief meeting was arranged for members of the Commission, it included Professor Mahmoud Ashour, Chair, Secretary Dr. Olaf Bubenzer, Dr. Ulrik Mårtensson and Professor Nabil S. Embabi. Questions on Commission procedures were raised and co-ordinates of the IGU website and secretariat were supplied. Professor Anne Buttmer raised questions on the substantive content of Commission agenda, particularly on the "humankind" element. It was generally acknowledged that insights from the Cairo workshop, particularly those relating to indigenous geographical knowledge of livelihood practices which could be sustainable in arid environments should be highlighted in Commission reports to the Tunis IGC 2008.

Field trip, 4-5 April, 2006

On the 3rd of April, Dr. Mahmoud M. Ahmed, from the National Authority for Remote Sensing and Space Sciences introduced the field excursion to Alexandria. He lectured on "The Role of Space Technology and GIS in the Integrated Coastal Zone Management" with specific focus on the sea wall erected a decade ago to protect Egypt's northern Nile coastline from erosion. Coastal instability at Rosetta promontory has continued throughout the last century. Severe erosion was determined along other cells along the delta coast. Many development projects were constructed and planned during the last five decades, without taking into consideration these kind of problems.

The field trip started from Cairo towards the North through the agricultural road (Cairo – Alexandria) to pass many old and traditional Egyptian settlements and one of the most crowded areas in Egypt and the world. The trip arrived at Rosetta on the Mediterranean coast by noon. In Rosetta and its vicinity apart from agricultural activities fishing is the main activity of the inhabitants. The main focus of this visit was the problem of coastal retreat and projects mitigating this problem. On the second day, the participants visited a small part of the Alexandria Library. The field trip continued to the west of Alexandria to arrive in El-Alamein where the military cemetery of the European soldiers of World War II, was visited. On our way back to Cairo we passed on the desert road through the land reclamation projects.

### **3. Upcoming conference participations**

Brisbane 2006 (IGU): On this occasion two sessions are arranged. The theme of the first session will discuss papers about desertification and the second one will discuss papers about water crises in arid regions.

Cairns 2007 (INQUA): For planned contributions please contact [mmashour\\_99@yahoo.com](mailto:mmashour_99@yahoo.com).

Tunis 2008 (IGC): Field trips in the Sahara will be organized in cooperation with the Tunisian organizers. The issue of arid lands will cover much of the sessions and the papers in Tunis. We hope that many Arab geographers will participate in this conference. They are certainly welcome to meet other colleagues and to expose their work to the international community

### **4. Upcoming commission meetings**

Professor Mohamed Shawky Meccy, president of the Saudi Arabia Geographical Society invited our commission to hold its 2<sup>nd</sup> meeting in Riyadh on Feb. 2007. Accommodation will be covered by the Saudi Geographical Society. All colleagues working in the field of arid lands are invited to participate in this meeting.