

Arid Lands, Humankind and Environment (AHE) Report 2012 – 2016

Membership – Steering Committee

Prof. Dr. Mahmoud M. Ashour (Chair) (EGYPT)

Department of Geography
Faculty of Arts
Ain Shams University
Cairo, EGYPT
Tel. + 20-24101752 / + 20-010-2591982
Email: mmashour43@hotmail.com

Prof. Dr. Abdualllh Nasser Alwelaie (SAUDI ARABIA)

Faculty of Social Sciences
Emam Mohamed Ben Saud University
P.O Box 100330
11635 Riyadh, SAUDI ARABIA
Tel. + 966-2585817
Email: alwelaie@hotmail.com

Prof. Dr. Olaf Bubbenzer (Secretary) (GERMANY)

Department of Geography
University of Heidelberg
Im Neuenheimer Feld 348
69120 Heidelberg, GERMANY
Tel. +49(0)6221-54-4595
Fax. +49(0)6221-54-4997
Email: olaf.bubbenzer@geog.uni-heidelberg.de

Dr. Saif Salim Saif AL Qaidi (UAE)

Department of Geography
Faculty of Humanities and social studies
U.A.E University.
P.O. Box : 17771
AL Ain, UNITED ARAB EMIRATES
Tel + 971-3-5063405

Prof. Dr. Nabil Sayed Embabi (EGYPT)

Department of Geography
Faculty of Arts
Ain Shams University
Cairo, EGYPT
Tel. + 20-22602497 / +-20-010-5106892
Fax + 20-26854079
Email: embabi@hotmail.com

Prof. Dr. Xiaoping Yang (CHINA)

Institute of Geology and Geophysics
Chinese Academy of Sciences
P.O. Box 9825
Beijing 100029, CHINA
Tel. + 86(0)-10-62008389
Fax + 86(0)-10-62032495
Email: xpyang@263.net.cn

Prof. Dr. George S. Brook (USA)

Department of Geography
Franklin college of Arts and Science
University of Georgia
Athens GA 30602- 2502, USA
Tel. + 1-706-542-2322
Fax + 1-706-542-2388
Email: gabrook@uga.edu

Dr. Kevin White (UK)

Landscape and Landform Research Group
Department of Geography
The University of Reading - Whiteknights
P.O. Box 227
Reading - RG6 6AB, UK
Tel. +44-0118-3787752
Fax +44-01189755865
Email: k.h.white@reading.ac.uk

Dr. Ahmed Abdel Salam (OMAN)
Sultan Qabbos University, OMAN
Tel. + 968-95148114
Email: salam@squ.edu.om

Dr. Ulrik Mårtensson (SWEDEN)
Dept. of Phys. Geography and Ecosystems Analysis
Lund University, Solvegatan 12
SE-223 62 Lund, SWEDEN
Tel. +46-46-2224026
Fax +46-46-2220321
Email: ulrik.martensson@nateko.lu.se

Activities in 2012 and 2016

A- Research Project

Sand accumulation in Egypt; In operation for the last 8 years

The Main researchers are Mahmoud Ashour, Nabil S. Embabi, George Brook and Olaf Bubinzer (members of the Arid Lands ...Commission)

A- Field Trips and Conferences:

Professor Mahmoud Mohamed Ashour

- 1- 11-13 May 2012, The 4th International Symposium Of Geography, Spiru Haret University, Bucharest, Romania.**
- 2- 1-4 April 2013, International Geographical Symposium (Geography and Global Changes)Teba University, Saudi Arabia.**
- 3- December 2013 ,Excursion to the Red Sea cost of Egypt with the Group of Egyptian Natural Protectorates My own observation were mainly about raised beaches Egyptian Natural Protectorates My own observation were mainly about raised beaches.**
- 4- 14-26 March 2014, The Journey of the life time to the South western corner of Egypt, entitled “ In the foot of the Prince Kamal Expedition. 1923. Geology, Geomorphology , Archeology and Geo archeology were the main items of our expedition. 32 Journalists and Photographers from Europe and Japan participated in this Expedition. I presented a Lecture entitled Geomorphological observations in the S.W. Corner of Egypt.**

- 5- April 2014, Field Trip to Siwa Oasis, the Northern Tips of the Great Sand Sea in Egypt. (for Surveying, Collecting samples and Morphological Mapping).
- 6- 16-18 August 2014, The 6th International Symposium of Geography, Spiru Haret University, Bucharest, Romania.
- 7- The 2015 IGU Regional Conference, August 2015 Moscow.
- 8- Training Workshop, December 2014, Kharga Oasis, Western Desert, Egypt, 20 PhD and MA students, Egyptian Geomorphological Group.
- 9- Training workshop, December 2015, Sohag, Nile Valley, 27 PhD and Master Degree students, Egyptian Geomorphological Group

Prof. Nabil S. Embabi 2012 – 2016

1. 1 -presenting a paper at the 8th International Conference on Geomorphology, Paris, August 2013: Geomorphology of North Sinai Sand Sea.
2. Field Training Workshop in Desert Geomorphology in Kharga and Dakhla Depression, the Western Desert, Egypt. December 2015.
3. Field Training Workshop for young geomorphologists in Desert Geomorphology in the Nile Valley (Sohag Governorate and its Desert Environs), December 2015.

Prof. George Brook

Sacha, C, Stewart, Brian, A.) part of series Vertebrate Paleobiology

Chair of Session

Chair of Session: “Fluvial II”, 69th Annual Meeting of the Southeastern Division of the Association of American Geographers (SEDAAG), Athens, GA, Nov. 23-25, 2014.

Prof. Dr. Abdualllh Nasser Alwelaie

- 1- Participated in 16 international , regional and local Conferences and Scientific Meetings.

B- Publications:

Prof. Mahmoud Ashour

- 1- Sabkhas in Qatar Peninsula ,Landscape and Geodiversity, Spiru Haret University, Bucharest, Romania, issue 1/2013,P 10-35.
- 2- The Quaternary history of the Western Desert of Egypt as recorded in Abu El Egl Playa (2015) by J. Donner, M. Ashour and N. Embabi. In press, Bulletin of the Egyptian Geographical Society .Vol.88, pp 1-18.
- 3- Using Space images, GIS and field Survey To Study Mass movement in the Mountainous areas of AlMadan and Shara in Yemen , (in press) By M. Ashour, M. N. ALbakry and A. Modagesh, In Press, Bulletin of the Egyptian Geographical Society . Haitham S. Alsaid(M.A) 2014, The Main Environmental Problems in Siwa Oasis,using R.S and GIS.(221P.)

Prof. Nabil S. Embabi

- 1- Geomorphology of Ghard- Abu- Moharik Sand Sea, Bull. Soc. de Géographie d'Égypte 85: 1-28.
- 2- Sand Dunes in the Arab Countries, The Arab Geographical Journal (in Arabic) The Egyptian Geographical Society 59: 1-45.
- 3- A book: on Landscapes and Landforms of Egypt: in Press, Springer

Prof. George Brook

Mancini, M.V., Franco, N.V., Brook, G.A. (2013). Palaeoenvironment and early human occupation in southernmost South America (south Patagonia, Argentina). Quaternary International 299, 13-22.

- Brook, G.A., Mancini, M.V., Franco, N.V., Bamonte, F., Ambrústolo, P. (2013). An examination of possible relationships between paleoenvironmental conditions during the Pleistocene-Holocene transition and human occupation of southern Patagonia (Argentina) east of the Andes, between 46° and 52° S. *Quaternary International* 305, 104-118.
- Scott, L., Neumann, F.H., Brook, G.A., Bousman, C.B., Norström, E., Metwally, A. (2013). Corrigendum to “Terrestrial fossil-pollen evidence of climate change during the last 26 thousand years in Southern Africa” [*Quat. Sci. Rev.* 32 (2012) 100e118]. *Quaternary Science Reviews* 59: 115-116.
- Brook, G.A., Cherkinsky, A., Railsback, L.B., Marais, E., Hipondoka, M.H.T. (2013). Radiocarbon dating of organic residue and carbonate in stromatolites from Etosha Pan, Namibia: the radiocarbon reservoir effect, correction of published carbonate ages, and evidence of a >8 m deep lake during the Late Pleistocene. *Radiocarbon* 55, 1156-1163.
- Sletten, H.R., Railsback, L.B., Liang, F., Brook, G.A., Marais, E., Hardt, B., Cheng, H., Edwards, R.L. (2013). A petrographic and geochemical record of climate change over the last 4600 years from a northern Namibia stalagmite, with evidence of abruptly wetter climate at the beginning of southern Africa’s Iron Age. *Palaeogeography, Palaeoclimatology, Palaeoecology* 376, 149-162.
- Litwin, R.J., Smoot, J.P., Pavich, M.J., Markewich, H.W., Brook, G., Durika, N.J. (2013). 100,000-year-long terrestrial record of millennial-scale linkage between eastern North American mid-latitude paleovegetation shifts and Greenland ice-core oxygen isotope trends. *Quaternary Research* 80, 291-315.
- Railsback, L.B., Xiao, H., Liang, F., Akers, P.D., Brook, G.A., Dennis, W.M., Lanier, T.E., Tan, M., Cheng, H., and Edwards, R.L. (2014). A stalagmite record of abrupt climate change and possible Westerlies-derived atmospheric precipitation during the Penultimate Glacial Maximum in northern China. *Palaeogeography, Palaeoclimatology, Palaeoecology* 393, 30-44.
- Brook, G.A., Franco, N.V., Povazsan, G., Benedetto, C. (2014). New evidence of climate

- change in southern Patagonia from cave deposits in Santa Cruz Province, Argentina. *Argentina Subterránea* (Publicación semestral de la Federación Argentina de Espeleología – FadE) 35, 5-8.
- Brook, G.A., Cherkinsky, A., Marais, E. and Todd, N. (2014). Rare Elephant Molar (*Loxodonta africana zulu*) from the Windhoek Spring Deposit, Namibia. *Transactions of the Royal Society of South Africa* 69 (3): 145-150.
- Brook, G.A., Franco, N.V., Ambrústolo, P., Mancini, M.V., Wang, L. and Fernandez, P. (2015). Evidence of the earliest humans in the Southern Deseado Massif (Patagonia, Argentina), Mylodontidae, and changes in water availability. *Quaternary International* 363, 107-125.
- van Aardt, A.C., Bousman, C.B., Brink, J.S., Brook, G.A., Jacobs, Z., du Preez, P.J, Rossouw, L. and Scott, L. (2015). First chronological, palaeoenvironmental, and archaeological data from the Baden-Baden fossil spring complex in the western Free State, South Africa. *Palaeoecology of Africa* 33, 117-152.
- Liang, F., Brook, G.A., Kotlia, B., Railsback, L.B., Hardt, B., Cheng, H. and Edwards, R.L. and Selvaraj Kandasamy, S. (2015). Panigarh cave stalagmite evidence of climate change in the Indian Central Himalaya since AD 1256: monsoon breaks and winter southern jet depressions. *Quaternary Science Reviews* 124, 145-161.
- Railsback, L.B., Brook, G.A., Ellwood, B.B., Liang, F., Cheng, H. and Edwards, R.L. (2015). A record of wet glacial stages and dry interglacial stages over the last 560 ka from a massive stalagmite in Carlsbad Cavern, New Mexico, USA. *Palaeogeography, Palaeoclimatology, Palaeoecology* 438, 256-266.
- Hamdan, M.A.R. and Brook, G.A. (2015). Timing and characteristics of late Pleistocene and Holocene wetter periods in the Eastern Desert and Sinai of Egypt, based on ¹⁴C dating and stable isotope analysis of spring tufa deposits. *Quaternary Science Reviews* 130, 168-188.
- Brook, G.A., Railsback, L.B., Scott, L., Voarintsoa, N-R.G. and Liang, F. (2015). Late Holocene stalagmite and tufa climate records for Wonderwerk Cave: Relationships

between archaeology and climate in southern Africa. *African Archaeological Review* 32, 669-700.

Franco, N.V., Brook, G.A., Mancini, M.V. and Vetrivano. L. 2015. Changes in lithic technology and environment in southern continental Patagonia: the Chico and Santa Cruz River basins. *Quaternary International, Southern Deserts* (accepted).

Chapters in Books

Wilmsen, E. N., Campbell, A.C., Brook, G.A., Robbins, L.H. and Murphy, M. (2013). Mining and moving specular haematite in Botswana, ca. 200-1300 AD. In: Humphris, J. and Rehren, T. (eds), *The World of Iron*, Archetype Publications, London, pp. 35-45.

Iannone, G., Awe, J., Chase, A.F., Chase, D.Z. Conolly, J., Moyes, H., Brook, G.A., Polk, J., Webster, J. (2014). An archaeological consideration of long-term socio-environmental dynamics on the Vaca Plateau, Belize. Ch. 13 in “The Great Maya Droughts in Cultural Context” (ed. Gyles Iannone). University of Colorado Press, Boulder (March, 2014), pp. 271-300.

1- Robbins LH, Brook GA, Murphy ML, Ivester AH, Campbell AC. (2016). The Kalahari from stages six to two (ca. 186,000-13,000 years ago): Archaeology, Palaeoenvironments and Population Dynamics. Chapter in: *Africa from MIS 6-2: Population Dynamics and Palaeoenvironments* (Eds.: Jones, and Paleoanthropology (Series Eds.: Delson, Eric, Sargis, Eric, J.) Springer, Netherlands

Prof. Dr. Abduallh Nasser Alwelaie

Publication (Books)

1- **Introduction to preparation of scientific researches and thesis 400 p. 2012 .**

2- **A dictionary of settlements and tribes in Arabian peninsula, Iraq, south Jordan and Sinai translated**

Al Shamasia, touring and refreshment sites, 2014

Co-editing of Special Issues of International Journals

Prof. Xiaoping Yang

1. Lancaster, N., **Yang X.** and Thomas, D (2013): Spatial and Temporal Complexity in Quaternary Desert Datasets: Implications for Interpreting Past Dryland Dynamics and Understanding Potential Future Changes. *Quaternary Science Reviews* (an Elsevier journal), Vol. 78, 301-380.
2. **Yang, X.** and Williams, M. (2015): Landforms and processes in arid and semiarid environments. *CATENA* (an Elsevier journal), Vol. 134, 1-97.

Articles in journals / Contributions to books

1. **Yang, X.**, Scuderi, L.A., Wang, X., Scuderi, L.J., Zhang, D., Li, H., Forman, S., Xu, Q., Wang, R., Huang, W. and Yang, S. (2015): Groundwater sapping as the cause of irreversible desertification of Hunshandake Sandy Lands, Inner Mongolia, northern China. *PNAS* 112(3), 702-706.
2. Li, H. and **Yang, X.** (2014): Temperate dryland vegetation changes under a warming climate and strong human intervention — with a particular reference to the district Xilin Gol, Inner Mongolia, China. *Catena* 119, 9–20.
3. Zhang, D., **Yang, X.**, Rozier, O. and Narteau, C. (2014): Mean sediment residence time in barchan dunes. *J. Geophys. Res. Earth Surf.*, 119, 451–463, doi:10.1002/2013JF002833.
4. Ren, X., **Yang, X.**, Wang, Z., Zhu, B., Zhang, D. and Rioual, P. (2014): Geochemical evidence of the sources of aeolian sands and their transport pathways in the Minqin Oasis, northwestern China. *Quaternary International*, <http://dx.doi.org/10.1016/j.quaint.2014.04.037>.
5. Rioual, P., Lu, Y., Chu, G., Zhu, B. and **Yang, X.** (2014): Morphometric variation of *Seminavis pusilla* (Bacillariophyceae) and its relationship to salinity in inter-dune lakes of the Badain Jaran Desert, Inner Mongolia, China. *Phycological Research*, 62, 282-293.
6. **Yang, X.**, Wang, X., Liu, Z., Li, H., Ren, X., Zhang, D., Ma, Z., Rioual, P., Jin X. and Scuderi, L. (2013): Initiation and variation of the dune fields in semi-arid northern China - with a special reference to the Hunshandake Sandy Land, Inner Mongolia. *Quaternary Science Reviews* 78, 369 – 380.
7. Rioual, P., Lu, Y., Yang, H., Scuderi, L., Chu, G., Holmes, J., Zhu, B. and **Yang, X.** (2013): Diatom-environment relationships and a transfer function for conductivity in lakes of the Badain Jaran Desert, Inner Mongolia, China. *Journal of Paleolimnology* 50, 207 – 229.
8. Liu, Z. and **Yang, X.** (2013): Geochemical-geomorphological evidence for the provenance of aeolian sands and sedimentary environments in the Hunshandake Sandy Land, eastern Inner Mongolia, China. *Acta Geologica Sinica (English Edition)* 87, 871 – 884.
9. **Yang, X.**, Li, H. and Conacher, A. (2012): Large-scale controls on the development of sand seas in northern China. *Quaternary International* 250, 74-83.
10. **Yang, X.** (2012): Chapter 31 – Environmental change in arid and semi-arid regions. In: *The Handbook of Environmental Change*, Ed. Matthews, J., Bartlein, P., Briffa, K., Dawson, A., de Vernal, A., Denham, T., Fritz, S. and Oldfield, F. (London: Sage Publications) Volume II, 141-162.

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C- supervised Thesis:

Prof. Mahmoud Ashour

1-Hamiso Ibrahim (PhD) 2013, The Impact of Zobe Dam on the Morphological characteristics of River Karadua in Katasina State, Nigeria.(229p.)

2-Mahmoud E.A. Saleh (PhD) 2013 Dafna Plateau in The NorthEast of Libya, Geomorphologica Study. (338 P.).

3-Amr ,M.S. Mahsoub(PhD), 2014, Geomorphological Land forms related to Sea-level CHANGES ALONG THE N.W coast of Egypt, Using GIS and R.S (297 P.)

4 -Gehad Akram al Hegazi(Ph.D),2014, Geomorphology of Karst Landforms in the surrounding areas of El. Baharia Depression. Western Desert of Egypt, (310 p.)

5-Doha Dory (PhD) 2014, Man as a Geomorphological Agent in Selected Areas of Egypt.(237P)

6-Abidine S. Ibraim(M.A),2014 ,Desertification In The State of TRARZA IN Mauritania.(208 P.)

7-Haitham S. Alsaïd(M.A) 2014, The Main Environmental Problems in Siwa Oasis,using R.S and GIS.(221P.)

Continuation

The commission will continue the re-establishment of interactions with colleagues in the Arab world, if not else, with regard to the recent political situation. In addition these colleagues have

insights in the indigenous geographical knowledge of livelihood practices which could be sustainable in arid environments.

Planned joined field trips, conferences and sessions of the commission in 2016- 2018.

- Field trip to the AlHebal sand Sea in SE Egypt (Sand accumulation project in Egypt)
- Commission meeting and sessions as part of the IGU Conference in China
- Commission meeting and session during the MRP conference in Turkey
- Work shop and Training course for PhD and Master Degree students.
- Organizing a meeting for The Sustainable Development in Arid and Hyper Arid areas during 2017-2018, in collaboration with the Geographical Society of Egypt.