

AAAS Annual Meeting

ABSTRACTS
OF
PAPERS

157th National Meeting ★ Washington, DC ★ 14-19 February 1991

Compiled by Michelle D. Games

American Association for the Advancement of Science
1333 H Street, NW, Washington, DC 20005

12T-2. Geophysical Imaging Systems: From Medical Microcosm to Outer Space

Organized by: Anna C. Roosevelt (*Director, Lower Amazon Project, Dept. of Anthropology, American Museum of Natural History, New York, NY*)

8:30 am / Tue / 19 Feb

Omni/Congressional

Imaging Past Environments of Northeastern Africa
From Space. FAROUK EL-BAZ (Center for Remote
Sensing, Boston University).

Images obtained from earth orbit by manned and unmanned spacecraft are useful in interpreting environmental conditions in all types of terrain. In desert regions, due to the scarcity of vegetation and the relatively slow pace of change, these images also reveal details of palaeo-environments. This is especially true in hyper-arid regions such as the northeastern Sahara of North Africa. Photographs obtained by the unmanned Landsat and the manned missions of Gemini, Apollo, Apollo-Soyuz, Skylab, and particularly by the imaging radar of the Space Shuttle reveal evidence of previous episodes of wet climates. This evidence includes an ancestral delta of the Nile River, dry water courses along escarpments, sand-buried ancient streams, and a number of dry lakes. Field investigations of these sites uncovered numerous indications of previous human habitation in this desert dating back 200,000 years; the last wet climate prevailed approximately 5,000 years ago. Test wells drilled in the vicinity of these sites proved vast "fossil" groundwater resources stored in the sandstone substrate. These findings encourage further exploration for additional groundwater resources in this and similar deserts.