

Preliminary geoarchaeological data from a Senegambian megalithic world heritage site (Wanar, Senegal).

Mathilde Stern, Antoine Rigaud, David Landry, and Aziz Ballouche

University of Angers, UFR Sciences, LETG-Angers 6554 CNRS, F-49045 Angers, France (mathilde.stern@univ-angers.fr)

The Senegambian megalithic complex spread over a territory of 250 km from east to west and 120 to 150 km from north to south. It consists of various monumental forms, especially erected stones circles. At the regional Senegambian scale the excavated sites suggest dates between 7th and 16th century AD, maybe older. The exceptional concentration of the alignments and the originality of the forms ("lyre" stones, bifid stones, disc decorations, associated with other monuments, e.g. burial mounds) motivated the inscription of four sites of Senegal and Gambia as World Heritage by UNESCO, like the site of Wanar in Senegal, in the watershed of the Bao Bolon, a tributary of the Gambia River (whc.unesco.org/en/list/1226). However, very little is known about the natural environment of these spectacular monumental manifestations, nor about the socio-economic context of their edification and the surrounding landscapes.

Since 2005, archaeological excavations are carried out every year on the necropolis of Wanar. Such research contributes to enrich the socio-cultural knowledge of the Senegambian megalithism, phenomenon associated with the Protohistory (wanar-excavations.jimdo.com). Geoarchaeological studies (geomorphological and palaeo-biogeographical) currently in progress at Wanar aim to reconstruct palaeoenvironments and landscapes contemporary of the monument construction, in order to answer a series of questions: In which landscape context have these populations developed? What were their relations with their environment? How did they fit into their territory, and how did they adapt to environmental changes?

The dated material from two cores shows that the sedimentary records cover an extended timespan which include the Senegalese protohistory and previous periods (up to 5000 cal. BP). First sedimentological results describe the hydrosedimentary functioning of the Wanar watershed during the period contemporary with the megalithic phenomenon. Palaeoclimatic signals and anthropogenic impacts must be deciphered in order to better understand the fluctuating environmental dynamics of this era.

The processing of grain size parameters, CM patterns (one-percentile/median) according to the method of Passegård (1964), makes possible to well characterize the fluvial functioning and the depositional environments (ponds/stagnant water, flood plain or channel with low and intermittent current). These wetlands are very good recorders of palaeoenvironmental dynamics. Paleobiological multiproxies analysis (pollens, diatoms, dendrology, palynofacies and fire signal) are currently in progress and should allow the reconstruction of the history of vegetal landscapes and natural environments. Particular attention will be given to the dynamic factors linked to human activities (fires, vegetation clearing, agro-pastoral practices) and their imprint on the landscape.