

The role of active tectonics and geology in the exploitation of the southern Levant by early hominins

G.C.P. King^{1,2}, M. Dèves¹, D. Sturdy², N. Godet²

(1) Institut de Physique du Globe, 1 rue Jussieu, 75238 Paris.

(2) The Southern Levant Human Environment Project, Springfield, Stoke Wake, Blandford Forum, DT11 0HF, UK.

The Southern Levant offers many points of interest in the study of early hominins. It lies on one of the two routes by which the dispersal of different hominin species, at various times in the Pleistocene, could have occurred. The area is rich in Palaeolithic remains and has been extensively studied providing a database of observations on which synthetic research can draw. As a direct consequence of on-going tectonic and volcanic activity we can outline topographic features that have providing early and modern humans with a strategic advantage both to avoid being predated and exploit their prey species

We examine the distribution of sites in relation to annual movements of Mega Fauna in the Lower Palaeolithic (1.5 – 0.3 Ma). We study movement using edaphic factors. This concerns the relative ability of the regolith (i.e. soils and subsoils) to supply, by plant take-up, the nutrients necessary for herbivore growth and health. For all herbivores, the edaphic factors are critical to the growth of young animals and the health of all the animals. For example, the availability of soluble phosphates is especially critical, as without adequate supplies the animals cannot grow bones. It is important to distinguish between "fertility" and "edaphics". A given regolith might support abundant vegetation, but this may be of poor quality when viewed as a food source for herbivores. Understanding why and when animals must move and where they can be predated makes sense of site locations.