



Archaeological evidences of the tectonic activity of Shueib Structure (NW Jordan)

Mohammad Al-Awabdeh (1), J. Miguel Azañón (1,2), J. Vicente Pérez-Peña (1), Guillermo Booth-Rea (1,2)

(1) Departamento de Geodinámica, Universidad de Granada. Granada, España., (2) Instituto Andaluz de Ciencias de la Tierra (CSIC-UGR). Granada, España.

Archaeological damage in buried ruins often offers an excellent record of recent tectonic activity. The lower Jordan valley has experienced a continuous occupation in the last 5000 year, being frequent archaeological remains of human settlements along the valley. In this work we studied the Early Neolithic-to-Middle Islamic Periods archaeological site of Tall al-Hammam (Arabic name, "Hill of Baths"). This ruin is located 27 km southwest of Amman city and it constitutes the largest Bronze Age archaeological site in Jordan. It consists of two main parts; the Upper Tall and the Lower Tall. This ruin lies within the southwestern termination of the Shueib structure (SHS); a Cretaceous fold-bend fault structure thought inactive through the entire Cenozoic. The relics, in the lower Tall, show clear fault-related damage in some walls. Two Middle Bronze Age (MBA) walls are displaced 26 and 20 cm respectively, according with a NNE-SSW fault plane. Apart of wall displacements, hundreds of joints and cracks in boulders of the walls are present. They strike generally NW-SE and NE-SW. Both archaeological evidences, boulder fractures and walls distortion, are coherent with the present-day tectonic setting of the Dead Sea Transform Fault in the region, and suggest a Quaternary reactivation of the SHS.