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A new long sediment record from Padul, southern Spain records orbital- and suborbital-scale environmental and climate changes during the middle and late Quaternary

Gonzalo Jimenez-Moreno (1), Jon Camuera (), Maria J. Ramos-Roman (), Jaime L. Toney (2), R. Scott Anderson (3), Francisco J. Jimenez-Espejo (4), Darrell Kaufman (3), Jordon Bright (5), and Cole Webster (3)

(1) Departamento de Estratigrafía y Paleontología, Universidad de Granada, Granada, Spain (gonzaloj@ugr.es), (2) School of Geographical and Earth Sciences, University of Glasgow, UK, (3) School of Earth Sciences and Environmental Sustainability, Northern Arizona University, Flagstaff, AZ, USA. , (4) Department of Biogeochemistry, Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan, (5) Department of Geosciences. University of Arizona, Tucson, AZ, USA

Long paleoenvironmental records are necessary in order to understand recurrent climatic or paleoenvironmental changes occurring with a certain periodicity (i.e. glacial-interglacial cycles). In this respect, the Padul peat bog has one of the best available records of Pleistocene sediments in semiarid Southern Europe. The sedimentary sequence is more than 100 m thick and has been used to study palaeoenvironmental change for the past ca. 1 Ma. Since the 1960s several cores have already been taken from this basin showing oscillations in many proxies (pollen, organic geochemistry and sedimentation) related with paleoclimatic and paleohydrological changes. However, a more detailed and higher resolution study, using new dating and analytical techniques (AMS 14C, AAR, continuous XRF-scanning, high-resolution pollen analysis and geochemistry), needs to be done in such an interesting site. Here we present preliminary paleoenvironmental data from a new sediment core, Padul-15-05, which shows significant changes in the environment and lake sedimentation, probably related with glacial-interglacial climate dynamics during the past ca. 300,000 years. These data confirm that orbital- as well as suborbital-scale variability (i.e. Heinrich, D-O events) are recorded in the studied core. This unique record thus has very high potential for paleoenvironmental and paleoclimatic reconstructions for, at least, the two last climatic cycles in this semiarid Mediterranean area.