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Early to mid-Holocene vegetation dynamics on the Central Mediterranean island of Malta - a possible indicator of a major hydroclimatic change

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The PaleoMed project, supported by the French National Research Agency (ANR), incorporates a multi-disciplinary team with the aim of establishing various aspects related to the Maltese Archipelago's Holocene environment through the study of a series of cores. Various bodies of environmental evidence have been investigated for this project including sediments, charcoal and molluscs. Through this poster the results from pollen samples extracted from two cores will be compared. Both cores were extracted from Burmarrad, which is the second largest flood plain on Malta. All studied sections have been carbon dated to 7200-3200BP. Results from this site provide clear indication of the vegetation dynamics during this period as well as suggesting possible climatic changes and anthropogenic influences.

Pollen was extracted from sediment deposits following the classical treatment method (eg Moore et al., 1990). Furthermore, identification was undertaken through the use of pollen atlases of Europe and North Africa (Reille, 1992, 1995, 1998) and Beug (2004) along with IMBE's international pollen reference collection. Pollen percentages were calculated in TILIA and the pollen percentage diagram constructed using TGView software (Grimm 2004, 2005).

Current results from these cores indicate that prior to 7000BP there was a high percentage of aquatic plants, while tree and shrub counts were low. Around 6900BP a significant increase in Pistacia pollen is recorded in both cores. Similar increases have also been noted in southern Sicily (Tinner et al., 2009). The date of this increase corresponds to the climatic optimum of forest cover in the Mediterranean region (Noti et al., 2009), while the first recorded evidence of human occupation of the Maltese Archipelago occurred around 5500BC (Trump, 2002).