



Bringing life to the desert: storm tracks, climate change, wadi water and farming at the dawn of civilisation

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Around 10,000 years ago a revolutionary change in mankind's relationship to the environment began. It started with the development of a new technology: farming. First in the Middle East, then spreading rapidly throughout the Mediterranean, the power of nature was harnessed and used to support the expanding populations that founded the world's first towns and cities. But why the Middle East? The current climate over much of the area is arid and hot; perhaps an unlikely birthplace for a civilisation. Part of the answer may lie in the water carried by the Mediterranean storm track and the way in which it has changed over the last ten millennia.

This presentation will describe a series of HadSM3 GCM time-slice simulations covering the Holocene period which are then regionally downscaled with the HadRM3 climate model. It will discuss some of the basic mechanisms controlling the Mediterranean storm track, how it relates to the global climate system, and how it may have been substantially stronger 6,000-10,000 years ago. The results will be contrasted with regional palaeo-records.

A local case study in Southern Jordan will also be discussed, showing how changes in climate may have interacted with local hydrological and anthropogenic factors to influence river flow and water availability. This will draw upon archaeological and palaeological studies, combined with climate and hydrological modelling, carried out under the interdisciplinary "Water, Life and Civilisation" programme at the University of Reading.