Fluvial landforms and deposits and paleoenvironments in and around Syrian archaeological sites

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Fluvial processes played an important role in the development of late Quaternary landforms in arid regions. However, only limited information exists about past fluvial processes in some arid regions such as Arabic countries in the Middle East. We review the characteristics of late Quaternary fluvial deposits and landforms in Syria, an arid country with little previous Quaternary geomorphic research. Relatively detailed information has been obtained from areas adjacent to archaeological sites because of collaborative activities of geoscientists and archaeologists such as intensive field surveys, and results of archaeological studies of artifacts including lithics are useful for establishing the chronology of fluvial deposits. The available information indicates marked changes in the mode of fluvial processes in response to late Quaternary climatic change. Fluvial sedimentation was enhanced during the wet periods of MIS 3-4, the Pleistocene/Holocene transition, and the mid Holocene. In contrast, the LGM was characterized by limited fluvial sedimentation under a drier climate as well as enhanced carbonate precipitation near the land surface to form calcrete and oncoids.