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Using Paleoclimate modeling to analyse the precipitations and temperatures during the Holocene over the Arabian Peninsula

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The aim of this study is to analyze the past climate over the Arabian Peninsula and the changes which will influence the future climate change. This study will focus on the Holocene climate over the Arabian Peninsula, that began 11,700 years ago. In this study the ensemble simulations of the LOVECLIM coupled model is used considering that the model proven to be the best concurrence with the reconstructions. LOVECLIM 1.2 model includes the atmosphere component is ECBilt2, the ocean and see ice component is CLIO3, the continental biosphere component land surface VECODE, the oceanic carbon cycle component LOCH, and the polar ice sheet component AGISM. LOVECLIM 1.2 simulate the present climate conditions and the last 20 millennia, the Last Glacial Maximum and the Holocene climate. The model used to simulate temperatures and precipitations in the Last Glacial Maximum and the Holocene climate over the Arabian Peninsula. The model outcomes indicate that high amount of precipitation occurred over the central region of the Arabian Peninsula during the mid Holocene. The fluctuation of the Indian monsoon and the shift of the intertropical convergence zone (ITCZ) plays huge part on participation over the Arabian Peninsula.