



1 Sahel precipitation in simulation of the Paleoclimate Modeling Intercomparison Project

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The Paleoclimate Modeling Intercomparison project (PMIP) was launched in 1991, and is now widely recognised in the paleoclimate community. Model-data comparison is a key part of the project, and past periods such as the mid-Holocene (6000 years BP) are now widely referenced for model benchmarking. One of the major features of the mid-Holocene is the presence of wetter than present conditions in now arid regions in the Sahel and Sahara that has been attributed to a northward extension of the African monsoon precipitation. Since the beginning of PMIP, it has become important to be able to evaluate if model outputs were compatible with reconstructions from pollen data and lakes. The story of the PMIP spaghetti diagram started during the first meeting of the project when Colin Prentice and Dominique Jolly imagined they could established from climatology the amount of water needed to sustain steppe instead of desert in Africa (Joussaume et al. 1999). Since then the diagram was widely used for model evaluation and to assess the realism of simulations including interactive ocean and vegetation.

The presentation will first discuss the genesis of the diagram. Then the diagram will be used to evaluate how PMIP1 and PMIP2 simulations reproduce monsoon precipitation in West Africa. Several aspect of monsoon, including changes in interannual variability will be highlighted.

Reference : Joussaume, S.et al.: Monsoon Changes for 6000 Years Ago: Results of 18 Simulations from the Paleoclimate Modeling Intercomparison Project (PMIP), Geophys. Res. Lett., 26, 859-862, 1999.