



Evolution of peatlands in the Mu Us Desert, Northern China, since the last deglaciation

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Climatic reconstruction from peat deposits is an important aspect of Quaternary research. Previous studies of the peatlands in the Mu Us Desert in Northern China have focused on the processes of paleoclimatic evolution, but the history of peatland development remains unclear due to the absence of comparative studies. Here, we present a synthesis of the available records documenting peatland development within the Mu Us Desert since the Last Deglaciation (LD). We combine paleoclimatic records from profiles from two new sites with previously published results from twelve sites. Our aim is to reconstruct the temporal and spatial record of peatland development and to determine its driving forces. The results show that the peatlands developed in two phases: from ~15 ka until the early Holocene, and from 6.5-3 ka when there was a significant expansion of their spatial extent. These phases correspond to two distinct types of paludification process and both were closely related to changes in the East Asian monsoon. A final stage after 2 ka resulted from the significant weakening of the monsoon, during which peat accumulation ceased.