



Aeolian sediment distribution in the Gonghe Basin, NE Tibetan Plateau

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In contrast to the thick aeolian deposits on the Chinese Loess Plateau, aeolian deposits on the NE Tibetan Plateau often have a thickness of only a few decimeters to meters. However, they are a valuable archive for paleoclimate reconstructions. The main accumulation phase started during the late glacial and the early Holocene. During the middle Holocene an erosional phase lead to the remobilisation of many aeolian deposits.

The Gonghe Basin on the north-eastern Tibetan Plateau is in an intermediate position between the western Chinese Loess Plateau and the Tibetan Plateau. It is a 270 km long and 80 km wide basin at around 3000 m asl. The basin is filled with up to 300 m fluvial and lacustrine deposits of Quaternary age which are the most dominant sediment source. About 500 sediment samples have been analysed for their grain size distribution to identify regional sediment distribution. While in many other intramontane basins on the north-eastern Tibetan Plateau loess deposits are relatively rare, in the Gonghe Basin loess and loess-like sediments are widespread on the mountain slopes. The mean grain size is smaller than in most other basins but coarser than on the loess plateau. In the central part large dune fields are the dominant feature. However, next and partly below the dune fields, silty sediments have been preserved. They are alternating with sandy deposits and indicate varying depositional environments in this part of the basin. Additionally up to two paleosols were found in the center and the eastern side of the basin.