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Distribution of sand and loess in Eastern Sibirea

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In the Lean-Aldan Basin in Eastern Siberia sand, loess-like sediments, and typical loess have been studied. Major sand fields can be found mainly the east of rivers, whereas loess and loess-like sediments are widespread on higher terraces and in the foreland of the Verchojansk Mountains. The sand distribution is resulting from strong westerly and northwestlerly winds, which prevailed in the study area especially during the Last Glacial Maximum and Late Pleistocene periods. The silt distribution is the result of erosion and accumulation cycles of silt-sized particles in this region. This was most intense during the glacial periods (maximum cooling of the last glaciation cycle), as glaciers and active periglacial river systems are the most prominent source producing silt-sized particles. Cryocenic processes are also involved in the erosion and accumulation processes. For the accumulation of loess and loess-like sediments, the trapping of dust by vegetation cover is also necessary. First luminescence data from the area suggest major accumulation periods of aeolian sediments at the end of the Interstadial of the last glaciation (MIS 3) and Last Glacial period (MIS 2 and 3).