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The geochemistry of major and selected trace elements in two peat profiles from ridge-hollow complex of southeastern spurs of Vasyugan bog, southern taiga zone of West Siberia

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The main goal of this paper is to describe and discuss the concentrations and distributions of the major (Si, Al, Ca, Mg, Fe, K) and some trace (Sr, Ba, Mn, Cu, Co, Cr, Ni, Pb) elements during the Holocene from two peat bog profiles of ridge-hollow complex in the southeastern spurs of Vasyugan bog. One of them was formed on the ridge; the second - in the depression and is currently being developed for the type of hollow.
The peat accumulation in the ridge and in the hollow started $\sim$2477$\pm$80 and $\sim$4774 $\pm$ 80 before present (BP), respectively.
The average concentrations of Mg, Al, S, Sr, Cu, Ni is about 2-3 times higher in the peat profile from hollow then in the ridge profile. The other element concentrations from both profiles are comparable. The distributions of element concentrations and ash content in the peat profiles are in a good agreement.
The element distributions show significantly similar patterns in profiles. Two dominant peaks were found: first peak is between 10 and 50 cm, second peak is between 150-170 cm in the ridge profile and between 180-200 cm in the hollow profile. The origin of the peaks in the middle part of the both profiles at almost the same time: between 2272 and 2190 cal. BP, but no later than 2112 $\pm$ 55 BP. These peaks cannot be explained by chemical diagenesis because they are too far above the underlying sediments of the peat profiles, and too far below the uppermost layers. We assume that the increase of elements content reflects the chemical composition of airborne materials supplied to the surface layers of the bog at the time deposition.