Summary

This work was focused on geochemical methods and analyses which were used for lithologic and facial description of floodplain sedimentary records and also for determination of depth dependence of Pb concentration and evaluation of possible mobility of Pb in six profiles, which were taken across the floodplain in two locations in the southern part of Morava River in study area called Strážnické Pomoraví. The aim was to confirm the stability of concentration of Pb in upper parts of all six profiles. Performing these analyses, a possible migration of Pb in lower parts of some profiles has unexpectedly been revealed. For better facial description of the profiles in floodplain fines, proxy methods such as cation exchange capacity (CEC), elementary analysis using energy dispersive X-ray fluorescence spectrometry (EDXRF) and also determination of content of magnetic particles using magnetic susceptibility in depth profiles were used. The results of these proxy methods were confirmed by conventionally used geochemical methods - BCR sequential extraction, elementary analysis with determination of Pb isotope ratios using ICP MS, and granulometric analysis.