

Abstract

The investigation of a drilling core and of five excavations at the construction site Stuttgart 21 in the 'Mittlere Schlossgarten' provide initial results that demonstrate the potential of these sediments for basic information regarding human-environment interactions in a prehistoric context as well as providing information regarding the development of a city. In addition to petrographic and sedimentological analyses, including texture analysis, total content of various elements, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ isotope analysis, polycyclic aromatic hydrocarbon (PAH) analysis, as well as pollen and macro botanical analysis were carried out on the sediments within the project, and the botanical analyses are ongoing within a doctoral thesis. Thereby, the focus is set on land use, erosion and sedimentation. Also, the importance of water and water-management to early settling and urban development is highlighted. However, promising results are examined so far. In addition, first historical-geochemical research has provided information on mining activity during the 16th and 17th century in the Stuttgart valley. Further important results could be achieved with more specialised and comprehensive research and analysis, should this project be continued. Sampling opportunities opening up briefly within the Stuttgart 21 construction site on large-scale exposed sediments and provides drill cores present a unique opportunity for geological, vegetational and historical insight into the Stuttgart catchments. The selected inter- and transdisciplinary approach is crucial to the answering of the posed scientific questions.