



Transport of suspended particulate matter during flood events: The importance of the monitoring strategy

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Polluted sediments are a key issue of the river pollution. Hydrological extremes like flood events lead to changes in the mobility of sediments, deposited in still water areas like groyne fields, locks and weirs. During high discharges contaminated sediments and alluvial soils could be re-mobilised and increase the suspended matter concentration in the water column. To promote a sustainable development of a river system regarding the protection of the floodplains and the sea, detailed knowledge of the main sources in the catchment area and of the transport behaviour of these pollutants is needed. For this purpose a monitoring program on the river basin scale is essential. It should be robust and consistent to reduce uncertainties in prognoses of future developments.

Experiences during the investigation of past flood events of the River Elbe underline the importance of the sampling strategy with respect to location, begin of sampling, sampling interval and analytical methods. Also the travel time of the flood wave has to be considered.

In the presentation a sampling strategy for the middle part of the River Elbe will be introduced and discussed using the example of trace metals. The approach covers the transport of suspended matter in the water column with the assessment of its deposition in the floodplains. The water investigations are basing on local discharge thresholds as starting points for the measuring campaign. Artificial-lawn mats are used as sediment traps in floodplains to measure sediment input and composition during flood events.