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## A Geomorphic interpretation of the inundation history as fluvial response to intervention in the mid-Arakawa

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Both natural processes as big floods and artificial works as embankment, dam construction and gravel excavation were considered intervention to the fluvial system. The inundation history can be geomorphologically interpreted as response of fluvial system to the intervention. Case studies were carried out in the middle reach of the Arakawa, central Japan. Big floods brought sedimentation in a wide range of the alluvial fan. It was followed by big erosion in the fan, which supplies sediments downstream. On the other hand, both embankment and gravel excavation induce abrupt lowering of river bed. The effects of gravel excavation appear in rather limited reach and disappear soon after the work was over, while the effects of embankment continue long.

Keywords: River bed fluctuation, Human-impact, Flood history, Equilibrium, Mid-Aarakawa