

Land of Rivers

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The branches of the upper Rhine delta: channel incision and rapid bed surface coarsening

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Keynote abstract

The fact that the upper Rhine delta is characterized by channel incision is fairly well known. This channel incision results from a decrease of the equilibrium channel slope. Only recently we have become aware that the bed surface sediment in the branches of the upper Rhine delta is coarsening with time rapidly. Within a period of only 20 years, the representative grain size of the bed surface sediment in the Bovenrijn has increased from 1 to 10 mm. This is an unprecedentedly rapid change. This bed surface coarsening appears to be the reason that the incising trend in the Bovenrijn stopped about 30 years ago. The effect of bed surface coarsening is expected to be slowly migrating downstream and to increasingly affect the downstream Rhine branches. In her presentation Astrid Blom will address the causes and implications of both the channel incision and the rapid bed surface coarsening, as well as the effects of climate change on the upper Rhine delta.



About the keynote speaker

Dr. Astrid Blom is Associate Professor of morphodynamics of sand-gravel rivers at Delft University of Technology. In her research she focusses on (long-term) morphodynamics, sorting mechanism in dunes and mass conservation models for mixed sediment.



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