

A characterization of side channel development

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Challenge

Side channels are small secondary channels in the floodplain that are constructed to reduce the risk of flooding and/or to increase the ecological value of a river. Side channels aggrade quickly and a better understanding of the development of side channels is needed to meet their long-term requirements. We propose a categorization that can aid to a better understanding and prediction of the development of side channel systems.

Innovative components

- Detailed sediment measurements of the side channel system at Gameren in the river Waal.
- A first estimate of the time scale of side channel development.
- A categorization of the development of side channels.

For whom and where?

Researchers and professionals that are interested in constructing and maintaining side channels.

Application development and findings

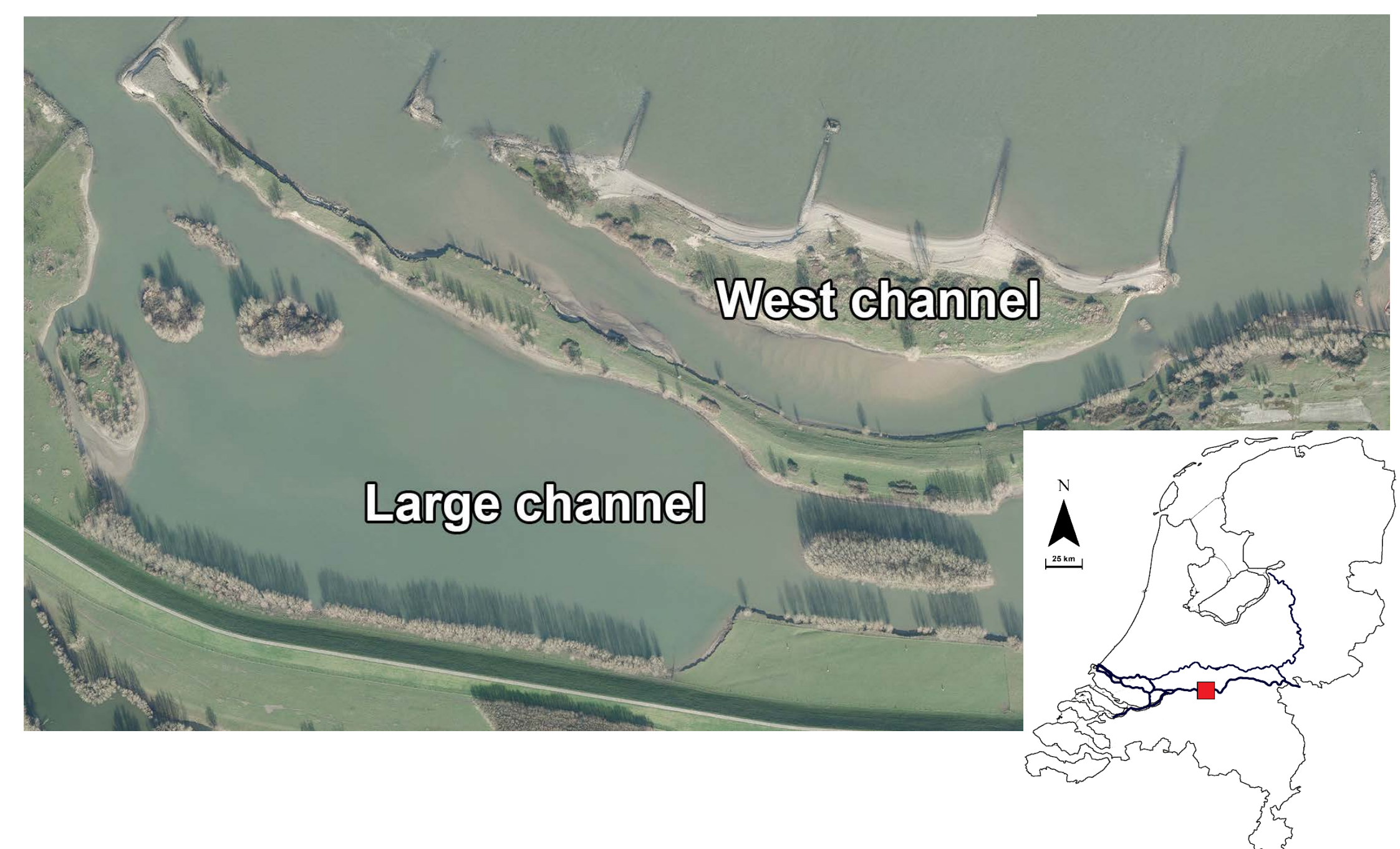
- The sediment deposited in side channels is often much finer compared to the sediment in the main channel.
- The processes that are important to study the development of side channels are different to traditional bifurcation studies.
- We propose three categories of side channels based on the sediment that is deposited in the channels.
- Based on the categories a first estimation of the time scale of the side channel development can be estimated.

Status for day-to-day practice

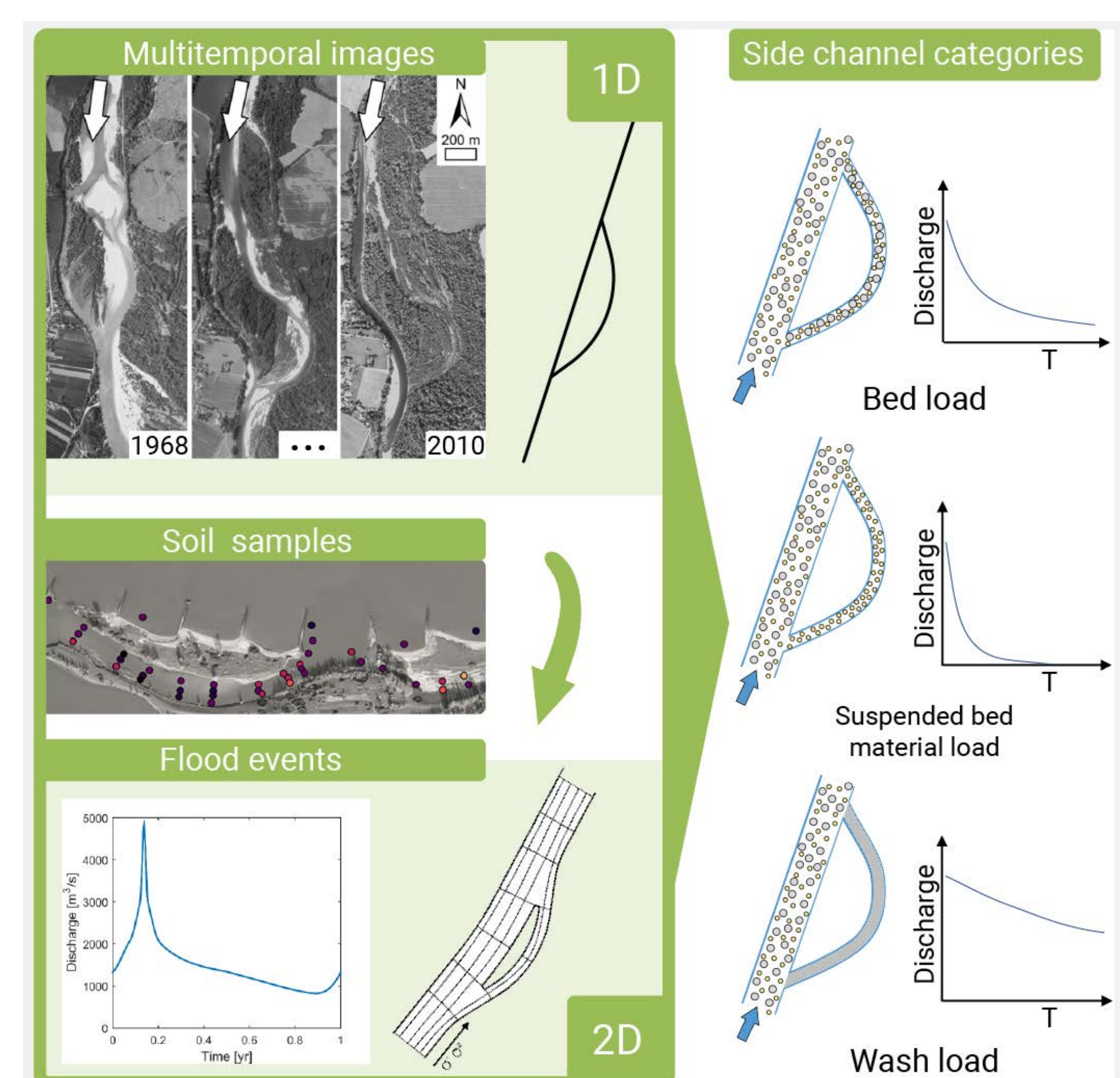
The categorization can be used in practice to better understand the development of a side channel system. In addition, the proposed method can give a first estimate of the time scale of development

Next steps

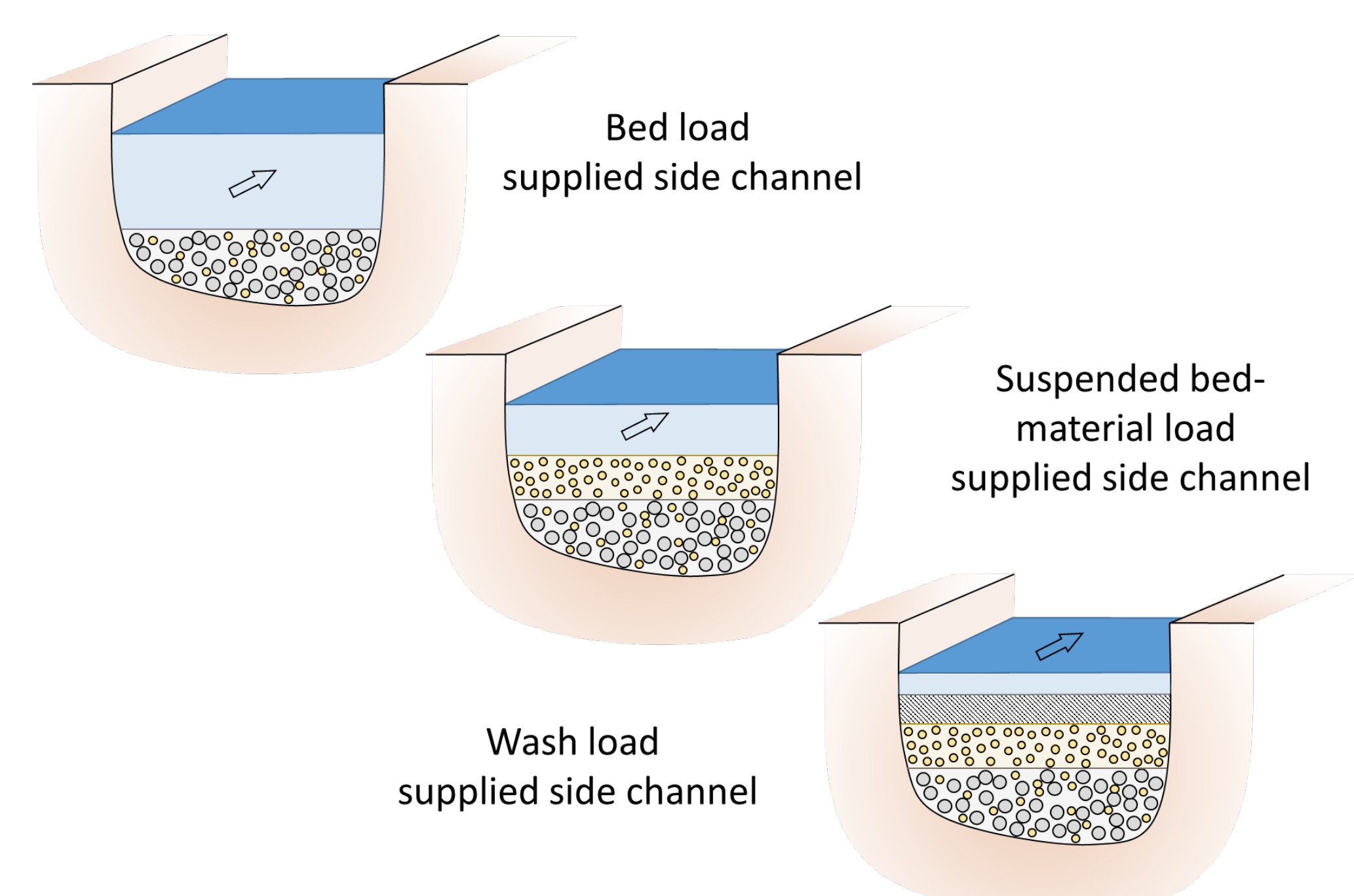
Now we study the bed level change in the main channel due to the construction of side channels using measurements.



The West channel and part of the Large channel at Gameren, the Netherlands



Approach and innovative components



Typical aggrading side side channel that changes of category with increasing bed level

Interested?

Email to: r.p.vandenderen@utwente.nl
Explore more in the side channels and natural banks [project description](#)

