**Spreading wide and thin? rivers, fans & deltas**

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**Mission:** Rivers, fans, deltas and coasts build up from sand, mud and vegetation. These are important for ecology, society and oil exploration. I aim to understand how these systems form and change by fieldwork, remote sensing, scale experiments and numerical models.

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**Meandering & braided rivers**

- Pattern difference caused by mud and vegetation on floodplains
- For the first time meanders reproduced in the lab, including vegetation, numerical modelling in progress
- Baffles & barriers in the deposits modelled

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**River valleys & alluvial fans**

- Valley incision since the Little Ice Age and in the future
- Activity of debris flows (hazards) on fans
- Sediment delivery to rivers and fjords
- Svalbard fieldwork, remote sensing and experiments

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**Distributive fluvial systems**

- Long-term sedimentation in large fan systems
- On the sea floor, oil-bearing
- Novel experiments: channel bodies and floodplain

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**How we apply this:**

- Effects of past and future climate change on erosion and sedimentation
  - Coasts
  - Rivers & deltas
  - Debris flows, hazards
- Interaction between vegetation and sediments
- Oil exploration & exploitation
- Climate reconstruction on polar Planet Mars
- Collaboration welcome!
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