

Catchment sediment systems

Geological understanding for land use planning and policy in Scotland

Contacts: Katie Whitbread (kwhi@bgs.ac.uk), Chris Thomas (cwt@bgs.ac.uk)

1. Catchment sediment systems

Dynamic systems of sediment erosion, transport and deposition in catchments give rise to many land management challenges.



The Catchment Sediment Systems Project aims to:

- Inform and support the work of land managers and regulators
- Provide knowledge and tools for strategic land use decision making by local to national government

2. Rocks and sediment processes

We are parameterizing the role of geology for modelling of sediment source potential

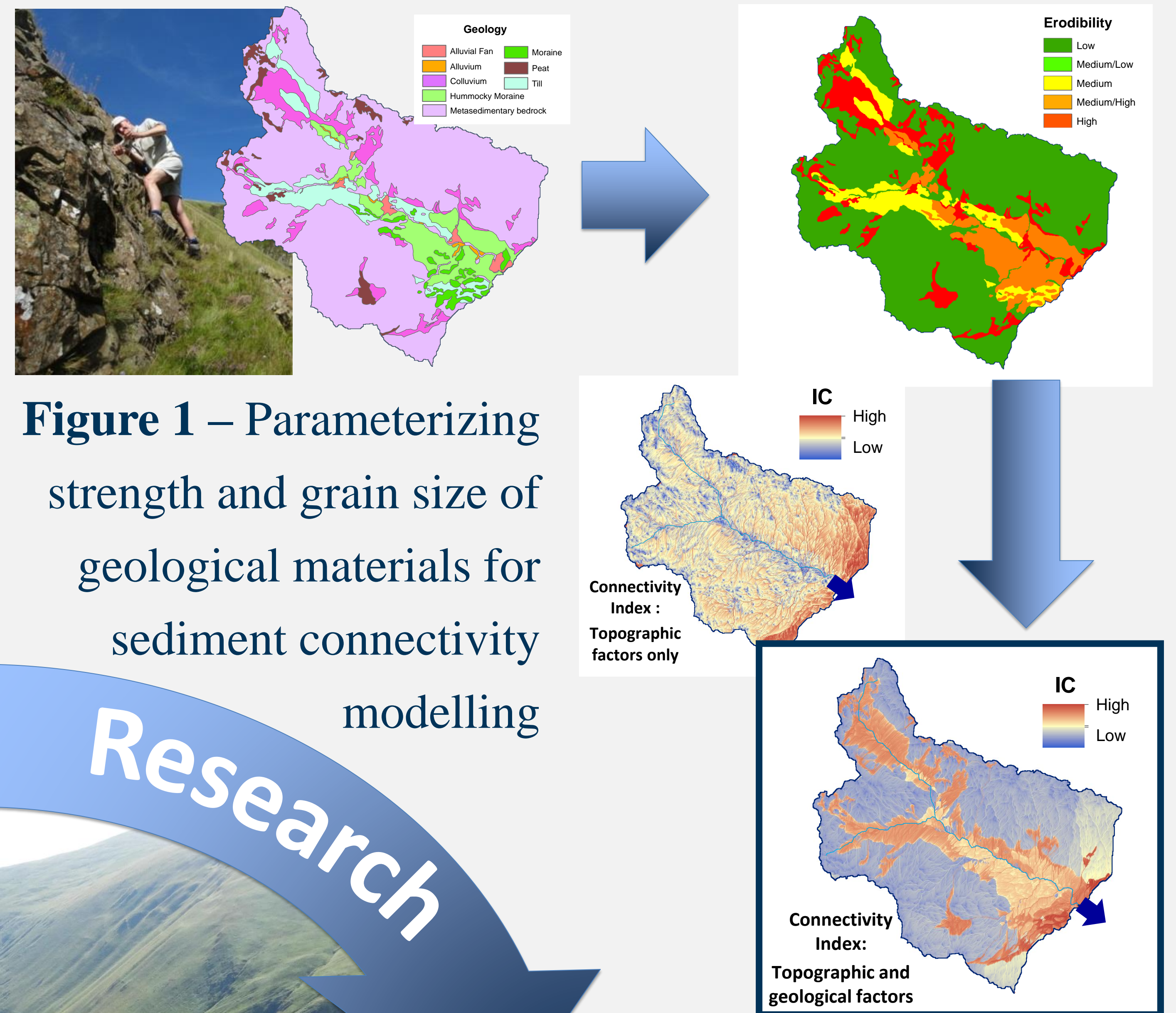


Figure 1 – Parameterizing strength and grain size of geological materials for sediment connectivity modelling

cf. Borselli et al. (2008)

4. Applications: Land use policy and planning

The Scottish Government's Land Use Strategy (2016-2021) recognizes the multiple benefits our land provides.



Getting the best from our land
A Land Use Strategy for Scotland
2016 - 2021

Through Knowledge exchange and information tools understanding of the role of sediment can inform:

- Assessment of land use benefits
- Strategic land use planning
- Development of land use policy

3. Applications: Environmental management

Working with partners we are developing methods to monitor river channel evolution and suspended sediment in relation to natural flood management (NFM) and restoration works



Figure 2 – Installing a sediment sampler on the Eddleston Water (left), a stream undergoing re-meandering as part of a NFM scheme coordinated by the Tweed Forum (right).

References

Borselli et al. 2008, Catena, 75, 268-277