EGU21-16314, updated on 27 Jan 2022
https://doi.org/10.5194/egusphere-egu21-16314
EGU General Assembly 2021

Connectivity in geomorphology

Ronald E. Pöppl[1], Saskia D. Keesstra[2], and Anthony J. Parsons[3]
[1]Department of Geography and Regional Research, University of Vienna, Austria
[2]Wageningen Environmental Research, Netherlands
[3]Department of Geography, University of Sheffield

In the past two decades, connectivity has emerged as a relevant conceptual framework for understanding the transfer of water and sediment through landscapes. In geomorphology, the concept has had particular success in the fields of fluvial geomorphology and soil erosion to better explain rates and patterns of geomorphic change in catchment systems. Sediment (dis)connectivity in geomorphic systems is generally governed by the spatial arrangement of sediment sources, transfer pathways and sinks (i.e. the structural component) as well as the interactions between landscape compartments and the frequency-magnitude relationships that dictate the relative effectiveness of geomorphic processes (i.e. the structural component; Poeppl et al., 2020). This presentation will provide a short general overview on existing concepts of connectivity in geomorphology, further highlighting and discussing recent developments in geomorphological connectivity research.

References

Ronald E. Poeppl, Kirstie A. Fryirs, Jon Tunnicliffe, Gary J. Brierley (2020). Managing sediment (dis)connectivity in fluvial systems, Science of The Total Environment, Volume 736, 139627