



## **The geomorphic cell: a basis for studying connectivity in hydro-geomorphic systems**

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Connectivity is an important concept for understanding the transport of water and sediments in hydro-geomorphic systems.

Any attempt to measure connectivity within a system requires a set of entities (i.e. fundamental units or FUs) to be defined that permit the connectivity amongst them to be quantified. Here we propose the geomorphic cell as such an entity. We provide a means to identify these cells, define a terminology for describing cell state, and identify the pathways of connections to and from cells (connecteins). Geomorphic cells are conceptualized as structural entities made up of land elements with similar hydro-geomorphic potential determined by factors that influence its capability to store and transfer water and sediment (e.g. topography, land cover/vegetation, soil type), while the actual cell state depends on the degree of water saturation and sediment availability.