5.7: Variables Involved In Rivers

Think about the variables that describe the characteristics and behavior of rivers. These fall into the broad categories of flow, sediment, geometry, and other. Here's a fairly inclusive list of such variables:

flow:

- cross
- section
- stage
- discharge
- velocity
- turbulence

sediment:

- bed-material properties
- load
- sediment discharge
- bed configuration
- slope or profile
- base level

geometry:

- width
- depth
- cross-section shape
- plan pattern

other:

- chemistry
- biota

Of these, some can be considered to be ***independent variables***, in the sense that they are imposed on the river and the river has to live with them, and other can be considered to be ***dependent variables***, in the sense that the river adjusts their values in response to the independent or imposed variables.

Independent variables:

- temperature (almost entirely)
- biota (mostly)
- discharge (entirely)
- sediment discharge (approximately, in the long term)
- base level (entirely)
- chemistry (almost entirely)
- sediment characteristics (partly)
- slope (in the short term but not in the long term)