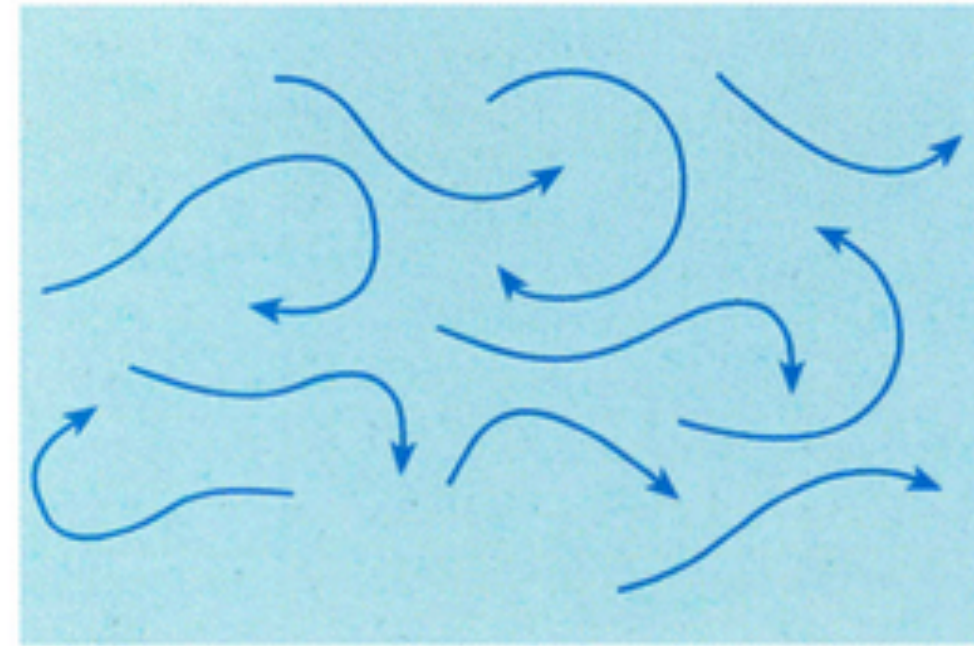


Frictional forces and the boundary layer

- Flow in the boundary layer might be **laminar** or **turbulent**. In the oceans most of the erosion and deposition takes place in the benthic boundary layer



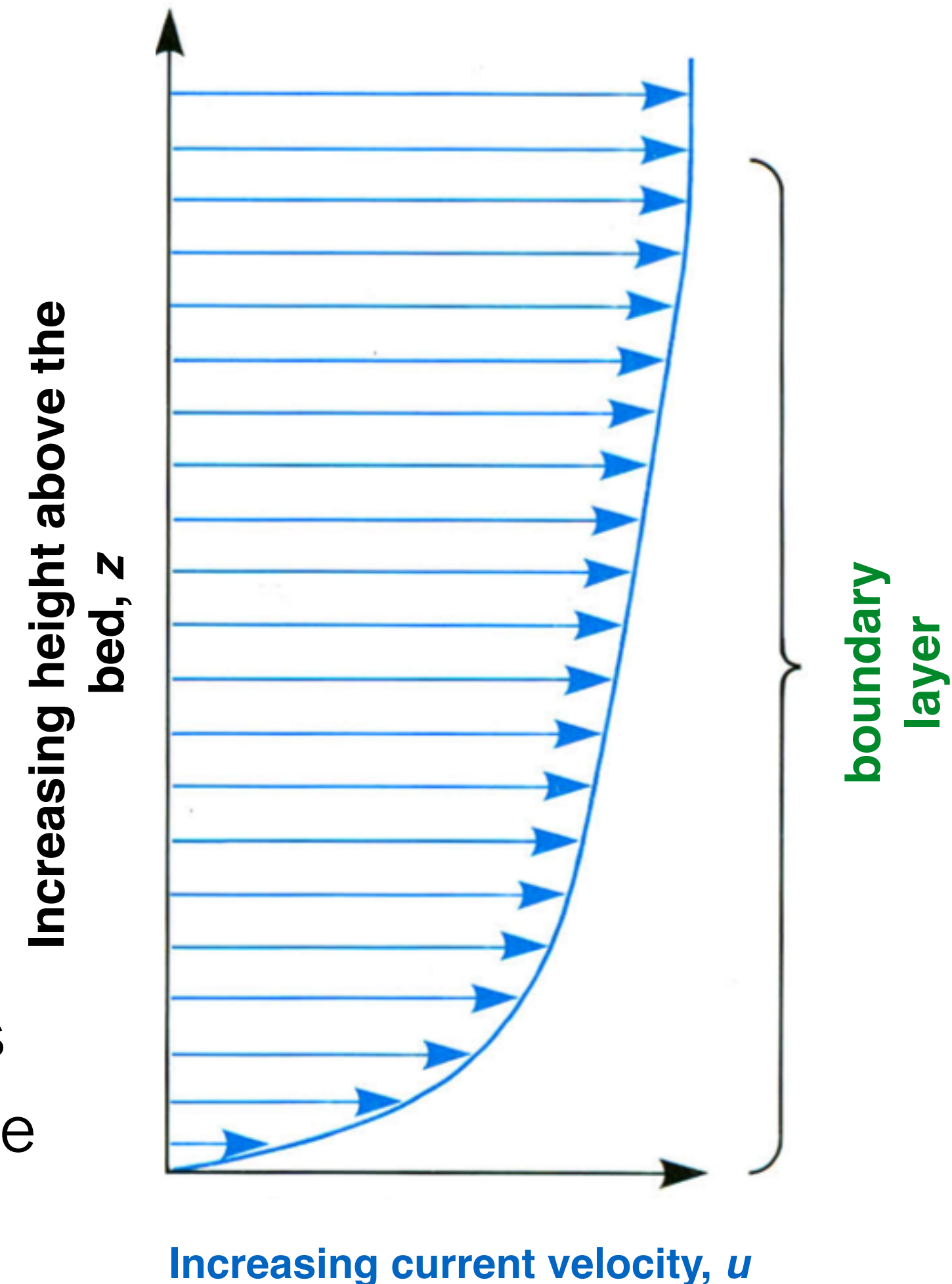
laminar flow



turbulent flow

(complex multi-directional eddies superimposed on the overall flow direction)

Benthic boundary layer: approx. tens of metres thick -> in shallow water it can occupy the whole water column)



Factors controlling the movement of sediment

- **grain size**
- **densities** of sediments and of ambient water (in practise the density contrast between particles and water)
- **viscosity** of the ambient water
- **flow regime** turbulent / laminar