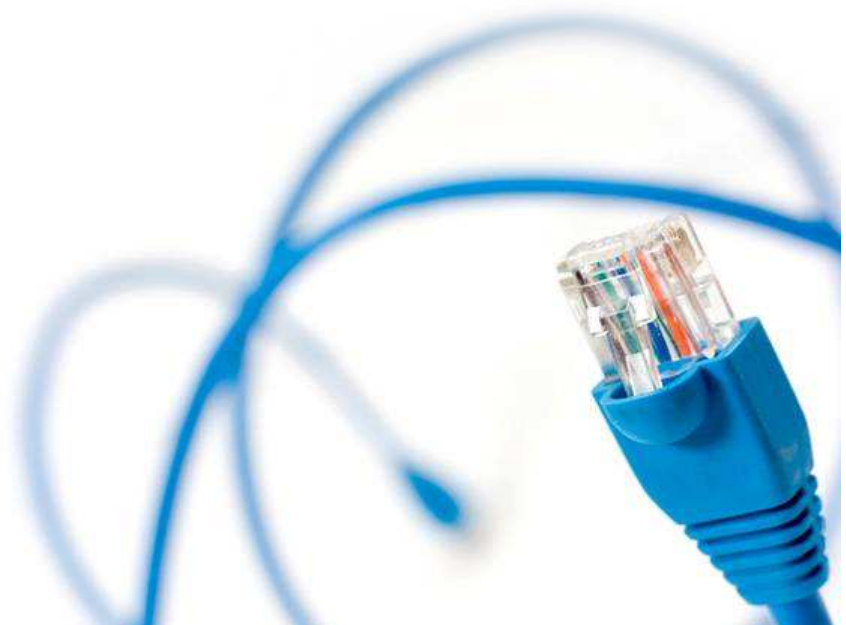


Measurements for water

A.M.J. Coenders

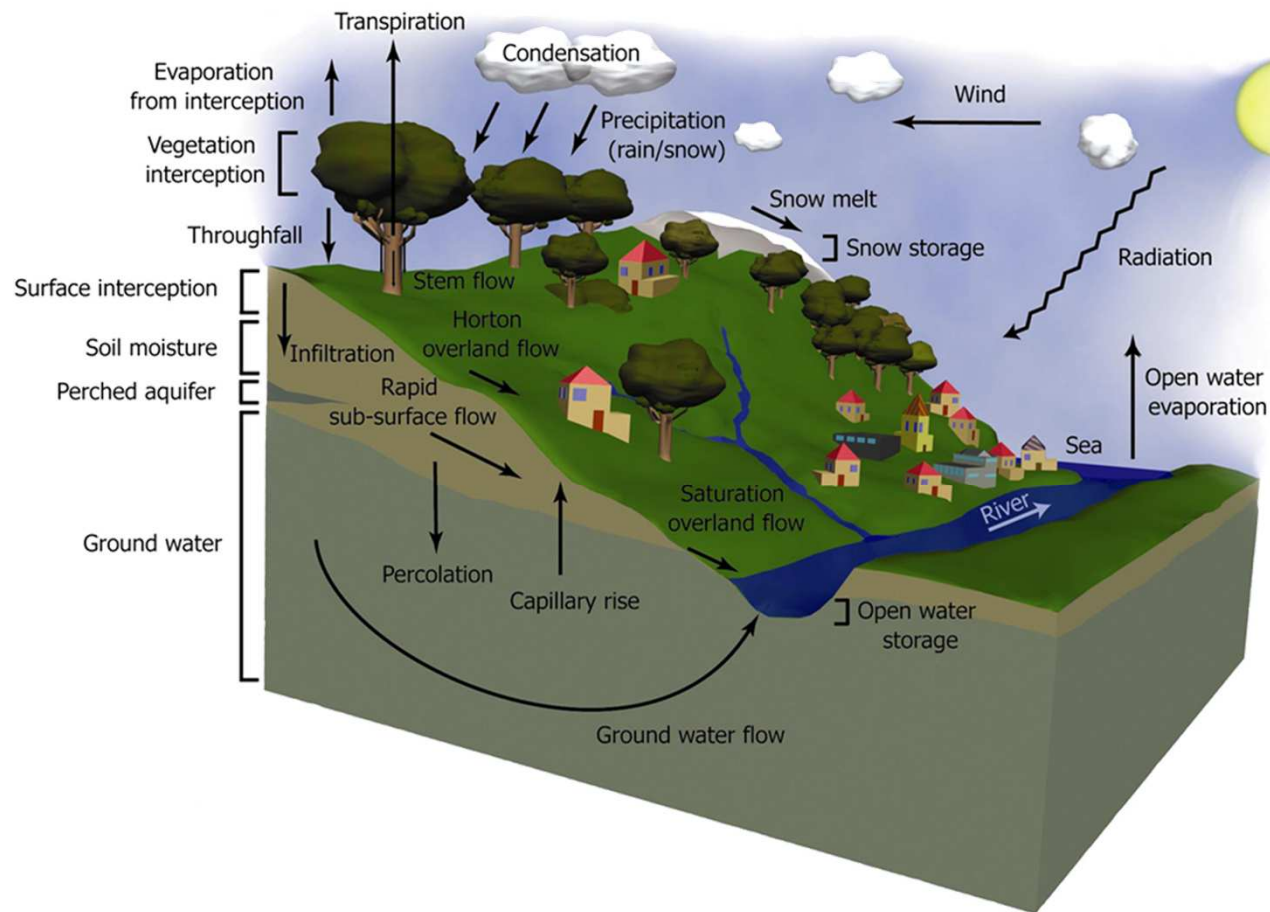
Waterbalans: Groundwater



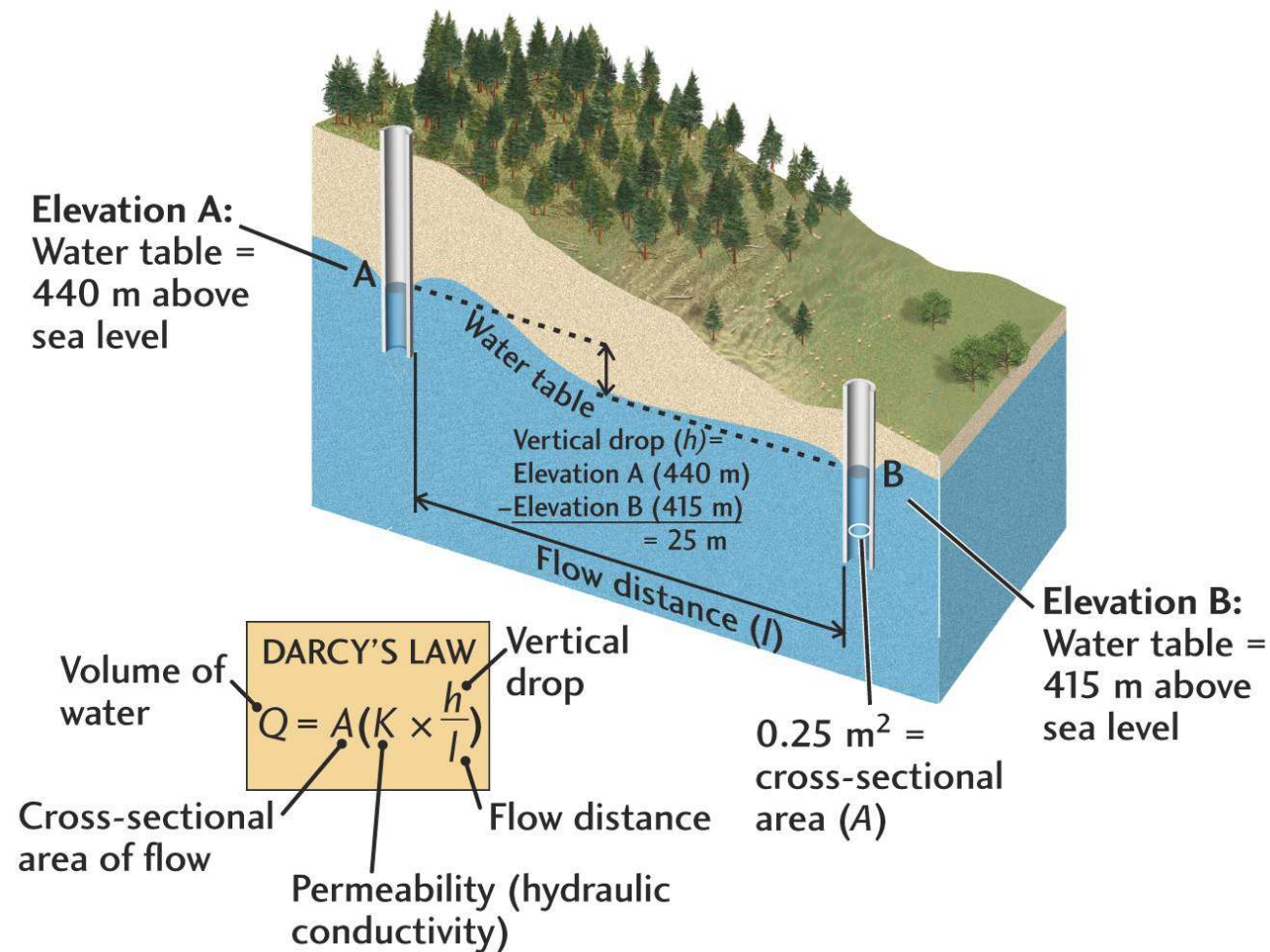


Ground water

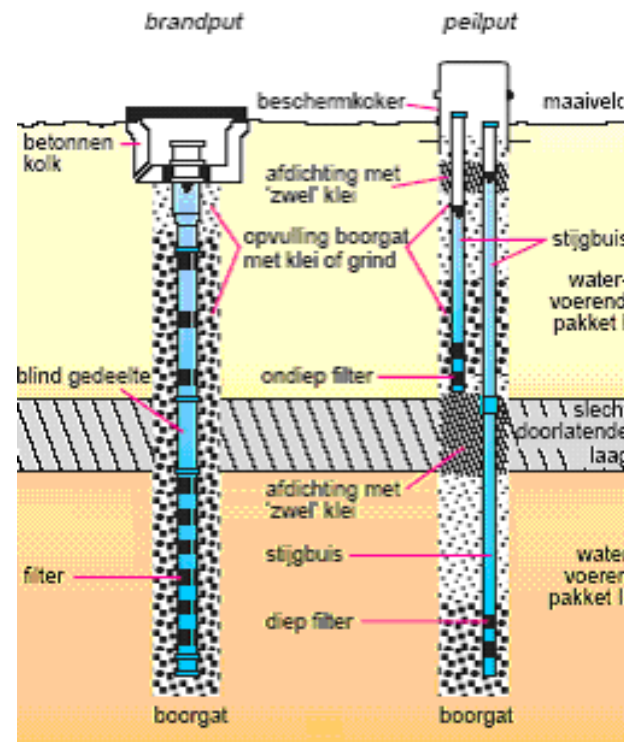
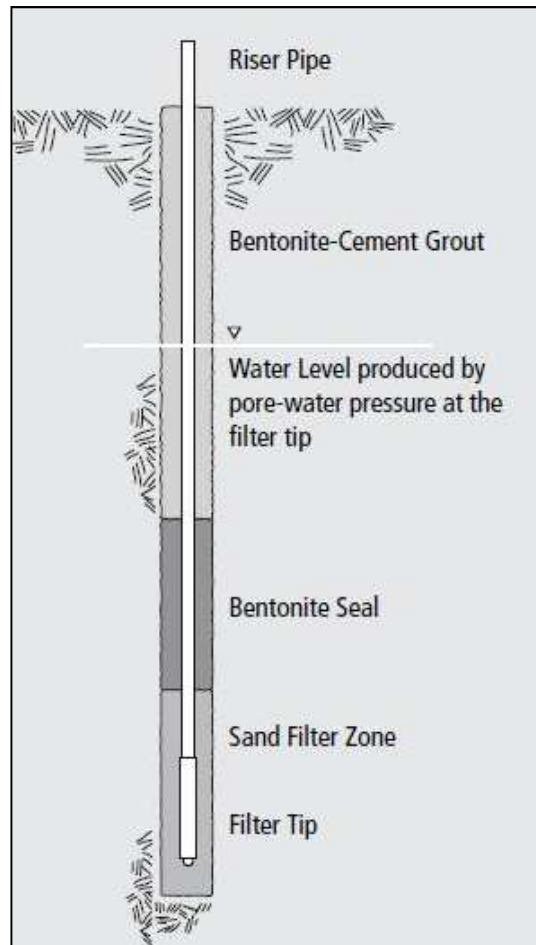
Groundwater



Ground water flow: Darcy's Law



Measuring water table: the bore hole

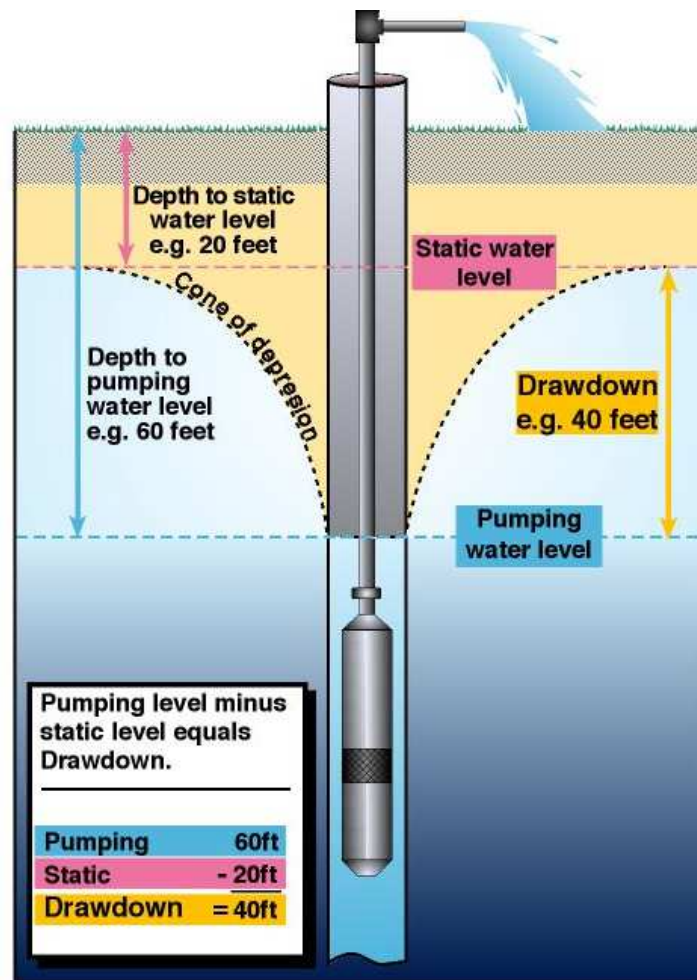


Measuring water table: the water level

- Manual
- Electronic pressure transducers
 - Compensate for air pressure



Measuring permeability: Auger hole/pumping test



$$k_h = C \frac{h_0 - h(t)}{t}$$

$$C = \frac{4000r}{h'(20 + D/r)(2 - h'/D)} \text{ with } h' = (h_0 - h(t))/2$$

Hooghoudt (1934)

Groundwater overview

- Darcy's Law
 - Water level
 - Manual
 - Electronic pressure transducers
 - Hydraulic conductivity
 - Auger hole test