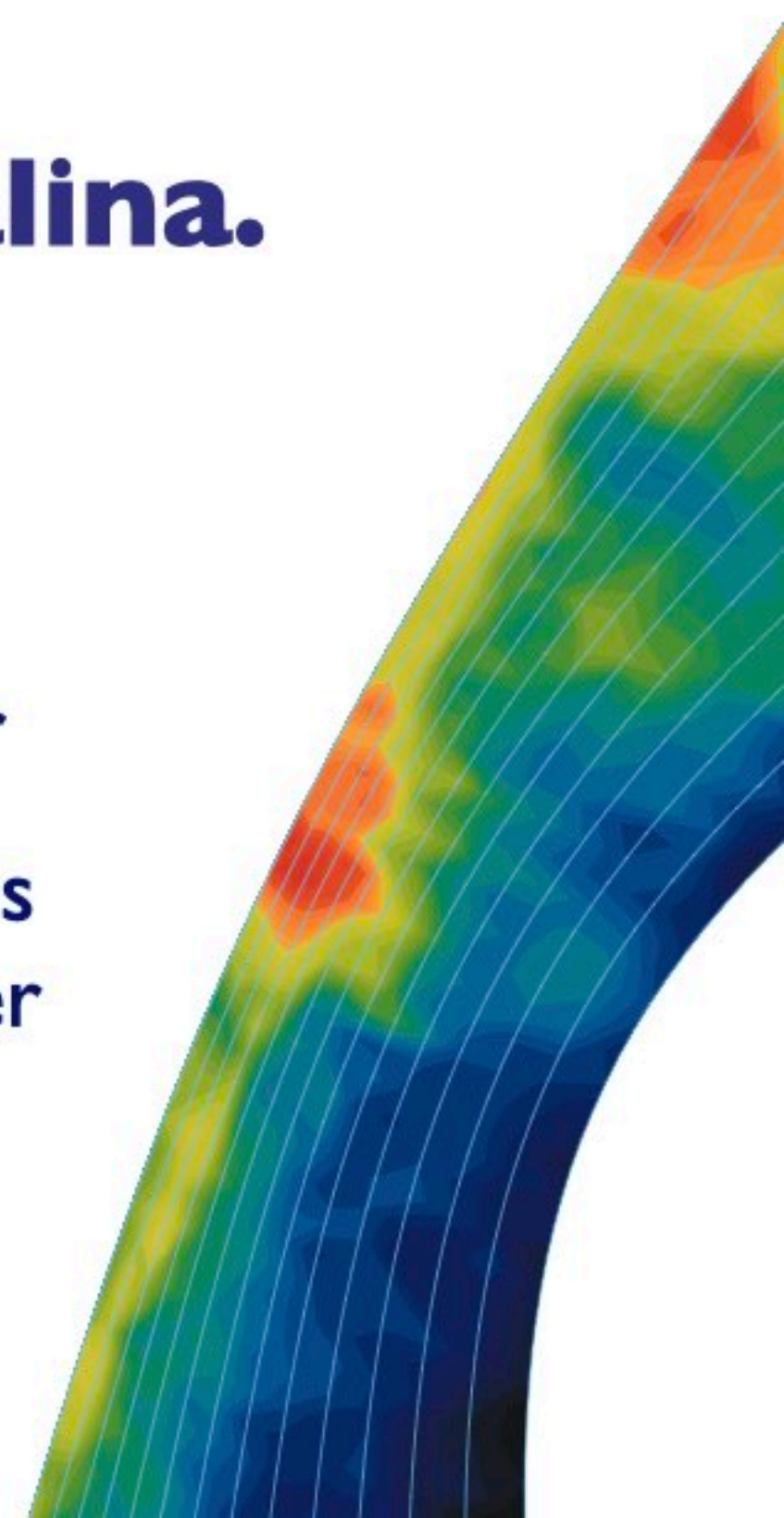


Tema 21: Intrusió salina.

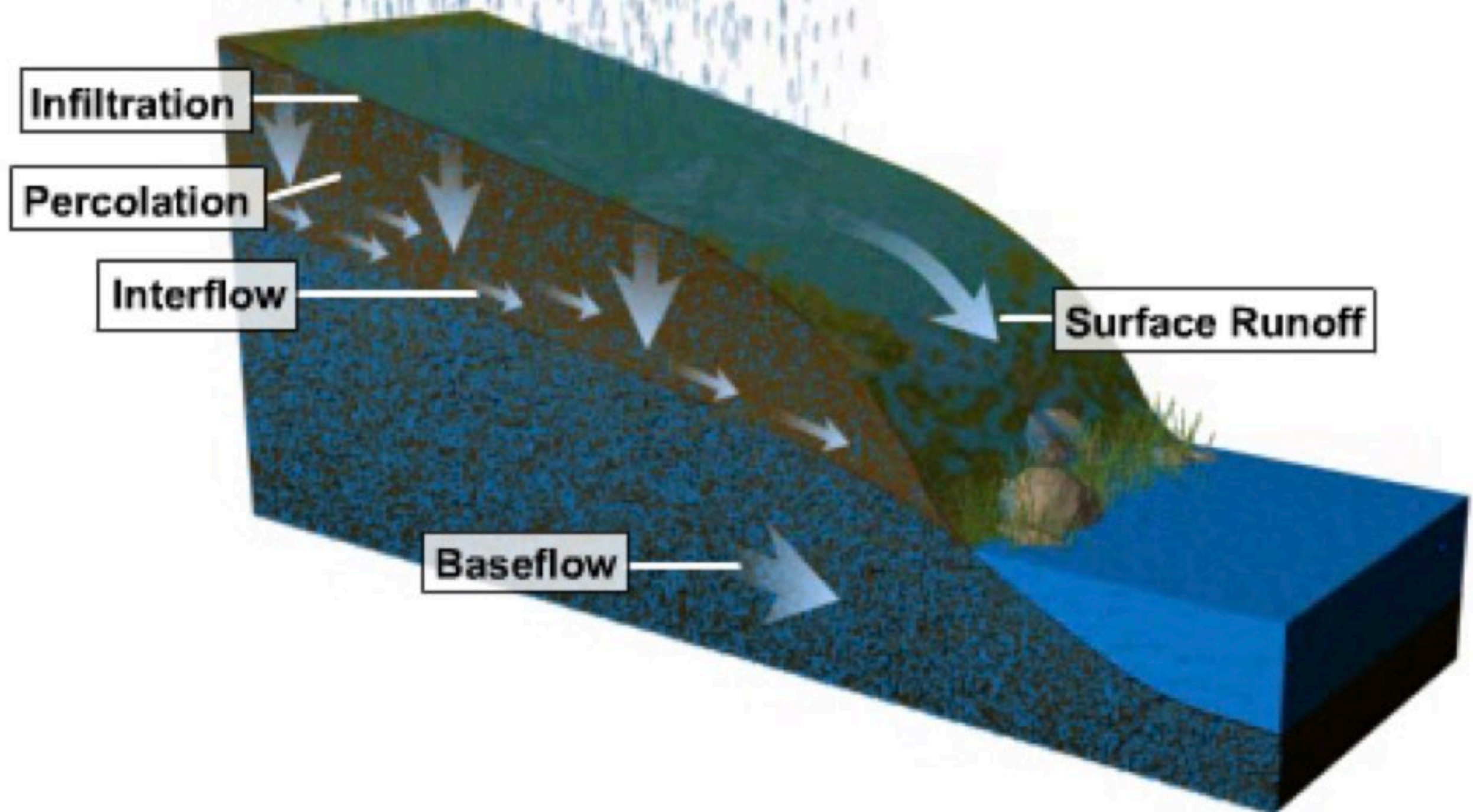
Cicle Hidrològic Costaner

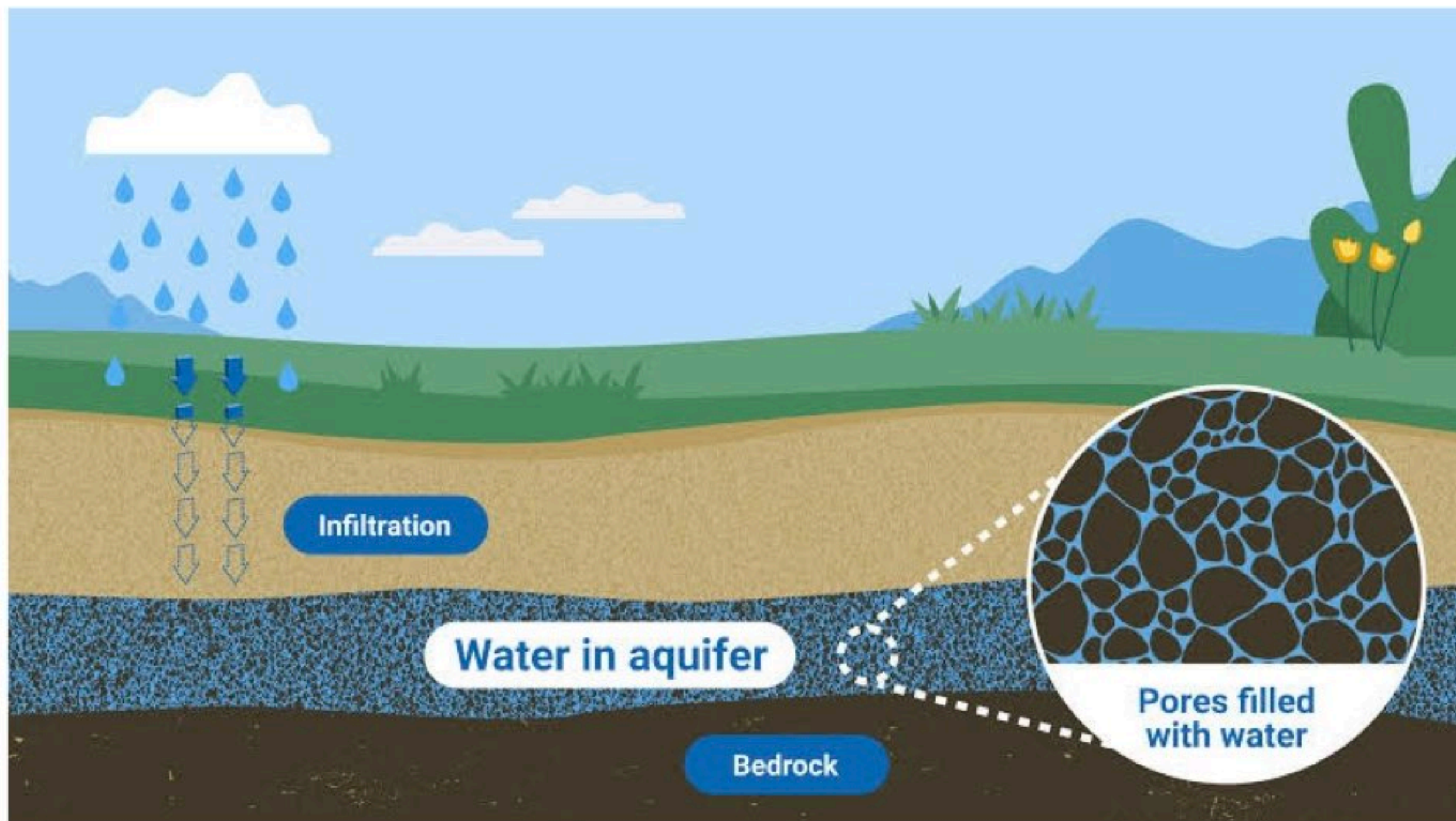
Prof. Daniel Sempere Torres

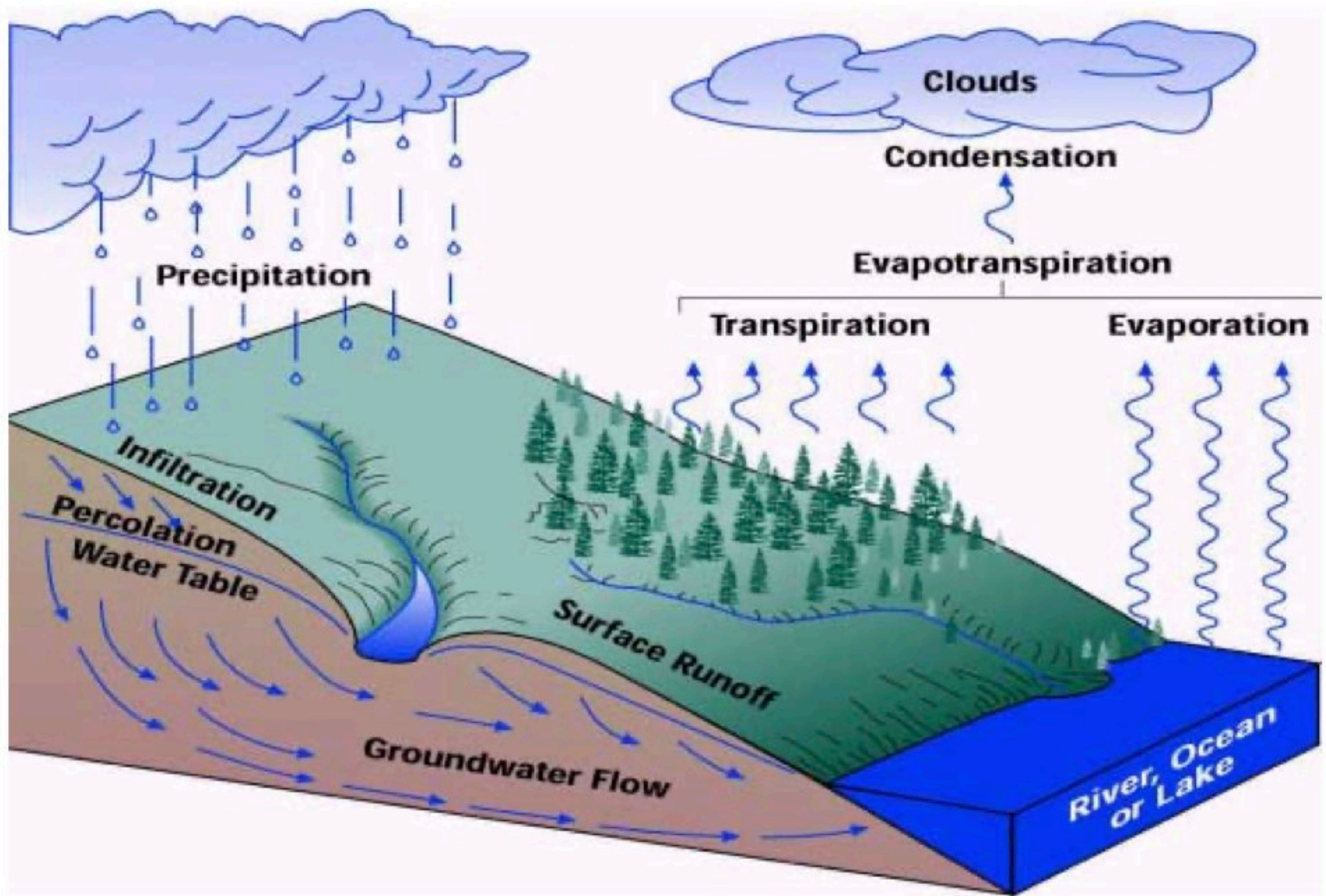
Prof. Marc Berenguer Ferrer



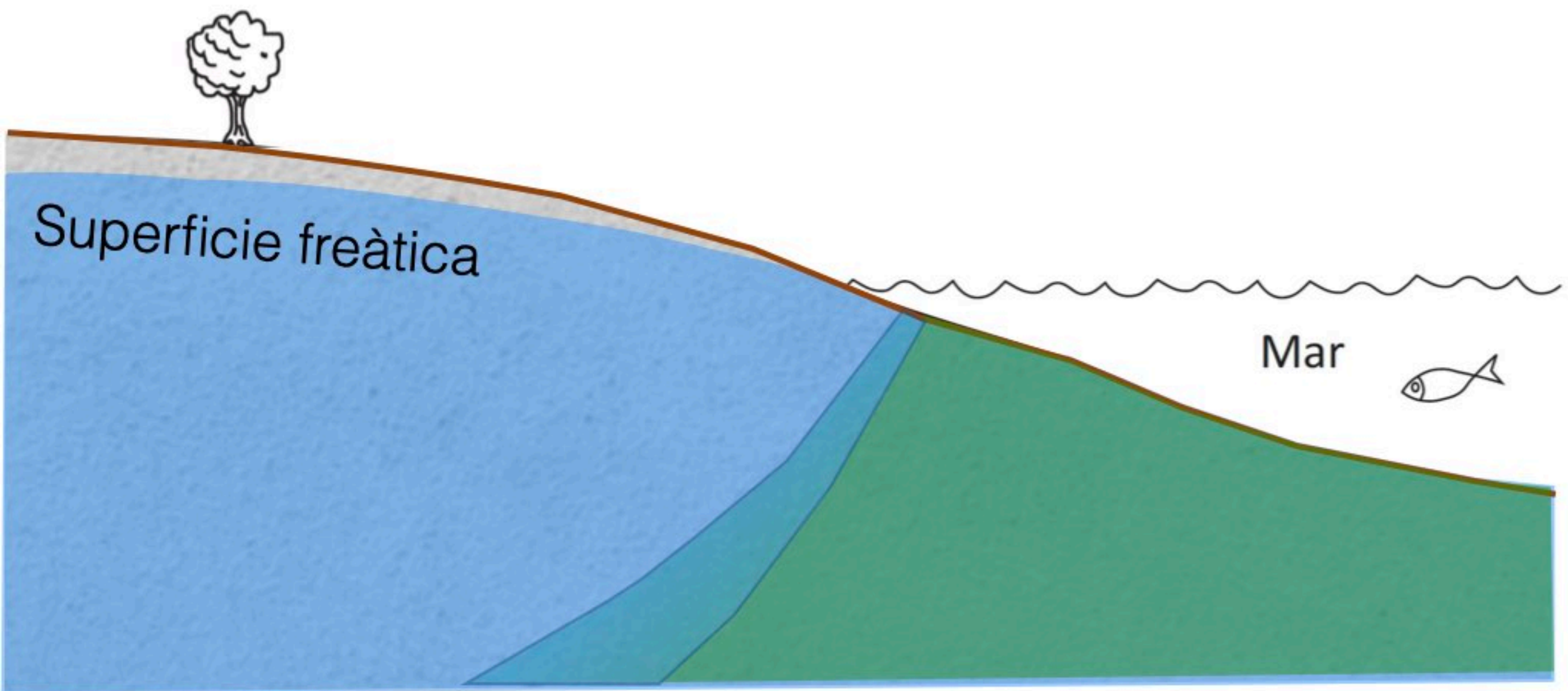
Basic Soil Water and Runoff Terms

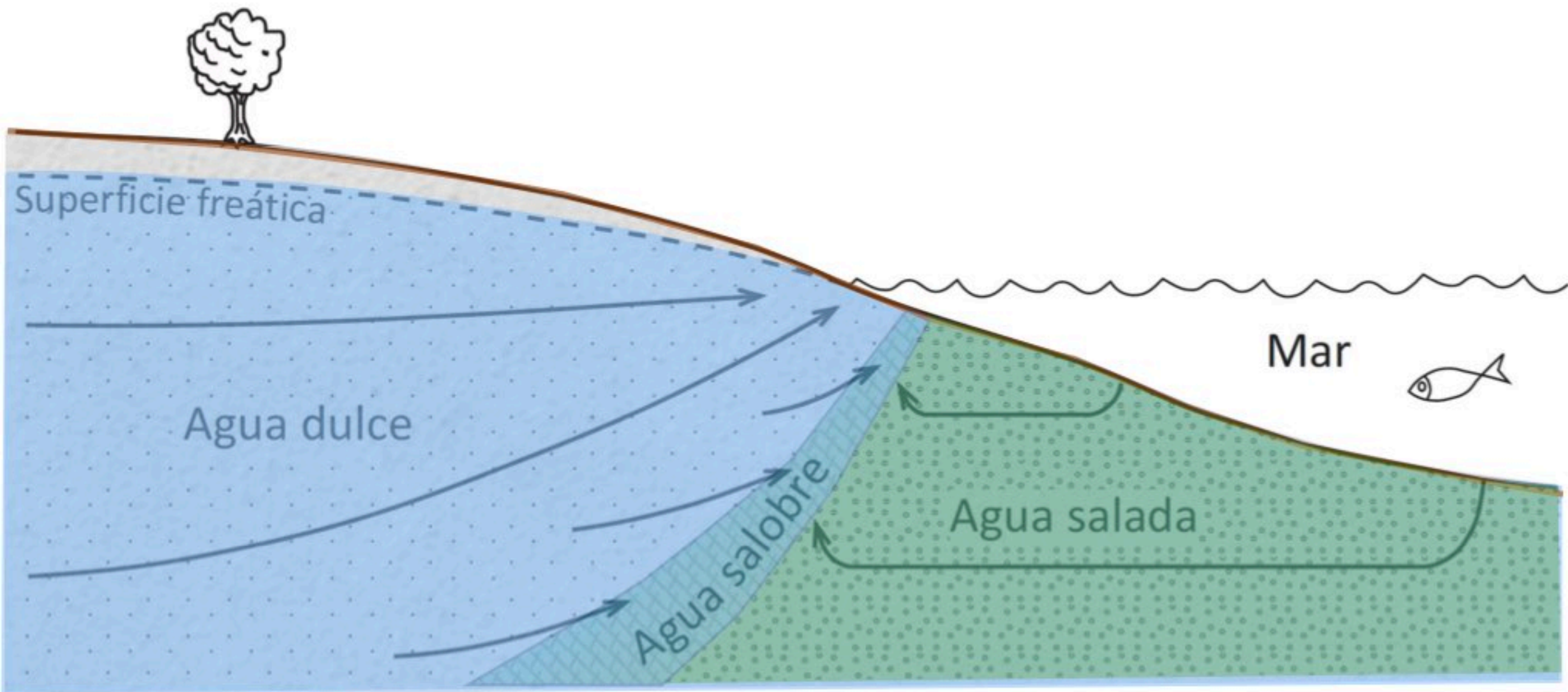












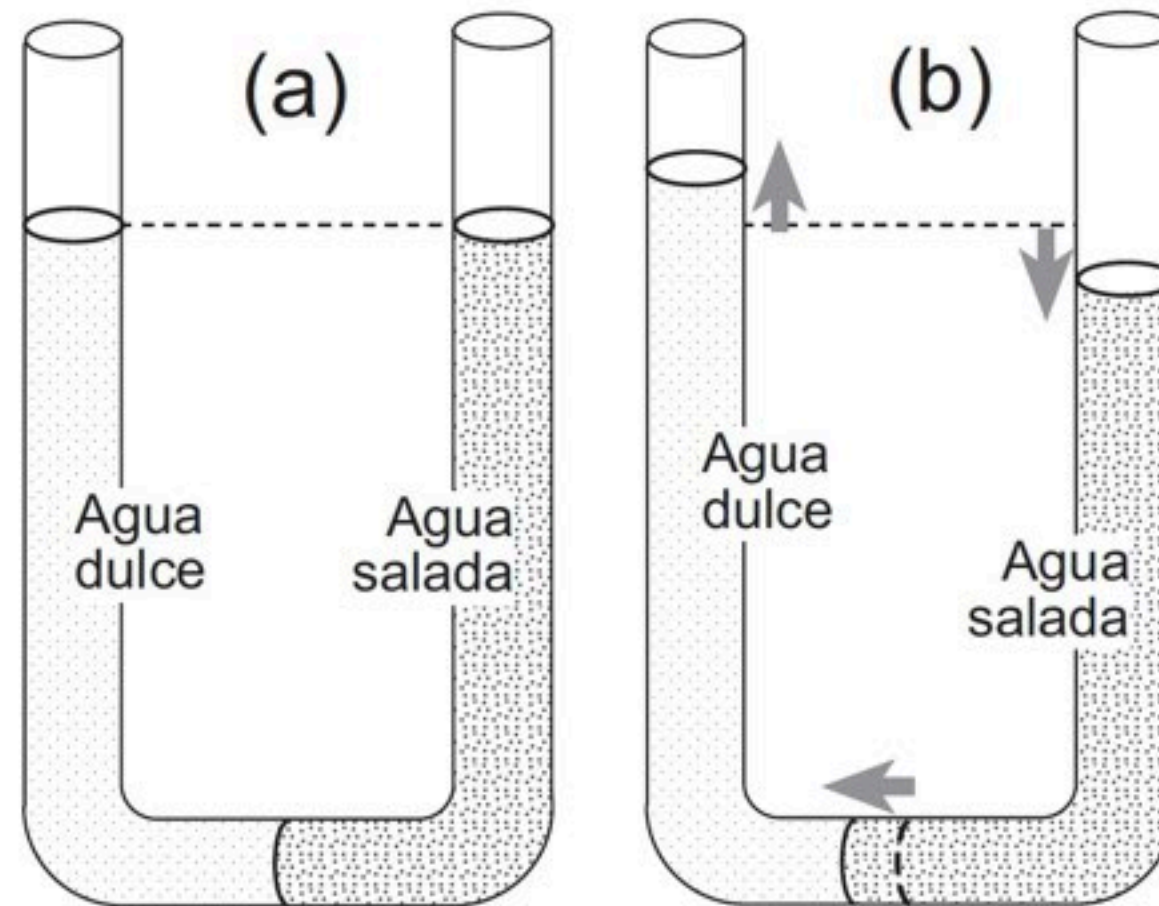


Figura 3.- En unos vasos comunicantes el agua salada quedaría más abajo por su mayor peso específico

Ley de Ghyben-Herzberg (1901)

$$(z + h) \gamma_d = z \gamma_s$$

Donde: z = cota (valor absoluto) del punto considerado A (figura 4)

h = cota de la superficie freática en la vertical del punto A

γ_s = peso específico del agua salada

γ_d = peso específico del agua dulce

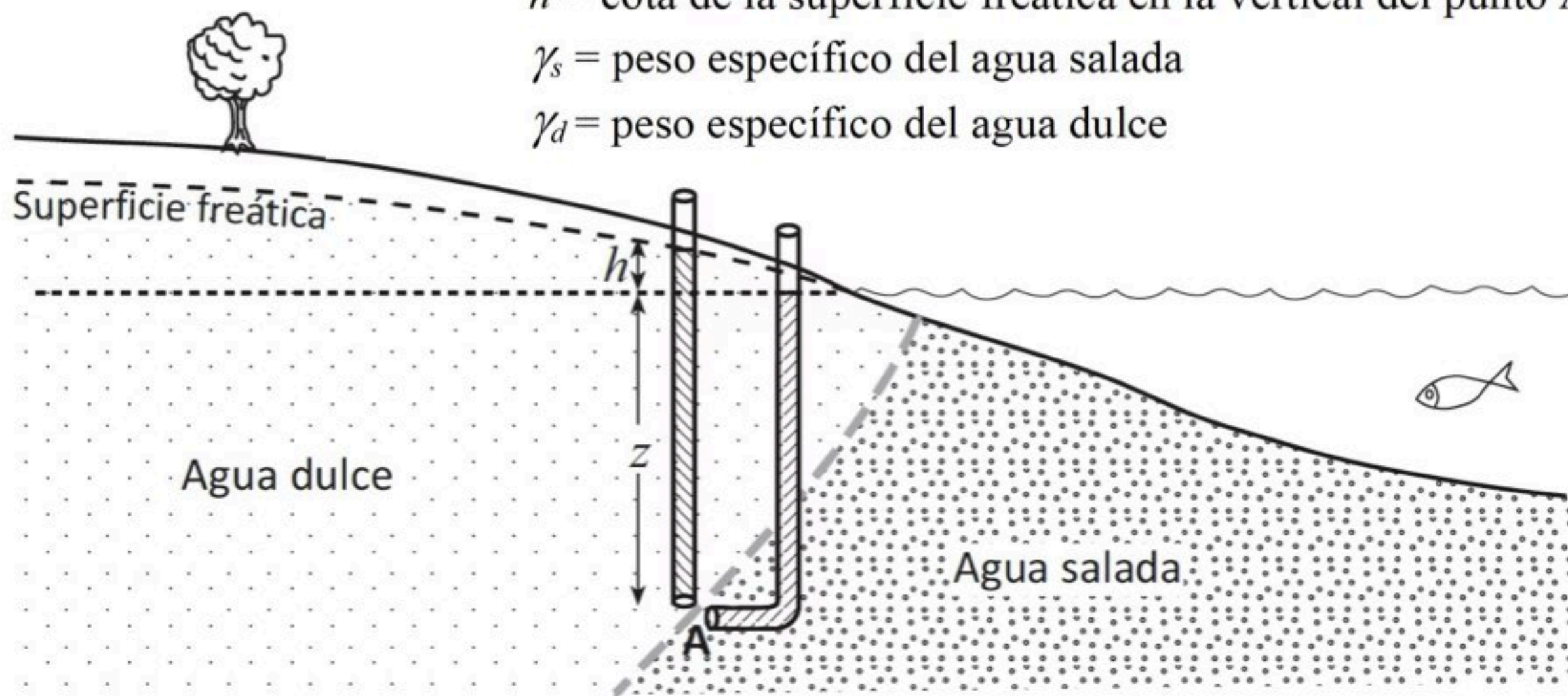
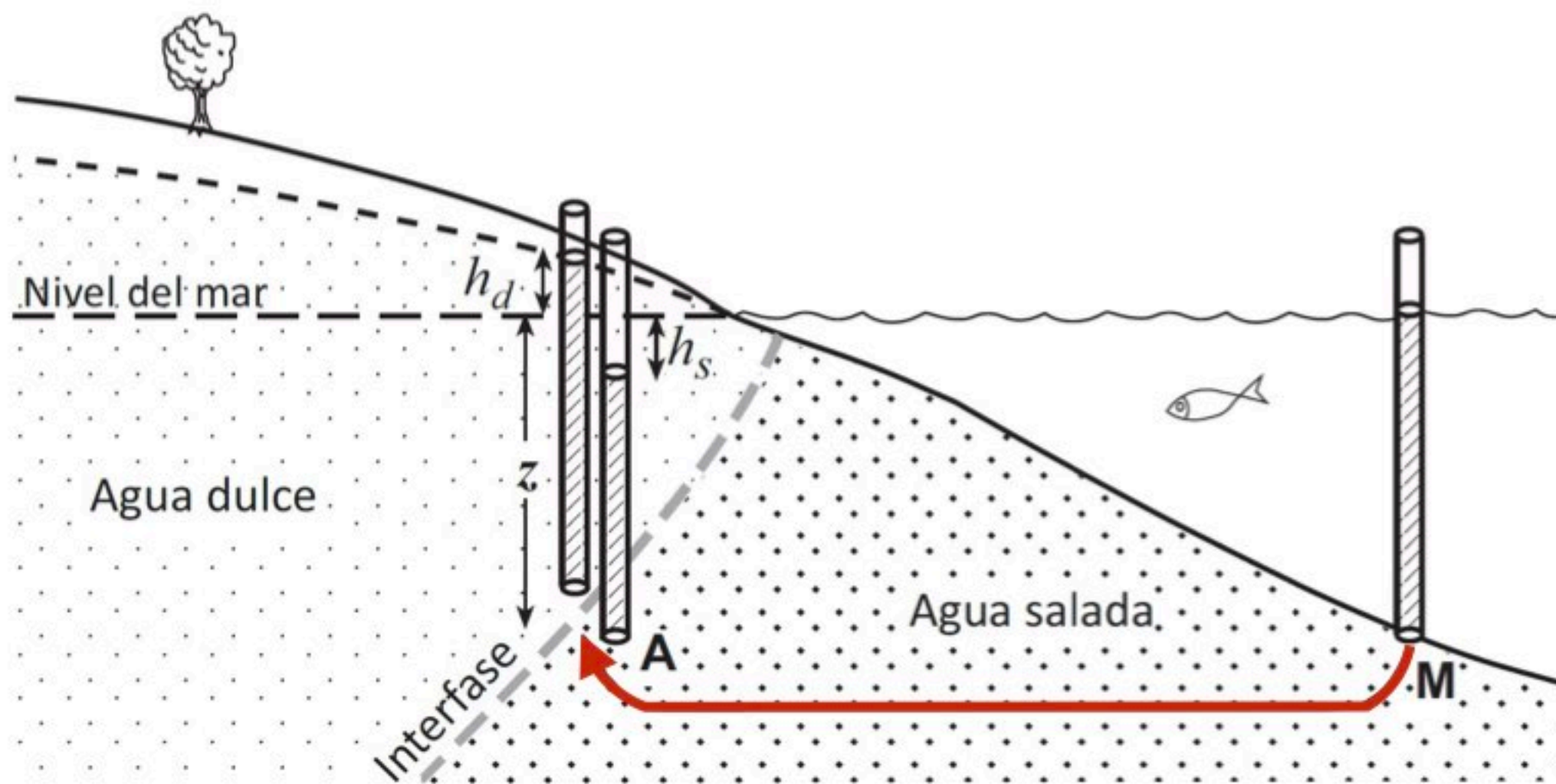
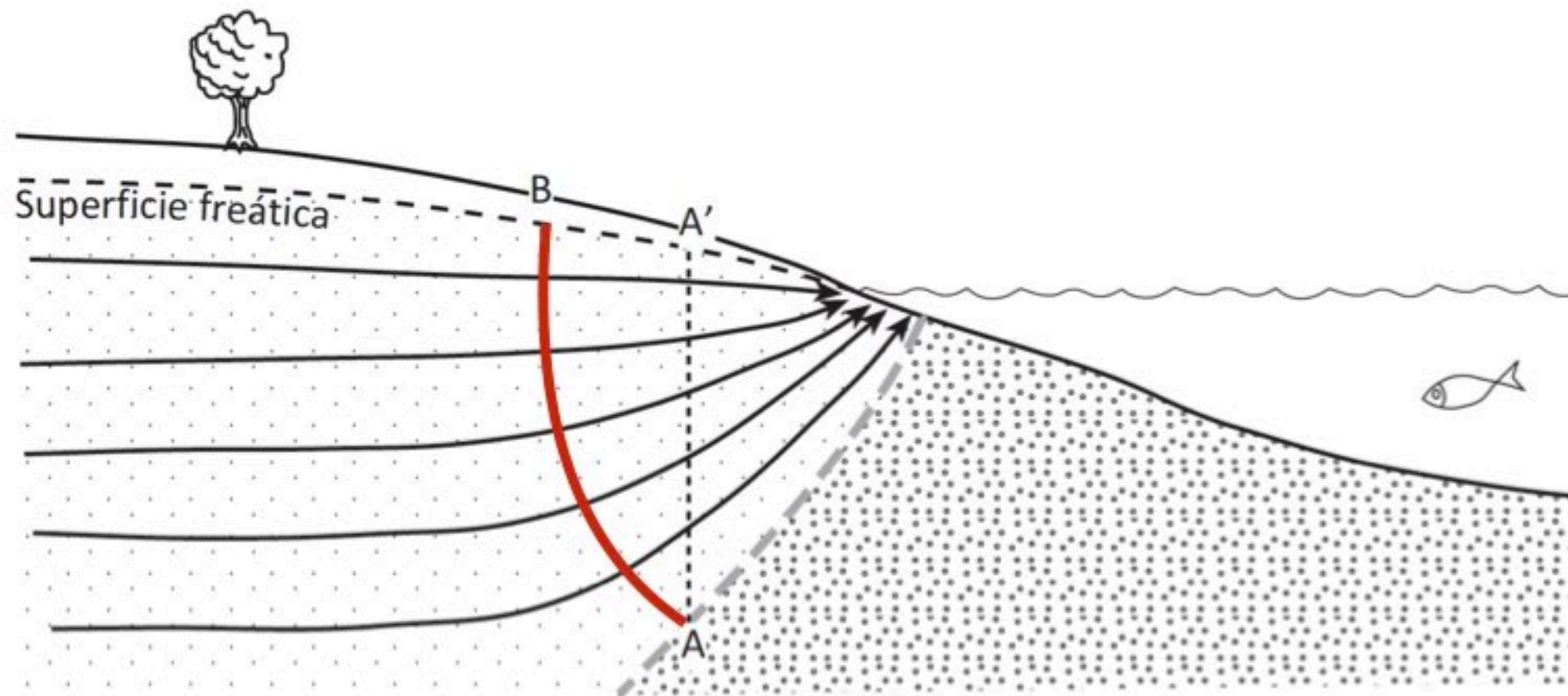


Figura 4.-Planteamiento de la Ley de Ghyben-Herzberg



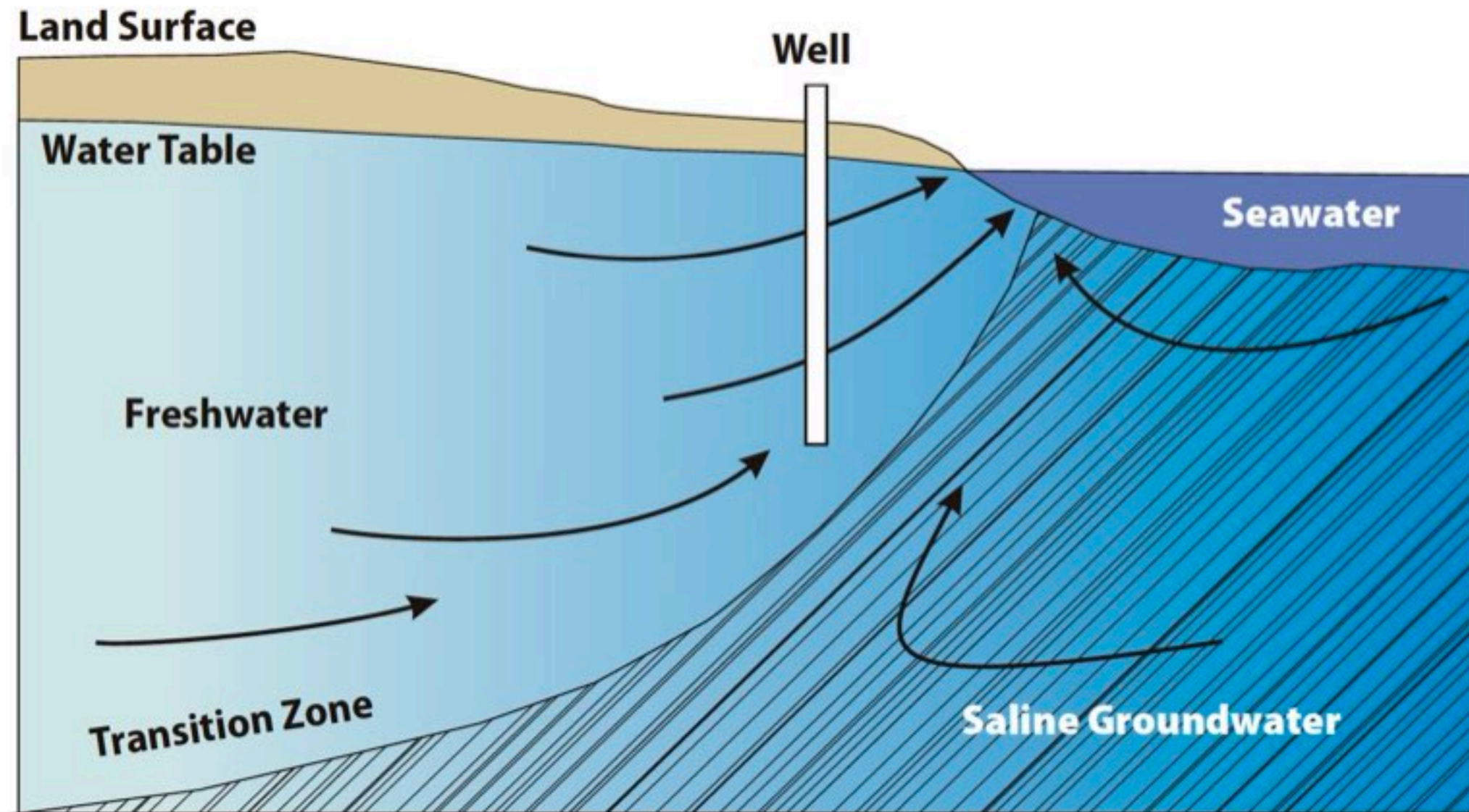


Figure 1: Under non-pumping conditions there is an equilibrium established between fresh and saline groundwater at depth.

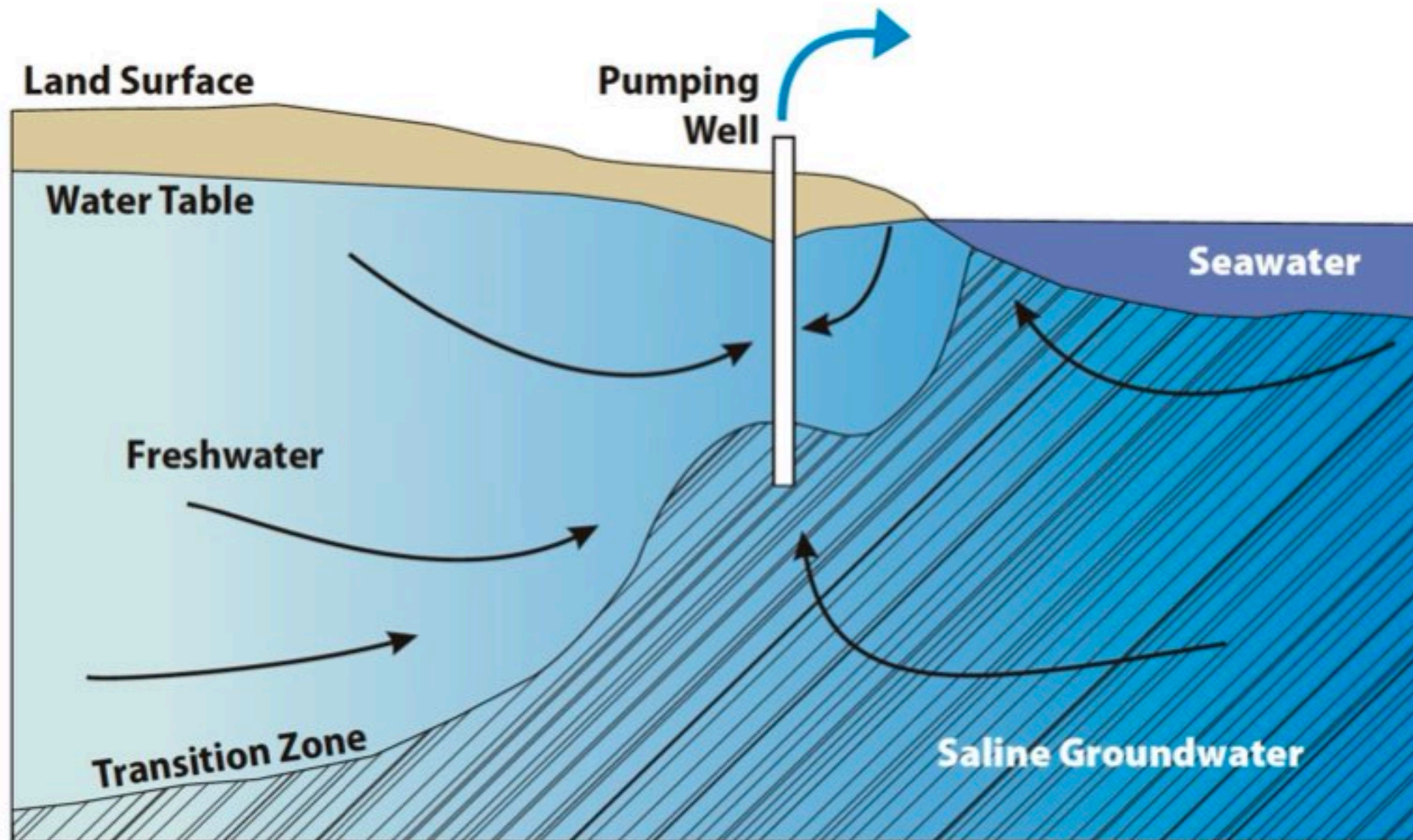
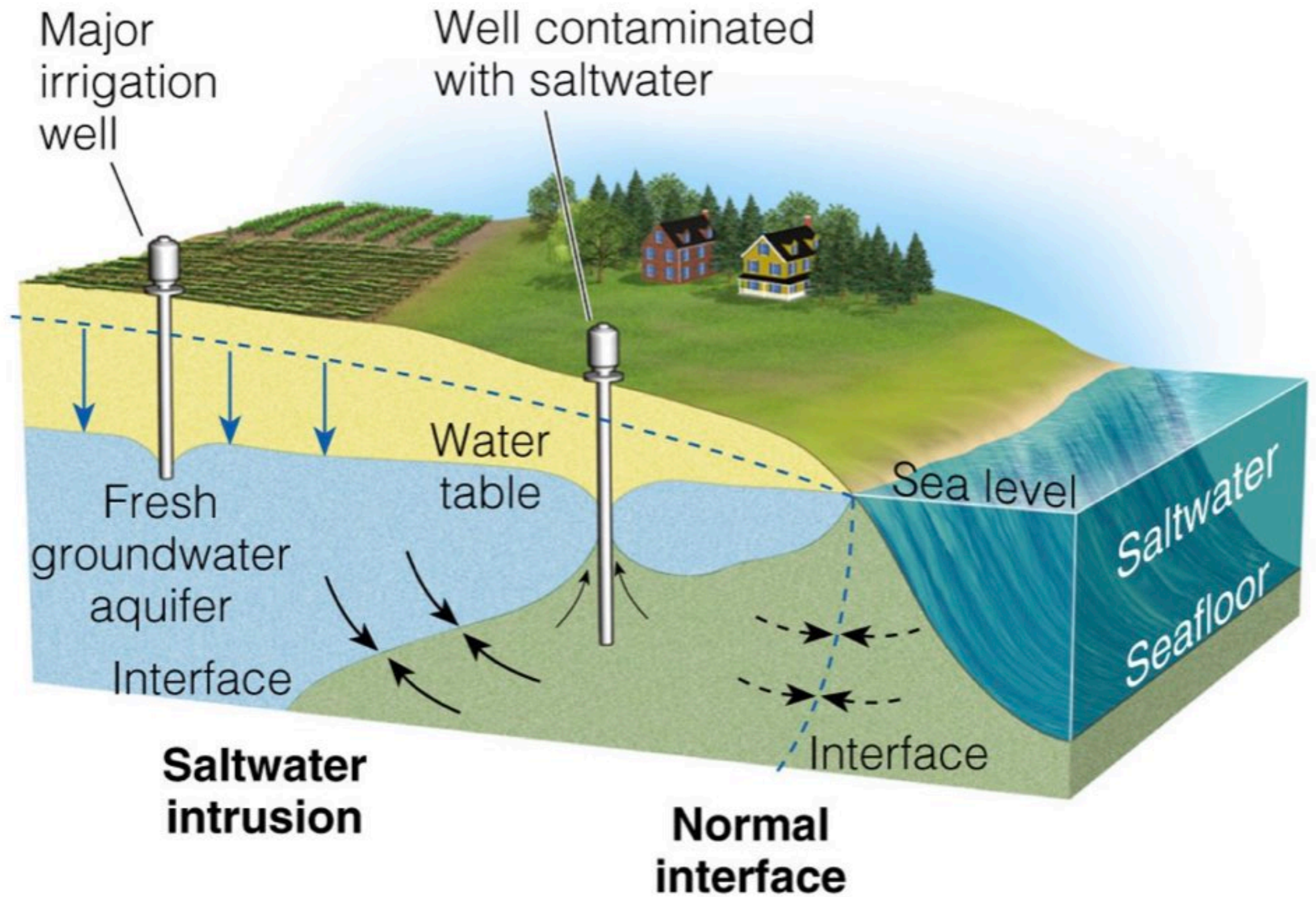


Figure 2: Pumping or other disturbances (e.g. sea level rise, reduced recharge) can lead to upconing or inland movement of the freshwater-saltwater interface. If a single well is over-pumped or multiple wells are pumping, a large area of the aquifer may be impacted by salinity.





<https://www.youtube.com/watch?v=8zxZUSVjg10>



Fig. 1. Main seawater intrusion sites along the Mediterranean coast, according to the EEA (2006) report “The changing faces of Europe’s coastal areas”. The map clearly shows a common threat to groundwater resources. Despite it is not shown in the map, the density of seawater intrusion affected areas is similar all along the coast of the northern, eastern and southern rims of the Mediterranean basin.

Videos recomanats

Intrusió salina

<https://www.youtube.com/watch?v=8zxZUSVjg10>

<https://www.youtube.com/watch?v=9kHQZ9ZOP4g>

Model reduït d'aqüífer

<https://www.youtube.com/watch?v=8Q7C3xrJrpw>

Desalinització d'aigua marina

<https://www.youtube.com/watch?v=mZ7bgkFgqJQ>