

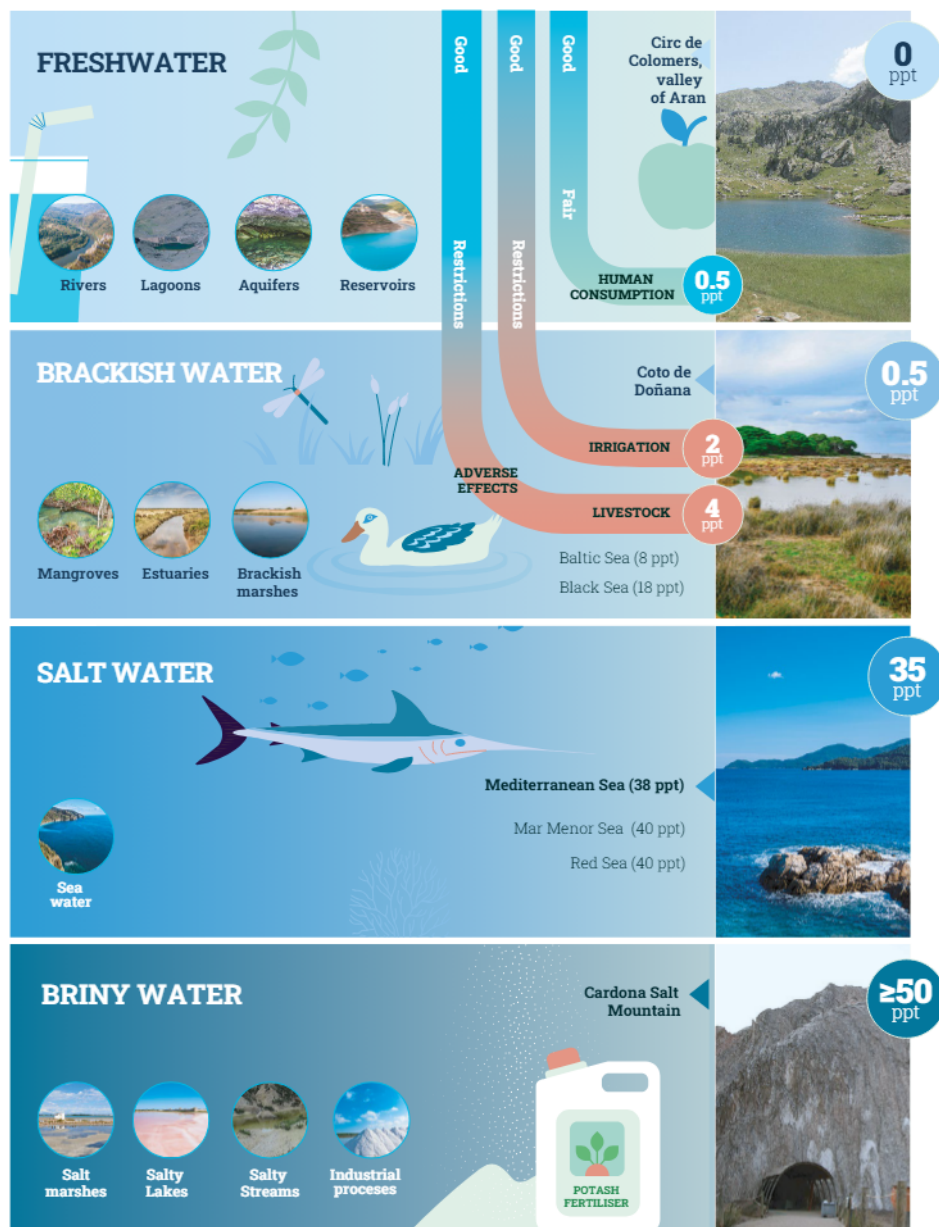
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What is salinisation of inland aquatic ecosystems?

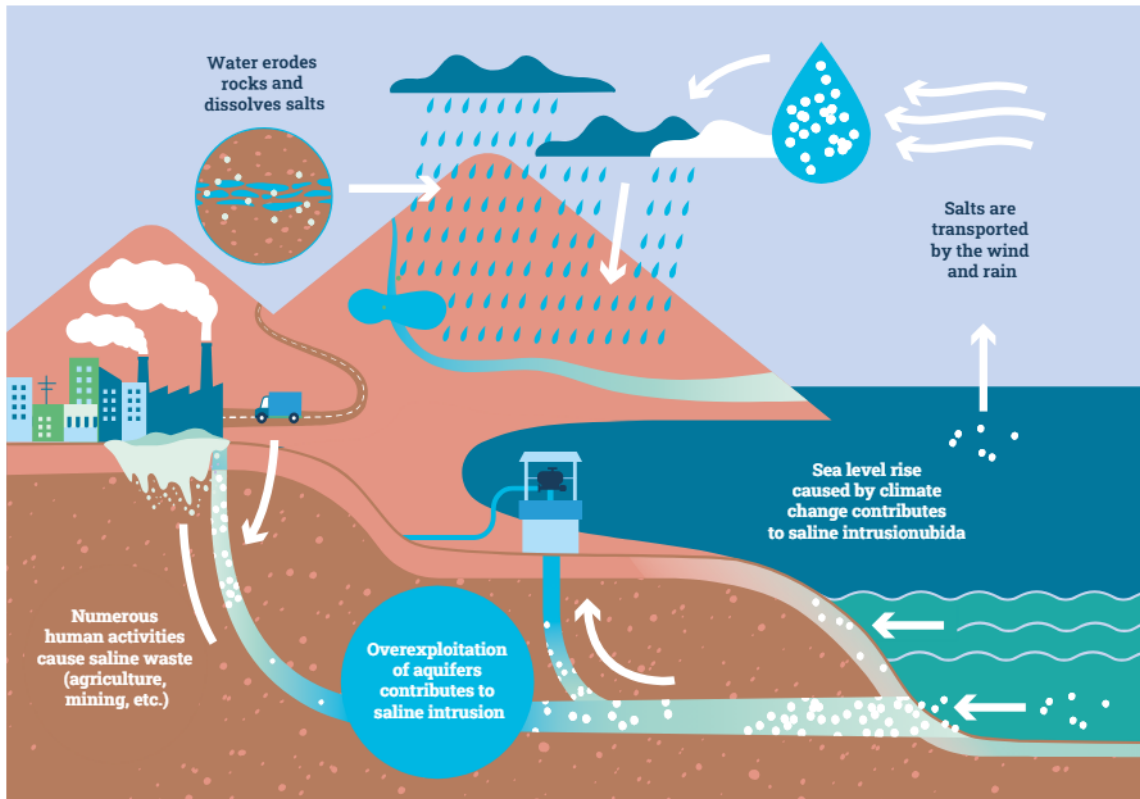
INLAND aquatic ecosystems are those bodies of water that can be found inland: rivers, lakes, wetlands, marshes, etc. With a few exceptions (e.g., the Rambla Salada in Murcia), these ecosystems are freshwater. This means that the water has a very low salt concentration, less than one gram of salt per litre. In any case, even if the concentration is low, it is logical to ask: where do these salts come from? For the most part, they come from the dissolution of rocks that naturally contain salts, and when they come into contact with water, they dissolve. In addition, salt is also transported from the sea to the mainland by wind and breaking waves, as well as by seawater intrusion into coastal aquifers. All this is known as the *salt cycle*.

This salt cycle has been severely disrupted by human action since the Industrial Revolution. Urban, agricultural and industrial development has caused a marked increase in salt concentration and a change in the proportion of different ions in inland aquatic ecosystems, a phenomenon known as *aquatic ecosystem salinisation* (AES). AES is a global phenomenon, observed on all continents except Antarctica, with drastic consequences for ecosystems and society. Although there are no exact data on the spatial extent of AES globally, it is currently estimated that one in three freshwater ecosystems may be salinised. For example, in Spain, official data provided by the Hydrographic Confederations estimate that 17,822 km of river sections are salinised, which is 28% of the hydrographic network of our country. This percentage varies according to geographical location. For example, 80% of the rivers in the La Mancha area and the siliceous plains of the Tagus and Guadiana are salinised. There are various human activities responsible for AES. The most relevant based on the information available so far are detailed below.

Figure 1 Classification of waters according to salinity and potential use



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Figure 2 The anthropogenic salt cycle

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