The nine zonobiomes of the globe and halophyte occurence

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The global cover of vegetation and ecosystems can be divided in nine main zonobiomes by the governing climatic conditions. The temperature regime, mainly the occurence of frosts and the annual temperature fluctuation, the precipitation regime and seasonal periodisms have been the governing factors for the evolution of the main zonobiomes. The floristic pattern, however, exhibits a strong historic influence, thus, homoclimatic biomes can differ considerably in architecture and ecosystem processes, despite similar bioclimatic conditions.

Accumulation of ions over long time is only possible under arid climatic conditions. Zonal vegetation thus includes halophytic plants only within Zonobiom III (hot deserts) and Zonobiom VII (steppes, semideserts and temperate or cold deserts). However, also within Zonobiom II (seasonal tropical forests and savannahs) dry ecotones are known, as well as in the equatorial Zonobiom I (rIII), thus enabling occurence of halophytes under zonal conditions. In all other zonobiomes, as a rule the occurence of halophytes is in azonal or extrazonal ecosystems. This is the case along all the coastal flats along the oceans, at the beaches etc. Here. we have salt marshes in zonobiomes, which exhibit frost in the cold season, and mangroves in frostfree zonobiomes.

The growth of halophytes is often governed mainly by excessive ions in soil within the above mentioned zonobiomes, thus, climatic restrictions and competition by non-halophytic vegetation is prevented, on the other side, halophytes often have a large chorological potential with an extensive area, along many coasts in humid zonobiomes, changing to inland salines in arid zonobiomes.