



Understanding all plant responses and adaptations to drought is essential for maintaining the productivity of natural, as well as managed ecosystems. Terrestrial ecosystems and variability in ecosystem productivity are strongly affected by climate and weather variations. They are expected to increase in frequency and intensity in the future. The reasons for droughts can be multifarious: Carbon sequestration, Evapotranspiration and/or Biomass productivity. But what are the impacts of drought on terrestrial ecosystems and how will they respond to potential changes in the magnitude and frequency of drought in the future? Do they also affect aquatic ecosystems? ¹

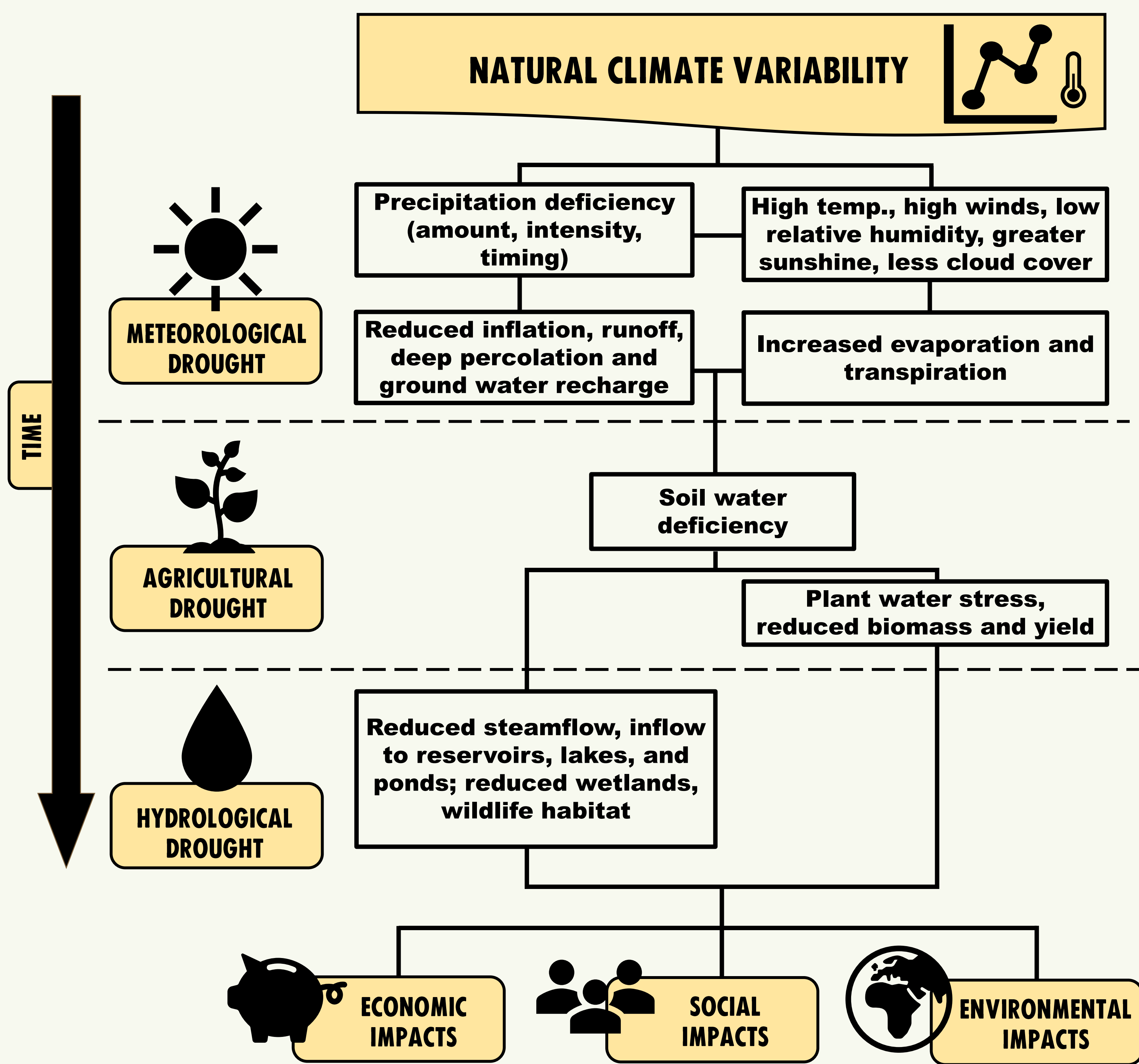


Fig. 2: Relationship between various types of drought and duration of drought events ³

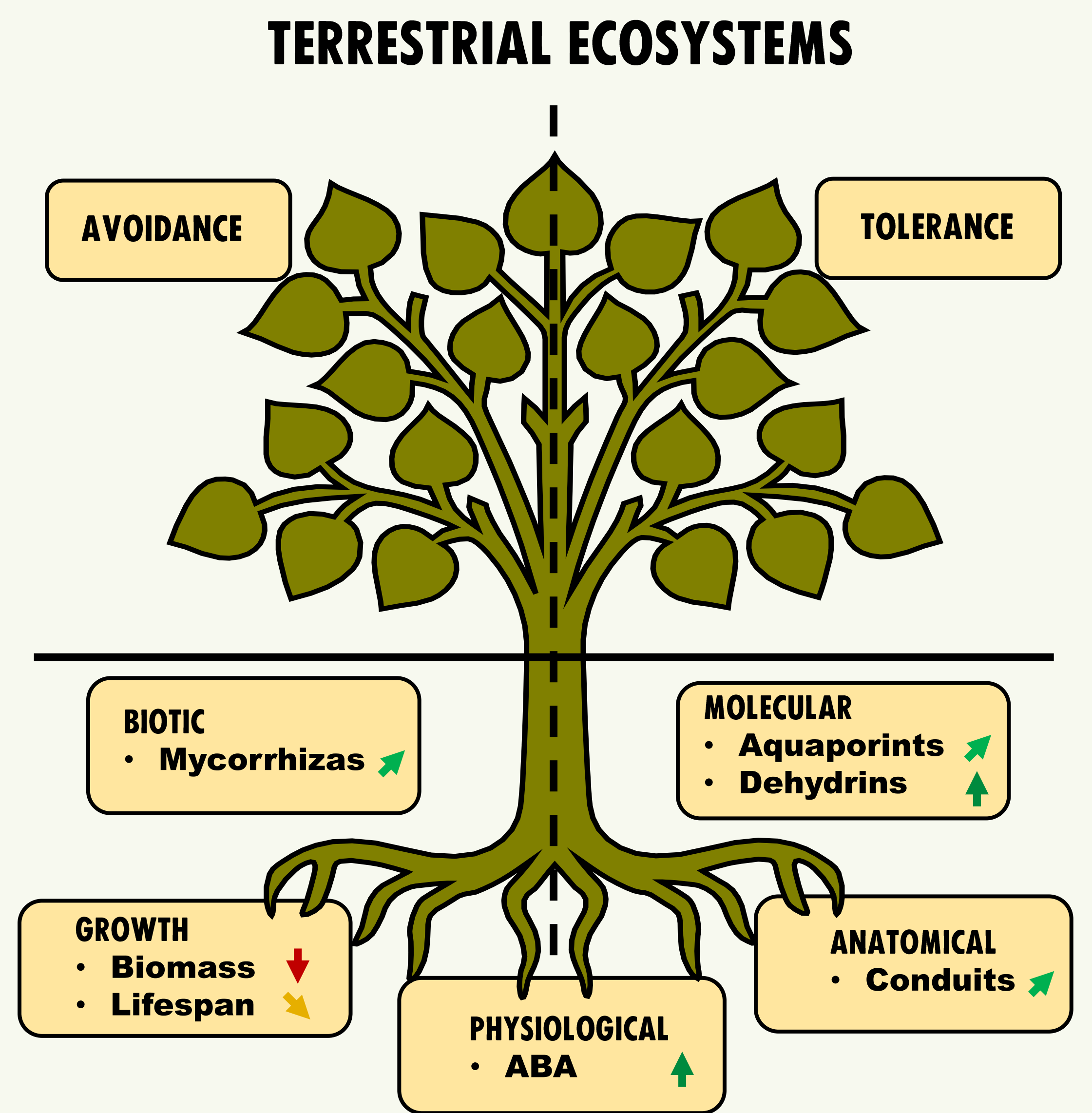
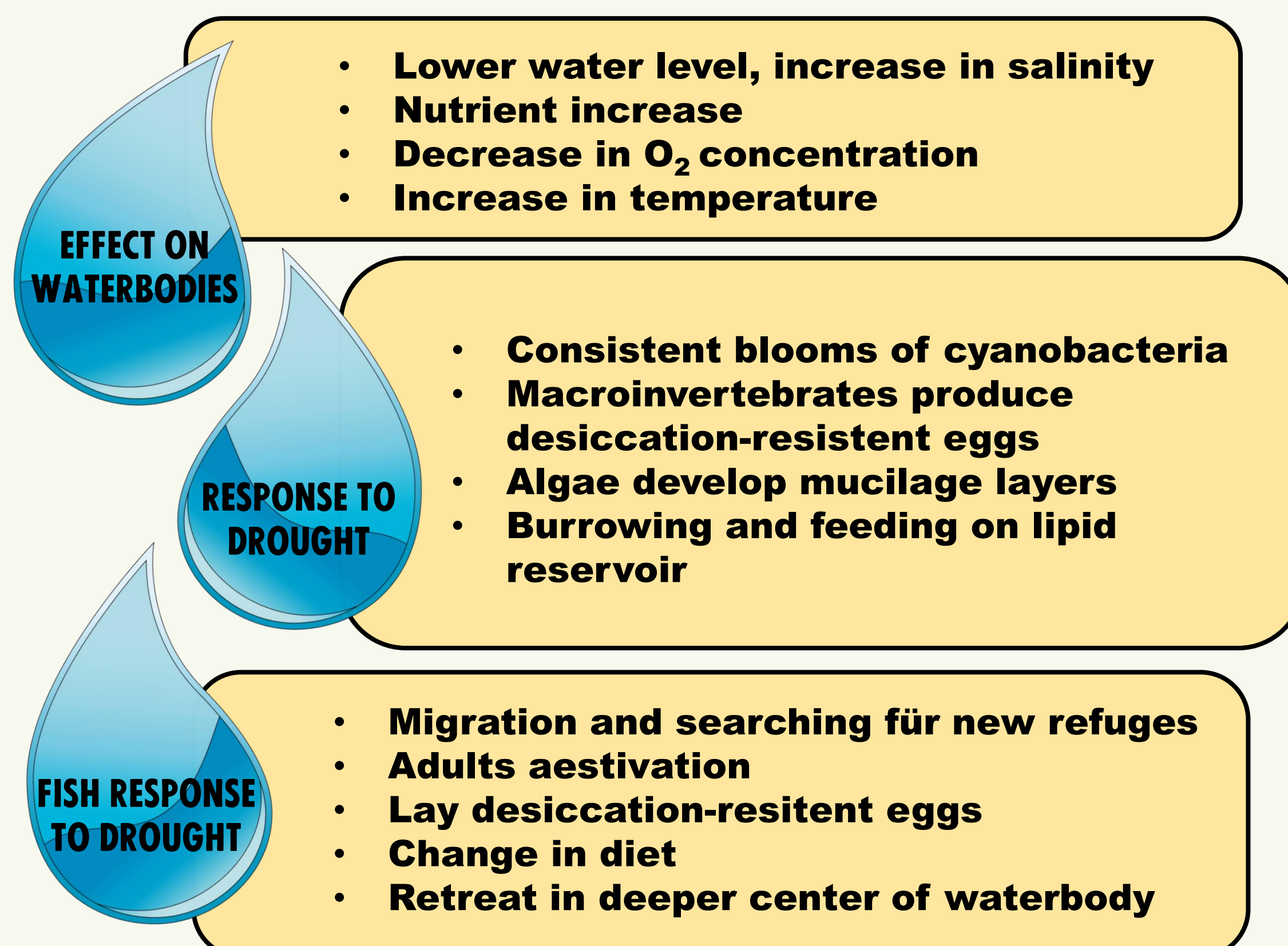


Fig. 1: Mechanisms of drought resistance and selected examples of tree root traits that respond to drought with avoidance or tolerance ¹

Plants and trees survive drought by employing two different survival strategies: on the one hand they are able to **avoid** drought, on the other hand they can be able to **tolerate** by different mechanisms. ²

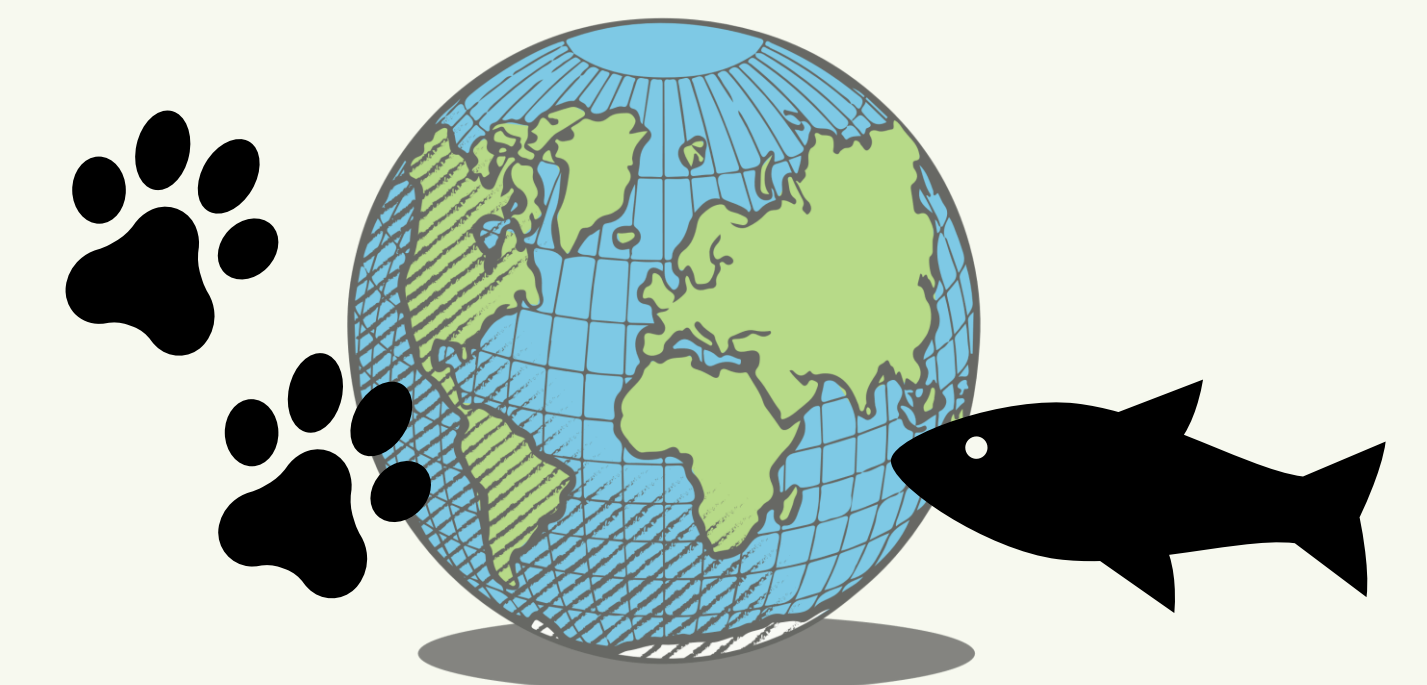
AQUATIC ECOSYSTEMS

Drought is affecting aquatic ecosystem as well as terrestrial ecosystem. The effects of drought can lead to various responses of different organisms depending on the type of the waterbody and species adaptation to drought. During drought aquatic ecosystems try to avoid this severe conditions. ⁴



ECOLOGY

The functioning of many habitats and their species is already affected by climate change. Future changes caused by drought will probably be broad changes in the distribution and composition of many species and therefore in habitat functioning. This might lead to changes in ecosystem services, assuming that ecosystems and their species changes. ⁵



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