

one organism copes, but only a population grows

Where ecology starts

- an individual organism is studied at the level of **physiological ecology**: how it copes with its own environment
- a group of the same species in one area is a **population**; different populations sharing a habitat form a **community**
- a community plus its physical environment, interacting as one functional unit, is an **ecosystem**
- this chapter sits at the first two levels: how one organism survives, and how a whole population grows

Levels of organisation

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four levels of organisation, each studied at a bigger scale than the last

Major abiotic factors *

- **temperature** is the single biggest factor shaping where a species can live; a eurythermal species tolerates a wide range, a stenothermal one only a narrow band
- **water** availability and salinity matter most for aquatic life; euryhaline organisms tolerate a wide salinity range, stenohaline ones a narrow one
- **light** drives photosynthesis directly, and its daily duration (photoperiod) times breeding and flowering in many species
- **soil**, its structure, pH and mineral content, varies by region and by depth, and that variation is a big part of why different areas grow different plant communities

