

Adaptation to environment Habitat	Adaptation to environment How do marram grass leaves reduce water loss?
Adaptation to environment How does marram grass survive being buried by sand?	Adaptation to environment Three adaptations of red mangrove (Rhizophora mangle) to swamps
Adaptation to environment Range of tolerance	Adaptation to environment Two abiotic variables affecting plants and two affecting animals
Adaptation to environment How is transect data used to study distribution?	Adaptation to environment Semi-natural habitat

They roll up with stomata on the inner surface, in pits among hairs, trapping humid air; a thick waxy cuticle covers the outer surface.

The place in which a community, species, population or organism lives, described by geographical and physical location and type of ecosystem.

Stilt roots anchor in soft mud; lenticels take in oxygen as mud is anoxic; roots exclude salt. Also vivipary.

Its long vertical rhizomes grow upwards through the sand, and deep roots reach water and anchor it.

Plants: light intensity, soil pH (also water, temperature, minerals). Animals: temperature, dissolved oxygen (also water, salinity).

The span of an abiotic variable within which a species can survive: optimum range, zones of stress either side, zones of intolerance beyond.

A habitat influenced by humans but dominated by wild rather than cultivated species.

Quadrats at intervals along a line record abundance; the abiotic variable is measured at each, then correlated with abundance.

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Five abiotic conditions needed for coral reef formation

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Why do corals need clear, shallow water?

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Why does low pH threaten coral reefs?

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Biome

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What determines which terrestrial biome develops?

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Climate of the taiga and the tundra

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Adaptations of the saguaro cactus

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Desert adaptations of the dromedary camel

Their zooxanthellae need light for photosynthesis, and light is absorbed with depth and by suspended sediment.

Shallow water (mostly under about 30 m), clear water, warm temperature (best about 23-29 °C), normal seawater salinity, slightly alkaline pH (about 8).

A group of ecosystems with similar communities due to similar abiotic conditions and convergent evolution.

Lower pH reduces carbonate ions available for corals to build calcium carbonate skeletons.

Taiga: long very cold winters, short cool summers, low to moderate snow. Tundra: very cold, permafrost, very low precipitation.

Temperature and rainfall: for any given pattern of the two, one natural ecosystem type is likely to develop.

Body temperature rises by day so less sweating; concentrated urine and dry faeces; fat stored in the hump; thick fur on the back.

Spines instead of leaves, water-storing pleated stem, shallow widespread roots, CAM photosynthesis with stomata open at night.

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Rainforest adaptations of plants

Kapok: tall emergent trunk and buttress roots for shallow soil. Many trees: drip-tip leaves shed rain quickly.