

4.5 Hot deserts

Desert climates are very severe. Typical characteristics include:

- high temperatures (30–40°C) throughout the year
- a large temperature difference, often as much as 50°C, between day and night
- low and unreliable rainfall (about 250 mm per year).

Soils are poor because they contain very few nutrients and organic matter, and are very dry. Vegetation from desert margins is often referred to as scrub. There are two main types:

- **Tropical scrub**, found on the margins of hot deserts, including acacia and cactus
- **Temperate scrub**, found on the margins of temperate deserts, including dwarf eucalyptus, acacia and sage brush

Plants adapt to life in hot deserts by:

- growing long water-seeking roots
- producing only a few leaves, to reduce transpiration (moisture loss)
- storing water (cactus is a good example)
- producing seeds that wait for rainfall before growing and completing a very quick lifecycle

Animals adapt to living in the desert by:

- carrying out nocturnal (night time) activity to avoid the heat of the day
- panting and/or developing large ears to release body heat and reduce body temperature
- burrowing by day
- shielding their eyes with thick eyelashes to reduce the effect of sand storms
- going without water for long periods
- secreting highly concentrated uric acid to reduce water loss
- migrating seasonally.

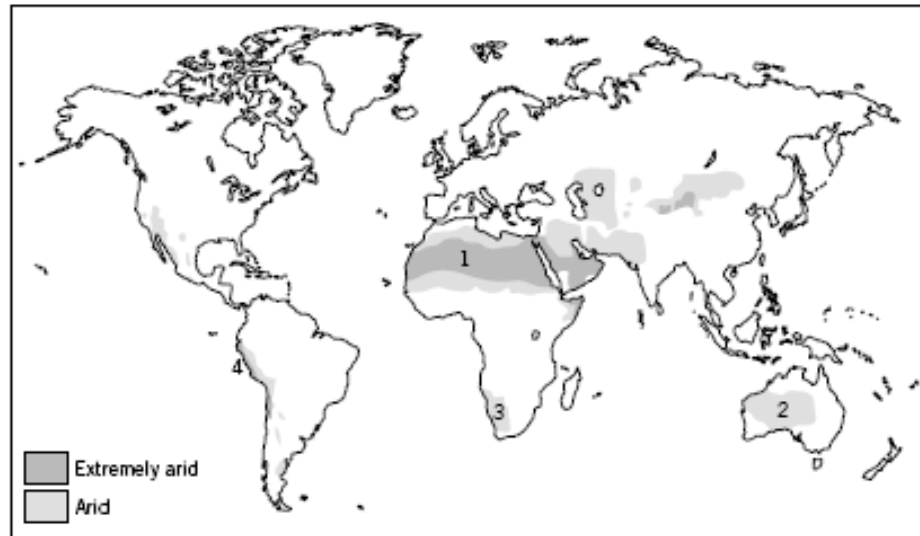
B Lasting without water ▶



- lying dormant, which ends only when triggered by moisture and temperature conditions.

Activities

- 1 Name the hot deserts labelled 1 to 4 on figure A.
- 2 In what ways are desert environments hostile?
- 3 How are plants adapted to deserts?
- 4 In what ways are animals adapted to life in desert areas?
- 5 Find out about camels – <http://www.arab.net/camels/welcome/html> has a lot of information on camels. How are they adapted to life in the desert? Why are they called ships of the desert?



▲ A World deserts

Label and annotate the diagrams below to explain how plants have adapted to survive in a tropical desert climate.

This websites will help you. www.stoller-eser.com/adaptations.htm AND www.mbgnet.net/sets/desert/index.htm

