

CHAPTER 09

Adaptations in Different Ecosystem

Adaptations to temperature in plants:

The effect of temperature on plants of terrestrial ecosystem can be seen in different way. All plants do not shed their leaves at same time in a year throughout the world.

Some plants in temperate regions trees shed their leaves before the winter starts.



It is to minimize transpiration loss and reduce photosynthetic and other metabolic activities, because low temperature renders several chemicals inactive for

some time.

In tropical regions, plants shed their leaves before the start of summer.



- Plants growing in hot climates usually keep the stomata closed during the day to reduce transpiration loss.
- High temperatures also lead to adaptations like reduced leaf to reduce water loss.



Reduced leaf

If the trees have broad leaves at the time of snow fall season, there is high chance that the stem and branches might break.

Adaptation to temperature in animals:

- Body heat changes occur due to increase or decrease in atmospheric temperatures.

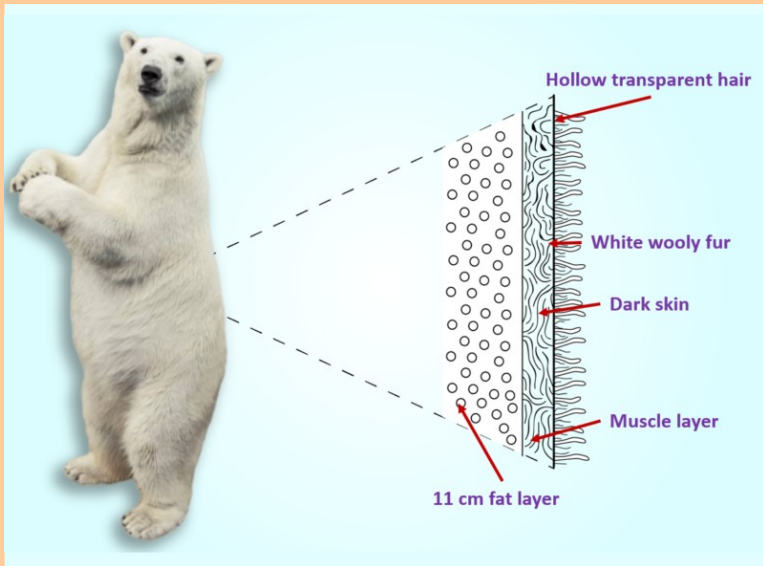
These changes greatly affect the life of organisms in different ecosystems.

In cold regions the upper layers of the lakes get frozen during winter and the lower layers does not. Hence, organisms migrate to deeper layers of the lake, which is warmer and survive.



Adaption in cold regions:

Animals living in these regions adapt themselves in different ways. They have a presence of thick layer of fat deposited under their skin, or thick fur coat or hair covering their bodies. It act as insulators preventing heat loss from their bodies. The fat not only insulates the body but also helps in producing heat and energy. Such adaptations can be seen in Whales, Seals, and Polar Bears etc.



Thorn is a modification of stem and is used as defence mechanism rather than an adaptation to temperature.



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