

Weather, Climate and Adaptations of Animals to Climate

- **Climate** is the average weather pattern of a particular location taken over a long period of time.
 - The climate of a place that receives very little rainfall and has high temperature throughout the year is hot and dry. Example: deserts
 - The climate of a place that receives plenty of rainfall is wet and humid. Example: the North-East region of India
- The various types of climates are-

1. **Tropical climate**
2. Dry climate
3. Temperate climate
4. Continental climate

- Climate impacts the living world to a large extent as it influences the basic needs of humans like food, shelter and clothing. It also affects the health of people as climatic conditions impact the weather conditions.

Different animals possess different features that help them survive in the climate of their respective habitats. The special features and habits that help an animal survive in its environment are known as **adaptations**.

- Climatic conditions of the **polar region** and the **tropical rainforest**.
- **Polar region**
 - It is marked by extreme climatic conditions.
 - It is very cold for maximum part of the year.
 - In this region, sun does not set for six months and does not rise for the remaining six months.
 - The animals found in Polar Regions are polar bear and penguins.
- **Adaptive features of polar bear to overcome climatic conditions**
 - White fur to escape predator
 - Strong sense of smell to locate and catch its prey
 - Two thick layers of fur and a layer of fat to keep the body warm in cold conditions
 - Wide and large paws for swimming and walking
- **Adaptive features of penguin**
 - White fur
 - Thick skin and layer of fat under skin
 - Streamlined body
 - Webbed feet for swimming
- **Tropical rainforest**

- - The climate of tropical rainforest is generally hot and wet with continuous rain.
 - Tropical rainforests are found in the Western Ghats and Assam in India, Southeast Asia, Central America and Central Africa.
 - The hospitable climatic condition supports huge populations of plants and animals.
 - Intense competition for food and shelter is found in Tropical rainforests.
- **Adaptive features of animals found in tropical regions**
 - Red-eyed frog has sticky pads on its feet to climb trees.
 - Monkeys have long and sturdy tail (for grasping branches), loud voice, etc.
 - Bird Toucan has a long and large beak to reach fruits present on the branches.
 - Lions and tigers have sensitive hearing to locate their prey and camouflaging skin colour to merge in their environment.
 - An elephant uses its trunk as nose and tusk to tear the bark of trees. The soles of their feet are covered with thick pads to handle their enormous weight and they have large ears for hearing.
 - Animals living in tropical regions have the ability to camouflage to protect themselves from predators.
- **Adaptive features of animals found underwater**
 - They have fins and tail that helps in swimming
 - They have a streamlined body
 - They have a swim bladder that helps them in floating.
- **Adaptive features of duck**
 - They have webbed feet to paddle through the water.
 - A flat beak to catch their food.
- **Adaptive features of animals found in deserts**
 - Thick skin to prevent water loss
 - Hump to store food and energy
 - Thick eyelashes and stretchy nostrils to prevent from dust.
- **Adaptations for food**
 - Some birds have Short beaks to open nutshells.
 - Some birds have long pointed beaks for hunting prey.
 - Frogs and lizards have a long sticky tongue to catch insects.
- Some animals like the chameleon, **change their colour** according to the surrounding to hide from any danger.