

WEATHER AND CLIMATE.

I) DIFFERENCE BETWEEN WEATHER AND CLIMATE.

Some days are hot and some are cold, some are windy and some are rainy. Sometimes it is sunny in the morning and rainy in the afternoon. This happens because of changes in the atmosphere of a place. These changes in the atmosphere over a short time are called weather.

The regular pattern of weather that a place has over a long time is called its climate. For example:

- 1) A place that usually has a very hot summer and a very wet monsoon has a hot and wet climate.
- 2) A place that has a very cold winter and a pleasant (nice) summer has a cold climate.

The way we live depends on the climate. For example, the kind of houses that people build depends on the climate of a place.

Weather can change in a short period of time but the climate of a place does not change for hundreds of years.

FACTORS THAT AFFECT CLIMATE.

The climate a place has depends on different factors, all of them linked to the geography of the place.

Some of these factors are:

- 1) Latitude or distance from the equator-The equator (latitude of 0°) gets the most direct rays of the sun. The latitude of a place tells us how close or far away it is from the equator. The nearer a place is to the equator, the hotter or warmer it will be. As we move away from the equator, places get cooler because the rays of the sun fall less directly on them. Jakarta is very close to the equator while New York is quite far away from it.
- 2) Altitude or height of land-The altitude of a place-its height above sea level- also affects its climate. Highlands like mountains and plateaus are much cooler than places where the land is at sea level. This is so even if these highlands are close to the equator. Such places, if they are very high, will also get snow. Mt Kilimanjaro in Africa is 5,895 metres high and has snow at the top even though it is almost on the equator.
- 3) Distance from the sea-Water heats or cools more slowly than land. This is why the sea has an effect on the climate of places that are near it. The sea has an effect in both summer and winter.
In summer: Places far away from the sea, or inland places, are hot because the land heats up very quickly. Places by the sea remain cooler as water takes a long time to heat.
In winter: Places by the sea are warmer as water cools slowly, so it keeps seaside places warm. Places away from the sea are cold, as land here loses heat very fast. Delhi is inland, far away from the sea, while Mumbai is near the sea. Places near the sea are also more humid. This means that they have a lot of water vapour in the air. High humidity is uncomfortable as perspiration does not dry easily. The Andaman and Nicobar Islands are near the equator. The climate there is hot and humid.
- 4) Winds-The direction of the regular winds that blow at a particular time of the year has an effect on climate too. An example is the monsoon winds that blow over the Indian subcontinent. The south-west monsoon winds blow from early June to September and bring rain to most of India. The north-east monsoon winds, which blow in December and January, bring rain to the south-eastern coastal region of India. Weather and climate happen because of geography-the earth's atmosphere and where a place is located on earth.

SUMMARY.

- 1) Weather can change in a day or from day to day. This happens because of changes in the atmosphere.
- 2) Climate is the usual pattern of weather that a place has over a long time.
- 3) Several factors have an effect on the climate of a place.
- 4) Weather and climate are all caused by the geography of a place.
- 5) The climate on the earth has not always been as it is today. Millions of years ago there were periods when ice covered large parts of the earth. These periods are called 'ice ages'.