

## CLIMATES

Climate is the average weather in a particular region over many years. This is different than weather. Weather can change from day to day, or sometimes from hour to hour. Climate is established over a long period of time.

### Aquatic Biomes

Aquatic biomes are not defined by their climates. Water temperatures can vary widely. Ocean temperatures and currents play key role in world's climate. Aquatic areas tend to be more humid and the air temperature on the cooler side.

### Deserts

Desert biomes are the driest of all the biomes. The most important characteristic of a desert is that it receives very little rainfall. Most deserts receive less than ten inches a year. Some deserts can go several years at a time without any rainfall at all. The evaporation rates regularly exceed the rainfall rates. Sometimes rain starts falling and evaporates before it reaches the ground. In most places, rain falls steadily throughout the year. But in the desert, there may be only a few periods of rain per year with a lot of time between rains. When it does rain, there may be quite a downpour which could cause flash floods.

During the day many deserts are hot, very hot. Temperatures in excess of 100° F are not uncommon. Yet at night, the same deserts can have temperatures fall into the 40s or 50s. This happens because deserts do not have high humidity to trap the heat. Also, there are few trees and other vegetation to retain heat. Therefore, deserts cool down rapidly when the sun sets, and heat up quickly after the sun rises.

### Forest Biomes – Tropical Rainforest

Tropical rainforest are very wet and warm. The temperature is generally around 80° F. There is very high humidity too – from 77% to 88%. There isn't a big change in seasons like there are with many other biomes. Instead this is what you can expect day after day. It will rain just about every day due to the high humidity. Rainfall can occur all year long and often in heavy volume. It is common for tropical rainforests to receive at least 100 inches of rain per year.

### Grasslands

Grasslands can be classified as temperate or tropical. Temperate grasslands have warm summers and cold winters. The temperatures can be from -40° F in the winter to a comfortable 70° F in the summer. You may be surprised to learn that there can be six feet or more of snow on the ground during the winter months in the grassland biome.

Tropical grasslands have a rainy season and a dry season, but they remain warm all year. There are several rainy periods throughout the year. While it does rain often, the hot weather results in most of it evaporating. Therefore it doesn't get deep down into the soil. There is often quite a bit of wind that occurs in this particular biome as well.

## **Tundras**

The tundra is the coldest of all the biomes. Temperatures during the arctic winter can drop to  $-60^{\circ}$  F. The average temperature of the warmest month is between  $32^{\circ}$  F and  $50^{\circ}$  F. The tundra does not get much moisture. Annual precipitation is very low, usually less than ten inches. The tundra has very long, cold winters and short, cool summers. There is a limited amount of sunlight. Depending on the latitude, the sun can remain below the horizon for up to two months, leaving the arctic tundra in darkness. The sun remains in the sky 24 hours a day during the summer, but it only provides low intensity sunlight. Harsh winds can blow up to 100 miles per hour.

### **Match definition to word.**

- |       |                         |                                                           |
|-------|-------------------------|-----------------------------------------------------------|
| _____ | 1. Climate              | A. receive very little rainfall                           |
| _____ | 2. Tropical rainforest  | B. a rainy season and a dry season, but warm all year     |
| _____ | 3. Temperate grasslands | C. not defined by climate                                 |
| _____ | 4. Deserts              | D. very wet and warm                                      |
| _____ | 5. Aquatic biomes       | E. warm summers and cold winters                          |
| _____ | 6. Tropical grasslands  | F. coldest of all the biomes                              |
| _____ | 7. Tundra               | G. average weather in a particular region over many years |

### **Fill in the blanks from the word bank.**

1. \_\_\_\_\_ can change from day to day.
2. \_\_\_\_\_ is established over a long period of time.
3. Aquatic areas tend to be more \_\_\_\_\_.
4. Therefore, \_\_\_\_\_ cool down rapidly when the sun sets, and heat up quickly after the sun rises.
5. It is common for tropical \_\_\_\_\_ to receive at least 100 inches of rain per year.
6. There can be six feet or more of \_\_\_\_\_ on the ground during the winter months in the grassland biome.
7. The sun can remain below the horizon for up to two months, leaving the arctic tundra in \_\_\_\_\_.
8. Harsh winds in the \_\_\_\_\_ can blow up to 100 miles per hour.

#### **Word bank**

humid  
tundra

snow  
deserts

Climate  
darkness

rainforests  
Weather

## References

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