



CLIMATE IN HOT DESERTS

Hello friends

It's me again with more to teach you. Today I am going to teach you about deserts. Grab a chair and let's learn about these strange yet amazing regions. Sit down comfortably because I don't want you to miss anything. First I will explain what a desert is. A desert is a region that receives an average of less than 250mm rainfall per year. Deserts are sandy, rocky or have bare soil. There are cold and hot deserts. Yes I said cold, most people think all deserts are hot. However, I am going to tell you more about hot deserts, or tropical deserts, and their climates. Look at the hot desert map (Figure 1).

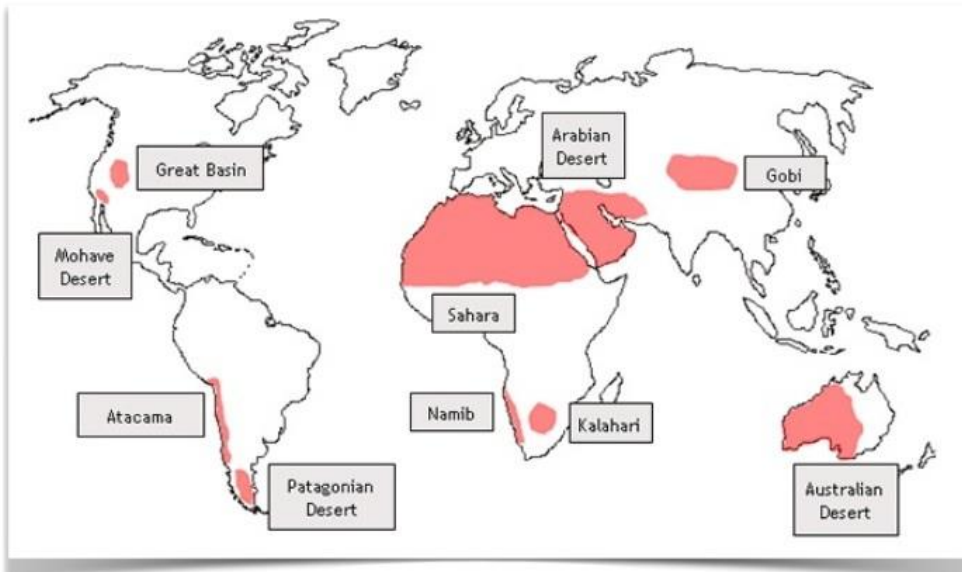


Figure 1: Hot Deserts in the World (Credit: Geography-WordPress)

WHAT CAUSES A DESERT CLIMATE?

A climate is the coldness or hotness of a region over a long period of time. Most deserts are found between approximately 20 and 30 degrees latitude (an imaginary line that runs east and west, parallel to the Equator. It is used to define the North and South position of a region on the planet). The equator is also a latitude which is 0 degrees (Figure 2).

The equatorial region is hot because it receives more heat from the sun than the rest of the Earth. The sun rays heat the air around the equator and the warm air becomes lighter and rises into the upper atmosphere. Since it does not rain over a long period in the hot deserts the rising air is dry, hence there's no condensation or formation of clouds that results into precipitation in the form of rainfall, snow or hail. The ascending warm air cools down in the troposphere and spreads into two opposite directions towards the polar regions in the northern and southern hemispheres. The cool air is heavier than the warm air so it descends above 30 degrees on both the Northern and Southern hemispheres. These masses of air are compressed on the ground by more masses of air that descend above them from the upper atmosphere. As a result they are forced to spread towards the equator and warm up again. The air masses continuously follow this pattern to form a cell known as the Hadley cell in both spheres (look at the diagram below).

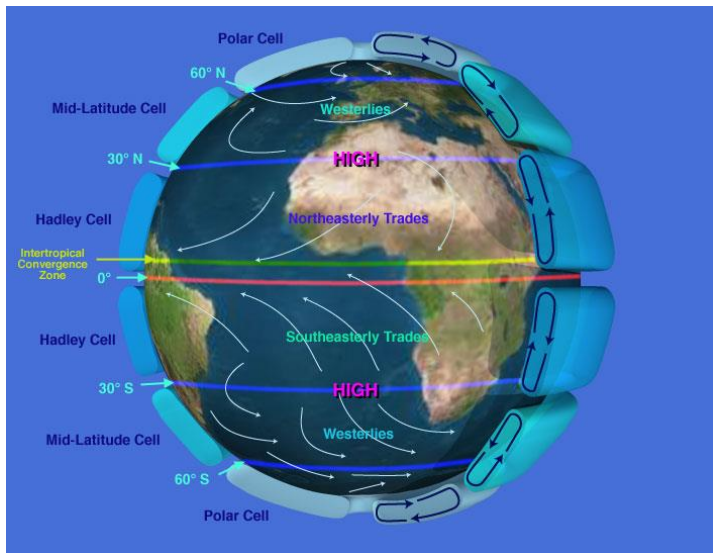


Figure 2: Hadley Cells in the Subtropics (Credit: NASA)

Please check out these videos:

https://www.youtube.com/watch?v=xqM83_og1Fc

<https://www.youtube.com/watch?v=XARurOygog8>

<https://www.youtube.com/watch?v=n4crvs-KTBw>

HOTTEST DESERTS

Hot deserts are sunny and dry.

The five hottest deserts in the world are:

- ◆ Sahara Desert
- ◆ Kalahari Desert
- ◆ Great Victoria Desert
- ◆ Arabian Desert
- ◆ Syrian Desert.

The Sahara Desert is the largest desert in the world.



IN WHICH COUNTRIES ARE THE HOTTEST DESERTS FOUND?

1. The Kalahari desert is found in Southern Africa and it stretches over 900,000 square kilometres. The countries where this desert can be found stretch across Botswana, parts of Namibia and regions of South Africa.
2. The Sahara Desert is found in North Africa and stretches across Algeria, Chad, Egypt, Libya, Mali, Mauritania, Niger, Western Sahara, Sudan and Tunisia. It covers 9 million square kilometres of Africa. The Sahara Desert is the world's largest desert after the northern and southern polar deserts.
3. The Arabian Desert is in Saudi Arabia and it stretches into Egypt, southern Iraq and southern Jordan. It covers 2,330,000 square kilometres.
4. The Great Victorian Desert is found in Southern Australia and it is Australia's largest desert.
5. The Syrian desert is found in south eastern Syria, north eastern Jordan, northern Saudi Arabia and western Iraq. It covers 500,000 square kilometres of the Middle East.

TEMPERATURE

The temperature in hot deserts can rise to 40 degrees Celsius or above that. The temperatures are also extreme, meaning that during the day they are very high and extremely low at night.



Did you know?

Camels have adapted to hot deserts and can survive for long periods of time without water. A camel can go a week or more without water and they can last for several months without food. They can drink up to 46 litres of water at one drinking session!

ANIMALS

There are animals in the deserts. Most of the animals are **nocturnal**, meaning they are active at night or they come out of their holes and search for food at night. Different types of animals that are found are reptiles, snakes and mammals. These animals get used to going for a long time without water, such as the camel.

HUMANS

People living in deserts are nomadic, meaning they move from one place to the other searching for water and food. They have livestock and they also practice crop farming.



Imagine being in a desert with no water to drink!

VEGETATION

There are few plants found in deserts. Plants found in hot deserts must be able to survive in dry and hot regions. Plants that are suitable to survive in the desert are **xerophytes**. These are plants which are fleshy and waxy. Some have spikes to protect themselves from predators. Examples of plants found in deserts are cactus, aloe, prickly pears, palm trees and short shrubs. Most of them can withstand harsh desert climatic conditions.



Credit: www.internetgeography.com

Did you know?

A cactus can save water because they have fleshy and waxy leaves.

My friends, plants and humans in the deserts are Water Wise and maybe we should copy them and not waste water. Deserts are spreading because of climate change and desertification. We all need to use water wisely and not only people in the deserts or areas where water is scarce. I think you've learned a lot today about hot deserts and their climate. There is an interesting activity for you to do in this newsletter. I think you are going to love it. Till next time, keep on being Water Wise just like plants, animals and humans found in hot deserts.

Love
Manzi



For more information on being Water Wise please contact 0860 10 10 60 or log onto www.randwater.co.za and click on the Water Wise logo



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References for Newsletter:

- Wikipedia
- Geography WordPress
- NASA
- Internetgeography
- YouTube

HOT DESERT ACTIVITY

Choose the correct answer to Column A by underlining the correct word/s in Column B

COLUMN A	COLUMN B
1. A person that lives in the desert is known as:	Tourist or Nomadic
2. Plants that are best suited to grow in the deserts are known as:	Xerophytes or Hydrophytes
3. Hot deserts are situated in the:	Polar regions or Tropics
4. Plants growing in the deserts have:	Thin leaves or Fleshy leaves
5. Hot deserts are also known as:	Polar deserts or Tropical deserts
6. The climate in hot deserts is:	Wet and dry or Hot and dry
7. Hot deserts experience rainfall:	Everyday or Once in a while



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