



Memory Geogger

Describe the location of the hot desert ecosystem

Outline two adaptations plants have made to survive in the desert ecosystem.

Why does biodiversity vary across deserts?

Outline one adaptation animals have made to survive in the desert ecosystem.

Explain the main challenges to development in a desert ecosystem you have studied.



Memory Geogger

Hot deserts are mainly found around the Tropics of Cancer and Capricorn. The hot deserts of the world are located between 15° and 30° north or south of the equator. Deserts are often found towards the west of continents. The Sahara is the largest desert in the world, located in the north of the African continent it stretches from the Western Sahara to Egypt in the east.

Cacti are succulents which allows them to store water for use during times of low rainfall.

Cacti have needles instead of leaves to reduce transpiration and protect them from being eaten by herbivores.

Cacti have shallow roots, around 1m wide. This is so they can absorb water when it rains.

Acacia trees have deep roots which allow them to take up water from aquifers below the surface of the earth due to the lack of water available in the upper layer.

Freshwater oases provide water which enables plants and animals to thrive.

Rivers, such as the Nile provide water which enables plants and animals to thrive along its banks.

When rainfall occurs dormant seeds germinate leading to a rapid increase in biodiversity.

Lizards and snakes are only active during the early morning before finding shelter from the Sun during the day.

Camels have two sets of eyelashes and can close their nostrils to protect themselves during sand storms.

Camels have a fatty hump so that their energy store doesn't insulate their whole body and cause them to overheat.

Water

The Sahara has very low levels of rainfall. What rain does fall is unpredictable in terms of when and where it happens. Rivers usually only flow at certain times during the year.

Due to the development that is happening in the Sahara there is a growing demand for water for works, irrigation and industry. This is very difficult to provide due to the hot, dry climate.

Boreholes (a form of water well) are used to extract water from the underground aquifers. These have taken hundreds of thousands of years to fill so extracting water from them is not sustainable.

Inaccessibility

The Sahara covers a vast area. Often, air has to be used to transport people and materials which is very expensive. Expensive pipelines have to be built to transport oil, gas and electricity from remote areas. It is hard to provide services in remote regions therefore there is often a lack of medical care.

Temperature

High temperatures in the Sahara present a threat to human life. With daily temperatures often higher than 40°C exposure to this kind of heat leads to death or illness. In addition to this healthcare may be a long distance away. The hot season is too warm for tourists so tourism is seasonal.