

Africa: Physical geography

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African elephants roam the savannas, which cover almost half of the African continent. Photo by: Pixabay/Public Domain.

Africa is the second-largest continent, after Asia. It is bounded by the Mediterranean Sea, the Red Sea, the Indian Ocean and the Atlantic Ocean and is divided in half almost equally by the equator.

Africa has eight major physical regions: the Sahara, the Sahel, the Ethiopian Highlands, the savanna, the Swahili Coast, the rain forest, the African Great Lakes and Southern Africa. Each of these regions has unique animal and plant life.

Sahara



The Sahara is the world's largest hot desert, covering 3.3 million square miles, about the size of the South American country of Brazil. The Sahara is in the northern part of Africa and makes up 25 percent of the continent.

The Sahara has a number of distinct physical features, including ergs, regs, hamadas and oases. Ergs cover 20 percent of the Sahara. They are sand dunes that stretch for hundreds of kilometers at heights of more than 1,000 feet. Ergs can contain large quantities of salt, which is sold for industrial and food use.

Regs are plains of sand and gravel that make up 70 percent of the Sahara. The gravel can be black, red or white. Regs are the remains of ancient seabeds and riverbeds, but are now nearly waterless.

Hamadas are giant shelves of rock and stone that reach heights of 11,000 feet, and they include three mountain ranges: the Atlas Mountains, the Tibesti Mountains and the Ahaggar Mountains.

An oasis is a hub of water in the desert. Oases are often created by springs, wells or irrigation systems. About 75 percent of the Sahara's population lives in oases even though oases make up only 800 square miles of the desert, a tiny proportion compared to the massive size of the Sahara.

The Sahara's animal and plant communities have adapted to extremely dry conditions. A dromedary camel conserves water by changing its body temperature so it doesn't sweat as the day gets hotter. The scorpion limits its activities to night, burrowing into the cooler sands beneath the surface during the day. Saharan plants survive thanks to root systems that plunge as far as 80 feet underground. In parts of the Sahara, plants cannot take root at all.

Sahel



The Sahel is a narrow band of semi-arid land that forms a transition zone between the Sahara to the north and the savannas to the south. The Sahel is made up of flat, barren plains that stretch roughly 3,300 miles across Africa, from Senegal to Sudan.

The Sahel contains the fertile delta of the Niger River, one of Africa's longest rivers. Unfortunately, the Sahel's fertile land is rapidly becoming desert, which is happening because of drought, deforestation and agriculture. This process is called desertification.

The Sahel's animals constantly hunt for scarce water and vegetation. The region's green vegetation only emerges during the rainy season, but it is often harvested quickly by farmers or consumed by animals.

Baobabs are drought- and fire-resistant trees with trunks that are often 50 feet wide and as tall as 85 feet. Acacia, whose deep root systems are ideal for semi-arid climates, are among the most common trees found in the Sahel.

Ethiopian Highlands



The Ethiopian Highlands began to rise 75 million years ago. That is when magma from Earth's mantle uplifted a broad dome of ancient rock. This dome was later split as Africa's continental crust pulled apart, creating the Great Rift Valley system. Today, this valley cuts through the Ethiopian Highlands from the southwest to the northeast. The Ethiopian Highlands are home to 80 percent of Africa's tallest mountains.

The highland's craggy landscape is perfect for nimble animal species. Native species such as the walia ibex, an endangered wild goat, and the gelada baboon live in the Simien Mountains. The region's plants include the Ethiopian rose, Africa's only native rose.

Savanna

Savannas, or grasslands, cover almost half of Africa — more than 5 million square miles. These grasslands make up most of central Africa.



The Serengeti is a vast plain that stretches 11,583 square miles. It runs from Kenya's Massai-Mara game reserve to Tanzania's Serengeti National Park.

The Serengeti is home to one of the continent's highest concentrations of large mammal species. These include lions, hyenas, zebras, giraffes and elephants.

Swahili Coast



The Swahili Coast stretches about 1,000 miles along the Indian Ocean. It runs from Somalia to Mozambique. The nearby coral reefs and barrier islands protect the coast from severe weather.

There is not a lot of animal life on the sandy Swahili Coast. A small species of primate known as the bush baby inhabits areas where there are many plants. Bush babies, which have enormous eyes for hunting at night, feed primarily on insects, fruit and leaves.

Heavy farming has diminished the number of plant species in this region. Mangrove forests are the most common vegetation. Mangroves have exposed root systems. This allows the trees to absorb oxygen directly from the air, as well as from the nutrient-poor soil.

Rain Forest

Most of Africa's native rain forest has been destroyed by development, agriculture and logging. Today, 80 percent of Africa's rain forest is in central Africa. It is along the Congo River basin.

Africa's rain forests have a rich variety of animal life. A 4-mile patch could contain up to 400 bird species, 150 butterfly species and 60 species of amphibians. Important mammals include African forest elephants and gorillas.



The African rain forest's plants include an estimated 8,000 known plant species. More than 1,100 of these species are endemic, or found nowhere else on Earth.

African Great Lakes

The Great Lakes are located in nine countries that surround the Great Rift Valley. As the African continent separated from Saudi Arabia, large, deep cracks were created in the Earth's surface. These cracks were later filled with water. This geologic process created some of the largest and deepest lakes in the world.

There are seven major African Great Lakes: Lake Albert, Lake Edward, Lake Kivu, Lake Malawi, Lake Tanganyika, Lake Turkana and Lake Victoria. Lake Victoria, the largest lake in Africa, is the southern source of the Nile River, the longest river in the world.

The African Great Lakes region has a wide range of animal life in the water and on land. Fish include the 45-kilogram (100-pound) Nile perch and the 2.5-centimeter (1-inch) cichlid. Hippos and crocodiles call the region home. Plant life in the region is also quite diverse.

However, invasive species like the water hyacinth and papyrus have begun to take over entire shorelines, endangering animals and plants.

Southern Africa

The region of Southern Africa is covered mostly by the Kaapvaal craton. This is a shelf of bedrock more than 2.6 billion years old. Rocky features of Southern Africa include plateaus and mountains.



Southern Africa is the center of Africa's well-known game reserves. They protect animal species such as lions, elephants, baboons, white rhinos and Burchell's zebras.

Southern Africa's Cape Floral Region is one of the world's richest areas for plants. The Cape Floral Region covers less than 0.5 percent of Africa, but it is home to nearly 20 percent of the continent's plants.

Quiz

- 1 Read the section "Sahel."
- What is the MAIN reason why the author included the information about desertification?
- (A) to show how deserts are formed naturally
 - (B) to demonstrate how human actions can affect the environment
 - (C) to detail the challenges faced by this region
 - (D) to explain what types of vegetation are able to grow in this area
- 2 In the section "Ethiopian Highlands," why does the author include information about the walia ibex, an endangered wild goat?
- (A) to compare the wild goat with a species of baboon
 - (B) to explain why the wild goat is endangered
 - (C) to give an example of a species that thrives in the highlands
 - (D) to identify one of only two species that live in the highlands
- 3 Which answer choice accurately describes how each image affects the reader's understanding of Africa's geography?
- (A) Each image illustrates the most important characteristic of one of Africa's eight geographic regions.
 - (B) Each image illustrates a key characteristic of the region discussed in that section.
 - (C) Each image provides information that is not in the article about a geographic region of Africa.
 - (D) Each image provides information related to the climate of a geographic region of Africa.
- 4 Which conclusion is supported by BOTH the article and the images?
- (A) Only a few animals in Africa are large mammal species.
 - (B) Only one region in Africa is located near a body of water.
 - (C) The various regions of Africa have similar plant life.
 - (D) The physical geography of Africa is diverse.