World Biomes

What Is a Biome?

A biome is a natural area of plants and animals. The world is divided into many different biomes and they all vary depending on their climate.

Some examples of biomes are set out below:

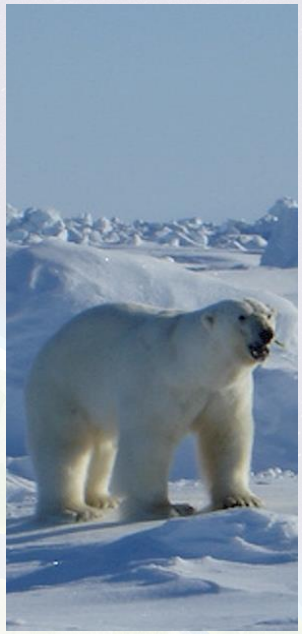
aquatic

desert

forest

grassland

tundra



Aquatic - Saltwater

Earth's surface: This is the largest biome on Earth and covers nearly 75% of our planet. The biome can be divided into two main categories: freshwater and saltwater.

Saltwater Habitats:

- oceans and seas
- coral reefs
- estuaries
- saltwater lakes

Physical features: Saltwater has a higher density of salt than freshwater. In shallower, warm seas, coral reefs grow. They look like rock shelves but are made from sea creatures. Oceans and seas feature submerged volcanoes, trenches, sandbanks. Estuaries are a unique habitat where freshwater and saltwater meet.

Aquatic - Saltwater

Saltwater Animals: Varieties of fish, mammals, crustaceans, molluscs and reptiles live in the saltwater biome, including clownfish, whales, sharks, turtles, crabs and snails, as well as fungi and bacteria.

Vegetation: In the deepest parts of the oceans, it is too dark for photosynthesis so plantlife is scarce. There are many species of plants that thrive in shallow seas and coastlines, including seagrasses, algae and seaweeds.

Threats: Coral reefs are in danger due to climate change. Global warming is causing the world's seas to rise in temperatures which is bleaching the coral. Melting ice caps is raising the water levels around the world. Species, such as penguins and polar bears, are losing their habitats.

Aquatic - Freshwater

Freshwater Habitats:

- rivers and streams
- ponds and lakes
- wetlands

Physical features: Freshwater has a low salt concentrations - usually less than 1%. Some lakes are hundreds of years old but ponds can depend on weather conditions. They can be seasonal based on levels of rainfall. Streams and rivers can begin in many ways, such as from a natural spring underground, from a mountain lake or from runoff water from melting glaciers. Wetlands include areas of standing (non-flowing) water, such as marshes and swamps.

Aquatic - Freshwater

Freshwater Animals: Freshwater biomes hold more than 40% of the world's fish species. Freshwater biomes are home to many different species of molluscs, crustaceans, amphibians, reptiles, insects and birds. Creatures found in freshwater habitats include snails, crayfish, newts, terrapins, dragonflies, ducks and herons.

Vegetation: This includes grasses, water lilies, rushes, algae, trees and shrubs. You might, for example, find things like cypress trees, cattails and bulrushes in this biome.

Threats: Climate change, global warming, pollution, draining and filling for agriculture or building are all threats to this biome.

Desert

These biomes are extremely dry areas. Depending on their location, they can be either hot or cold. Plants and animals have evolved over time to adapt to the harsh environment.

Physical features: Deserts are often covered with sand, gravel or stone. The four main types of deserts include: hot and dry, cold, semi-arid and coastal.

Seasons: Each desert type has its own season patterns. Hot and dry deserts are consistently warm and dry all year. Cold deserts have incredibly cold temperatures and are dry all year. Semi-arid deserts have long, hot summers with a winter season. Coastal deserts have a higher humidity and have thick fogs from the sea.

Earth's surface: These biomes cover around one-fifth (20%) of the Earth's land surface.

Desert

Animals: In hot deserts, many animals are nocturnal to avoid the heat of the day. Some animals dig burrows deep into the earth where it is much cooler. Animals that can be found in deserts include species of mammals, reptiles, birds, insects, arachnids and some amphibians. Examples of desert-dwelling animals include lizards, camels, vultures, moths, scorpions and the horned toad.

Vegetation: Desert plants adapt to the dry climate by conserving water. They can do this either by storing water in their leaves or by having an extensive root system. Desert plants include cacti, flowering shrubs and bushes, grasses and succulents. Although some trees can grow in the desert, there are not large numbers present.

Climate and weather: Very dry climates with a usual average of 25cm of rainfall per year.

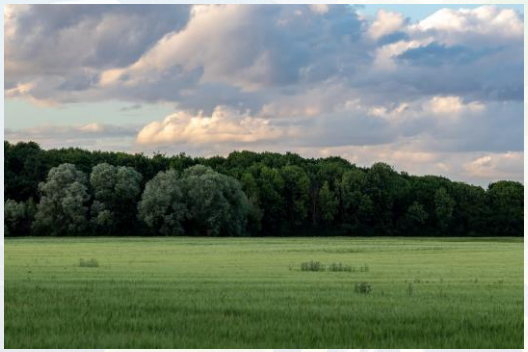
Forest

Forest biomes are home to a variety of trees and other plants. They can be separated into three different categories: temperate forests, taiga (or boreal) and rainforests. They are extremely important to our ecosystem as they store carbon and provide many materials that we use.

Earth's surface: Forest biomes cover about 30% of the Earth's land surface.








Temperate Forests

Physical features: Fertile soil comes from fallen leaves and branches decomposing.

Animals: A variety of animals live in this biome, including mammals, birds and insects. For example, you might find animals like black bears, woodpeckers and cicadas in temperate forests.

Vegetation: There are deciduous trees that shed leaves each Autumn (like oak) and evergreen trees (like pines).

Climate and weather: Lots of precipitation during the year (around 30 to 60 inches).

Seasons: There are four seasons: spring, summer, autumn and winter. Each season is around three months long.

Taiga (Boreal) Forests

Physical features: Boreal forests are thick forests located in the north of the planet.

Animals: The biome is home to a variety of creatures, including predatory mammals, hibernating rodents, migratory birds and insects. Examples of animals that can be found in this biome are wolverines, squirrels, snowshoe hares and reindeer.

Vegetation: The trees are mostly coniferous, evergreen trees.

Climate and weather: These have the coldest weather for forest biomes with temperatures averaging below 0 degrees in winter.

Seasons: They have short, warm summers with long, freezing winters that can last up to six months.

Rainforest






This biome is home to a variety of tropical plants and animals. Rainforests are mostly found in regions that are warm all year round.

Physical features: Tropical rainforests have a layer of very fertile soil. This is from the decomposing leaves and branches that drop to the forest floor. Rainforests have distinct layers in their structure: forest floor, under canopy, main canopy and emergent layer. Each layer has plants and animals that are adapted to live there.

Animals: There is an enormous variety of species that live in rainforests. Every classification of vertebrate can be found in tropical rainforests - mammals, reptiles, fish, amphibians and birds. They are also home to insects and arachnids. Examples of animals that may be found in this biome include sloths, anacondas, piranhas, poison dart frogs, bird-eating spiders and harpy eagles.

Vegetation examples: Lianas vines climb trees to find sunlight. Epiphytes are plants that survive by growing on the branches of trees in the canopy layer. Beautiful flowering plants, such as orchids and the passion fruit flower, are native to rainforests.

Rainforest

Climate and weather: Extremely wet with up to 2000mm of rain per year. Very hot and humid with temperatures averaging 28˚C.

Seasons: There are no seasons.

Earth's surface: Unfortunately, rainforests now cover less than 6% of our planet but still produces a large proportion of our oxygen.

Threats: Natural disasters, such as wildfires, volcanic eruptions, droughts and tropical storms threaten the ecosystems of rainforests but humans also pose a threat to the future of rainforests through deforestation, farming, mining, growing population sizes, poaching and more.

Grassland

The majority of this biome is made up of a variety of grasses with very few trees or large plants. The two main types of grasslands are savannas and temperate grasslands. This biome is very popular for farming due to the rich, fertile soil. East Africa is where the world's largest grassland biomes are found.

Physical features: Open areas with infrequent trees.

Animals: A range of species live in grassland habitats, including types of mammals, birds and insects. Examples of creatures found in this biome are zebras, lions, hyenas, prairie dogs, crickets, butterflies, fork-tailed dragons (a type of bird also known as the drongo) and the lesser prairie chicken.

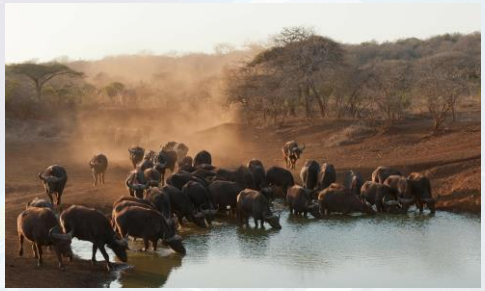
Vegetation: They contain a variety of grass species, flowers and shrubs. Examples of vegetation include buffalo grass, sunflowers and Bermuda grass.

Grassland

Climate and weather: Savannas have warm climates with significant rainfall for a few months of the year. Temperate grasslands have low rainfall throughout the year, mainly in spring and summer, with long, short summers and cold winters.

Seasons: Savannas have two seasons (dry and rainy). Because of their position, temperate grasslands experience four seasons (winter, spring, summer, autumn).

Earth's surface: The grassland biome covers 20-40% of the Earth's land surface.



Threats: These include poaching, farming, invasive of non-native plant species, overgrazing and habitat disturbance from construction work. Because of human interference, temperate grasslands are one of the most endangered biomes in the world.

Tundra

This is the coldest biome and therefore has little plant and animal variety. There are two different varieties of tundra – Alpine and Arctic.

Physical features: Alpine tundra are located in the high mountains, far above the treeline below. The Arctic tundra is a flat, featureless plain with a frozen ground which does not allow trees to grow.

Animals: There is more animal activity in summer seasons. Birds, mammals, fish and birds can be seen in the tundra, including migratory birds, caribou, arctic hares, arctic foxes and polar bears.

Tundra

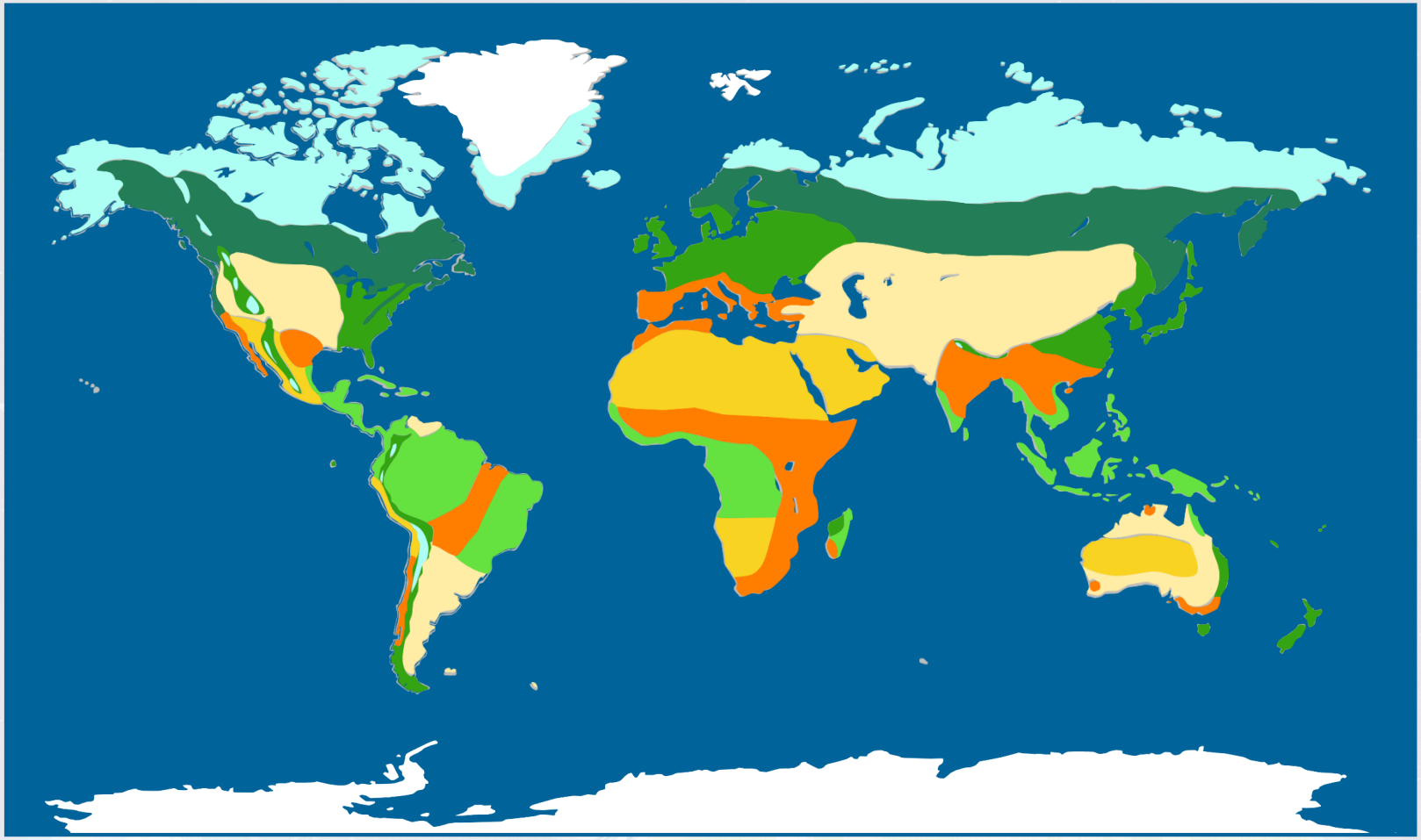
Vegetation: There are few plants that grow in the tundra but those that have adapted for survival include grasses, shrubs, herbs and lichen.

Climate and weather: Winters are freezing with temperatures which can fall to -15˚C. In summer, temperatures can rise to 10˚C which can thaw out some of the ice.

Seasons: There are two seasons, winter and summer. Winter is long (around 8 months) with days which don't have any sunlight. Summer is short with very long days (some with 24 hours of daylight).

Earth's surface: The tundra biome covers around 10% of the Earth's land surface.

Click the buttons to make each biome appear. Click again to remove.



boreal/taiga forest	rainforest	grassland	desert
temperate/deciduous forest	savannah	tundra	ice

Let's Compare

Covers about 20% of the Earth's land surface.

Aquatic	Both	Tundra
It covers nearly 75% of the planet.	Types of grass can grow here.	There are large, flat plains of frozen ground.
Coral reefs can grow here.	It is being impacted by climate change.	There is limited biodiversity.
Many species of plant thrive here.		There are long, cold winters.
There are no seasons.		There is very little plantlife.
		Covers about 20% of the Earth's land surface.

Let's Compare

There [illegible] coastal.

Grassland	Both	Desert
Two types of this biome are savanna and temperate.	There are not a lot of trees.	It can have a hot and dry climate.
It contains one of the most endangered biomes.	A variety of mammals live in the biome.	Plants adapt to conserve water.
It has very fertile soil.		It covers about one-fifth of the Earth's land surface.
It covers about 40% of the Earth's land surface.		There are four types: hot and dry, semi-arid, cold and coastal.

Let's Compare

The biome [illegible] oxygen.

Rainforest	Both	Taiga Forest
It has a hot and wet climate.	The biome contains lots of different trees and shrubs.	It is the largest biome in the world.
There are no seasons.	The biome is threatened by deforestation.	The biome has lots of coniferous trees.
The biome has huge biodiversity.	The biome is important because it stores carbon and produce oxygen.	Temperatures can reach below freezing in winter.
There are different layers in the vegetation.		


twinkl
twinkl
Quality Standard
Approved