



Create a Biome Map

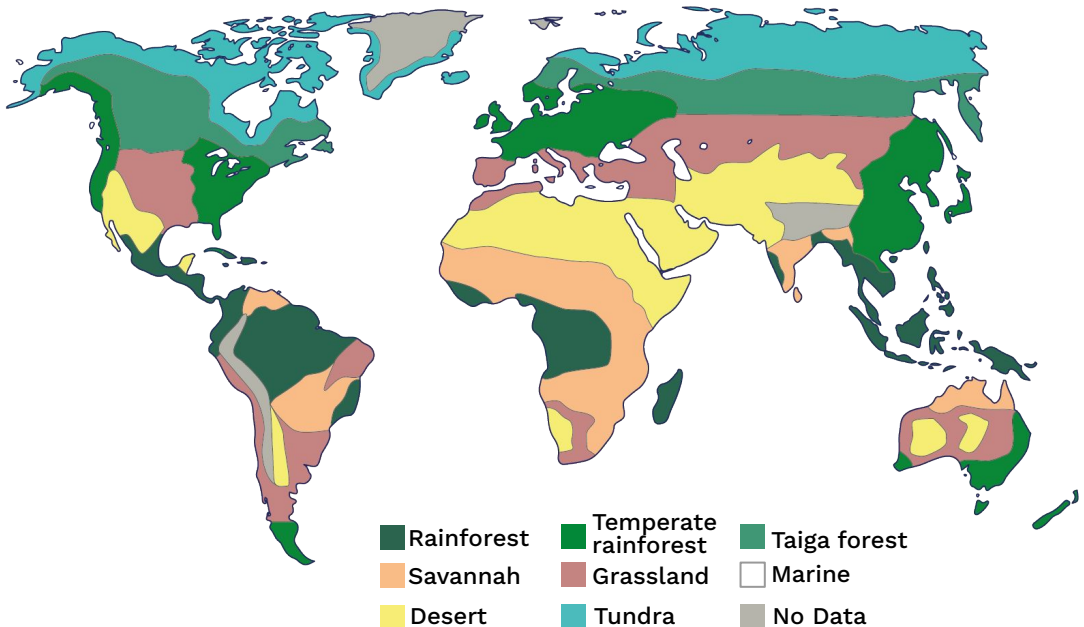
Biomes are large areas with similar **weather patterns, animal species, and plant life**. In this activity, your students will colour in **three** biomes of their choice on a blank world map. This activity will help students develop their **research** and **geography** skills. Furthermore, knowing about the world's biomes is an important prerequisite for understanding how they may each be distinctly affected by climate change.

Following the activity, we recommend discussing ways in which each biome is being affected by **climate change** and touching on potential **solutions**. We have provided several examples of how climate change is affecting our biomes and what we can do to help further below.

Differentiation

You may want your students to **research** the impacts of climate change on their biomes **themselves** and include what they find in their writing. Should any students finish early, you may also consider asking them to choose an **additional** biome to research and map.

Map answer key





Biome definitions

Deserts are places where there is hardly any rain. Usually this means they are hot and very dry, like the Sahara Desert, but the Arctic also counts as a desert as it receives very little rain or snow. Usually, however, deserts tend to be composed of sandy dunes and are home to animals such as lizards, snakes and camels. To grow in deserts, plants (such as cacti) have had to adapt to the dry conditions.



Tropical rainforests are very humid and warm places. They receive lots of rainfall and you can find them in the tropics. Tropical rainforests are home to thousands of species of plants and animals, such as monkeys, butterflies, tropical birds and super long vines.



Temperate forests are found further away from the tropics and are cooler and drier than rainforests. They have four seasons and animals in this biome need to cope with both hot summers and cold winters. To survive through the winter, some animals hibernate (like bears) and others may migrate to warmer countries (like many forest birds)!



Taiga/boreal forests are the coldest and driest of the forest biomes. They are found even further from the tropics and winters there can last up to six months! Taigas are home to few animal species, but bears, wolves and even reindeers often live there. Trees in this biome generally have needle leaves instead of flat leaves.



Savannahs are grassy, open areas with very few trees. They only have two seasons: a dry season and a rainy one! Savannahs can be found in many places around the world and can be home to animals like elephants and lions.



Tundra is an extremely cold and dry biome. Most tundra is found very far north or south. These areas have a very long winter and a very short summer. Relatively few species live in the tundra, but they are home to some animal species like polar bears and arctic foxes.





Grasslands are very open areas with grass and low lying bushes. They are normally found between deserts and forests. Grasslands are similar to savannahs, but they are drier and are home to grazing herbivores like buffalos and horses.



Marine biomes cover more of the planet than all of the other biomes combined! They cover 70% of the Earth's surface and include all five oceans. The constant motion of waves and currents means the water is always changing temperature depending on the area. You can find all sorts of marine animals from fish to whales!



Biomes and Climate Change

Tropical rainforest

Higher temperatures and changing rain patterns due to climate change will likely affect water availability, biodiversity, human health, and agriculture.

Savannah

Due to increases in global temperatures as a result of climate change, savannahs are expected to witness more frequent droughts and wildfires.

Desert

Increasing temperatures will likely result in more frequent droughts and dust storms.

Temperate forest

It is expected that rainfall will be greater than normal in some regions (causing flooding) and lower than normal in others. These changes will likely bring about biodiversity loss as many species are forced either to adapt or to migrate to other areas. Species that migrate may become invasive.

Tundra

Climate change will likely lead to an earlier spring thaw and a later autumn freeze, diminished habitats for native plants and animals, and the melting of sea ice.



Taiga/Boreal forest

Increasing temperatures will likely result in more frequent wildfires and biodiversity loss.

Grassland

The effects of climate change on grasslands will depend on their specific location. Nevertheless, climate change will likely lead to more frequent wildfires and the loss of grasslands.

Marine

Climate change will slowly start making the oceans more acidic. This will make it harder for crustaceans (crabs & lobsters) and molluscs (clams, oysters, sea snails) to grow their shells. A warmer ocean can also damage coral reefs.

Solutions

In order to address the issues outlined above, it is important to:

- Reduce our overall greenhouse gas emissions
- Preserve and protect ecosystems by tightening regulations
- Adopt sustainable agricultural and fishing practices
- Use cleaner alternatives to fossil fuels
- Encourage politicians to prioritise the conservation of nature
- Donate to groups trying to restore natural habitats or even volunteer
- Make sure your trash is disposed of properly (separating recycling and compost)
- Respect nature whenever you're in it

We welcome feedback and would be delighted to hear your thoughts on this activity. Feel free to send an email to schools@climatescience.org and we'll be sure to get back to you soon :)

