

The Arctic

Arctic region

The Arctic region is found in the Northern Hemisphere and includes parts of Canada, Alaska, Russia, Finland, Sweden, Norway, Greenland, Iceland and the Arctic Ocean. Temperatures can reach -68°C in the winter months in Russia, making the Arctic region one of the coldest places on Earth. The Arctic region is home to small populations of people and many plants and animals, including the polar bear, Arctic fox and walrus.



Much of the water in the Arctic is frozen all year round. This frozen water is known as sea ice and is covered in snow. Other frozen features include glaciers and icebergs, making up almost 20% of Earth's freshwater.

Topography

The land around the Arctic Ocean is predominantly tundra. This is land where trees struggle to grow, due to the low temperatures, frozen ground and short growing seasons. Much of the land is covered in permafrost, which means the ground is permanently frozen. Only low-growing plants, such as mosses and grasses can grow in these conditions. When the top layer of permafrost melts in summer, the land turns to marshes, lakes, bogs and streams as the water cannot sink below the deeper frozen ground.



Pools of tundra water beginning to freeze for the winter in Alaska

Other topographical features of the Arctic region include mountains, ice caps, islands, fjords, grassland, river valleys and some forest areas towards the southern parts of the region.



mountain



ice cap



fjord



grassland

Seasons and climate

The Arctic region has cold winters and cool summers. The winter season falls between November and March and during this time, the days are short. The summer season falls between April and October. The days are long, with periods of continuous daylight.



Summer in Greenland



Winter in Greenland

The average temperature in the Arctic ranges from -43°C to 13°C . This range in temperature depends on the season and location.

Greenland experiences the coldest climate in the Arctic region. The temperatures of the coastal areas around Greenland are affected by the open water, sea ice or passing cyclones. However, since almost 80% of Greenland is covered by an ice sheet, the centre of the country remains cold. Winter temperatures can drop as low as -50°C . Summer temperatures can reach 10°C .



Satellite view of Greenland

The Arctic Basin, in the centre of the Arctic region, is permanently covered by sea ice. The permanent sea ice means that the temperatures in the area never go above freezing, with an average winter temperature of -35°C .



Precipitation

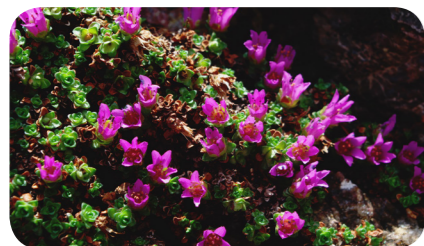
Most areas within the Arctic region receive less than 500mm of precipitation per year, the majority of this falling as snow. The Arctic Basin can be classified as a desert region because it receives less than 250mm of precipitation per year. There can also be strong winds, including cyclones, in parts of the Arctic.



Desert region in the Arctic Basin

Vegetation

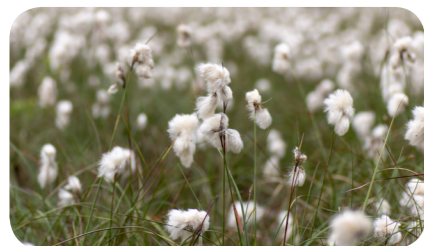
The Arctic region has approximately 1700 species of plant, including flowering plants, shrubs, herbs, grasses and moss. These plants grow mostly in the tundra regions, where the melting of the upper layer of permafrost allows a thin layer of soil to thaw each summer.



purple saxifrage



Arctic poppy



cottongrass



Arctic willow

The waters of the Arctic region are rich in nutrients. These nutrients and energy from the Sun allow microscopic plants called phytoplankton to grow and this supports the aquatic life in the area.

Wildlife

The Arctic region is home to an amazing variety of animals. Terrestrial animals, aquatic animals and birds have all adapted to live in this harsh environment and can survive the extreme weather conditions. Many terrestrial mammals, including polar bears, Arctic wolves, Arctic foxes and Arctic hares, are unique to the Arctic region. During the coldest winter months, they migrate to the lands that surround the Arctic.



polar bear



Arctic fox

About 200 different species of bird can survive in the Arctic. Many birds, such as the Arctic tern, barnacle goose and Bewick's swan, only live in the Arctic during the warmer summer months. A few species of bird, including the snowy owl, have adapted to live in the Arctic all year round.



Arctic tern



snowy owl

There are more fish species in the Arctic Ocean than anywhere else in the world, including salmon, cod and Greenland sharks. Other aquatic species include jellyfish, whales, seals and walruses.



lion's mane jellyfish



harp seal

Humans

People have lived in the Arctic for thousands of years and the current population is about 4 million. The population is made up of indigenous groups and immigrants.

There are over 40 indigenous groups living in the Arctic, such as the Inuit. The early Inuit found ways to survive in the harsh climate. They developed hunting technology, built homes and had their own traditions, language and culture.



Inuit people

In the Arctic, there are villages, towns and cities. There are modern cities, with access to technology, such as the internet. There are also more traditional settlements, without modern facilities.



Modern town in Russia

