

# Forests Across The Globe

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## Introduction to Forests

Forests are large areas that are predominantly filled with trees. There are hundreds of forests across the globe, and many factors are accounted for, such as the density of trees and ecological perspectives. The Food and Agriculture Organization states that forests cover approximately 4.14 billion hectares, or 32% of the earth's land area (Food and Agriculture Organization of the United Nations [FAO], 2025). Forests are part of the dominant system on Earth and can be seen across the globe. Essentially, forests account for gross levels of the earth's productivity, and harvesting tends to impact the ecosystem in a negative manner when it is unsustainable. Forests are traditionally designated to consist of trees, though there are hundreds of defining definitions today.

## The Taiga or Boreal Forest

One of the biggest forests exists in Taiga, Asia-Europe-North America. However, it is not exactly a single forest but a biome. Taiga is known to cover the majority of portions of North America and Northern Eurasia. The land mass that it occupies is enormous and extends across Russia, Scandinavia, Canada, and Alaska. Taiga is one of the largest forest biomes on planet Earth. Taiga is also known as the Boreal forest, and it is one of the climates threatened by rapid warming, wildfire, pests, and changing precipitation. For requirements such as toilet paper, pulp, timber, and other commodities, boreal forests can also face pressure from logging. Sustainable management, monitoring, and climate adaptation are therefore essential (FAO, 2025).

## The Amazon Rainforest

Other famous examples include the Amazon forests in South America. This is one of the most well-known forests in the world, and it is attractive to many visitors. Essentially, it is spread across Brazil and parts of Peru, Colombia, Venezuela, Bolivia, Ecuador, Guyana, Suriname, and French Guiana. It is around 7,000,000 km<sup>2</sup>. It has some of the most diverse species in a biological sense. One of every ten living species can be found in the Amazon forests. There are thousands of living birds, mammals, animals, and other species that are scientifically registered in the forest. The Amazon forest also stores and exchanges huge quantities of carbon, water, and energy; as such, it is one of the most essential factors when it relates to the world's climate. NASA research shows that drought, degradation, fire, and deforestation can weaken the Amazon's capacity to absorb carbon and regulate regional moisture (National Aeronautics and Space Administration [NASA], 2024).

# Forest Mammals and Orangutans

As far as forest mammals are concerned, some of the largest tree-dwelling mammals are orangutans. As opposed to the habits of other primates, they tend to spend more time on trees as opposed to on the ground. The tools that they use are highly advanced in many ways, and they also build tree nests to sleep within and use sticks to probe for food. These species are found only in the rainforests of Borneo and Sumatra. Their hair colour is reddish brown, as opposed to the colour that gorillas and chimpanzees have. They are among the most intelligent primates and tend to use sophisticated tools when they set up sleeping nests. Orangutans live in old secondary and primary forests, and they can also be found in lowland or mountainous swampy areas. They usually spend the entire day resting, travelling, and feeding. All three orangutan species are critically endangered, and habitat loss, fire, poaching, and conversion of forests for agriculture remain major threats (World Wildlife Fund [WWF], 2026).

## Medicinal Value of Rainforests

Many medicines that are widely used today were discovered from plants, fungi, and other natural organisms. However, only a portion of global biodiversity has been studied for medicinal properties. It is imperative to note that rainforests cover a relatively small share of the earth's surface, yet they are home to an exceptionally large share of known species. Thousands of compounds have already been discovered and derived from plants alone. Plants and fungi continue to be critical resources for the development of new medications (Royal Botanic Gardens, Kew, 2024).

These extracts could be widely used as drugs for illnesses that can range from headaches to chronic illnesses and as pain relievers, although natural origin does not guarantee safety or absence of side effects. Many modern medications can be supported with a backdrop of discovery in forests. For example, quinine, historically used against malaria, is an alkaloid extracted from cinchona bark from South America. Curare-derived compounds contributed to the development of muscle relaxants used in medicine. The Madagascar periwinkle provided compounds used in treatments for leukaemia and lymphoma. Other plant-derived medicines include paclitaxel from Pacific yew and galantamine inspired by snowdrop compounds (Royal Botanic Gardens, Kew, 2024).

There are many other chemical structures that are seen as part of forest organisms. Today, scientists and researchers aim to isolate, test, and synthesize drug compounds chemically. Examples can be seen as far as aspirin's historical relationship with willow bark is concerned. Forest biodiversity can provide information for research purposes, but bioprospecting should respect Indigenous knowledge, benefit-sharing, conservation, and safety standards. Forest plants may also provide leads for contraceptives, pesticides, and other useful products, but claims must be confirmed through controlled scientific testing rather than assumed from traditional use alone.

# Ancient Woodlands of the United Kingdom

The UK is also home to ancient woodland that has existed continuously since at least 1600 in England and Wales, with separate definitions and inventories used in Scotland and Northern Ireland. Before this time, referring to newly planted woodland was less common, and woodland present before 1600 was likely to have developed through long ecological continuity. As far as ancient woods were concerned, shrubs and trees were often cut and regrown as part of traditional management. Many ancient woodlands have protection or planning recognition, and they are considered irreplaceable habitats because of their soils, fungi, plants, and historical continuity. Current Forestry Commission guidance emphasizes sustainable management, biodiversity protection, climate adaptation, and careful control of development impacts (Forestry Commission, 2025). Many species such as yellow rattle, primrose, wood anemone, and bluebells are common in ancient woodland sites. There are many small-scale forests, such as the Bedgebury forest in Kent, which are used for pleasure purposes such as biking, cycling, riding, and adventure playing.

## Pando and Clonal Forests

Another interesting fact related to Pando is that it is a very large clonal colony of quaking aspen connected through a shared root system. It is considered a single genetic organism, although individual stems live and die. Pando is located near Fish Lake in Utah. It was recognized as a clone through research in the twentieth century and continues to be studied. The clonal colony spreads over more than 40 hectares and includes tens of thousands of stems that die individually and can be replaced by new shoots. U.S. Forest Service research uses Pando and other aspen stands to study clonal structure, age, growth, reproduction, herbivory, and climate responses (U.S. Forest Service, 2015).

## Recent Forest Discoveries and Conservation

A lot of new information is still being discovered with the passage of time. Remote sensing, genetics, forest inventories, and ecological monitoring continue to reveal hidden forests, ancient trees, clonal organisms, and changes in forest health. China and other countries have undertaken large tree-planting programmes, while the United States, Europe, and many tropical nations also pursue restoration and sustainable management. However, plantations do not automatically replace the biodiversity and ecological functions of natural forests. Tropical rainforest soils can also be relatively poor in nutrients because nutrients are rapidly cycled through living biomass rather than stored deeply in the soil. Global deforestation has slowed compared with the 1990s, but forests remain under pressure, with deforestation still estimated at millions of hectares per year (FAO, 2025).

## Conclusion

Essentially, forests have had a great level of influence on terrestrial life as they continue to give feedback on the climate and one's physical environment. There have been many studies that look at the way that changes tend to impact the resistance of forests. Forest dynamics are of great interest as they explain the specifics and mathematics of remodelling. Protecting primary and ancient forests, managing production forests sustainably, restoring degraded land, reducing commodity-driven deforestation, and supporting Indigenous and local communities are all required to maintain forest biodiversity and climate functions (FAO, 2025; Forestry Commission, 2025).

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