

## An introduction

### Forest:

Is a large area of land covered with trees. Or it is a wood or the woods, is an area with a high density of [trees](#). But a forest is much more than just trees. It also includes smaller plants, such as mosses, shrubs, and wildflowers. In addition, many kinds of birds, insects, and other animals make their home in the forest. Millions upon millions of living things that can only be seen under a microscope also live in the forest.



Climate, soil, and water determine the kinds of plants and animals that can live in a forest. The living things and their environment together make up the forest ecosystem. An ecosystem consists of all the living and nonliving things in a particular area and the relationships among them. The forest ecosystem is highly complicated. The trees and other green plants use sunlight to make their own food from the air and from water and minerals in the soil.

### The importance of forests

Forests have always had great importance to people. Prehistoric people got their food mainly by hunting and by gathering wild plants. Many of these people lived in the forest and were a natural part of it. With the development of civilization, people settled in cities. But they still went to the forest to get timber and to hunt.

Today, people depend on forests more than ever, especially for their

(1) Economic value,

(2) Environmental value, and

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(3) Enjoyment value.

### **1-Environmental value-include:**

#### **Climate**

Forests are major contributors to the Earth's ability to maintain its climate, by the global impact of their photosynthesis. They are a natural defence against climate change, removing the greenhouse gas carbon dioxide and generating oxygen. This assists in purifying the atmosphere and controlling rising temperatures. Deforestation works against these benefits.

#### **Ecology**

In addition to assisting in climate control, forests have other ecological benefits. They prevent erosion by reducing the rainfall's force on the soil's surface and by absorbing water and not allowing it to directly run off and remove topsoil. Forests also act as water filters, collecting and storing water and recharging underground aquifers. Tropical montane forests are especially important to watersheds. Forests also increase the atmosphere's humidity by transpiration, which affects temperature and rainfall.

#### **Biodiversity**

Forests contain a greater range of biodiversity than any other ecosystems on earth. Only a fraction of the species found in forests have been examined and studied. A single massive tree in the Amazon rainforest can be home for thousands of species. The wide variety of trees and plants found in tropical forests comprises particularly intensive biodiversity. This biodiversity is important on its own terms in ways we may not currently understand, as interdependent species have evolved over millions of years to interact and flourish.

### **2- Economic value-Commercial Importance**

Humankind derives many benefits from forest ecosystems. Many medicines and pharmaceuticals have been discovered in plants native to forests. Local communities survive on plants and animals culled from the forests. Products that modern society depends on such as wood, paper and bamboo all originate from forest ecosystems. Many other desirable products such as spices, gums and dyes are also found in forests around the globe. Forests are important to humans for

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aesthetic reasons as well, and ecotourism is one way to use and promote the protection of forests in a sustainable manner.

Forests supply many products. Wood from forest trees provides lumber, plywood, railroad ties, and shingles. It is also used in making furniture, tool handles, and thousands of other products. In many parts of the world, wood serves as the chief fuel for cooking and heating.

Various manufacturing processes change wood into a great number of different products. Paper is one of the most valuable products made from wood. Other processed wood products include cellophane, plastics, and such fibres as rayon and acetate.

Forests provide many important products besides wood. Latex, which is used in making rubber, and turpentine come from forest trees. Various fats, gums, oils, and waxes used in manufacturing also come from trees. In some primitive societies, forest plants and animals make up a large part of the people's diet.

Unlike most other natural resources, such as coal, oil, and mineral deposits, forest resources are renewable. As long as there are forests, people can count on a steady supply of forest products.

Forests help conserve and enrich the environment in several ways. For example, forest soil soaks up large amounts of rainfall. It thus prevents the rapid runoff of water that can cause erosion and flooding. In addition, rain is filtered as it passes through the soil and becomes ground water. This ground water flows through the ground and provides a clean, fresh source of water for streams, lakes, and wells.

Forest plants, like all green plants, help renew the atmosphere. As the trees and other green plants make food, they give off oxygen. They also remove carbon dioxide from the air. People and nearly all other living things require oxygen. If green plants did not continuously renew the oxygen supply, almost all life would soon stop. If carbon dioxide increases in the atmosphere, it could severely alter the earth's climate.

### **3- Enjoyment value.**

Recreation, tourism, education, and conservation of sites with cultural or spiritual importance are examples of some of the social functions played

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by [forests](#). The area of forests that is set aside for such functions indicate to what extent this role of forests is taken into account by countries and forest managers.

### Forests and shade trees

In addition to the obvious differences between the management objectives for the forest and shade trees there are many other differences between trees growing in the forest and those trees growing around homes, along streets, and in recreation areas.

Since the forest is the normal ecological niche for trees it would be expected, in most cases, that more stress would be found in shade trees than on forest trees. The backyard, roadside, City Park, and recreation areas are not usually ideal locations for the growth of trees. This increased stress often predisposes shade trees to vigour-related diseases. Thus, a major responsibility of the arborist is to provide the necessary care to maintain vigour and to prevent or alleviate as many of the adverse stress factors as possible from harming the trees. The study of the diseases of shade trees has become a distinct branch of tree pathology because shade trees require specialized maintenance rarely used in the forest , and because shade trees are usually treated as individuals and not as a member of a forest stand.

### Common forest trees in the world

Here are the 10 most common native tree species in the United States

- [Red Maple or \(\*Acer rubrum\*\)](#) القيقب الاحمر
- [Loblolly Pine or \(\*Pinus taeda\*\)](#) الصنوبر
- [Sweetgum or \(\*Liquidambar styraciflua\*\)](#)
- [Douglas Fir or \(\*Pseudotsuga menziesii\*\)](#) تنوب دوغلاص
- [Quaking Aspen or \(\*Populus tremuloides\*\)](#)
- [Sugar Maple \(\*Acer saccharum\*\)](#)
- [Balsam Fir \(\*Abies balsamea\*\)](#)
- [Flowering Dogwood \(\*Cornus florida\*\)](#)
- [Lodgepole Pine \(\*Pinus contorta\*\)](#)
- [White Oak \(\*Quercus alba\*\)](#)