

An aerial photograph of a dense, lush green forest. The canopy is thick and vibrant, with several large, ancient trees standing out prominently. These trees have thick, gnarled trunks and sprawling canopies, some with a reddish-brown hue. The overall scene is a rich, textured expanse of greenery.

A Quick Guide to Ancient and Endangered Forests

The term "Ancient and Endangered Forests" was defined by leading conservation and biodiversity scientists and environmental non-governmental organizations.



Boreal Forest landscape by © Philippe Henry

Intact forest landscape mosaics:

These are forests where industrial logging has not taken place, and that are a minimum of 50 000 hectares (123,500 acres) in size and area – more than eight times the size of Manhattan.



Coastal Temperate Rainforest by © Adrian Dorst

Naturally rare forest types and forest types that have been made rare due to human activity:

These are forests that are not abundant at a global level. An example of this kind of forest is British Columbia's Coastal Temperate Rainforest, one of the rarest types of forest on Earth. This type of forest only ever covered about 2.5 percent of the earth's surface. Over time, much of the Coastal Temperate Rainforest has been heavily impacted by human settlement and logging.



Amazon Glass Frog by © Dirk Ercken

Forests with high species richness:

These are forests that have the highest numbers of plant and animal species. Brazil is one of the countries we can look to for species richness. The country is home to the Amazon rainforest, the Mata Atlantic and other species rich forests. In terms of global species richness, Brazil ranks second in mammals and amphibians, and third in birds, reptiles and fish.



Sumatran Orangutan by © Paul Hilton

Forests containing high concentrations of rare and endangered species:

These are forests that provide habitat for species that are not abundant or face risk of extinction. What better example to illustrate this than the Leuser Ecosystem in Indonesia, the last place on Earth where elephants, tigers, rhinoceros and orangutans still co-exist in the wild. Sadly, these species are all critically endangered.



Cape Strawflower, South Africa by © HBAanen

Forests of high endemism:

Endemism is when a species is geographically restricted to an area or a region. Species can be indigenous to a place, but are not endemic to it if they are also found elsewhere. Forests of high endemism are those which contain species that can only be found in very specific regions. In isolated areas, such as Australia and the southern tip of Africa, as many of 90 percent of species are endemic.



Grizzly Bear by © Ian McAllister

Core habitat for focal species:

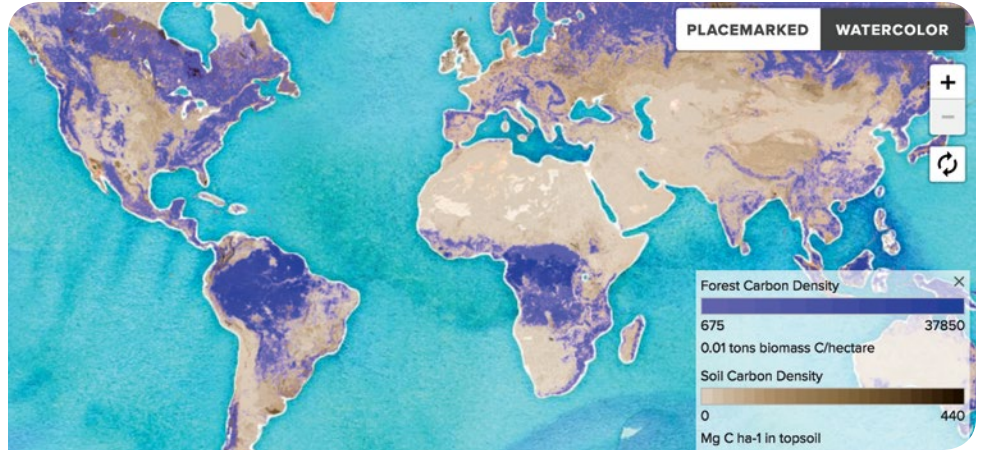
These are forests that contain habitat for plant and animal species that represent the health of broader ecological functions of region. In Canada's Boreal Forest, examples of focal species are caribou, grizzly bears, and wolverines – when these species have enough habitat to maintain healthy populations, it indicates that the broader ecosystem is healthy.



Woodland caribou by © ThartmannWiki

Forests exhibiting rare ecological and evolutionary phenomena:

These forests have unique biological traits or exhibit rare ecological and evolutionary phenomena. A naturally occurring rare ecological phenomena is the long-distance seasonal caribou migrations in the Boreal Forest. A good example of evolutionary phenomena is the development of distinct finch species on different islands in the Galapagos archipelago.



Carbon data layers, ForestMapper @Canopy

Forests with high carbon stocks

There are two types of carbon stocks in a forest: soil organic carbon (below-ground stocks) and forest biomass (above-ground stocks).

Soil organic carbon is the carbon stored in the soil. It represents all the non-living organic compounds in soil. Plants use the organic carbon in soil as they grow. In turn, they return carbon to the soil after they die. High levels of organic soil carbon do not necessarily represent areas with lush vegetation, however. For example, in tropical rainforests, the highly active vegetation on the surface extracts most soil carbon, so those areas have especially low soil carbon. Areas where vegetation grows more slowly, especially swamps and wetlands, therefore have higher soil carbon.

Above-ground stocks are found in **forest biomass**. Carbon is found in all living biomass above the soil including stem, stump, branches, bark, seeds and foliage. This carbon is stored in trees through photosynthesis. The forests which store the largest amounts of carbon above-ground are generally those with the highest and largest trees, such as tropical forests.

ForestMapper



The Ancient and Endangered Forest landscapes highlighted in **ForestMapper** contain *at least one* of the components or values associated with the Ancient and Endangered Forest definition. This ensures that all potential ecologically important forests are represented and that no areas considered critical from an ecological standpoint, are overlooked.

Source: <https://canopyplanet.org/tools/forestmapper/sciencebehind/>



www.canopyplanet.org



cover photo: © Paul Hilton