

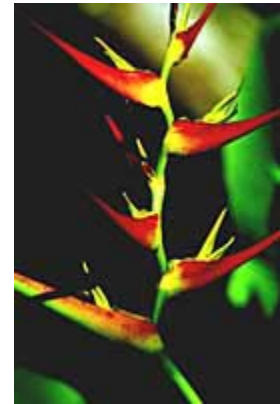


Conservation in the Neotropics

Rainforests surround the Equator, extending as far north as the Tropic of Cancer and as far South as the Tropic of Capricorn. Once, six billion acres of virtually unbroken forest cloaked this entire area like a verdant sash around the globe. Today less than half, or 2.5 billion acres, remain in Latin America, Africa, and Asia.

Neotropical Rainforests

The Neotropics -- Mexico, Central America, South America, and the Caribbean -- hold the greatest amount of standing forests. These wooded wildlands are scattered in a mosaic of green that together add up to some 1.37 million acres. There are three major blocks of forest in the Neotropics, the largest of which is located in the Amazon River Basin in South America. There is also a block that cloaks the Andes on the Pacific coasts of Ecuador and Colombia, extending northwards through Central America as far as Veracruz in southernmost Mexico. The Atlantic coast of Brazil contains the third major block, a skinny strip less than 30 miles wide on the coastal mountains, the vast majority of which has already been cleared.



The forests of the Neotropics are the habitat for tens of thousands of plant and wildlife species -- most of which have yet to be identified by scientists or seen by humans. In a single square mile of tropical forest in Rondonia, Brazil, there are 1,200 species of butterflies -- twice the total number found in the United States and Canada combined! Bananas, avocados, pineapples, peppers, peanuts, oranges, papaya, lemon, pepper, coconut, sugarcane, cassava and cacao are all native to rainforests and about one fourth of all medicines come from rainforest plants. Rainforests are also home to thousands of indigenous people who depend on them for shelter, sustenance, and spirituality, but these communities are finding it more and more difficult to survive. In Brazil alone, 26 groups were wiped out or scattered in the last decade.



The Neotropics contain three distinct types of rainforest: lowland evergreen rainforest, lowland semi-evergreen rainforest, and montane rainforest. Lowland rainforests are usually found at altitudes between 0 and 1,000 feet above sea level, but may extend as high as 3,000 feet or, in rare cases, even higher. Life is so abundant in these forests that a single acre may hold as many as 15,000 separate plant and animal species. Lowland evergreen rainforests are the most diverse, tall, and complexly structured rainforests. They tend to contain small populations

of an overwhelming number of different species, have access to a continuous, year-round water supply, and occupy western Amazonia and the Pacific Coast of South America. The tallest trees in these forests may grow to be over 200 feet, towering over the jungle-like canopy below. Semi-evergreen rainforests contain a mix of evergreen and deciduous trees. The deciduous trees are found at the top of the canopy and may comprise up to one-third of the taller trees, though not all are necessarily leafless at the same time. Semi-evergreen rainforests occur when there is a regular dry season and are found throughout Central America. Montane rainforests are sometimes called cloudforests because they are constantly shrouded in mist. They receive more rain and are cooler than lowland rainforests. Trees in montane rainforests tend to be shorter and have smaller leaves than trees in growing lowland rainforests. Montane rainforests are found throughout the Andes.

Rainforest Layers

Lowland rainforests have up to four distinct layers: the emergent layer, the canopy, the understory and the forest floor. Each level is home to a unique variety of animals many of which rarely cross between the different layers. The emergent layer consists of very tall trees that have emerged from the canopy below. Most of the trees at this level reach at least 160 feet and are able to withstand burning sun, strong winds, and torrential rain.



Just below, the crowns of the trees in the upper canopy form an almost closed roof over the forest below. The lower region of the canopy is the richest layer of the forest in terms of plant and animal life; however, most mammals that live in this layer of the forest are nocturnal. Little sunlight filters down through the canopy into the understory, making this layer, which extends from the forest floor up to about 80 feet, shady and humid. The understory contains a mix of saplings, tall shrubs, vines and palms. Though plant growth on the humid forest floor is limited because only between 1-2% of sunlight filters down to this level, it is filled with moss and fungi and teeming with insect life. Millions of termites, beetles, centipedes and ants can be found in a single acre of rainforest.

Deforestation

Rainforests are filled with over half of the earth's species of terrestrial plants and animals, making them the richest ecosystems in the world, but they are being destroyed at an alarming and countless species are vanishing with them. At least 42 million acres of tropical forests in Asia, Africa, and Latin America are lost each year, an area the size of Washington State. This corresponds to a loss of approximately 100 acres or 2,000 trees per minute. An estimated 140 species of rainforest plants and animals go extinct every day.

The Neotropics, home to some of the most accessible and fascinating rainforest ecosystems in the world, also suffers from some of the world's highest rates of deforestation. The region lost nearly 10 percent of its forests between 1980 and 1995 alone and continues to lose at least 13 million acres of forest annually. Most of the deforestation occurs to clear land for agriculture and cattle grazing, even though much of the forested land is inappropriate for farming or ranching. Cutting down the forest removes most of the nutrients from the ecosystem, leaving soil that will only be able to support intensive agriculture for a couple of seasons. This means that farmers must

continually clear new patches of land in order to grow their sun-loving crops. The fate of pastures is governed by a similar phenomenon: because of rising land values, it is most profitable to over-graze a pasture for a short period of time and then move on. About 65% of Central America alone has already been cleared to create pastures for grazing cattle.

Large-scale forest fires, timber extraction by local and foreign companies, mining, the building of dams, and population growth have also made significant contributions to forest loss in the Neotropics over the past decade. Population growth and economic expansion have led to the construction of new roads and buildings that both physically and ecologically fragment the forest, reducing its vitality. It is expected that the populations of most Neotropical countries will double within the next 25 years, only increasing the already growing pressures on the forests.



Deforestation in the Neotropics is also driven by inequitable land tenure systems and widespread poverty that push large numbers of landless people into forested areas in order to survive. These people cut trees to plant subsistence crops, build homes and for firewood, the only source of fuel they can afford. Seeking to quickly alleviate problems created by urban overcrowding and high unemployment rates, governments often encourage road building and farming settlements in these areas without regard to the long-term effects on the

forest frontier or the communities. In most cases, living with the forest rather than replacing it will provide forest communities with more income in the long-term; however, once the trees have been cleared, the nutrient-poor soils may only provide subsistence for a few years, after which the communities will again sink into poverty or be forced to relocate.

The values and priorities of governments, businesses, and consumers both within and beyond the Neotropics can contribute to deforestation. Trade policies and global markets that undervalue forest products, irresponsible multinational companies that take advantage of cash-strapped governments, and local communities' lack of political power all contribute to the continuing loss of valuable forest. Nevertheless, there have been many advances in the last decade. The spread of agroforestry and other more sustainable farming practices, the promotion of shade-grown crops, forest certification, and selective logging, and environmental education have all helped to improve the situation in the Neotropics.

Many groups and individuals with creative and innovative ideas have been working directly with local forest communities, governments, and consumers to find solutions to the problems caused by deforestation. Each of the Rainforest Alliance's Adopt-A-Rainforest projects continues to overcome the many challenges and obstacles to conserving their nations' glorious and valuable tropical forests.

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