

Population: 20,400,000
Surface Area: 311,070 km²

TROPICAL HUMID FORESTS

This ecological region includes the southern tip of the Florida Peninsula in the United States. Within Mexico, it encompasses the Gulf Coastal Plain, the western and southern part of the Pacific Coastal Plain, most of the Yucatán Peninsula and the lowlands of the Chiapas Sierra Madre, which continue south to Central and South America.

Approximately 20.4 million inhabitants live in this ecological region. Of this, over 16 million live in the Mexican portion, an area that has seen a 30 percent increase in population since 1980. The greatest number of indigenous peoples who are descendants of the great cultures, such as the Maya, live in this region.

Physical setting

Geologically, the region is mainly composed of folded and metamorphic hills, covered by thin alluvium. The sedimentary bedrock dates from the Precenozoic periods when waters of the Mexican Gulf covered much of this region. This Gulf of Mexico Plain contains an extensive network of rivers, including the Pánuco, Papaloapan, Coatzacoalcos, Grijalva and Usumacinta, which flow to the Mexican Gulf. The rivers on the Pacific side are short and numerous. In the Yucatán Peninsula, calcareous rocks dominate karstic relief. Soils have formed largely from the alluvial deposits or through in situ erosion.

The region spans from sea level to 1,000 m of altitude. It consists largely of tropical rain forest with year-round temperatures averaging between 20°C and 26°C. The average annual precipitation range is 1,500 to 3,000 mm, and in some areas may attain totals of more than 4,000 mm. The number of dry months is generally less than three.

Biological setting

Evergreen and semideciduous forests are the most characteristic plant communities of this region which, in terms of flora and fauna, is doubtless one of the richest zones in the world. Forest stands are typically of mixed ages with a great abundance of air plants (epiphytes): bromeliads, ferns, and orchids among others. The mature tree layer may attain heights of 30 to 40 m or more. Typical species include paque, allspice tree, palms, sombrerete, breadnut, and copai-yé wood.

Phytogeographically, this region is a northern extension of similar vegetation found in Central and South America. The number of vascular plant species approximates 5,000. From this total, 5 percent are endemic to Mexico. The diversity of tree species found in this tropical region is four times that of the northern temperate forests. Important plants include members of pea, mulberry, avocado, sapote and madder families. Areas connecting the greatest number of tropical tree endemisms are Los Tuxtlas in Chiapas and Uxpanapa in Veracruz, Tuxtepec in Oaxaca, Los Chimalapas (southeastern Oaxaca at the boundary with Veracruz and Chiapas), the Lacandon Forest (Chiapas), and the southern Yucatán Peninsula. Forests that are better preserved are located in Calakmul which connects in the south with the Petén, stretching into Guatemala.

In the extension of this region in the Florida peninsula, flooded marshes and swamps (both salt-water and freshwater) are widespread, with a very characteristic mangrove vegetation found in the Everglades.

The origin of most mammals is neotropical although some are of holarctic origin. A great abundance and variety of bats and marsupials is present. Common species include the armadillo, squirrel, lynx, peccary and tapir. Common birds include pheasant, macaos, parrots and toucans. Amphibians and reptiles are abundant including toads, frogs, arboreal frogs, caimans and crocodiles. Of 217 endemic vertebrate species that inhabit tropical evergreen forests, 14 are endangered.

Human activities

The forests have been widely exploited for precious woods like mahogany and red cedar, and in the states of Campeche and Quintana Roo, dyeing stick was extracted intensively by the English until the beginning of the 20th century, when a major harvest of chicle began. In the 1950s, barbasco was heavily harvested for diosgenin, which is an ingredient of contraceptive products.

Agriculture and forestry, which occupy 30 percent of the labor force, are the major activities. Here, the greatest proportion of indigenous population of Mexico is concentrated (more than 18 percent of the total), represented by 23 ethnic groups and 1.5 million inhabitants. Mayas, Totonacos, Chinantecos and Lacandones are prominent, among others.

Since prehispanic times, the region has been a producer of goods of great commercial value, and an entrance port to national and international trade. With the arrival of the Spanish, sugar cane and chile plantations were established and precious wood extraction increased. Regional economic growth occurred in a disorganized way, creating great economic and social disparities.

In the 1960s, in the framework of development programs, the region was affected by the opening of large areas for agriculture and cattle, such as Chontalpa, Balancan-Tenosique and Uxpanapa. Large forested areas were cleared for the planting of corn, beans, sugar cane and rice, and to serve as induced or cultivated pasture for extensive cattle production. The region has become the main producer of meat for national consumption.

Major products are fodder, sugar cane, oranges, coffee, cacao, bananas, sesame, green alfalfa, cotton and green pepper. One of the dominant activities, especially since the mid-twentieth century, is petrochemistry, which has been established in the Gulf Plain, mainly in Veracruz and Tabasco and the Sonda de Campeche. Important industrial complexes here have caused considerable ecological damage, irreversible in some cases. Both the sugar cane industry and cellulose production also contribute pollution, but to a minor degree. The Pánuco, Papaloapan and Coatzacoalcos rivers collect important flows of domestic and industrial wastes, including those coming from Mexico City.

On the Caribbean Mexican Coast and in Miami, in the Florida peninsula, an important touristic development has taken place. Offshore from the Yucatán Peninsula is found the world's second largest coral reef. However, the lack of regulations concerning tourist activities has resulted in substantial negative ecological impacts.

1 Evergreen high forest on the slopes of the San Martín volcano.

2 Mangrove swamp in Sontecomapan, Veracruz.

3 Milpa corn farm in a clearing made in the Lacandona forest.

4 Pineapples are one of the many important but lesser-known crops of this region.

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Photo: F. Takaki

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