Tropical moist forest

BARRO COLORADO ISLAND
PANAMA
CREDIT: KRISTINA J. ANDERSON-TEIXEIRA

Vegetation

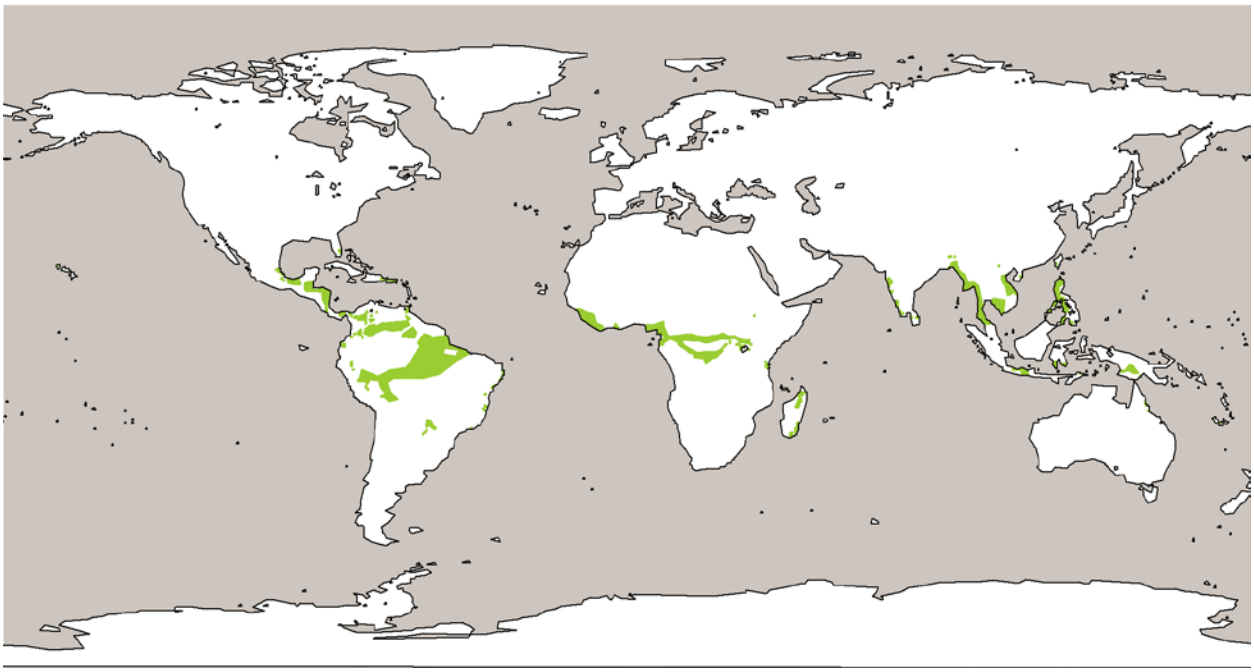
Tropical moist forests are dominated by broadleaf trees. Also known as hardwoods, broadleaf trees have flat leaves and produce seeds protected by fruits. In this climate, many trees keep their leaves year round, but some may lose them during the dry season.

Climate

Tropical moist forests are found in tropical monsoon climates (Am), which are most common in South America. They have monthly mean temperatures above 18 °C in every month of the year, and have wet and dry seasons, with dry seasons receiving modest rainfall (<60mm rain/ month).

Potential Distribution

This distribution map illustrates the climate zones in which this ecosystem type occurs, with stippled areas indicating climate zones where it is rare. It is not present in all parts of its climatic range.



Examples

CTFS-ForestGEO Forest Monitoring Sites

The Center for Tropical Forest Science- Forest Global Earth Observatory (CTFS-ForestGEO) is a Smithsonian-led global forest monitoring network, including over 6 million trees and over 10,000 tree species in over 60 forested sites worldwide. Scientific research at these sites includes measurements that help to quantify the climate regulation services of these and similar sites. Examples of Tropical moist forest in this network include the following sites:

- KORUP, CAMEROON
- KHAO CHONG, THAILAND
- BARRO COLORADO ISLAND, PANAMA
- COCOLI, PANAMA
- SAN LORENZO, PANAMA
- LUQUILLO, PUERTO RICO

National Parks, Conservation Areas, or UNESCO Natural World Heritage Sites

- OKAPI WILDLIFE RESERVE, DEMOCRATIC REPUBLIC OF THE CONGO

Climate regulation value

The average greenhouse gas value for ecosystems of this type is 751 metric tons CO_2-equivalents per hectare over a 50 year time frame (t CO_2-eq ha^{-1} 50 yrs^{-1}). This includes 757 t CO_2-eq ha^{-1} 50 yrs^{-1} from storage of organic matter that would result in greenhouse gas release if cleared and -6 t CO_2-eq ha^{-1} 50 yrs^{-1} from ongoing greenhouse gas exchange between the ecosystem and the environment.

When biophysical effects are taken into account, the average climate regulation value for ecosystems of this type is 903 metric tons CO_2-equivalents per hectare (t CO_2-eq ha^{-1} 50 yrs^{-1}). This is a 20% increase relative to the value based on greenhouse gas regulation alone.

Considering an average car, emitting 1.1 lb CO_2 per mile driven, clearing 100 square feet (9.3 m^2) of this ecosystem type would, on average, be equivalent to driving 1,398 miles/2,249 km (counting greenhouse gasses only). Counting biophysical effects, clearing the vegetation would be equivalent to driving 1,679 miles/2,702 km.