

Tropical Rain Forests >80 inches of rain/yr

- 50% of TRF are in Brazil, Zaire 10%, and Indonesia 10%
- Some say they cover 13% of the earth's surface (others say 7%???)
- They exist between the Tropic of Cancer and the Tropic of Capricorn
- There are large Temperate rain forests mostly in the northern hemisphere

Basic Characteristics

- Lush vegetation, dense, closed forests with high canopies, with low light at ground level
- Rich flora and several endemic species
- Stratification - high canopy, flat crown trees, 65 to 100 feet tall of continuous cover - understory of 15 ft tall trees with large leaves - a floor with still air, humidity > 70%, sparse vegetation, low in decaying matter, billions of micro-organisms
- Soil is shallow and infertile, 75% nutrients in plants, 17% in decaying matter, 8% in soil

Some Interesting General Facts

- Large number of plant and animal species
- Many useful products (wood, coffee, rubber, cocoa-for chocolate, specialized drugs, minerals, power from water)
- Considered to be planetary lungs (but algae actually produces 70% of atmospheric oxygen)
- Deforestation for the last 300 years due to agriculture and livestock, commercial products, non-commercial products (fuel wood, fodder, etc)

Issues of Deforestation

- Claims of 27 million - 78 million acres of rain forest lost each year
- In 30 to 50 years all of the rain forests will be gone
- Recent research using satellite imagery by Rodger Sedjo and Marion Clawson and by David Skole U of New Hampshire and Compton Tucker NASA - indicate that actual average loss is about 3.7 million acres per year

Deforestation (More)

- Deforestation of virgin broadleaf forest is 0.27%/yr
- Deforestation of of secondary forest is 2.06%/yr
- Special interest groups like WWF still make claims that 50-67% of Latin American forests are gone
- Brazil until 20 years ago did “attack” the rain forests of the Amazon
- Brazil now has a very large Reserve in the Amazon and deforestation rate in Brazil is presently closer to 0.00025% to 0.004%/year

Deforestation (Even more)

- Sedjo's study indicates that 76% of the tropical forest zone is still covered
- World Watch Institute admits that 90% of the Amazon is still untouched
- There is now definitely more pressure on the savannah areas (cerrado) and the semi-desert areas (chaco)
- Dry forest areas are now being used for the major portions of wood production
- Issue of TRF access and regeneration

Access and Regeneration

- Experienced researchers understand that virgin rain forests are basically impenetrable
- Disturbed areas at the edges of these deep forests, quickly spread to block access
- Determined humans with bulldozers can cause great harm
- One researcher commented that his most important tool in continuing his limited access to his research plots was a chain saw

Species destruction

- Some questions about the following
- 50-90% of all the earth's species are in TRF
- Anywhere from 4000-50,000 species are lost each year (E. O. Wilson Harvard Biologist)
- Norman Meyers a British Ecologist tends to agree but admits that “there is no way of knowing what the actual rate of extinction is” and “it is difficult to even make an accurate guess”

A Few Things we know

- Known extinctions of birds and mammals between 1900 and 1950 = 60
- World Conservation Union commissioned a book in 1992 to look into this question and all the ecology authors agreed that the rate was low but very uncertain
- Regardless of the radical environmentalists who wish to keep man completely out of the TRF, native peoples have been there for 1000s of years and we modern people are expected to be there in the future under some reasonable guidelines

A few more things we know

- Tropical rain forests are very resilient (a bit less so during extreme droughts)
- There is 13.2% of south American land in protected parks
- Brazil harvests 60% of their wood from developed plantations (which is 2% of their forest)
- 5% of the world's forests could produce all of our wood needs