



Rain Forest Resources

How can we preserve and develop the rain forest?

A HUMAN PERSPECTIVE In 1997, biologist Marc van Roosmalen made an incredible discovery. An Amazonian Indian had brought the biologist a tiny monkey huddled inside a tin can. Van Roosmalen realized that the monkey was a kind of pygmy marmoset never before seen by scientists. Over the next three years, Van Roosmalen and his colleagues located the native region of this creature and along the way observed plants and animals unknown to science. These scientists had confirmed the richness of plant and animal life in the Amazon rain forest of Brazil. But for other people, the forest (once cleared) holds the promise of something more—land for farming and timber for sale.

Main Ideas

- Special-interest groups make competing demands on the resources of the rain forest.
- As the rain forests are destroyed, the quality of life on Earth is threatened.

Places & Terms

biodiversity

deforestation

global warming

debt-for-nature swap



The Voyageur Experience in World Geography

Costa Rica: Ecotourism and Economic Development

Rain Forest Land Uses

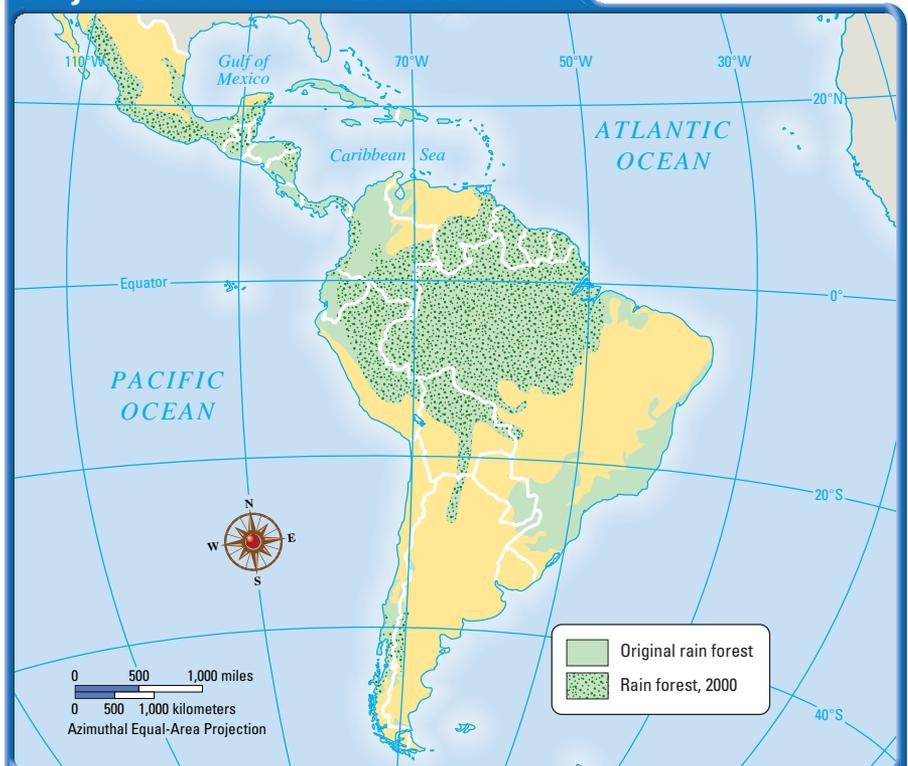
The rain forest is an important global resource. Its vegetation helps to clean the earth's atmosphere, regulate the climate, and shelter several million species of plants, insects, and other wildlife. Scientists have just begun to investigate and understand the rain forest's **biodiversity**—its wide range of plant and animal species. And yet, this variety of life is being destroyed at a rapid rate. At the end of the 20th century, nearly 50 million acres of rain forest worldwide were being destroyed every year.

CLEARING THE RAIN FORESTS

The world's demand for timber is great. The Amazon rain forest contains tropical hardwoods, such as mahogany and cedar, that are harvested for export by the timber industry.

Native peoples, living in poverty, travel into the rain forest in search of land on which they can grow crops. They clear the forest,

Major Rain Forests of Latin America



SKILLBUILDER: Interpreting Maps

- 1 HUMAN-ENVIRONMENT INTERACTION** Has the rain forest contracted or expanded in recent years? Why might this be so?
- 2 REGION** Around what latitude is most of the rain forest clustered? Why might this be?

not realizing that the soil is not very fertile. Also, cutting down the trees exposes the land to erosion. After a few years, this new farmland becomes less productive, resulting in the need for more timber clearing.

Livestock, too, have been introduced into the rain forest. Ranchers need land on which to graze their cattle, and by clearing the forests for pasture, they can produce a steady supply of beef for the export market.

POPULATION PRESSURES More than half of the Amazon rain forest is located in Brazil. That country's growing population is contributing to the rain forest's decline. The estimated population of Brazil in 2000 was about 173 million people. With an annual growth rate between half a percent and 1 percent, Brazil's population is expected to reach 200 million by 2020. With that many people to shelter, some developers want to build homes on land now covered by the rain forest. **A**

**HUMAN-
ENVIRONMENT
INTERACTION**

A naturalist and a biologist attach a radio transmitter to a bird to track its movements in the rain forest.

Why might scientists wish to track birds?



The Price of Destruction

There is a cost to pay for **deforestation**—cutting down and clearing away of trees—in the rain forest. The short-term benefits are offset by the high price Latin America and the world are paying in damage to the environment.

ENVIRONMENTAL CONCERNS Rain forests help to regulate the earth's climate. They do this by absorbing carbon dioxide and producing oxygen. As the forests disappear, however, much less carbon dioxide is absorbed. The carbon dioxide that is not absorbed builds up in the atmosphere. This buildup prevents heat from escaping into space. The temperature of the atmosphere begins to rise, and weather patterns start to change. By the beginning of the 21st century, evidence of this **global warming** appeared around the world, causing scientific concern. A common method for clearing the rain forest, known as slash-and-burn (see page 210–211), produces carbon dioxide and other harmful gases.

PLANTS AND ANIMALS IN DANGER

Although the world's rain forests cover about 6 percent of the earth's surface, they are home to an estimated 50 percent of the world's plant and animal species. Medical researchers are developing the processes needed to make use of the many plants that rain-forest dwellers have harvested for thousands of years. The forest dwellers have used these plants to make medicines that heal wounds and cure disease. What is lost as the rain forests disappear is more than biodiversity and a stable environment. The rain forests also hold secrets of nature that might improve and extend the quality of people's lives.



Using the Atlas

A Use the map on page 191.

In what other countries besides Brazil is the Amazon rain forest located?

A. Answer

Colombia, Ecuador, Bolivia, Peru, and Venezuela

BACKGROUND

These gases are referred to as greenhouse gases because they help keep heat in the atmosphere.

Moving Toward Solutions

Saving the rain forests of Latin America is an issue that affects people around the world. Creative solutions will be required to make sure that the forests are not sacrificed to economic development.

A JUGGLING ACT A central problem facing many Latin American countries is how to balance competing interests. Some countries in the region are attempting to restrict economic development until they can find the right balance between economic growth and the preservation of the rain forests.

For example, grassroots organizations are closely observing development projects in the rain forests. Their mission is to educate people about the value of the rain forests and, when necessary, to organize protests against plans that would damage the environment.

FIGHTING ECONOMICS WITH ECONOMICS Some people think that since economic gain is at the heart of rain forest destruction, the affected governments should be paid to preserve the forests. One such plan is known as a **debt-for-nature swap**.

Many Latin American nations are burdened by tremendous debt. They've borrowed money to improve living conditions, and now they are struggling to pay it back. In a debt-for-nature swap, an environmental organization agrees to pay off a certain amount of government debt. In return, the government agrees to protect a certain portion of the rain forest. Governments get debt relief; environmentalists get rain forest preservation. This approach was successful in Bolivia. There, an international environmental group paid off some government debt in exchange for the protection of an area of forest and grassland.

The movement to preserve the rain forests has many supporters in the region, as well as around the world. The battle to preserve the rain forests may be one in which everybody wins.



Seeing Patterns
 How might the income gap affect the use of the rain forest?
B. Answer There might be pressure on governments to develop the resources of the rain forest in order to help narrow the income gap.



Assessment

1 Places & Terms

Identify and explain the following places and terms.

- biodiversity
- deforestation
- global warming
- debt-for-nature swap

2 Taking Notes

HUMAN-ENVIRONMENT INTERACTION Review the notes you took for this section.

	Causes	Effects
Issue 1: Resources		

- Why are the rain forests being destroyed?
- What effect might the destruction of the rain forest have on climate?

3 Main Ideas

- What are some of the important resources of the rain forest?
- What are some of the costs of the destruction of the rain forest?
- What are some factors that might slow destruction of the rain forest?

4 Geographic Thinking

Making Inferences What might happen to the rain forest in the future? **Think about:**

- economic pressures to destroy the rain forest
- reasons to preserve the rain forest

S See Skillbuilder Handbook, page R4.



MAKING COMPARISONS Pair with a partner and make a **chart** of the largest rain forests in the world. Then make a copy of a map of the world and color in on the map the rain forests on your chart.