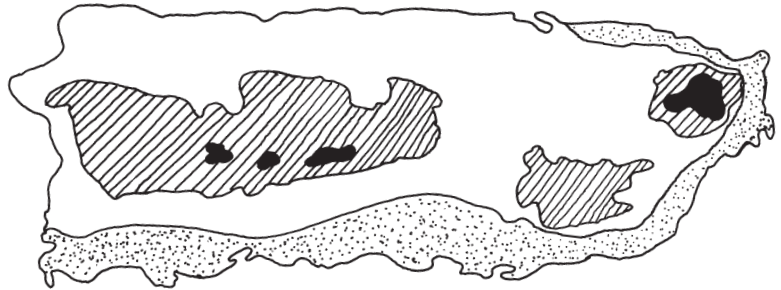
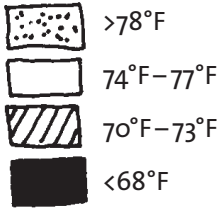
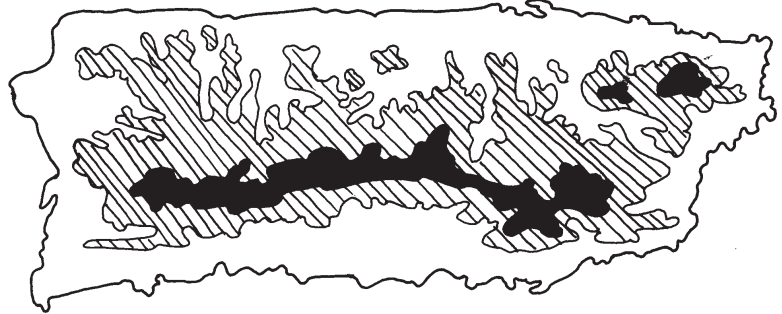
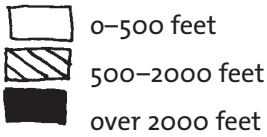


Maps of Puerto Rico

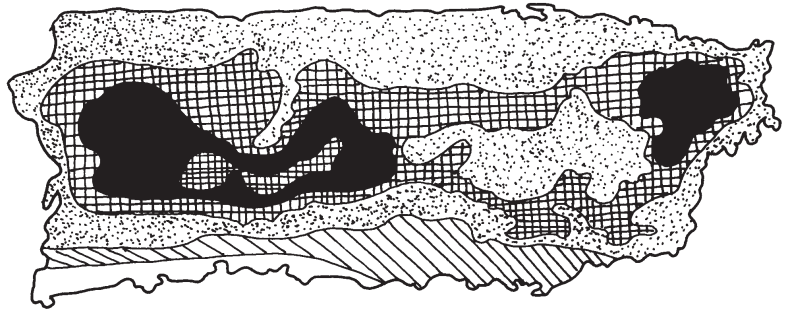
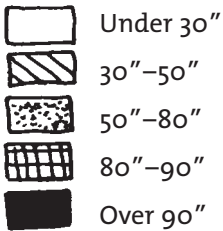
a. Temperature Map



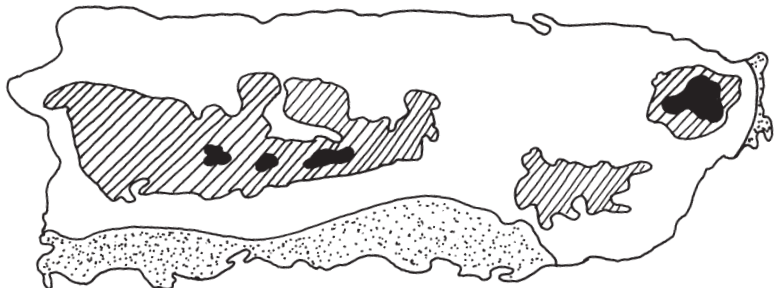
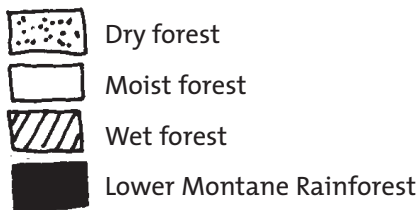
b. Topography Map



c. Rainfall Map



d. Forest Type Map



Forest Types

Dry Forests

Ucar (*OOH-KAR*), gumbo-limbo (*GUHM-boh-lim-boh*), aleli (*AHlay-LEE*), turpentine, and guayacan (*GWEYE-uh-kan*) are some common trees adapted to climate conditions in the dry forests of Puerto Rico. Gumbo-limbo trees, for example, shed their leaves during the dry season and slow their growth at times when little moisture is available.

The trees provide homes for other plants and animals living in the dry forest. For example, mistletoe, a parasitic plant growing right out of tree branches, derives most of its nutrition directly from trees. Many birds, such as hummingbirds and bullfinches, depend on trees in dry forests for building their nests. In turn, the melon cactus depends on the hummingbird to pollinate its brilliant pink flowers and on the bullfinch to eat its pink fruits, thereby dispersing its seeds throughout the forest. Cactus plants (cacti) are adapted to dry conditions since their leaves (spines) have little surface area; for cacti, photosynthesis happens in their stems instead of leaves. (With less surface area, cacti lose less water than leafy trees through transpiration.) The stems (green, fleshy part of the cactus) store water for drier times. Also, the broad, shallow root system of cacti gathers water over a large area.

As one of the dry forest's recyclers, "crazy ants" break down leaves, dead insects, and other debris. These ants, in turn, become food for many different lizards that live there, such as the ameiva (*uh-MAY-vah*), with its long, iridescent tail.

Moist Forests

In Puerto Rico moist forest covers more area than any other forest type, but almost all of it has been cleared at one time or another for growing crops. As a result, grasslands are a dominant feature of this zone today. Trees up to 20 meters (65.6 feet) tall with rounded crowns like the mango are characteristic of areas where deforestation has not occurred. Common trees of the moist forest are prickly and royal palms, white and Spanish cedars, grandleaf sea grapes, and short-leaf figs. In coastal areas, mangroves grow much taller in the moister forests than in the drier forests. Common birds in the moist forest include the banana quit, the grey kingbird, and the greater Antillean (*an-TILL-ee-uhm*) crackle. Reptiles such as the ground lizard are common there, as well as the Jamaican fruit bat.

Wet Forests

In the wet forests, you are likely to see tabanuco (*TAB-uh-NEW-ko*) or candlewood, trumpet, balsa, and sierra palm trees growing. Those trees support many vines and epiphytes (*EP-uh-fights*) (plants that use other plants for support). One epiphyte, the redflowered bromeliad (*bro-MEE-leead*), catches water in its tank-shaped leaves, providing a moist home for insects like centipedes. The ground of the wet forest is typically covered with ferns and mosses. In a wet forest, where there is no need to retain water because of the constant rainfall, plants have large, green leaves that transpire a lot of water. In addition, many plants are evergreens, meaning that they retain their leaves and photosynthesize all year long.

Birds of the wet forests include Puerto Rican tanagers (*TAN-ih-juhurs*), hawks, owls, pigeons, quail doves, and the endangered Puerto Rican parrot (a beautiful green, blue, and red bird about one foot or 30.5 cm long). However, fewer birds are in the wet than in the dry forests because large lizard and frog populations in the wet forests compete for the same insect food. Puerto Rico is famous for its coquis (*KO-key*), or tree frogs, most of which live in the wet forests and climb trees for food and shelter.

Rainforests

Within the wet forest are several types of rainforests, which vary on the basis of elevation. From about 330 feet high (100 m) to about 2000 feet (610 m), the lower montane (mountain) rainforest is dominated by the tabanuco tree whose spreading crowns create a semi-dark environment. Tabanuco tree trunks are clear of branches for more than half the tree's height, creating an open midsection in the forest. On the forest floor grow ferns and other lush vegetation. From 2,000 feet (610 m) feet to about 3300 feet (100 m), the lower montane rainforest is dominated by colorado trees, which are mostly short, gnarled, and twisted. When they grow old, these trees develop cavities that are used by birds, insects, and the Puerto Rican parrot.

The upper montane rainforest, found at about 3300 feet (100 m) and above, is dominated by Sierra palm trees. On the trees and floor of this forest grow ferns, mosses, and the red-flowered bromeliad. With rainfall nearly every day, the rainforest at the highest elevations supports great numbers of vines and bromeliads.

Questions

- 1**
- a. Study Maps A and B. What is the relationship between elevation and temperature in Puerto Rico?
 - b. Why might this relationship occur?

- 3**
- a. Study Maps A and C. What is the relationship between temperature and rainfall in Puerto Rico?
 - b. What might cause this relationship?

- 5**
- a. Find the region with the least rainfall.
 - b. Is its temperature higher or lower than other regions?
 - c. Look at Map D to find out the name of this type of forest.
 - d. What kinds of plants and animals would live in this region?
 - e. What are some ways that the animals and plants that live there especially suited (adapted) to this type of forest?

- 2**
- a. Study Maps B and C. What is the relationship between elevation and rainfall in Puerto Rico?
 - b. What might cause this relationship?

- 4**
- a. Using Map C, find the areas with the most rainfall.
 - b. Are these areas at a high, medium, or low elevation?
 - c. Look at map D to find out what kinds of forests grow in these regions.
 - d. Use the student page 127 to find out what types of plants and animals grow in the areas with the most rainfall.

- 6**
- a. On Map D, find the regions that have moist forests. Do these regions occur at low, medium, or high elevations? (See Map B)
 - b. How does the amount of rainfall in these regions compare to the rest of Puerto Rico?
 - c. How about the temperature?
 - d. What kinds of plants and animals do you think live in these regions?

