



FIGURE I-8

Humid Equatorial (A) Climates

The humid equatorial, or tropical, climates are marked by high temperatures all year and by heavy precipitation. In the *Af* subtype, the rainfall arrives in substantial amounts every month; but in the *Am* areas, there is a sudden enormous increase due to the arrival of the annual wet *monsoon* (the Arabic word for “season” [see p. 375]). The *Af* subtype is named after the vegetation association that develops there—the tropical rainforest. The *Am* subtype, prevailing in part of peninsular India, in a coastal area of West Africa, and in sections of Southeast Asia, is appropriately referred to as the monsoon climate. A third tropical climate, the savanna (*Aw*), has a wider daily and annual temperature range and a more strongly seasonal distribution of rainfall. As Figure I-6 indicates, savanna rainfall totals tend to be lower than those in the rainforest zone, and the associated seasonality is often expressed in a “double maximum.” This means that each year produces two periods of increased rainfall separated by pronounced dry spells. In many savanna zones, inhabitants refer to the “long rains” and the “short rains” to identify those seasons; a persistent problem in these regions is the unpredictability of the rain’s arrival. Savanna soils are not among the most fertile, and when the rains fail the specter of hunger arises on these humid grasslands. Savanna regions are far more densely populated than rainforest areas, and millions of residents of the savanna subsist on what they manage to cultivate. Rainfall variability under the savanna regime is their principal environmental problem.

Dry (B) Climates

Dry climates occur in lower as well as higher latitudes. The difference between the *BW* (true desert) and the moister

BS (semiarid steppe) varies but may be taken to lie at about 10 inches (25 cm) of annual precipitation. Parts of the central Sahara in North Africa receive less than 4 inches (10 cm) of rainfall. A pervasive characteristic of the world’s arid areas is an enormous daily temperature range, especially in subtropical deserts. In the Sahara, there are recorded instances of a maximum daytime shade temperature of over 120°F (49°C) followed by a nighttime low of 48°F (9°C). Soils in these arid areas tend to be thin and poorly developed; soil scientists have an appropriate name for them—*aridisols*.

Humid Temperate (C) Climates

As the map shows, almost all these mid-latitude climate areas lie just beyond the Tropics of Cancer and Capricorn (23½° North and South latitude, respectively). This is the prevailing climate in the southeastern United States from Kentucky to central Florida, on North America’s west coast, in most of Europe and the Mediterranean, in southern Brazil and northern Argentina, in coastal South Africa and Australia, and in eastern China and southern Japan. None of these areas suffers climatic extremes or severity, but the winters can be fairly cold, especially away from temperature-moderating water bodies. These areas lie about midway between the winterless equatorial climates and the summerless polar zones. Some fertile and productive soils have developed under this regime, as we will note in our discussion of the North American and European realms.

The humid temperate climates range from quite moist, as along the densely forested coasts of Oregon, Washington, and British Columbia, to relatively dry, as in the so-called Mediterranean (dry-summer) areas that include not