

Population: 160,000,000
Surface Area: 2,578,435 km²

EASTERN TEMPERATE FORESTS

This ecological region extends from the Great Lakes in the north to the Gulf of Mexico in the south. From the Atlantic Coast, it extends westward approximately 620 km into eastern Texas, Oklahoma, Missouri, Iowa and Minnesota. The region is distinguished by its moderate to mildly humid climate, its relatively dense and diverse forest cover, and its high density of human inhabitants that approximates 160 million. Urban industries, agriculture and some forestry are major activities.



Photo: US EPA

Physical setting

A variety of geologic materials and landforms are present. Younger-age sedimentary coastal plains in the south and east abut the older, folded and faulted sedimentary, metamorphic and igneous rocks of the Appalachian Mountains that reach elevations over 2,000 m. A mixed limestone-dolomite terrain of plains and hills dominate much of the central part of the region, with other sedimentary rock found on the plateaux and plains in the north and west. Glacially derived materials and landforms and areas of glacial lake deposits shape the landscape in the north. Soils are mostly leached, being nutrient-poor to calcium-rich. Surface waters are characterized by an abundance of perennial streams, small areas with high densities of lakes, a diversity of wetland communities and a rich array of maritime ecosystems.

The climate is generally warm, humid and temperate, although there is a latitudinal gradient from cool, continental temperatures to those that are subtropical. Summers are hot and humid, and winters are mild to cool. The average daily minimum temperature in winter is –12°C in the north and 4°C in the south. Average daily maximum summer temperatures are 27°C to 32°C. Precipitation amounts of 1,000-1,500 mm per year are relatively evenly distributed throughout the year, with most areas having either a summer or spring maximum.

Biological setting

The Eastern Temperate Forests form a dense forest canopy consisting mostly of tall broadleaf, deciduous trees and needle-leaf conifers. Beech-maple and maple-basswood forest types occur widely especially in the eastern reaches of this region, mixed oak-hickory associations are common in the Upper Midwest, changing into oak-hickory-pine mixed forests in the south and the Appalachians. These forests have a diversity of tree, shrub, vine and herb layers. While various species of oaks, hickories, maples and pines are common, other wide-ranging tree species include ashes, elms, black cherry, yellow poplar, sweet gum, basswood, hackberry, common persimmon, eastern red cedar and flowering dogwood. A key tree species, the American chestnut, was virtually eliminated from the Eastern Temperate Forests in the first half of the twentieth century by an introduced fungus.

Two essentials for wildlife—food and shelter—are relatively abundant in the Eastern Temperate Forests. Because it is a significant evolutionary area for the continent’s fauna, the region contains a great diversity of species within several groups of animals. Mammals of the region include the white-footed mouse, gray squirrel, eastern chipmunk, raccoon, porcupine, gray fox, bobcat, white-tailed deer and black bear. The region has extremely diverse populations of birds, fish, reptiles and amphibians.

Human activities

In the past, woodland indigenous cultures incorporated a mixture of hunting, gathering and agricultural activities. Food sources included deer, small mammals, fish, shellfish, wild fruits and vegetables, and crops such as corn, beans, squash and tobacco were grown. Annual or occasional fires were used to clear the forest understory for ease of travel, preparation of cropland, or to encourage growth of forage plants for both wild game and human consumption. The shift from Indian to European dominance led to more extensive forest clearing, burning, and conversion to pasturage and cropland.

Several valley and plain areas continue today as rich, productive cropland, while other cleared areas have reverted to mixed forest. Pine plantations for pulp and paper are common in the South. With a historical concentration of the continent’s political, economic and industrial power, the region’s landscape was also transformed by extensive manufacturing and urbanization. This urban population occupies the mid-Atlantic megalopolis from Boston to Washington, DC; the large urban areas near the Great Lakes such as Chicago, Detroit, Toronto and Montreal; and hundreds of smaller cities and towns. Approximately 160 million people, more than 40 per-cent of North America’s population, live in this region.



Photo: Cameron Davidson, Avian Science and conservation Centre



Photo: Alan Woods, Dynamac Corporation

- 1 White-tailed deer are abundant in some areas.
- 2 An abundance of perennial streams and rivers typify this ecological region.
- 3 The forests contain a wide variety of trees, here red oak and beech, with staghorn sumac as a frequently encountered shrub.

- 4 The bald eagle is native to certain regions in the Eastern Temperate Forests.
- 5 Open-pit coal mining is common in some areas, affecting vegetation cover and water quality.