

☰ Topic Page: [Deciduous forest](#)

Definition: **deciduous** from *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

Describing trees and shrubs, that shed their leaves at the end of the growing season or during a dry season to reduce transpiration (the loss of water by evaporation).

Most deciduous trees belong to the angiosperms, plants in which the seeds are enclosed within an ovary, and the term 'deciduous tree' is sometimes used to mean 'angiosperm tree', despite the fact that many angiosperms are evergreen, especially in the tropics, and a few gymnosperms, plants in which the seeds are exposed, are deciduous (for example, larches). The term **broad-leaved** is now preferred to 'deciduous' for this reason.

Examples of deciduous trees are oak and beech.



Image from:

[Stratification of shoot systems in the... in The Encyclopedia of Ecology and Environmental Management, Blackwell Science](#)

Summary Article: **Deciduous Forest**

From *Encyclopedia of Environment and Society*

DECIDUOUS FORESTS ARE dominated by tree species that drop their leaves and become seasonally dormant in response to challenging environmental conditions. Broad-leaved tree species of temperate deciduous forests drop their leaves in autumn to avoid the tissue-damaging winter temperatures and water stress of frozen soils. In the dry tropics, deciduous tree species shed their leaves to avoid the drought stress and injurious high temperatures associated with the dry season.

Temperate broad-leaved deciduous forest largely occurs in the northern hemisphere, chiefly eastern North America, western and central Europe, and eastern Asia. A small region of the southern Andes supports the southern hemisphere's only occurrence of temperate deciduous forest. Evergreen coniferous tree species, like pine (*Pinus*), spruce (*Picea*), fir (*Abies*), and hemlock (*Tsuga*) also grow in most temperate deciduous forests. Tropical deciduous forest, also called tropical dry forest, occurs in Central and South America, India and southeast Asia, and Africa, comprising 42 percent of tropical forests worldwide.

Temperate deciduous forests of the northern hemisphere are composed of closely-related tree species in general, such as oak (*Quercus*), maple (*Acer*), beech (*Fagus*), ash (*Fraxinus*), basswood or lime (*Tilia*), birch (*Betula*), and elm (*Ulmus*). Temperate deciduous forests, especially those in eastern North America, are noted for their structural and taxonomic diversity. European deciduous forests are lower in richness of tree species than are eastern North American and Asian deciduous forests due to past glacial history. The east-west trending mountains of Europe formed a barrier to the tree species migrating from the glacial advance, differing from the generally northeast-southwest trending Appalachian Mountains of eastern North America, which did not impede migration. The temperate deciduous forests of the Great Smoky Mountains of eastern North America, near the southern terminus of the Appalachian Mountains, support 130 species of flowering trees and 11 species of conifers, more in total that grow in all of Europe.

Temperate deciduous forests are vertically stratified, separated into four or more distinct vegetation

layers from canopy to forest floor. The uppermost canopy or *overstory* stratum consists of the dominant trees of the forest. Immediately below the *overstory*” is the *understory*, stratum containing “overstory replacements and subdominant species that do not recruit to the overstory. A shrub stratum of woody, non-arboreal species may occur beneath the understory stratum. Finally, an *herb* stratum—consisting of small-stature vascular plants and mosses—rises to a meter or so above the forest floor. The herb layer, among all the vegetation strata in temperate deciduous forests, supports the highest diversity of plant species in the forest. Diverse vegetation also supports diverse animal life, including birds, mammals, amphibians, reptiles, and insects. Insects, especially caterpillars that feed on leaves of deciduous trees, form an important food base for neotropical migrant bird species in eastern North America. Neotropical migrants, like warblers, typically overwinter in tropical forests of Central and South America but nest and rear young in temperate deciduous forests where insect food is abundant.

Human impact on deciduous forests has been heavy. Tropical deciduous forests have been largely degraded or converted to agriculture and rangeland. Temperate deciduous forests have been converted to agriculture or urban and suburban land use. These forests are further impacted by stressors such as acid precipitation and nitrogen deposition, root causes of forest decline.

SEE ALSO:

Boreal Forest; Cloud Forest; Deforestation; Forests.

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