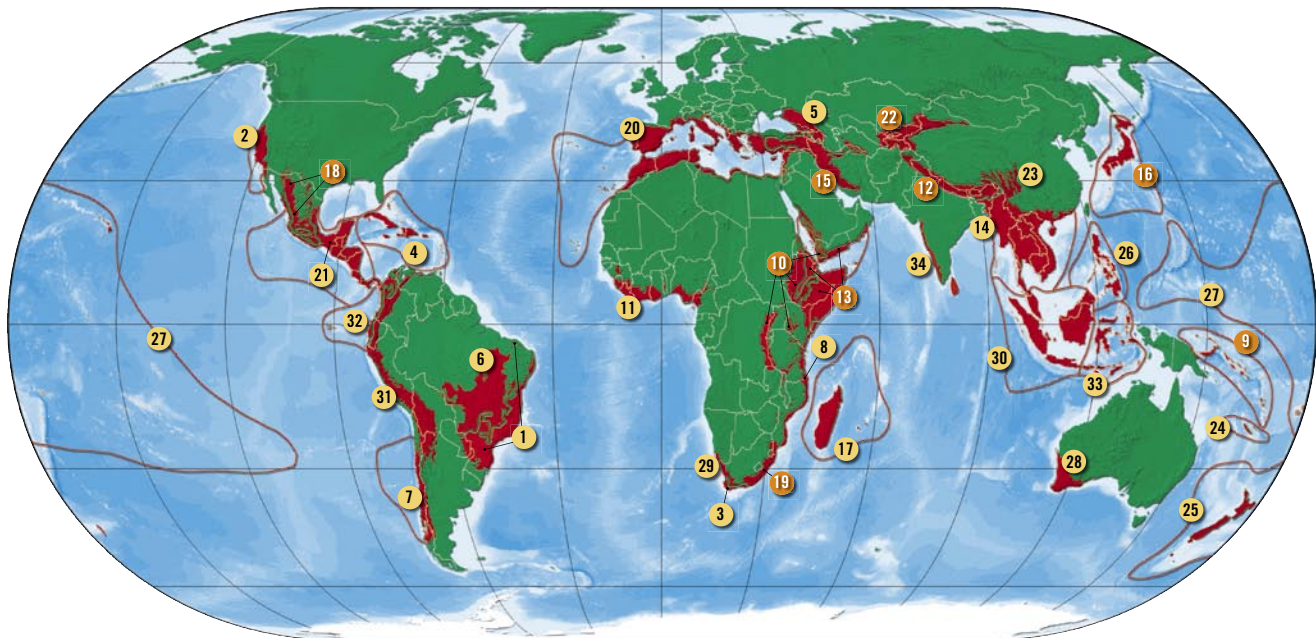




# Biodiversity Hotspots



## Biodiversity Hotspots

Earth's biologically richest places, with high numbers of species found nowhere else. Hotspots face extreme threats and have already lost at least 70 percent of their original vegetation.

- 1 Atlantic Forest
- 2 California Floristic Province
- 3 Cape Floristic Region
- 4 Caribbean Islands
- 5 Caucasus
- 6 Cerrado
- 7 Chilean Winter Rainfall-Valdivian Forests
- 8 Coastal Forests of Eastern Africa
- 9 East Melanesian Islands
- 10 Eastern Afrotropical
- 11 Guinean Forests of West Africa
- 12 Himalaya
- 13 Horn of Africa
- 14 Indo-Burma
- 15 Irano-Anatolian
- 16 Japan
- 17 Madagascar and Indian Ocean Islands
- 18 Madrean Pine-Oak Woodlands
- 19 Maputaland-Pondoland-Albany
- 20 Mediterranean Basin
- 21 Mesoamerica
- 22 Mountains of Central Asia
- 23 Mountains of Southwest China
- 24 New Caledonia
- 25 New Zealand
- 26 Philippines
- 27 Polynesia-Micronesia
- 28 Southwest Australia
- 29 Succulent Karoo
- 30 Sundaland
- 31 Tropical Andes
- 32 Tumbes-Chocó-Magdalena
- 33 Wallacea
- 34 Western Ghats and Sri Lanka

**● New hotspots**

- 1 **ATLANTIC FOREST** The Atlantic Forest of tropical South America boasts 20,000 plant species, 40 percent of which are endemic. Less than 10 percent of the forest remains. More than two dozen Critically Endangered vertebrate species are clinging to survival in the region, including three species of lion tamarins and six bird species that are restricted to the small patch of forest near the Murici Ecological Station in northeastern Brazil.
- 2 **CALIFORNIA FLORISTIC PROVINCE** The California Floristic Province is a zone of Mediterranean-type climate and has the high levels of plant endemism characteristic of these regions. The hotspot is home to the giant sequoia, the planet's largest living organism, and its taller but less massive relative, the coastal redwood. The region holds a number of threatened endemic species such as the giant kangaroo rat and the desert slender salamander.
- 3 **CAPE FLORISTIC REGION** Evergreen, fire-dependent shrublands characterize the landscape of the Cape Floristic Region, one of the world's five Mediterranean hotspots. Home to the greatest nontropical concentration of higher plant species in the world, the region is the only hotspot that encompasses an entire floral kingdom, and holds five of South Africa's 12 endemic plant families and 160 endemic genera. The geometric tortoise, the Cape sugar-bird, and a number of antelope species are characteristic of the Cape Floristic Region.
- 4 **CARIBBEAN ISLANDS** The Caribbean Islands support exceptionally diverse ecosystems, ranging from montane cloud forests to cactus scrublands, which have been devastated by deforestation and encroachment. The hotspot has dozens of highly threatened species, including two species of solenodon (giant shrews) and the Cuban crocodile. The hotspot is also remarkable for the diminutive nature of much of its fauna, boasting the world's smallest bird (the tiny bee hummingbird) and smallest snake (*Leptotyphlops bilineatus*).
- 5 **CAUCASUS** The deserts, savannas, arid woodlands, and forests that comprise the Caucasus Hotspot contain a large number of endemic plant species. Its rugged landscape is home to the two species of highly threatened Caucasian turs or mountain goats. Recent economic and political crises in the region are intensifying forest clearing for fuelwood, and together with illegal hunting and plant collecting, threaten the unique biodiversity of this region.
- 6 **CERRADO** The Cerrado region of Brazil, comprising 21 percent of the country, is the most extensive woodland-savanna in South America. With a pronounced dry season, it supports a unique array of drought- and fire-adapted plant species and a surprising number of endemic bird species. Large mammals such as the giant anteater, giant armadillo, jaguar, and maned wolf also still survive here.
- 7 **CHILEAN WINTER RAINFALL-VALDIVIAN FORESTS** A virtual continental island bounded by the Pacific Ocean, the Andes Mountains, and the Atacama Desert, the Chilean Winter Rainfall-Valdivian Forests harbor richly endemic flora and fauna. The Araucaria tree has been declared a national monument in itself, protecting it from logging. The rare Andean cat, mountain vizcacha, and Andean condor can also be found in the hotspot.
- 8 **COASTAL FORESTS OF EASTERN AFRICA** Though tiny and fragmented, the forest remnants that make up the Coastal Forests of Eastern Africa contain remarkable levels of biodiversity. The 40,000 cultivated varieties of African violet, which form the basis of a \$100 million global houseplant trade, are all derived from a handful of species found in the coastal Tanzanian and Kenyan forests.
- 9 **EAST MELANESIAN ISLANDS** The 1,600 East Melanesian Islands are a hotspot, due, sadly, to accelerating levels of habitat loss. The region is one of the most geographically complex areas on Earth. Isolation and adaptive radiation have led to very high levels of endemism, both within the whole hotspot and on single islands. Notable endemic species include the majestic Solomons sea-eagle and more than a dozen threatened species of flying fox.

- 10 EASTERN AFROMONTANE** The mountains of the Eastern Afromontane Hotspot are scattered along the eastern edge of Africa, from Saudi Arabia in the north to Zimbabwe in the south. Though geographically disparate, the mountains comprising this hotspot have remarkably similar flora. The Albertine Rift harbors more endemic mammals, birds, and amphibians than any other region in Africa. The geological turmoil that created the mountains of this hotspot has also yielded some of the world's most extraordinary lakes.
- 11 GUINEAN FORESTS OF WEST AFRICA** The lowland forests of West Africa are home to more than one-quarter of Africa's mammals, including more than 20 species of primates. Logging, mining, hunting, and human population growth are placing extreme stress on the forests, however, threatening species such as Jentink's duiker, pygmy hippopotamus, and scattered populations of western chimpanzees. Five Endemic Bird Areas lie partly or entirely within the hotspot.
- 12 HIMALAYA** The Himalaya Hotspot is home to the world's highest mountains, including Mt. Everest. The mountains rise abruptly, resulting in a diversity of ecosystems that range from alluvial grasslands and subtropical broadleaf forests to alpine meadows above the tree line. Vascular plants have even been recorded at more than 6,000 meters. The hotspot is home to important populations of numerous large birds and mammals, including vultures, tigers, elephants, rhinos, and wild water buffalo.
- 13 HORN OF AFRICA** The arid Horn of Africa has been a renowned source of biological resources for thousands of years. One of only two hotspots that is entirely arid, the area is home to a number of endemic and threatened antelope species and more endemic reptiles than any other region in Africa. The Horn is also one of the most degraded hotspots in the world, with only about 5 percent of its original habitat remaining.
- 14 INDO-BURMA** Encompassing more than 2 million square kilometers of tropical Asia, Indo-Burma is still revealing its biological treasures. Six large mammal species have been discovered in the last 12 years: the large-antlered muntjac, the Annamite muntjac, the grey-shanked douc, the Annamite striped rabbit, the leaf deer, and the saola. The hotspot also holds remarkable endemism in freshwater turtle species, most of which are threatened with extinction due to overharvesting and habitat loss.
- 15 IRANO-ANATOLIAN** Forming a natural barrier between the Mediterranean Basin and the dry plateaus of western Asia, the mountains and basins that make up the Irano-Anatolian Hotspot contain many centers of local endemism. Nearly 400 plant species are found only along the Anatolian Diagonal, a floristic line that crosses Inner Anatolia; many of Turkey's 1,200 endemic species occur only to the immediate east or west of it. The hotspot includes four endemic and threatened species of viper.
- 16 JAPAN** The more than 3,000 islands that make up the Japanese Archipelago stretch from the humid subtropics in the south to the boreal zone in the north, resulting in a wide variety of climates and ecosystems. About one-quarter of the vertebrate species occurring in this hotspot are endemic, including the Critically Endangered Okinawa woodpecker and the Japanese macaque, the famous "snow monkeys" that are the most northerly living nonhuman primates in the world.
- 17 MADAGASCAR AND INDIAN OCEAN ISLANDS** Madagascar and its neighboring island groups have an astounding total of eight plant families, five bird families, and five primate families that live nowhere else on Earth. Madagascar's 72 lemur species and subspecies are the island's charismatic worldwide ambassadors for conservation, although, tragically, 15 species have been driven to extinction since humans arrived. The Seychelles, Comoros, and Mascarene islands in the Indian Ocean support a number of Critically Endangered bird species.
- 18 MADREAN PINE-OAK WOODLANDS** Encompassing Mexico's main mountain chains and isolated mountaintop islands in Baja California and the southern United States, the Madrean Pine-Oak Woodlands is an area of rugged mountainous terrain, high relief, and deep canyons. One-quarter of all Mexico's plant species are found here, many of them found nowhere else on Earth. The pine forests of Michoacán provide famous overwintering sites for the annual migration of millions of monarch butterflies.
- 19 MAPUTLAND-PONDOLAND-ALBANY** Stretching along the east coast of southern Africa below the Great Escarpment, this hotspot is an important center of plant endemism. The region's warm temperate forests are home to nearly 600 tree species, the highest tree richness of any temperate forest on the planet. The rescue of the southern subspecies of white rhinoceros from extinction, which took place in this hotspot, is one of the best-known success stories in African conservation.
- 20 MEDITERRANEAN BASIN** The flora of the Mediterranean Basin is dramatic. Its 22,500 endemic vascular plant species are more than four times the number found in all the rest of Europe; the hotspot also supports many endemic reptile species. As Europe's vacation destination, populations of threatened species are increasingly fragmented and isolated to make way for resort development and infrastructure. The Mediterranean monk-seal, Barbary macaque, and Iberian lynx, which is Critically Endangered, are among the region's imperiled species.
- 21 MESOAMERICA** The Mesoamerican forests are the third largest among the world's hotspots. Their spectacular endemic species include quetzals, howler monkeys, and 17,000 plant species. The region is also a corridor for many Neotropical migrant bird species. The hotspot's montane forests are important for amphibians, many endemic species of which are in dramatic decline due to an interaction between habitat loss, fungal disease, and climate change.
- 22 MOUNTAINS OF CENTRAL ASIA** Comprising two of Asia's major mountain ranges, the Mountains of Central Asia were known to early Persians as the "roof of the world." The hotspot's ecosystems range from glaciers to deserts and include a highly threatened type of walnut-fruit forest, unique to this region, which contains ancestors of domestic fruit varieties and is an important storehouse of genetic diversity. The hotspot is also home to a rich variety of ungulates, including the threatened argali wild sheep.
- 23 MOUNTAINS OF SOUTHWEST CHINA** With dramatic variations in climate and topography, the Mountains of Southwest China support a wide array of habitats including the most endemic-rich temperate flora in the world. The golden monkey, giant panda, red panda, and a number of pheasants are among the threatened species endemic to this hotspot. Dam construction, illegal hunting, overgrazing, and wood gathering are the primary threats to biodiversity in this region.
- 24 NEW CALEDONIA** An island the size of New Jersey in the south Pacific Ocean, New Caledonia is the home of no less than five endemic plant families. It claims the world's only parasitic conifer and nearly two-thirds of the world's species of Araucaria trees, all of which are endemic. Nickel mining, forest destruction, and invasive species threaten fauna like the kagu, an Endangered bird with a distinctive crest that is the only surviving member of its family.
- 25 NEW ZEALAND** A mountainous archipelago once dominated by temperate rain forests, New Zealand harbors extraordinary levels of endemic species, including its most famous representative, the kiwi. None of its mammals, amphibians, or reptiles is found anywhere else in the world. Invasive species pose the most serious threat to the flora and fauna of New Zealand's islands, and the hotspot has suffered 50 bird extinctions since the island's colonization by humans 700 years ago.
- 26 PHILIPPINES** More than 7,100 islands fall within the borders of the Philippines Hotspot, identified as one of the world's biologically richest countries. Many endemic species are confined to forest fragments that cover only 7 percent of the original extent of the hotspot. These include the Cebu flowerpecker, the golden-crowned flying fox, the Philippine cockatoo, the Visayan wrinkled hornbill, the Negros forest frog, and the enormous Philippine eagle.
- 27 POLYNESIA-MICRONESIA** Comprising 1,415 islands stretched across the southern Pacific Ocean, the Polynesia-Micronesia Hotspot is the epicenter of the current global extinction crisis. Twenty-five bird species have gone extinct here since the arrival of the Europeans 200 years ago, victims of introduced invasive species and overhunting. The spectacular endemic honeycreepers are among those that are seriously threatened but still surviving in this hotspot.
- 28 SOUTHWEST AUSTRALIA** The forest, woodlands, shrublands, and heath of Southwest Australia are characterized by high endemism among plants and reptiles. Its unique vertebrates include the numbat, honey possum, and red-capped parrot. The western swamp turtle, which hibernates for nearly eight months of the year in response to dry conditions and hot temperatures, may be the most threatened freshwater turtle species in the world, although a successful conservation program has allowed its numbers to increase.
- 29 SUCCULENT KAROO** The Succulent Karoo of South Africa and Namibia boasts the richest succulent flora on Earth, as well as remarkable endemism in plants, reptiles, and invertebrates. It is one of only two entirely arid ecosystems to earn hotspot status and is home to the mysterious tree-like succulent, the halfmens, as well as many unique species of lizards, tortoises, and scorpions.
- 30 SUNDALAND** The spectacular flora and fauna of the Sundaland Hotspot are succumbing to the explosive growth of industrial forestry in these islands and to the international animal trade that claims tigers, monkeys, and turtle species for food and medicine in other countries. Populations of the orangutan, found only in this hotspot, are in dramatic decline.
- 31 TROPICAL ANDES** The richest and most diverse region on Earth, the Tropical Andes region contains about one-sixth of all plant life in less than 1 percent of the world's land area. The threatened yellow-eared parrot, yellow-tailed woolly monkey, and spectacled bear are all endemic to the Tropical Andes. Although one-quarter of its habitat still remains, the region's forests are threatened by mining, timber extraction, oil exploration, and narcotics plantations.
- 32 TUMBES-CHOCO-MAGDALENA** Tumbes-Chocó-Magdalena is bordered by two other hotspots: Mesoamerica to the north, and the Tropical Andes to the east. Endemic animal species like the bare-necked umbrellabird and the brightly colored poison dart frogs are characteristic of the region. The white-winged guan of southern Ecuador and extreme northern Peru is threatened with extinction.
- 33 WALLACEA** The flora and fauna of Wallacea are so varied that every island in this hotspot needs secure protected areas to preserve the region's biodiversity. The hotspot is second only to the Tropical Andes in terms of bird endemism, which is particularly impressive given its relatively small land area. The world's largest lizard, the Komodo dragon, is restricted to the islands of Komodo, Padar, Rinca, and Flores in the Wallacea Hotspot.
- 34 WESTERN GHATS AND SRI LANKA** Faced with tremendous population pressure, the forests of the Western Ghats and Sri Lanka have been dramatically impacted by the demands for timber and agricultural land. Remaining forests of the Western Ghats are heavily fragmented; in Sri Lanka, only 1.5 percent of the original forest remains. The region is home to a rich endemic assemblage of plants, reptiles, and amphibians, as well as important populations of Asian elephants, Indian tigers, and the Endangered lion-tailed macaque.