

THE MAJOR BIOMES AND THEIR CHARACTERISTICS

RAINFORESTS

- tropical (including equatorial and monsoon)
- subtropical
- temperate (warm & cool)

- dominated by broad-leaved evergreen trees.
- high diversity, to 150 (-300) tree spp. ha⁻¹.

Climate - water and temperature usually not limiting to plant growth.

- rainfall usually 2,000 - 4,000 mm y⁻¹ (up to 12,500 mm y⁻¹).
- no pronounced dry season (cf. monsoon rainforest).
- temperature range 18-35°C.

Soils - mainly red latosols/laterites (Oxisols).

- often very thick and very leached, highly weathered.
- generally acid and deficient in nutrients (P, Na, K, Ca, Mg), Al concentrations high.
- relatively infertile, rapidly degenerate following clearing.
- importance of litter and mycorrhizae for rapid nutrient cycling.

Vegetation - closed canopy --> little light penetrates to floor, therefore plants are largely woody (support for competition for light).

- lianes (woody climbers), epiphytes.
- 3 or more tree layers with depauperate ground layer.
- buttresses common, strangler figs, palms.

Fauna - many mutualistic assocⁿs betw. plants & animals.

- for pollination (fig wasps, thrips, bats), seed dispersal (fruit pigeons, cassowaries, bats), protection from herbivores (ants/ mites in domatia).
- many tree-dwelling species - tree kangaroos, possums, monkeys, sloths *etc.*

SAVANNAS

- grasslands with scattered broad-leaved deciduous & evergreen trees, (savanna-woodlands).
- occurs on edges of rainforest where rainfall is seasonal and limiting.

Climate - rainfall seasonal & limiting, often 900 - 1500 mm/yr.

- wide range of average monthly temperatures.
- pronounced dry season.

Soils - largely latosols/laterite (oxisols).

Vegetation - trees often thick barked, well branched, 10 - 20 m tall, with sclerophyllous or deciduous leaves.

- understory of perennial herbs (grasses) and bulbous plants.

Fauna - Savannas are home to some of the world's largest herbivores - giraffe, zebra, wildebeest, kangaroo.

- animals are most active during the wet season, many are nocturnal.

IMPORTANCE OF FIRE - the savannas and monsoon forests in parts of Africa depend to a large extent on periodic burning.

- people burn to encourage new growth for game or domestic grazing animals.