Summary of the World’s Major Terrestrial Biomes
Tropical Rainforests

• **Precipitation Pattern:** High yearly rainfall >100”, generally during a long wet season and a short dry season.

• **Temperature/Growing Season:** Warm year round with little season variation in temperatures or daylight.

• **Structure:** Multi-layered canopy including the tall emergent trees, the upper canopy, lower canopy, and forest floor.

• **Misc:** Very little light falls on the forest floor, the soils are thin and nutrient poor (because decomposition is rapid in the hot/humid air) and all nutrients are quickly absorbed back into the forest organisms.

• **Biodiversity:** Very high
Tropical Dryforests

- **Precipitation Pattern:** High yearly rainfall 60-100”, generally with a long dry season and a heavy monsoon rainy season.
- **Temperature/Growing Season:** Warm year round with little season variation in temperatures or daylight.
- **Structure:** Multi-layered canopy, but shorter and less complex than rainforests.
- **Misc:** Due to the distinct rainfall patterns, many trees are deciduous and drop leaves in the dry season.
- **Biodiversity:** Very high
Tropical Grasslands and Savannas

- **Precipitation Pattern:** Moderate yearly rainfall 40-80”, generally with a long dry season and a heavy monsoon rainy season.
- **Temperature/Growing Season:** Warm year round with little season variation in temperatures or daylight.
- **Structure:** Scattered trees in a sea of grass
- **Misc:** Thorn scrublands will often invade these areas if not periodically cleared by fire or animals (elephants).
- **Biodiversity:** Moderately high
Temperate Deciduous Forests

- **Precipitation Pattern:** Moderate yearly rainfall 40-80”, generally with more summer rainfall than winter
- **Temperature/Growing Season:** Warm summers, cool/cold winters. Growing season extends from early spring into fall.
- **Structure:** Multi-layered canopy of moderate height
- **Misc:** Nearly all trees lose their leaves in winter allowing more sunlight to hit the forest floor. Some plants on the ground specialize in photosynthesis in the early spring or late fall.
- **Biodiversity:** Moderately high
Temperate Coniferous Forests

- **Precipitation Pattern:** Moderate yearly precipitation 15-50”, generally arriving as snow or rain in winter and dry summers.
- **Temperature/Growing Season:** Warm/cool summers, cool/cold winters. Growing season is best in spring and fall.
- **Structure:** Two-layered canopy that can be very high
- **Misc:** Trees are evergreens due to the lack of moisture in summer. Most photosynthesis occurs in spring and fall. Some forests are among the tallest in the world. Very high levels of biomass, especially in the soil.
- **Biodiversity:** Moderate to moderately low
Temperate Grasslands/Steppe

- **Precipitation Pattern:** Moderate to low yearly precipitation 10-25”, arriving as snow in winter or isolated t-storms in summer.
- **Temperature/Growing Season:** Warm/cool summers, cool/cold winters. Growing season is short, usually only in spring.
- **Structure:** Dense grasses under one meter high
- **Misc:** Steppes are very dry grasslands with harsh winters and low biodiversity. Prairies are wetter grasslands with more humid summers and relatively high biodiversity.
- **Biodiversity:** Moderate to low

![Map showing the locations of these grassland types](image)
Boreal Forests/Taiga

- **Precipitation Pattern:** Moderate to low yearly precipitation 10-25”, mostly arriving as snow in winter.
- **Temperature/Growing Season:** Cool summers, Cold winters. Growing season is very short, usually only in late summer.
- **Structure:** Short coniferous trees
- **Misc:** Due to the short growing season and low temperatures, the conifers can do photosynthesis over a longer period of time
- **Biodiversity:** Moderately low
Arctic Tundra/Alpine Zone

- **Precipitation Pattern:** low yearly precipitation in tundra, moderate to high in alpine zones. Mostly arriving as snow in winter.
- **Temperature/Growing Season:** Cool summers, Cold winters. Growing season is very short, usually only in late summer.
- **Structure:** grasses and wildflowers
- **Misc:** Due to the short growing season and low temperatures, no trees can survive in these areas.
- **Biodiversity:** Low