

CHAPTER 5: TROPICAL RAINFORESTS AND MAGROVES

TROPICAL CLIMATE

Tropical Rainforests
What & Where? Characteristics

Plants

Mangroves
What? Where?
Characteristics

Plants

ONE: What is a natural vegetation?

NATURAL VEGETATION

Plant life



↳ human interference → climate →

determines types of plants that live there

TWO: What is the tropical climate?

TROPICAL CLIMATE

Tropic of Cancer

Tropic of Capricorn



↳ average weather conditions

of a place over a long period of time

Climate : - weather over a few years

Weather : - keeps changing

Criteria of Tropical Climate :

- High Temperature (average 27°C)
- High Rainfall (altogether > 2000mm)

THREE: What are tropical rainforests and where are they found?

Tropical rainforests → close to equator
→ in Africa, SEA, South America

(3)

FOUR: What are the characteristics of tropical rainforests?

1st characteristic:

✗ shed all
of their leaves

Evergreen

grow new leaves to
REPLACE old ones

→ x like forests in Europe &
North America

shed their leaves before
WINTER
→ conserve water

2nd characteristic: Diversity of plant species

3rd characteristic:

emergent
↳ tallest layer

↳ 30 m tall

Forest structure

→ undergrowth

↳ little sunlight

↳ only small plants

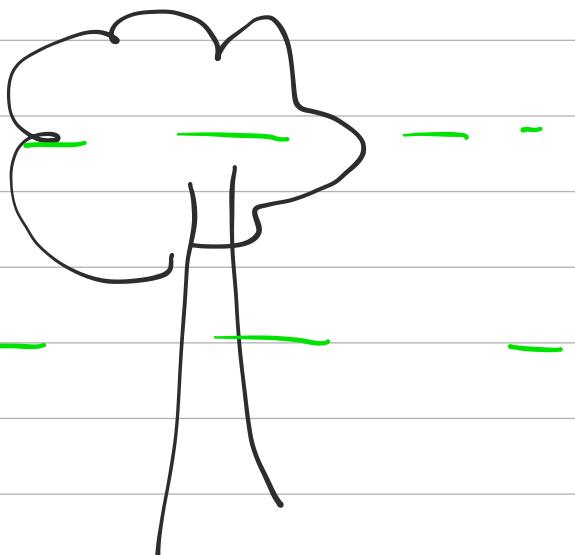
canopy

↳ 20-30 m tall

↳ trees interlock

↳ covers 97-98%
of sunlight

Emergent
Canopy
Ground



FIVE: How have plants in tropical rainforests adapted to their environment? (5 ways)

Adapts to:

1st way: SUNLIGHT

Leaf → broad

absorb as much SUNLIGHT as possible
make food (PHOTOSYNTHESIS)

2nd way: HIGH TEMPERATURE

Leaf → waxy

reduce the amount of water vapour

3rd way: RAINFALL

DRIP TIPS

allow rainwater to flow off easily

leaves DRY quickly
(prevent fungi / bacteria)

4th way:

Butress roots

keep tall trees UPRIGHT & prevent them from TOPPLING OVER

5th way:

Shallow roots

extend far into the ground

absorb nutrients from OTHER PLANTS
(DRY LEAVES / FRUITS)

SIX : What are Mangroves and where are they found ?

close to
the coast ↗

plants can tolerate
higher salinity
by
salt level

Mangroves

SEVEN : What are the characteristics of Mangroves ?

* Mangrove forests : lower diversity



Plants in Mangroves

Near low tide

- can tolerate higher salinity
- can tolerate longer periods of flooding
- Sonneratia, Avicennia

Near high tide

- not as tolerant
- Rhizophora, Bruguiera

EIGHT: How have plants in mangroves adapted to their environment?

Things to adapt : HIGH SALINITY , FLOODING

Adapt to High SALINITY :

① Salt-secreting leaves - Avicennia

→ salt crystals left behind on leaf



blown by wind / rain

② Deposit excess salt - Sonnertia

→ deposit excess salt in older leaves

↳ eventually shed

③ Salt-excluding species - Bruguiera

→ roots prevent salt from entering

Adapt to Flooding

① Cone roots - Sonnertia

→ 1.5m tall

* Take O₂ right
from air

↳ Roots

prevent being uprooted

② Prop roots - Rhizophora

→ help plant breathe & form broad base

③ Knee-bend roots - Bruguiera

* End *