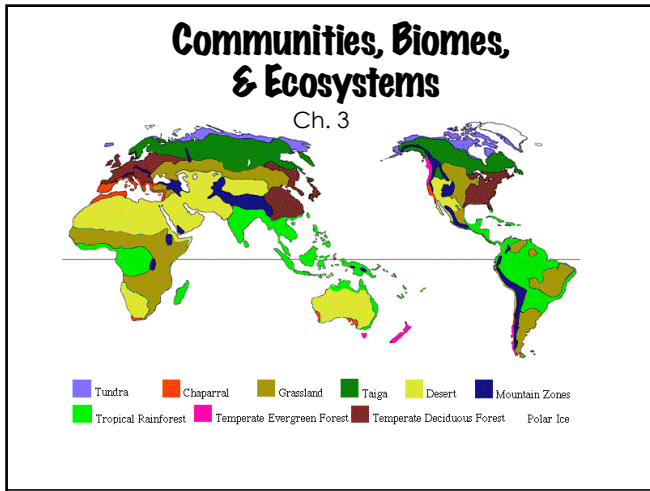


Ch. 3 Communities, Biomes, and Ecosystems



Limiting Factors

- any abiotic or biotic factor that restricts the number, reproduction, or distribution of organisms
- abiotic limiting factors: sunlight, climate, temperature, water, nutrients, fire, soil chemistry, space
- biotic limiting factors: other living plants or animals

Range of Tolerance

- tolerance - ability of an organism to survive when subjected to abiotic and biotic factors
- optimum zone is best for survival (greatest number of organisms)
- outside optimum zone organisms experience physiological stress
- tolerant organisms can adapt to a changing environment

may lead to better chances of reproducing

The graph plots Population size (y-axis, Low to High) against Environmental gradient (x-axis, Low to High). It shows a bell-shaped curve representing fitness and growth. Key zones include: Lower limit of tolerance, Zone of intolerance, Stress zone, Optimum tolerance range, Stress zone, and Upper limit of tolerance. Organism abundance is shown as 'absent', 'few', 'abundant', 'few', and 'absent' across these zones.

1 Which of the following represents an abiotic limiting factor?

A

B

C

D

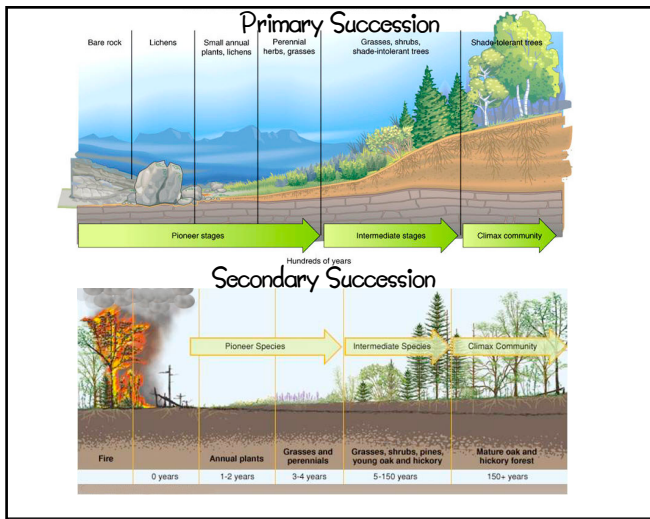
Ecological Succession

- ecosystems are dynamic
- ecological succession is the orderly, natural changes and species replacement that takes place in the communities of an ecosystem
- occurs in stages
 - creates favorable conditions for some and not for others

Primary vs. Secondary Succession

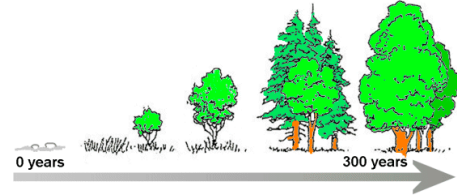
Primary	Secondary
<ul style="list-style-type: none"> establishment of a community in an area of exposed rock and <u>NO</u> topsoil no life to start first species are called pioneer species <ul style="list-style-type: none"> help make topsoil very slow process 	<ul style="list-style-type: none"> orderly and predictable changes that take place when communities are disrupted by natural disasters or human action topsoil present species return to their environment slowly occurs quicker than primary

Ch. 3 Communities, Biomes, and Ecosystems



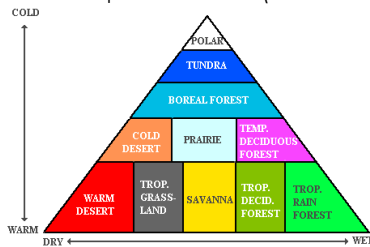
2 Is this an example of primary or secondary succession?

- A primary succession
- B secondary succession



Terrestrial Biomes

- terrestrial - land
- share similar plant species
- limiting factors: temperature and precipitation
- ex. tundra, deserts, rain forest
- mountains and polar ice caps are NOT included
- mountain plant species vary with elevation
- polar ice caps have no soil (NO soil = NO plants)



3 MATA: Which of the following limiting factors help distinguish biomes?

- A biotic factors
- B abiotic factors
- C temperature
- D precipitation