DIVERSITY

1. COMMUNITIES

community - all diff spp. within an ecosystem

dominant species
- usually most abundant, largest biomass
- often largest space & most energy

niches - dominant sp. monopolize resources
- others specialize in narrower niches

2. SPECIES DIVERSITY

species diversity
- no. of diff organisms in community
- depends on spp. richness & evenness

species richness - total number of different spp.

species evenness
- proportion of individuals in each sp.

niches - spatial (incr if smaller microhabitats)
- temporal (incr if seasonal changes)
- trophic (incr if partition resources)

3. VERTICAL LAYERING

forests - height determines sunlight, photosynthesis, moisture

canopy trees - tallest, most sunlight

understory trees - shorter, shaded

shrub layer - no main trunk

herbaceous layer - no woody tissue

forest floor - no sun, decomposition

oceans - depth determines light, O_2, temp

upper - more light, O_2, photosynthesis
- temp. warmer but fluctuates more

lower - less light-O_2, more decompose
- temp. lower but fluctuates less

4. HORIZONTAL PATTERNS

ecotone - greatest diversity
- zone where 2 communities overlap
- also attracts diff species need both

island ecology - oceanic islands
- habitat islands (mtns, ponds, hosts)
- diversity - incr with island size
  - decr with distance to islands
- immigration - incr if large/close
  - decr if already colonized
- extinction - incr if small/colonized

5. TROPICAL DIVERSITY

tropics - more diverse than temperate
- but fewer of each species

evolutionary time - tropics older

climatic stability or predictability
- allow smaller niches in tropics

heterogeneous environment
- tropics more complex & more niches

productivity
- more sun-photosynthesis in tropics

interspecific regulation
- more comp.-predation in tropics