SUCCESSION

1. INTRODUCTION

succession
- sequential change in dominant vegetation
- stages directional & predictable

terrestrial - grasses to shrubs to trees

aquatic - pond to marsh to grasses …

sere - sequence from pioneer to climax
- plants alter environment & prepare for own replacement by other species

2. DEVELOPMENT

pioneer communities
- nutrients abiotic, open flow
- photosynthesis > decomposition
- weeds opportunistic, rapid growth, short life, small biomass
- seeds small, wind-dispersed, dormant

climax communities
- stable & persistent biomes
- nutrients biotic, closed cycle
- photosynthesis = decomposition
- plants slow growing, long lifespan, large biomass, shade-tolerant
- seeds large, fruited, germinates quick

3. PATTERNS IN SUCCESSION

soil - increases thickness, horizons, organic matter, minerals, moisture
- becomes more favorable to plants

productivity
- incr photosynthesis, biomass, lifespan

selection - from r-selected to K

regulation - from external to internal

resilience - recovery from disturbance
- from high to low

plant diversity
- greatest at intermediate stages

animal diversity - greatest at pioneer

4. FIRE

sources - lightning or human activity
- natural role in ecosystem

benefits - fertilizes soil, sanitizes pests
- increases repro (germinate seeds)
- increases diversity (open understory)
- regenerates forest (burn old)
- maintains subclimax (burn climax)

suppression - uncontrollable & hot

succession - without fire…
- grasslands would be replaced by shrubs
  (also wet winter, dry hot summer)
- chaparral would be replaced by forest
- Sequoias would be replaced by other trees