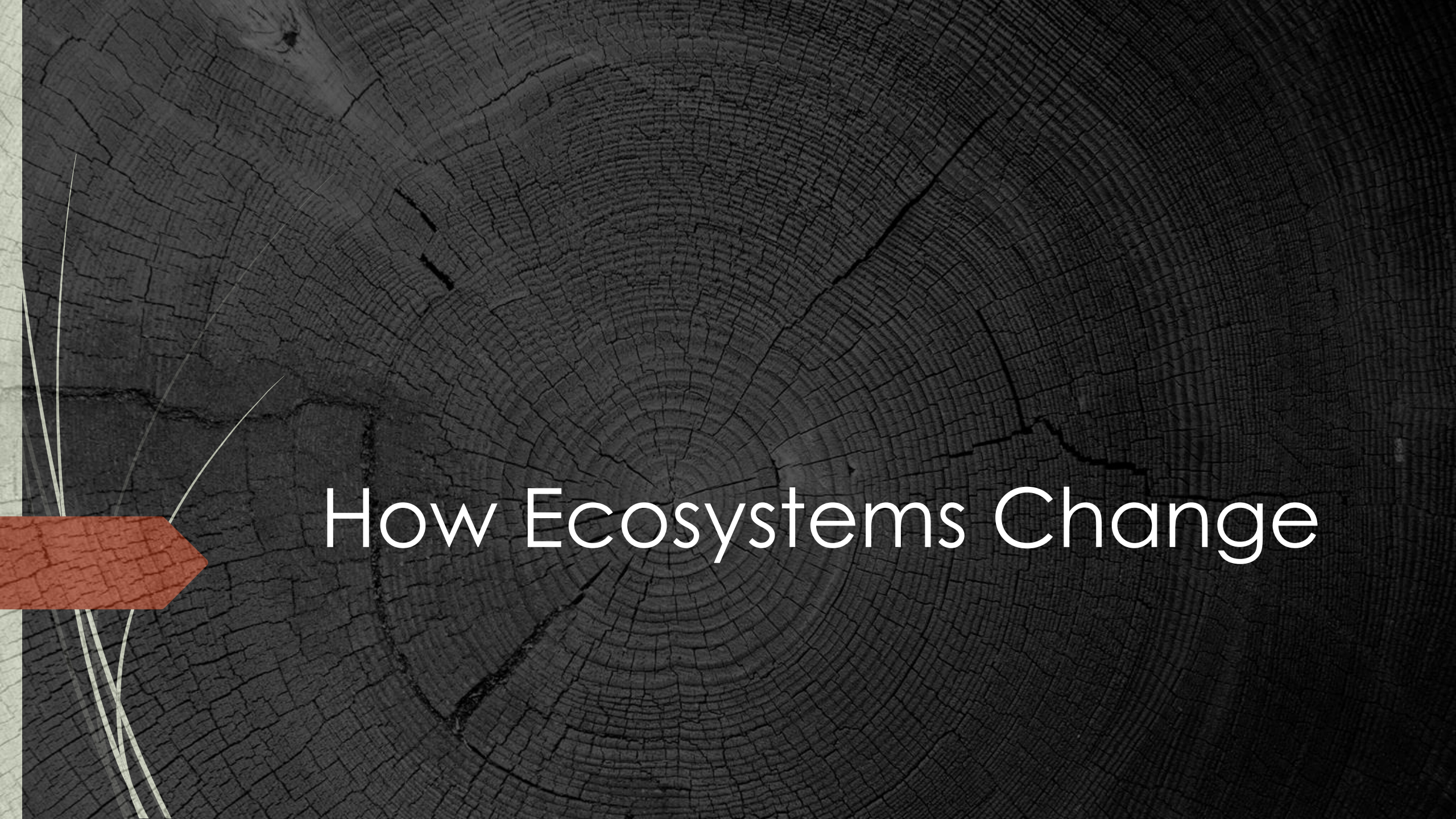
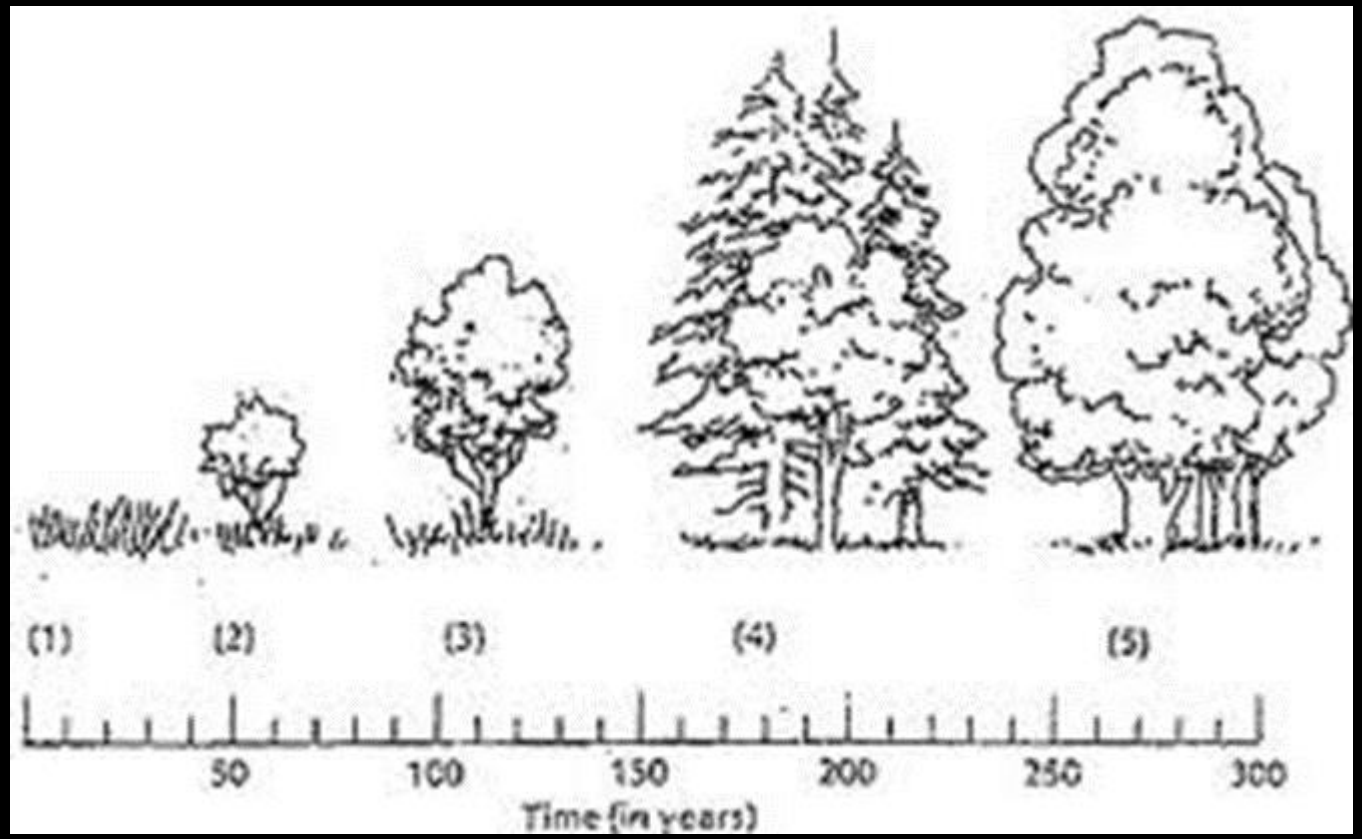


How Ecosystems Change

Ecological Succession

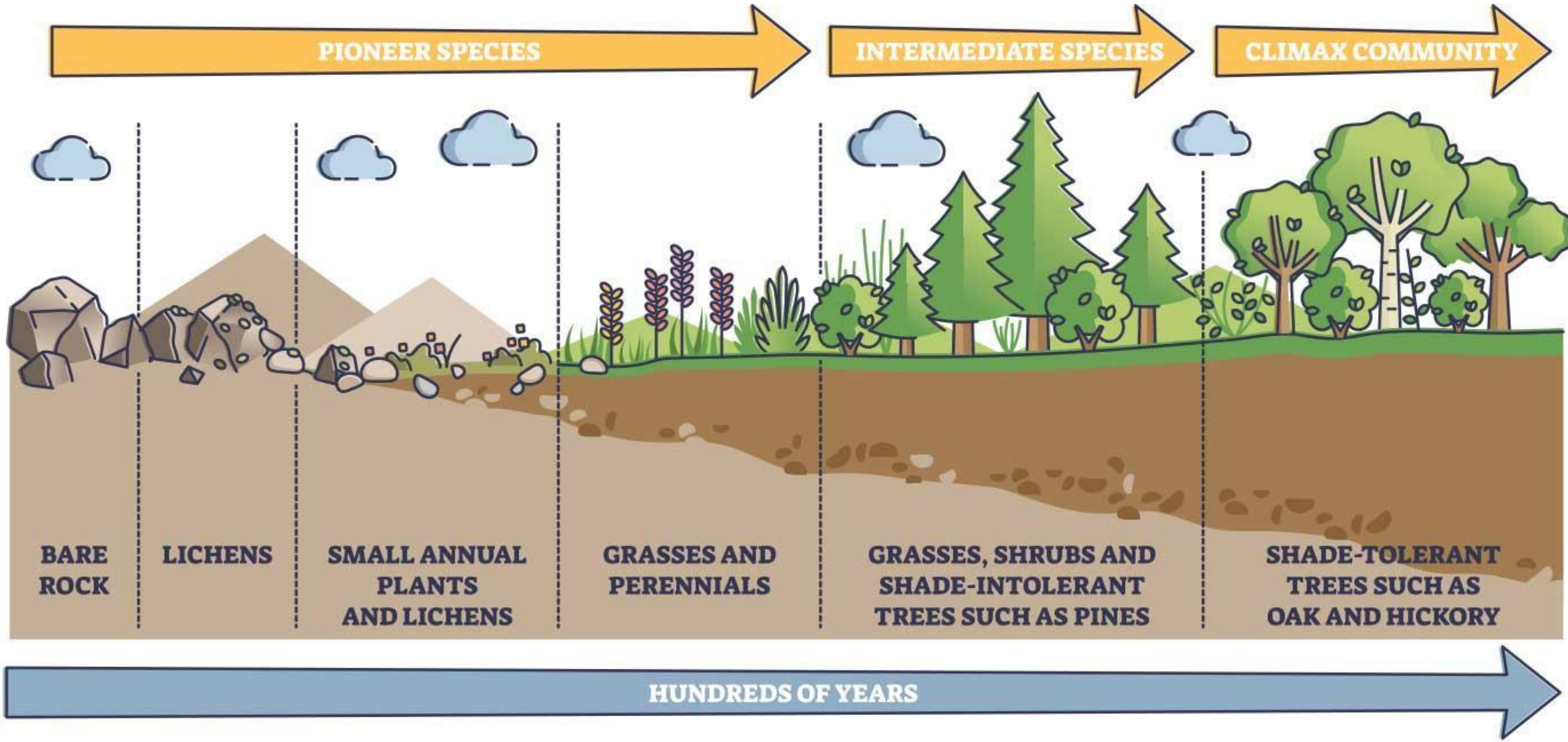
- Ecosystems are constantly changing.
  - A forest hundreds of years old may have been a shallow lake a thousand years ago.
- Ecological succession is a gradual process of change and replacement of some or all of the species in a community.

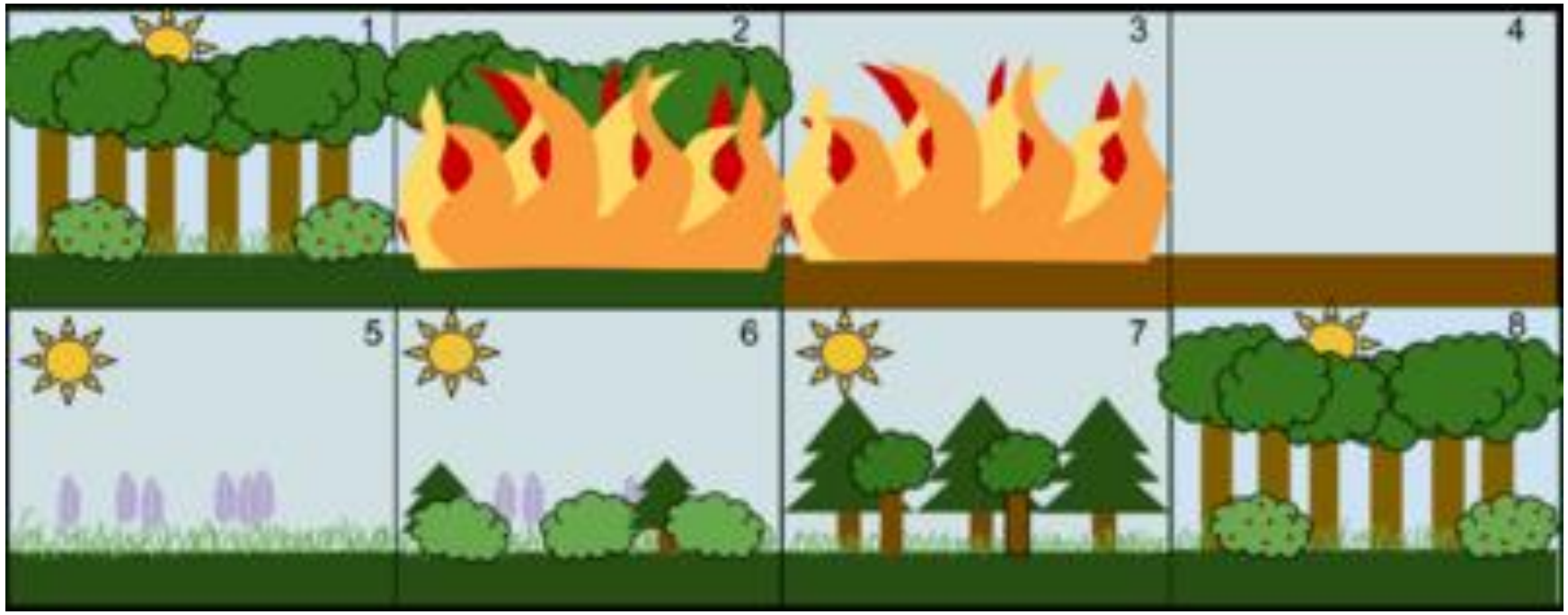


Primary Succession

- It begins in an area that previously did not support life.
  - Primary succession can occur on new islands created by volcanic eruptions, in areas exposed when a glacier retreats, or any other surface that has not previously supported life.
- Pioneer Species
  - A species that colonizes an uninhabited area first.
  - Most likely bacteria and lichens

PRIMARY SUCCESSION





Secondary Succession

- Process by which one community replaces another community that has been partially or totally destroyed.
  - Destroyed by humans, animals, or natural process such as storms, floods, earthquakes, or volcanic eruptions.
- Primary succession is much slower than secondary succession. Why?

Mount Saint Helens 1983–2004

1983

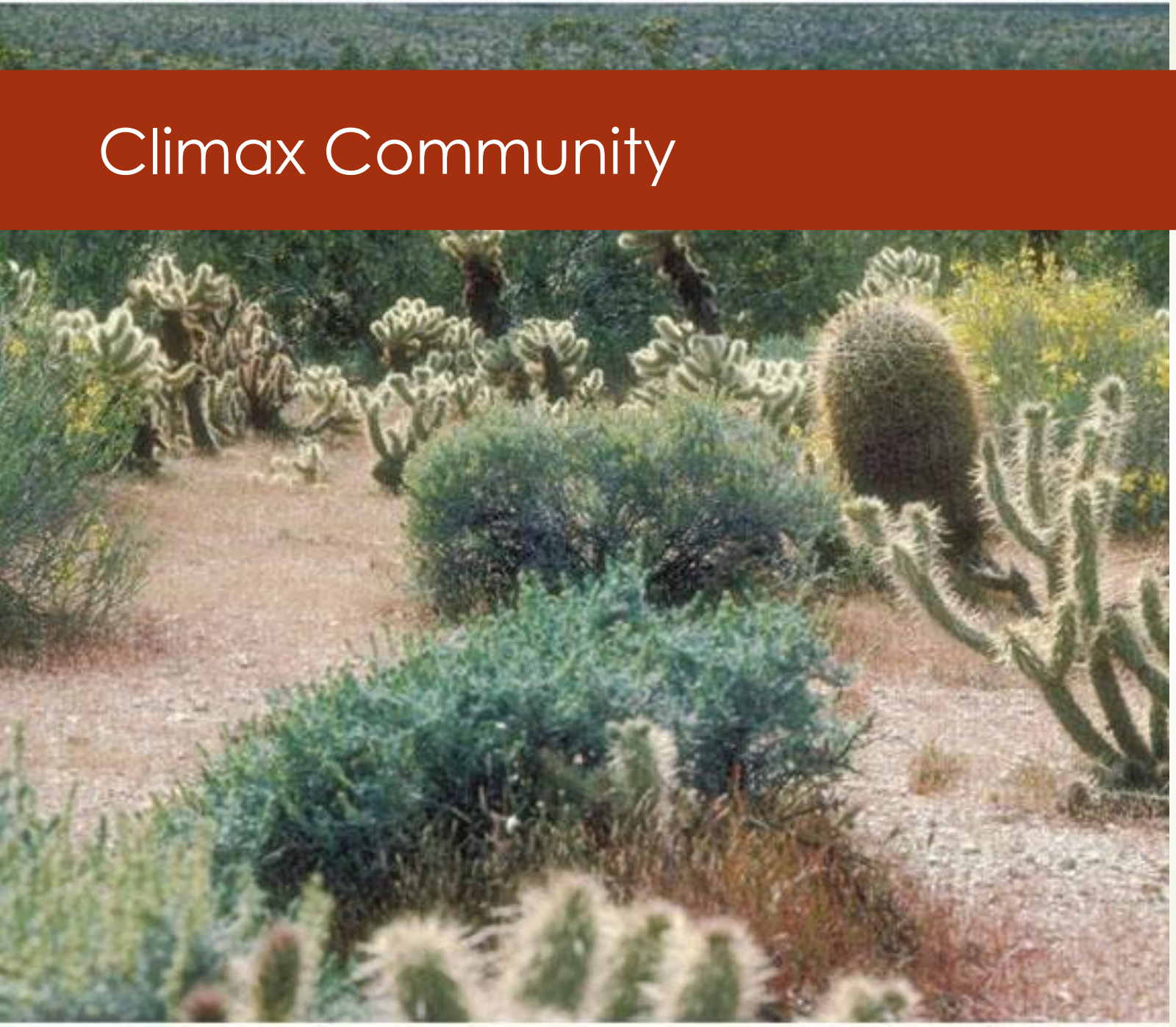
1989

1994

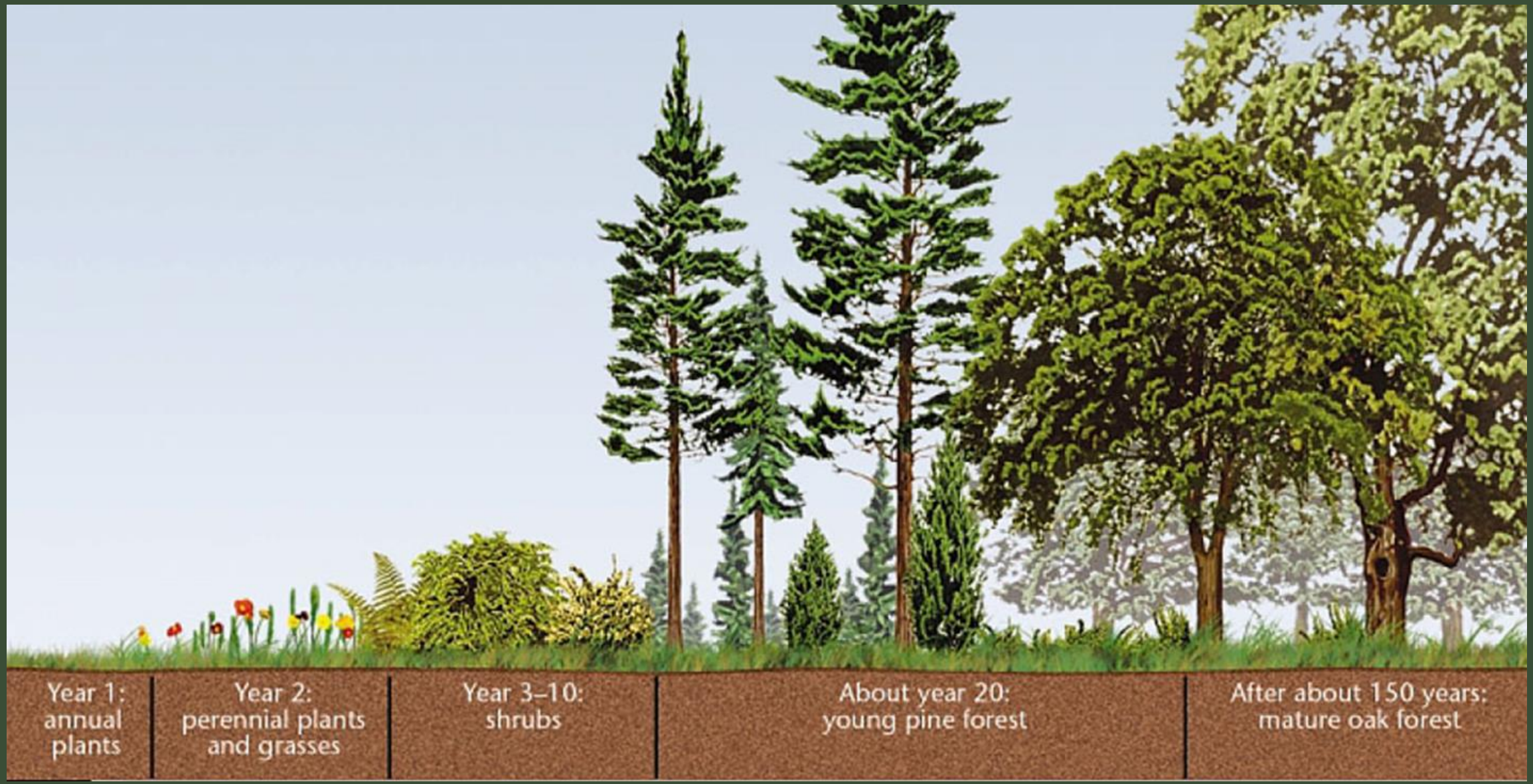
2004

https://www.youtube.com/watch?v=mpXkBWNa6XA

Climax Community



- The climax community is the final and stable community
- Even though a climax community may change in small ways, this type of community may remain the same through time if it is not disturbed


Year 1: annual plants
Year 2: perennial plants and grasses
Year 3–10: shrubs
About year 20: young pine forest
After about 150 years: mature oak forest