

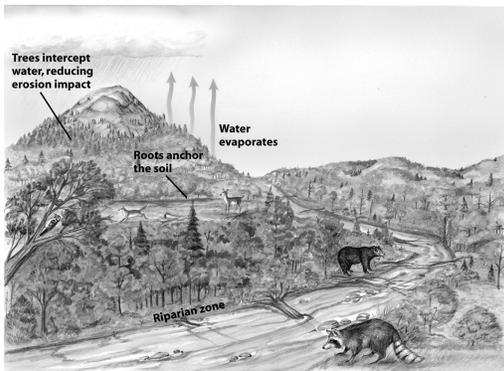
## Chapter 13



### Forests, Parks and Landscapes

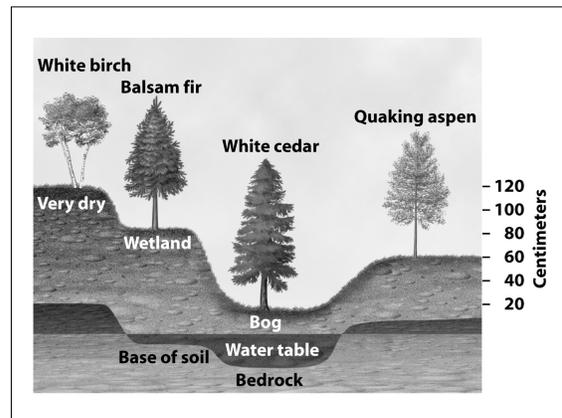
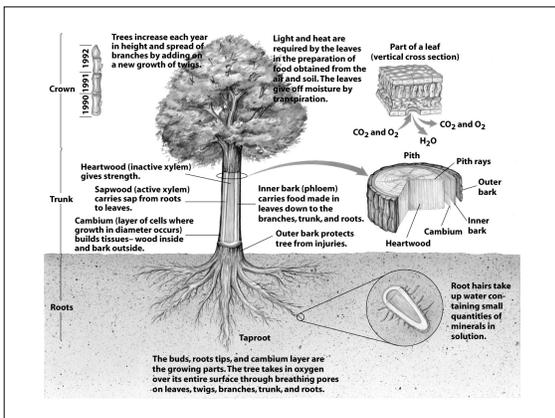
## Modern Conflicts over Forest Land and Forest Resources

- Silviculture: the the professional growing of trees
- Forests benefit people through public service functions: functions performed by ecosystems for the betterment of life and human existence
- Ex) cleansing of air by trees



## The Life of a Tree

- How a Tree Grows
  - Photosynthesis, Transportation Systems, Evapotranspiration
- Tree Niches
  - Determined by
    - Water content in the soil
    - Forest tolerance of shade
  - There is no single best set of conditions for a forest



## A Forester's View of a Forest

**Old-Growth Forest:** a forest that has never been cut

**Second-Growth Forest:** has been cut and re-grown

Foresters group trees into:

- Dominants, Codominants, Intermediate and Suppressed

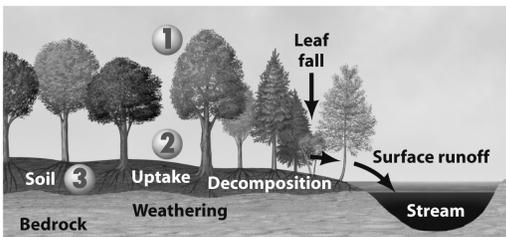
Sites are classified by **site quality**: the maximum timber crop the site can produce in a given time

## Clear-Cutting

- The cutting of all trees in a stand at the same time

4 types:

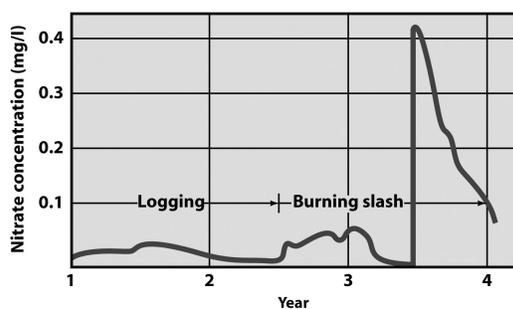
1. Shelterwood-Cutting
2. Seed-Tree Cutting
3. Selective Cutting
4. Strip-Cutting



- 1 Trees shade ground.
- 2 In cool shade, decay is slow.
- 3 Trees take up nutrients from soil.



- 1 Branches and soil decay rapidly in open, warm areas.
- 2 Soil is more easily eroded without tree roots.
- 3 Runoff is greater without evaporation by trees.



## Plantation Forestry

- **Plantation:** a stand of single species planted in straight rows
- Properly managed plantations can relieve pressure on forests

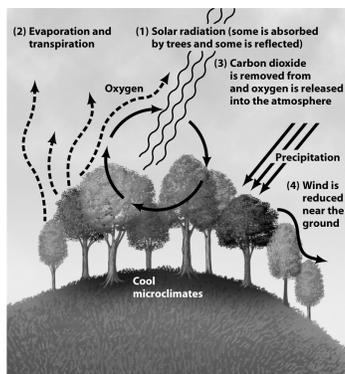


## Sustainable Forest

- Def: Efforts to manage a forest so that a resource in it can be harvested at a rate that does not decrease the ability of the forest ecosystem to continue to provide that same rate of harvest indefinitely.
- There are few examples of this. The “certification of sustainable forestry” developed. This involves:
  - Determining which methods appear most consistent with sustainability
  - Comparing the management of a specific forest with those standards

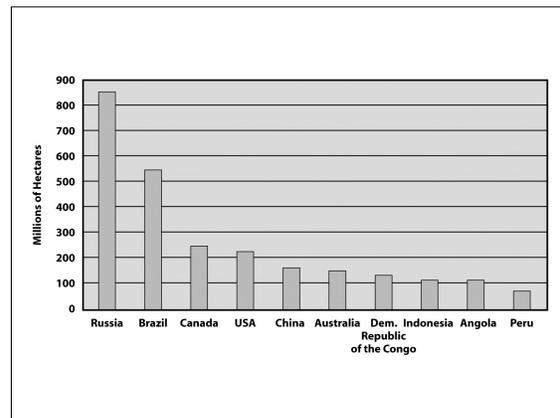
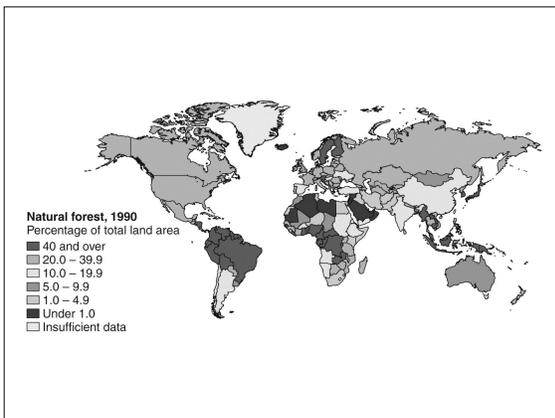
## 4 Ways Vegetation Can Effect the Atmosphere:

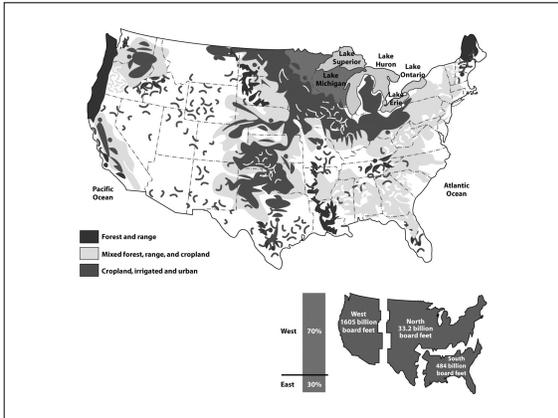
1. Changing color of the surface and the amount of sunlight reflected and absorbed
2. Increasing the amount of water transpired and evaporated from the surface to the atmosphere
3. Changing the rate at which greenhouse gases are released from the Earth’s surface into the atmosphere
4. Changing the “surface roughness,” which affects wind speed at the surface



## Deforestation

- History
- Causes
- World Firewood Shortage
- Indirect Deforestation





## Parks, Nature and Wilderness

- Wilderness: an area undisturbed by people
- Managing parks for biological conservation is a relatively new idea. Parks that are too small or in the wrong shape may not be able to sustain their species

