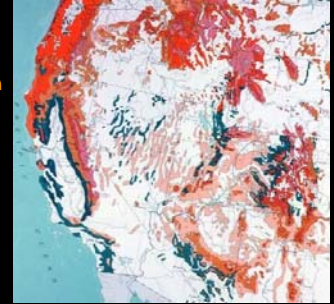


Pinyon-Juniper Biome (Pinyon-Juniper Woodland) (Pygmy Conifer Woodland)



Pinyon-Juniper Biome (western North America)

- Occurs near base of isolated mountain ranges in 5-6 sw states
- Generally 5000-7000'
- Long finger extends along eastern CA to central OR
- 17 million hectares



Pinyon-Juniper Biome Environmental Conditions: Semi-arid

- **Temperatures:**
 - Summer: hot days; cold nights
 - Winter: cold days; very cold nights
- **Rainfall:**
 - Low (10-20"); intense storms with flash floods
 - Variable (within and between years)
 - Most precip. falls as snow
 - High evaporation and transpiration
- **Other**
 - Soils: often thin, rocky, and alkaline
 - Very windy



Dominant Life Form: Evergreen Conifers

- Variation in precipitation affects communities greatly
- Bordered below by desert and above by ponderosa pine



Pinyon-Juniper Biome

- Dominated by small shrubby trees-- short in stature with rounded crowns
- Spacing is wide except when fire is suppressed-- crowns seldom touch but root systems overlap
- Growth is slow (drought limited)
- Commonly bordered by desert below and ponderosa pine above



Pinyon-Juniper Biome: pinyons junipers



Pinyon or nut pines (4 species)

- Small and often shrubby (20-40')
- Needles/fascicles: (1-4)
- Large, nut-like seeds (very important food for indigenous people)
- Deep, wide-spreading roots
- 4 species: pinyon (2), Parry (4), Mexican (3), singleleaf (1)
- Less drought tolerant than junipers—occur at higher elevations



Junipers (7 western species)

- Small and often shrubby (20-40')
- Needles: scale-like and awl-like
- Grow on poor, dry soils
- Very drought tolerant—grow lower in zone than pinyons
- 2 groups: blue cones; red cones
- Species: oneseed, Ashe, western, alligator, Utah, California, Rocky Mountain
- Value: posts, cross ties, mine timbers, fuel wood, oils



Live oaks (evergreen)

- Geographically specific
- Many species of *Quercus*
- Trees and shrubs
- Mostly evergreen
- Small, leathery leaves
- Short, thick boles and irregular crowns
- Very drought tolerant
- Acorns important food for wildlife and native people



Mountain-mahoganies (several species)



Pinyon-Juniper Understories

Spiny, aromatic, volatile!

Common species: rabbitbrush, sagebrush (many spp.), bitterbrush, serviceberry



Pinyon-Juniper Biome Understories

- Sparse with regular fire (10-15 years cycle)
 - Grasses dominate
- Dense without fire



Human Impact on Vegetation

Native American:

- Wood gathering
- Burning
- Farming (localized)

Euro-American

- Grazing
- Fire Suppression

Once more savanna-like, with trees restricted to rocky areas

Fire suppression and grazing both favor trees over grasses



Role of Fire



Pinyon-Juniper Biome Riparian Zone

Common species:

- California sycamore
- water birch
- quaking aspen
- willows
- cottonwoods
- box elder
- maples



Pinyon-Juniper Biome High Scenic Value



Pinyon-Juniper Biome

Critical Watersheds for SW Cities and Farms



Pinyon-Juniper Biome Mineral extraction



Pinyon-Juniper Biome High Cultural Values



Pinyon-Juniper Wildlife: Reptiles, Birds, Mammals



Pinyon-Juniper Biome Major Threats

Fire suppression

- Allows flammable understories to build up
- Retards seed dispersal of trees

Urbanization-suburbanization

Recreation ☺

