

The PNW



Pacific Coastal Temperate Rainforest of North America

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Regional Silviculture-4327

Area:

- Aproximentally 57 million acres
- 4 States
- 2 Countries

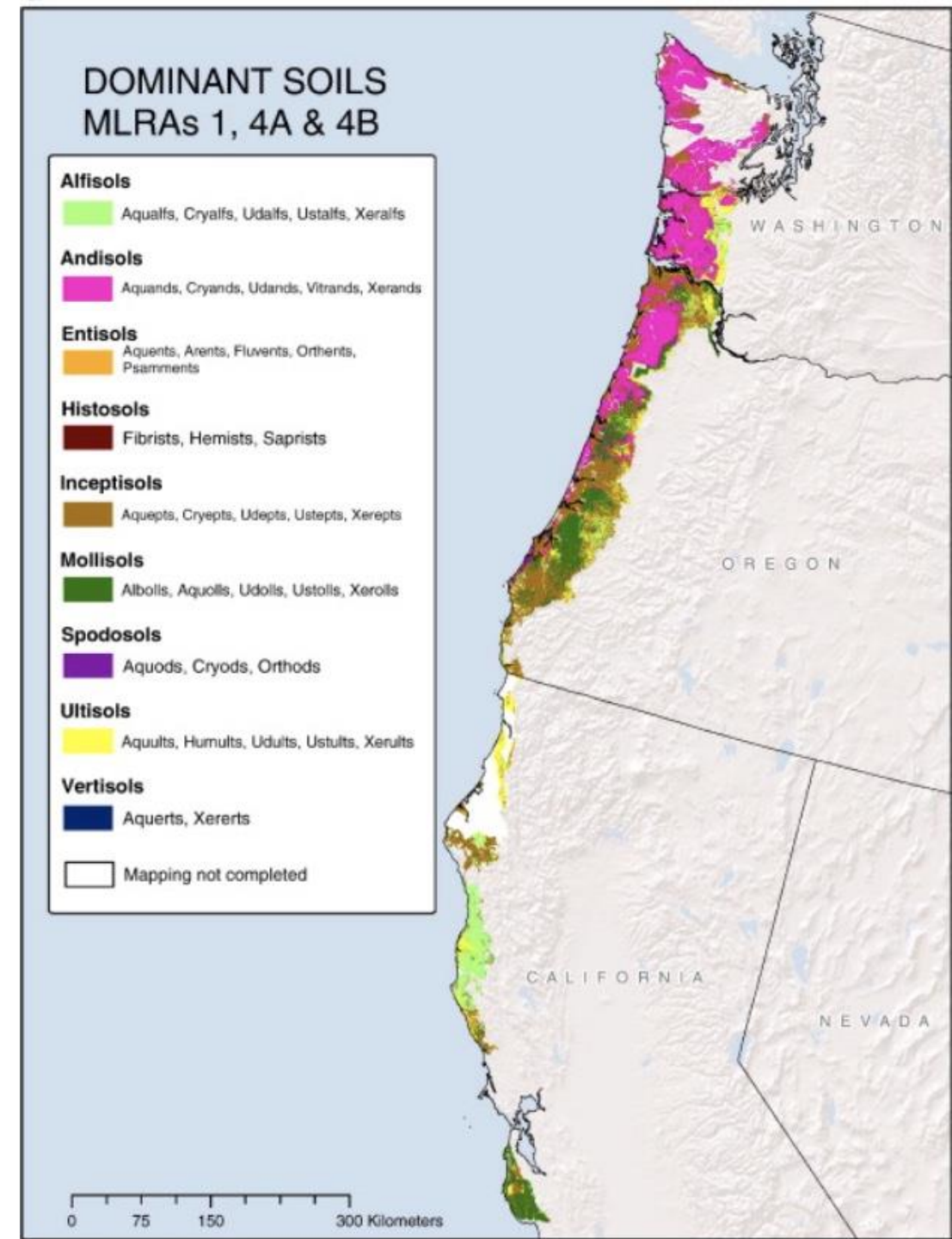


Ownership:

- **Southeast Alaska:** ~95% federal
- **Coastal British Columbia:** ~90% Crown forest
- **Washington:** mixed federal, state, tribal, and private ownership
- **Oregon Coast Range:** ~57% private/industrial, ~43% public
- **Northern California:** mixed federal/state park and private industrial

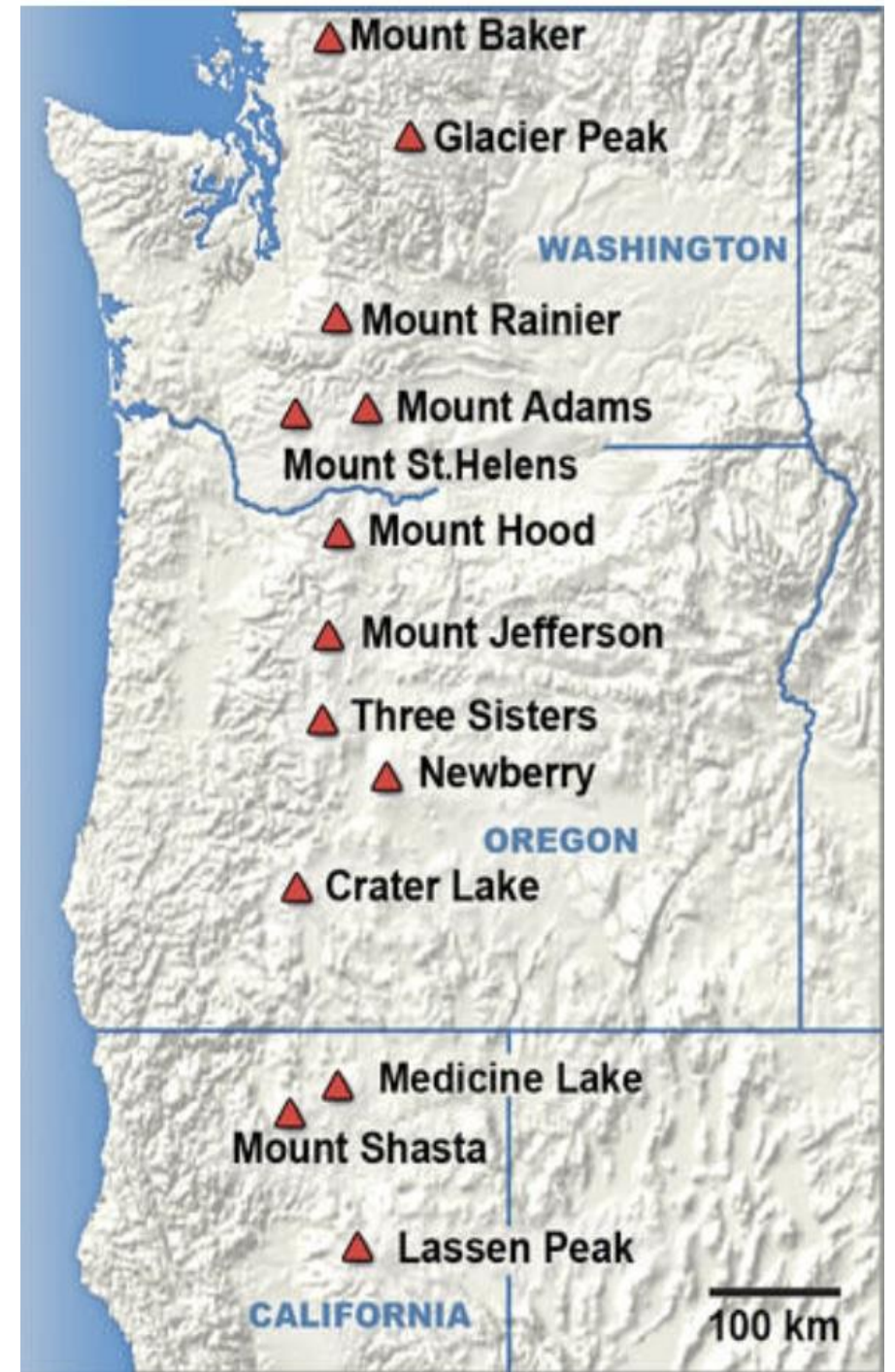
Soils

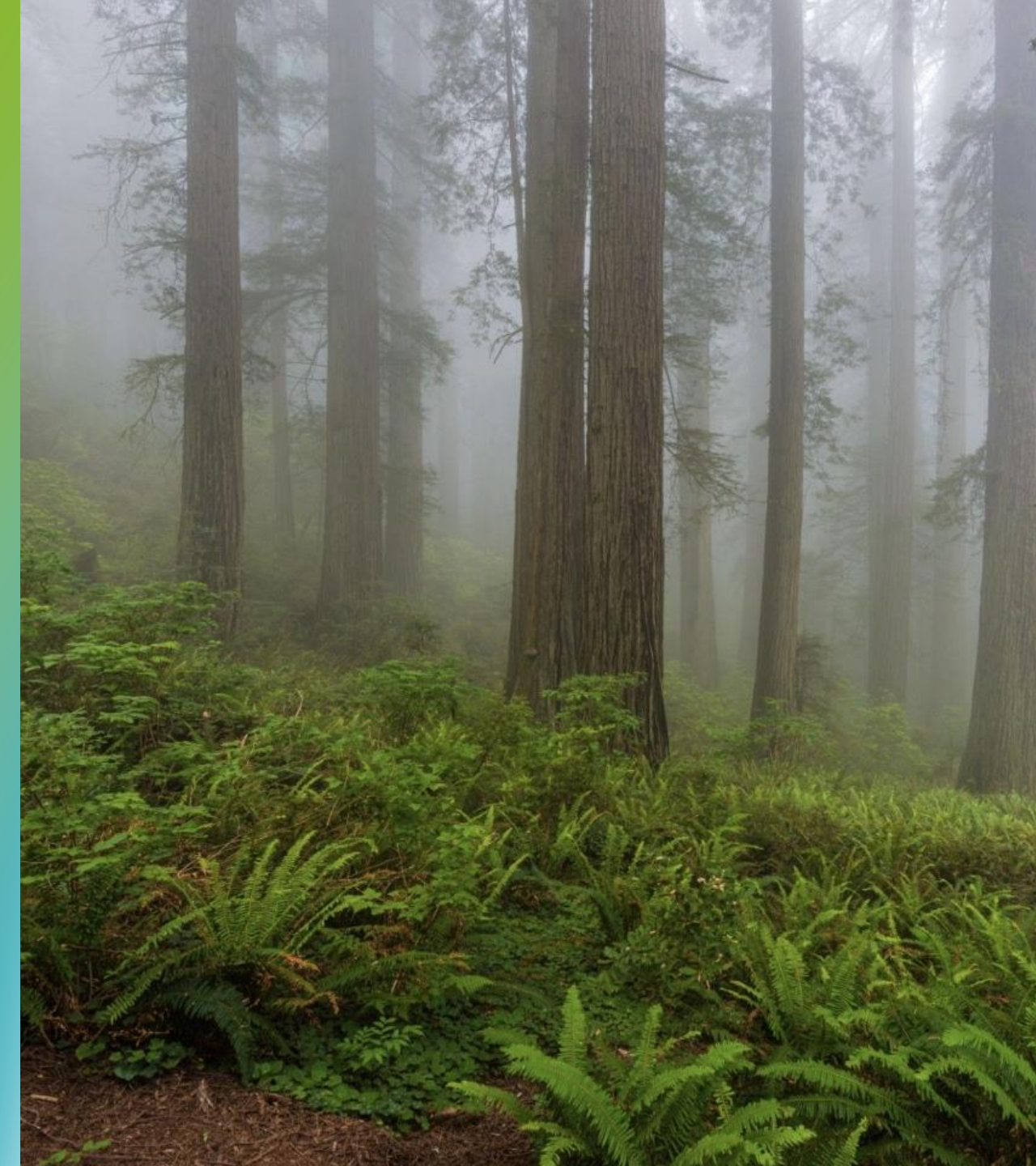
- CA: Alfisols, Ultisols, Inceptisols
- OR: Inceptisols, Andisols, Ultisols
- WA: Andisols, Inceptisols, Spodosols
- BC/AK: Spodosols & Histosols
- Formed by Volcanoes, Glaciers and Rain



Topography

Formed by tectonic plates, shaped by glaciers

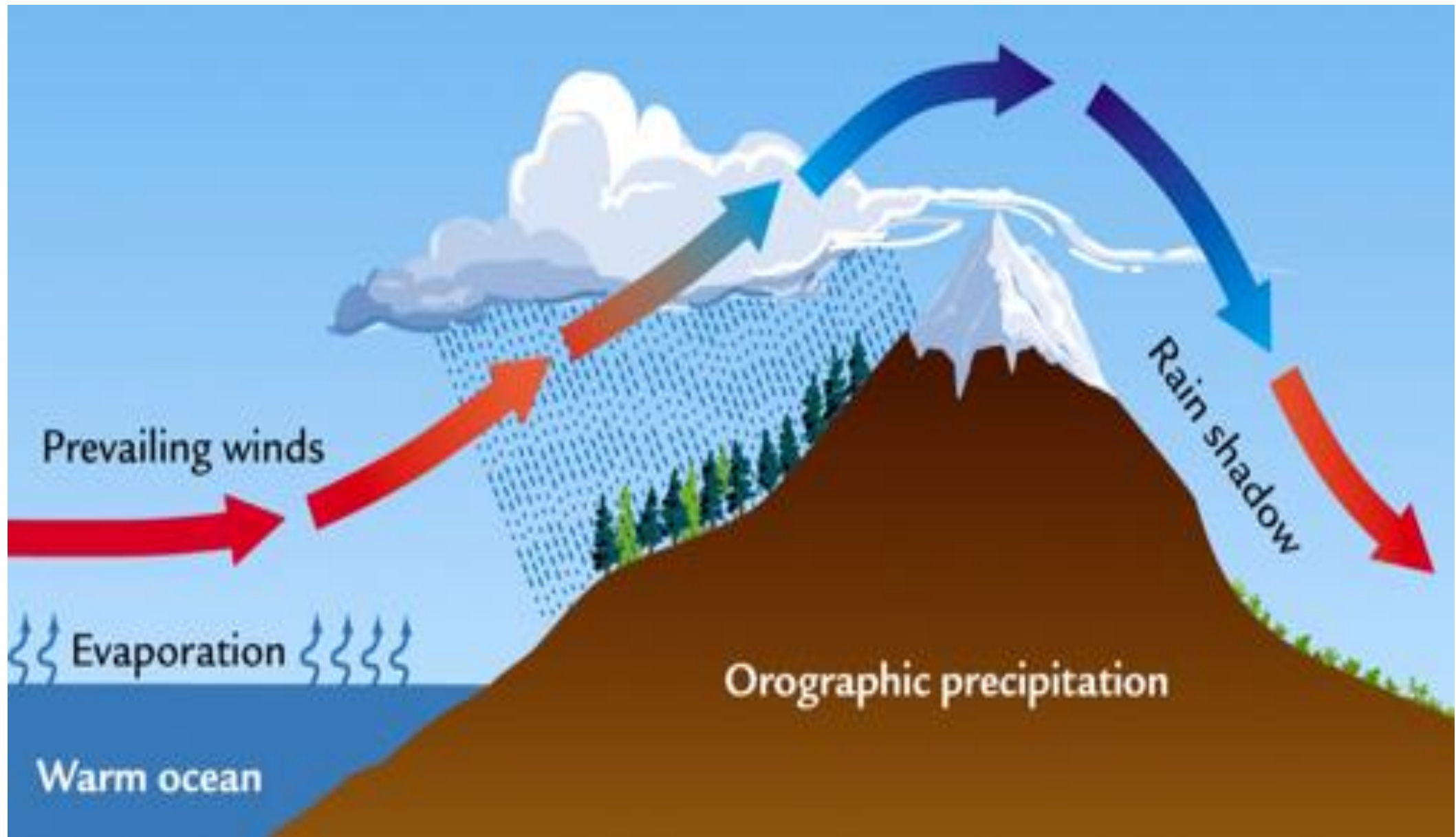




Climate

- Moderate temperatures, very high precipitation, seasonal summer dryness farther south; fog belt
- Moist Pacific air rises across the Coast Range and Cascades.
- West-facing forests receive abundant cool-season precipitation.

Climate:





The Coastal Rainforest Region

- 60-170in of rain annually
- Humidity from the coast
- Mean temperature of 55°F
- Roughly 240 days in the growing season

Major Tree Species

- Douglas-fir
- western hemlock
- Sitka spruce
- western redcedar
- Coast redwood
- Port Orford cedar
- Alaska yellow-cedar



Douglas-fir — *Pseudotsuga menziesii*

- Shade tolerance: Intermediate when young; relatively intolerant as it gets older
- Growth: Extremely rapid on productive coastal sites
- Markets: Structural lumber, plywood, timbers, poles, veneer, pulp



Western hemlock — *Tsuga heterophylla*

- Shade tolerance: Very tolerant
- Growth: Rapid when released
- Markets: lumber, pulp and paper, plywood
and other wood products





Sitka spruce — *Picea sitchensis*

- Shade tolerance: Tolerant to intermediate
- Growth: Very fast on good coastal sites
- Markets: lumber, pulp, guitar tops, piano soundboards, boat masts and spars, oars, and ladders



Western Redcedar-*Thuja plicata*

- Shade tolerance: Very high
- Growth: Moderate
- Markets: Shingles, Siding, Decking, Fencing Posts



Yellow-Cedar

- Shade tolerance: Moderate
- Growth: Very slow- 6in DBH at 300 years
- Markets: ship building, decking, docks, bridges, cabinets, and musical instruments

Old-Growth Forests

- The late successional stage of forest development characterized by heterogeneous stand structural elements such as large live trees, dead trees, diverse composition, multiple age classes, and complex canopy characteristics.



Regeneration

- Natural regeneration
- Some hand planting
- Shade tolerance
- Advance regeneration
- Seedling establishment
- Nurse logs



Disturbance

- Mount saint Helens
- May 18, 1980
- 150,000ac



Windthrow

- Tall trees with shallow roots
- Moist and rocky soils
- Leave residual trees in clumps



Fire

- In-frequent 400-500 yr intervals
- Lighting
- Fires are stand replacing





Clearcutting

- Historically dominant regeneration system
- Site prep & vegetation control improve establishment
- Less prominent on federal lands than historically

Variable Retention

- Dispersed retention
- Aggregated retention
- Natural regeneration
- Spotted Owl



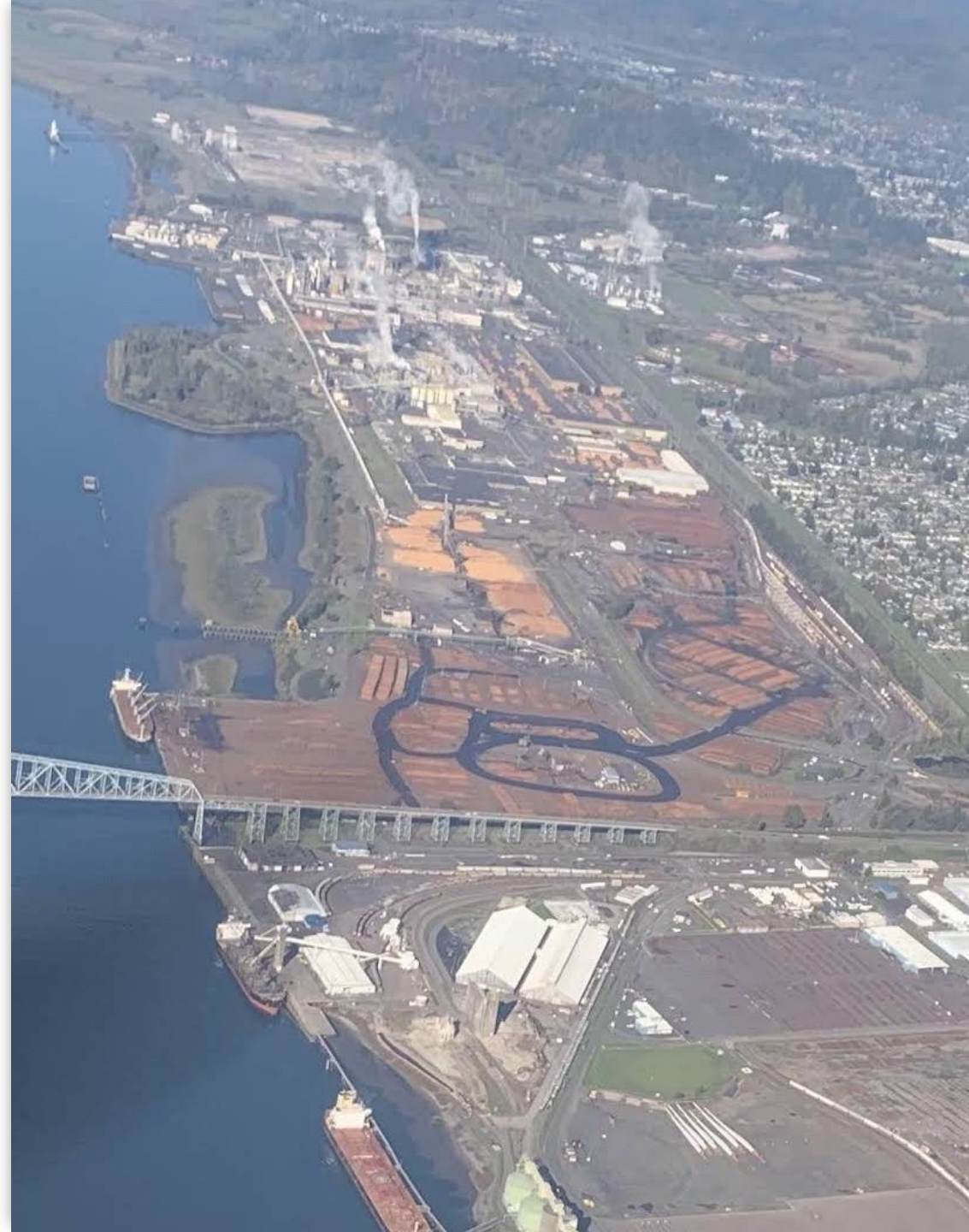
Harvesting Operations

- Helicopter
- Tower
- Shovel



Timber & Forest Products

- High-value timber:
 - Douglas-fir lumber
 - Cedar pickets
- Export markets
 - Japan





Management Challenges

- Timber economics
- Wildlife
- Riparian areas
- Drought and fire





Takeaways

- Very high productivity, valuable conifers, moisture-driven ecosystem, enormous biomass, and diverse silvicultural systems