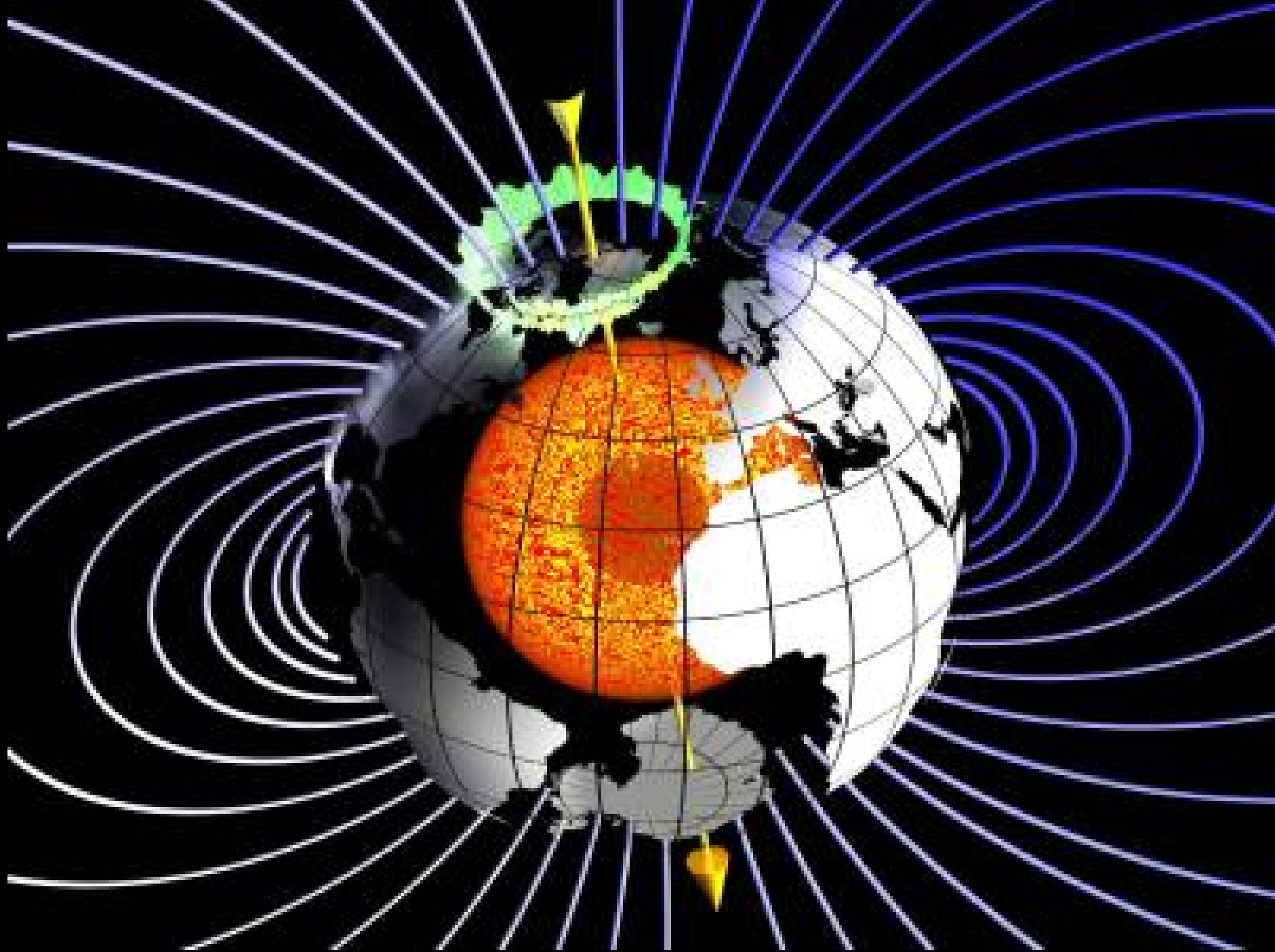
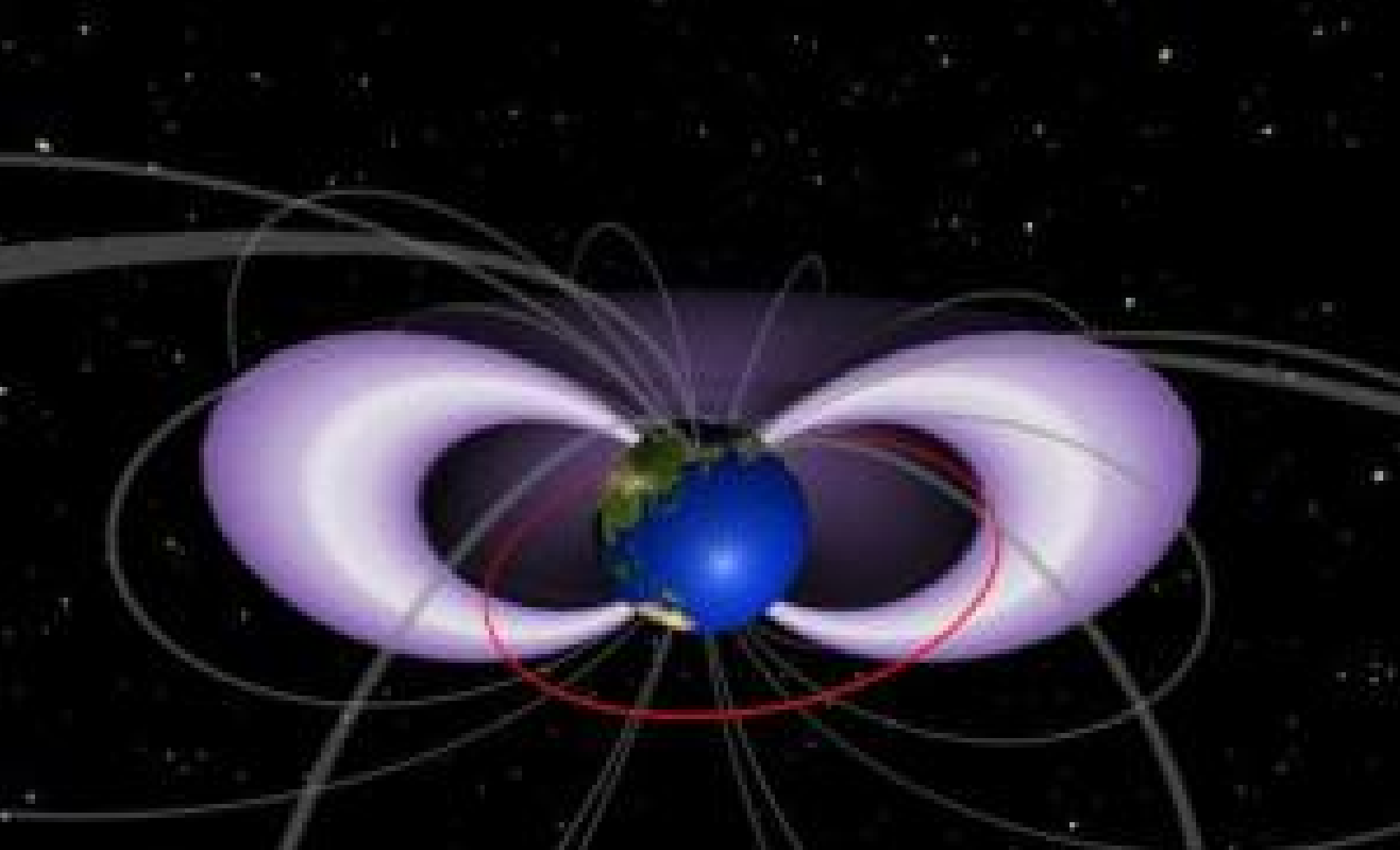


# Federal Forest Advisory Committee

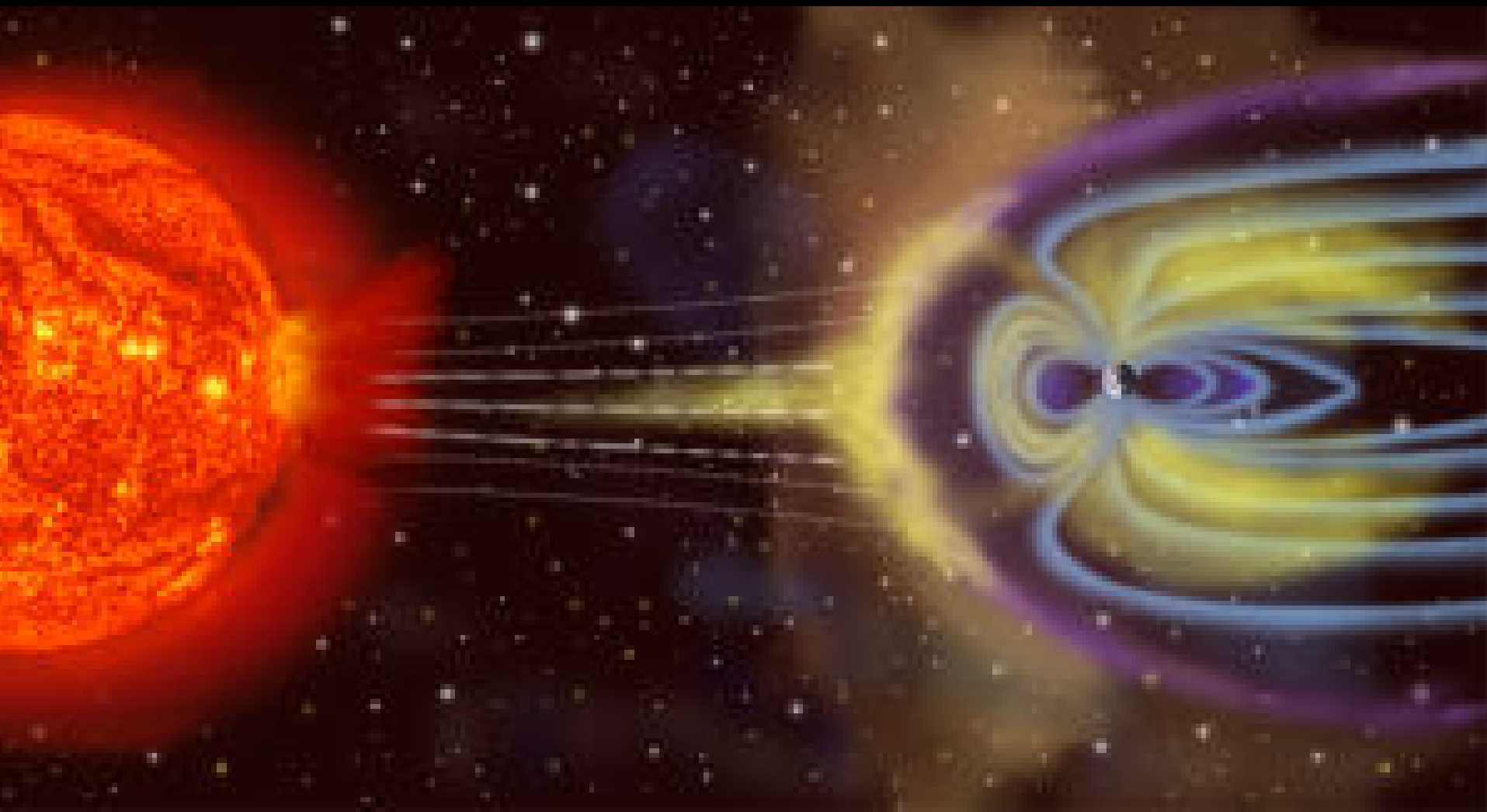
May 15, 2007

- **Thomas Sensenig, PhD.**
  - **541 858-2319**





# Earth's Electrical Field







Aurora



1 mm

**Roots grow toward  
(-)**

**Branches grow  
toward (+)**

**Germinations  
increases with  
positive charge**

# **Electromagnetic Fields**

**Weather**

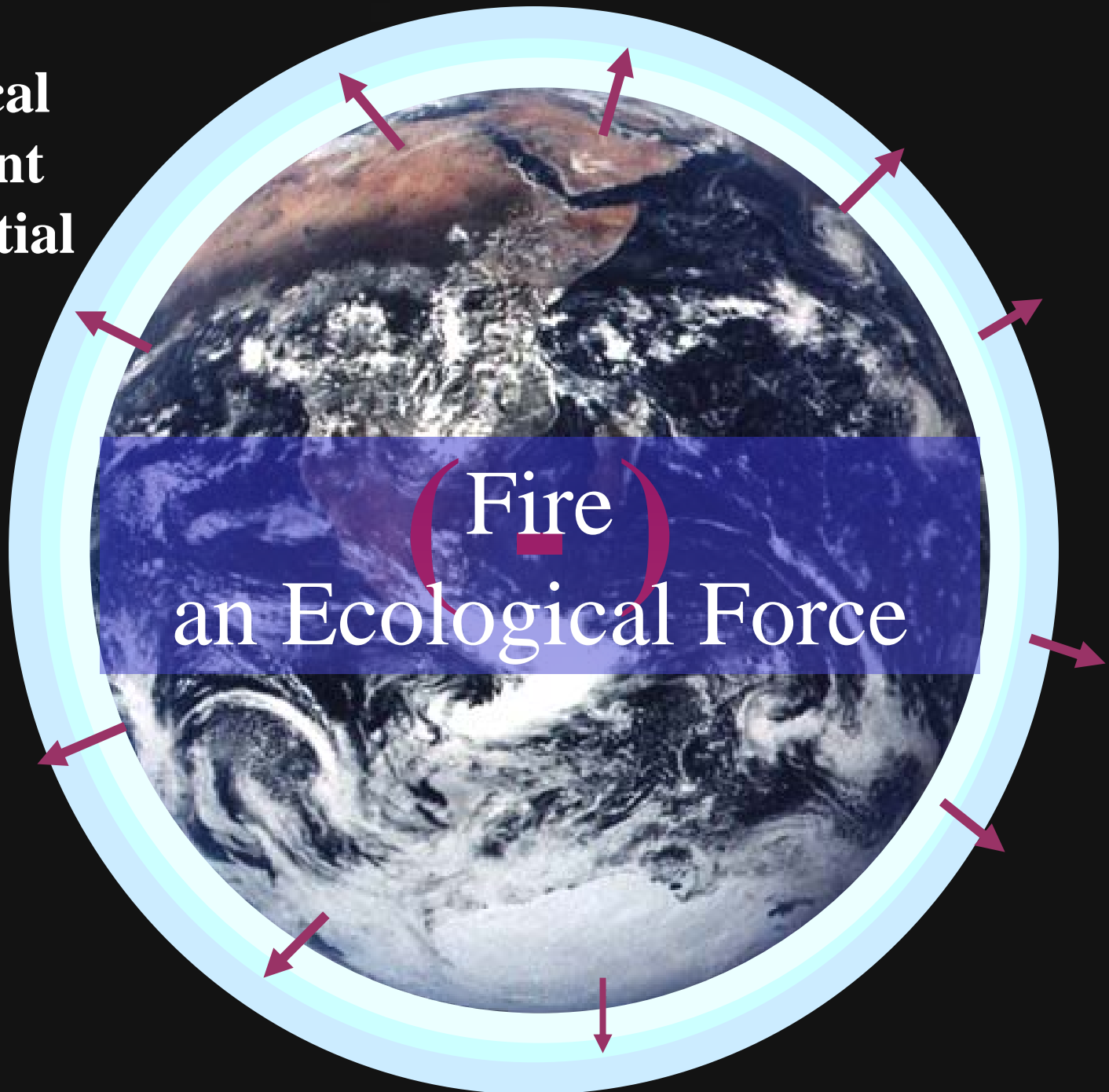
**Gravity**

**Waves**



**The earth's electromagnetic field is the primary driver effecting the strength of storms and their eventual movement**

**Electrical  
Gradient  
Differential**



**(Fire)**  
an Ecological Force

# Lightning- Global Electrical Circuit

- The Earth loses and recharges its electrical charge every hour. 350,000 volts.
- 200,000 – 300,000 Amperes per bolt
- 60,000<sup>0</sup> F - 10 X the surface temperature of the sun.
- 100 Lightning bolts per second.
- 8 Million bolts per day.



USS NIMITZ

On earth, every 56 min. lightning  
generates enough electrical  
energy to propel the worlds  
largest ship around the earth

265,000 HP

800,000 Tons









**Issue**

**Dry Forest  
Ecosystems**



**Issue**  
**Old-growth**









Age 425  
Year 1980

Age 356  
Year 1911

Age 292  
Year 1847

Age 272  
Year 1827

Age 246  
Year 1801

Age 220  
Year 1775

Age 191  
Year 1746

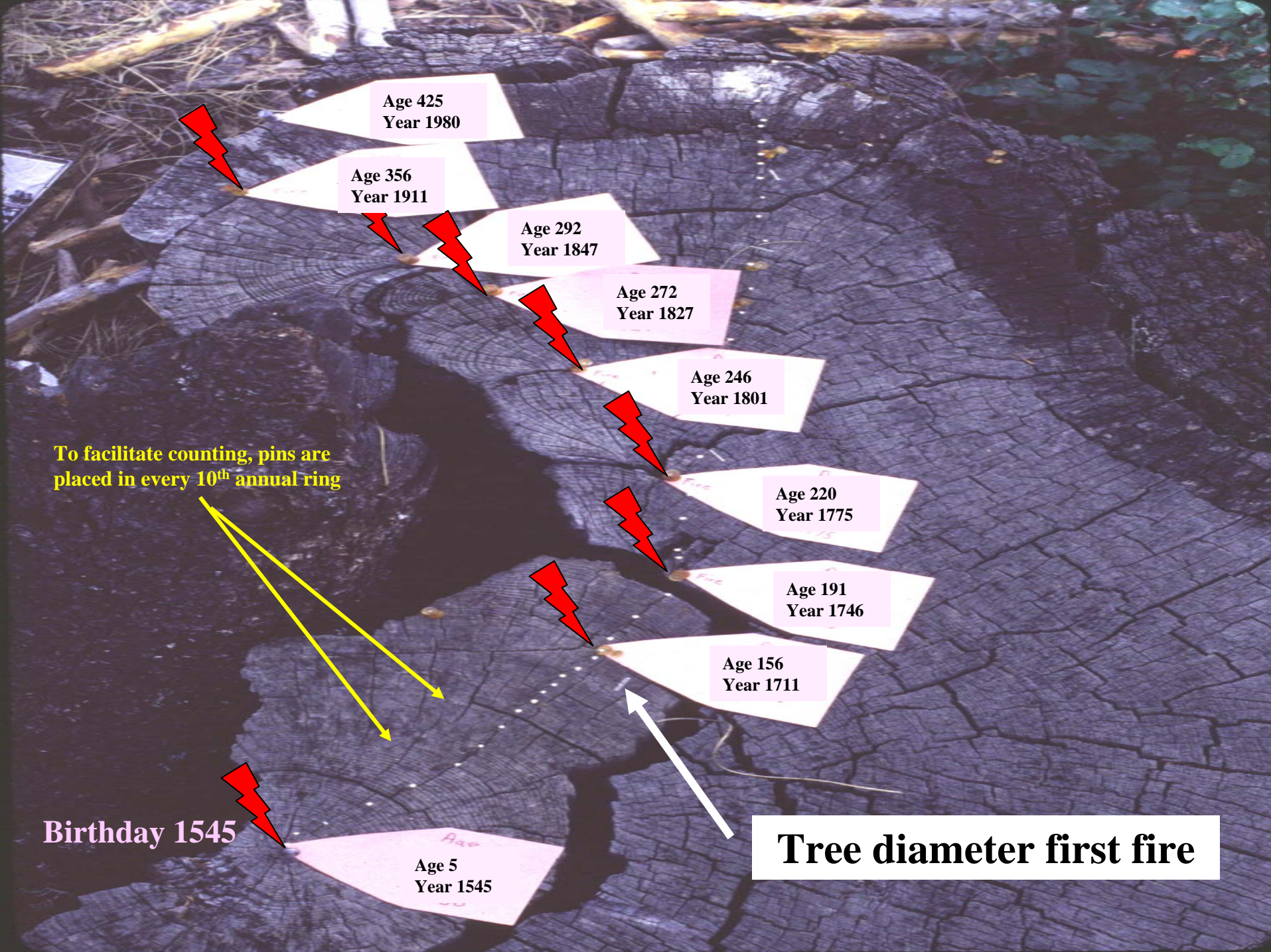
Age 156  
Year 1711

Age 5  
Year 1545

To facilitate counting, pins are placed in every 10<sup>th</sup> annual ring

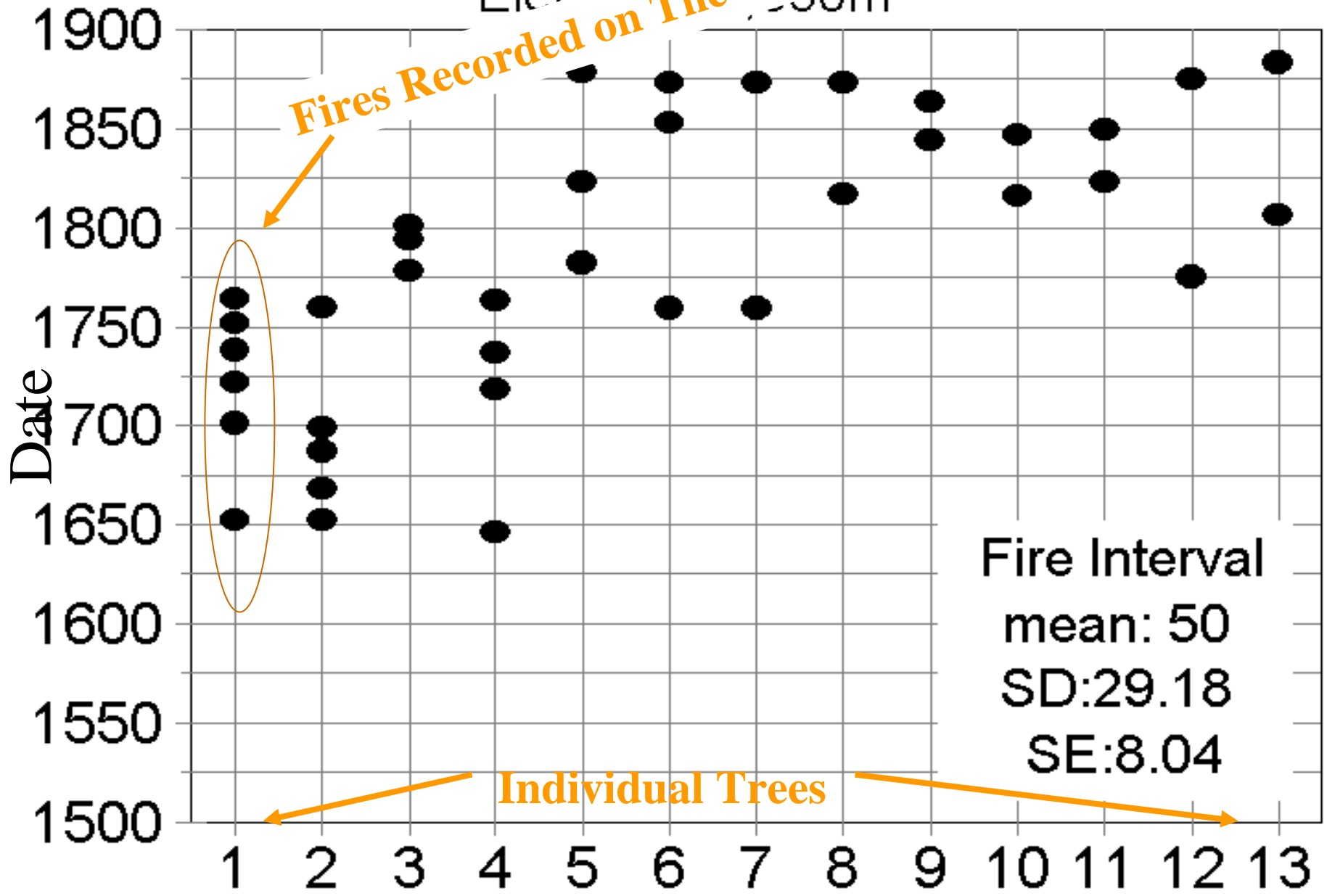
Birthday 1545

Tree diameter first fire



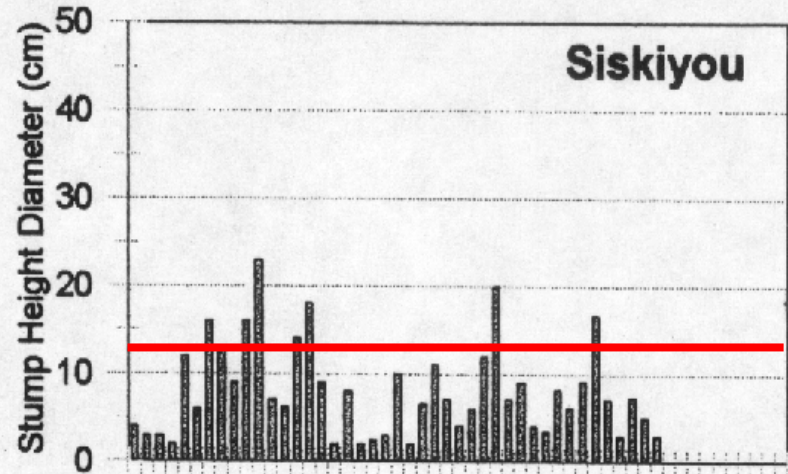
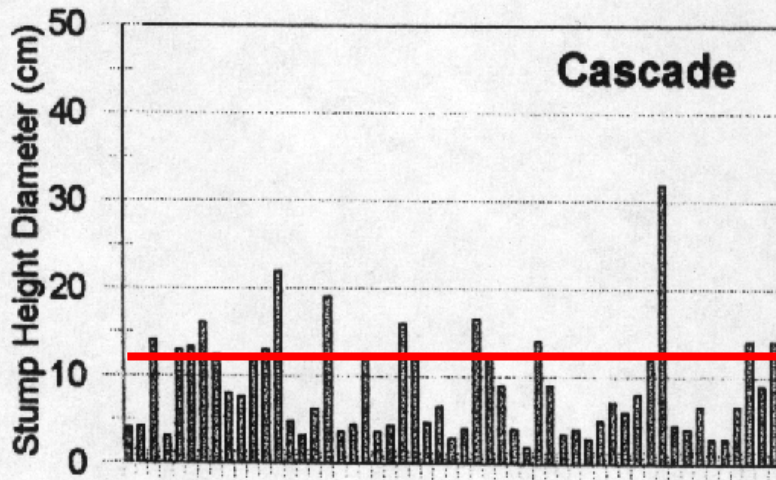
# Deer Creek

Elevation: 1200m

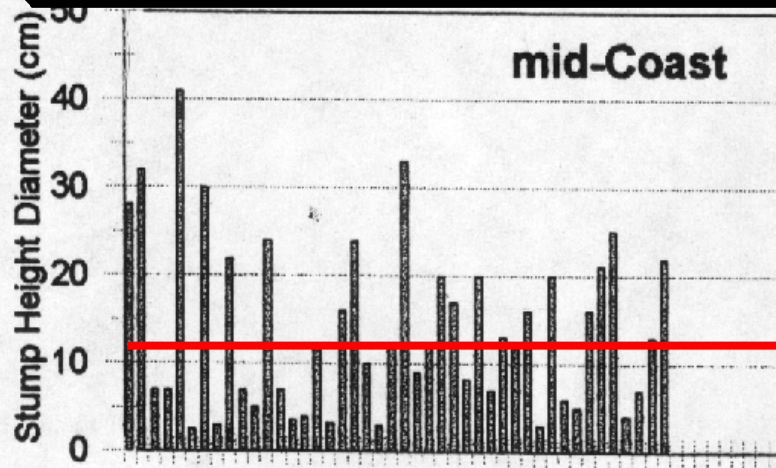




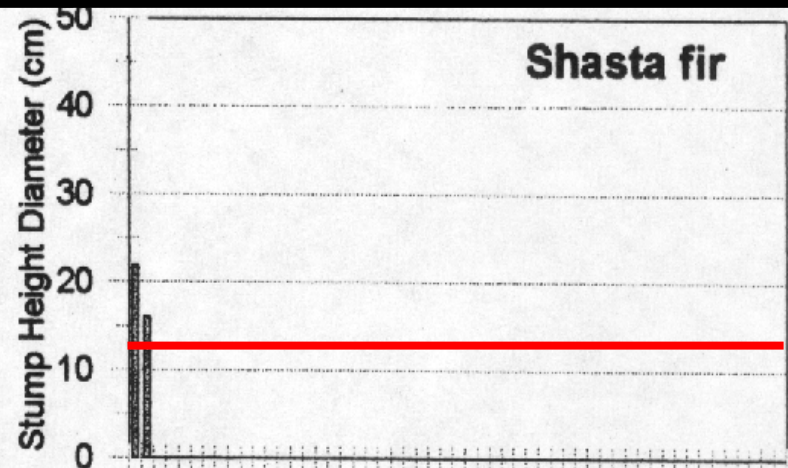
## Size of Trees Surviving Multiple Fires At The Time Of First Fire



## Trees <4in. Diameter That Survived a Fire



Individual point sample trees



Individual point sample trees

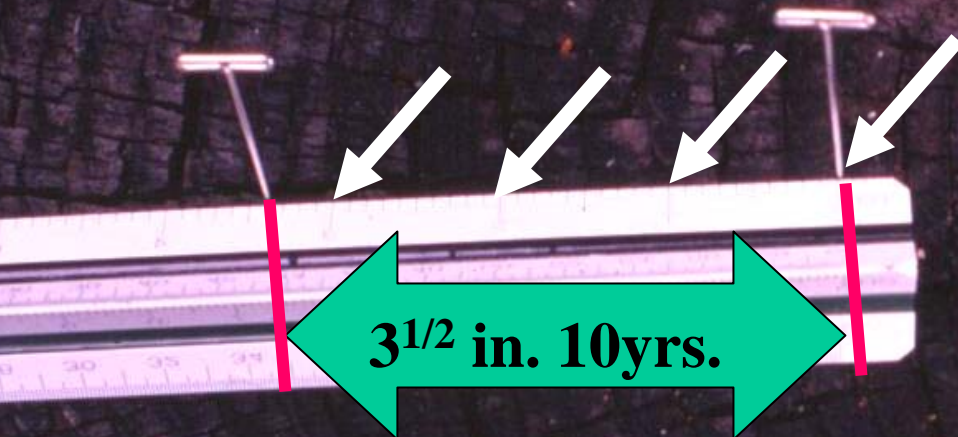








# Old-Growth



**Decade of Growth**







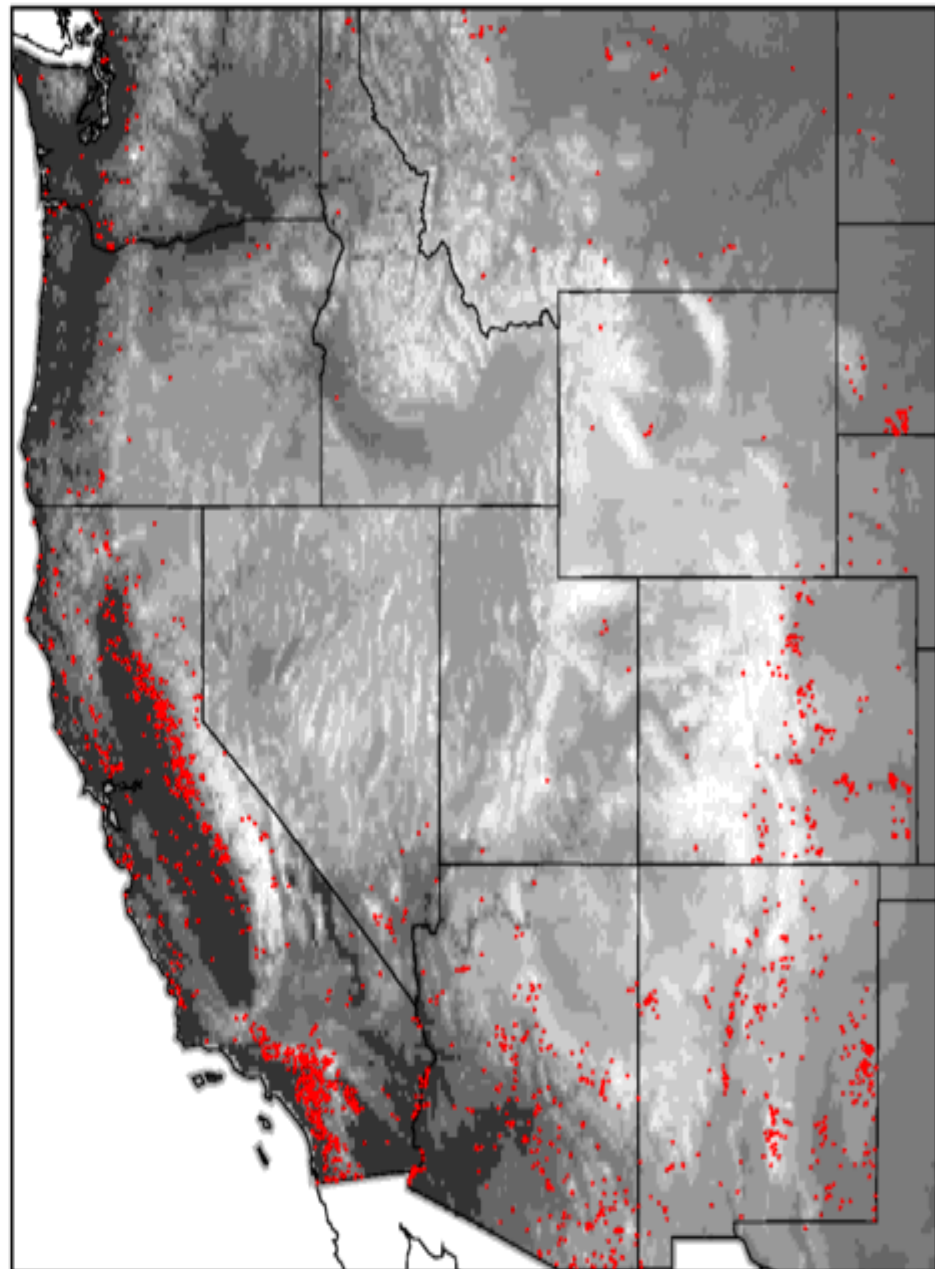
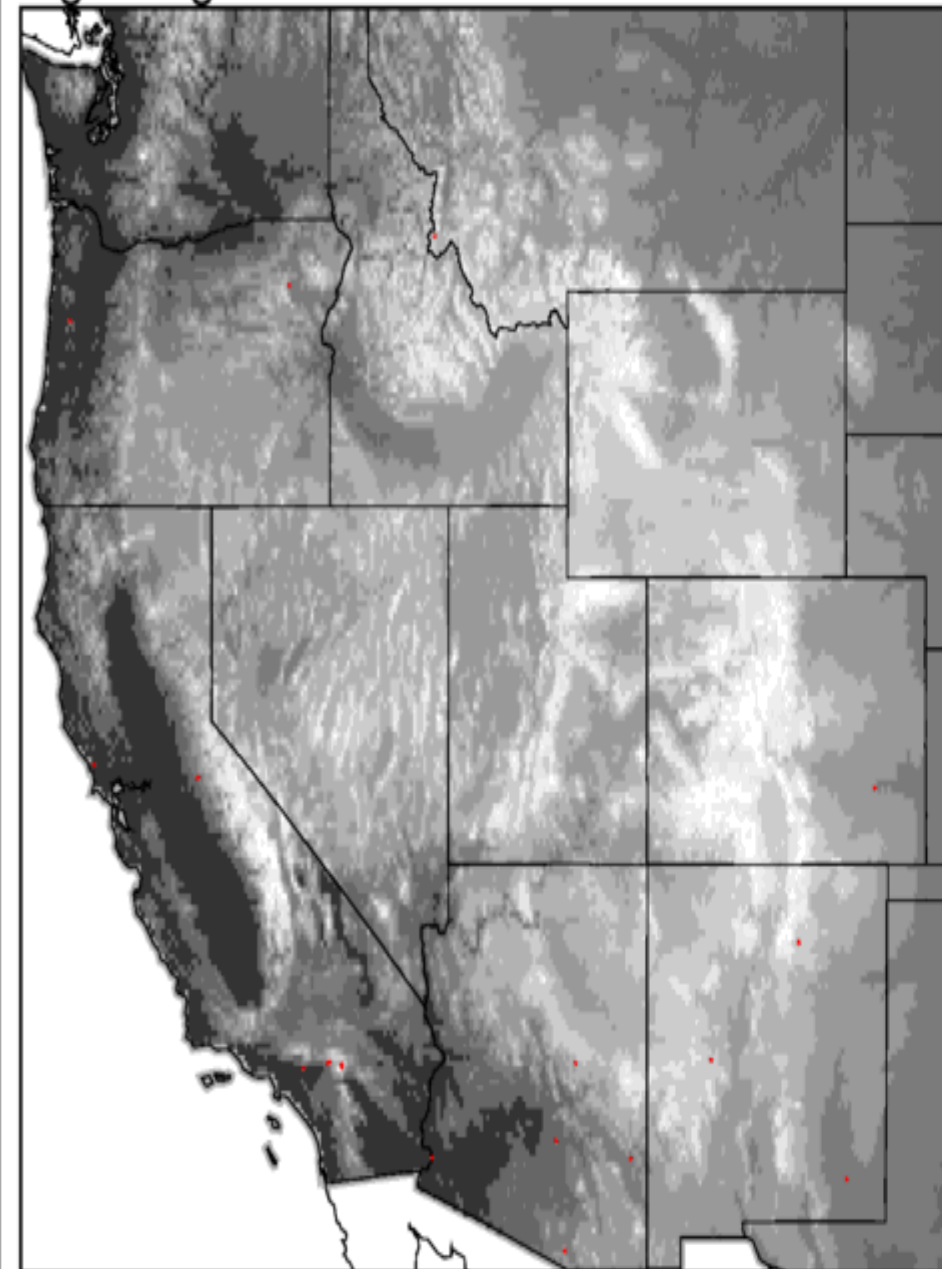
MADE IN  
  
U. S. A.



Lightning-Started Fires

Jan Human-Started Fires

Jan

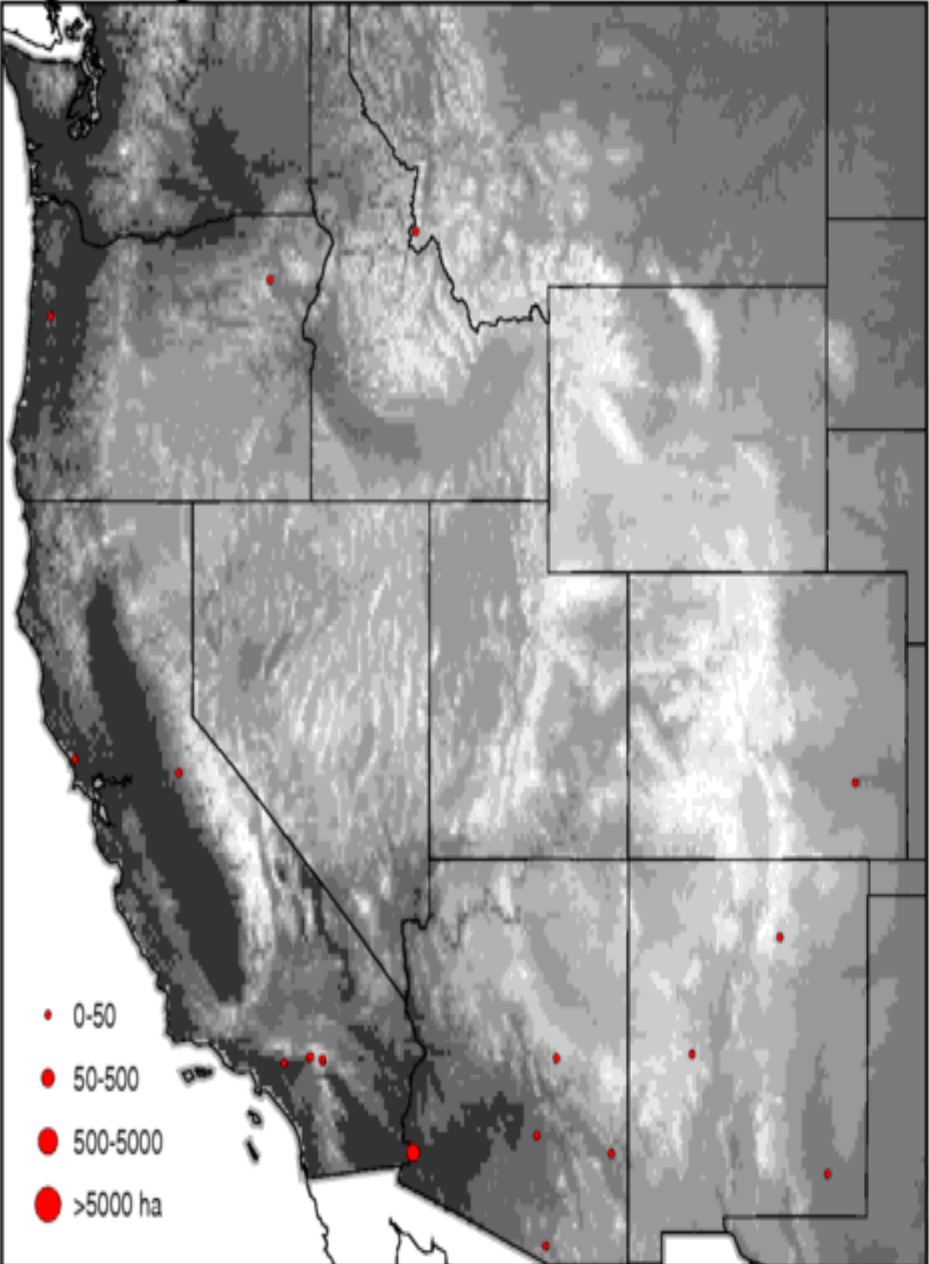


(1986 - 1996)

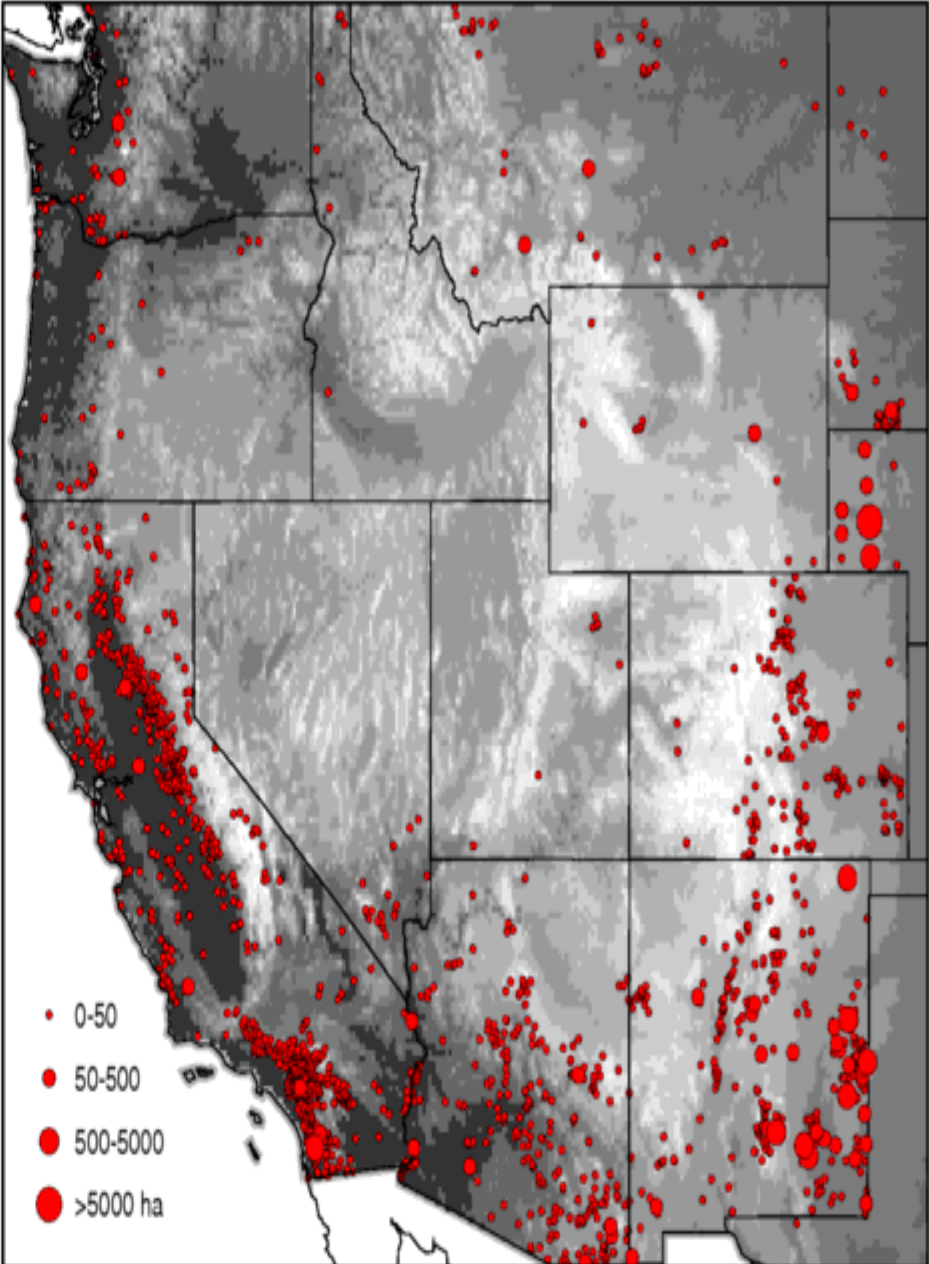
Data: USFS Rocky Mtn. Research Station (<http://www.fs.fed.us/fire/fuelman/>)

Image: Environmental Change Research Group, Department of Geography, University of Oregon (<http://geography.uoregon.edu/envchange/>)

# Lightning-Started Fires



# Jan Human-Started Fires



# Jan

Data: USFS Rocky Mtn. Research Station (<http://www.fs.fed.us/fire/fuelman/>)  
Image: Environmental Change Research Group, Department of Geography, University of Oregon (<http://geography.uoregon.edu/envchange/>)

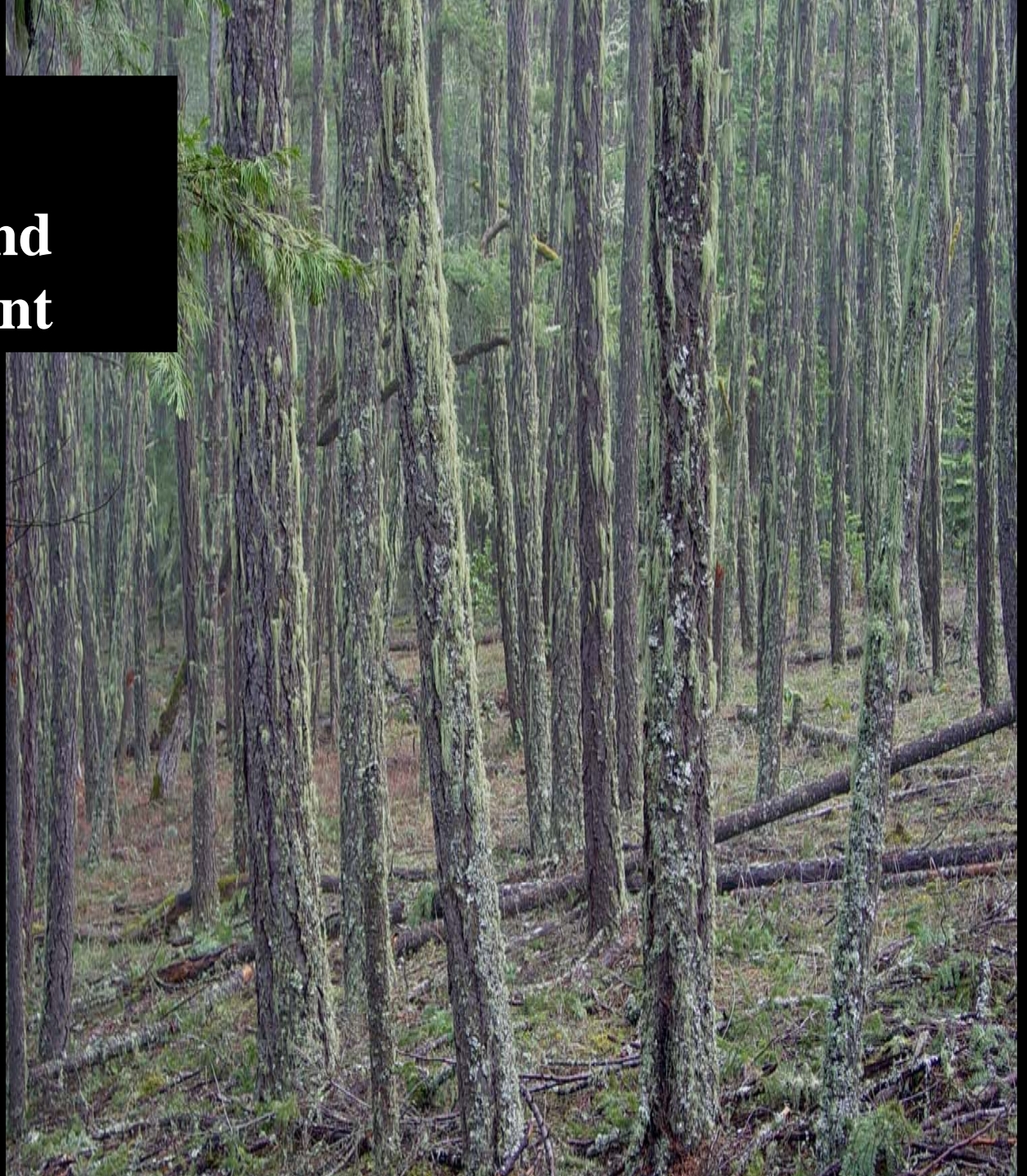
(1986 - 1996)



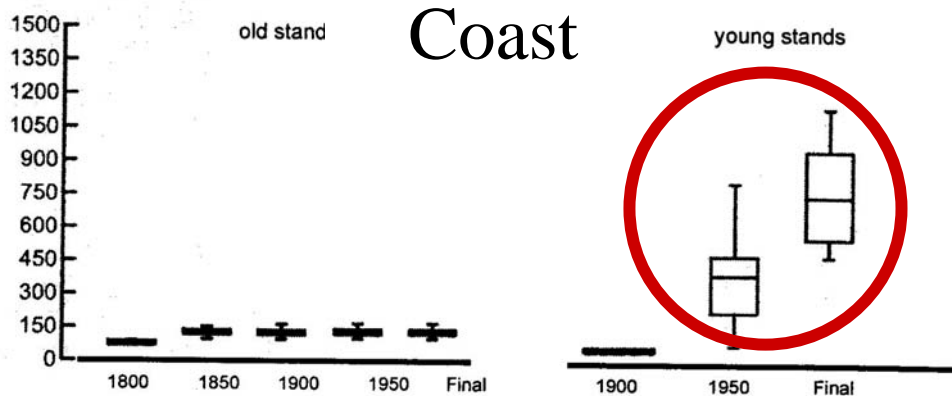
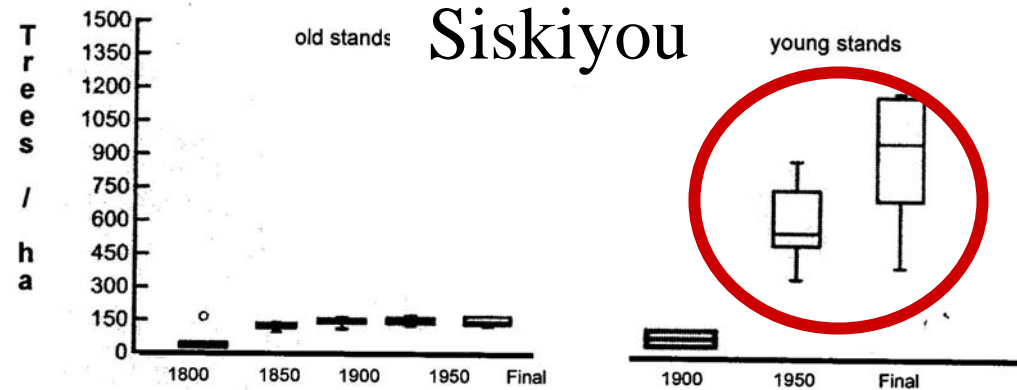
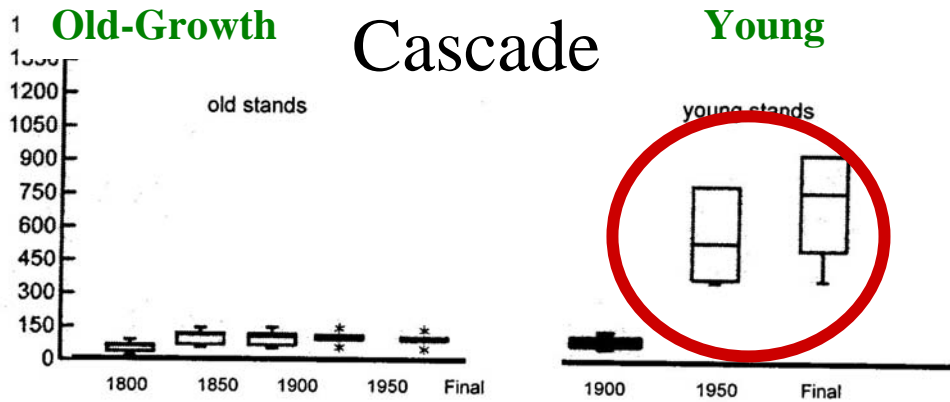


**Issue**

**Young Stand  
Management**







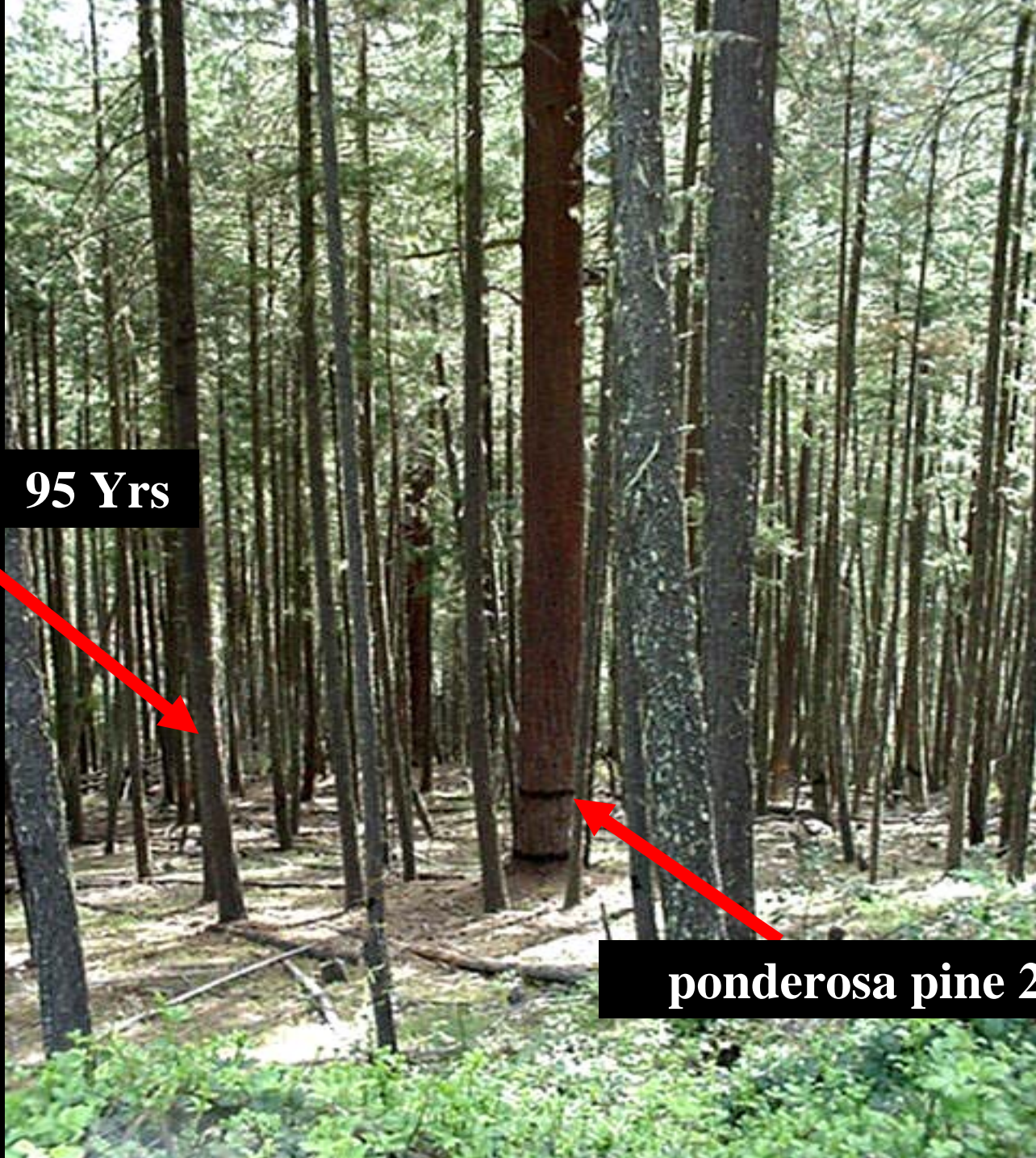
**Trees per Hectare**

**When Did The  
Forests Become  
So Dense ?**

**1900 - 200**







**Douglas-fir 95 Yrs**



**ponderosa pine 240 Yrs**



**Problem**

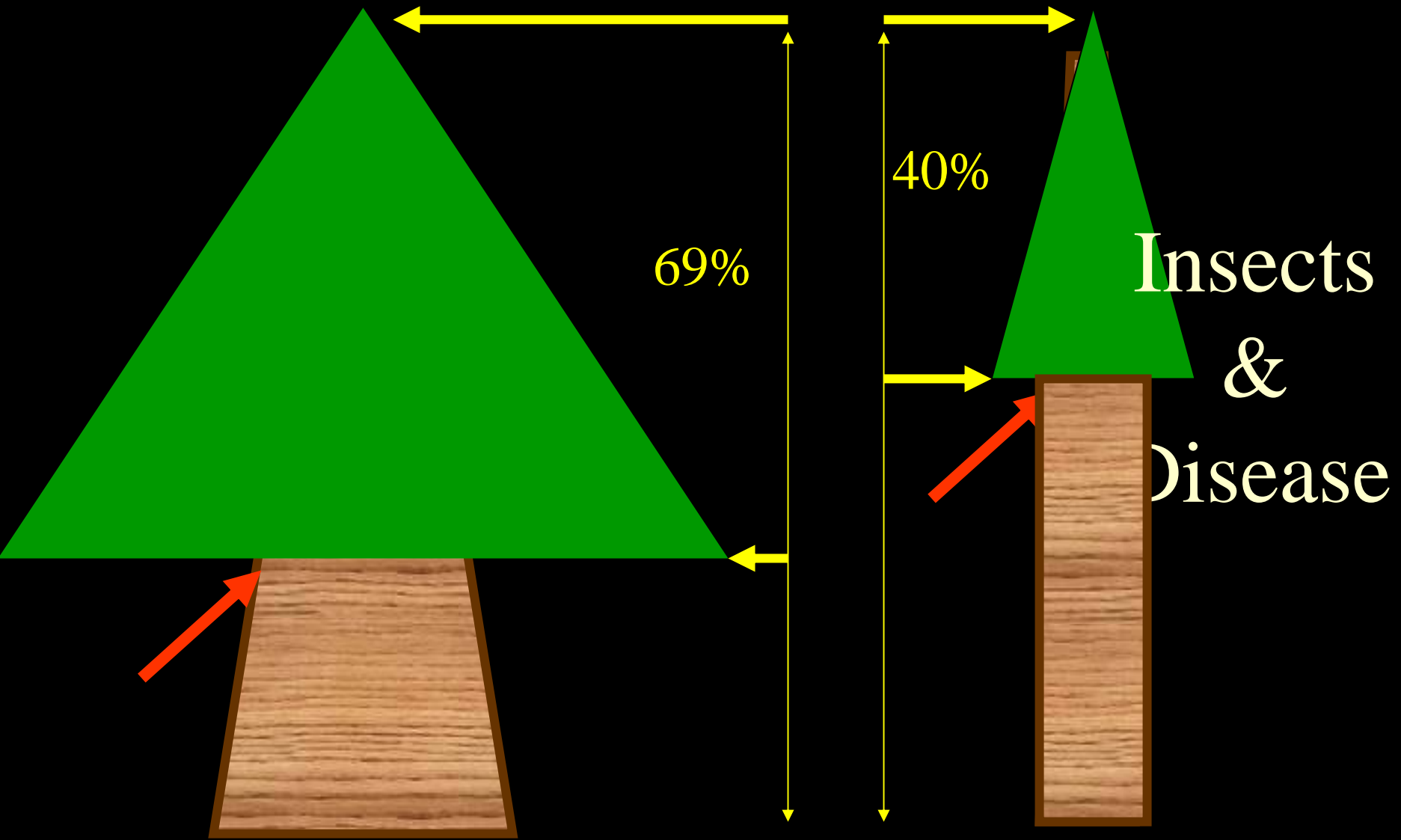
**Or,**

**is there a Problem ?**





# Percentage of Tree in Live Crown



Old-Growth

Young-Growth





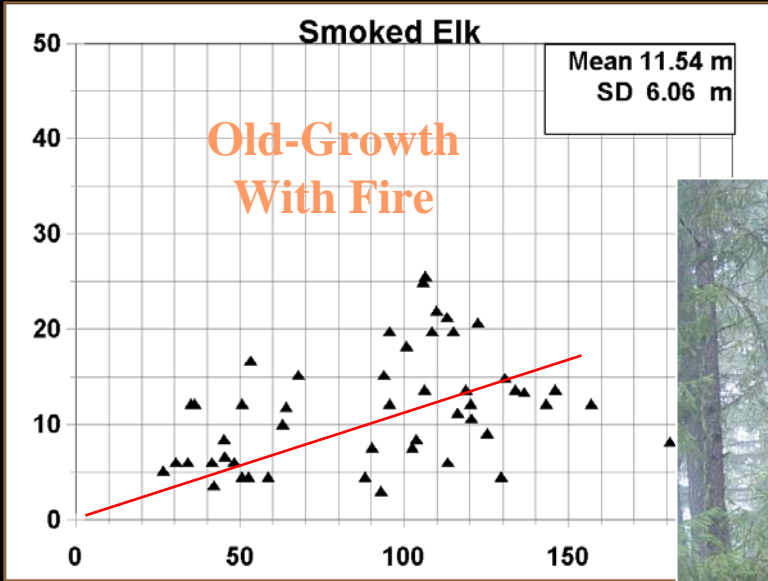




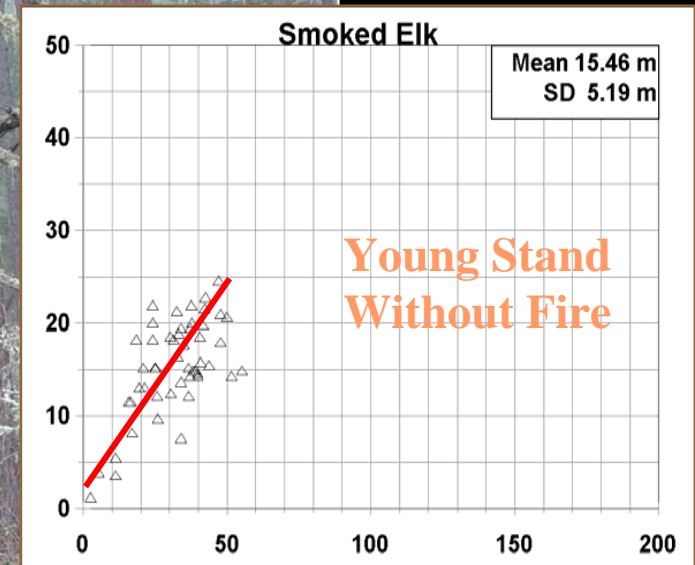
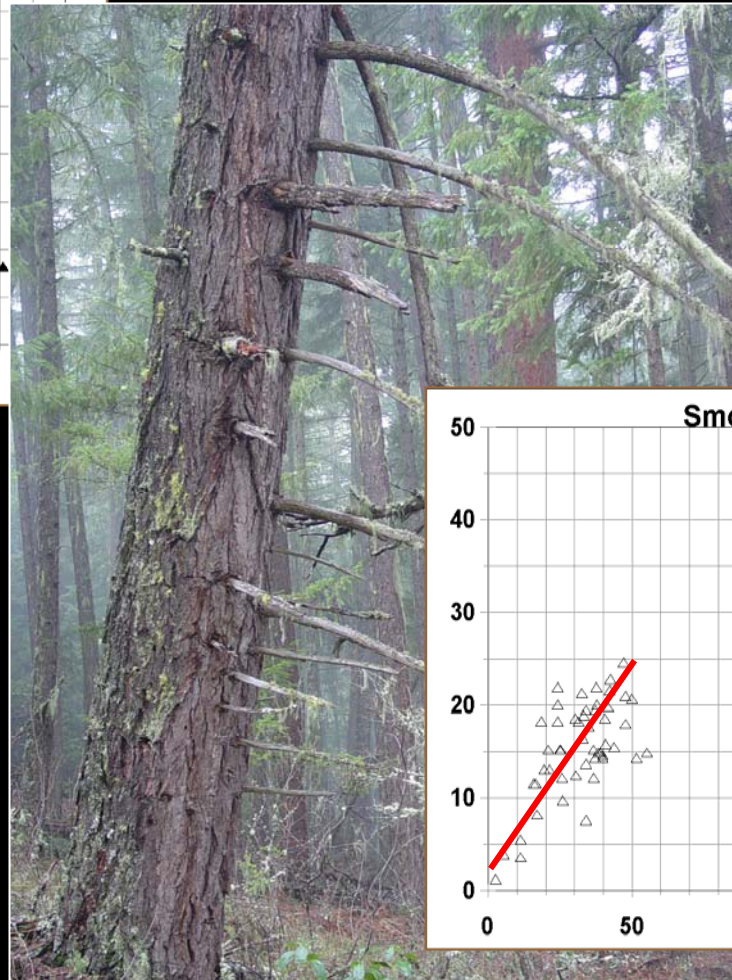


# Height of the Lowest Live Limb

Tree Height

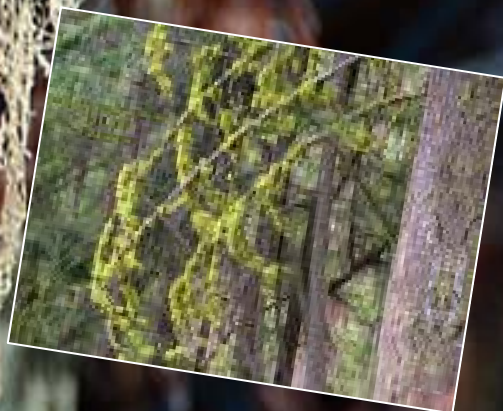


Tree Age



Tree Age





**Issue**  
**shift in plant**  
**community**  
**structure.**













**Issue**

**Spotted Owl Habitat**











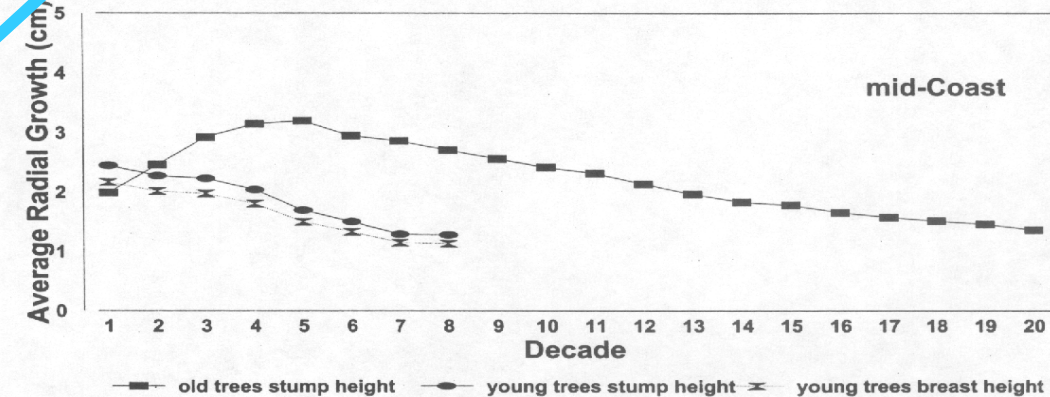
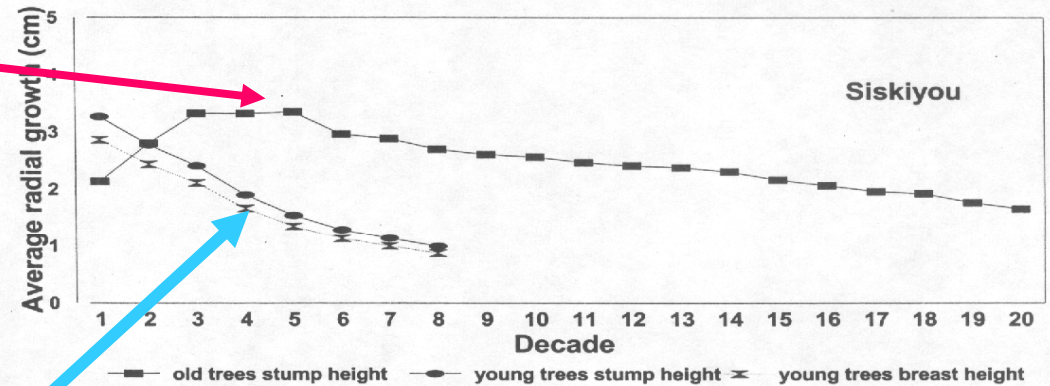
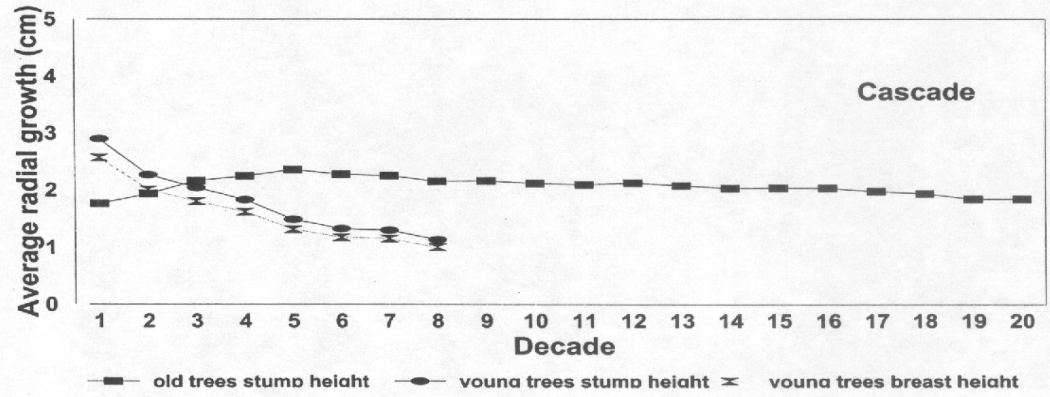






# Historic Radial Growth of Old-Growth Trees

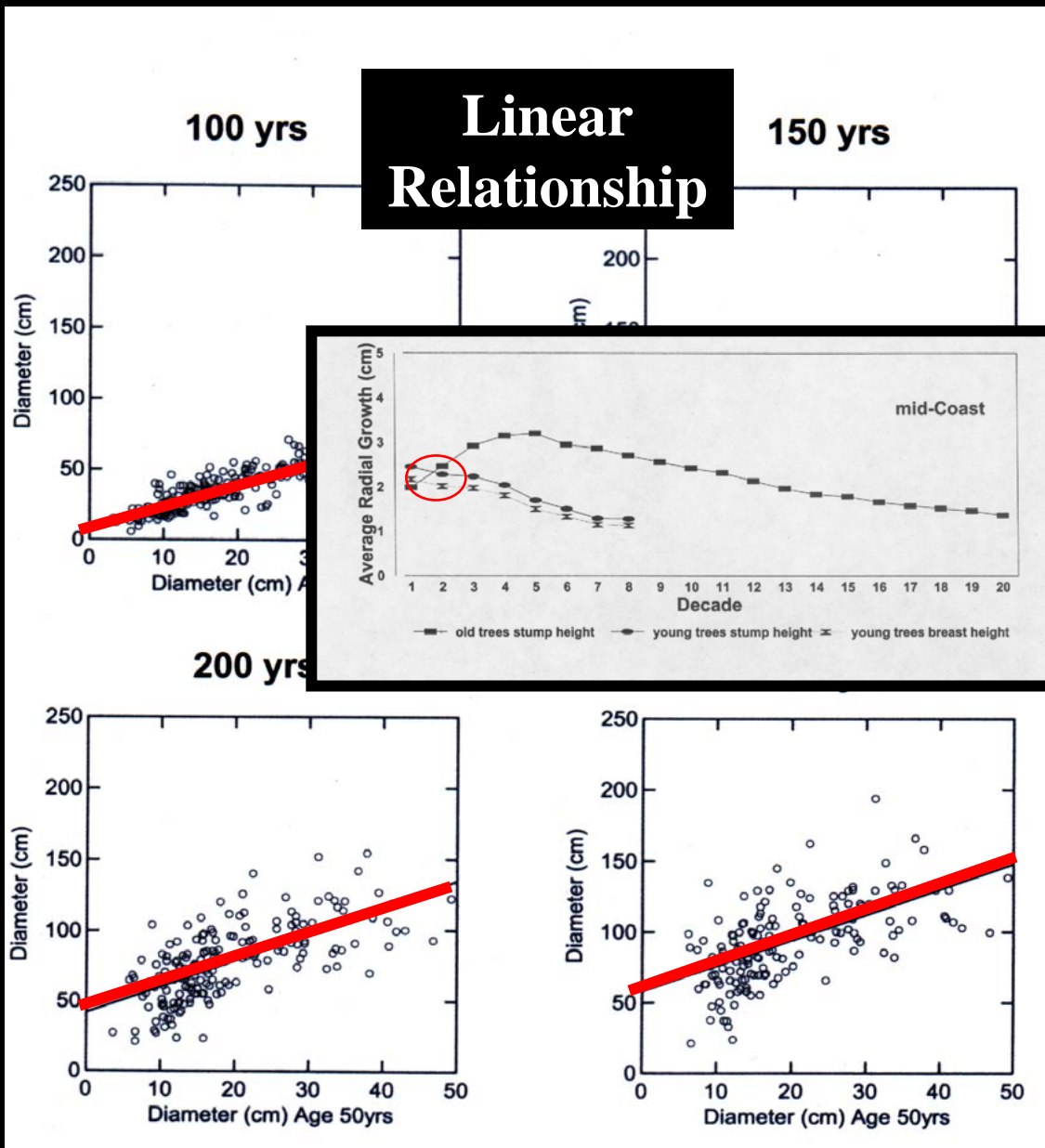
Old-Growth Trees



Young-Growth Trees



# Relationship of Tree Size From Age 50yrs – 250yrs



The likelihood of a tree becoming an old-growth tree is generally determined early in the tree's life.





**Issue**

**Long-term  
Productivity**





**Issue**

**Impacts of Fire  
Suppression**





# Barriers

- **Scale**

- Scale of the ecological situation
- Advancing ecosystem
- Cost
- Commitment

# Federal Acres of Fire Regime Condition Classes in Northwest Forest Plan

Land Use Allocation	Condition Class II	Condition Class III
Matrix and Adaptive Management Areas (AMA)	4,987,928	2,389,823
Late-Successional Reserves	4,460,361	2,279,756
Withdrawn and Wilderness	4,609,743	1,831,299
<b>Total</b>	<b>14,058,032</b>	<b>6,500,878</b>



# Acres of Wildland Urban Interface by Fire Regime Condition Classes

Wildland Urban Interface	Condition Class II	Condition Class III
WUI communities at risk	99,934	78,778
WUI communities at risk buffer	5,561,626	2,444,721
Total	5,661,560	2,523,499

**Additional 8 Million Acres of Private Land**







# Barriers

- Species Specific Management
- Values - **Land Use Objectives**
- Disagreement on Management Objective
- Species Specific Management  
Uncertainty – Risk
- Litigation

# *Argumentum ad Ignorantiam*

"argument from ignorance."

**The fallacy that a proposition is true simply on the basis that it has not been proven false**

**or**

**That a proposition is false simply because it has not been proven true.**



# *Argumentum ad Ignorantiam*

"argument from ignorance."

**If a writer is trying to argue that something must be or might be real simply because there is no evidence to the contrary, then the writer is using *argumentum ad ignorantiam*.**

**This fallacy asserts the truthfulness of a proposition simply on the basis that there is no evidence to the contrary:**

# *Argumentum ad Ignorantiam*

**'argument from ignorance.'**

**ie. There is no scientific proof that a fuel reduction treatments will be 100% effective in reducing fire severity, therefore, fuel reduction treatments do nothing to reduce fire severity and are necessary.**

**No treatment should be undertaken unless you know with absolute certainty that.....**





# Barriers

- Willingness to accept consequences of no action management
- Management by inaction













# Solutions

- Prioritize to Temporal Scale
- Aggressive Young Stand Management (Funding)
- Old-Growth Management Task Force
- Large Scale Prescribed Burning Effort
- Resource Practitioners – Continuity
- Education – Awareness
- Federal Forest Advisory Committee's











# Consequences

- Species Habituate Shifts
- Winners and Losers
- Dry Forest Ecosystems and Spotted Owls  
Mutually Exclusive ?













