



**A Very Brief
Paleo
Vegetation History
~~~  
Northwest California**

**Carl N. Skinner**

**Geographer (Emeritus PSW)**

# Collaborators



**Cathy Whitlock**  
Montana State Univ.  
Bozeman, MT



**Christy Briles**  
University of Colorado  
Denver, CO



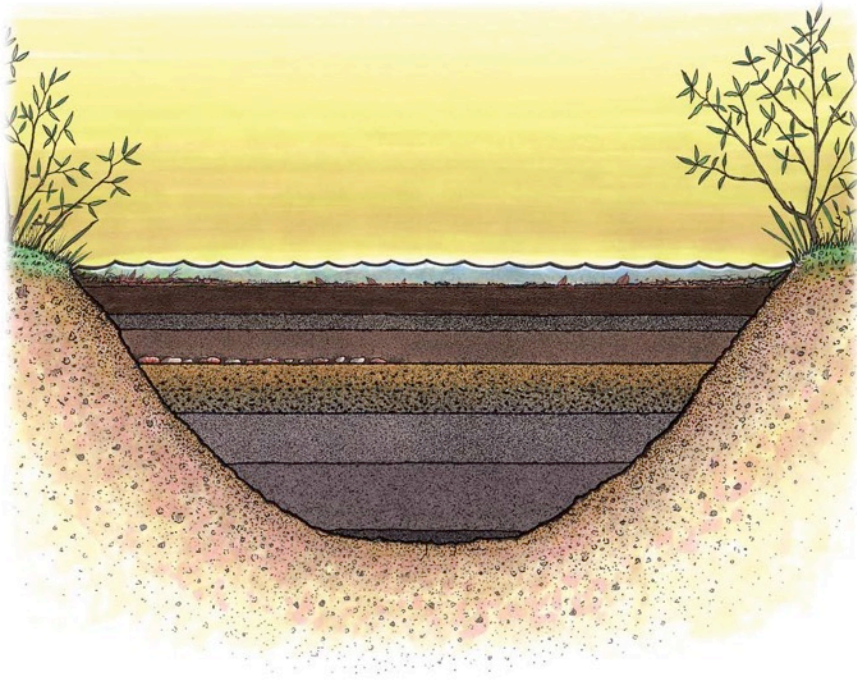
# Piecing Together a Picture of Vegetation History

- **Sediment Cores** > 10,000s yrs  
Pollen, Charcoal, Fossils
- **Tree-rings** ~ 100s to 1,000s  
Ring width, Ring density, Isotopes, Fire scars
- **Written Records** ~ 150 yrs



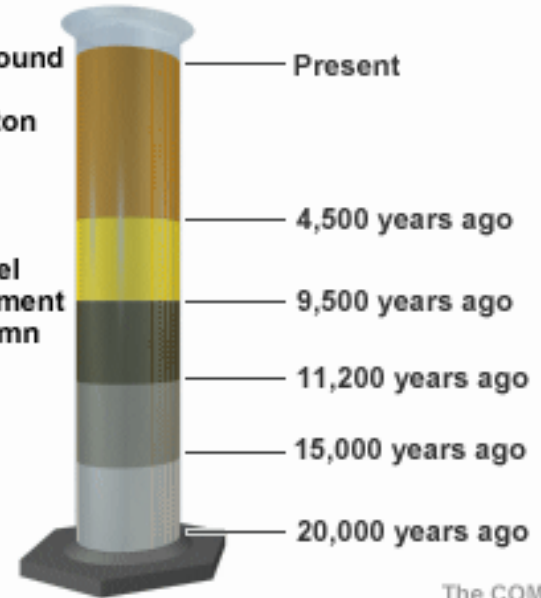


# Stratigraphy



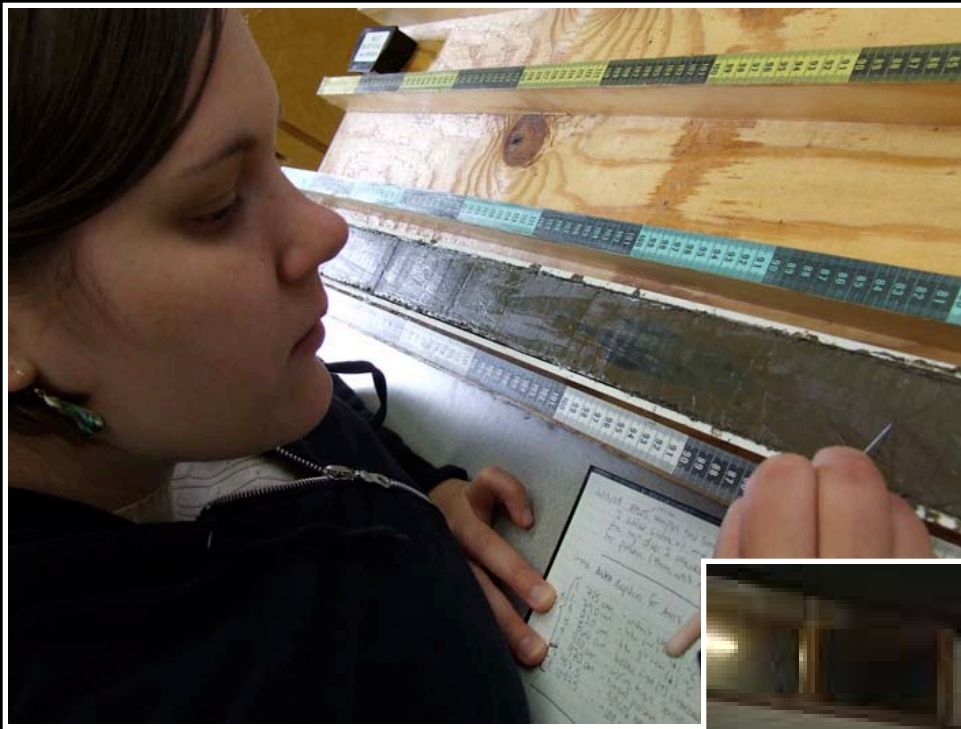
**Battle Ground  
Lake,  
Washington**

**Model  
sediment  
column**



The COMET Program





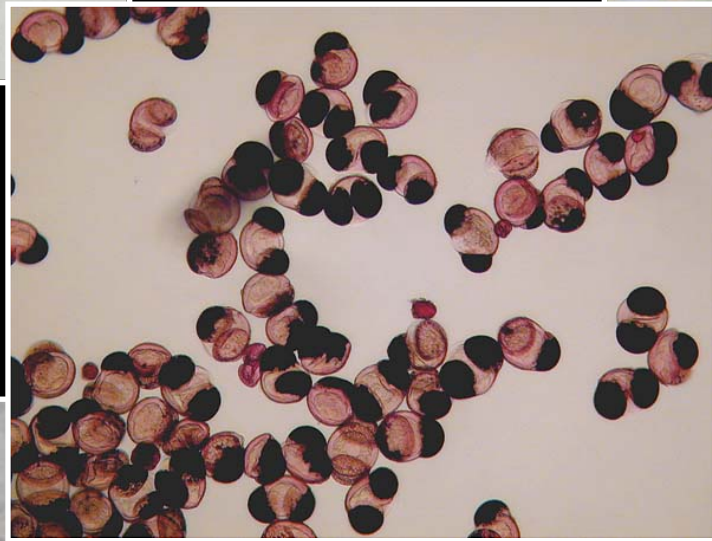


Abies



# Pollen

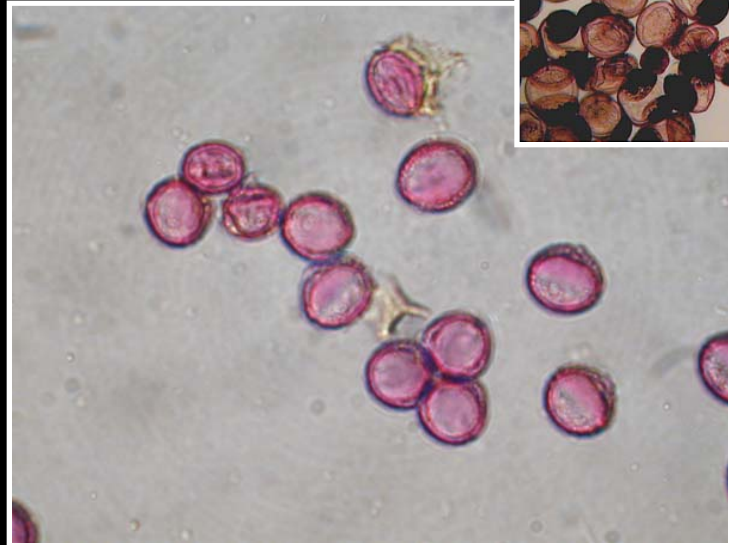
Pinus



Chamaecyperis



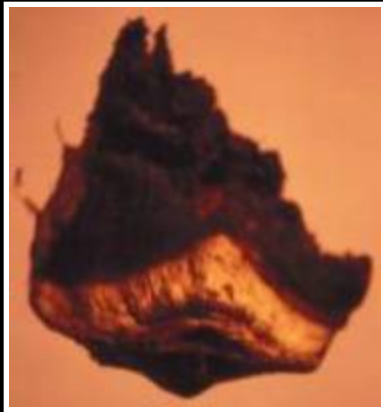
Aesculus



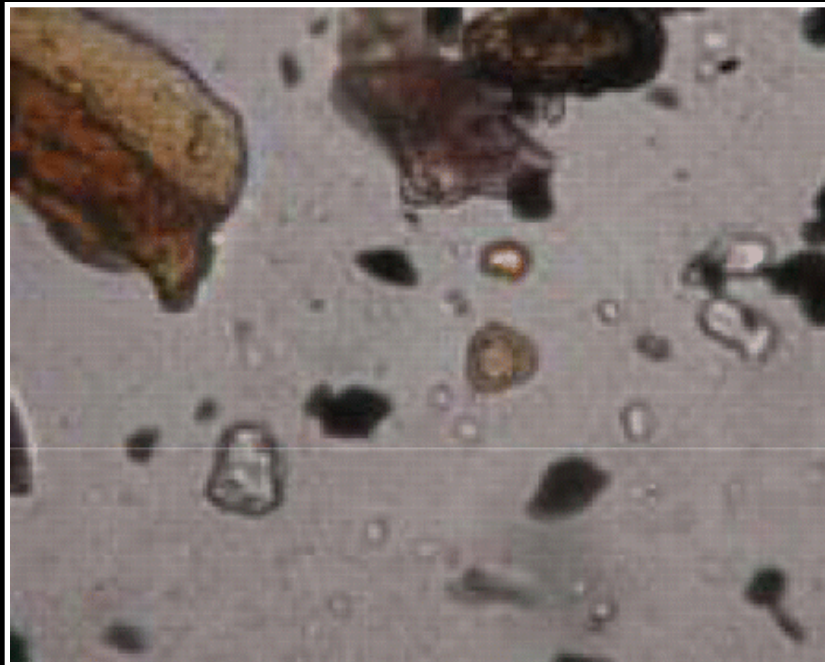
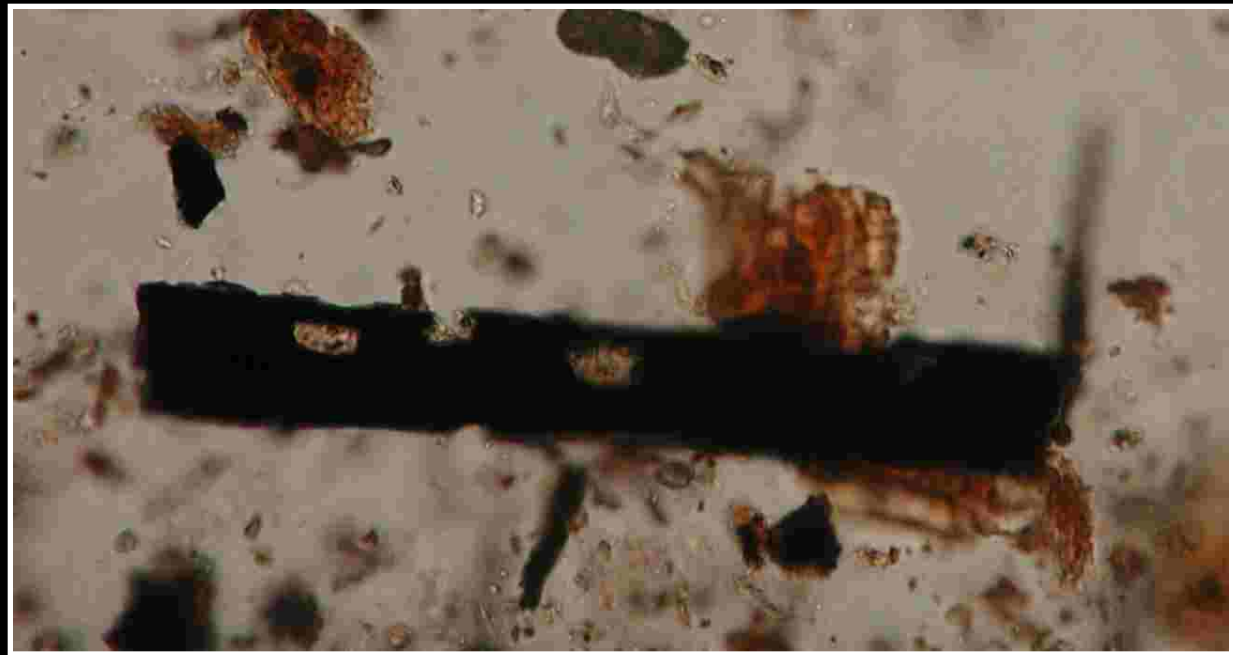
Sequoia

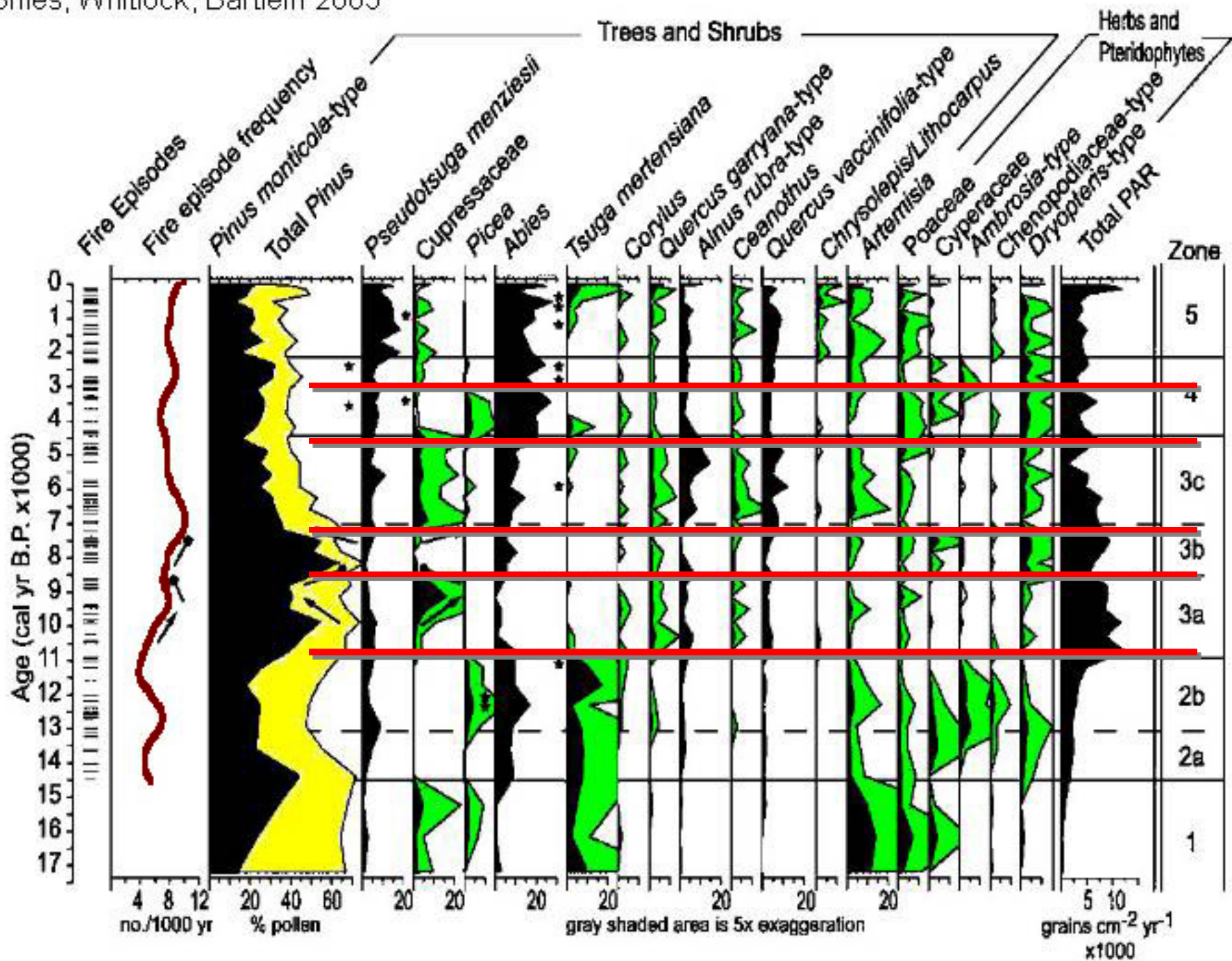




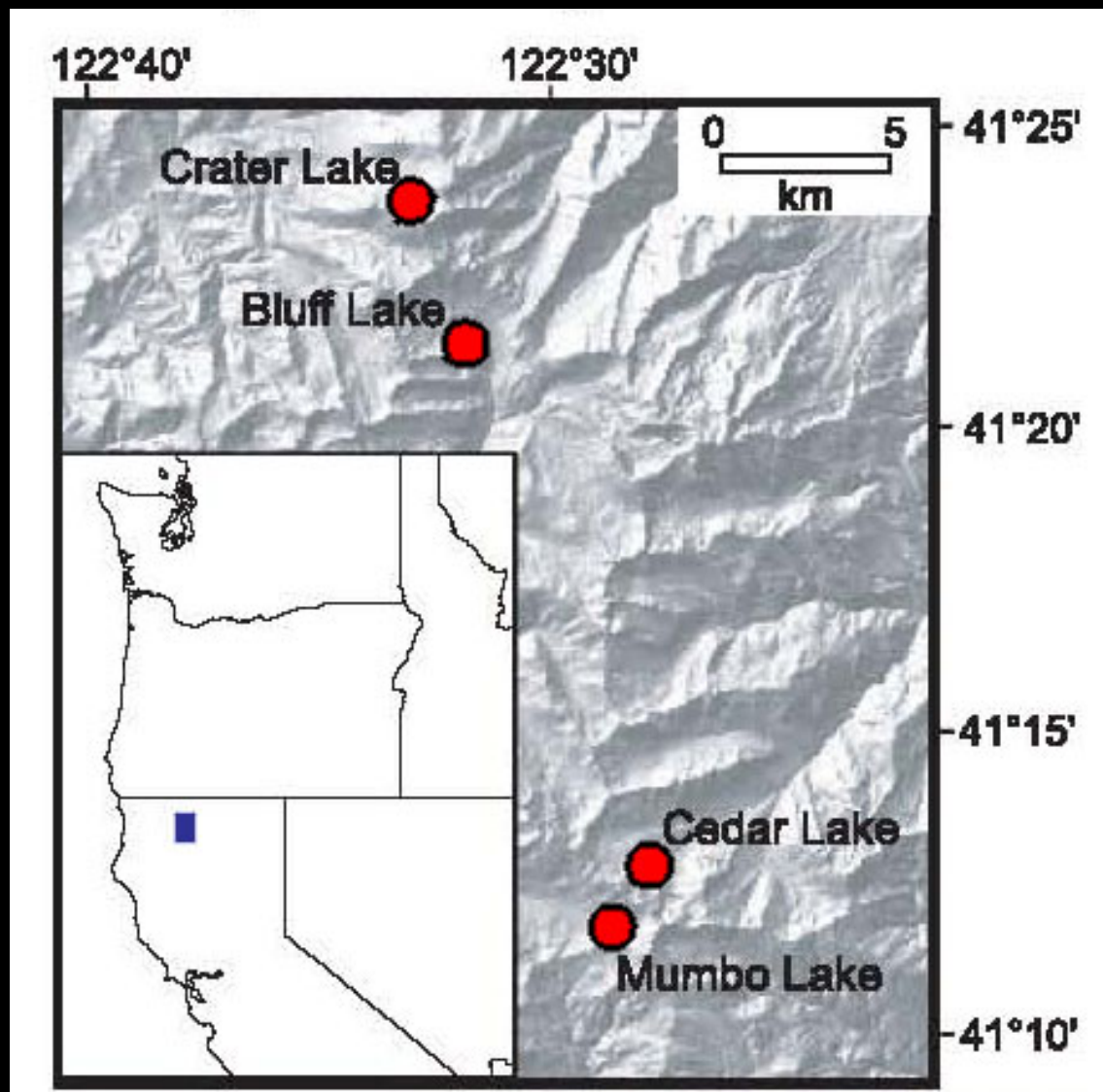


# Charcoal









**Paired Basins**

**Cedar Lake**

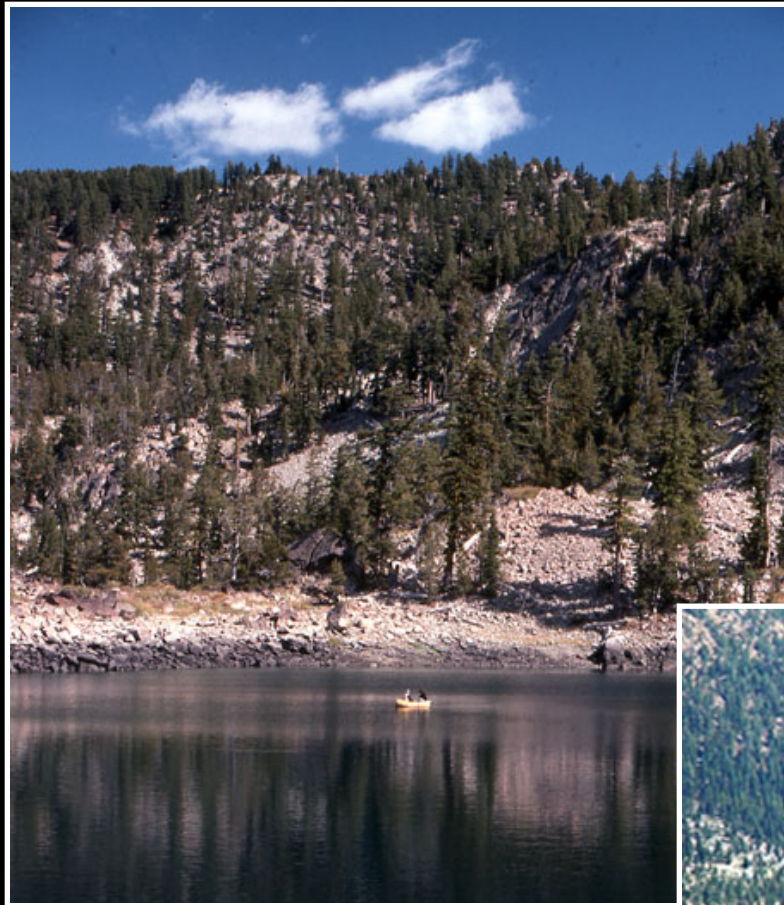


**Mumbo Lake**





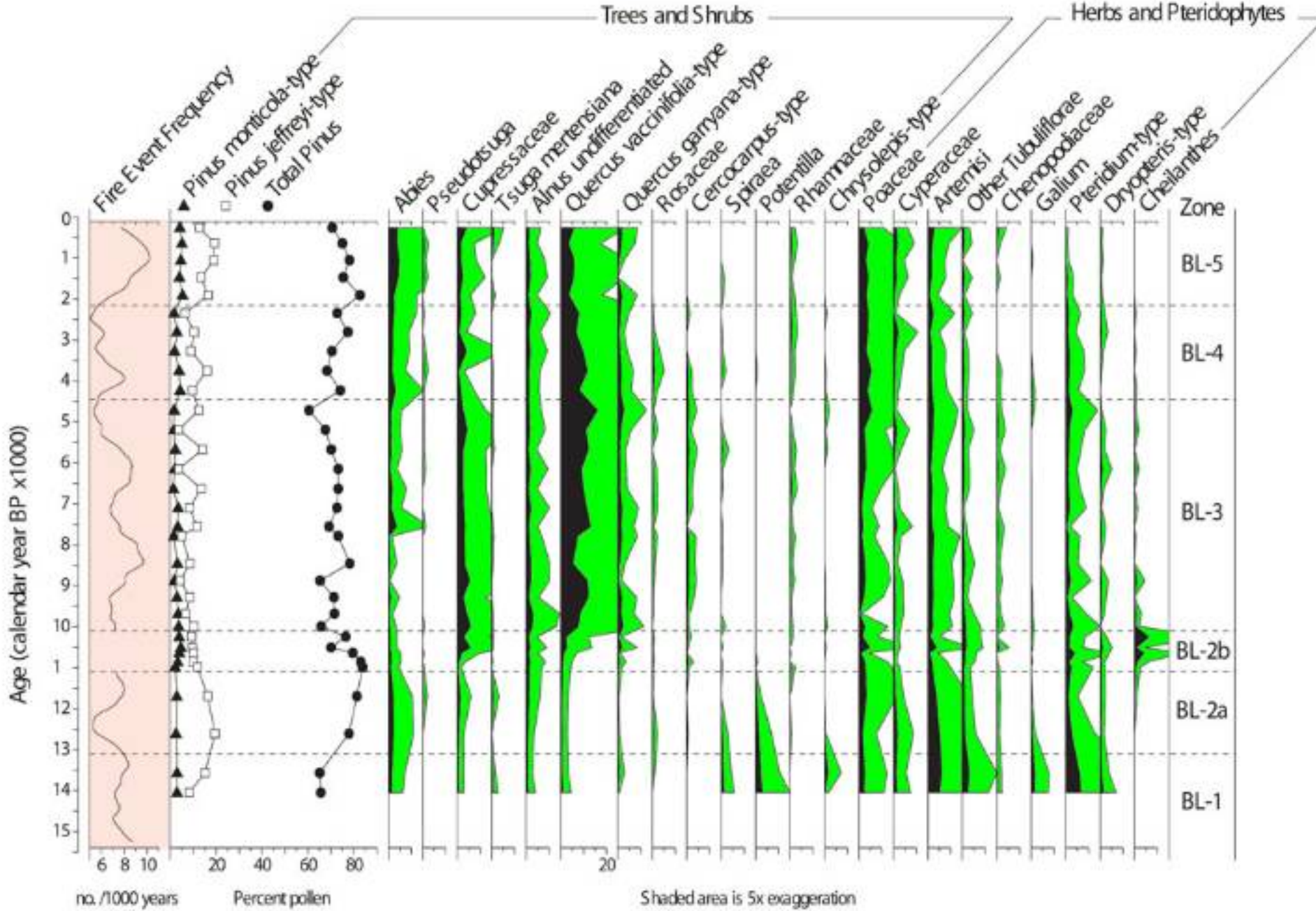
**Crater Lake**



**Bluff Lake**







Mohr, J.A., Whitlock, C., and Skinner, C.N. (2000). Postglacial vegetation and fire history, eastern Klamath Mountains, California, USA. *The Holocene* 10(4): 587-601.

# Holocene Vegetation History



>14,000 ybp

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>14,000 ybp



12,000 ybp



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10,000 - 7,500 ybp

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7,500 - 4,500 ybp



# Holocene Vegetation History



>14,000 ybp



12,000 ybp



10,000 - 7,500 ybp



7,500 - 4,500 ybp



2,150 - 1,000 ybp



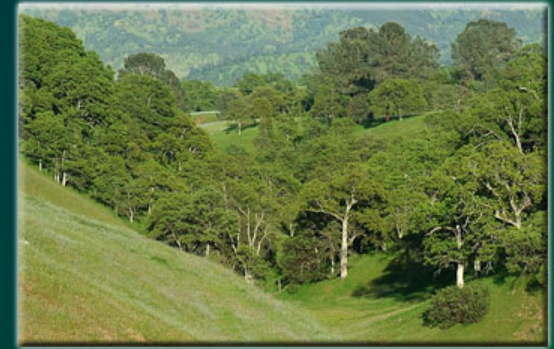
# Holocene Vegetation History



>14,000 ybp



12,000 ybp



10,000 - 7,500 ybp



7,500 - 4,500 ybp




2,150 - 1,000 ybp



1,000 ybp - present

**Bluff Lake - Klamath Mts.**

Mohr et al. 2000 Holocene 10(4):587-601



# **Climate and Vegetation Are Always Changing**

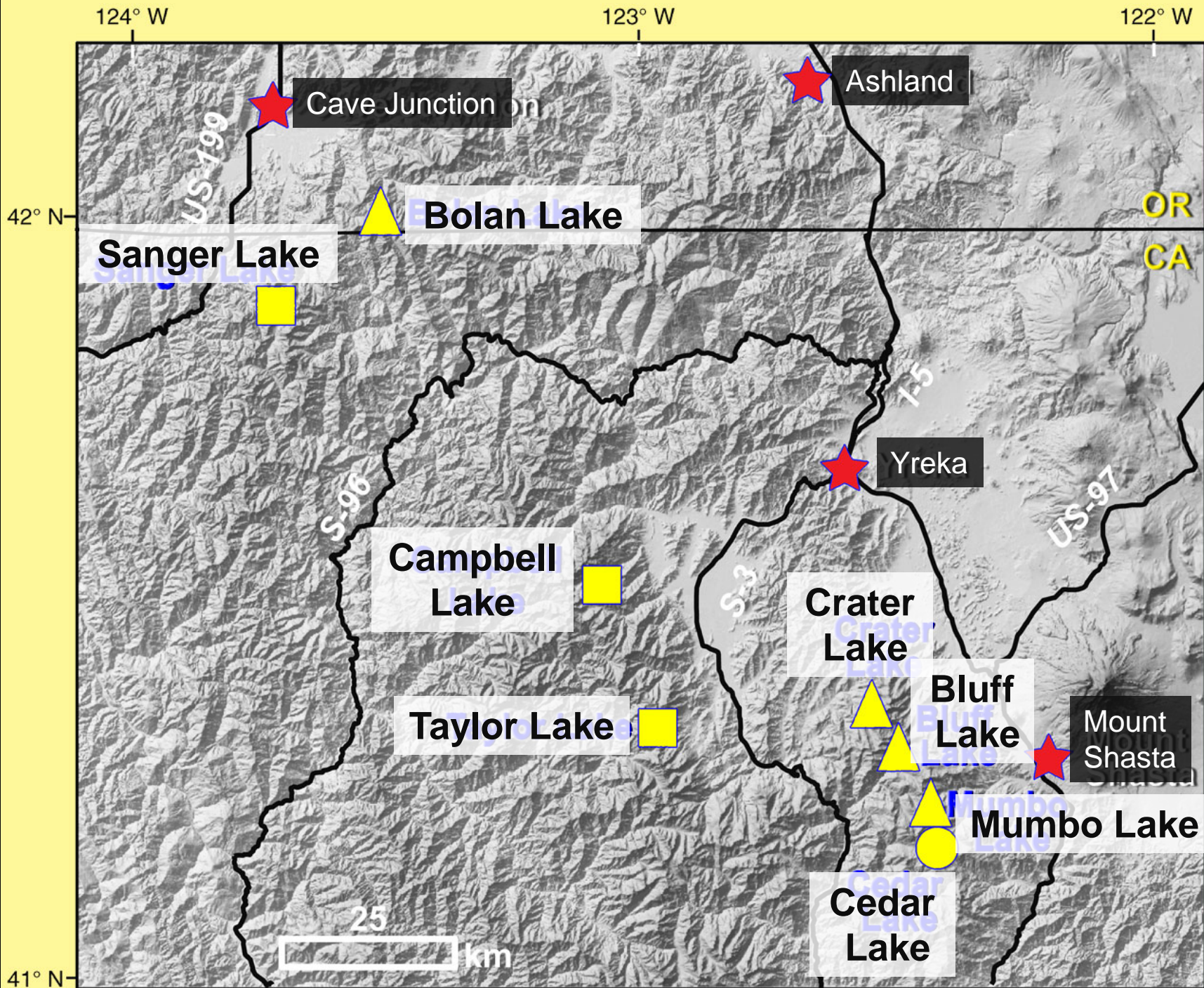
**Just sometimes faster  
than other times**



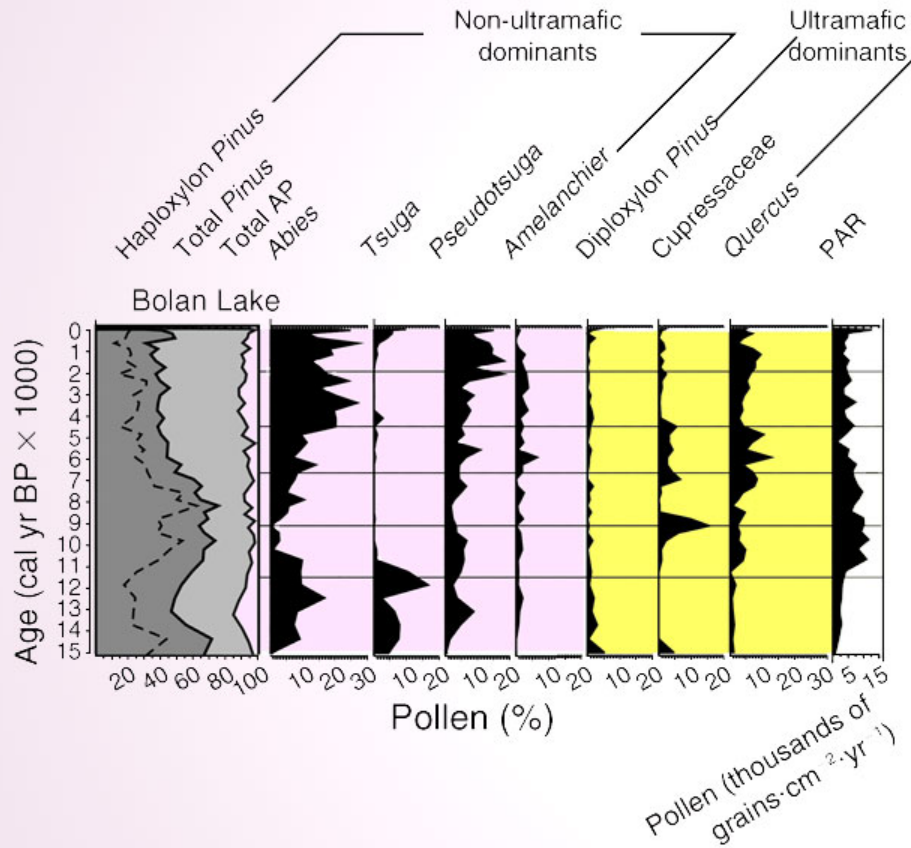
# Basins Did Not Have The Same Long-term Trends

**Some were quite stable  
in terms of species  
composition – others not.**

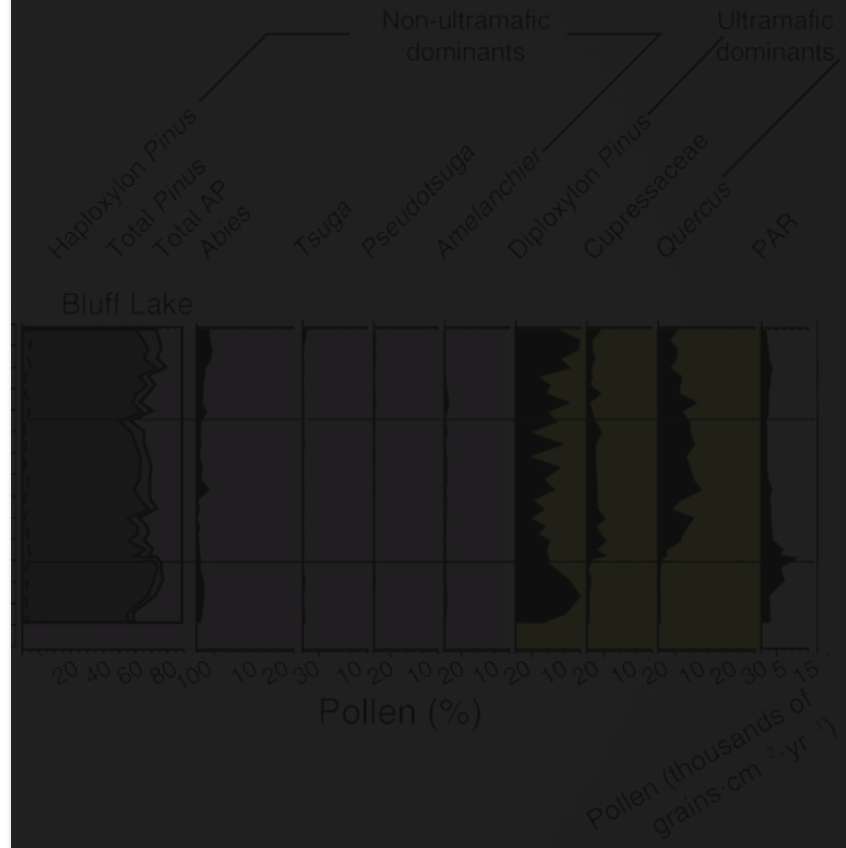




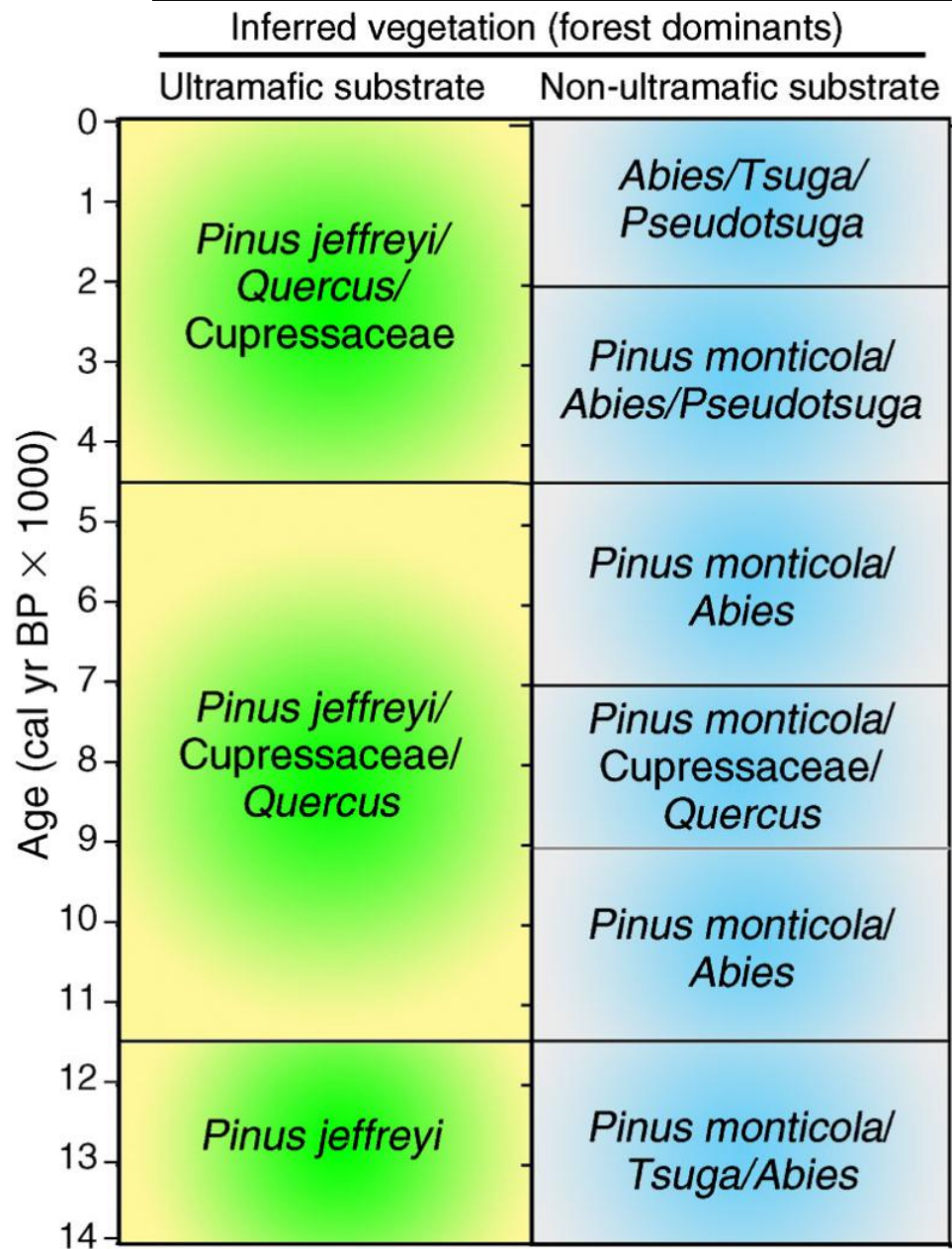
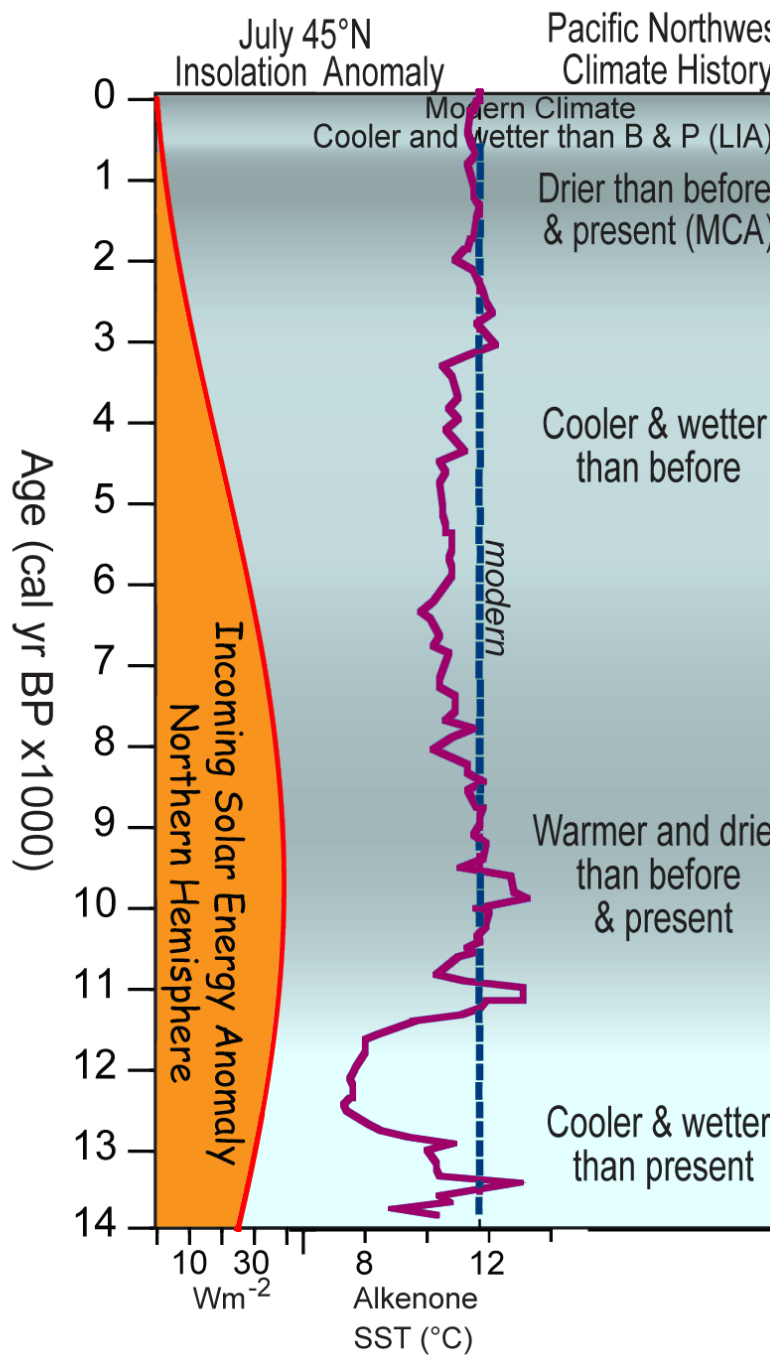
# Non-Ultramafic



# Ultramafic











# Long-term Stability

**Ultramafic sites appear to be more stable.**



# What Next?

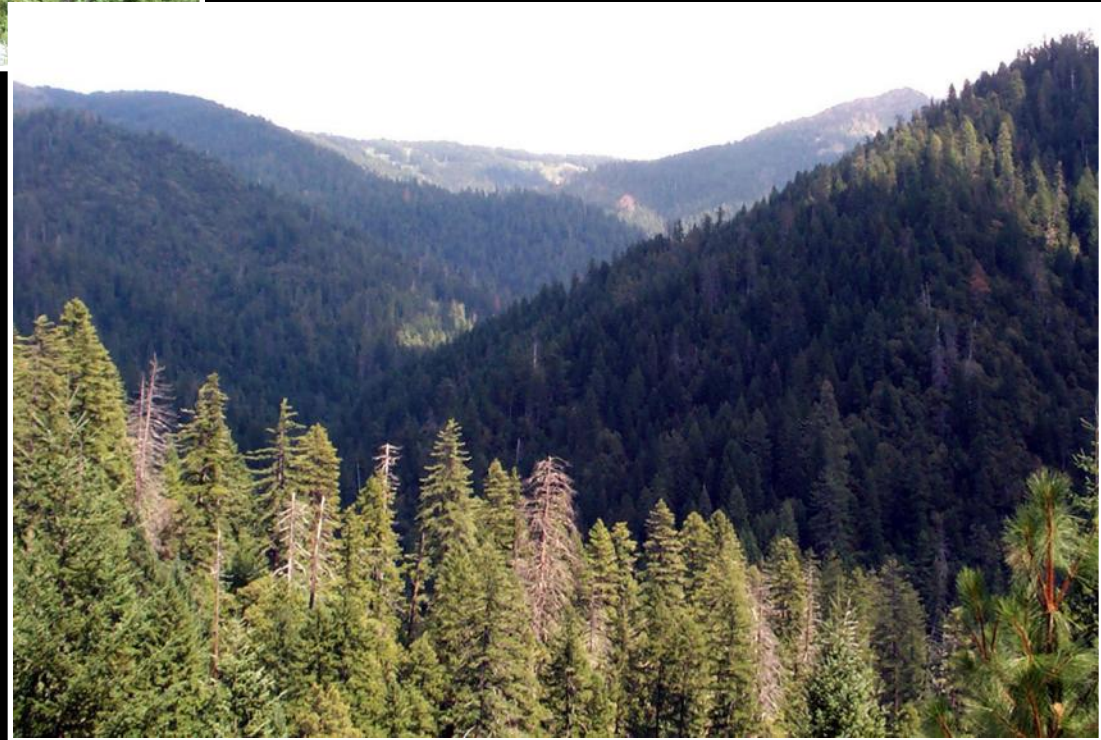
**Extend work into  
North Coast Range, Cascades &  
northern Sierra Nevada**

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Focus On Last 4000 yrs



Mt. Hemlock

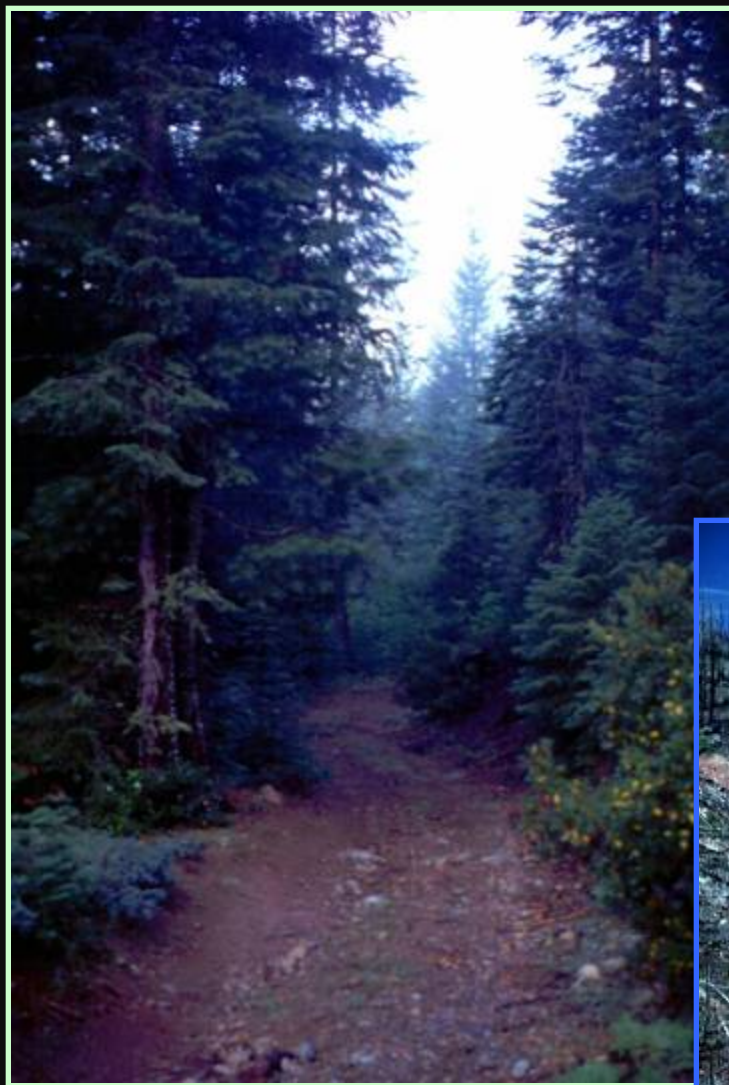


Douglas-fir

Thank You!



Fire - A Catalyst for Change



1982



1992



1994