

Drop stones in marine sediments



Clues to Earlier Climates

A fossilized imprint of a prehistoric fern leaf

PROXY MEASURE
 Proxies are substitutes for what you'd really want. Climate scientists study proxies because there are no thermometer records for prehistoric times. Proxies may even include the pores on fossil leaves: when atmospheric carbon dioxide levels are low, plants need more pores on their leaves to bring in more carbon dioxide. Under the microscope, well-preserved fossils reveal the number of pores, comparing this pore density to that of living plants allows scientists to estimate carbon dioxide levels in the distant past.

When this leaf fossil needed a lower density of pores because CO₂ levels were high.

This modern leaf has a higher density of pores because CO₂ levels are high.

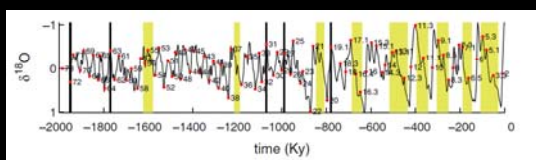


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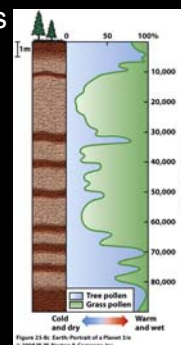


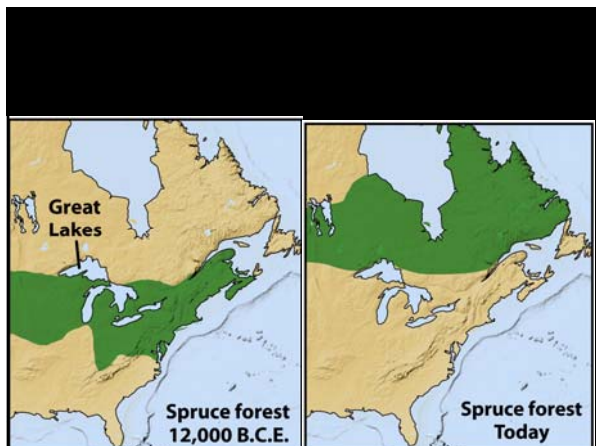
Ice and sediment cores

Pleistocene glaciations



Pollen is very resistant to decay and tends to accumulate in lake and swamp sediments





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When trees flower (and which ones are present)

Ambrosia (ragweed)



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