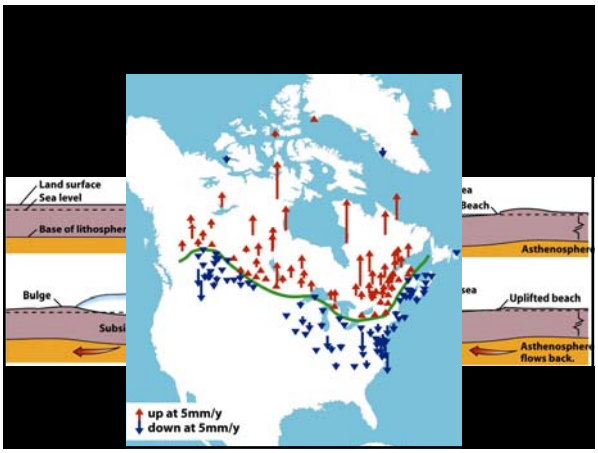
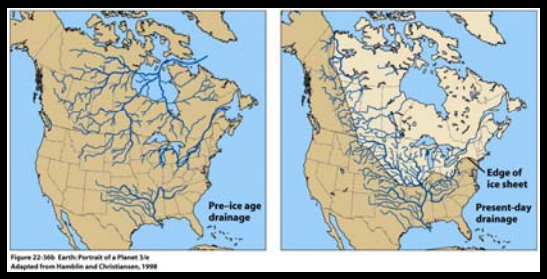
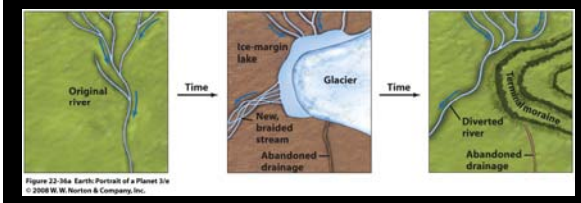
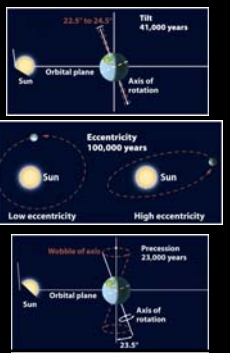
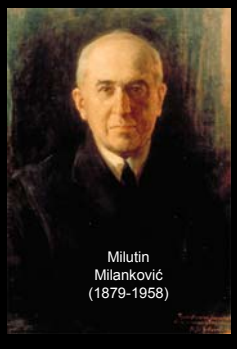




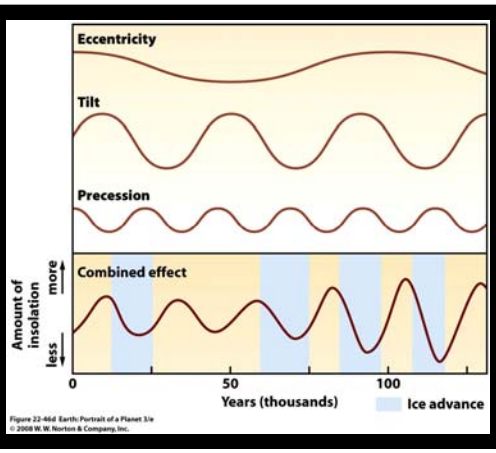


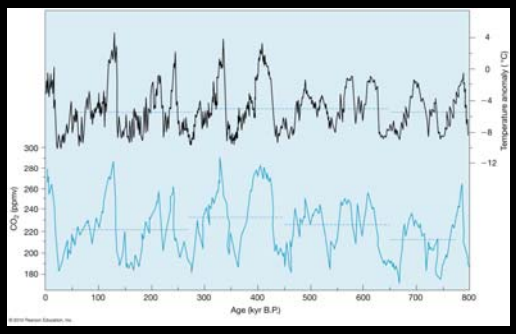
Milankovitch cycles

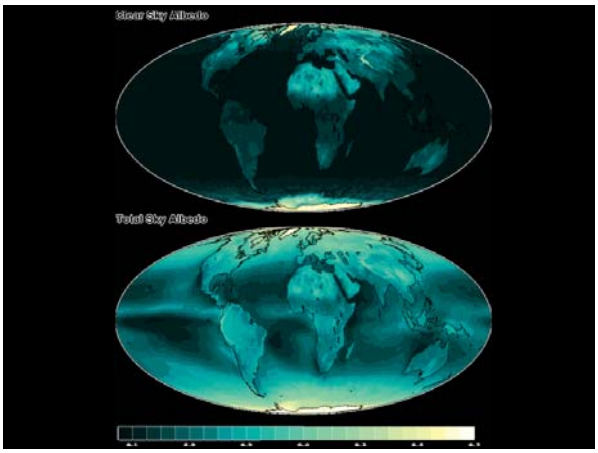




Milutin Milanković (1879-1958)

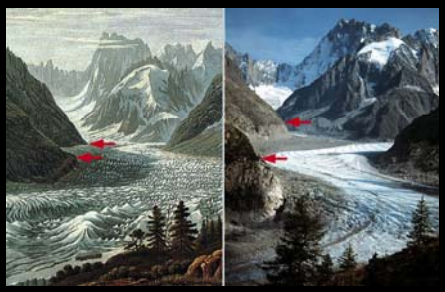






Trim lines

Little ice age (1700-1850 AD)



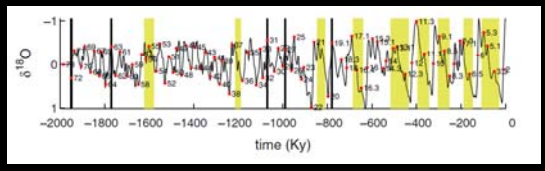
Drop stones in marine sediments

Clues to Earlier Climates

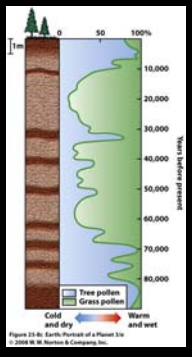
Clues to Earlier Climates

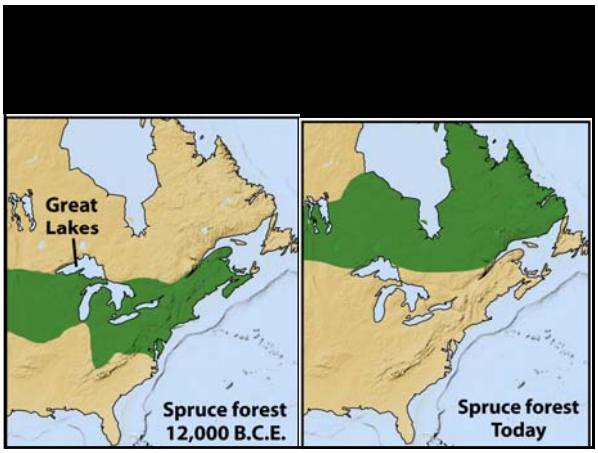
Ice and sediment cores

Pleistocene glaciations



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



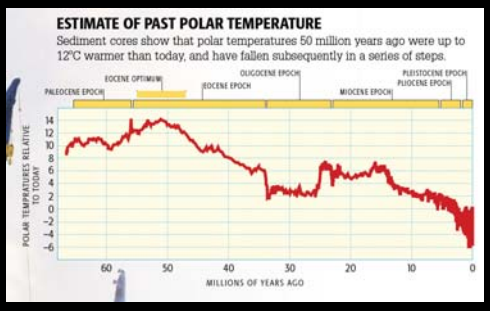


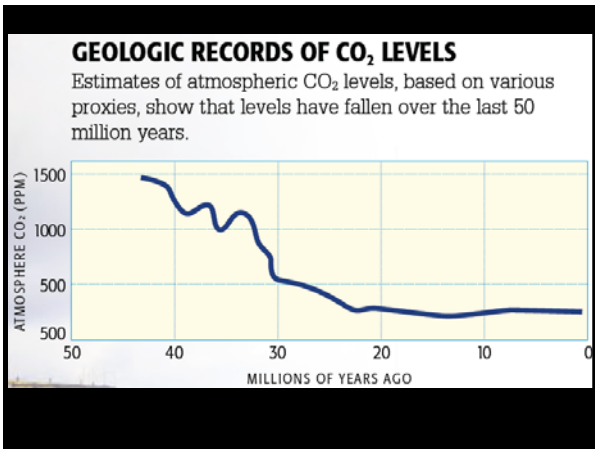
Clues to Earlier Climates

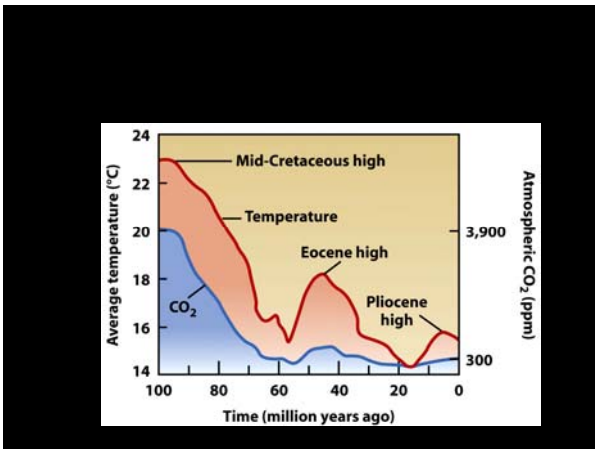
When trees flower (and which ones are present)

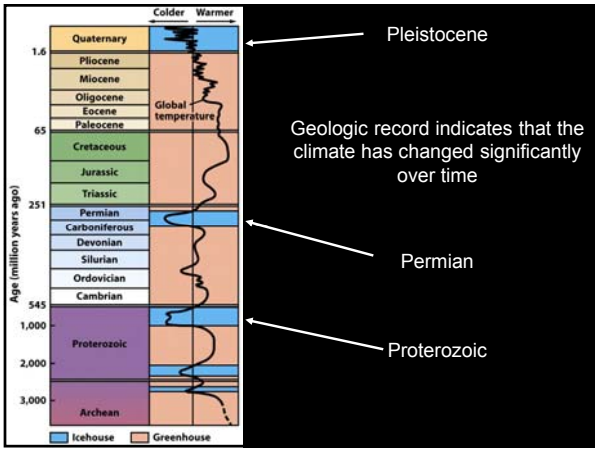
Ambrosia (ragweed)

Clues to Earlier Climates









Pleistocene

Geologic record indicates that the climate has changed significantly over time

Permian

Proterozoic