

Climate, Glaciers, Sea Level & Paleocultures

Focus Question:

How did climate, glaciers, and sea level change impact paleocultures in “coastal New England?”

- Glacier Primer
- Climate, Glaciers and Sea Level Change
- Regional/Local Impacts

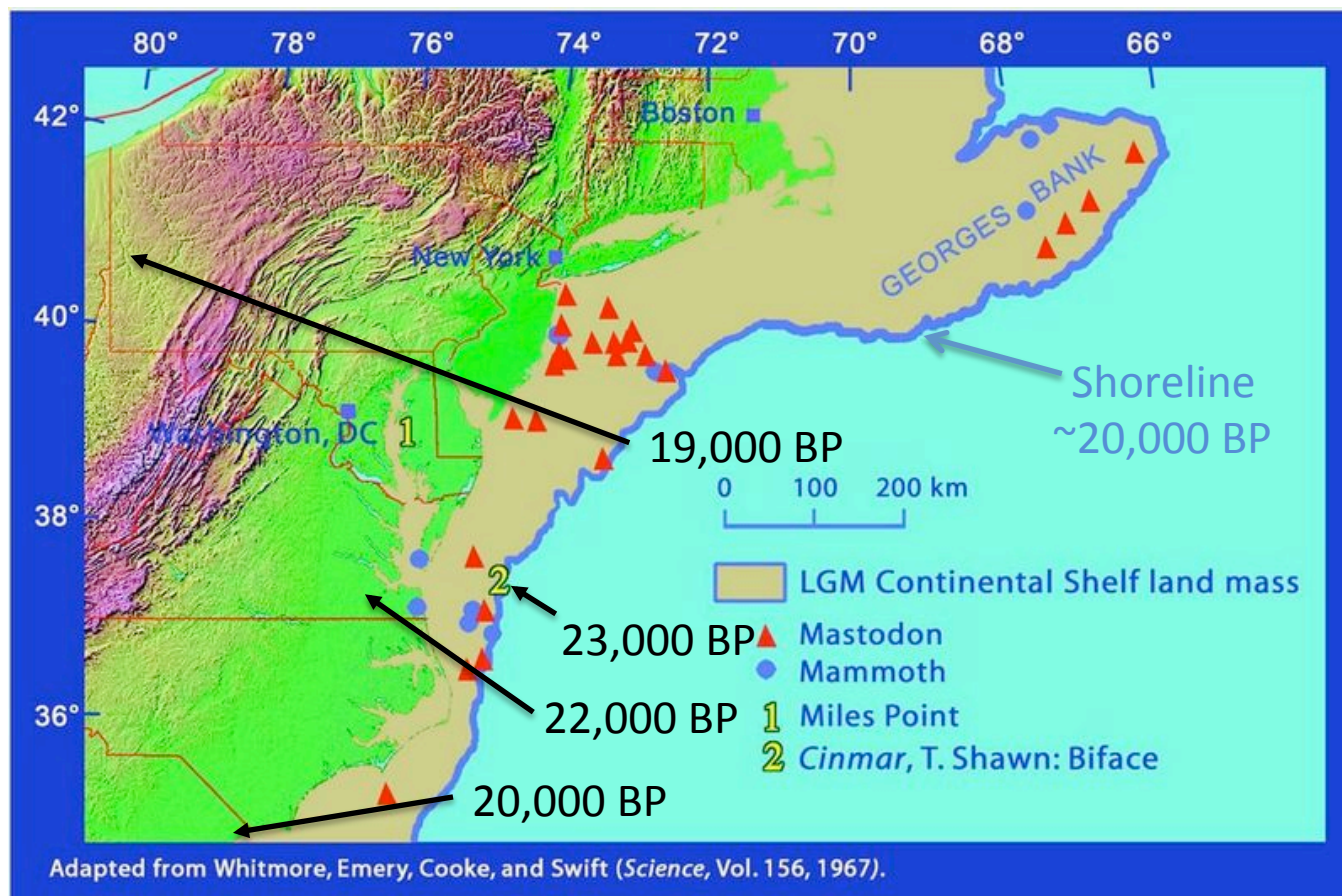
Paleoculture Refresher

Who

What is missing on this map?

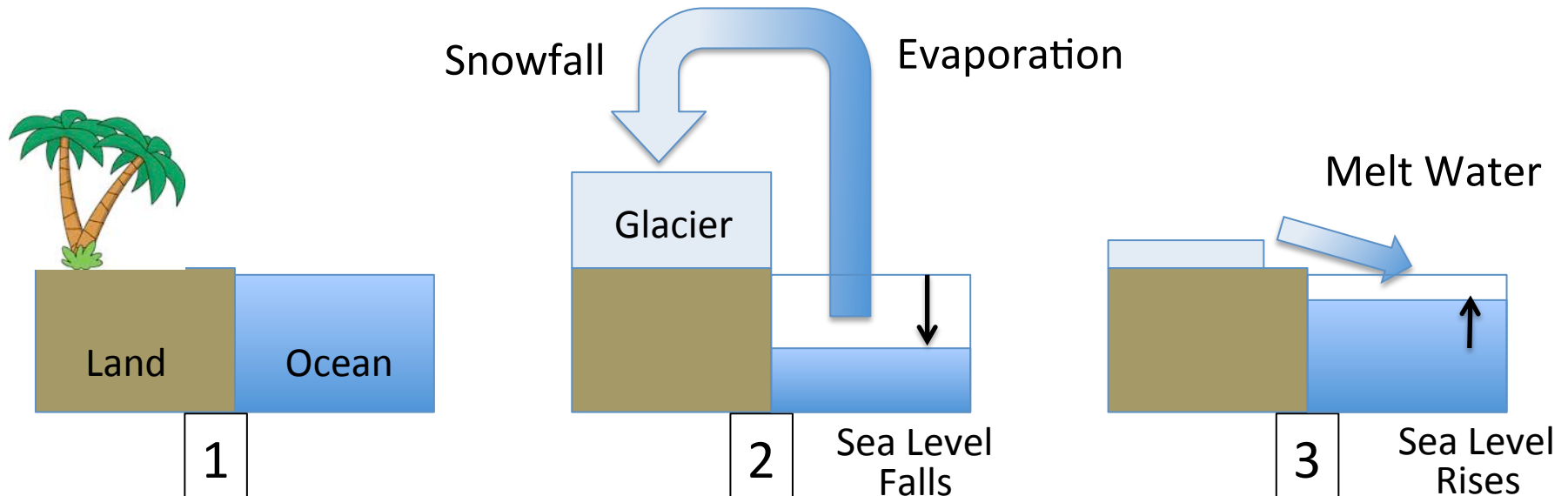
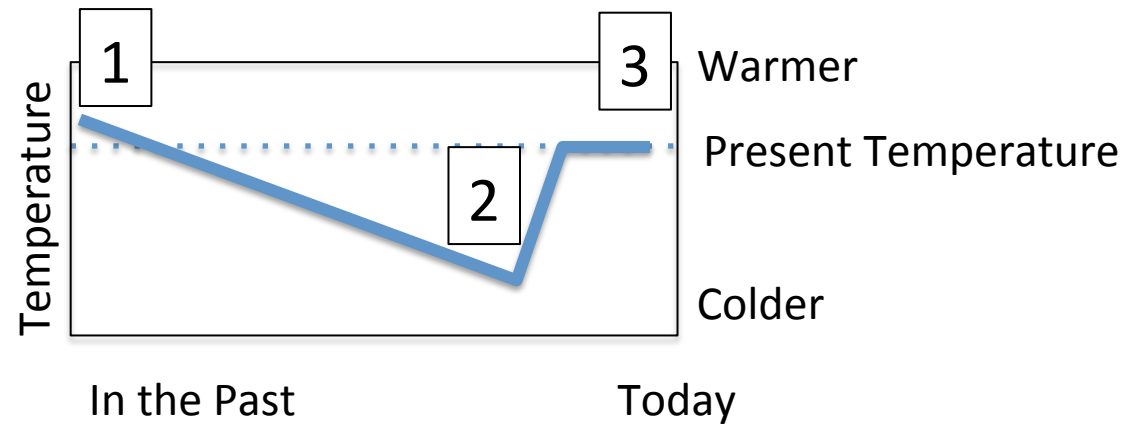
When

Where



Map of the occurrence of Mastodon and Mammoth remains on the Continental Shelf

“Cliff” Notes



Glacier Primer

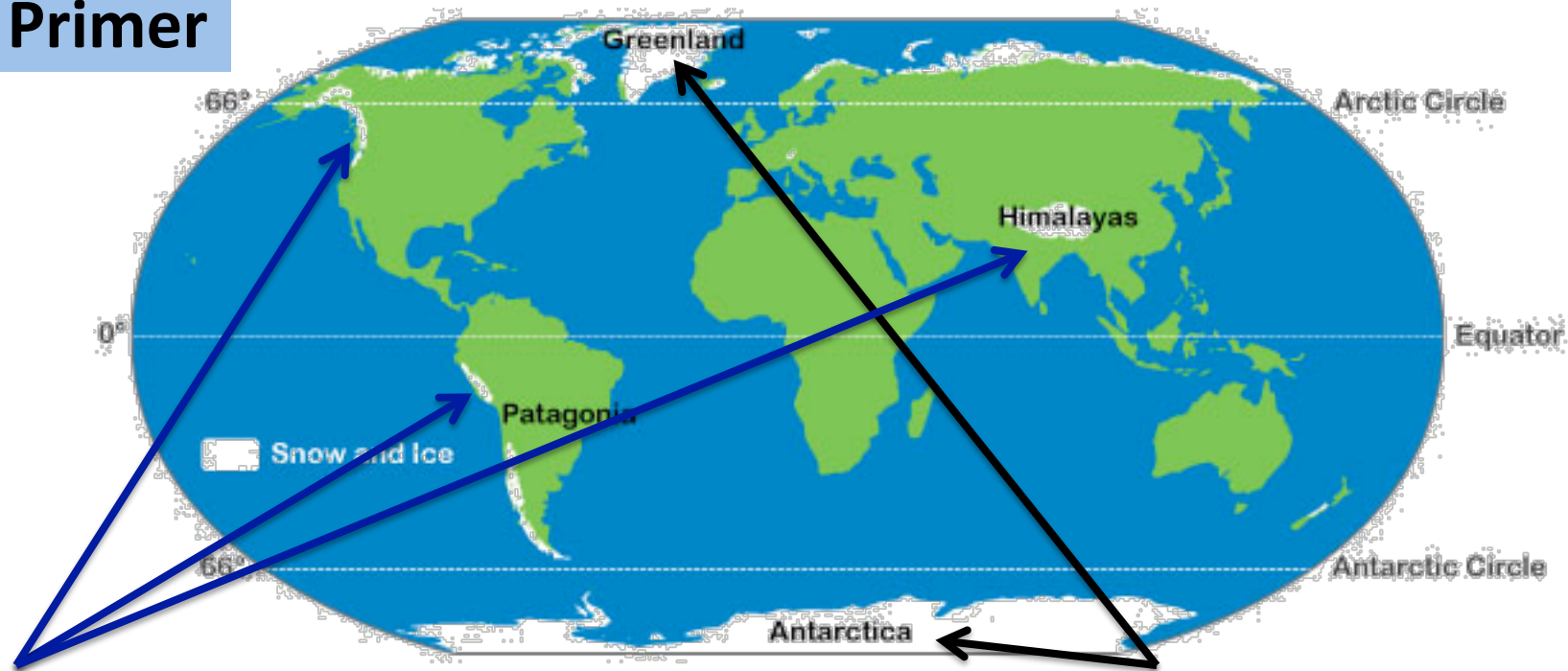
2 Types of Glaciers

Mountain or
Alpine Glaciers



Continental Glaciers
or Ice Sheets

Glacier Primer



Mountain or
Alpine Glaciers



High Altitudes

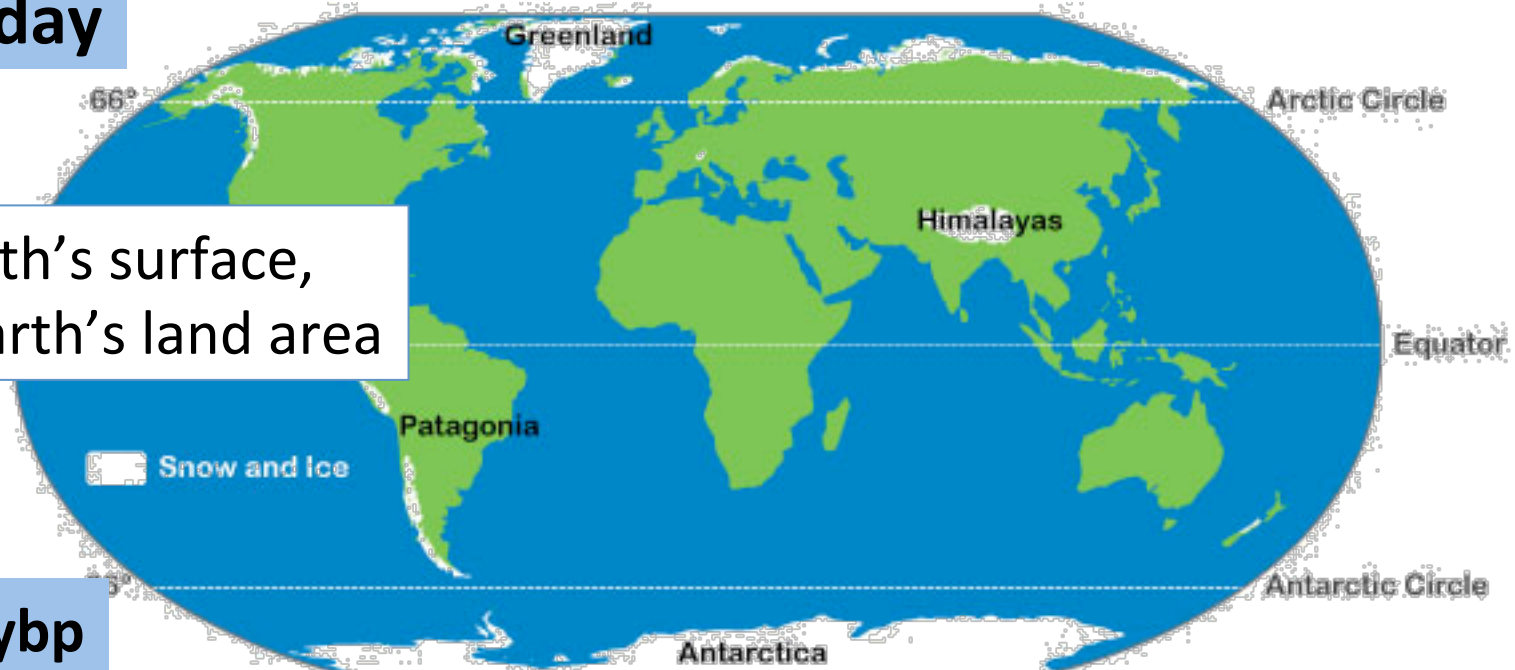
Continental Glaciers
or Ice Sheets



High Latitudes

Glaciers Today

3.1 % of Earth's surface,
10.7 % of Earth's land area



Glaciers 20 kybp

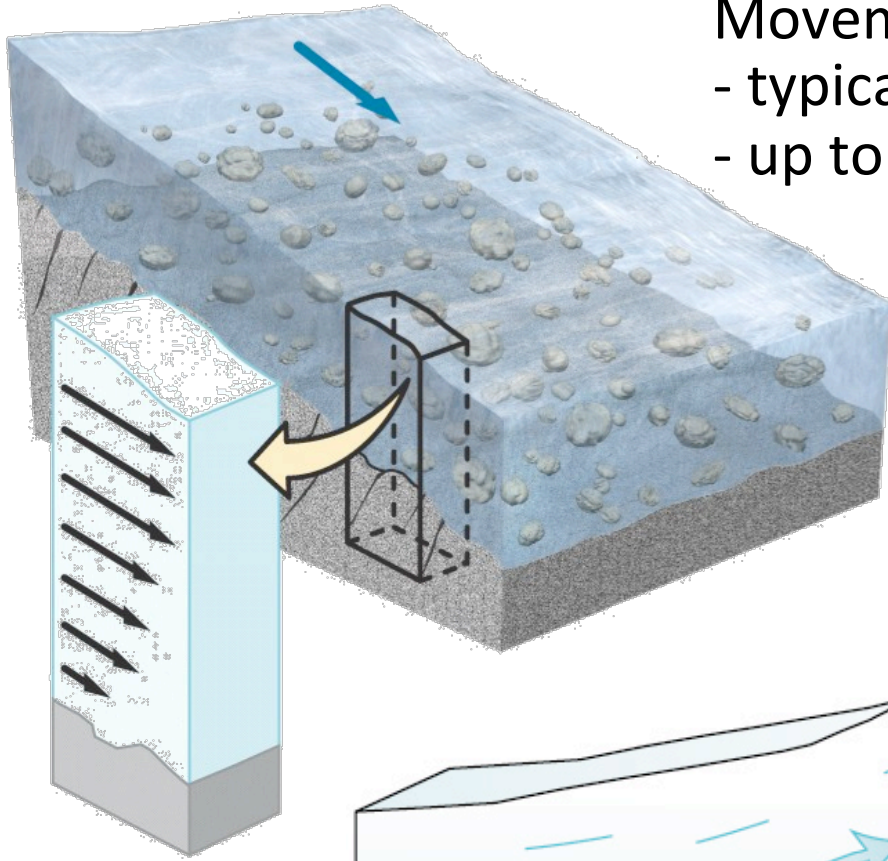
8 % of Earth's surface
25 % of Earth's land area



Glacier Primer

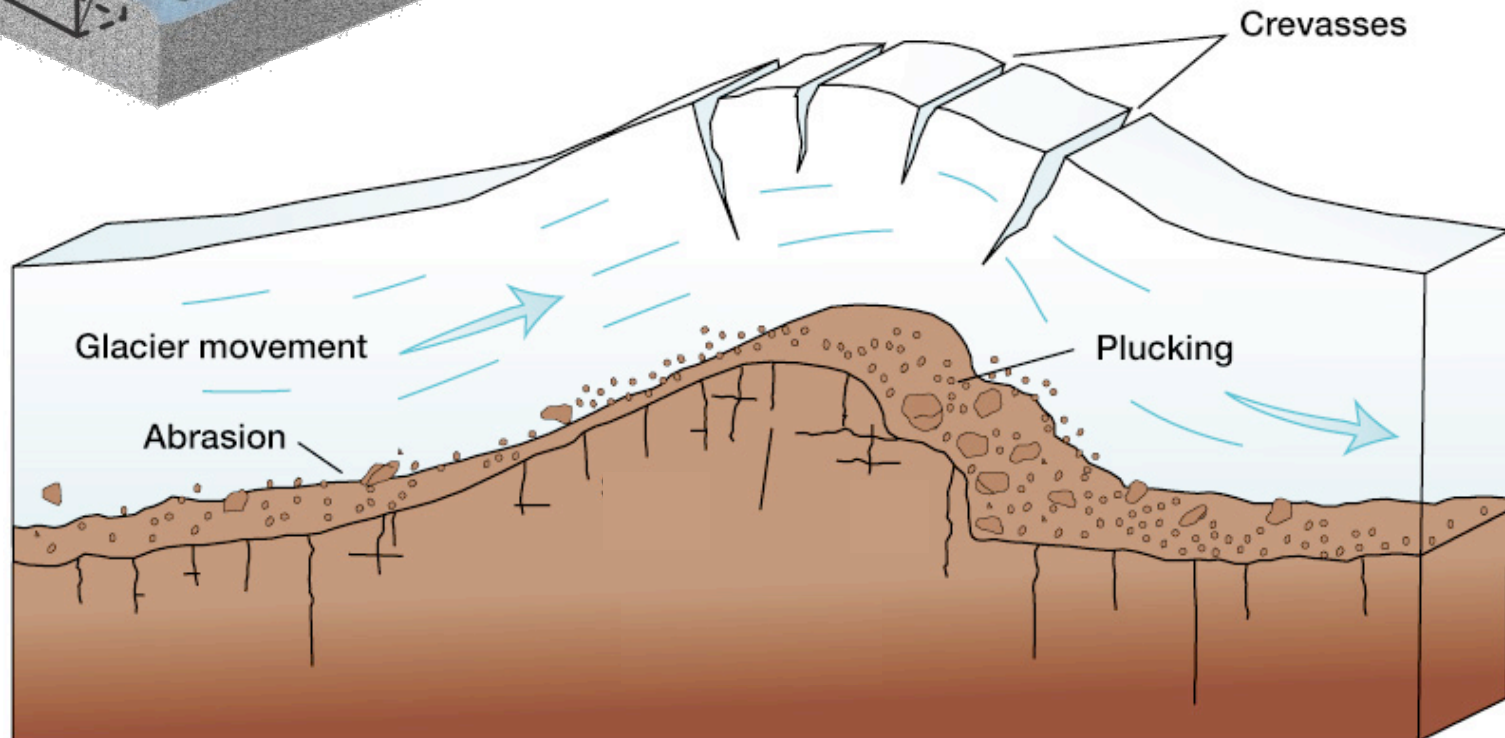
Movement of a Glacier

- typically 1 to 2 meters/day
- up to 50 meters/day

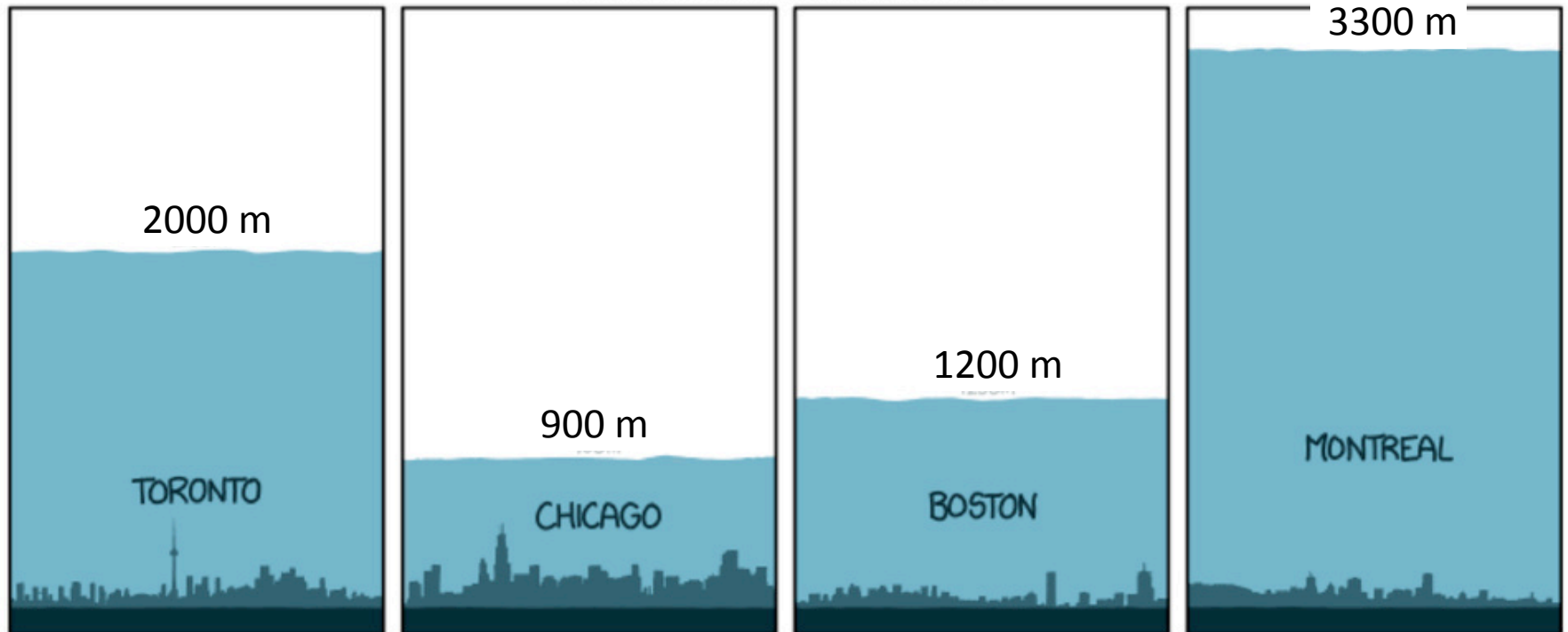


Glacial Erosion

- think potholes gone crazy



THICKNESS OF THE ICE SHEETS AT VARIOUS LOCATIONS 21,000 YEARS AGO COMPARED WITH MODERN SKYLINE



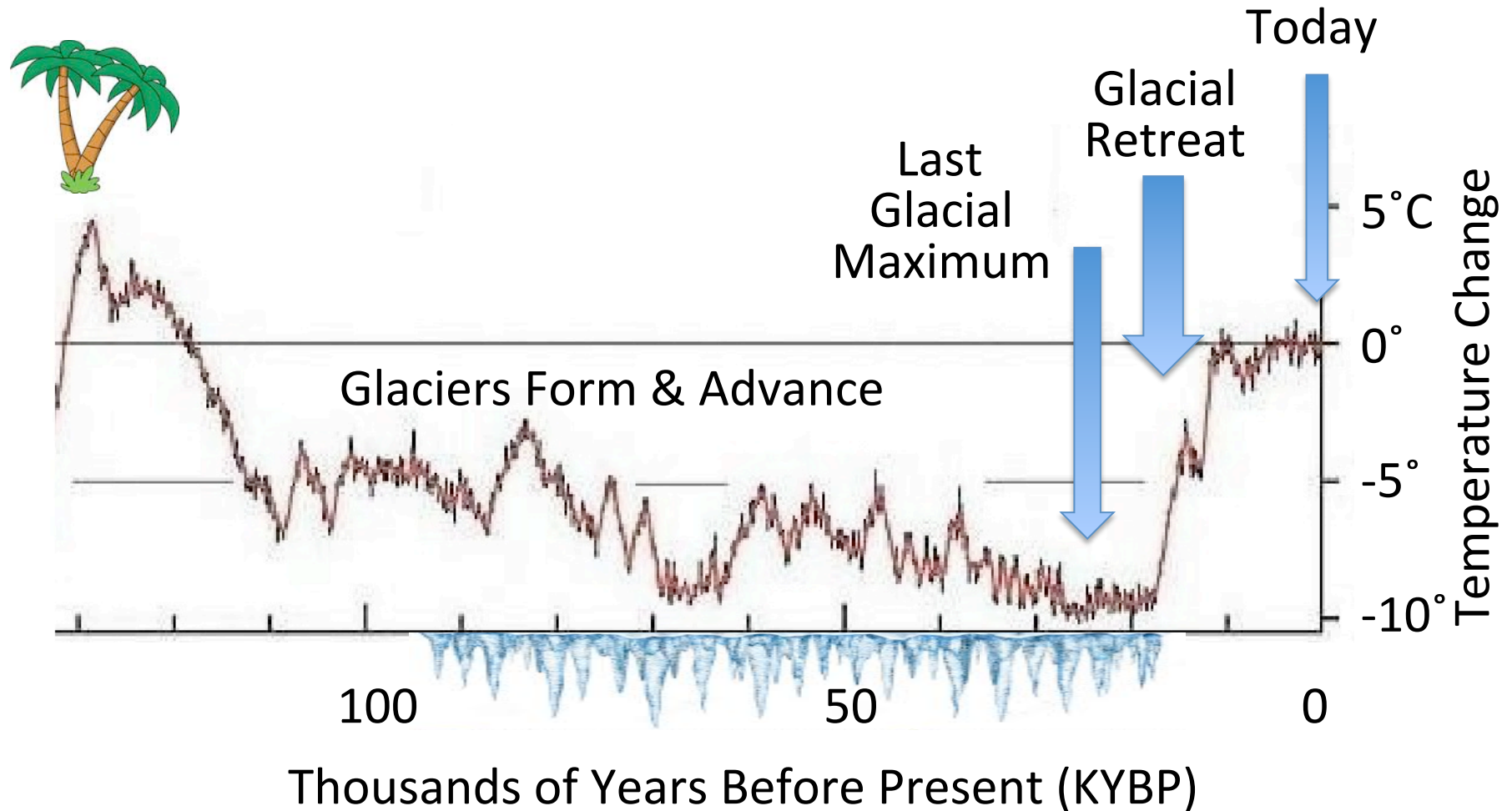
Soooooooo.....

How do climate, glaciers, and sea level change impact paleocultures in “coastal New England?”

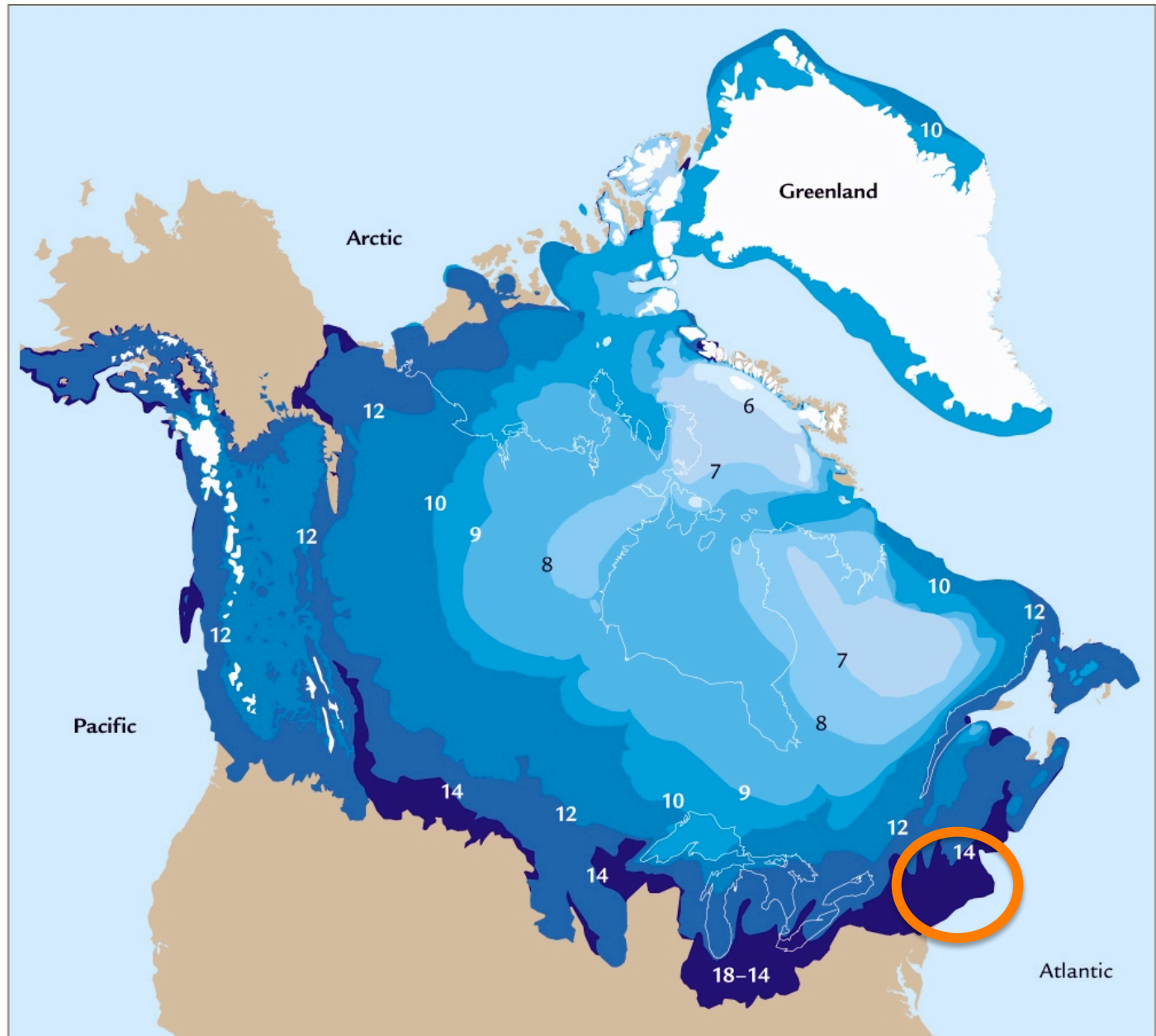


Where do you think people lived ?
Over what time span?

Paleo-Temperature Record



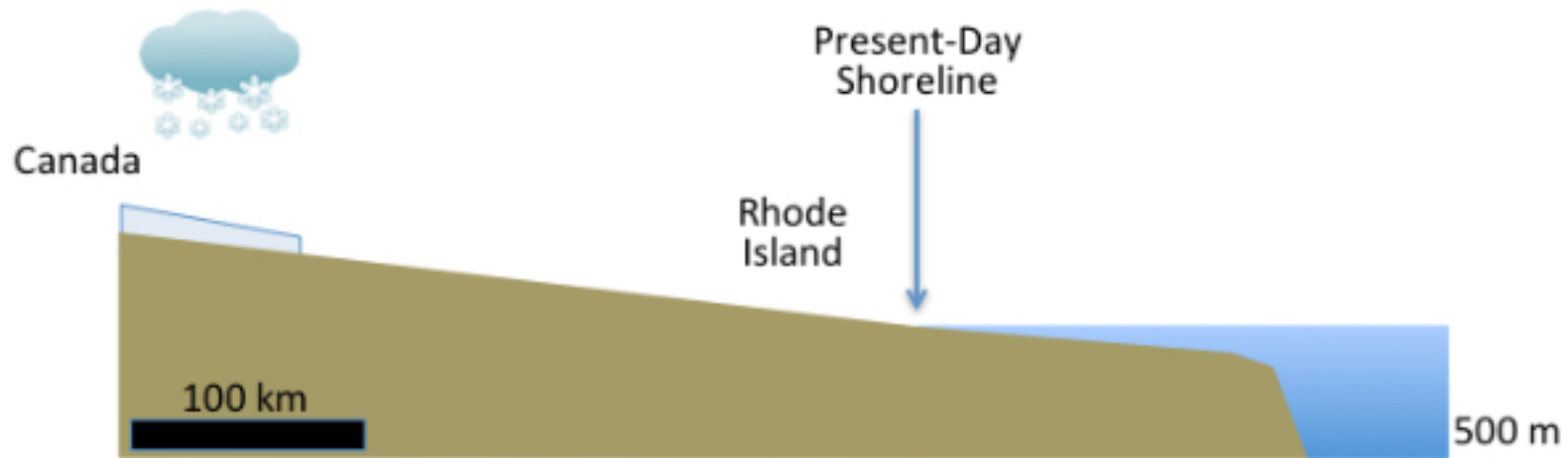
Laurentide Ice Sheet



RI Glacial Features



History of Laurentide Ice Sheet in New England



<http://cdebi.gso.uri.edu/GCH103/videos/glaciers.mov>

East Coast Sea Level Rise Movie



http://cdebi.gso.uri.edu/GCH103/videos/east_coast.mp4

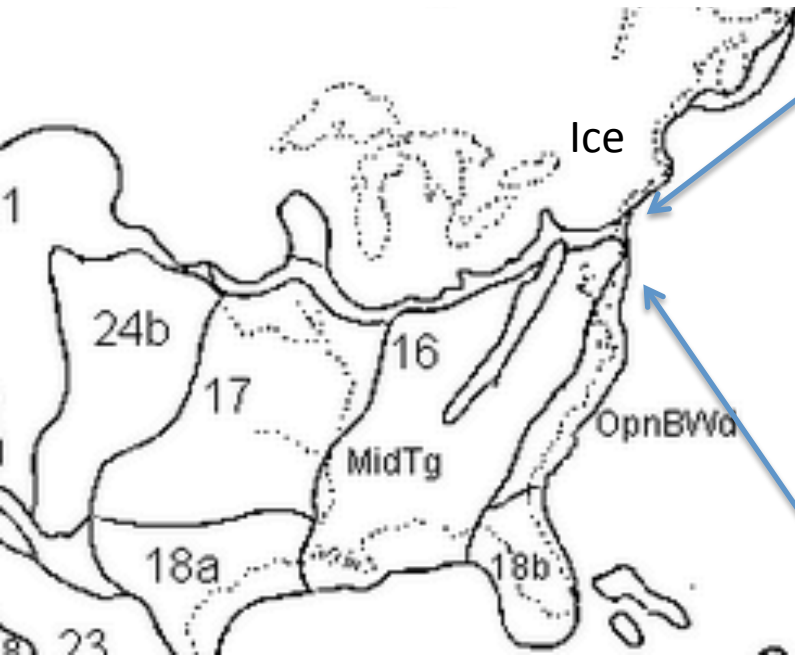
Sea Level Change in Coastal Rhode Island



http://cdebi.gso.uri.edu/GCH103/videos/movie_nbay2.mp4

Paleo-Landscapes

18,000 to 13,000 years ago



http://www.esd.ornl.gov/projects/qen/new_na.html

Tundra

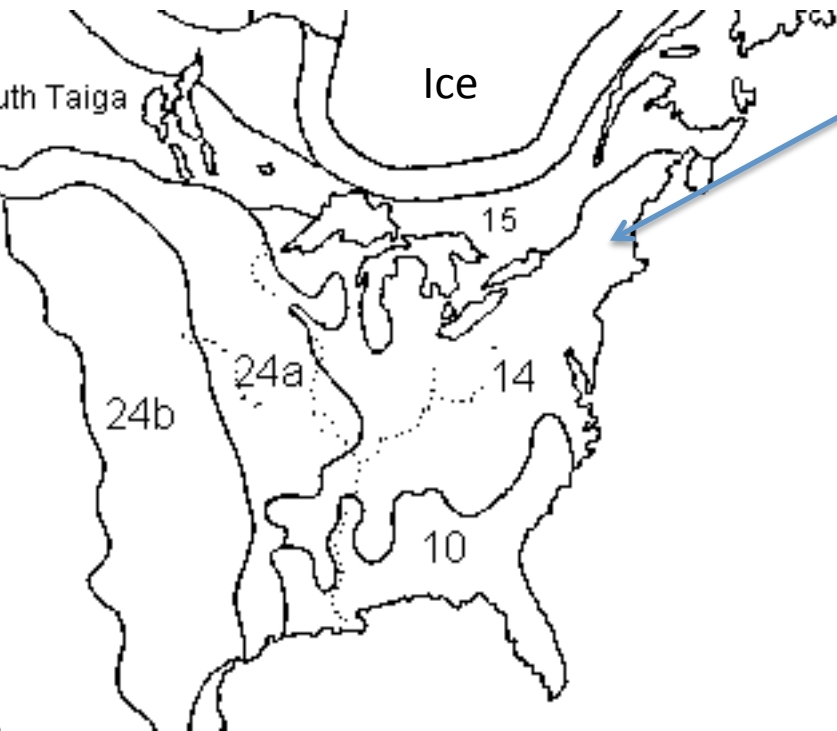


Open Boreal Woodland



Paleo-Landscapes

8,000 years ago

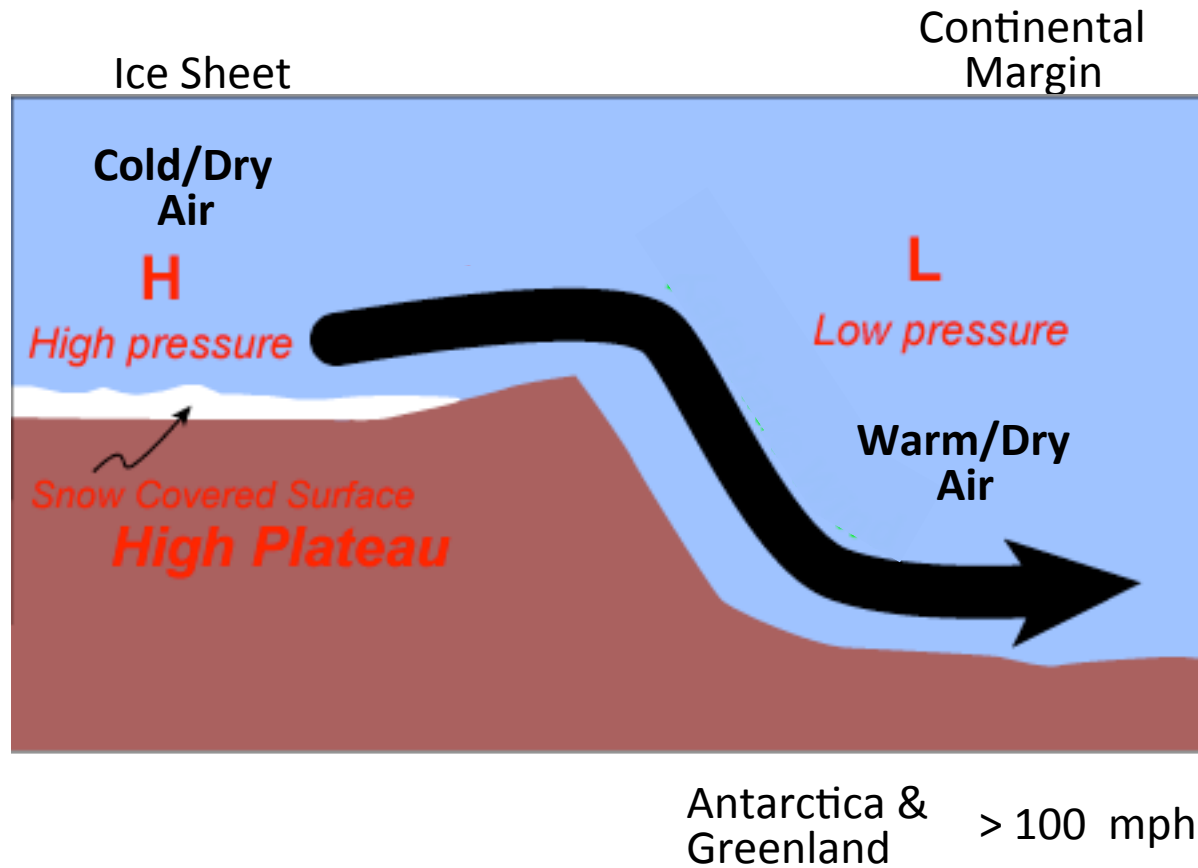


Temperate Forest

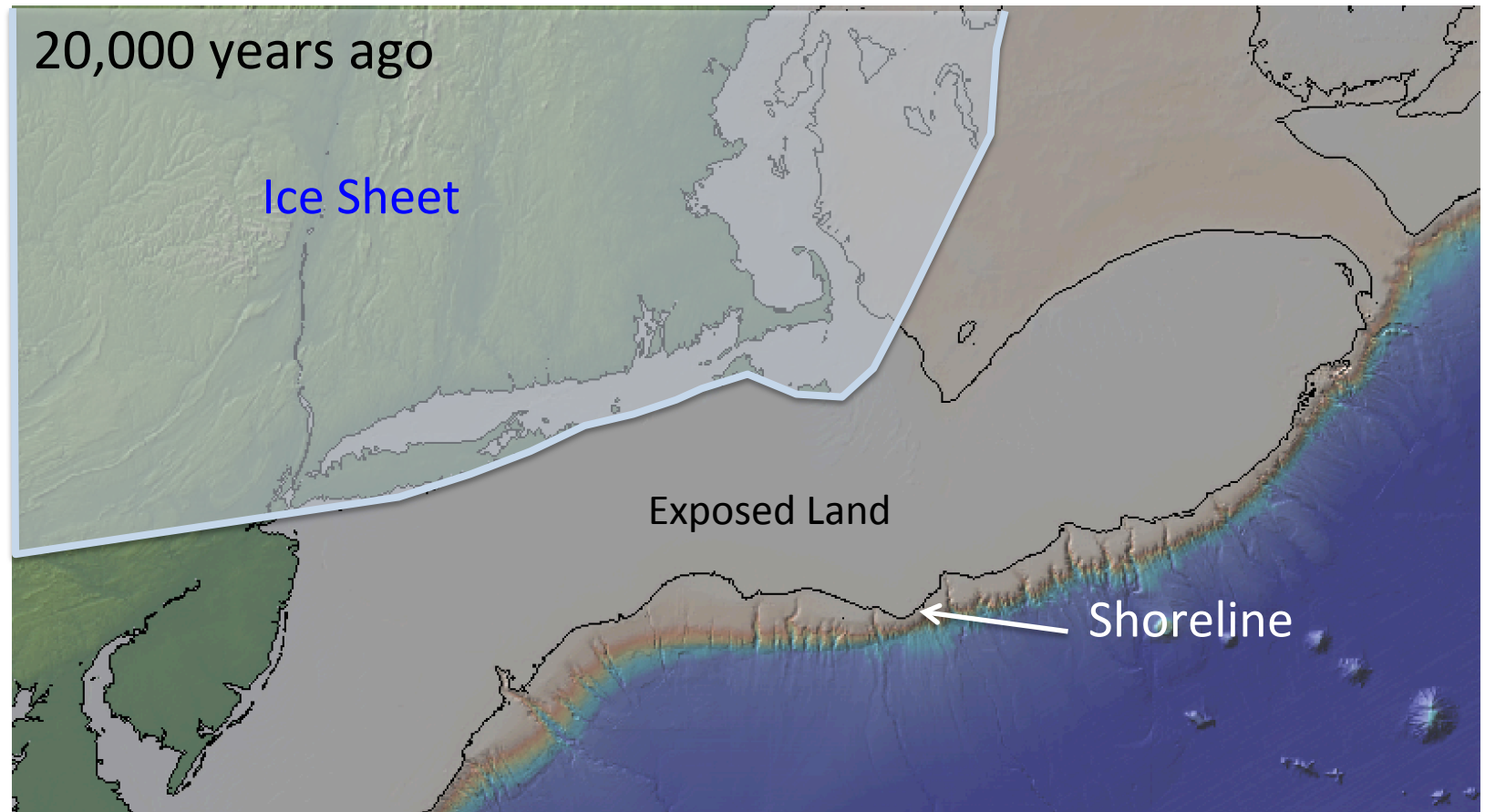


Paleo-Weather

Katabatic Winds



Where do you think people lived ?
Over what time span?



No mention of glaciers in Narragansett history

Mt. Washington

- Elevation => 1900 m
- Distance => 300 km from Kingston

Glaciers ~20,000 years ago

- Elevation => ? m
- Distance => 120 km Cont. Margin to Block Island

