

Historical Environments

Historical ecology
Environmental History



Why consider historical environments?

“The physical environment, which appears to set limits to the activities of human groups at any particular time, has in fact potentialities which expand or contract in relation to the material culture of these groups.”

-- W. G. East



So, this quote raises two questions.

What are limits that physical environments appear to set?

What is material culture?





Limits?

- ◆ Too cold, too hot
- ◆ Too dry, too wet
- ◆ Too rocky, too soft
- ◆ Too steep
- ◆ Too many natural disasters



Material Culture = Stuff



Why consider historical environments?



“The landscape reflects the technological innovations, the economic constraints, and the cultural aspirations of its inhabitants, all of which are superimposed upon its natural features.”

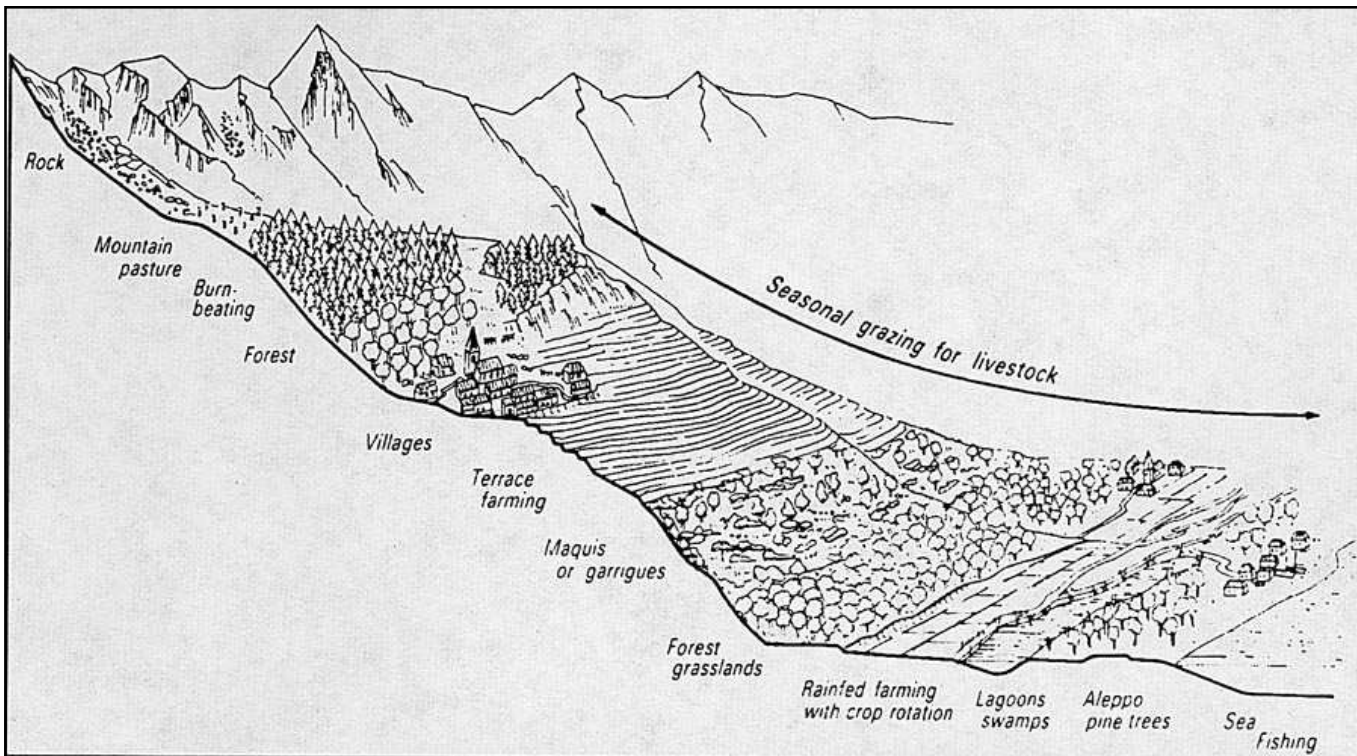
-- G.G. Whitney (1994)

Why consider historical environments?

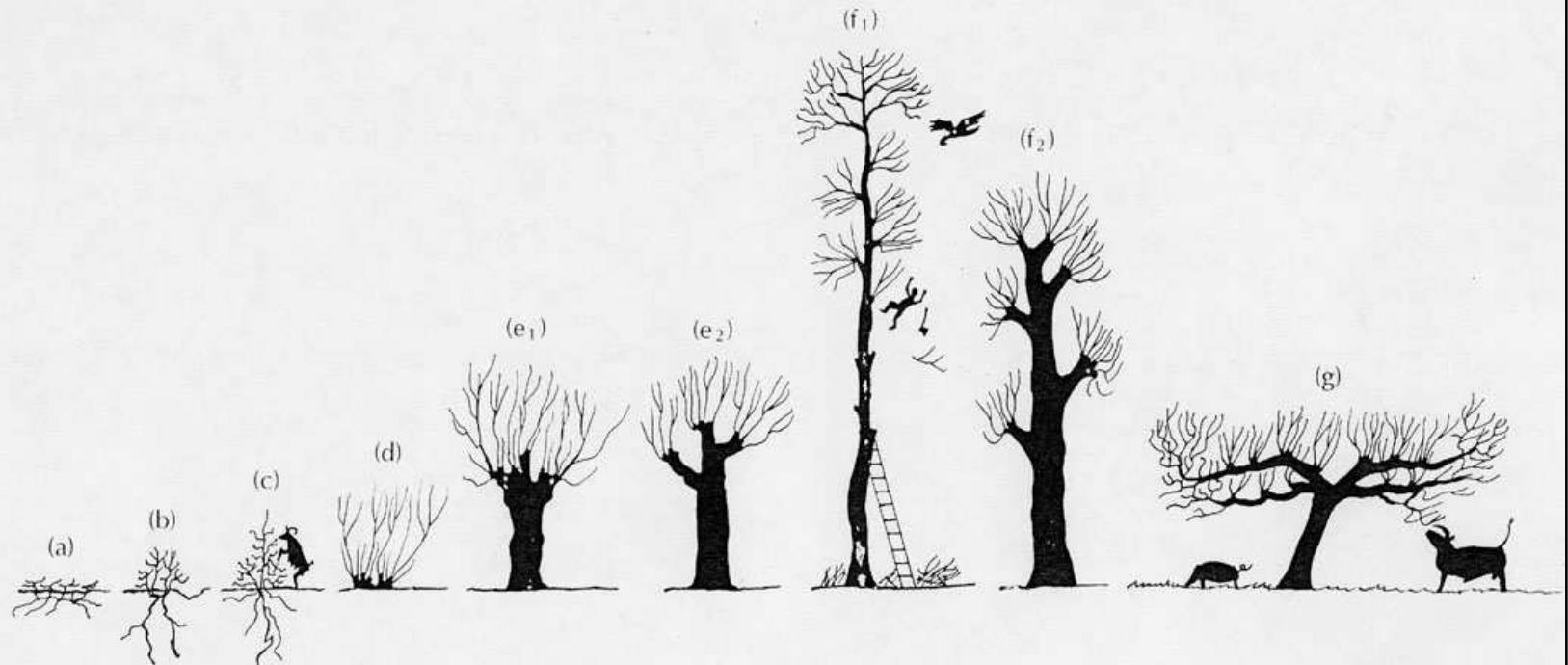
“Historical ecology seeks to interpret the natural and artificial factors that have influenced the development of an area of vegetation to its present state.”

-- O. Rackham (1980)





Dallman



Rackham

?

What are two questions about historical environments that would be asked by people in your area of study?



?

What methods (or investigative approaches) would people in your area of study use to answer those questions?



Framework for Considering Environmental Change



First

Identify ecosystem characteristics



Framework for Considering Environmental Change

Second, identify extractive technologies used to meet needs

Lime Kiln



Framework for Considering Environmental Change

Third, identify outcomes from alternative uses of the resource base



A Source for Information

- ◆ <http://courses.ncsu.edu/for248/common/>



Changing Times: the Holocene Legacy

William R. Dickinson, 2000

Environmental History

5(4):483-502

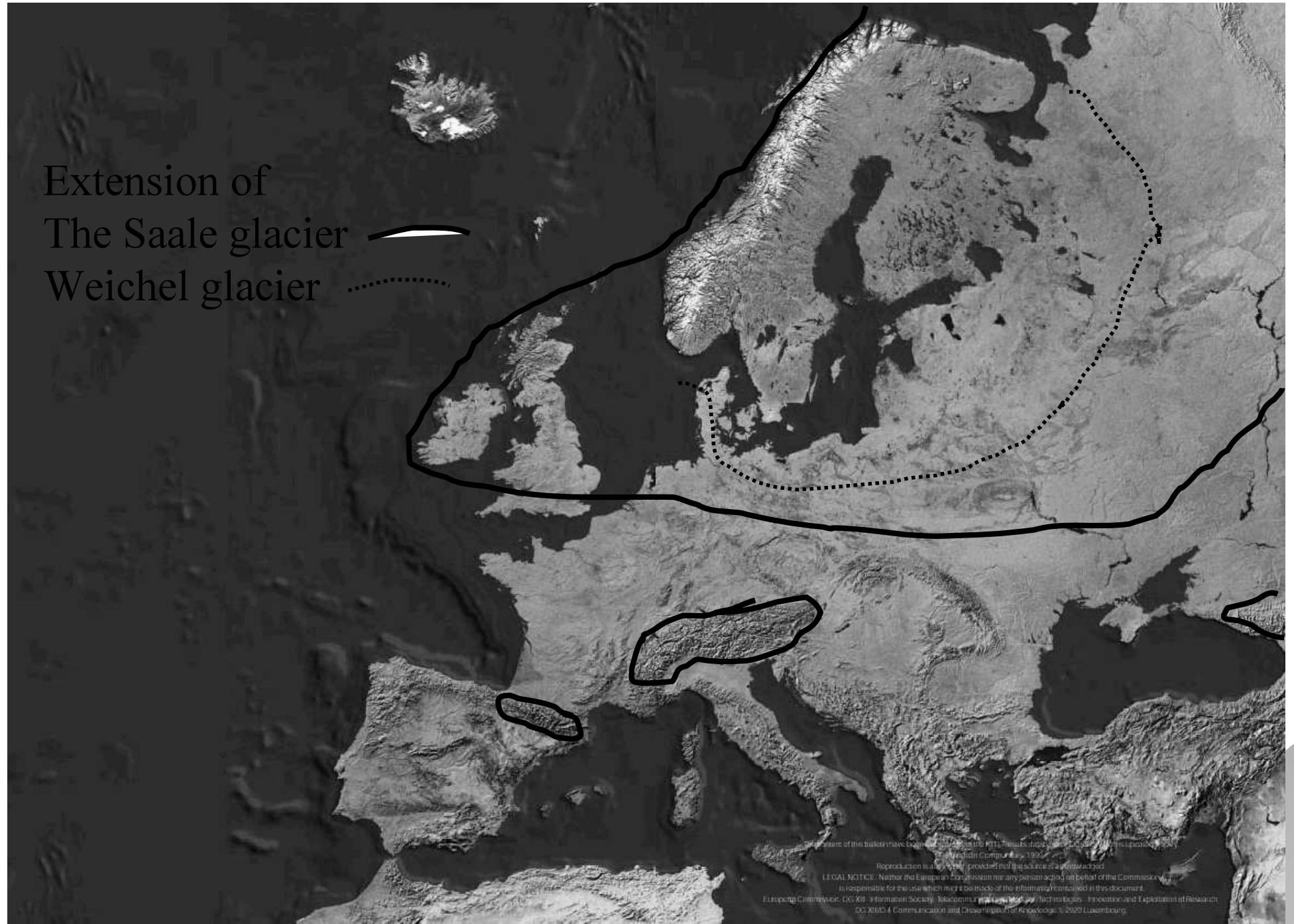


Quaternary Period

- ◆ Pleistocene = period before and just after the last glacial maximum, $\geq 20,000$ years ago
- ◆ Holocene = 11,500 or so years ago [the great meltdown]



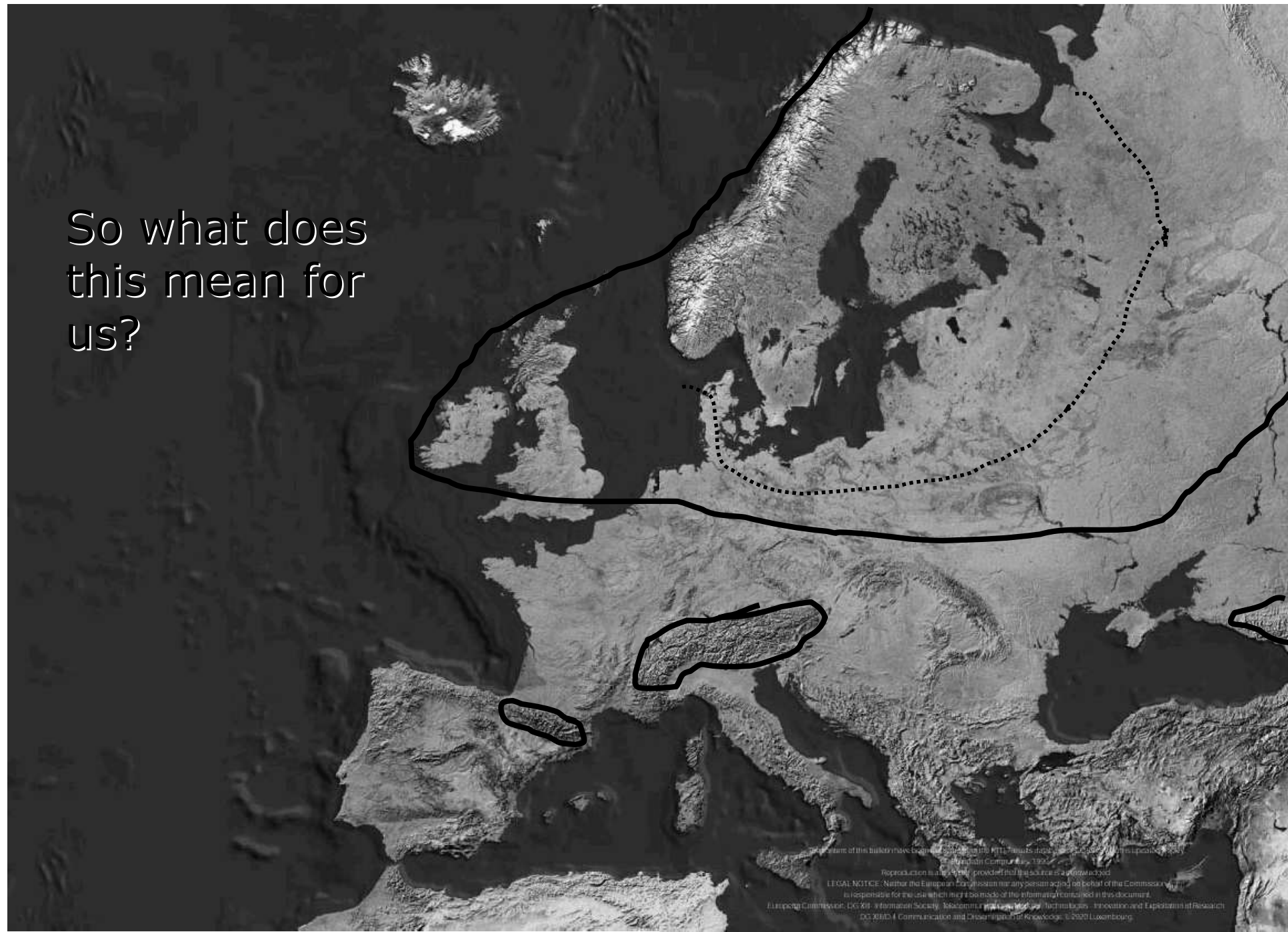
Extension of
The Saale glacier ———
Weichel glacier ······



Isostatic rebound occurred in areas where weight of the ice was removed; elsewhere flooding of coastlines occurred.



So what does
this mean for
us?



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Holocene



“Modern shorelines, together with their associated estuaries, tidal flats and coral reefs cannot have occupied their present positions for more than a few thousand years.”

Holocene

- ◆ Virtually all technology developed during the Holocene (<500 human generations)
- ◆ Humans opportunistically adapted to post glacial environments.
- ◆ Last interglacial time interval is the only one with humans in existence

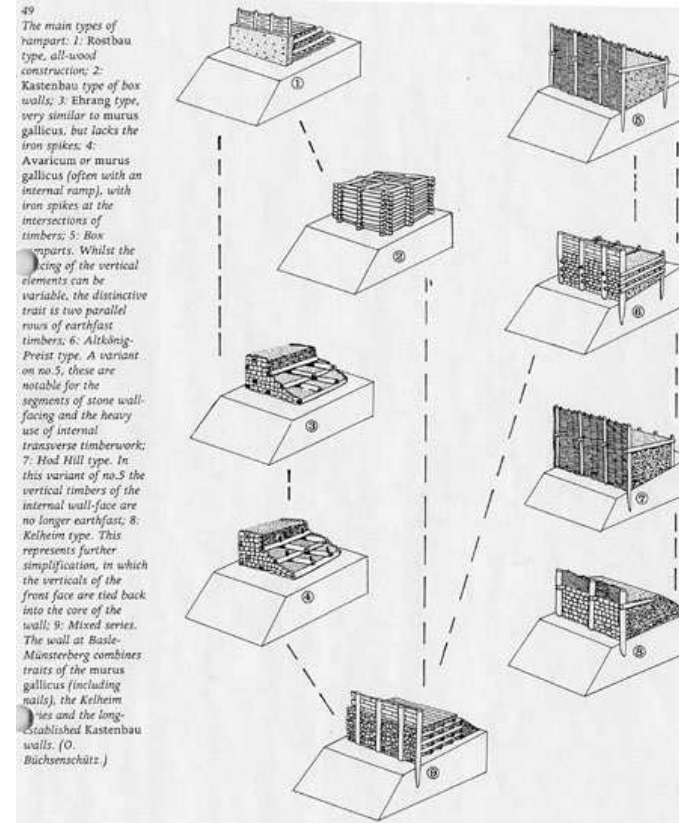




“In most global environments the Holocene landscape never established itself without human influence. Landscapes and cultures co-evolved over the same intervals.”

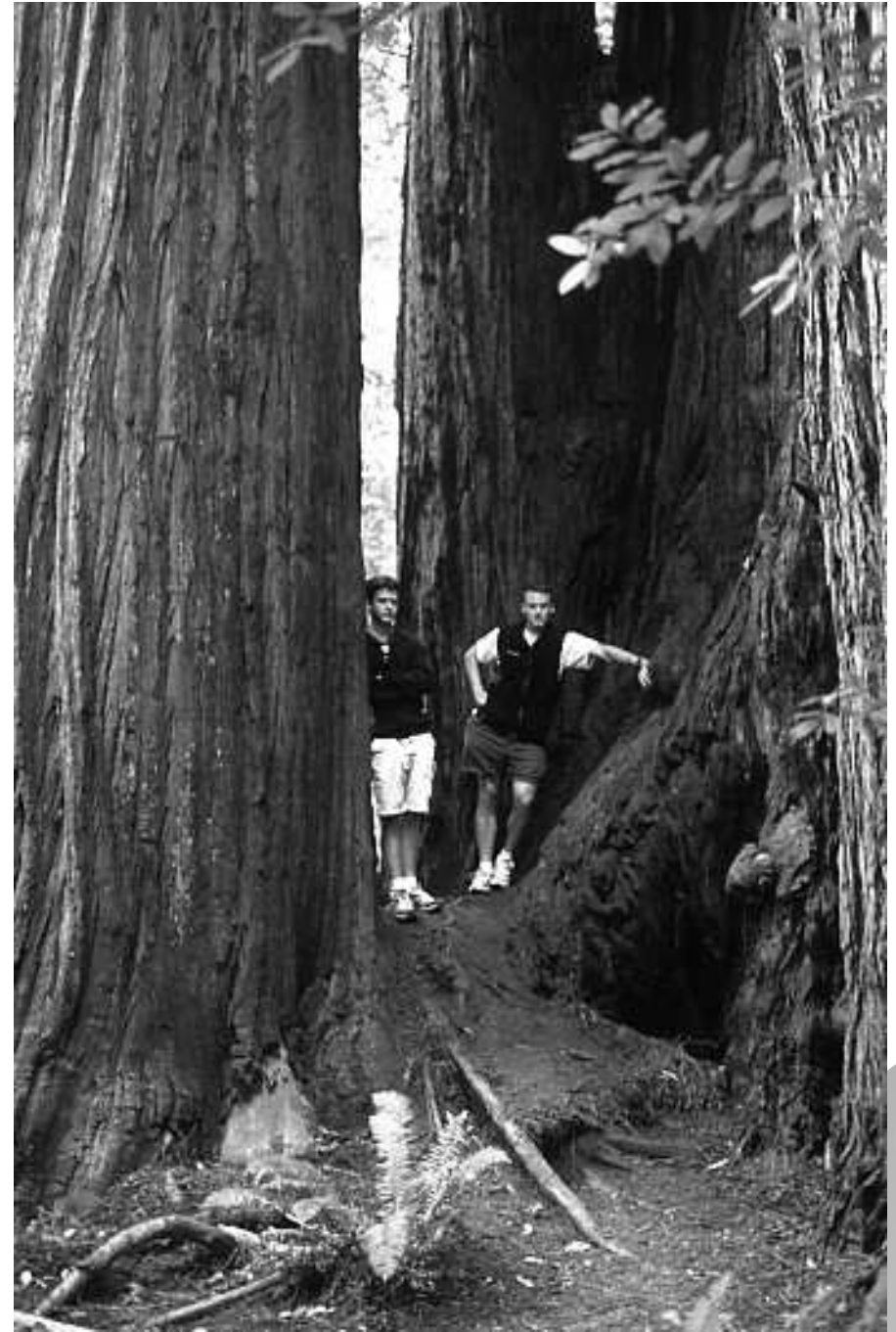
Holococene

Human arrival meant forest clearance with upland erosion, downstream sedimentation or agroforest replacement of virgin forest.



Holocene

Apparent permanence of plant communities without modern disturbance is “an illusion fostered by the short timeframe of history.”



Holocene

The idea of a world
pristine before
people is “out of
focus.”



Human Influences

Aboriginal humans noticed changes, made changes



Human Influences

Broadcast fire controlled advance of relatively unproductive woodlands on grasslands richer in usable resources

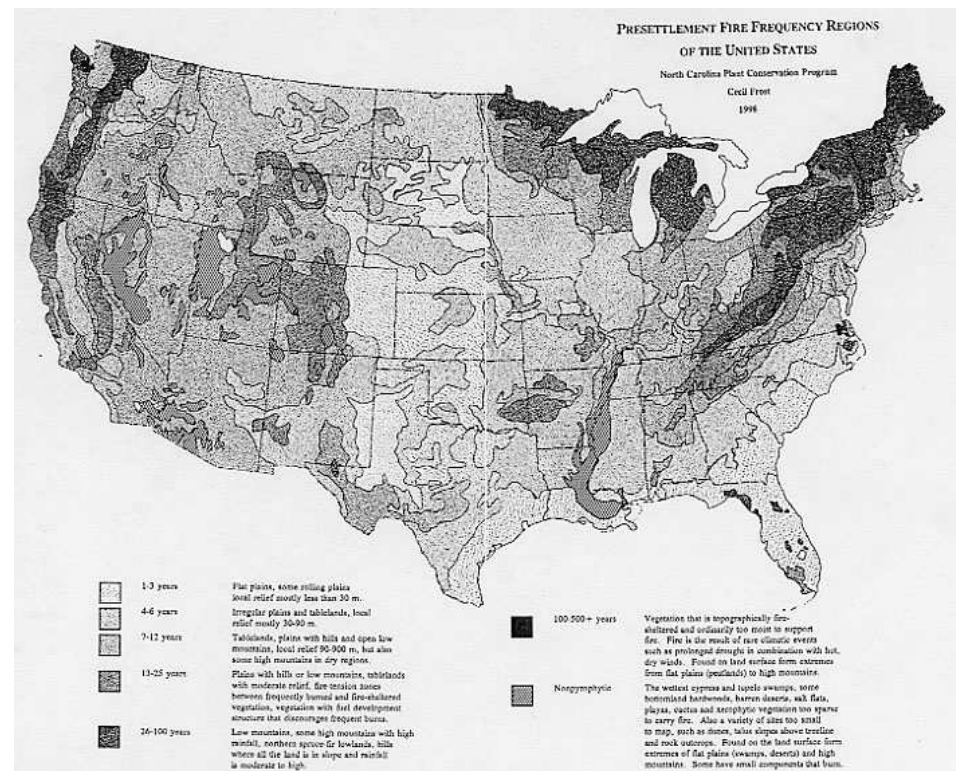


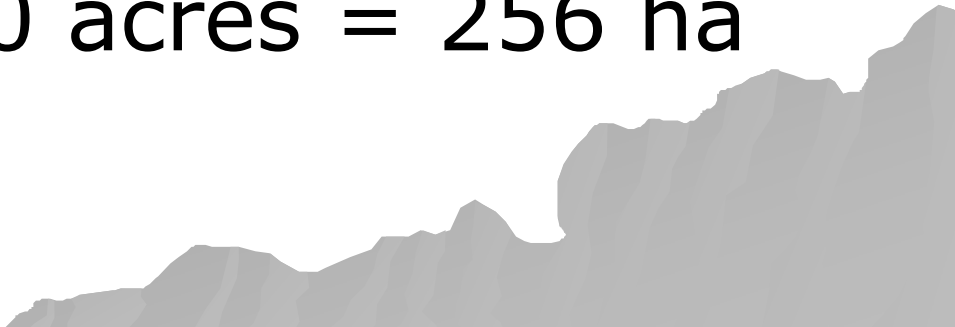
Fig. 1. First approximation map of pre-settlement fire frequency regions of the U.S. The frequencies illustrated represent the higher fire-return intervals to be found in each landscape unit.

Human Influence



“Although ‘slash and burn’ has distinctively pejorative [negative] connotations for lovers of forested lands, the distributions of different tree species in many present forests owe much to the recurrence of past anthropogenic fires.”

Unit Conversions (Rounded)

- ◆ Acre = 0.4 hectare
 - ◆ Hectare = 2.47 acres
 - ◆ Square mile = 2.6 km²
 - ◆ Square mile = 640 acres = 256 ha
- 

Unit Conversions (Rounded)

- ◆ Board foot = 197 cm^3
- ◆ Cubic Foot = 0.027 m^3
- ◆ Cord = 4 ft x 4 ft x 8 ft – air space
- ◆ Cord = $80 \text{ ft}^3 = 2.16 (2.2) \text{ m}^3$