

# Circumpolar Cultures and Migrations

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John White's painting of Martin Frobisher's  
encounter with Inuit in 1576

Santa Fe Institute Workshop on  
Peopling the Americas

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*Dryas octopetala*, "White mountain aven," is typical of the Arctic tundra.  
Photo © Thomas Koneck



During the Younger Dryas, the range of *Dryas octopetala* expanded south as Arctic tundra replaced forests.

COLD IN  
A SNAP

GO BACK

## A Little Plant...A Big Story

The Younger Dryas takes its name from *Dryas octopetala*, a plant typical of Arctic environments. Scientists found fossilized *Dryas* leaves in sediments at locations where today the climate is too warm for the plant to grow—an indication that the climate must have been colder. And in sediments beneath the *Dryas* fossils, they found fossils of temperate-growing plants—an indication that a warmer climate preceded the frosty Younger Dryas.

# ARCTIC CLIMATE ROLLER COASTER

People have lived in the Arctic for at least 30,000 years. During that time the Arctic's climate rose and fell between colder periods and warmer periods. Some shifts were small and gradual. Others were sudden and dramatic.

Select a warm or a cold period.  
Explore how Arctic peoples have responded.

The last Ice Age peaked about 20,000 years ago. Glaciers covered most of the Arctic.

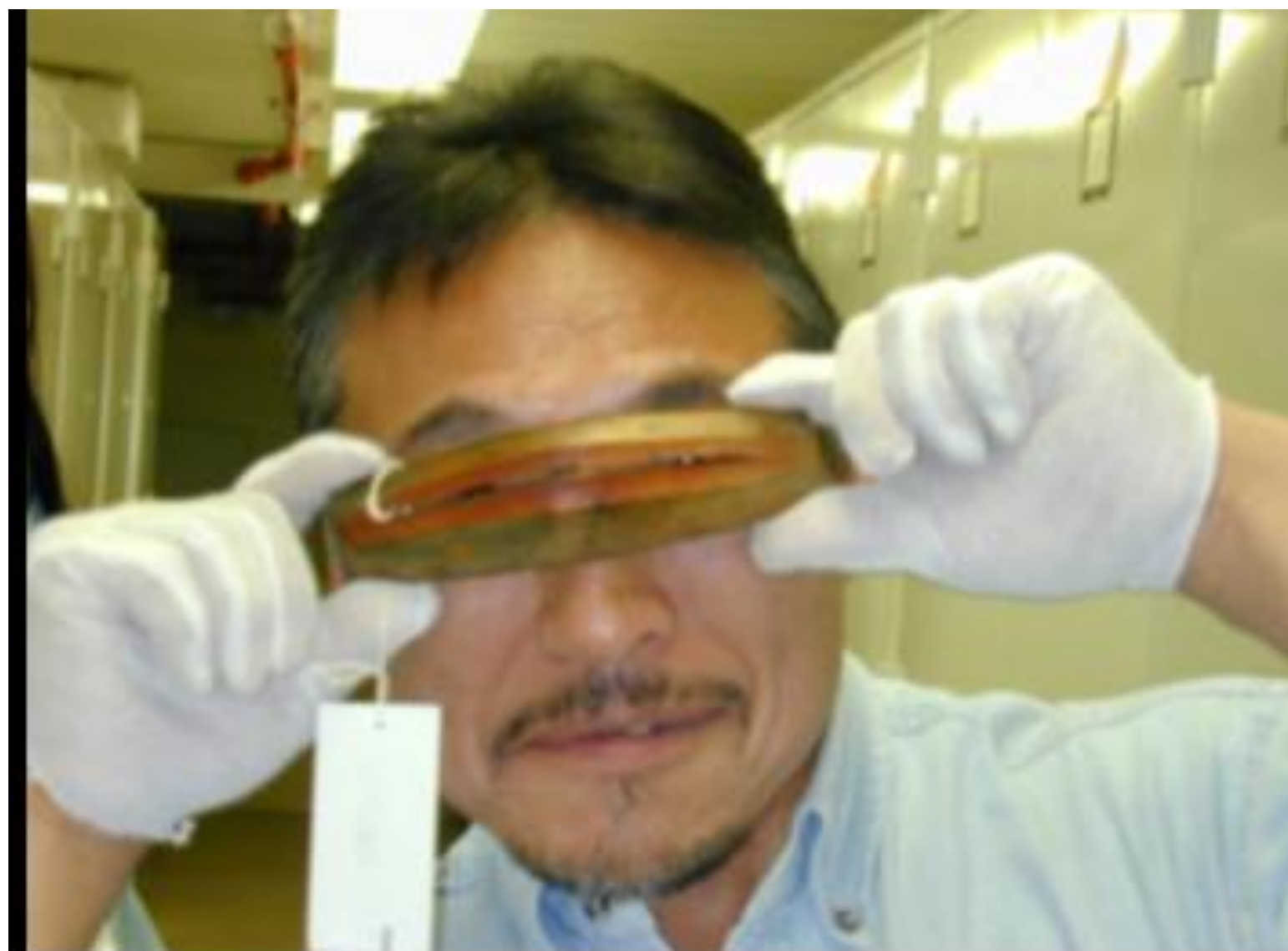


Select a period to explore.



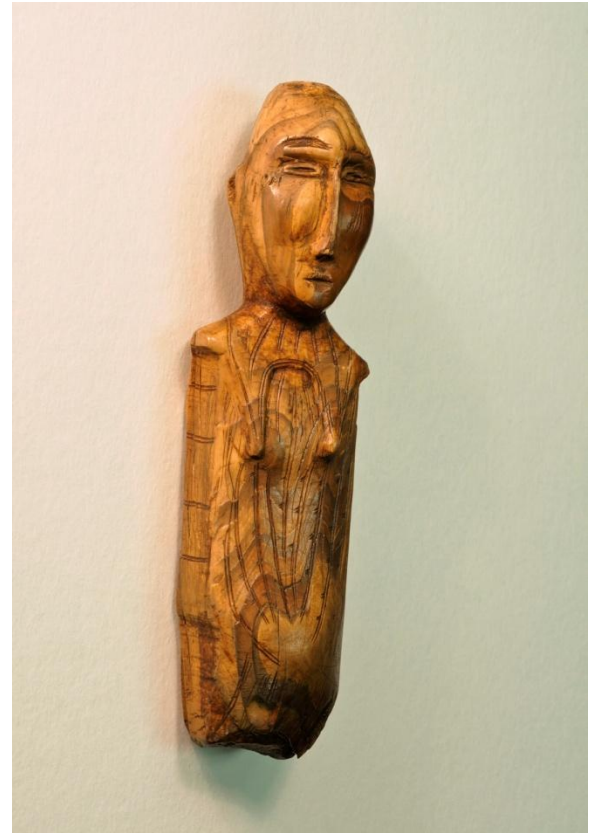






Exploring heritage





# Eskimo lands

**Yup'ik**

**Inupiaq**

**Inuit**

**Unangan  
(Aleut)**







а) н;  
 б) к;  
 в) к;  
 г) «  
 д) рс;  
 е) сс;  
 ж) н;  
 з) кр;  
 и) ст;  
 к) с;  
 л) и;  
 м) м;  
 н) з;  
 о) кс;  
 п) кс



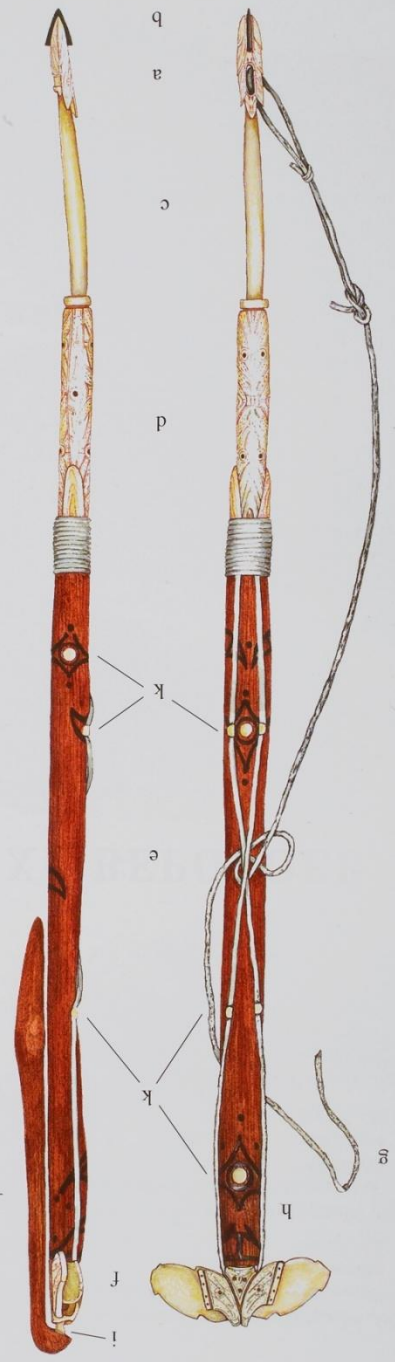
к) функциональные и декоративные отверстия в концы гарпунного древка и концы



Небольшой и маневренный охотник приближается к морю. Для сильного и прищельного из сдвигевого положения приная металлическая дощечка (г)



Основные типы «крылат»  
 В типе «А», более ранний, меньше пропускается в канал между двумя большими отверстиями от крепких отверстий сверла и сны от гнезда для древка и сны







Dorset lamp, L'Anse aux Meadows, Nfld, Smithy

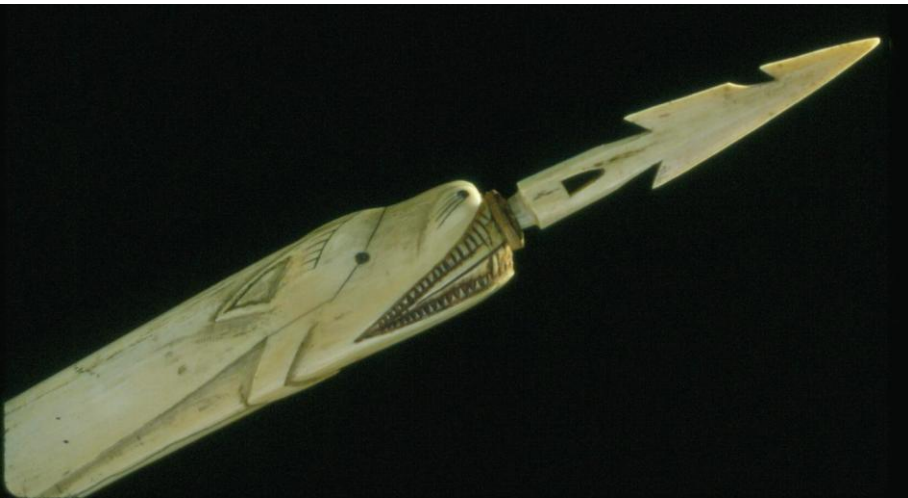
# Ritual Art





# Hunting Magic

18<sup>th</sup> C Aleut



19<sup>th</sup> C Yupik



AD 500 Old Bering Sea

# Ritual Hunting Dress

OBS

19th C. Yupik



**OXOHTIPIK AIZ**  
**SEA HUNTING MAGIC**

When a hunter goes to sea and gets a bad start, or if he is not successful in his hunt, he may use the following magic to help him. This magic is used to help the hunter to catch more fish and to keep his boat safe from storms and bad weather. The hunter will use this magic when he is out on the sea and when he is in the boat. The magic is used to help the hunter to catch more fish and to keep his boat safe from storms and bad weather. The hunter will use this magic when he is out on the sea and when he is in the boat.



# Shamanism





# Masking

AD 500 OBS

19<sup>th</sup> C. Yupik



AD 500 Ipiutak



Fig. 32.--Ipiutak Mask, Point Hope, Alaska, undated, 13" x 10-1/2", ivory. Photograph courtesy of the American Museum of Natural History, New York.

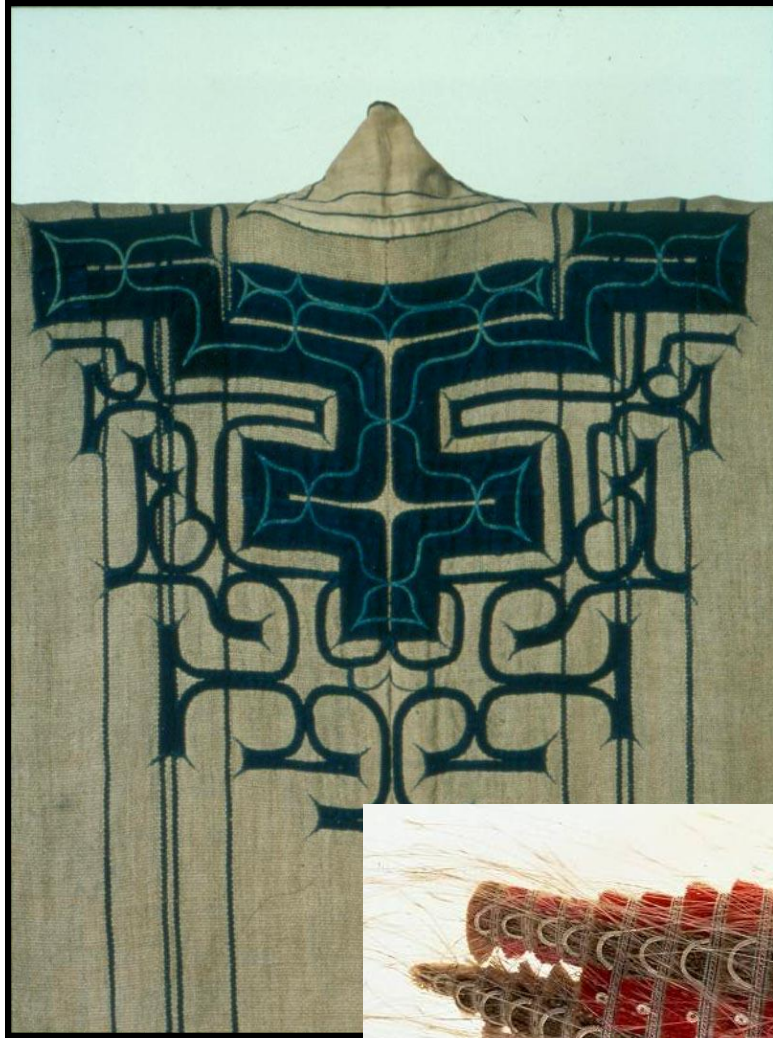


# Respect for Prey Animals





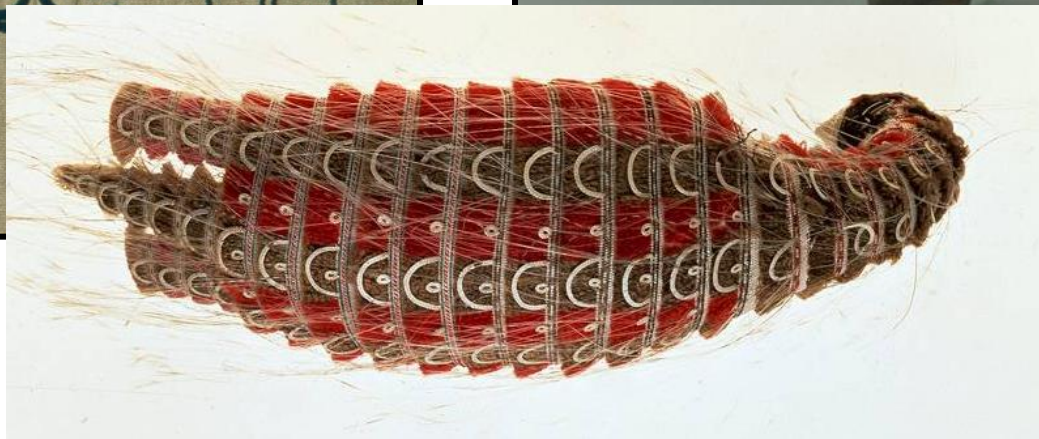
# Protective Ritual Dress



Ainu



Jomon



Aleut sea otter

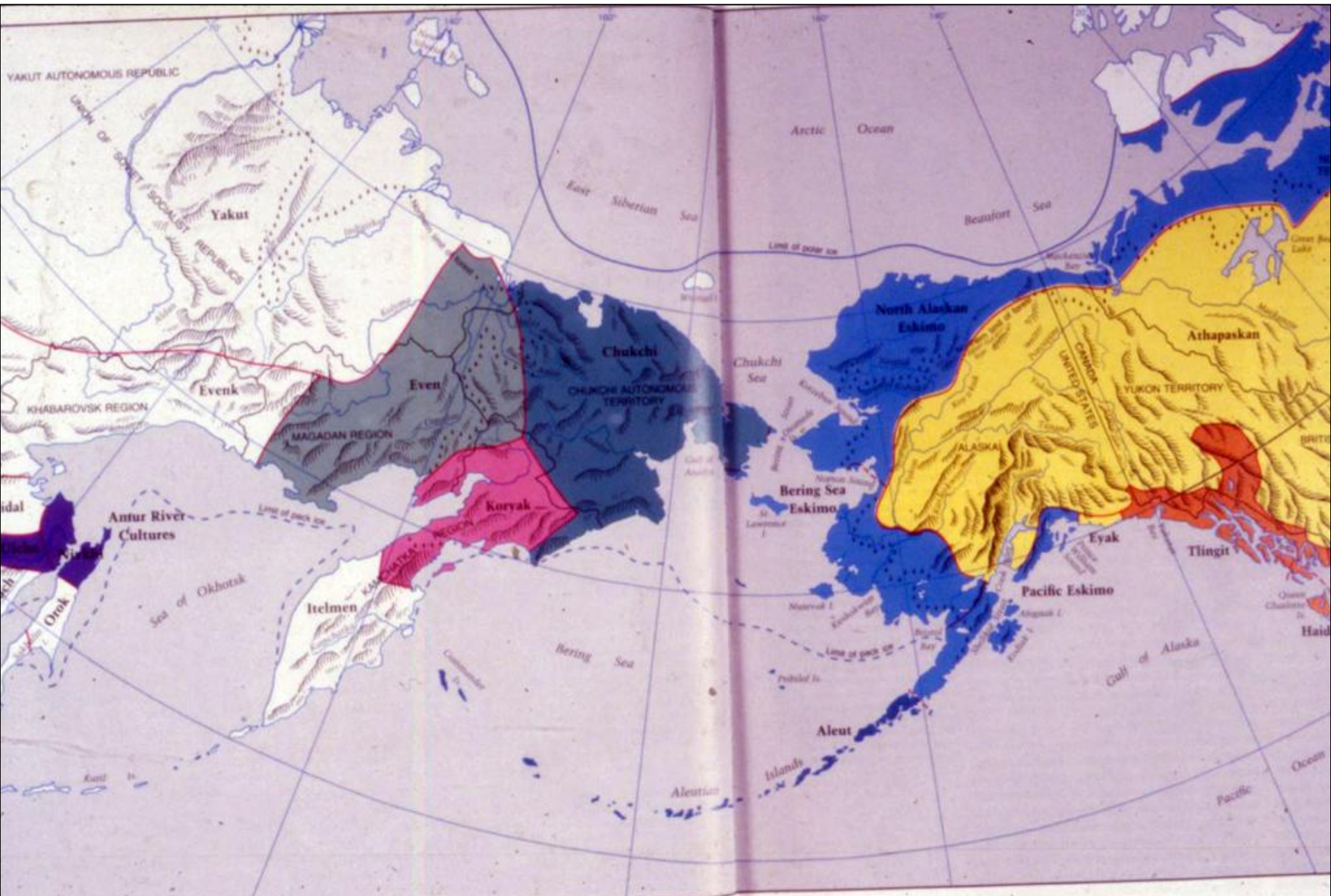


# Crossroads of Continents

Культуры Сибири и Аляски | НА СТЫКЕ КОНТИНЕНТОВ | CROSSROADS OF CONTINENTS | Cultures of Siberia and Alaska









# Science

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AAAS

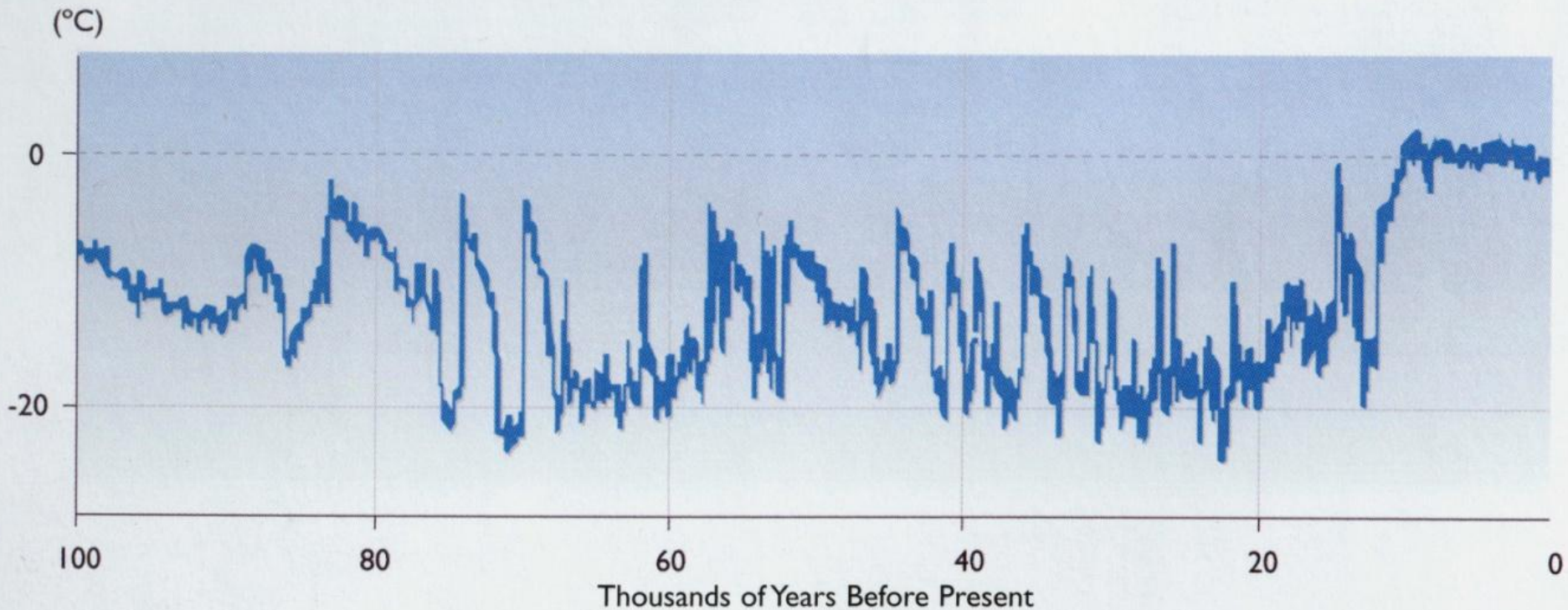
Yana HRS site, 25,000-27,000 BP





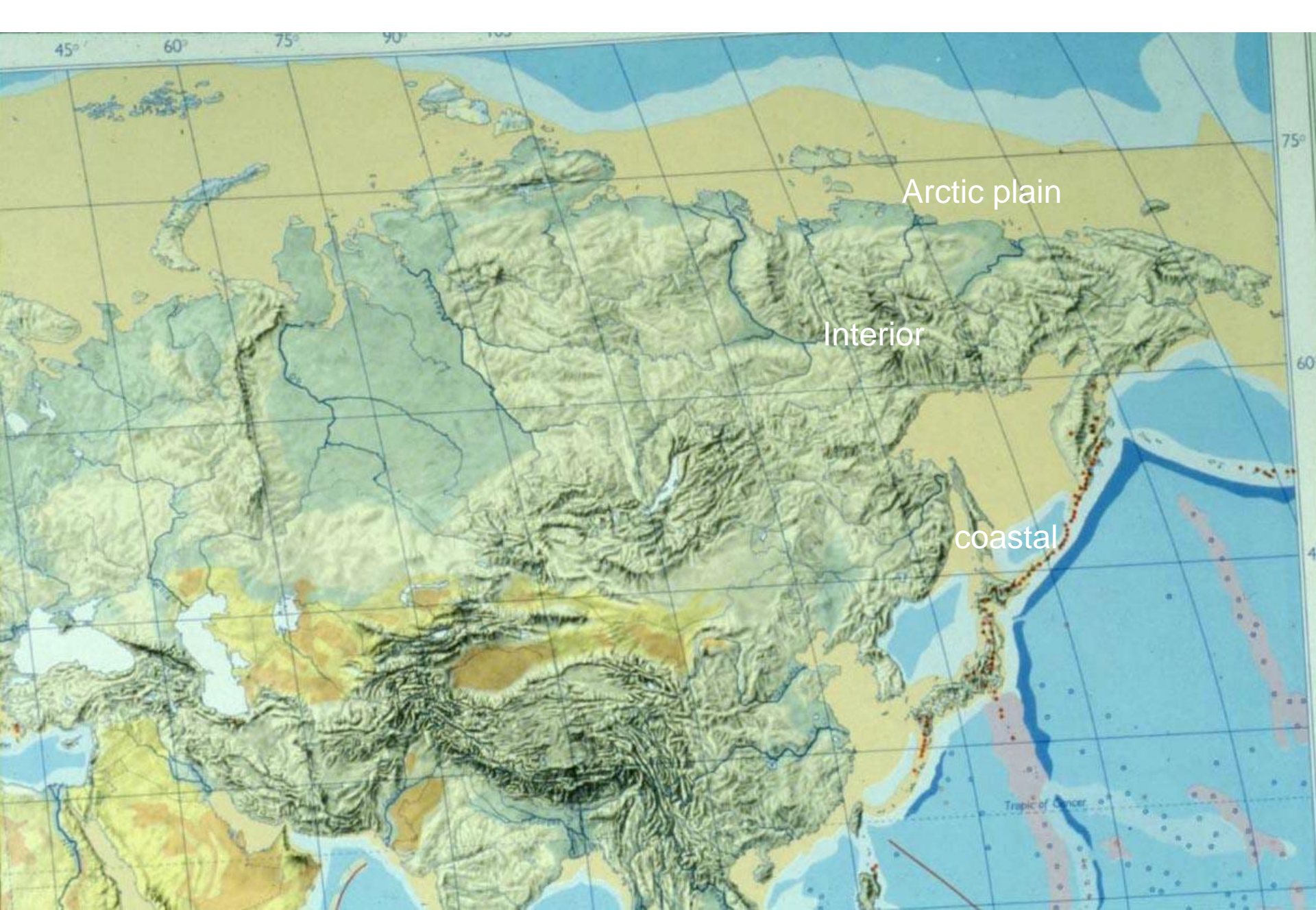


## 100 000 Years of Temperature Variation in Greenland



This record of temperature change (departures from present conditions) has been reconstructed from a Greenland ice core. The record demonstrates the high variability of the climate over the past 100 000 years. It also suggests that the climate of the past 10 000 years or so, which was the time during which human civilization developed, has been unusually stable. There is concern that the rapid warming caused by the increasing concentrations of greenhouse gases due to human activities could destabilize this state.





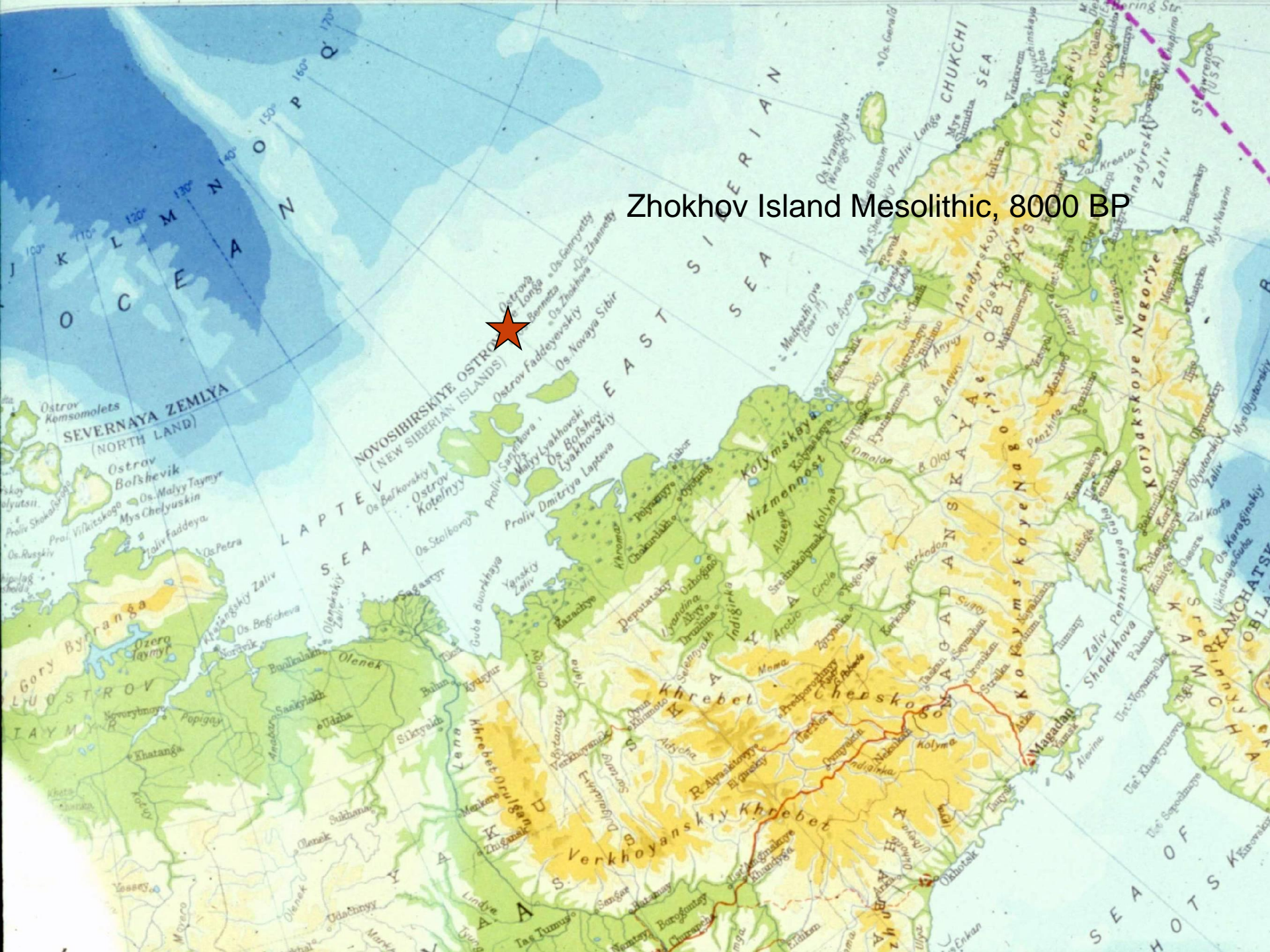
Arctic plain

Interior

coastal

Tropic of Cancer





Zhokhov Island Mesolithic, 8000 BP







Zhokhov

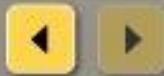


## Zhokhov subsistence





# 4000 years ago Wrangell Is. Mammoth demise



Wrangell's mammoths eventually evolved to be 50-60% of the size of a normal-sized woolly mammoth (*Mammuthus primigenius*).  
Illustration by Karel Havlicek © National Geographic Images.



HEAT  
WAVE

GO BACK

## Stranded Mammoths Wrangell Island, Russia

Glaciers thawed and sea level rose. And Wrangell Island—and its Ice Age mammoths—became separated from the Siberian mainland. Gradually the mammoths dwarfed in size, probably as a response to the island's limited food. The island also isolated the mammoths from people—and may be the reason why they survived more than 6,000 years after their normal-sized mainland ancestors went extinct.

Yamal Neolithic (ceramics), 4000 BP





# Yamal Iron Age





# Chukotka Arctic coast



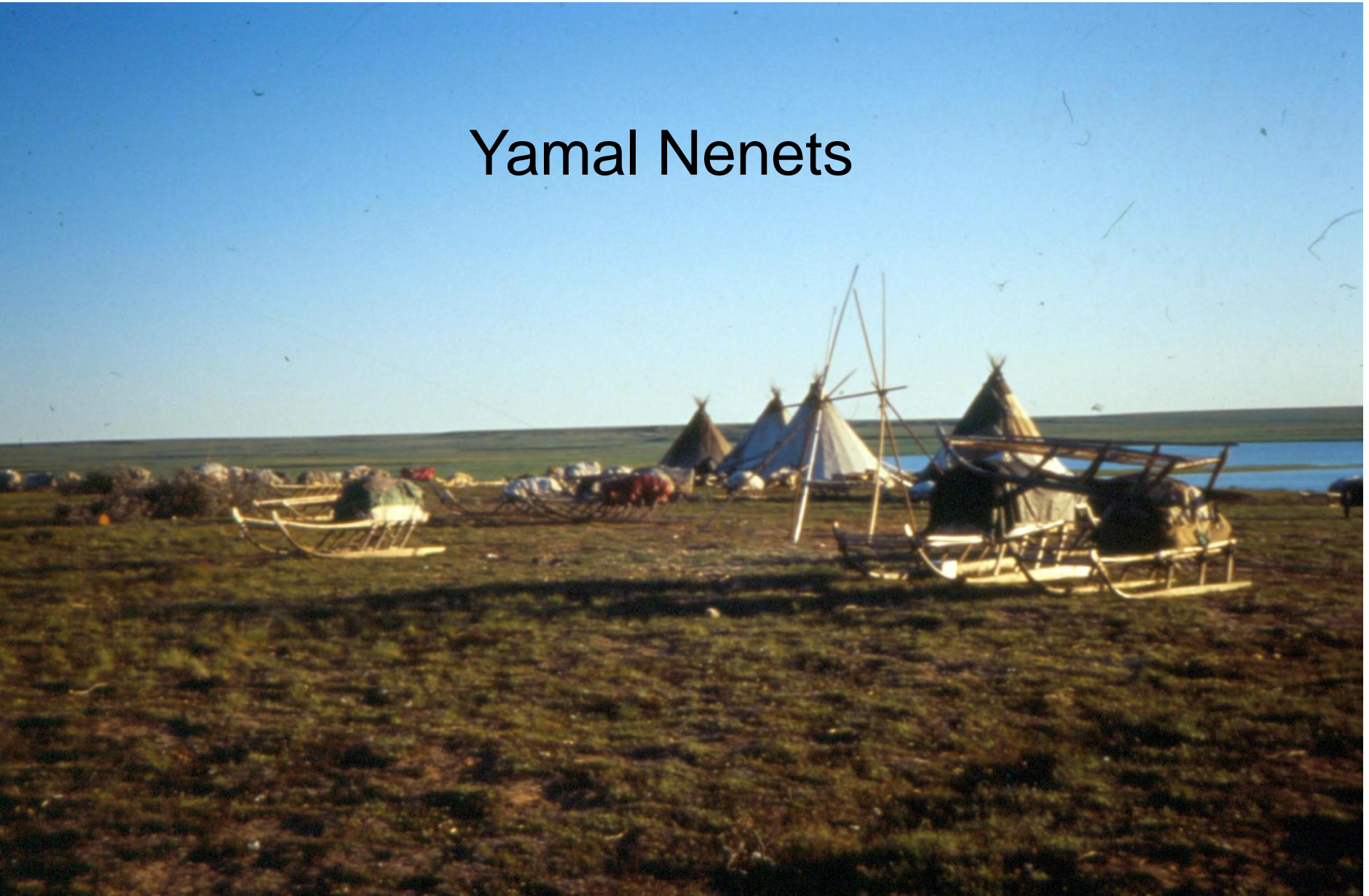


# Northern Mongolia





# Yamal Nenets





Yamal Nenets Reindeer herders –First reindeer herding begins ca. AD 500. Intensive herding begins AD 1700





## Asian - Bering Strait Arctic Migrations

4-5K Siberian Neolithic – Arctic Small Tool

2.5 K Dorset stimulus

0.8 K Thule Whalers



Siberia warmed thousands of years before the North American Arctic, making it possible for Siberian peoples to become maritime hunters. These adaptations later spread into Alaska and Canada.

HEAT  
WAVE

### Paleo-Eskimos on the Move

About 5,000 – 4,000 years ago, Paleo-Eskimos left Siberia and undertook a journey of 5,500 km (3,400 mi). Why? A warmer climate had opened up uninhabited regions in Arctic Canada, and within a few centuries Paleo-Eskimos migrated east from Siberia to Alaska and as far as Greenland.

GO BACK





Våbenspidser med skafttunge. De øverste har formentlig været til lansens, men de nederste er pile-spidser. Nederst til venstre ses en trekantet od til harpunen. Største længde 8,3 cm.

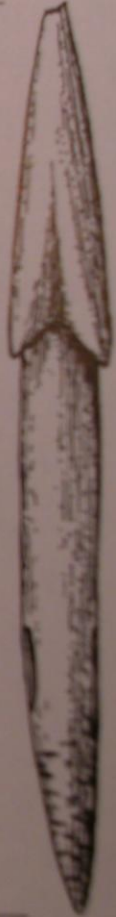
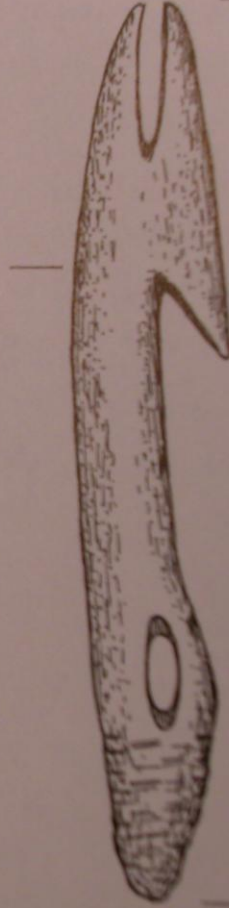


Øverst ses tre knivsblade og tre flækkeblokke. Nederst ses fem trykstokke og fem mikroflækker. Længste mikroflække 7,3 cm.

harpunhovederne - type Qt-A - er modnagen i basen  
som en rensdyrfod. Dette harmonerer med valget af råmateriale: Næsten



1



2



# Maritime Archaic

CANADA

NEWFOUNDLAND



The Maritime Archaic Indians traveled hundreds of miles along the coasts from Maine to Northern Labrador. Many of their tools were crafted from materials acquired in trade.

Photo © Donald McLeod

HEAT  
WAVE

GO BACK

## A Whale of a Find Port au Choix, Newfoundland

Maritime Archaic Indians produced the above carving of a killer whale 4,000 years ago. These residents of Newfoundland and Labrador lived farther north than any Indian peoples today and hunted marine mammals in ice-free waters in a climate not seen again for thousands of years—until today.

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rst  
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le early  
Atlantic  
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Broken Mammoth  
Zone III



10,300 bp

Chesrow



12,500 bp?

Meadowcroft  
Strata IIa



11,300 - 12,800 bp

Cactus Hill

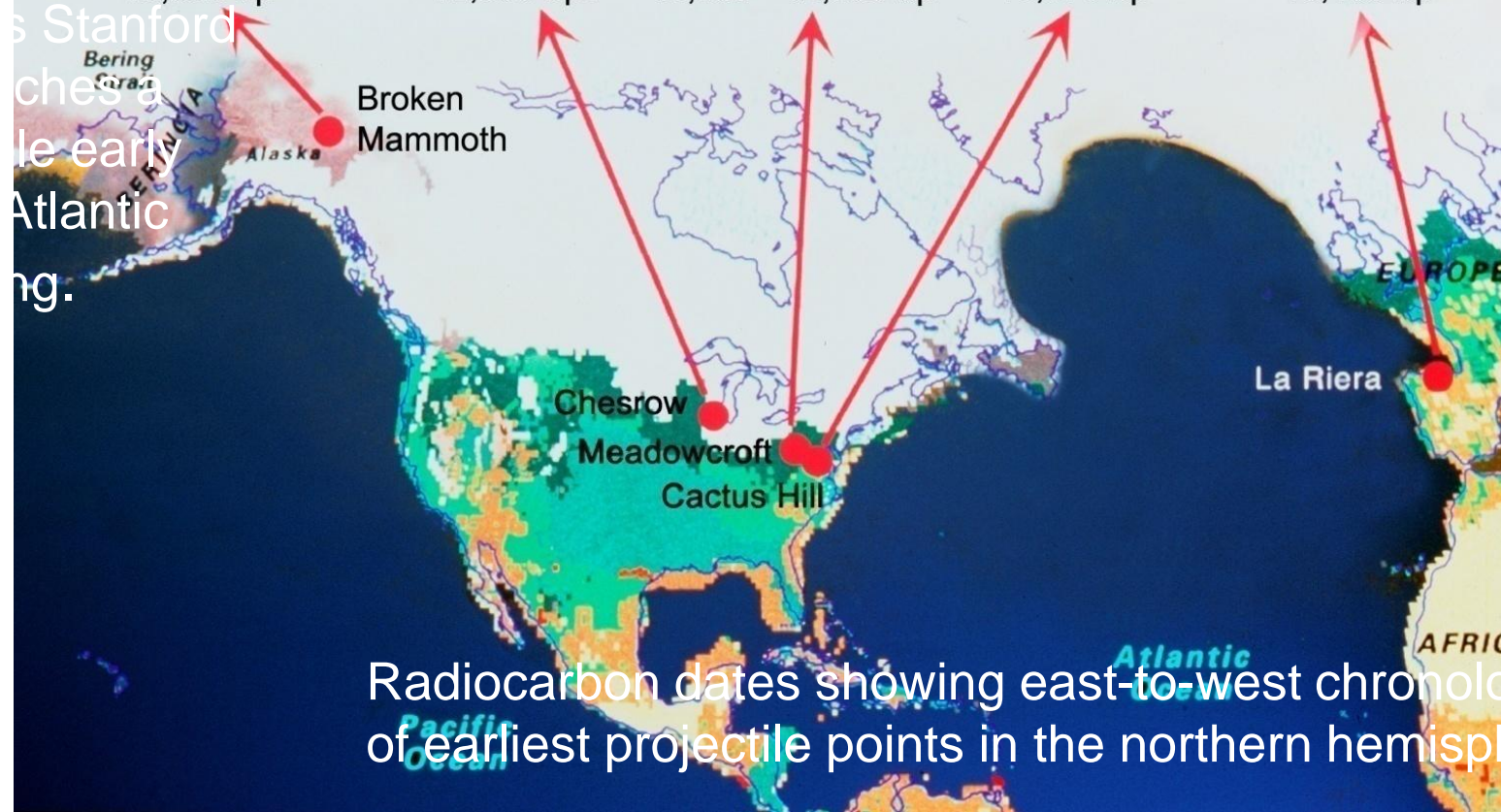


16,670 bp

Cantabrian  
Solutrean



18,450 bp



Radiocarbon dates showing east-to-west chronology of earliest projectile points in the northern hemisphere







Øverst ses tre knivsblade. Nederst ses to endeskrapere og to sideskrabere. Længste knivsblad 11 cm.



Øverst ses to trykstokke og en mikroflækkeblok. Nederst ses fem mikroflækker. Længste mikroflække 5,7 cm.



Dorset Culture, flying bear, ca. AD 500





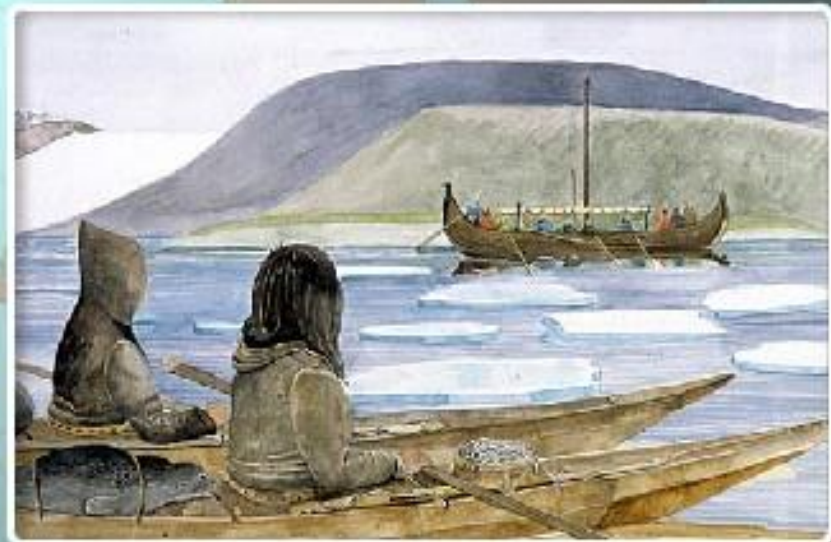






GREENLAND

CANADA

ATLANTIC  
OCEAN

Relatively little contact seems to have occurred between the two groups, primarily because the Norse were farmers and herders, and the Eskimos (Inuit) were sea mammal hunters.

Painting © W. B. Ritchie

EAST  
MEETS WEST

### Contact: 1000 A.D.

Milder conditions in the Arctic brought an unprecedented chapter in human history. For the first time, two branches of humanity—European and Asian—spread around the world in opposite directions. And after thousands of years, they met face-to-face.

GO BACK



Ca AD 1000 - - Thule culture brings Siberian whaling, iron, armor, dog traction, umiaks, sinew-backed bows...and more









CANADA

UNITED  
STATES



Thule Eskimos migrated east and the Norse, or Vikings, migrated west.

**EAST  
MEETS WEST**

**GO BACK**

## Eskimos Move East

Summer Arctic waters once choked with ice gave way to open water. And bowhead whales passed freely along the Arctic coast from the Bering Sea to the North Atlantic. Thule Eskimos, who pursued the whales, reached Greenland about AD 1100 or 1200. Eventually, they encountered Greenland's other newcomers, the Norse.







Olaf Kyrre (Norwegian) coin,  
1065-80.











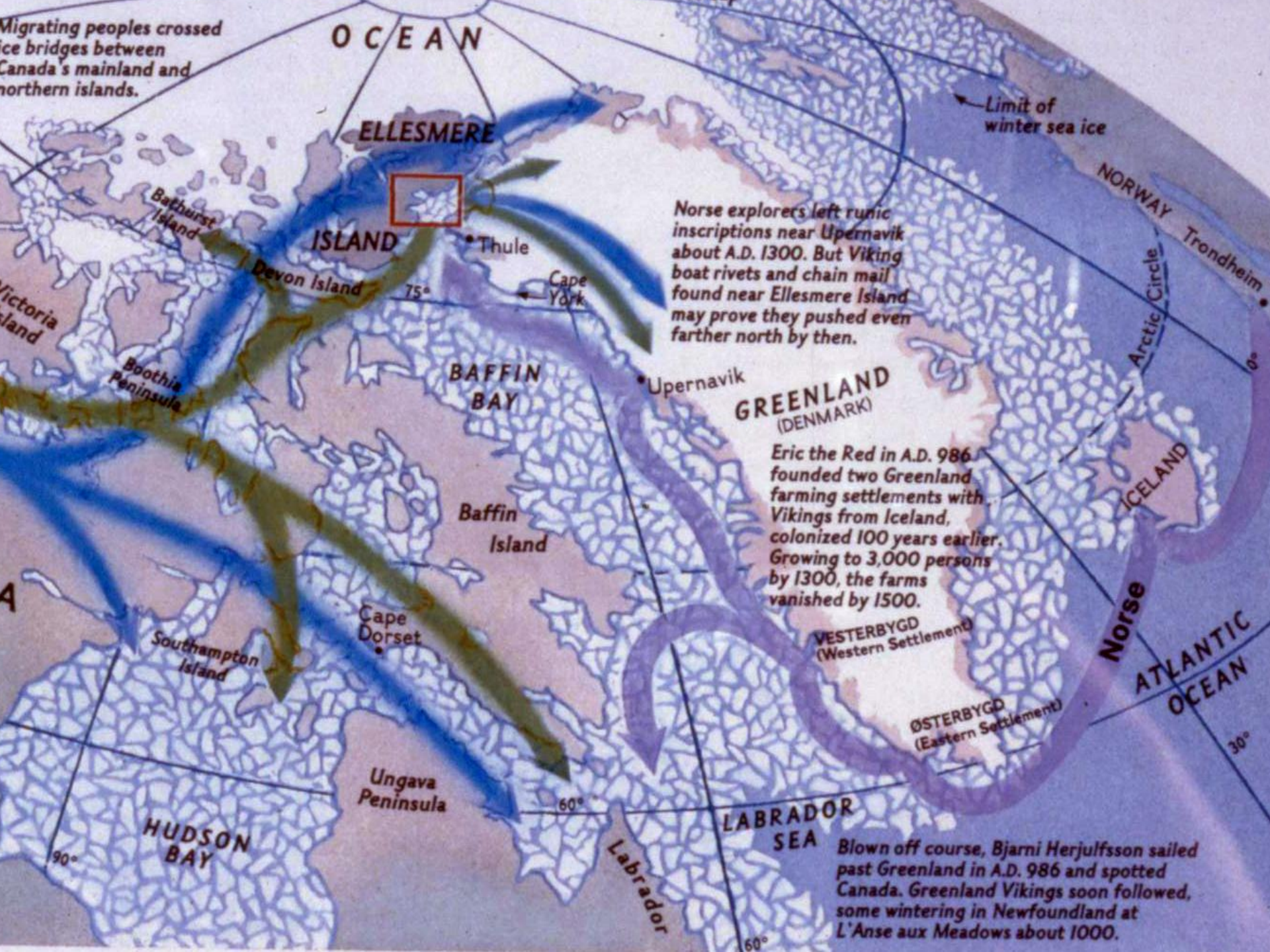




Hvalsey Church, til 1408



Migrating peoples crossed ice bridges between Canada's mainland and northern islands.



OCEAN

ELLESMERE ISLAND

ISLAND

Thule

Cape York

BAFFIN BAY

Baffin Island

Cape Dorset

HUDSON BAY

Ungava Peninsula

Labrador

LABRADOR SEA

Norse explorers left runic inscriptions near Upernavik about A.D. 1300. But Viking boat rivets and chain mail found near Ellesmere Island may prove they pushed even farther north by then.

GREENLAND (DENMARK)

Eric the Red in A.D. 986 founded two Greenland farming settlements with Vikings from Iceland, colonized 100 years earlier. Growing to 3,000 persons by 1300, the farms vanished by 1500.

VESTERBYGD (Western Settlement)

ØSTERBYGD (Eastern Settlement)

Norse

ATLANTIC OCEAN

NORWAY Trondheim

Limit of winter sea ice

Arctic Circle

Blown off course, Bjarni Herjulfsson sailed past Greenland in A.D. 986 and spotted Canada. Greenland Vikings soon followed, some wintering in Newfoundland at L'Anse aux Meadows about 1000.

Victoria Island

Bathurst Island

Boothia Peninsula

Southampton Island

90°

75°

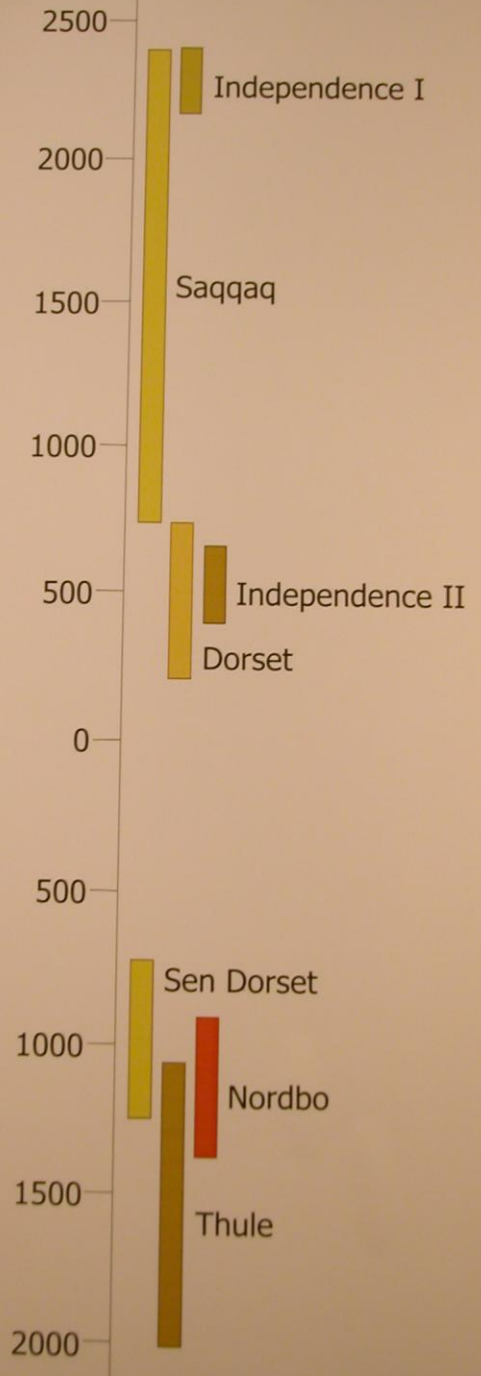
60°

60°

30°

60°





2500  
2000  
1500  
1000  
500  
0  
500  
1000  
1500  
2000

Independence I

Saqqaq

Independence II

Dorset

Sen Dorset

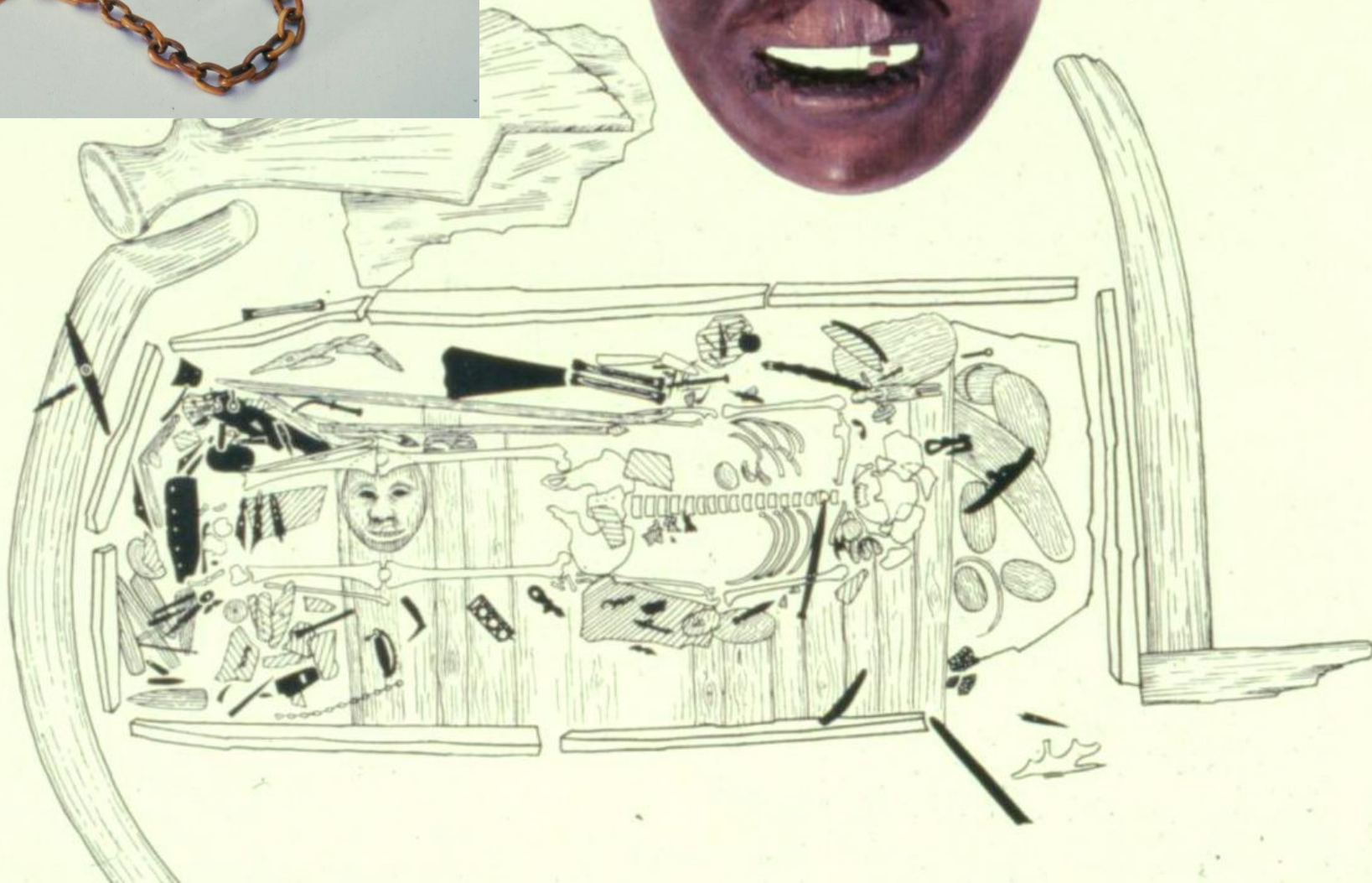
Nordbo

Thule

F Kr







# Wrangell Island July 2007

