

Early human settlements in the Arctic

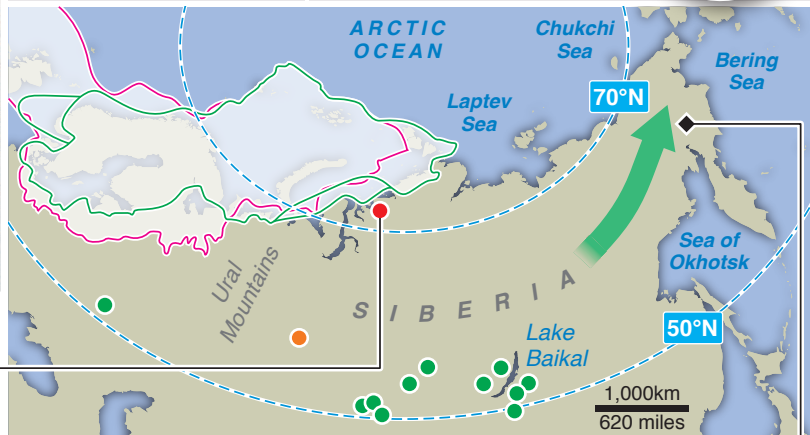
The carcass of a frozen mammoth with signs of weapon-inflicted injuries suggests humans were present in the Eurasian Arctic 45,000 years ago – ten millennia earlier than previously thought

HUMAN SETTLEMENT

- Known northernmost Eurasian Paleolithic sites aged over 40,000 BP*
- Early modern human fossil dated to 45,000 BP

ICE SHEET EXTENT

- Maximum extent at around 60,000 years ago
- Last Glacial Maximum† (20,000 years ago)

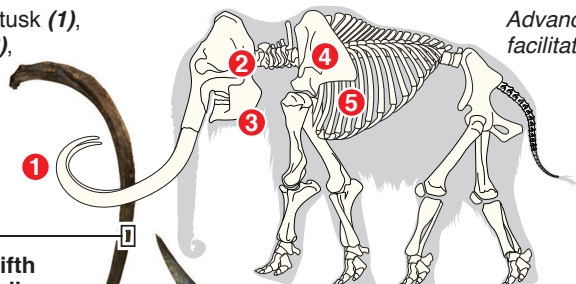


Sopochneya Karga (SK) mammoth kill site in central Siberian Arctic, expands human populated area before 40,000 years ago, from 57°N to almost 72°N

SK Mammoth: Injuries on tusk (1), jugal bone (2), mandible (3), scapula (4), and ribs (5), include dents likely from sharp weapon tips such as thrusting spears

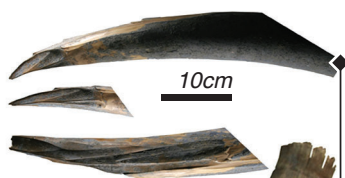
5 Fifth left rib:

Injury caused by slicing blow



1 Right tusk: Tip of tusk shows evidence that thin subparallel spalls were removed, presumably to produce long thin slivers of ivory with sharp edges to use as butchering tools

Tusk 20cm



Tusk tip viewed from different sides

*Before Present

†Earth's last glacial period when ice sheets were at greatest extension

Source: Science Magazine

Pictures: Pitulkov et al., Science (2016)

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