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Fossil ivory deposits in the Arctic relic permafrost

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Fossil ivory (tusks of *Mammuthus primigenius*) is a fossil analogue (FI) of modern ivory. The only region in Russia (and in the entire World) of stable fossil mammoth ivory mining is the arctic part of Yakutia including the coasts of the Laptev Sea, East-Siberian seas, and the New Siberian Islands.

70-4 thousand years ago mammoths inhabited the entire area of the Late Pleistocene cryolithic zone in the northern hemisphere, which stretched from the coasts of the arctic seas far to the north. Yet the area of high-production FI collectors (deposits) are located only within the borders of the continuous modern cryolithic zone in the continental part of the East Arctic sector of Eurasia.

The basic conditions and the stages of formation of the fossil ivory deposits are caused by the major events in the natural processes in the arctic parts of the Earth in the Pleistocene -Holocene. One may mark out two basic stages of formation of FI deposits. The one stage (Late Pleistocene) is the stage of formation of the ivory-bearing collectors in the areas of active development of the Arctic cryolithic zone. The other one (Holocene-modern) is the stage of exposition of the deposits of FI and of formation of its placer concentrations caused by the global degradation of the Arctic cryolithic zone. In this case thermo-abrasive and other cryogenic processes became the active exogenic factors. The practical outcome of these processes is the occurrence of modern commercial FI deposits grouped in North Yakutia. The locations of the commercial deposits in this region are controlled by the following two main factors: bone-bearing collectors representing the continental covering cryogenic formations of the late Pleistocene-Holocene saturated with bone remains of fauna of the mammoth complex - origins of FI are located here; extensive outcrop of the collectors in the abrasion zone at the sea coasts, where their reworking, releasing a useful component and forming the FI concentrations take place.

