Секция «Палеонтология»

The main features of burial of animal remain of mammoth fauna and fossil mammoth bones

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The habitat of mammoth fauna animals on the territory of Yakutia is an indisputable fact. An expert assessment has established that the extraction of fossil mammoth bones and other representatives of the Quaternary fauna on the territory of the Republic of Sakha (Yakutia) reaches up to 80% throughout Russia [1]. Undoubtedly, this is due to the wide distribution of permafrost rocks in Pleistocene deposits (yedoma deposits), in which paleontological remains of mammoth fauna animals have been preserved.

Modern technologies of geoinformation systems (GIS) were used to study the patterns of distribution of mammoth fauna (MF) animal remains in the cryolithozone on the territory of the Republic of Sakha (Yakutia). Thus, due to GIS, an augmented MF database was developed, where, according to analyzed scientific literature sources with the described information, geographical coordinate data were assigned to unique finds of MF animals, such as proboscis, artiodactyls, perissodactyls, predatory, as well as mass accumulations of MF remains.

The data obtained were applied by geospatial reference to the engineering and geological map of the Republic of Sakha (Yakutia) (EGM of the Republic of Sakha Yakutia), in order to obtain data on the ground and geocrylogical components. The data obtained with the help of the EGM of the Republic of Sakha Yakutia were compared with the taphonomy of burials of unique finds of woolly mammoths and mass aggregations. It was found that in 65% of the findings on the burial taphonomy and types of soils at the site of detection correlate well with the data obtained. The study also uses additional materials and analyzes maps of quaternary deposits for further detailed work on the distribution of MF residues in deposits.

According to the analysis of scientific literature sources on the unique finds of the woolly mammoth in Yakutia, data on radiocarbon dating were collected. Thus, a map was compiled (Fig. 1) of 23 individuals of the woolly mammoth according to uncertain radiocarbon dates related to the Sartan glaciation (24-9 thousand years ago) and the Karginsky interglacial (50 (55)-25 thousand years ago). It follows from this that the masses of the extinct representatives of the woolly mammoth falls during the Karaginsky Interglacial period (50 (55)-25 thousand years ago).

Paleontological research of MF remains using GIS to analyze a variety of data in order to identify patterns of their distribution is a promising direction in the study of representatives of animals of the Quaternary period.

References

1) The concept of the development of the collection, study, use, processing and sale of paleontological materials of mammoth fauna on the territory of the Republic of Sakha (Yakutia) dated August 13, 2018 N 649-RG

Illustrations

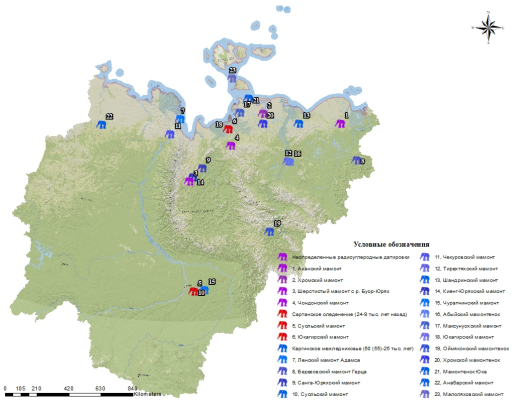

Рис. 1. Figure 1 Data map of woolly mammoth animals on the territory of the Republic of Sakha Yakutia by radiocarbon dating