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# Paleomagnetic and rock magnetic studies on peats from the Nerpichiy bay coast, Southwestern Priokhotie

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The eastern Nerpichiy Bay coast (the northern part of Nikolai Bay of the Sea of Okhotsk) is almost completely covered with peat. Coastal outcrops consist of clay loams and sandy loams with gravels and pebbles, underlying a thick layer of peat. The total thickness of the studied peat section (Nerpichiy section) is 546 cm. Continuous sampling was performed to collect 273 oriented samples for rock magnetic and paleomagnetic studies.

Radiocarbon measurements on samples from two parallel section profiles performed at the Institute for Monitoring Climatic and Ecological Systems, Siberian Branch of the Russian Academy of Sciences and the North-East Interdisciplinary Scientific Research Institute, Far East Branch of the Russian Academy of Sciences yielded 15 dates which placed the onset of peat formation at 10,000 cal. BP, with rates of peat accumulation in different intervals of the section varying from 0.25 to 2.71 mm/year.

In the course of rock magnetic research, time dependences of initial magnetic susceptibility (k) and natural remanent magnetization (NRM) were plotted. The mean NRM value of peats in the examined section is $9.03\times10^{-7}$ A/m., with the amount of scatter in values being three orders of magnitude, from $2.33\times10^{-7}$ to $1.20\times10^{-5}$ A/m. Negative values of k are recorded almost throughout the entire profile of the examined section interval, which is characteristic of diamagnetic materials. The measured magnetic susceptibility ranges from $-5.46\times10^{-3}$ to $1.14\times10^{-3}$ SI units, with the mean value of k being $-3.1\times10^{-5}$ SI units.

Paleomagnetic studies allowed relative paleointensity values to be calculated using the pseudo-Tellier and Bagina-Petrova methods. The good agreement of results obtained by different methods showed 214 samples (78.4%), with the correlation coefficient of 0.89. Based on the calculation results, a relative paleointensity curve was plotted for the last 10,000 years.

Alternating field demagnetization revealed intervals with negative magnetization inclination in the studied section, which most likely correspond to geomagnetic excursions in the Holocene.

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