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Water supply from the Yana River basin during the Pleistocene

The water supply from the Yana River basin was calculated with the methods of palaeohydrological analogue and of morphohydrological relationship. Published reconstructions of the palaeolandscapes of the Russian Northeast were compiled for different periods of the Pleistocene. These reconstructions were used to choose the recent hydrological analogue (region) for a given period in the past. The elements of water budget were estimated with the Atlas of the World Water Budget (1978) for these regions. These data were used for mapping of the mean year runoff at the Yana River basin in late Pliocene and during the main cold and warm periods of the Pleistocene.

In late Pliocene the water supply from the Yana River basin was 2.9-3.8 times more than recent (1000 cu.m/s). During Pleistocene the water supply had general trend to decrease, with circles of increasing up to 1.6-2.8 of recent values during warm periods and decreasing to 0.6-0.8 of recent values during cold periods.

The correlation between the water discharge and morphology (width and meander length) of the recent channels and palaeochannels at the Yana River delta was used for the water discharge reconstruction for the late Holocene. The size of the delta channels was large than recent about 1000 years ago, and the river discharge was not less than 1500 cu. m/s during that time.