

CHUISKO-KURAI ICE-DAMMED LAKE AT THE STAGES OF FORMATION AND DEGRADATION

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Presented new results of determining the size of the ultrahigh-pressure Chuisko-Kurais ice-dammed lake (Gorny Altai), the duration of formation and conclusions about continual-discrete processes of its a degradation.

At the final stage of the formation of the lake, the absolute height of its level was 2133 m; the maximum depth is 673 m, the length of the boundaries of the paleo-lake is 859.85 km, the area of its water area is 3 054.45 km², and the volume of water mass reached 753.16 km³ at the maximum. The filling of the basin and the formation of the lake took place over 3 978 years. The conditions for the slow filling of the basins with water were favorable for the formation of perennial icing and the formation of a resistant ice-dammed ultrahigh-pressure dam-ice reservoir resistant to destruction, sufficient to contain the hydrostatic pressure exceeding 65 kg/cm². The analysis of changes in the level of the lake shows that the emptying of the lake was uneven and not simultaneous, as expected. The results of the first high-precision instrumental leveling of the abrasion-accumulative relief are attached, the results of which establish the dependence of the change in the heights of the abrasion benches on the absolute height of the lowering lake level. The trends of the initial altitude rows of the abrasion altitudes of the Kurai and Chuya parts of the basins have a clearly pronounced nature of seasonality: the increasing value of lowering the level in the winter season, alternating with its decreasing value in the summer. Water consumption during summer periods in minimax was 1000–2 632 m³/s, and in winter – from 14–43 m³/s to 500–700 m³/s.

Key words: high-pressure ice dam, self-freezing, abrasion terraces, lake degradation, continually discrete process.

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