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Isotopic investigation of rivers runoff in glaciated regions of the central Asian arid highlands (southeastern Altai)

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Stable isotopes investigations were carried out during fieldwork in glacier basins of the Mongun-Taiga (southwestern Tuva) and Tsambagarav (northwestern Mongolia) mountain massifs in July, 2016. These Arid highlands are problematic in the context of provision of water resources, and glaciers here play a large part in nourishment of the rivers. Concentrations of the oxygen 18, deuterium and the mineralization were measured in the samples of meltwater, precipitation, water from streams, ice and snow. Sable isotope method was used for separation of the glacier runoff. Average isotopic characteristics for different water sources, such as glacier ice, snow patches and precipitation, were calculated and the contribution of these sources in total runoff was valued. Isotopic method was also used for estimation of contribution of buried ice meltwater from rock glaciers ice cores.