

Glacial meltwater amount in the Terskey-Alatoo Range, Kyrgyz Republic

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To determine the effect of the recent glacial shrinkage on the river discharge in this area, meltwater amount from glaciers was estimated in the Chon-Kyzyr-Su watershed of the Terskey-Alatoo Range, Kyrgyz Republic. The observations of automatic weather station in front of the glacier and melting amount on the glacier were conducted during in 2004 and 2005. The electric conductivity (EC) of the river water, glacial meltwater, and non-glacial water was measured in the Chon-Kyzyr-Su watershed in 2004 and 2005. The glacial meltwater amount was separated from river water using the EC and discharge data at a hydrometeorological station. Fluctuations in the glacial meltwater amount calculated by EC and discharge data show the same trend with those of glacial meltwater amount calculated from the heat-balance model based on data from an automatic weather station at the glacier front. The data show that the percentage of total river water that is from glacial meltwater achieve up to 20-30% in July-August in 2004. The glacier areas occupy only 13% in the watershed area of the Chon-Kyzyr-Su River, and the contribution of glacial meltwater to the river water is large in this area.