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Construction of hydrological model of the Ili River Basin

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The Ili River Basin is stretching over the China and Kazakhstan. It is an internal river that flows into the Balkhash Lake, which is the largest lake in the Central Asia. Its significant discharge comes from the Tian Shan ridge. Thus, elevation and precipitation difference in the basin is very large. Especially, from the middle part of the river to the lower part of the river, precipitation amount is drastically decreased, and there are classified as semi-arid and arid zone. Though traditional living form of this area was combination of nomadic grazing, and agriculture, large-scale developments such as electric power development by a dam construction and agricultural development during the period of the Soviet Union. In addition to this, under the condition of global warming, the amount of water supplied by glacier melting in the Tian Shan Mountain might decrease. Thus, to evaluate these anthropogenic impacts on hydrological cycle of the basin, we constructed a hydrological model of the basin.

Keywords: Ili, Balkhash lake, Kapchagai reservoir, irrigation