

## Spatial Variation and Long-Term Change of Hydrological Regime of Kherlen River Basin, Mongolia

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In the northeastern Asia including Mongolia and the northeastern China, a distinct "ecotone" (i.e., forest-grassland-desert) is formed due to the steep meridian gradients in climatic conditions. Such an ecotone is thought to be very sensitive and vulnerable to changes in external environment (e.g., global warming and human activity). It has been reported that air temperature in winter and spring gradually increased and precipitation amount decreased in last four decades. It is highly possible that the warming and drying of the atmosphere induce drastic changes in plant growth and vegetation distribution through changes in hydrological cycle. Our study basin, the Kherlen River basin is located in central part of this ecotone. It is originated from mountainous region near by Russia and flows east. The drainage area is about 100,000 square kilometers. Besides the meteorological data at Meteo-station and Meteo-post sites within or nearby the basin, flow discharge data at three hydrological stations, Baganuur, Underkhaan and Choibalsan are also collected. All these three stations have records as long as 40-50 years.

A comprehensive dataset including both meteorological and hydrological data is made. This makes it possible to analyze the spatial variation of hydrological regime and its long term trends. From these data, this shown that the mountainous area above Baganuur is the major source area of this basin, and the amount of annual discharge does not increase clearly with the increment of the drainage area. And also a decrement of annual discharge is detected in last several decades.