

Hydrological observation and preliminary analysis of Kherlen River basin

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The objective of this study is to observe the short term variation of water level and then channel discharge in addition to the routine observation carried out by Institute of Meteorology and Hydrology (IMH) and make preliminary analysis based on these observational results. We set up 4 automatic water level observation stations at 4 hydrological stations, Mongenmoryt, Baganuur, Underkhaan and Choibalsan along the main channel of the Kherlen River. The observation period is from June 18 to end of September. During this period, water levels are recorded with time interval of 10 minutes. They are compared with 12-hour water level data observed by IMH. In this study, the rating curves between water level and channel discharge are made at all stations. Then, 10-minute channel discharge are computed and compared with 12-hour discharge data provided by IMH. This makes it possible to represent the rapid change of hydrographs which may be very important for stations with small drainage area, for example Mongenmoryt hydrological station.

From these data, the celerity and the travel times of flood wave are estimated. Also the reduction of peak discharge along the main channel is observed. A water balance analysis shows the water balance of each sub-basin or tributary basin area. It is shown this basin area above Mongenmoryt is the major source area of channel water. It is implied that there may be a very strong interaction between the river channel and groundwater system nearby the river system. This will be intensively studied in our further research works.