Snow data assimilation in the Lena River basin

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Freshwater flux in the river from the pan-arctic continents is one of important components for ecosystems and circulation in Arctic Ocean. In order to understand freshwater flux in the river, surface data set in the large river base was too sparse and limited. Recently, data assimilation technique has been developing to fill the data gap in the large-scale basin or continent. Here, we applied snow data assimilation system (SnowAssim, Liston and Hiemstra, 2008) to get better understanding of water cycle in the Lena River. National Polar Research Institute of Japan had carried out field campaign on snow observation within and around the Lena River basin during 3 winters of 1997-1998, 1998-1999, and 1999-2000. This data was used for snow data assimilation with base-line meteorological data set (BMDS) version 4. In this presentation, we will show the results and effectiveness of snow data assimilation on water budget in the Lena River basin.