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Fluctuation of glaciers and glacier runoff in Ili Basin during the last millennium

Akiko Sakai[1*], Chiyuki Narama[2], Nozomu Takeuchi[3], Koji Fujita[1], Jumpei Kubota[2]

[1]Nagoya University, [2]RIHN, [3]Chiba University

Ili River Basin is located at the Central Asia across from northwest China to Kazakhstan. A lot of mountain glaciers distributes at the northern Tien Shan Mountains in the Ili Basin. Meltwater from those glaciers flow through the Ili River and pour into the Balkhash Lake. Total glacier area attains only 0.7% of the total area of the basin. But, meltwater from glaciers is significant water resources because precipitation tends to increase with altitude. Furthermore, glacier can supply water during the summer dry season.

Hence, fluctuation of discharge from glaciers should have affect on the human activity in this basin. In this study, we have tried to reconstruct the fluctuations of glaciers and discharge from glaciers during the last millennium using proxy data such as tree ring and ice core record.

We will compare the calculated fluctuation of glacier area with glacier expansion record indicated by moraine dating in this presentation.

Keywords: glacier, discharge, proxy, tree ring, ice core