

## Fluctuations of the glacier after the Younger Dryas period in the Japanese Central Alps estimated from TCN dating

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This study estimated the timing of the glacier recession from TCNs (Terrestrial Cosmogenic Nuclides) exposure ages of bedrocks and a moraine on the Komakai-no-ike Cirque in the Central Japanese Alps. TCNs enable us to know how long rock surfaces have been exposed on the ground. At the place like a cirque bottom, accumulation of TCNs in rocks had started evidently after the glacial covering and denudation. So, the exposure age seems equal to the age from being released from the glacier. The formation age of cirque and the glacial advance period have been estimated from TCNs dating of glacial deposits (Aoki, 2000; Aoki, 2003), but the timing and the recessional process of glacier have not been clear. It is possible to consider that the glacier retreat and disappearance corresponds to the climatic changes, it is very important to estimate the timing of glacier recession in restoring the fluctuations of paleoclimate. Therefore, we measured the concentration of <sup>10</sup>Be of bedrocks and a moraine in the cirque, using Micro Analysis Laboratory, Tandem Accelerator (MALT), The University of Tokyo. As a result, it seems that the last glacial advance period in the Komakai-no-ike Cirque corresponds to the Younger Dryas period, and the glacier began to retreat and loss over thousands of years after that.

Keywords: cirque, glacier, the Younger Dryas period, Terrestrial Cosmogenic Nuclides (TCN), exposure age, Accelerator Mass Spectrometry (AMS)