
[JJ] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-CC Cryospheric Sciences & Cold District Environment

[A-CC28]Glaciology

convener: Takayuki Nuimura (Chiba Institute of Science), Ishikawa Mamoru (Hokkaido University), Kzutaka Tateyama (国立大学法人 北見工業大学, 共同), Hiroto Nagai (Japan Aerospace Exploration Agency)

Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

The cryosphere is a fundamental component of the earth system. It is a region where snow and ice exist in the form of glacier/ice sheet, snow cover and snowfall, frozen ground, sea ice and fresh water ice, and they play a critical role in the global environment under the interactions with atmosphere, ocean, ecosystem and others. In this session, research results on physical and chemical characteristics of snow and ice, variations and dynamics of cryospheric environment, roles of the cryosphere on the earth and other planets will be discussed broadly, regardless of the research method.

[ACC28-P03] Glacial lake outburst flood in Achinathang village, Ladakh Range on 4 August 2017

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Keywords: glacial lake, glof, satellite data analysis

Recently, glacial lakes are expanding with glacier shrinkage due to global warming. Especially in the eastern Himalayas, glacial lakes have been expanding rapidly since the 1960s (Ageta et al., 2000) and damages due to glacial lake flood (GLOF) have been reported since the 1980s (Yamada and Sharma, 1993; Komori et al., 2012). Until now, glacial lakes in eastern Himalayas have been globally attracting attention from the scale of disasters that occurred in the past and the distribution of huge glacial lakes. However, looking at the whole Himalayas, the size of the glacier lake, the timing of its appearance, the speed of expansion, the factor of the destruction, and the damage situation of the GLOF vary from region to region. Small scale glacial lakes are distributed in the Ladakh Range in the northwestern part of the study site, and damages have been caused by water wheels and bridges due to GLOF occurring in the Domkhar Valley in July 2003 (Narama et al., 2012) In July 2011, destruction of about 130 houses was destroyed by GLOF in the village of Thalish located on the north side of the Ladakh Range and damage to agricultural crops has occurred (OCHA, 2011). In this area, the scale and expansion rate of the glacial lake are small, but the distance between the glacial lake and the people's residential area is very close, and the land use is also concentrated along the river, so even a small glacier lake can cause a major damage (Narama et al., 2011; Ikeda et al., 2016).

In this study, we report the details of the glacial lake outburst flood that occurred on August 4, 2017 in the Ladakh Range, Achinatan village in northwestern India.