

## The Madi River flood events due to glacial-ice avalanches from Mt. Lamjung, Annapurna

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Two flood events occurred in 2003 in Madi river, southeastern basin of the Annapurna massif. These events have been listed by previous study as the latest event of glacial lake outburst flood (GLOF) in the Nepal Himalayas. According to checking satellite images and field survey, this flood is not GLOF phenomenon but rather glacial-ice avalanche induced flood. Because, a glacial lake which was suspected as the breached lake was actually appeared from 2005 to 2008. The present outlet condition of the glacial lake also has not braked channel which is a evidence of GLOF event in the past. Furthermore, a devastated river bed leading out of the avalanched valley (eastern branch) was confirmed in field survey in 2014.

In this presentation, we will also make mention following result and recommendation,

- In the Nepal Himalayas, GLOF from moraine-dammed lake, which is one of the typical disaster in the asian wet-tectonic zone will be not frequent disaster in future.
- Multiple caution and monitoring for the flood from glacial ice avalanche due to glacial snout calving and water body rupture in debris-covered glacier are required.

Keywords: glacier snout calving, GLOF, global warming, satellite image, Nepal, Himalaya Mountains