

## Extraction of supraglacial lakes on debris-covered glacier using ALOS-2/PALSAR-2

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In the eastern part of the Himalaya (eastern Nepal and Bhutan), large drainages occur from supraglacial lakes on debris-covered glaciers when large lake connects to englacial network (Komori et al., 2012; Rounce et al., 2016; Miles et al., 2018). In the Himalaya, it is difficult to monitor the variations of supraglacial lakes during summer, because most optical satellite images are covered by cloud due to Indian monsoon. It is possible to investigate supraglacial lake under cloud using ALOS-2/PALSAR-2 of microwave sensor. However, backscatter of supraglacial lake differs in relief conditions on debris-covered glacier, and ice cliff and depression also have lower backscatter. In this study, we try to extract supraglacial lakes correctly using ALOS-2/PALSAR-2 data analysis.

Keywords: supraglacial lake, debris-covered glacier, ALOS-2/PALSAR-2, relief amount