
[EJ] Evening Poster | S (Solid Earth Sciences) | S-TT Technology & Techniques

[S-TT48] Synthetic Aperture Radar

convener: Yu Morishita (Geospatial Information Authority of Japan), Shoko Kobayashi (Tamagawa University), Youhei Kinoshita (一般財団法人リモート・センシング技術センター, 共同), Takahiro Abe (Earth Observation Research Center, Japan Aerospace Exploration Agency)

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ALOS-2 and Sentinel-1, which have highly enhanced capacity compared to previous SAR satellites, were launched in 2014, and their utilization has been widely expanding as the data has accumulated. Now we are facing a new and abundant era of the satellite SAR, along with a worldwide trend to an open and free data policy of satellite data, and with next-generation advanced SAR satellite plans by several countries. In addition, SAR technologies with other platforms, such as ground-based SAR with high temporal resolution and UAV (Unmanned Aerial Vehicle) SAR with flexible operability, have also been developed and used for various targets. These facts indicate that the SAR utilization data has become widespread in both basic researches (e.g., earth science) and diverse applications (e.g., disaster prevention and forest monitoring). In this session, we would like to share a broad knowledge and information regarding SAR. A wide range of research topics from basic researches to advanced applications will be welcomed.

[STT48-P15] Seasonal variations of supraglacial ponds on debris-covered glacier in the eastern Himalaya

*Chikako Kinefuchi¹, Chiyuki Narama², Tsutomu Yamanokuchi³, Takeo Tadono⁴ (1.Niigata University, Graduate School of Science and Technology, 2.Niigata University, Department of Science, 3.Remote Sensing Technology Center of JAPAN, 4.JAXA)

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In the eastern Himalayas, single large proglacial ponds have often developed gradually by connecting small and growing supraglacial ponds at the terminal parts of glaciers (Ageta et al., 2000). While, the Tshojo Glacier flood of 2009 in Bhutan occurred in a case in which a debris-covered glacier has a fragmented or gently sloped moraine without proglacial lakes (Komori et al., 2004). Glacial lakes are those that connect with each other and develop into huge glacial lakes and others that cause seasonal fluctuations to cause large-scale floods like the Chozo glacier. Regarding fluctuations of glacial lakes, there are reports showing seasonal variations from data of different years (Benn et al., 2017) that the area changes drastically over 3 years (Watson et al., 2015). The seasonal fluctuation of the season is not clear. The characteristics of sudden large drainage from debris-covered glaciers are the lack of a proglacial lake in front of them, disappearance of one or several supraglacial lakes during flooding, and drainage through englacial/subglacial channels. To clarify the seasonal variations of supraglacial ponds, we investigated the area changes of supraglacial ponds on debris-covered glaciers in the eastern Himalayas using Landsat8 OLI and ALOS-2 PALSAR-2 data.