

Interpretation of landslide surface deformation in Kali Gandaki River watershed, Nepal using ALOS-2/PALSAR-2 InSAR image

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Previous studies have revealed and mapped glacial landform, fluvial terraces, and landslide landform in Thakkohla-Mukthinath region, between Kagbeni and Ghasa along Kali Gandaki River, Nepal. And many attentions were paid to detect landslides that brock channels in the region, especially after Gorkha earthquake (25 Apr 2015; Mw7.8). Therefore, I tried to interpret landslide surface deformation on mountain slopes in Kali Gandaki River watershed after the earthquake, using Synthetic Aperture Radar interferometry (InSAR) image. The number of produced InSAR images was six, which is master image/slave image in order from ALOS-2/PALSAR-2 data, 08Oct2015/17Dec2015, 08Oct2015/30Nov2017, 25Feb2016/06Oct2016, 30Nov2017/24Jan2019, 08Mar2018/24Jan2019 and 31May2018/24Jan2019. In these InSAR images clear precursory landslide surface deformation was not interpreted on mountain slopes facing main stream of Kali Gandaki River. However, whose tributary watershed; i.e., Myagdi River watershed gave some landslide surface deformations (e.g., in 83.3983E, 28.4842N) clearly interpreted in the InSAR image of 08Oct2015/17Dec2015, which was relatively better coherence than the rest five images.

Keywords: SAR, earthquake, landslide, interpretation