

Exploring the Capabilities of Sentinel-1A and Sentinel-2A Data for Landslide Mapping

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Abstract : Landslides are one of the most frequent and devastating natural disasters in Indonesia. Many studies have been conducted regarding this phenomenon. However, there is a lack of attention in the landslide inventory mapping. The natural condition (dense forest area) and the limited human and economic resources are some of the major problems in building landslide inventory in Indonesia. Considering the importance of landslide inventory data in susceptibility, hazard, and risk analysis, it is essential to generate landslide inventory based on available resources. In order to achieve this, the first thing we have to do is identify the landslides' location. The presence of Sentinel-1A and Sentinel-2A data gives new insights into land monitoring investigation. The free access, high spatial resolution, and short revisit time, make the data become one of the most trending open sources data used in landslide mapping. Sentinel-1A and Sentinel-2A data have been used broadly for landslide detection and landuse/landcover mapping. This study aims to generate landslide map by integrating Sentinel-1A and Sentinel-2A data use change detection method. The result will be validated by field investigation to make preliminary landslide inventory in the study area.

Keywords : change detection method, landslide inventory mapping, Sentinel-1A, Sentinel-2A

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