

Land Subsidence Potential Detection in Yogyakarta International Airport using Sentinel-1 Insar Data

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Abstract	<p>On January 27, 2017, the Indonesian Government started building a new international airport in Yogyakarta Province, named Yogyakarta International Airport (YIA) to replace Adisucipto International Airport. YIA is located near the beach, which means that an awareness of natural disasters, such as coastal flooding, is essential. One of the causes of sea water flooding is land subsidence phenomenon. This land subsidence phenomenon can be monitored by using Sentinel-1 Interferometric Synthetic Aperture Radar (InSAR) data. To monitor the crustal deformation, the data used in this research are from years 2016-2019. The data were processed through LiCSBAS software which is published by the COMET in the UK. In the processing scheme, interferograms with many unwrapping errors are detected and removed via loop closure. Reliable time series and velocities are extracted using several noise indices, with the help of masking. The results show the subsidence phenomenon in the YIA area (up to 25 mm).</p>
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