

**A Case Study in Monitoring of Monsoon  
Flooding in Eastern Sri Lanka using  
ALOS PALSAR data**

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Flood is one of the major natural hazards in Sri Lanka. Owing to its geographical location Sri Lanka experiences periodical flooding at places due to Southwest and Northeast monsoons. In addition to the monsoons, direct or indirect effects of tropical cyclones developed in the bay of Bengal sometimes lead to flood hazard. The demand for near real-time (NRT) information on natural disasters has increased considerably during recent years worldwide. Because of their nearly all-weather day night capabilities Synthetic Aperture Radar (SAR) sensors are optimally suited for providing reliable information on extensive floods, which usually occur during long lasting precipitation and cloud cover periods. Flood information is needed as quickly and detailed as possible to provide an overview of the situation to improve crisis management and response activities.

In this study, multi-temporal techniques and threshold value of backscatter coefficient derived from two ALOS/ PALSAR images of 12 January 2008 and 13 April 2008 are used for detection of flood areas in the Eastern parts of Sri Lanka during early January 2008. Amplitude images of SAR show the backscatter intensity of the ground surface. The smooth water surface is detected as a portion of the very low intensity. Therefore SAR backscattering intensity generally changes to lower according to the land cover changes from non-water surface to water surface by flooding.