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APPLICATION OF MODIS DATA TO ASSESS THE LATEST FOREST COVER CHANGES OF SRI LANKA

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Abstract. Assessing forest cover of Sri Lanka is becoming important to lower the pressure on forest lands as well as man-elephant conflicts. Furthermore, the land access to north-east Sri Lanka after the end of 30 years long civil war has increased the need of regularly updated land cover information for proper planning. This study produced an assessment of the forest cover of Sri Lanka using two satellite data based maps within 23 years of time span. For the old forest cover map, the study used one of the first island-wide digital land cover classification produced by the main author in 1988. The old land cover classification was produced at 80 m spatial resolution, using Landsat MSS data. A previously published another study by the author has investigated the application feasibility of MODIS and Landsat MSS imagery for a selected sub-section of Sri Lanka to identify the forest cover changes. Through the light of these two studies, the assessment was conducted to investigate the application possibility of MODIS 250 m over a small island like Sri Lanka. The relation between the definition of forest in the study and spatial resolution of the used satellite data sets were considered since the 2012 map was based on MODIS data. The forest cover map of 1988 was interpolated into 250 m spatial resolution to integrate with the GIS data base. The results demonstrated the advantages as well as disadvantages of MODIS data in a study at this scale. The successful monitoring of forest is largely depending on the possibility to update the field conditions at regular basis. Freely available MODIS data provides a very valuable set of information of relatively large green patches on the ground at relatively real-time basis. Based on the changes of forest cover from 1988 to 2012, the study recommends the use of MODIS data as a resalable method to forest assessment and to identify hotspots to be re-investigated. It's noteworthy to mention the possibility of uncounted small isolated pockets of forest, or sub-pixel size forest patches when MODIS 250 m x 250 m data used in small regions.

[Conference Paper](#) (PDF, 1351 KB)

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