COMPARATIVE STUDY OF HOTSPOT ALGORITHM TO FOREST FIRE DETECTION IN PULAU SUMATRA AND KALIMANTAN

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Abstract

There are various data and algorithms that used to detect hotspot include NOAA-AVHRR data using LAPAN algorithms, MODIS data using NASA algorithms and ATSR data using ESA algorithms. The study result are comparison of hotspot detection algorithm and the hotspot detection results from the three sources of data (NOAA-AVHRR, MODIS WEBFIRE and ATSR) with 3 algorithms (LAPAN, NASA and ESA). Hotspot data dated October 3, 2006 obtained number of hotspot is same in South Sumatra Province from NOAA (NOAA-18) and ATSR data, ie 140 points. Ogan Komering Hilir district as well and it's amount 80 point. Spatially, location hotspot from 3 data source (NOAA-18, ATSR and MODIS WEBFIRE) obtained same location, ie cluster in the north eastern part of Ogan Komering district. Similarly in other districts in South Sumatra Province as Muaraenim, Musi Banyuasin and Musi Rawas district are also obtained same number of hotspot from 2 data sources (NOAA-18 and ATSR) on that date. The searching from another hotspot data obtained data dated October 1, 2006 in Kalimantan, especially in Central Kalimantan Province obtained number of hotspot almost the same from 2 data source (NOAA 1103 points, MODIS WEBFIRE 1156 points). From this study, it can be concluded that there are difference and similarities of number of hotspot daily from 3 data sources among other caused by differences in record time, clouds covering hotspots during recording and threshold values used.

Keywords: Comparative study , hotspot, NOAA-AVHRR, MODIS, ATSR