

Analysis of Forest Fire Damage Area in Gangwon-do, Korea Using High-Resolution Aerial Images and Near-Infrared Images

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Abstract: On April 4, 2019, a forest fire in Goseong, Gangwon-do was declared a national disaster. This massive forest fire spreaded to the nearby city of Sokcho, and the damaged area reached about 1,757ha. On April 9, 2019, when forest fire was extinguished, A high-resolution aerial photographs of 10cm GSD (Ground Sample Distance) were taken to analyze the status of forest fire-damaged area. Forest fire damage analysis was performed by calculating the Normalized Difference Vegetation Index(NDVI) using color images and near-infrared images taken before and after the damage, and analyzing the relative changes. In particular, the extent of the damage was reviewed by calculating statistics corresponding to each 'Forest type' using 'Digital forest type map'. This study was able to estimate the damaged area of forests due to forest fire, and it is expected that systematic analysis of forest fire damage will be made through further additional research.

Keywords: NDVI, Digital forest type map, Disaster of forest fire