

# Forest Monitoring of Fire-Damaged Areas by Using Landsat ETM+ Data

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## Abstract

This paper analyzes forest fire area by using Normalized Difference Vegetation Index(NDVI), Vegetation Wetness Index(VWI) and Normalized Burn Ratio(NBR) of Landsat ETM+ data in Chung-Yang region.

We yield Vegetation Temperature Condition Index(VTCI), Vegetation Dryness Index(VDI) and Normalized Burn Temperature Condition Index(NBTCI) use by Temperature condition , wetness condition , burn ratio classified by elevation and aspect on three periods.

VTCI reflects indirectly a combination of chlorophyll and moisture content in the vegetation and also changes in thermal conditions at the surface. VDI holding information on the amount of water available at the surface of the earth. The index is calculated from the surface wetness and the vegetation index. NBTCI is calculated from the burn ratio and surface temperature.

The results showed that spring presented relatively heavy drought occurrence. And according to elevation, ranges of 100~200m, 300~400m are relative drought region. Classified by aspect result, Southeast side is occurred in relatively heavier drought area than any other side.

Keyword : Forest monitoring, Landsat ETM+, VTCI, VDI, NBTCI