**Review of Vegetation Indices for Detection of Changes in Vegetation Patterns**

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**Abstract**

One of the most important applications of remote sensing is monitoring the natural resources through detection and quantitative assessment of green vegetation. Healthy canopies have distinct interactions with the electromagnetic spectrum. Using Remote Sensing technology, collected canopy reflectance data can be used to calculate vegetation indices which in turn are used to estimate vegetation cover for agricultural fields. Vegetation indices has some advantages when it is compared with measured vegetation cover especially in large agricultural fields. Several studies have already been conducted using vegetation indices for vegetation monitoring and assessment. Over the last several decades, vegetation indices have been extensively used in crop monitoring such as growth, phenology, health as well as vegetation and nutrient stress. In this sense, vegetation analyses and detection of changes in vegetation patterns and structure are keys to natural resources assessment and monitoring. The aim of this paper, however, is not to evaluate the extensive amount of work carried out on VIs, but rather to provide the reader with a clear understanding of their nature and usefulness. Keeping this in mind, a description of different vegetation indices have been provided in this paper along with some case studies conducted around the world.

Keywords: Vegetation Indices, Remote Sensing, Monitoring, Natural Resources

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