



## Web-GIS based monitoring of vegetation using NDVI profiles

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**Abstract:** The NDVI has found a wide application in vegetative studies as it has been used to estimate crop yields, crop rotation, drought monitoring and forest biomass among others. It is often directly related to other ground parameters such as percent of ground cover, photosynthetic activity of the plant, surface water, leaf area index and the amount of biomass. NDVI has much usage due to its simplicity and widespread familiarity. Global MODIS vegetation indices are designed to provide consistent spatial and temporal comparisons of vegetation conditions. Comparing current year's NDVI data with the previous-years average reveals whether the productivity in a given region is typical, or whether the plant growth is significantly more or less productive. In order to assess, visualize and analyze NDVI images, a web-GIS based software has been developed using open source like Java, MapGuide and PostgreSQL. It is possible to know that in which district/taluka/grid and which duration the crop is deviating from the average. The software helps the user to get not only an overall picture of the country with regard to condition of vegetation over the cropping season but also warns against drought and other severe conditions.

**Key Words:** NDVI, Vegetation Index, Crop Condition, MODIS, Web GIS, Open Source Software