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# Fractional vegetational cover by landsat satellite data in Basilicata region.

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The aim of our study is to evaluate a technique to estimate changes in vegetation biomass by means remote sensing long-time data, in particular by using several NDVI (Vegetative Normalized Difference Index) time series (1993-2004) during seasons having most reliable photosynthetic activity (May-September) on the Basilicata Area, a small region in the south Italy. The NDVI index is calculated by means data of Landsat satellite sensor. These data are orthorectificated and atmospherically correct. Moreover the study area scene, which ranges about 10.000 km2, presents a cloudy coverage smaller than 5%. Finally, NDVI data are aggregated for District so that we obtain 131 NDVI values for each of the 16 Landsat images achieved.

The temporal trend of the districtual aggregate NDVI values allows to calculate an inclination and a slope-intercept of the best-fit straight line. The slope-intercept can be correlated to the rain or to the biomass, but it also reflects specific events like fire, reforestations and deforestations or it's usefull to explain climatic changes and desertification phenomenons in progress.

In spite of everything, we can conclude that the trend method can be operationally adopted to diagnosticate synoptic environmental status and trends.

This approach results simple and reproducible, easy to interpret and less sensitive than other "punctual methods" concerning temporal variations in areas comparable to the Basilicata's one.

This technique was applied at first to studying of vegetation cover change in Val d'Agri, a small area characterized by critical environmental conditions due to oil drilling.