

## عنوان مقاله:

The Evaluation of Spatial Variations of Vegetation and Surface Temperature by Using Remote Sensing (Case Study:  
(Fars Province, 2017-1967

## محل انتشار:

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## خلاصه مقاله:

It is crucial for environmental planning, land management, and sustainable development to be aware of the quantitative and qualitative characteristics of land changes. The use of vegetation maps is one of the important pillars of generating information for macro and micro planning. The present study employed the time and place of vegetation in Fars province. The data were derived from Landsat satellite data of OLI and ETM sensors for a 30-year period from 1986 to 2017, and the NDVI index was calculated. Moreover, quantitative values were classified for qualitative changes in vegetation. The index was classified into three groups: rich, poor, and vegetation-free. Temperature changes at the ground level were calculated using MODIS imagery for the studied period. The results revealed that quantitative and qualitative changes of vegetation over the studied 30 years was significant so that the vegetation-free areas were increased by 107.49, the areas with poor vegetation were decreased by 366.56 hectares, and the rich vegetation cover was decreased by 455.55 ha. The largest reduction in the area was related to the lands with rich vegetation. Investigating the surface temperature of the province with MODIS imagery demonstrated the rise in the surface temperature. The temperature difference was more than 3° (from -2.8°C to 0.96°C), and the highest temperature drop was observed in the eastern and central areas of the province. Finally, to investigate the relationship between vegetation and LST, the annual contamination lines were plotted along with the difference in NDVI over the studied period. The results revealed that in most areas with lower temperatures, the vegetation cover was denser. The statistical analysis between drought and vegetation indicated a significant relationship between these two factors.

## کلمات کلیدی:

Vegetation changes, Landsat, NDVI, LST, MODIS, Fars Province

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