

# **A NEW MULTI-TEMPORAL CLASSIFICATION APPROACH FOR LAND COVER MAPPING IN NORTH OF IRAN, BY USING HYPER-SPECTRAL MODIS DATA**

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- **Appropriate Theme: Image classification methods**

Satellite data acquired in short time intervals like Terra, NOAA, ... are very suitable in order to map vegetations in the scale of regional. In addition, because of being free of charge, these data are mostly recommended by users in developing and third world countries.

In this research, usefulness of Hyperspectral moderate resolution imaging spectroradiometer (MODIS, 250 m resolution) data installed on Terra satellite for mapping and evaluation of land cover classes in North of Iran has been examined. In this regard, a new classification method has been introduced based upon maximum value composition technique by using multi-temporal and cloud-free data sets of NDVI.

Finally, we established an approach based on the analysis of pattern and shape of the NDVI changes as a function of time, and finally we could separate different land-cover types in Gilan province. The accuracy of classification was changed between %78-%95 for different classes. The maximum accuracy (%95) belongs to rice cultivated farms. This research shows we can reach a high accuracy in image classification even by using medium resolution satellite data specially in conditions of dense vegetations in our region.