

TIME SERIES SPOT-VGT IMAGE ANALYSIS OF MAJOR RABI CROPS IN PARTS OF UTTAR PRADESH

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Abstract:

Uttar Pradesh (UP) is one of the largest states in India, located between 23° 50' - 31° 28' N latitudes and 77° 44' - 84° 38' E longitude. The digital map of India with UP state and administrative district boundary information were taken from planning commission report. The remote sensing data used for this study included a ten-day composite of SPOT- VEGETATION (VGT) sensor for the period. The SPOT VGT NDVI data of Uttar Pradesh for March months of the period 2000-2010 used for analysis. Each image represents the first 10-day composite of a month. This figure shows the major crops phenology of different regions of U.P. in rabi season, the crop growth (seedling-vegetative- mature stage) starts in U.P. by End November to end April. March is peak season of rabi crops its cover most of the crop areas. Timely and accurate prediction of crop acreage is critical for agricultural planning and development. Quarterly of SPOT VGT data acquisition at 1meter pixel resolution offers a great potential for use of the data and products in operational area prediction. The large area and for this study taken rabi peak growth season. The crops growth are maximum and after that goes to harvest stage. In this study, a simple algorithm that uses SPOT VGT imagery and products was developed to predict crop acreage at county and state levels. The crop classification was developed using a decision tree algorithm with the need for ground-based data. In this paper describes some of the steps that achieved to enhance the quality of data. The computational scale appeared to make a difference in the tolerance on the imagery data quality. The temporal SPOT VGT data is useful for large area study to observed classification of the area estimation of major crops. The geospatial techniques comprising remote sensing, satellite Imaging, geographical information systems (GIS) and geographical positioning system (GPS) can be put to effective use in cropping system mapping and monitoring of changes at spatially as well as temporally.

