

THE TEMPORAL-SPATIAL DISTRIBUTION OF NDVI AND ITS INFLUENCE TO THE NPP OF FOREST AND CULTIVATED LAND

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Abstract:

By using RS vegetation model, the NDVI distribution maps of a transect were calculated with time series AVHRR images from May, 1999 to April, 2000 in Eastern China. Based on the time sequence analysis of the difference and the characteristics in the transect, a RS NPP model was established using a linear relationship between NDVI and field measured NPP data. Furthermore, a visual and quantitative result was obtained through an overlapping analysis of the NPP map on DEM and a correlation analysis was executed between NPP maps from RS model and field samples collected from the whole transect for forest and the data measured from Central China and South China for cultivated land. The result shown, the NDVI distribution of the transect is distinguished not only on detail zonation of nature vegetation in vertical, latitudinal and longitudinal distribution but also reflected an obvious effect from various crop growing period in the agricultural area. According to the results above, an opposite opinion was given that the NPP values are varied greatly in the mountain forest areas and shown the features of the zonation. However, the NPP values are not clearly described the zonation but they are relatively high and be ranged between 25~35 t/hm²· a from South to North in the agricultural area. In other words, NPP values of forest area and agricultural area are varied greatly in different region, the former one has higher value than later one in Southern China; the NPP values are higher in agricultural area than surrounding low mountains in Huang, Huai and Hai Plain and they are ranged orderly from mountain forest to agricultural area and to very high or low mountains.