Abstract

Extraction of vegetation is an important step for agricultural, forest and greenery mapping. The proposed method examines the complex process of land cover vegetation pattern classification using an IRS-1C LISS III image. Pre-processing was done by employing partial differential equation (PDE). Normalized differential vegetation index (NDVI) was applied to separate vegetation features from the image. Agricultural and non-agricultural vegetation features were the major and divergent hierarchical trends, which were observed. Further, classification was done by generating grey Level Co-occurrence Matrix (GLCM). Goal of this paper was to explore vegetation patterns by masking other features and identification of different vegetation patterns. Firstly, area of different land covered features was calculated. Then vegetation occupancy was calculated. finally, hierarchal separation of vegetation types was done to extract various vegetation patterns. Further, ground truth verification was done by Google Earth Images of same period, of relatively same area. From the results, it was demonstrated that various vegetation patterns were extracted, accurately and automatically.
References


11. N. Gautam, “Geographical features and socio-economic and cultural characteristic of yadgir district,” in Online Database, GOK.


Index Terms

Computer Science

Image Processing
Keywords

Partial-Differential Equation (PDE), Normalized differential vegetation index (NDVI), Level set method, Grey Level Co-occurrence Matrix (GLCM)