ABSTRACT

Recent years have seen an alarming rise in forest fires, which has had several adverse effects on the Deogarh forest ecosystem and environment. The Deogarh Landscape was studied to construct forest fire risk models applying remote sensing, GIS, and statistical methods. The forest fire-risk mapwas created using a multiple parametric weightage index model and risk indicators such as proximity to the road—vegetation, features like topography, land surface temperature, and populations. Variables were examined and validated using MODIS hotspots and the Kernel Density Estimation(KDE) approach to improve the use of a fire risk map. The risk of forest fires increases during thepre-monsoon season in broadleaved forests. About 20 percent of the entire forested land is at highfire risk. NDVI and its area were calculated and compared with the WHO (9.5sq m) recommendedgreen space square meter, and the value for this study area was found to be 6.7 sq m. The study's findings may help policymakers take precautionary measures by reducing the danger and consequences of forest fires.