

about 32% and 26% of the forests in the study area were within the moderate and high fire risk zones, respectively (Table 16). About 24% of the forests were classified as extreme fire risk areas.

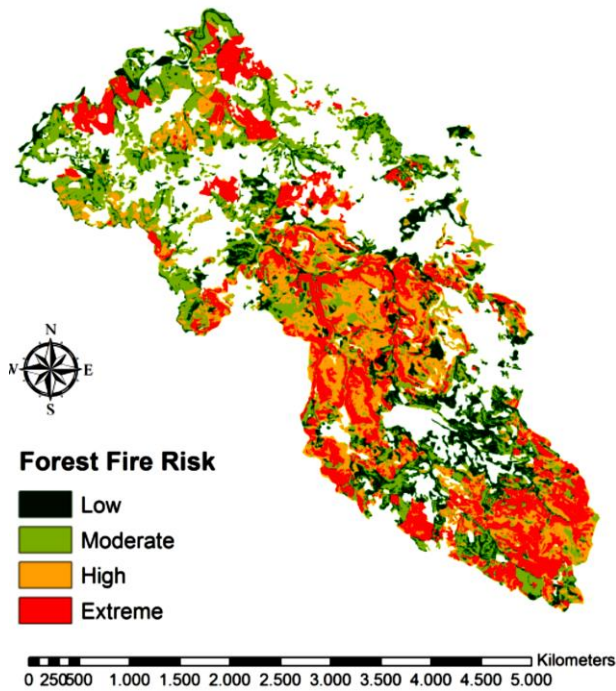


Figure 7. Forest fire risk map

Fire Risk	Area
Low	17.97
Moderate	32.41
High	25.81
Extreme	23.81

Table 16. The areal distribution (%) of fire risk levels

4. CONCLUSIONS

Forest fires may cause devastating impacts on forest resources, and important economic losses and even threaten human lives. It is critical to determine the forested areas with fire risks and thereby taking necessary precaution measures to minimize the damages on forest resources. In this study, GIS-based Multi-Criteria Decision Analysis (MCDA) using AHP method was used to generate forest fire risk map. The method was implemented in Dursunbey Forest Enterprise Directorate which is classified as first degree fire sensitive area in Turkey. In the solution process, forest vegetation structures (i.e. tree species, crown closure, tree stage) and topographic features (i.e. slope and aspect) were considered as main criteria. Quick and effective prediction of forest fire risk will assist decision makers take necessary action and minimize fire damage on the forest resources. Possible future studies may include considering additional fire risk factors such as distance to road network, distance to residential areas, and climatic parameters in developing fire risk maps.

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