

## Relationship Between Wildfire and Plant Species in Arasbaran Forest, Iran

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**Abstract :** In nature, forests serve a multitude of functions. They stabilize and nourish soil, store carbon, clean the air and water, and support biodiverse ecosystems. A natural disaster that can affect forests and ecosystems locally or globally is wildfires. Iran experiences annual forest fires that affect roughly 6000 hectares, with the Arasbaran forest being the most affected. These fires may be generated unnaturally by human activity in the forests, or they could occur naturally as a result of climate change. These days, wildfires pose a major natural risk. Wildfires significantly reduce the amount of property and human life in ecosystems globally. Concerns regarding the immediate and longterm effects have been raised by the rise in fire activity in various Iranian regions in recent decades. Natural ecosystem abundance, quality, and health will all be impacted by pasture and forest fires. Monitoring is the first line of defense against and control for forest fires. To determine the spatial-temporal variations of these occurrences in the vegetation regions of Arasbaran, this study was carried out to estimate the areas affected by fires. The findings indicated that July through September, which spans over 130000 hectares, is when fires in Arasbaran's vegetation areas occur to their greatest extent. A significant portion of the nation's forests caught fire in 2024, particularly in the northwest of the Arasbaran vegetation area. On the other hand, January through March sees the least number of fire locations in the Arasbaran vegetation areas. The Arasbaran forest experiences its greatest number of forest fires during the hot, dry months of the year. As a result, the linear association between the burned and active fire regions in the Arasbaran forest indicates a substantial relationship between species abundance and plant species. This link demonstrates that some of the active forest fire centers are the burned regions in Arasbaran's vegetation areas.

**Keywords :** wildfire, vegetation, plant species, forest

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