

Wildfire Case Study: Marmaris (2022)

Background

The 2022 wildfires in Marmaris occurred in the Aegean region of Turkey, specifically in the province of Muğla. Marmaris, a popular tourist destination known for its scenic coastline and pine forests, was severely affected by the fires. The fires began in June 2022, during a period of intense heat and strong winds that exacerbated the spread of the flames.



The wildfires in Marmaris were characterised by their rapid spread and intensity, fuelled by strong winds and the dense, resinous pine forests that are highly flammable. The fire's behaviour was erratic, making it difficult for firefighting efforts to contain it. The flames quickly spread through the forested areas, threatening not only natural habitats but also human settlements, including residential areas and tourist resorts. It lasted for five days before being put out.

Causes

The primary cause of the 2022 Marmaris wildfires was a combination of natural and human factors:

1. **Climate Conditions:** The summer of 2022 saw high temperatures across Turkey, with Marmaris experiencing a heatwave that pushed temperatures above 40°C. These extreme temperatures, coupled with low humidity levels, created ideal conditions for wildfires.
2. **Human Activity:** Although natural factors played a significant role, human activity also contributed to the ignition and spread of the fires. A 34-year-old arsonist, Sacit Ayhan, was arrested on June 24, 2022, after he admitted he started the fires out of rage as he was furious with his family members over land issues.
3. **Forest Composition:** The dense pine forests in Marmaris, while beautiful and ecologically important, are highly susceptible to fire. Pine trees produce resin, a flammable substance that can cause fires to spread quickly once ignited. The forest's composition thus played a critical role in the fire's rapid expansion.

Impacts

The Marmaris wildfires had significant environmental, economic, and social impacts, highlighting the destructive power of such disasters.

Environmental Impact: The wildfires caused extensive damage to the natural environment, affecting roughly 4,000 hectares of land. The destruction of vegetation also increased the risk of soil erosion, which can lead to further environmental degradation in the future.

Economic Impact: The economic impact of the wildfires was profound, particularly for the tourism sector, which is a major source of income for Marmaris. The fires led to the evacuation of tourists and residents, resulting in significant financial losses for businesses in the area. Hotels, restaurants, and other tourism-related enterprises faced cancellations and a drop in bookings, both during and after the fires. The cost of firefighting efforts and disaster response also placed a heavy burden on local and national resources, as the strong winds made it difficult to put the fire out from the air.



Responses

One of the most stark responses to the wildfire is the continued presence of burnt trees throughout the landscape. In the years following the fires, research has been conducted by scientists to see how these charred plants can help reforest the area.



Just one year later, in June 2023, the forest floor was rejuvenated and green again. Scientists have said that the use of heavy machinery to remove the burnt trees would have further damaged the soils, and the trunks and branches provided protection for new sprouting roots.

SAMPLE

