

**GOCE DELCEV UNIVERSITY - STIP  
FACULTY OF AGRICULTURE**

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### Editorial Office

Faculty of Agriculture, Goce Delcev University, Stip,  
Krste Misirkov Str., No.10-A P.O. Box 201, 2000 Stip, Republic of North Macedonia  
[japs@ugd.edu.mk](mailto:japs@ugd.edu.mk)  
<http://js.ugd.edu.mk/index.php/YFA>

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IN PRESS

## **INTRODUCTION**

In 2024, the Balkans experienced a significant heat wave, which had widespread effects across the region. The region saw some of the highest temperatures on record, with several areas experiencing temperatures exceeding 40°C. In some cases, temperatures approached or exceeded all-time highs. The heatwave was notable not just for its intensity but also for its duration, with high temperatures persisting for weeks, exacerbating its impacts.

The extreme heat led to an increase in heat-related illnesses, including heat exhaustion and heatstroke. Unfortunately, the prolonged heatwave contributed to an increase in mortality rates in the region, as emergency services struggled to cope with the surge in demand.

Another important issue connected to extreme heatwave is intensification of existing drought conditions in the Balkans, leading to water scarcity in several areas. Rivers and reservoirs reached critically low levels, impacting both drinking water supplies and agricultural irrigation. The combination of extreme heat and water shortages significantly affected agricultural production, with yields decreasing. This raised concerns about food security and economic losses in the agricultural sector.

The dry conditions and high temperatures created ideal conditions for wildfires, which broke out across the region. Several large fires required extensive firefighting efforts, leading to evacuations and property damage. The wildfires caused significant environmental damage, destroying forests and habitats, and contributing to air pollution that further degraded air quality.

The demand for electricity surged as people relied heavily on air conditioning to cope with the heat. This put a strain on the energy grid, leading to power outages in some areas and raising concerns about the sustainability of the energy supply during extreme weather events. The increased demand for energy also led to a rise in energy prices, exacerbating the economic impact on households already struggling with high temperatures.

The heatwave caused significant economic disruptions, particularly in sectors such as agriculture, tourism, and energy. The heatwave in the Balkans is part of a broader trend of increasing frequency and intensity of extreme heat events globally, linked to climate change. This raises concerns about the region's future vulnerability to such events. The heatwave underscored the urgent need for both adaptation measures, such as improving infrastructure and public health systems, and mitigation efforts to address the root causes of climate change.

Overall, the 2024 heatwave in the Balkans served as a stark reminder of the challenges posed by climate change and the importance of building resilience to extreme weather events.

**On behalf of JAPS Editorial Board,**

**Prof. d-r Fidanka Trajkova**

**Editor of JAPS**

**June 2024**