



Technical Assistance: Building an integrated monitoring and early warning forest fires detection system using innovative remote sensing tools

Location: Borjomi-Kharagauli National Park, Georgia

Solution: Integrated monitoring and early warning forest fires detection system

UNEP CTCN grant: USD 248,440



The Borjomi-Kharagauli National Park in Georgia. © UNEP-CTCN

The Borjomi-Kharagauli National Park faces threats from uncontrolled forest fires, exacerbated by climate change. This project implements an integrated monitoring and early warning system for forest fire detection using innovative remote sensing tools. This aims to protect the park's ecosystems and biodiversity by enabling timely and effective fire prevention and response, enhancing the resilience to climate-related hazards.



Objectives

- The primary objective is to reduce the risk of uncontrolled forest fires in Borjomi-Kharagauli National Park by implementing an advanced monitoring and early warning system. This system will allow for early detection of fire hazards, enabling swift action.
- The project targets the park's administration, local communities, and national environmental agencies by providing them with the tools and training needed to effectively manage and protect the park's resources.



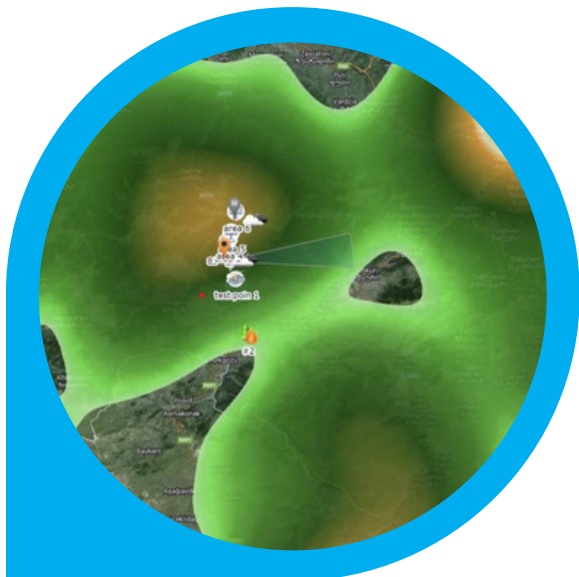
Social Impact

- The project supports a total of 174,135 beneficiaries, including 1,020 direct beneficiaries and 173,115 indirect beneficiaries.
- Of the total beneficiaries, 52.16% are women, and 15% are youth.



Adaptation Impact

- **Enhanced Forest Fire Detection and Ecosystem Resilience:** The project improves Georgia's ability to monitor and manage forest fires, reducing the vulnerability of ecosystems and communities to the destructive impacts of wildfires. By providing timely and accurate fire detection, the project supports more effective prevention and response measures, contributing to the long-term resilience of the park.
- **Improved Environmental Protection:** The project enhances the protection of biodiversity by preventing large-scale wildfires. This also contributes to the preservation of carbon sinks, helping to mitigate climate change.
- **Strengthened Disaster Risk Management:** The integration of advanced remote sensing and early warning technologies in the park's management framework allows for better preparedness and response to forest fires, reducing the risk to human life and property.



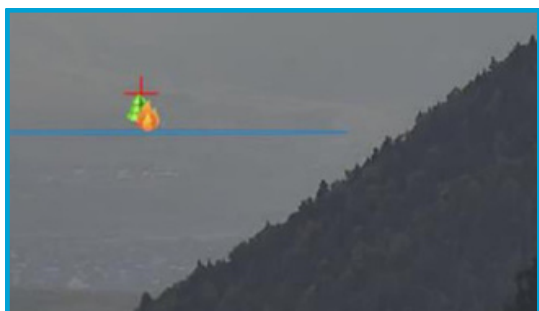
Other Co-Benefits

- Protection of biodiversity.
- Reduced emissions from wildfires.
- Improved public safety and disaster preparedness.



Innovation & Technology

- Remote Sensing Technologies: Use of satellite imagery and aerial surveillance to detect and monitor forest fires in real time.
- Data Analysis Tools: Implementation of advanced data analysis and machine learning algorithms to predict the spread of fires and assess their potential impact.
- Early Warning Communication Systems: New communication protocols to provide timely warning to park authorities and local communities, enabling swift evacuation and response.



Replication Potential

- The project can be easily replicated to ensure the protection of natural areas and infrastructure from forest fires by enhancing preparedness and resilience through monitoring and early warning systems.
- In any context where efficiency mandates introduction of technology for forest fire monitoring, the approach of this project can serve as a model.

Key Figures

- USD 248,440 project budget
- 174,135 people benefitted in total
- 15 events organized as part of the project, 1 of which was a training
- 20 governmental institutions, 3 private sector actors and 2 non-governmental organizations had their representatives trained as part of the project
- The project contributed to the following SDGs:

