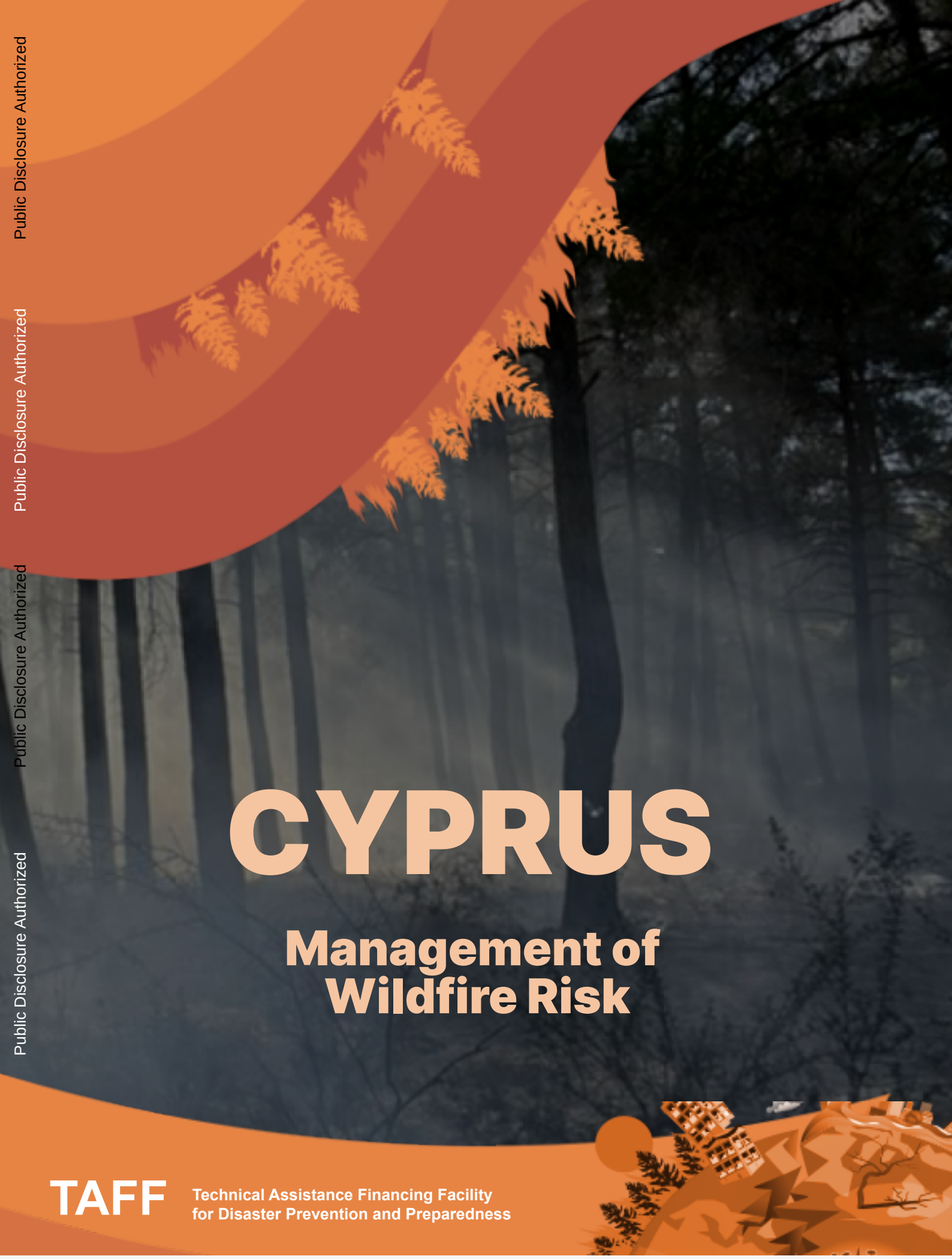

CYPRUS

Management of Wildfire Risk

TAFF Technical Assistance Financing Facility for Disaster Prevention and Preparedness

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ACRONYMS

AI	Artificial Intelligence
BBB	Building Back Better
CCD	Cyprus Civil Defence[a]
CERIDES	Centre for Risk and Decision Sciences
CER	Critical Entities Resilience
DG ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations
DRF	Disaster Risk Financing
DRM	Disaster Risk Management
EU	European Union
EUC	European University in Cyprus
EWS	Early Warning System
GDP	Gross Domestic Product
GEDPA	General Civil Defence Administration
IFFN	International Forest Fire News
IWFRM	Integrated Wildfire Risk Management
JRC	Joint Research Centre
JRCC	Joint Rescue Coordination Centre
ML	Machine Learning
NRA	National Risk Assessment
PPP	Public-Private Partnership
PRAF	Peer Review Assessment Framework
SEMEDFIRE	Southeastern Mediterranean Excellence Development in Fire Research
SFDRR	Sendai Framework for Disaster Risk Reduction
TSI	Technical Support Instrument
UCPM	Union Civil Protection Mechanism
UfM	Union for the Mediterranean
UNFICYP	United Nations Peacekeeping Force in Cyprus
WUI	Wildland-Urban Interface

Notes: a. The name is as of April 2025.

KEY TERMS

Wildfire: Any unplanned or uncontrolled fire affecting natural, cultural, industrial, and residential landscapes (UNDRR adapted from FAO). It is an unusual or extraordinary free-burning vegetation fire that poses significant risk to social, economic, or environmental values. It may be started maliciously, accidentally, or through natural means (UNEP).[1]

Forest fire: Unwanted fires burning forests and wildlands.[2]

Bush fire: The same meaning as wildfire but is the term used in Australia, New Zealand, and Africa. It is an unplanned fire in a vegetated area (as opposed to an urban area).[3]

Other types of fires:[4]

- **Accidental fire:** Fires resulting from unintentional human actions.
- **Arson fire:** Fires set intentionally and maliciously.
- **Controlled fire:** Fires that are managed for specific purposes, usually with precautions.
- **Uncontrolled fire:** Fires that are not managed or controlled, typically wildfires.
- **Natural fire:** Fires caused by natural events such as lightning.
- **Prescribed fire/mild fire:** Intentionally set and controlled fires for land management.

Integrated wildfire risk management (IWFRM): This approach relies on the coordinated use of resources, integrated policy frameworks, collaboration of stakeholders, society-wide engagement, and capacity development. It is rising in prominence given climate change impacts and the need to address the wildfire challenge in an integrated and holistic manner.[5]

Wildfire risk: Assessed by considering vulnerable areas where people, ecological, and socioeconomic values are exposed to fire danger.[6]

Exposure: The situation of people, infrastructure, housing, production capacities, and other tangible human assets located in hazard-prone areas.

Vulnerability: The conditions determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.

Wildlands/wilderness areas: Areas governed by natural processes. They are composed of native habitats and species and are large enough for the effective ecological functioning of natural processes. They are unmodified or only slightly modified and without intrusive or extractive human activity, settlements, infrastructure, or visual disturbance.[7]

Wildland-urban interface (WUI): Areas where human development meets or intermingles with wildland vegetation. These areas often face heightened wildfire risk.[8]

Firebreak:[9] Man-made areas with a reduced fuel load that act as barriers to stop or slow down fire spread.

Early warning system (EWS): An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication, and preparedness activities that enables individuals, communities, governments, businesses, and others to take timely action to reduce disaster risks in advance of hazardous events. Annotation: Multi-hazard EWSs address several hazards and/or impacts of similar or different types in contexts where hazardous events may occur alone, simultaneously, in a cascading manner, or cumulatively over time, taking into account the potential interrelated effects.

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[1] As noted in Casartelli, V., and J. Mysiak. 2023. Union Civil Protection Mechanism - Peer Review Programme for Disaster Risk Management: Wildfire Peer Review Assessment Framework (Wildfire PRAF). Link.

[2] Tedim, Fantina, Gavriil Xanthopoulos, and Vittorio Leone. 2015. "Forest Fires in Europe: Facts and Challenges." In Wildfire Hazards, Risks and Disasters, 77–99. Elsevier. Link.

[3] Price, O. 2019. "Bushfires." In Encyclopedia of Wildfires and Wildland-Urban Interface (WUI) Fires, edited by. S. Manzello. Link.

[4] Huidobro, G., L. Giessen, and S. L. Burns. 2024. "And It Burns, Burns, Burns, the Ring-of-Fire: Reviewing and Harmonizing Terminology on Wildfire Management and Policy." Environmental Science & Policy 157: 103776. Link.

[5] Oliveras, Menor, I., Prat-Guitart, N., Spadoni, G.L. et al. Integrated fire management as an adaptation and mitigation strategy to altered fire regimes. Commun Earth Environ 6, 202 (2025). Link.

[6] Oom, D., D. de Rigo, H. Pfeiffer, A. Branco, D. Ferrari, R. Grecchi, T. Artés-Vivancos, T. Houston Durrant, R. Boca, P. Maianti, G. Libertá, J. San-Miguel-Ayanz, et al. 2022. Pan-European Wildfire Risk Assessment. Link.

[7] Wild Europe. 2013. A Working Definition of European Wilderness and Wild Areas. Link.

[8] Silva, J. S., ed. 2010. Towards Integrated Fire Management: Outcomes of the European Project Fire Paradox. No. 23 (pp. ix+-229). Joensuu, Finland: European Forest Institute.

[9] Casartelli and Mysiak 2023.

Nature-based solutions:[10] Solutions "inspired by, supported by, or copied from nature" that "simultaneously provide environmental, social, and economic benefits and help to build resilience" by bringing "more and more diverse nature and natural features and processes into cities, landscapes, and seascapes".

Building code: A set of ordinances or regulations and associated standards intended to regulate aspects of the design, construction, materials, alteration, and occupancy of structures to ensure human safety and welfare, including resistance to collapse and damage.

Coping capacity: The ability of people, organizations, and systems, using available skills and resources, to manage adverse conditions, risks, or disasters.[11]

Resilience: The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including ensuring the preservation, restoration, or improvement of its essential basic structures and functions.[12]

'Build back better' (BBB) principle:[13] The use of the recovery, rehabilitation, and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems and into the revitalization of livelihoods, economies, and the environment. Annotation: The term 'societal' is not to be interpreted as a political system of any country.

Damage: Total or partial destruction of physical assets existing in the affected area. Damage occurs during and after the disasters and is measured in physical units (that is, square meters of housing, kilometres of roads, and so on).[14]

Losses refer to indirectly quantifiable losses (declines in output or revenue, impact on wellbeing, disruptions to flow of goods and services in an economy), or additional operational costs associated with response and initial repairs.[15]

Reconstruction: The medium- and long-term rebuilding and sustainable restoration of resilient critical infrastructures, services, housing, facilities, and livelihoods required for the full functioning of a community or society affected by a disaster, aligning with the principles of sustainable development and 'BBB' to avoid or reduce future disaster risk.

Rehabilitation: The restoration of basic services and facilities for the functioning of a community or society affected by a disaster.

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[10] Casartelli and Mysiak 2023.

[11] Casartelli and Mysiak 2023.

[12] World Bank. 2021b. Economics for Disaster Prevention and Preparedness: Investing in Disaster Risk Management in Europe Makes Economic Sense, Background Report. Link.

[13] Definition as per the NSDRR 2024–2035, GoR. Link.

[14] World Bank. 2021b.

[15] Global Facility for Disaster Reduction and Recovery, website. Link.

EXECUTIVE SUMMARY

The Republic of Cyprus (hereafter referred to as 'Cyprus') faces a significant and increasing risk of wildfires, as evidenced by recent large-scale fires. The island is becoming susceptible to extreme weather events, fueled by climate change.[16] Despite being an island of less than 10,000 km², Cyprus ranks second out of 24 European countries in terms of the ratio of burned area to land mass.[17] Wildfires pose a hazard across all regions of Cyprus, with forested areas being particularly at risk, and fire occurrence being frequently recorded in rural areas of the Paphos and Limassol districts. The likelihood of weather conditions leading to wildfires that can cause loss of life and property is estimated to be greater than 50 percent in any given year, with the highest risk between June and August, according to the National Risk Assessment (NRA).[18]

This report summarizes the results of a rapid review of wildfire risk and management capacity in Cyprus, highlighting potential risk management priorities to inform policy dialogue and future research. The review considers capacity across multiple dimensions, including governance, understanding wildfire risk, risk reduction and mitigation, early warning and public awareness, preparedness and emergency response, recovery and post-disaster financing, and cross-cutting topics such as social resilience and the role of the private sector. Drawing on available information, each chapter reviews the general context and current arrangements, including key challenges, as well as opportunities for improvement relevant to Cyprus.

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[16] European Commission (EC). 2018. Peer Review: Cyprus 2018. Link.

[17] Fernandez-Anez, Natalia, Andrey Krasovskiy, Markus Müller, Harald Vacik, Jan Baetens, Edin Hukić, Marijana Kapovic Solomun, Ivanka Atanassova, Maria Glushkova, Ivica Bogunović, and Hrvoje Fajković. 2021. "Current Wildland Fire Patterns and Challenges in Europe: A Synthesis of National Perspectives." Air, Soil and Water Research 14: 11786221211028185. Link.

[18] Cyprus Civil Defence. 2018. National Risk Assessment for the Republic of Cyprus. Link.

KEY MESSAGES

The following key messages can be highlighted based on the review of wildfire risks and risk management capacity in Cyprus:

1. **Cyprus faces the highest wildfire danger among Mediterranean islands** and ranks second in Europe for burned area per land mass. Flammable landscapes and human activity are driving a growing trend of fire risk across the island.

2. **A suppression-first approach has historically increased fuel loads**, contributing to more intense and difficult-to-control fires. A paradigm shift is underway with initial pilots in prescribed burning and controlled grazing.

3. **Wildfire governance remains fragmented in Cyprus.** Overlapping mandates between forest, civil protection, and security forces complicate effective wildfire management. Ongoing reforms in the civil protection sector and the SEMEDFIRE strategy, developed by the South Eastern Mediterranean Excellence Development in Fire Research and coordinated by the European University in Cyprus (EUC), offer a path forward to streamline wildfire risk management into the disaster risk management (DRM) framework and better coordinate across stakeholders and partners. This includes improving various elements of wildfire risk management, such as training in fire science, wildfire modeling, scaling up prevention and preparedness, and community evacuation strategies, and more.

4. **Cyprus' understanding of wildfire risk is improving**, with full acknowledgment in the National Risk Assesments. However, data gaps and fragmentation, lack of probabilistic modeling, and limited granularity at the subnational level hinder a complete picture of wildfire risk on the island.

5. **Technological innovation, including artificial intelligence (AI), data cubes, and satellite sensing, is being used to improve wildfire risk prediction and monitoring.** Integration into public warning and planning for wildfire risk management is still under development.

6. **Cyprus intends to develop a holistic disaster risk reduction strategy**, led by the country's Civil Defence, with an opportunity to embed integrated wildfire risk management (IWFRM) principles, though the timeline is not yet established.

7. **General emergency response capacity is strong in Cyprus.** The country has ZENON plans (national emergency response plans for managing natural and man-made disasters), has conducted full-scale and tabletop exercises, and has an overarching multi-agency collaboration under the Joint Rescue Coordination Centre (JRCC). However, coordination for wildfire risk management across systems and regions still needs improvement.

8. **Post-disaster recovery financing is decentralized in Cyprus.** The country does not have a post-disaster recovery strategy or a dedicated fund for wildfire recovery, though recovery funding is embedded within broader disaster and rural development frameworks, such as European Union-funded Agricultural and Rural Development Programmes. While ministries can access additional funding from EU sources, planning and coordination gaps remain.

9. **Community engagement in wildfire prevention remains limited**, especially among rural and migrant populations. Inclusive preparedness and awareness efforts are needed, tailored to diverse audiences and contexts.

10. **The private sector's role in wildfire resilience is emerging**, with opportunities to support land management, risk financing, insurance uptake, and public communication, including through the agriculture and tourism sectors.

PRIORITIES GOING FORWARD

Cyprus should prioritize actions and investments to manage wildfire risk across various dimensions.

These may include areas summarized below:

1. **Enhance wildfire coordination and governance.** Clarifying mandates across the Department of Forests, Civil Defence, Fire Service, military actors, and municipal levels while strengthening operational links between response and planning entities, can improve wildfire risk governance in Cyprus.

2. **Implement a legally backed Integrated Wildfire Risk Management (IWFRM) strategy.** This could include mandates and funding for prevention and preparedness. Measures to be funded for IWFRM include fuel management through prescribed burning, grazing, or other mechanical means where appropriate, and resilient land use planning such as creating fire-resilient landscapes and fire-safe zones, among others, at local and national levels, as well as various preparedness activities.[19]

3. **Improved understanding of wildfire risk could deploy data on changing climate, land-cover and land-use, as well as socio-economic factors to perform standardized probabilistic wildfire modeling.** ZENON plans and adaptation strategies could be aligned with updated wildfire risk assessments/ National Risk Assesments (NRAs).

4. **Establish a centralized National Wildfire Risk and Data Platform.** This could include real-time fire detection, loss reporting, and historical risk modeling with open access for agencies, academia, and the public.

5. **Invest in forecasting and scenario modeling.** This can include building climate-informed fire risk projections at national and regional scales to guide infrastructure resilience, zoning, and adaptive policy development.

6. **Scale up nature-based fuel management.** This could include actions such as formalizing pilots for fuel management using controlled burning, grazing, or mechanical means into legal, well-monitored national programs supported by trained professionals and local stakeholders.

7. **Analyze existing disaster risk financing (DRF) mechanisms and identify gaps in funding for wildfire prevention and post-fire recovery.** This review could assess the adequacy of current resources and explore potential additional options to enhance financing mechanisms. Such options could include the establishment of a dedicated fund, coordinating philanthropic and private sector financing resources, and working with regional consortia as well as EU-level funding opportunities.

[19] Neidermeier, A.N., Zagaria, C., Pampanoni, V., West, T.A.P. and Verburg, P.H., 2023. Mapping opportunities for the use of land management strategies to address fire risk in Europe. Journal of environmental management, 346, p.118941. Link.

8. **Mandate consistent collection and public reporting of wildfire loss and impact data**. The data could cover economic, social, cultural, and environmental effects to inform risk analytics, planning, adequate insurance opportunities, and recovery financing.

9. **Expand community-based wildfire risk reduction and readiness programs.** This can include tailored education, multilingual awareness, school curricula integration, and greater support for volunteer fire brigades.

10. **Incentivize private sector participation.** This could include landowners, insurers, tourism operators, and tech developers through co-financing of prevention measures, insurance incentives, and partnership schemes.

While the priorities above focus specifically on wildfires, many are applicable to a multi-hazard context. For example, improved understanding of risk, coordinated governance, disaster-risk financing, and community-based and private sector involvement, among others, are relevant across broader hazard risk management efforts beyond wildfires and forest fires. Therefore, this report may offer valuable lessons for stakeholders involved in multi-hazard risk management.

INTRODUCTION

This report is part of a series focusing on improving the understanding of the needs and priorities for disaster resilience investments in relation to two disaster risks: wildfires and earthquakes. The broader objective is to provide actionable insights and recommendations that can guide the European Union (EU) and its Member States in making informed, strategic investments to enhance resilience against wildfires and earthquakes.

This note focuses on wildfire risk management in the Republic of Cyprus and describes current risk trends, risk management capacity, investment needs, and recommended approaches. It is complemented by two other country-specific case studies for Croatia and Romania as well as an EU-wide policy note on wildfire risk management overview based on existing information and data gathered across EU Member States.[20]

This report provides a rapid, high-level overview based on existing information and data gathered. In addition, consultations with key national and EU-level organizations, as well as researchers, have been conducted to improve understanding of the key areas listed above. The note can serve to inform policy dialogue and future research.

The analysis is structured following **the Union Civil Protection Mechanism (UCPM) Wildfire Peer Review Assessment Framework (PRAF).**[21] This report also considers the integrated wildfire risk management (IWFRM) principles and includes the following elements:[22]

[20] Overseas Countries and Territories are not considered.
[21] Casartelli and Mysiak 2023.
[22] Ibid.

1. **Governance of wildfire risk management** focuses on the overall governance framework for wildfire risk management, including strategies, institutional frameworks, coordination mechanisms, financing strategies, and systemic resilience related to wildfire risk at the national and subnational levels.

2. **Understanding wildfire risk management** examines the identification, analysis, evaluation, communication, and capacities associated with assessing the risk of wildfires.

3. **Wildfire risk prevention, risk reduction, and mitigation** analyzes wildfire prevention and explores landscape management practices, innovation and knowledge services, and administrative capacities related to wildfire prevention, structural measures, and programs/plans to support these.

4. **Wildfire early warning and public awareness examines early warning systems (EWSs**) and their role in detecting, predicting, and communicating wildfire risks to support timely and effective responses, while public awareness focuses on informing communities about wildfire hazards, preparedness measures, campaigns, and educational initiatives.

5. **Wildfire risk preparedness and emergency response** covers pre-wildfire measures to ensure an effective response, including rescue capacity, training, and situational awareness, as well as response activities such as operations, coordination, international cooperation, and monitoring.

6. **Wildfire recovery, reconstruction, and post-disaster financing** covers the processes and actions taken after a wildfire event, including damage assessment, restoration efforts, recovery planning, and climate-proofing for future disaster events.

7. **Cross-cutting topics:** social resilience and inclusion explores approaches to address the disproportionate impact of disasters on vulnerable populations, with special focus on people with disabilities. Meanwhile, private sector covers relevant stakeholders' involvement in the context of wildfire risk management, including building owners and property managers, insurance companies, business owners, utility providers, construction and engineering firms, but also civil society and so on.

WILDFIRE RISK PROFILE AND RISK TRENDS

This chapter provides a short overview of risk trends for wildfires in Cyprus. It draws on available data and information and focuses on fire statistics, risk drivers, vegetation cover, forest fires, and wildland-urban interface fires and highlights less studied but growing wildfire risks.

CURRENT STATUS

Cyprus faces a significant and growing threat of wildfires, as evidenced by recent large-scale fires. Cyprus ranks second out of 24 European countries when the total area burned is divided by the countries' surface area[23] (Figure 1). Fire danger for Cyprus is the highest among the Mediterranean islands.[24] Cyprus has become increasingly susceptible to extreme weather events.[25] In recent decades, Cyprus has experienced several severe wildfires, including the 2021 Arakapas fire, the destructive 2023 fires near Paramytha (both in the Limassol district), and fires in Solea, Nicosia district (2016), and Saitas, Limassol foothills region (2007), which have all highlighted the growing trend of frequent and damaging fire events across the island.

Wildfires are considered a hazard across all regions of Cyprus, with the southern coast and the center of the island being most at risk. The elevated wildfire risk along Cyprus' southern coast and central regions is largely due to the dominance of highly flammable Mediterranean vegetation combined with complex mountainous and forested terrain, especially in the Troodos range. The vegetation and terrain context along with hot, dry summers combined with high winds can exacerbate fire spread. Such environmental and topographic conditions also make suppression more difficult and increase the frequency and intensity of wildfires.[26] The likelihood of weather conditions facilitating wildfires that can cause loss of life and property is estimated to be greater than 50 percent per year, with the highest risk between June and August. According to the National Risk Assessment (NRA) of Cyprus, forest fires present the highest level of risk compared to other risks, including earthquakes, coastal erosion, and floods.[27] This is due to the island's specific environmental conditions, including drought, high temperatures, and flammable vegetation.[28] Projections for Cyprus indicate that high fire risk days and extreme fire risk days are expected to increase in 2021–2050 compared to 1961–1990.[29]

[23] Fernandez-Anez et al. 2021.

[24] Bacciu, V., M. Hatzaki, A. Karali, A. Cauchy, C. Giannakopoulos, D. Spano, and E. Briche. 2021. "Investigating the Climate-Related Risk of Forest Fires for Mediterranean Islands' Blue Economy." Sustainability 13 (18): 10004. Link.

[25] EC 2018.

[26] Papakosta, P., G. Xanthopoulos, and D. Straub. 2017. "Probabilistic Prediction of Wildfire Economic Losses to Housing in Cyprus Using Bayesian Network Analysis." International Journal of Wildland Fire26 (1): 10–23. Link.

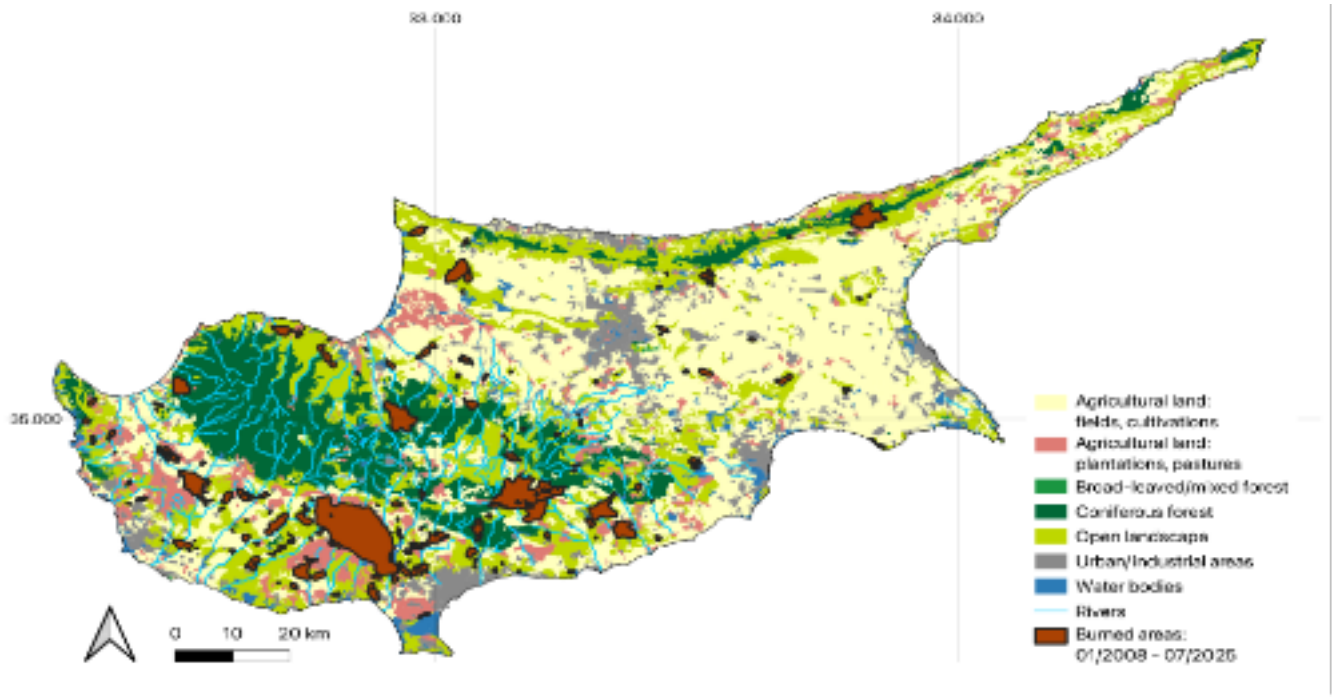
[27] International Association of Wildland Fire. 2023. Overview 200023: Cyprus. Link.

[28] Lemesios, G., A. Karali, C. Papadaskalopoulou, S. Pitsari, D. Malamis, K. Ioannou, M. Zachariou-Dodou, C. Giannakopoulos, M. Petrakis, and M. Loizidou. 2014. "Future Vulnerability Assessment of Forest Fire Sector to Climate Change Impacts in Cyprus." In Proceedings of the AdaptToClimate Conference.

[29] International Monetary Fund. 2024. Addressing Climate Change in Cyprus: Policy Options and Strategies. Link.

Figure 1. Cyprus land cover and burned area (2008–2025)

Source: Land cover data: CORINE Land Cover 2018 (vector/raster 100 m), Europe, 6-yearly. European Union's Copernicus Land Monitoring Service information Link. (Accessed on 20.07.2025), and Link. Burned area perimeters mapped using Sentinel2/MODIS images, 01/2008 to 07/2025: Data were provided by the European Forest Fire Information System – EFFIS (https://forest-fire.emergency.copernicus.eu) of the European Commission Joint Research Centre. Note: Cumulative burned area for period between 01/2008 to 07/2025 is 45,317ha.



DRIVERS OF WILDFIRES IN CYPRUS

Overall, wildfire risk in Cyprus is complex and multifaceted due to the combination of climatic, environmental, and human factors. The island's geographical location, flammable vegetation, and socio-political context make it particularly vulnerable to frequent and intense wildfires. The increasing impact of the changing climate is likely to exacerbate wildfire risk in the future.

- Climatic conditions: Cyprus has a Mediterranean climate, with hot, dry summers that last from May to October.[30] Rainfall is very low during this period, creating a highly flammable environment, especially when combined with the island's vegetation. Climate change has caused the frequency and severity of forest fires and wildfires, as well as the duration of the fire season, to generally increase in the Mediterranean region.[31] This is due to increased temperatures and prolonged droughts, which lead to increased flammability of lands.

- Vegetation: The forests of Cyprus consist of resinous pine trees such as the Calabrian pine, Black pine, Cedar, and Cypress. These trees, along with understory vegetation of shrubs and grasses, create large amounts of fuel that dries out quickly during the summer. The accumulation of pine needles and deadwood further exacerbates the fuel load, increasing the rapid spread of fires.[32] Understory growth in forests creates fuel ladders which also increase fire risk.

- Topography: Cyprus is mostly a mountainous country, which can affect fire behavior. The combination of steep slopes and dry vegetation can cause fires to spread very rapidly.[33]

- Human factors: A high percentage of fires are caused by human activity, including negligence and arson.[34] Abandoned agricultural land, especially in mountainous areas, also increases fire hazard as it leads to an increase in flammable vegetation. The lack of proper land management and urbanization contributes to an increase in available fuel and decreases the buffer areas that interrupt the connectedness between high fuel areas and communities.

- Policies and fire paradox: Although policies adopted by successive administrations regarding forest management have contributed in some areas to increased fuel loads and challenges for firefighting, forest authorities have also implemented many fuel breaks across the island to create opportunities for containing fire spread. However, on days with strong winds, spotting can still cause fires to jump these fuel breaks, limiting their effectiveness in some cases. Policies that give preference to the suppression of all fires in Cyprus have led to the accumulation of biomass, making the landscape more flammable.[35] Suppression strategies have become embedded in forest management, where fire is always seen in a negative light, and therefore traditional burning practices have been underused. This 'fire paradox' emphasizes the need for a paradigm shift in which mild or low intensity burns of landscapes can reduce overall extreme wildfires.

- Complex socio-political context: The divided socio-political landscape of the Republic of Cyprus should be considered for future risk management. Improved coordination and collaboration by government organizations and communities can help manage the shared risk of wildfires.

[30] Cyprus has a subtropical climate—Mediterranean and semi-arid type (in the north-eastern part of the island)—Köppen climate classifications Csa and BSh, with mild winters (on the coast) and warm to hot summers. Snow is found only in the Troodos Mountains in the central part of island.

[31] Georgiou, K. E. 2023. "Forest Fires in Cyprus." The Maldives National Journal of Research 11(Special Issue): 7–17. Link.

[32] IFFN (International Forest Fire News). 2005. Forest Fire Management in Cyprus. Link.

[33] Ibid.

[34] Georgiou 2023.

[35] Kirschner et al. 2024.

RECENT SIGNIFICANT FIRES

In recent years, Cyprus has experienced several major wildfires, most notably the Arakapas fire in 2021 and the Paramytha fire in 2023. These were largely caused by human negligence and exacerbated by high winds and dry vegetation. These fires burned thousands of hectares of forest and affected multiple communities across the island.

- 2021 Arakapas fire: This wildfire was the largest in decades, affecting over 10 communities in an area over 50 km^2 and killing four people.[36] The fire was mainly driven by strong winds and destroyed much of what was in its path.

- 2023 fires: Up to September 2023, Cyprus experienced 83 forest fires, affecting 20,071 hectares of wooded area. Multiple fires occurred this year, with the most destructive near Paramytha in the Limassol district.[37] This fire burned 8.8 km^2 of wild vegetation and damaged livestock facilities and homes.

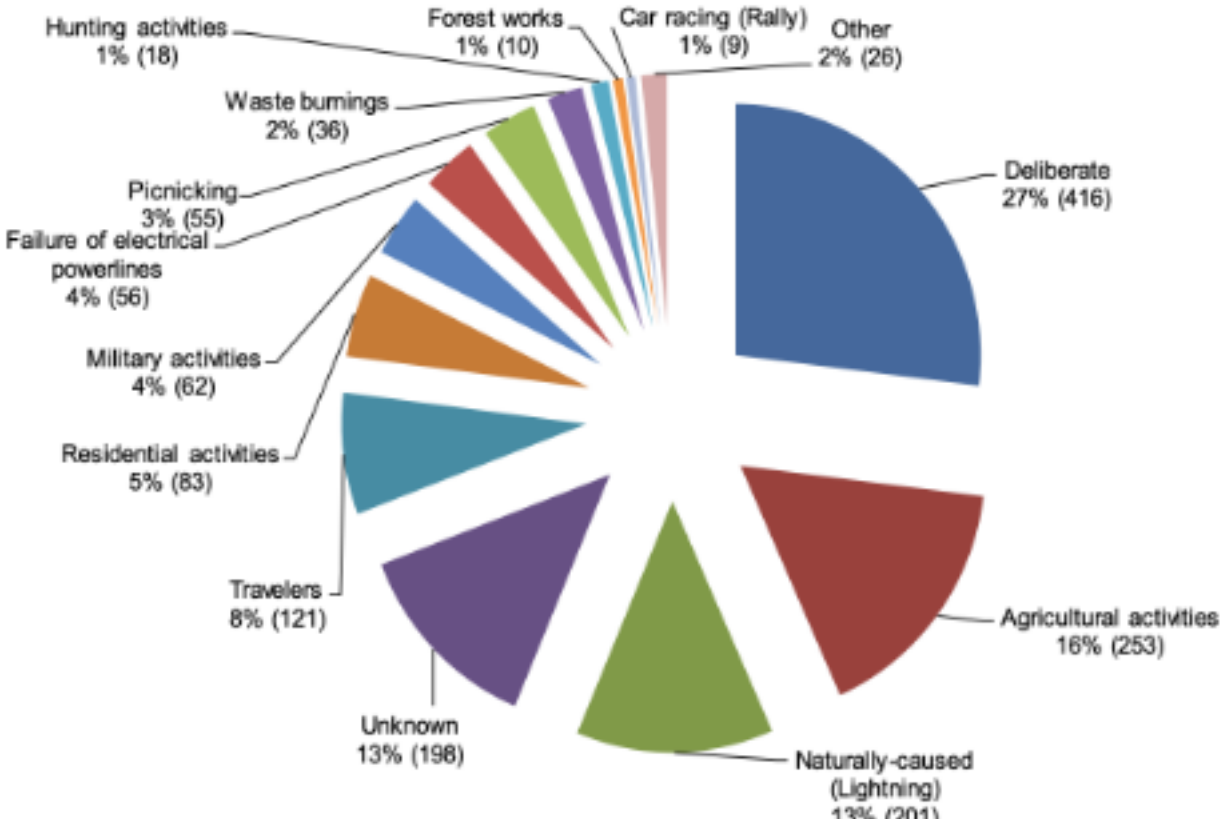
- 2016 Solea region fire: This was a significant forest fires in Cyprus, leading to the deaths of two forest firefighters and causing injuries to nine others. Villages in the Solea region were evacuated, and the fire eventually destroyed private properties, fire engines, and other equipment. A total of 19 km^2 of pine forest was burned by the fire.[38]

- 2007 Saitas fire: A large fire burned approximately 10 km^2 on June 28, 2007. The incident lasted two days and required the use of three airplanes. The fire was blamed on a faulty electricity cable and caused damage of approximately €25 million.[39]

[36] Pandey, Pooja and Julia Kirschner. 2021. "The Arakapas Fire in Cyprus: A Global Perspective Based on Integrated Fire Management." Link.
[37] International Association of Wildland Fire 2023.
[38] Cyprus Civil Defence. 2018. National Risk Assessment for the Republic of Cyprus. Link.
[39] BBC News. 2007. "Cyprus Fights Huge Mountain Blaze." June 29. Link.

Figure 2. Causes of forest fires in Cyprus: 2000–2021

Source: Forest Department Statistics. Link; Georgiou, K. E. 2023. "Forest Fires Social and Climate Change in Cyprus." IOP Conference Series: Earth and Environmental Science 1266 (1): 012052. IOP Publishing.



WILDFIRE RISK MANAGEMENT CAPACITY

The following chapters provide a short overview of key gaps and vulnerabilities in the existing wildfire risk management system in Cyprus, with a focus on forest fires as prioritized in the national strategic and legal frameworks. They emphasize key reform and investment opportunities for further enhancement. The analysis draws on available public information (such as NRAs, disaster risk management plans/strategies, or publicly available studies) and results of consultations.

GOVERNANCE OF WILDFIRE RISK MANAGEMENT

This chapter examines the governance structure for wildfire risk management at both the national and subnational levels. The analysis focuses on the wildfire risk management strategy in place, the horizontal and vertical coordination and cooperation among key stakeholders involved in wildfire risk management, wildfire risk financing strategies in place, and systemic resilience.

CURRENT ARRANGEMENTS

Wildfire risk management governance in Cyprus is primarily coordinated centrally under the Ministry of Agriculture, Rural Development, and Environment, with the Department of Forests and the Cyprus Civil Defence (CCD) as well as the Cyprus Fire Service acting as key wildfire risk management agencies. The Department of Forests under the Ministry of Agriculture is the responsible authority for protecting state forests and a 2km zone from the state forest boundaries against fires. Approximately 80 percent of the state forest land is registered in the Natura 2000 network which has protection and preservation implications for agencies involved in forest fire risk management.[40] This area constitutes about 57 percent of the land on which forest fires and wildfires occur. The protection of forests from fire risks includes an integrated fire management system based on three pillars: prevention, preparedness, and suppression.[41] The Cyprus Fire Service under the Ministry of Justice and Public Order is responsible for fighting all rural fires up to a distance of 2km from forest boundaries. It collaborates closely with the Department of Forests and provides coverage in urban and mixed-use areas. Many communities located outside of state forest boundaries are the responsibility of the Cyprus Fire Service. CCD under the Ministry of Interior supports both forest and rural fire management by providing trained personnel, including conscripts and volunteers, coordinating district-level resources, and assisting in response and recovery operations. They also participate in implementing the 'ZENON' emergency response plans and support humanitarian operations during large-scale incidents, such as IFESTOS (HEPHAESTUS) and PYRSOS.[42] The Game and Fauna Service also under the Ministry of Interior contributes to field level emergency response and rural area fire prevention.

The Joint Rescue Coordination Center (JRCC) functions as the national crisis coordination center ('ZENON') and is responsible for coordinating emergency responses and disaster management across the country.[43] This includes responses using aerial assets in multi-agency disasters. The JRCC collaborates with the National Guard, which may provide logistical and aviation assets when needed.

The Permanent Interagency Fire Committee consists of representatives from the Department of Forests, Cyprus Fire Service, and the CCD, and is led by the Department of Forests.[44] This committee serves as a coordination mechanism to support communication and cooperation among government agencies, enhancing collaboration and information sharing.

Other actors in wildfire risk management include the Meteorological Department, which provides risk forecasts and fire danger indices.[45] The Police contribute to evacuation, traffic control, and investigation of fire causes, while the Public Works Department participates in infrastructure recovery and is involved in the National Risk Assessment (NRA) process for hazards.

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[40] Cyprus Civil Defence. 2018. National Risk Assessment for the Republic of Cyprus (NRA-CY). Final Report. Coordinated by Cyprus University of Technology (CUT).

[41] Petrou, P., and K. Papageorgio. 2023. International Association of Wildland Fire. Overview 2023: Cyprus. Link.

[42] Cyprus Civil Defence Force. n.d. Civil Defence, Ministry of Interior. Link.

[43] Kirschner, J. A., T. A. Steelman, I. Charalambidou, S. Gücel, P. Petrou, K. Papageorgiou, A. Karayiannis, and G. Boustras. 2024. "Uncharted Territory: Governance Opportunities for Wildfire Management and the Case of Cyprus." International Journal of Wildland Fire 33 (6). Link.

[44] Kirschner et al. 2024.

[45] Cyprus Civil Defence. 2018. National Risk Assessment for the Republic of Cyprus. Link.

The Civil Defence Law of Cyprus of 1996 and 1998 governs the Cyprus Civil Defence (CCD), which is a department of the Ministry of Interior. The CCD is responsible for disaster response, public protection, and education.[46] The CCD's priority is to perform various humanitarian tasks to protect the civil population and help it recover from disasters. In the event of a major disaster, the CCD takes on intervention efforts.[47] The Minister of Interior, on behalf of the Council of Ministers, is responsible for implementing the Civil Defence Law of 1996 and related regulations and holds the overall authority and oversight of the Civil Defence system. The CCD is staffed by permanent personnel, a number of volunteers, and conscripts obligated to serve in the Cyprus Civil Defence Force. Currently, there are over 400 volunteers serving the CCD. Figure 3 depicts the major government actors in wildfire risk management in Cyprus.

Due to the island's size, all DRM activities are concentrated at the central level, as there are no regional governments. However, the CCD has five regional district administration offices across the country. The General Civil Defence Administration (GEDPA) under the CCD oversees policy making and activity coordination of the CCD at the national level. The five District Administrations under the GEDPA—Nicosia, Limassol, Larnaca, Paphos, and Famagusta—handle local-level implementation.

If a major incident occurs, a Ministerial Committee, led by the Minister of Interior and supported by the Civil Defence, coordinates the national response. Depending on the nature of the incident, other ministers may be assigned to lead the Ministerial Committee. During the recovery phase, various departments may take responsibility for managing resources and budgets. For example, the Technical Services of the Interior Ministry, assisted by the Public Works Department, the Cyprus Scientific and Technical Chamber, and district offices, handles recovery for buildings and infrastructure. For forest-related recovery, the Forests Department works alongside the Commissioner for the Environment.

Cyprus' Forest Laws of 2012[48] and the 2018 amendment, along with the Law for the Prevention of Fires in Rural Areas of 1988, are the major legal frameworks for fire risk management. The 2012 law includes dictates regarding sustainable forest management, preservation, biodiversity, and protection of forests in Cyprus. Activities such as improper disposal of flammable objects, lighting fires near forests, or engaging in actions that could lead to wildfires are strictly prohibited. The 2018 amendment increases fines against illegal activities

[46] Ministry of Interior. n.d. Civil Defence, History. Link.
[47] European Commission 2018.
[48] Cyprus Forestry Law of 2012.

Figure 3. Governance Actors for Wildfire Risk Management in Cyprus

Source: Team.

by doubling penalties to discourage fire ignitions. Annual forest fuel programs are mandated to reduce the risk of fire outbreaks and the spread of wildfires. The Director of Forests is the main authority overseeing the implementation of the law and its regulations, which include safeguarding forest sustainability and managing forest resources.

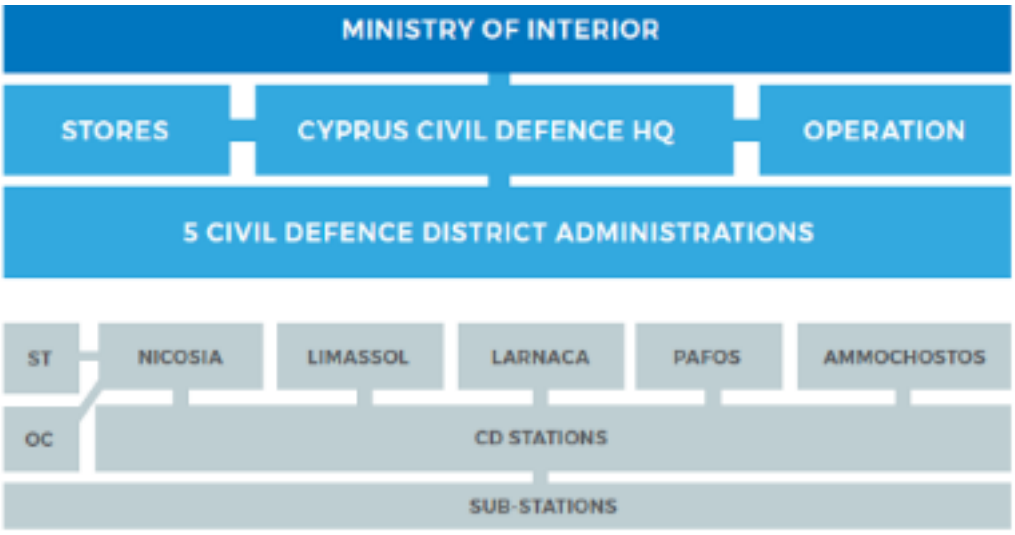
Government agencies are supported by thematic risk management plans. The Council of Ministers approved 'ZENON' in 2013, a general framework that includes 26 coping plans from different ministries. Planning has been ongoing since 1999 but was originally based on empirical knowledge rather than risk assessments. ZENON assigns roles to different governmental departments, which must then submit special thematic plans of action for risk management. Departments not responsible for thematic plan preparation must also prepare memoranda of action for different plans in which they are involved.[49] This basic national plan sets the scope of Cyprus' crisis management strategy and the coordination of government activities.[50] These plans include various natural and man-made risks and are updated every three years. Currently, these plans are under revision to reduce the thematic plans to broader areas and devise horizontal plans. The introduction of National Crisis Management plans in the early part of the 2010-2020 decade was considered a critical point. A "basic" plan with 20+ sectoral plans was introduced and was administered by the Search and Rescue directorate of the National Guard. Towards the end of the decade the administration of the plans was transferred to Civil Defence. At the same time a study commissioned by Civil Defence aimed to limit the number of plans.[51] The JRCC in Larnaca was also established to organize the search and rescue system of Cyprus. It serves as a coordination center for humanitarian operations in response to natural and other types of disasters.

There are ongoing initiatives aimed at strengthening the capacity and formalizing the role of the CCD. Through a Technical Support Instrument (TSI) funded by the European Commission DG Reform is supporting reforms to strengthen the CCD's capacity to respond to large-scale disasters through August 2026. Currently, and based on the anticipated reform of the CCD, the National Crisis Management plans modernization process is under consideration.

[49] Republic of Cyprus Ministry of Interior. 2020. Report on Disaster Risk Management in the Republic of Cyprus. Link.
[50] Bertelsmann Stiftung. 2020. WGA 2020 Country Report — Cyprus. Gütersloh: Bertelsmann Stiftung. Link.
[51] Authored by Professor George Boustras.

Figure 4. Structure of the Cyprus Civil Defence

Source: UCPM Peer review. Based on CCD.



The CCD has several national plans of action depending on the type of disaster. The major fire action plans in Cyprus are IFESTOS and PYRSOS.[52] These plans are for emergency response and preparedness to fires where the Department of Forests is responsible for preparing and implementing fire prevention plans within state forests and the 2 km zone around them.[53] IFESTOS and PYRSOS are the special national plans for response to fires in forests, urban and rural areas and response to fires in agroforestry areas, respectively, both coordinated by the Ministry of Agriculture, Rural Development and Environment and the Ministry of Justice and Public Order. IFESTOS outlines the evacuation for wildland fires.[54] IFESTOS is run by the Department of Forestry for events of forest fire and the Fire Service for rural fires. In addition, ICARUS I and ICARUS II are the Specific Crisis Management plans for the coordination of aerial firefighting means. These and other ministry-level specific national plans fall under the broader national 'ZENON' crisis management plan.[55]

Cyprus has also worked with EU partners on developing crisis and disaster management capabilities and relies on relations with neighbors including Egypt, Israel, Jordan, and Lebanon.[56] Cyprus is also part of the Union for the Mediterranean (UfM), a regional cooperation and dialogue platform that addresses the shared challenges in the Mediterranean region, including disaster risk reduction and adaptation.[57] The Republic of Cyprus has signed an agreement with the Hashemite Kingdom of Jordan to have a number of aerial firefighting means stationed in Cyprus during the fire season.[58]

KEY CHALLENGES

A significant challenge in the governance of wildfire risk management in Cyprus is the complexity of coordination across multiple agencies. Disaster risk reduction in Cyprus is highly decentralized, with different ministries and departments responsible for the development, evaluation, and adaptation of plans and management. While this decentralized approach allows for specialized focus, there is potential to enhance coherence and integration across wildfire risk management efforts. A more unified strategy, along with a dedicated coordinating legal framework for DRM, could strengthen wildfire governance.[59] Such a strategy may currently be missing partially due to a shortage of staff and time, which prevents relevant departments from contributing fully.[60]

The lack of a centralized agency or lead institution to coordinate wildfire risk management is a challenge for holistic wildfire resilience. This fragmentation inhibits legislative coherence, data sharing, and integration of private sector contributions. A dedicated authority or unit for wildfire risk governance embedded within the national DRM framework can significantly improve planning, oversight, and multi-agency coordination.

The island's separation of the Turkish Cypriot and Greek Cypriot communities poses a challenge for a unified disaster risk management (DRM) system. Since the country gained independence in 1960 from the United Kingdom, tensions between the Turkish Cypriot and Greek Cypriot communities have persisted. The United Nations Peacekeeping Force in Cyprus (UNFICYP) has operated on the island since 1964, overseeing a Buffer Zone that separates the internationally recognized government of the Republic of Cyprus from a de facto administration in the northern third of the island, which has been under de facto division since 1974 and is recognized only by Türkiye. This creates an additional challenge

[52] Cyprus Civil Defence 2018.

[53] Cyprus Bar Association. 2012. The Forestry Law of 2012. Link.

[54] Chrysiliou, C. n.d. "Emergency Plans of Action in Case of a Disaster in Cyprus." Presentation. Link.

[55] Boustras, G., and N. Boukas. 2013. "Forest Fires' Impact on Tourism Development: A Comparative Study of Greece and Cyprus." Management of Environmental Quality: An International Journal24(4): 498–511.

[56] Bertelsmann Stiftung. 2020. WGA 2020 Country Report — Cyprus. Gütersloh: Bertelsmann Stiftung. Link.

[57] Union for the Mediterranean. n.d. Union for the Mediterranean. Link.

[58] IFSJ. 2024. "Jordanian Firefighting Helicopters Bolster Cyprus Wildfire Readiness.". Link.

[59] Kirschner, J. A., J. Clark, and G. Boustras. 2023. "Governing Wildfires: Toward a Systematic Analytical Framework." Ecology and Society 28 (2). Link.

[60] European Commission 2018.

for DRM as policies and interventions for cross-buffer natural hazard risks are fragmented. A bi-communal 'technical committee on the environment' and on 'crisis management' are in place and act as contact points in case of a significant fire incident or an incident that affects both communities.

Further, the current framework prioritizes emergency response rather than long-term prevention, where suppression becomes the default strategy without a concerted effort to address underlying risk factors. This perpetuates the fire paradox, in which a dependency on firefighting resources is created that are increasingly incapacitated by larger and more intense wildfires. The wildfire paradox occurs when suppressing many or all fires leads to the accumulation of biomass, making landscapes more prone to destructive wildfires.

Additionally, the ZENON master plans are mainly developed for preparedness and response and include some recovery aspects; **however, they do not adequately cover prevention in terms of pre-positioning and planning**. The plans describe measures to be taken by each actor but do not include or quantify the equipment or means to be used.[61] Further, the link between the ZENON plans and the NRA is unclear and not sufficiently institutionalized, suggesting that these plans and risk assessments require further integration.[62] Appropriate institutionalizing entails formalizing the NRA process through legal documentation that specifies the roles and responsibilities of all stakeholders, ensuring transparency and the inclusion of diverse data sources. In addition, training is not provided for those involved in handling these plans. Currently, there are no concrete steps to link the NRA, ZENON Plans, and National Adaptation Strategy. However, it is anticipated that the introduction of the reformed Civil Protection Service will meet this objective, as well as a formal codification of an interagency coordination mechanism.

Community awareness and involvement are minimal and somewhat complicated. While there are a few volunteer firefighting teams, their accreditation and involvement are based on a complicated system, with some linked to the Fire Service and others to the Forestry Service. It should be noted that it is compulsory for all Cypriots to serve in the Cyprus Civil Defence Force.[63] There are no known communication campaigns focusing on citizen involvement in fire prevention.

It is not clear how effective these policies have been in real terms across the entire government. While there is ample evidence to suggest that crises primarily involving the Ministry of Foreign Affairs and/or the Ministry of Defence (for example, a hijacking incident) can be managed well, it may be less clear how effectively other ministries could respond to threats that fall directly within their purview. Evidence of that is the fact that a number of plans (not those managed by Ministry of Foreign Affairs and Ministry of Defen**c**e) have not been authored yet or have not been revisited or tried (in the form of an exercise) in several years.

KEY OPPORTUNITIES

Current policies could be restructured to align with the best practices for DRM, including the Sendai Framework for Disaster Risk Reduction (SFDRR). Improvements could address gaps between the legal framework and its implementation and operationalization. Further, a continual effort on horizontal legal framework creation and harmonization is necessary for strategy unification, beyond ZENON and the existing Civil Defence Law. It is important that these laws focus on prevention, mitigation, and recovery in an integrated manner.[64] The lessons learned from the NRA process could be formalized, and mandates could be created that specify who must be involved in the NRA and their respective responsibilities. All actors involved could adopt a more holistic and transparent approach.[65] Furthermore, transposing the EU Critical Entities Resilience (CER) Directive provides an opportunity to revisit roles, mandates, and risk prioritization across sectors. Ensuring legislative coherence and cross-

[61] Cyprus Civil Defence 2018.
[62] European Commission 2018.
[63] Republic of Cyprus. n.d. Mandatory Service - General Application. Link.

sector integration is crucial for systemic wildfire risk reduction.[66]

Strengthening relationships with local communities in wildfire governance is critical. Policy makers can create community-based fire management programs that involve residents in risk assessment, mitigation planning, and monitoring. Efforts such as the Department of Forests' municipal fuel management plans can be expanded to risk prone communities with appropriate funding and legal backing. Laws and funding to prioritize educational campaigns are important to raise awareness about fire prevention and preparedness.[67] While the Cyprus Fire Service and Department of Forests distribute flyers in some communities, funding along with enabling legal conditions could expand the effectiveness of community awareness raising and also measure its positive impact. Collectively governing wildfire regimes as a shared risk can be achieved by supporting participatory community initiatives that should be embedded in overarching legal frameworks. Regional and local governance collaboration should be improved.[68] Ensuring legal frameworks streamline bottom-up wildfire risk management approaches is critical for adaptive wildfire management and resilience.

Finally, a transition to an integrated wildfire risk management (IWRFM) approach is critical to moving from a suppression-dependent management scheme to proactive fire management.[69] Policy makers can institutionalize IWRFM by integrating it into the national DRM framework. This can include legislative reforms to promote controlled burning under safe conditions and policies that incentivize sustainable land management. As of April 2025, the ban on grazing had been lifted, and a pilot program for controlled grazing and the cultivation of abandoned fields has been initiated.[70]

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[64] Cyprus Civil Defence 2018.

[65] European Commission 2018.

[66] European Commission. 2023. "Enhancing EU Resilience: A Step Forward to Identify Critical Entities for Key Sectors." Link.

[67] Kirschner et al. 2024.

[68] European Commission 2018.

[69] Kirschner et al. 2024.

[70] Republic of Cyprus. 2024. "Speech by the Minister of Agriculture, Rural Development and the Environment of the Republic of Cyprus, Dr. Maria Panagiotou, at the Nicosia Risk Forum 202 with the Subject 'Safety, Security and Climate Crisis Challenges.'" Link.

UNDERSTANDING WILDFIRE RISK AND USE OF RISK DATA

This chapter focuses on the current understanding of wildfire risks in Cyprus, particularly forest fires, informed by various sources of data and analysis, research and innovation, NRAs, and other risk evaluations. Wildfire risk is understood as the combination of fire hazard (for example, the frequency of wildfire occurrences, dry vegetation, extreme weather events), exposure (for example, the number of people exposed, the value of assets and ecosystems exposed), and vulnerability (for example, the susceptibility of assets to damage, depending on factors like building materials, land use, and preparedness level). It reviews how assessment results are communicated to stakeholders and the public.

CURRENT ARRANGEMENTS

The NRA is the primary consolidation of information related to understanding wildfire risk in Cyprus. This is updated every three years in compliance with the EU Decision 1313/2013. Key governmental contributors to wildfire risk identification include the Department of Forests, the Meteorological Services, academic institutions, and research institutions such as the National Centre for Scientific Research, the Oceanography Centre, and the Centre for Risk and Decision Sciences (CERIDES).

Risk assessments are conducted at the national level, as the island of Cyprus' area is less than 10,000 km².[71] The risk assessment process is part of a broader DRM framework with legislative, procedural, and institutional aspects. In 2018, the NRA undertook an assessment of critical infrastructure risks related to climate change with a team led by Cyprus University of Technology and membership from European University Cyprus and University of Cyprus. An NRA for Chemical, Biological, Radiological, Nuclear, and high-yield Explosives (CBRNE) was performed in 2020 by CERIDES, and a flood NRA was performed in 2015 by the Department of Water Development. Risk analysis in Cyprus integrates indexes like the Fire Weather Index and advanced modeling tools to understand the likelihood and potential impacts of wildfire events.[72] In addition, Cyprus is part of the EU-funded initiative like the ERATOSTHENES Centre of Excellence that uses data cubes and machine learning (ML) algorithms to analyze historical and real-time data for more accurate fire predictions.[73] Satellite imagery is also used with ML capability to provide risk maps that highlight areas with high vegetative density and proximity to urban areas as critical risk zones for further analysis.

As part of the NRAs, wildfire risk is evaluated by comparing analyzed risks against predefined criteria to prioritize areas for intervention. These evaluations result in integrated risk matrices that guide decision-making for land management and resource allocation. The risk matrix for Cyprus is based on impact analysis for specified scenarios with moderate likelihood. The impact profile for fires, shown in Figure 5, highlights that the expected impact and damage to critical infrastructures from fires are high, followed by asset costs.

The subsequent integrated risk matrix, shown in Figure 6, indicates that fires have the highest risk level, followed by earthquakes and then coastal erosion and floods. Fires pose medium risk in terms of human impact and social/political impact, medium-high risk for economic impact, and high risk for environmental impact. Overall, considering the various impact classes and scenarios used for the risk assessment, fires pose the greatest impact, followed by earthquakes, compared to floods, coastal erosion, marine pollution, water scarcity, and technological accidents.

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[71] Cyprus Ministry of Interior 2020.

[72] Global Facility for Disaster Reduction and Recovery (GFDRR). n.d. Think Hazard: Cyprus. Link.

[73] Prodromou, M., S. Girtsou, G. Leventis, D. Koumoulidis, M. Tzouvaras, C. Mettas, A. Apostolakis, M. Kaskara, H. Kontoes, and D. Hadjimitsis. 2024. "Creation of Data Cube for the Analysis of Wildfires in Cyprus Using Open Access Data." Copernicus Meetings, No. EGU24-22445. Link.

Figure 5. Impact profile for fires, Cyprus

Source: Cyprus National Risk Assessment, 2018. Link

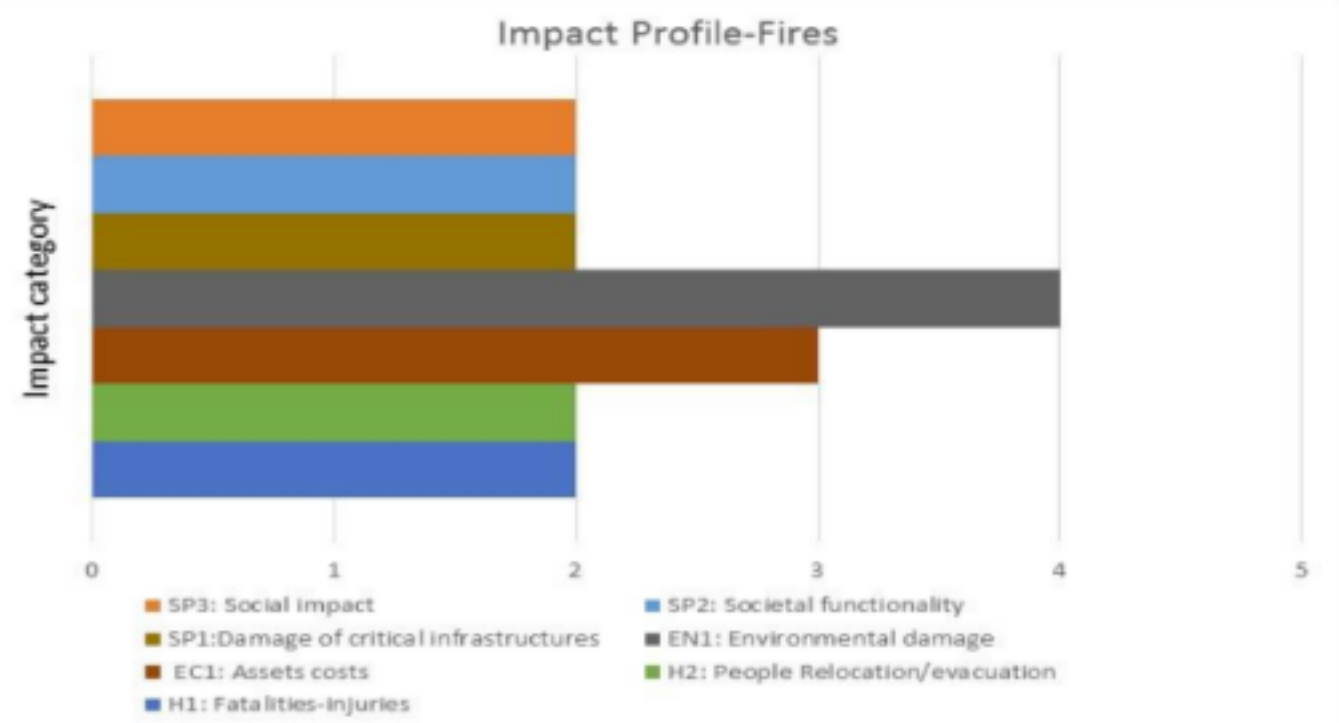
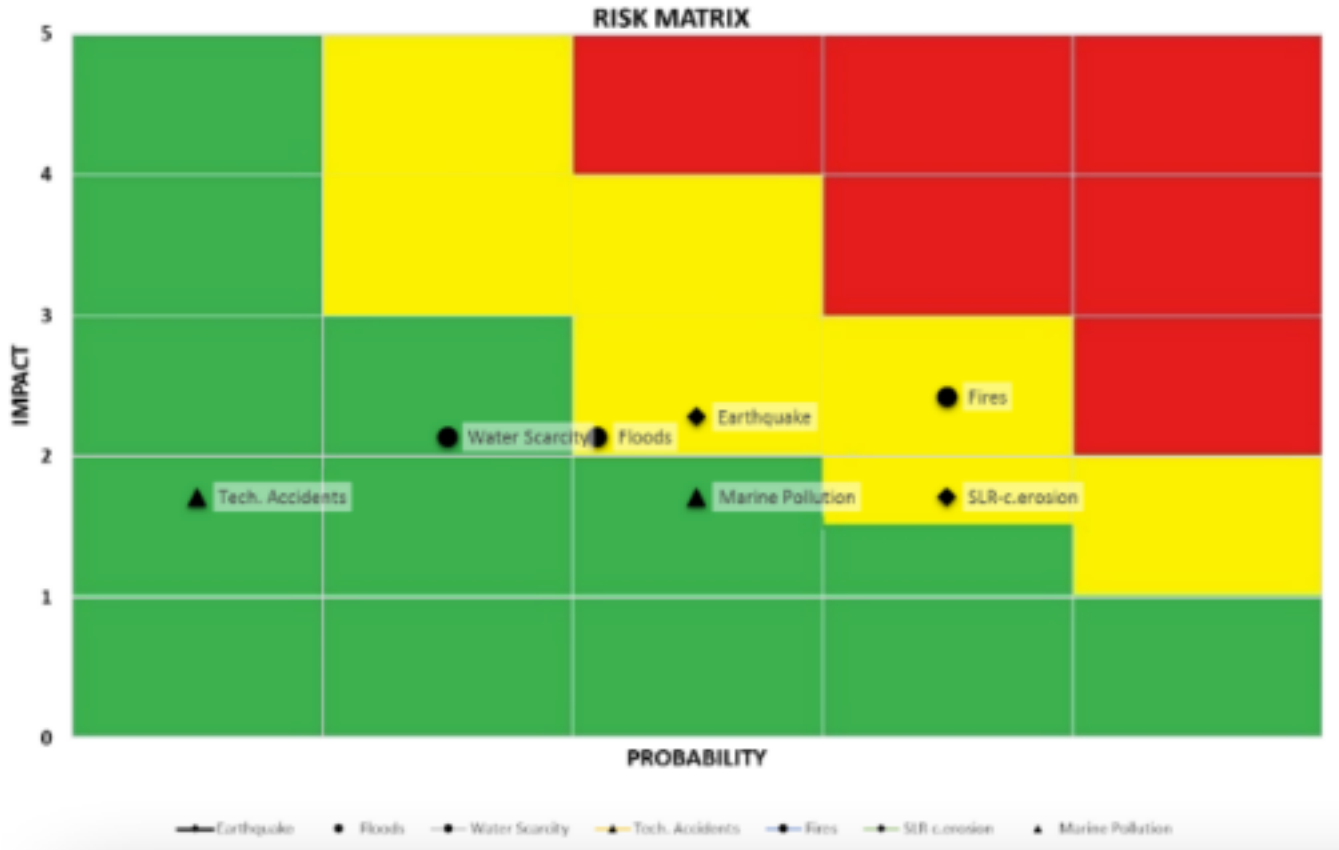


Figure 6. Integrated risk matrix, Cyprus

Source: Cyprus National Risk Assessment, 2018. Link.



A fire danger rating system is applied in Cyprus by the Forest Service, where risk is mainly communicated through the media. Five danger classes are used in Cyprus: Low, Moderate, High, Very High, and Extremely High. Risk communication mainly occurs through the media for emergency situations. Risk assessment reports are publicly available on the internet (NRAs 2016 and 2018). In general, risk awareness is promoted through different internet sites, on-the-spot lectures to citizens in risk areas, and the publication of flyers, in addition to lectures given by Civil Defence staff to other government services and public organizations.[74] Agencies involved in promoting risk awareness include Cyprus Civil Defence, he Department of Forests, and individual governmental departments that disseminate risk information on their websites. Conscripts and volunteers also circulate flyers and information. In terms of knowledge and capacity building for wildfire risk, governmental departments and services are invited to seminars to learn about the work done on wildfires and to ask questions.[75] Seminars are also organized at district levels to describe the work done and its importance. The goal of these information sessions is to achieve better coordination among governmental departments.

Current projects related to understanding wildfire risk in Cyprus include the EU-funded ERATOSTHENES Data Cube Initiative, which includes datasets on fires.[76] The SOCLIMPACT project,[77] also funded by the EU's Horizon 2020 program, includes climate change risk analysis for EU islands.[78] The goal is to evaluate and monitor risk components to achieve a standardized risk score that allows comparison between islands and aids in decision-making on adaptation. Additionally, ResAlliance is the Landscape Resilience Knowledge Alliance for Agriculture and Forestry in the Mediterranean Basin, enhancing landscape resilience in Mediterranean regions through knowledge exchange among stakeholders in the agriculture and forestry industries.[79] The PyroLife project supported PhD candidates on wildfire-related projects until 2025 and brings together lessons learned from different countries, including Cyprus-related research.[80] PyroLife receives funding from the EU's Horizon 2020 research and innovation program. Finally, FirEUrisk is a project funded by the EU that considers the socioeconomic contexts related to wildfire risk and assesses the vulnerability of communities exposed to fire risk in Europe.[81] SEMEDFIRE[82] is a Horizon Europe project coordinated by CERIDES - Excellence in Innovation and Technology, European University Cyprus, which focuses on advancing CERIDES as a regional hub in fire science (more information in Box 1). The coordinator receives expertise, knowledge, and training from advanced partners like Imperial College London, Pau Costa Foundation, and Securite Civile. Outcomes of this project include the introduction of an Integrated Fire Management Strategy and a holistic training program in controlled burning.[83]

KEY CHALLENGES

While Cyprus has made progress in using GIS and the Fire Weather Index to better understand fire risk in terms of immediate preparedness and response, it has not created a robust risk assessment model tailored to the region's unique socioeconomic environment. Organizations involved in GIS and understanding fire risk include the Department of Forests, Meteorological Services, and academic and research institutions, such as the Cyprus University of Technology, the European University Cyprus, and their associated projects such as SEMEDFIRE. The Fire Weather Index in Cyprus is provided by the Joint Research Centre (JRC)'s Global Wildfire Information System and its fire danger forecast module, which generates maps of forecasted fire danger levels using numerical

[74] EC 2018.
[75] Cyprus Ministry of Interior 2020.
[76] Erathosthenes Centre of Excellence. 2024. Cyprus Earth Observation Data Cube. Link.
[77] DownScaling CLImate ImPACTs and decarbonization pathways in EU islands and enhancing socioeconomic and non-market evaluation of Climate Change for Europe, for 200550 and Beyond.
[78] SOCLIMPACT. n.d. SOCLIMPACT. Link.
[79] ResAlliance. n.d. ResAlliance. Link.
[80] PyroLife. 2019. PyroLife. Link.
[81] FirEUrisk. n.d. FirEUrisk. Link.

predictions.[84] The lack of a probabilistic risk assessment model is largely due to the absence of a centralized national risk database and a misalignment in data formats between the Fire Service and the Department of Forests.

The existing framework does not identify a specific government entity responsible for disseminating risk assessment information. It is anticipated that the ongoing restructuring of the CCD to Civil Protection will provide an opportunity to address this.[85] This ongoing Technical Support Instrument (TSI), funded by the European Commission DG Reform and expected to last until August 2026, supports reforms of Civil Defence to strengthen its capacity to respond to large-scale disasters.[86] Key objectives of the TSI include a new national civil protection mechanism, a National Platform for Disaster Risk Reduction, an update to the early warning system (EWS), and support for additional risk assessments.

Cyprus does not have a strategy in place to communicate wildfire risk via the NRA to the population, which can limit public awareness and understanding of wildfire risk. Citizens are not involved in the NRA and planning procedures, which may result in an inadequate understanding of how wildfire risk is perceived across various socio-cultural sectors. In addition, there has been limited involvement of the private sector, volunteers, and local-level representatives, as well as an overall lack of a holistic approach in involving various stakeholders.

There is currently a gap between risk assessment and planning, where departments have knowledge about risks and necessary reduction measures, but there is a lack of comprehensive risk reduction activities.[87] This gap can hinder the implementation of preventive actions for wildfire management and lead to a reactive rather than proactive approach. In addition to the national-level risk assessment, local and regional assessments should be supported and funded such that communities can adequately prepare for and reduce the risk of fires given local conditions. Further, while the NRA process is continuously evolving through iterative learning and improvement, a lack of clear mechanisms for translating the findings into measures for wildfire risk reduction has limited the NRA's direct impact.

Lastly, systematic post-event analysis and institutional learning are not available. Some lessons from past fires have been documented in Cyprus. For example, after the 2016 Solea fire, a committee established in the aftermath developed over 60 recommendations. However, there are no systematic and institutionalized review mechanisms to gather data to improve overall wildfire risk management. Embedding structured 'lessons learned' processes into wildfire planning cycles can help ensure continual improvement and institutional memory.

KEY OPPORTUNITIES

Institutionalizing the development of NRAs with appropriate legal backing would clarify roles and responsibilities and foster accountability and consistency.[88] This would entail processes that would be legally mandated, structured and politically endorsed and can include developing legal documentation that specifies the roles and responsibilities of all stakeholders, ensuring transparency and the inclusion of diverse data sources. This would also help improve measurement and evaluation between assessments to inform better wildfire risk management. Additionally, diverse sources of data used in wildfire risk assessments can lack standardization, creating challenges in harmonizing data and limiting cross-agency and sectoral collaboration. For example, the ERATOSTHENES Data Cube initiative has highlighted the need for more unified frameworks to integrate datasets effectively and should include navigable information related to fires accessible to all.[89]

A probabilistic risk assessment model for fires tailored to the region's socioeconomic and envi-

[82] SEMEDFIRE = South Eastern Mediterranean Excellence Development in Fire Research. Link.
[83] SEMEDFIRE. 2023. SEMEDFIRE. Link.
[84] European Union. 2024. Cyprus: 7 Day Fire Danger Forecast. Link.
[85] EC 2018.
[86] European Commission. n.d. Reform Support: Cyprus Technical Support Instrument- Country Factsheet. Link.
[87] EC 2018.
[88] EC 2018.
[89] Prodromou et al. 2024.

ronmental dynamics could support overall wildfire risk understanding.[90] This model should include subnational- and regional level information so that local efforts can be taken for risk reduction. The probabilistic model could integrate diverse datasets and support the determination of losses and financial needs for prevention and recovery. These models should also include climate change information to inform adaptation strategies. At a minimum, scenario-based risk information would be informative for understanding future wildfire risk. Despite the importance of wildland fires in Cyprus, there is currently limited relevant research on the topic.[91] Therefore, additional knowledge and capacity building on this topic are necessary. Harmonized methodologies for data development and application are needed, along with improved data interoperability and formal data-sharing agreements. Integrating with the EU Risk Data Hub and the UN National Platform for Disaster Risk Reduction and establishing a national data strategy could support these endeavors. Academic institutes, such as CERIDES, could be a practical point of collaboration between public sector organizations to identify their data collection needs.

There is also a need to improve risk communications among stakeholders and include a wider group of stakeholders in the development of the NRA.[92] This should include actors from private sector representatives to local communities to enhance ownership and the overall comprehensiveness of risk management efforts through the NRA Increasing stakeholder participation in the assessment of wildfires can also improve public awareness of wildfire risk, helping citizens become more actively engaged in preparedness and prevention. Transparency and accessibility of risk information should be made available to the public and in the various languages spoken on the island. Overall, all stakeholders involved should make wildfire risk reduction and management resources available to encourage improved coordination through the risk management cycles, which requires appropriate staffing and budgeting by respective stakeholder organizations and institutions.

[90] EC 2018.
[91] Kirschner et al. 2024.
[92] EC 2018.

WILDFIRE RISK PREVENTION, REDUCTION, AND MITIGATION

This chapter focuses on wildfire risk prevention, risk reduction, and mitigation, exploring policy arrangements, structural and nonstructural measures for fire prevention and reduction, innovation and knowledge services, and administrative capacities related to wildfire prevention. Wildfire prevention includes measures aimed at stopping wildfires from starting (for example, conducting public awareness campaigns, prohibiting activities like open burning, and enforcing regulations); reduction focuses on limiting the scale and intensity of fire (for example, managing vegetation and establishing firebreaks); and mitigation prepares communities and ecosystems to withstand and recover from wildfires (for example, fire-resilient infrastructure, improved emergency response, and sustainable forest management).

CURRENT ARRANGEMENTS

The Department of Forests is responsible for fire prevention within state forests and within a 2 km radius. It undertakes vegetation treatments to reduce the risk of ignition and the spread of fires. These treatments include pruning and cleaning, removal of herbaceous and woody vegetation along roads, planting of fire-resistant species, prescribed burnings, controlled grazing, mixing of tree species, and seeding of species with low biomass.[93] A series of preventive measures in forest areas have been introduced, including a pilot program of controlled grazing, the cultivation of abandoned fields, the implementation of vegetation management measures in forested areas, and complete financing for community complexes adjacent to forested areas to acquire vegetation shredders.[94]

Cyprus published a National Strategy for Adaptation to Climate Change in 2017, with technical and financial support from the CYPADAPT project.[95] This was co-financed by the LIFE+ programme and the EU financial instrument for the environment and developed by Cyprus' Ministry of Agriculture, Rural Development, and Environment. The National Adaptation Strategy and the National Adaptation Plan are combined. The action plan calls for a medium-term strategic plan for the adaptation of Cyprus forestry. The plan emphasizes the importance of restoring and enhancing natural vegetation to reduce the risk of erosion and future fire outbreaks. Cyprus is currently working on an update of its climate adaptation strategy.[96] In addition, Cyprus developed a National Recovery and Resilience Plan in 2021.[97] Through the plan's funding, in 2024, the Department of Forests acquired more personnel, equipment, and funding for fire engines to strengthen operational capabilities.[98] A 'forest policy' in Cyprus has not been published officially.[99]

In addition, the National Strategy for Disaster Risk Reduction (2023-2030) aims to facilitate and coordinate efforts to reduce the impacts of natural or man-made disasters. The strategy includes 10 hazards assessed by CCD, including a legislative framework for civil defense.[100] It also provides quantitative criteria for classifying critical infrastructure based on the number of affected people, the total area of influence, time period of outage, number of deaths, and property damage in Euros. The NSDRR explains that the ZENON plan is undergoing revision to streamline over twenty thematic plans into eight key, broader horizontal areas. It proposes broader measures for increasing knowledge of risk management, including the establishment of an executive school, training for local government organizations, and the creation of appropriate content for diverse population groups. Finally, the NSDRR explicitly details specific measures that involve synergies with adaptation measures, such as strengthening fire suppression, prevention marine pollution, providing instructions for protection from heat waves, and improving legal frameworks for fires,

[93] IFFN 2005.

[94] Republic of Cyprus. 2024.

[95] FAO. 2025. National Strategy for the Adaptation to Climate Change 2017. Link.

[96] Ministry of Agriculture, Rural Development, and Environment. 2024. Draft of the Updated and Revised National Climate Change Adaptation Strategy. Link.

[97] Republic of Cyprus. n.d. Cyprus Recovery and Resilience Plan. Link.

[98] Republic of Cyprus 2024.

[99] Ministry of Agriculture, Cyprus. 2012. "Foreign Affair Statement of Gas Policy Department of Agriculture, Natural Resources, and Environment Gas Department." Link.

[100] Republic of Cyprus. 2023. National Strategy for Disaster Risk Reduction 2023-2030.

and adaptive forests. Further, a vulnerability plan called "Tripos" is currently being revised. The Tripos plan developed by CCD addresses the specific vulnerabilities of persons with disabilities during natural and man-made disasters, aligning with principles of non-discrimination and integrating their needs across all phases of disaster management.

In the last 20 years, major preventive measures include the prohibition of fire for agricultural purposes and the construction of green points for disposing of recyclable material. Additional fire prevention and risk mitigation measures employed by government agencies include cleaning vegetation along roadsides from late spring to early summer and conducting anti-fire campaigns by the Forest Department, the Fire Service, and occasionally the Press and Information Office of the Republic of Cyprus.[101] Further, the construction of firebreaks on ridges and natural features 6–30 meters wide is a priority to stop the spread of fire. This, along with forest road networks, ensures that fire services can quickly access all parts of forests during fire incidents.[102]

Legal regulations related to fire risk reduction include the prohibition of fires for agricultural purposes, particularly near forest boundaries.[103] Strict rules are enforced within state forests, including penalties such as imprisonment or fines for violations. Information on legal mandates is often shared through awareness campaigns sponsored by the Department of Forests. Since 2007, mandatory measures for newly built structures aim to increase the self-protection of assets at local levels.[104] These measures include requiring a vegetation-free defensible space around properties; installing water hoses, hydrants, and sprinkler systems; ensuring access for fire engines; obtaining fire protection hand tools; and developing cultivated protective green strips with agricultural trees.[105] Residents with agricultural machinery must register them and are legally required to assist in wildfire suppression.[106] Between 2018 and 2023, adaptive fire management measures include the use of technological systems for wildfire management, such as sensors for automatic detection of fire ignitions and the use of unmanned aerial vehicles for surveillance, which may still be in use today.[107]

As of 2020, there was no scientific study linking climate change to the increased frequency of large wildfires in Cyprus, but there is empirical evidence to show this is occurring.[108] Cyprus is currently coordinating efforts among eastern Mediterranean and Middle Eastern countries to address and manage climate change. This plan is expected to be endorsed by regional leaders in Cyprus. A joint statement was made at the 2024 MED9 Paphos meeting regarding this plan.[109]

The Cyprus fire code introduced in 2020 focuses primarily on urban fire risks and omits standards for buildings in the wildland-urban interface (WUI).[110] There is a growing risk of interface fires and an urgent need to update building codes, encourage the retrofitting of existing homes, and integrate these standards into land use planning. This is especially important in areas already experiencing peri-urban expansion into forested zones. Furthermore, critical infrastructure sectors, including water networks, energy systems, and telecommunications, lack consistent risk assessment for wildfire exposure. Existing assessments are currently fragmented and infrequently updated.

The Department of Environment collaborates with the CCD on disaster risk assessment and reduction, including measures to anticipate and adapt to a changing climate. The Department of Environment participates in the Committee, which was created in line with the United Nations SFDRR requirements. In the Ministry of Justice and Public Order's Annual Action Plan 2025, under 'State Security and Crisis Management', several interventions aim to strengthen policies and infrastructure for disaster prevention and management.[111] These include enhanced surveillance for wildfire detection, the use of modern technologies for disaster prevention and suppression, improved operational readiness and fire response times, and better security of critical infrastructures. In addition, the

[101] Cyprus Ministry of Interior 2020.
[102] IFFN 2005.
[103] Akhgar, B., D. Kavallieros, and E. Sdongos, eds. 2021. Technology Development for Security Practitioners. Springer. Link.
[104] Kirschner et al. 2024.
[105] Kirschner et al. 2024.
[106] Cyprus Department of Forests 2012, Article 46-1.
[107] Kirschner et al. 2024.
[108] Cyprus Ministry of Interior 2020.
[109] Government of Cyprus. 2024. "Declaration of the 11th Summit of the Southern EU Countries (MED9) Pafos, Cyprus." Link; Cyprus Ministry of Interior 2020.
[110] Cyprus Fire Code. 2020. Fire Protection Regulation – KDP 400/2020. Link.
[111] Ministry of Interior, Cyprus. 20025. Annual Action Plan. Link.

Ministry of Interior's Annual Action Plan 2025 for 'Civil Protection' outlines four interventions: (1) developing a management system for the Pan-European emergency number (112), (2) installing an SMS-based Early Warning System (EWS) for catastrophic events, (3) replacing the outdated siren system, and (4) drafting and coordinating the Emergency Planning Plans—Basic National Crisis Management Plan 'ZENON'.

KEY CHALLENGES

Despite frameworks and actions to reduce the risk of wildfires and forest fires, several challenges remain. The Department of Forests actively develops vegetation management plans and provides guidance to communities. However, the responsibility for implementing these plans lies with municipal and district administrations.[112] Implementation of these actions by the municipalities and districts is optional, which undermines the consistency and effectiveness of vegetation management as a wildfire risk reduction method.

Another challenge is the limited awareness of financial incentives for wildfire risk reduction. Compensation for wildfire prevention measures on private lands is available under the EU Agricultural and Rural Development programs. However, there is a notable lack of awareness among residents about these opportunities and the procedures to utilize these funds.[113] This knowledge gap restricts the uptake of preventive actions on private lands and leaves such lands more vulnerable to wildfires.

Further, the divided administrative landscape of Cyprus hinders cohesive wildfire prevention strategies.[114] Responsibilities for environmental and natural resource management are fragmented across different authorities, leading to reduced collaboration and coordination. Often, this lack of integration results in missed opportunities for unified actions against wildfire risks.

KEY OPPORTUNITIES

The use of tools such as the ERATOSTHENES Data Cube provides Cyprus with a platform for improving fire risk analysis and real-time monitoring of fire events. Expanding the data cube to include information on probabilistic fire risk at the national and subnational levels could encourage localized wildfire risk reduction and implementation planning. Integrating artificial intelligence (AI) and Machine Learning (ML) can improve understanding of probabilistic wildfire risks and future climates, supporting overall risk reduction.

Cyprus could introduce mandatory regulations requiring municipalities and district administrations to enforce vegetative management and other wildfire mitigation strategies. Streamlining the bureaucratic processes within the Department of Forests can reduce delays and increase the adoption of preventive measures.[115] Additionally, making preventive requirements as contingencies for some percentage of recovery funds can incentivize more risk reduction actions. For example, aligning the €6 million for the 2021 Arakapas wildfire with pre-fire preparedness requirements can incentivize proactive risk reduction measures.[116] Promoting EU-level funds, such as the EU Agricultural and Rural Development programs, and simplifying the actions needed to obtain these funds can encourage greater participation in risk reduction measures.[117] Further, knowledge can be improved on how insurance, incentives, and supporting legislation can increase or decrease preventive measures at local levels.[118] Overall, further studies are needed to understand the gaps and opportunities between legislation and implementation in Cyprus.

Supporting fire-resilient landscapes is critical for effective risk reduction. This includes planting

[112] Cyprus Department of Forests. 2012. Forest Law of 2012 Ο περί Δασών Νόμος του 2012. Cyprus Ministry of Agriculture, Natural Resources and Environment.

[113] Kirschner et al. 2024.

[114] Pandey, P., G. Huidobro, L. F. Lopes, A. Ganteaume, D. Ascoli, C. Colaco, G. Xanthopoulos, T. M. Giannaros, R. Gazzard, G. Boustras, and T. Steelman. 2023. "A Global Outlook on Increasing Wildfire Risk: Current Policy Situation and Future Pathways." Trees, Forests and People 14: 100431. Link.

[115] Ellina-Shaili, C., and T. Dimitriou. 2019. Administration and Innovation in Cyprus. Link.

[116] Pandey and Kirschner 2021.

[117] Pandey and Kirschner 2021.

[118] Auer, M. R. 2024. "Wildfire Risk and Insurance: Research Directions for Policy Scientists." Policy Sciences: 1–26. Link.

fire-resilient vegetation such as hardwood species like carob as well as orchards and vineyards that can reduce landscape flammability. Such measures not only reduce fire risks but also increase biodiversity and agricultural productivity. Preserving Cyprus' diverse landscape can enhance resilience while promoting local culture and tourism.[119] Research is needed on how insurance, incentives, and legislation in Cyprus can support or hinder the implementation of preventive measures.

Updating and harmonizing the National Adaptation to Climate Change Plan and ongoing or planned programs funded by the national budget or EU funds with the NRAs and ZENON plans is essential for holistic wildfire risk reduction. Having a near- and long-term climate action plan would help drive policy and funding for adaptation and complement the medium-term strategy being developed. Converting the plans to actions and implementing them in a systematic and legally backed manner is critical for addressing future and current wildfires. For example, there are currently no specific procedures or guidelines issued or used by Cypriot authorities for assessing climate impacts on major projects related to wildfires, and there are no requirements for subnational organizations to report on their adaptation progress.[120] There is also no centralized information or evidence of adaptation strategies being developed at regional, sub-regional, or local levels, presenting an opportunity for undertaking and documenting risk reduction and adaptation for wildfires. Finally, measures in the National Resilience and Recovery Plan focus on suppression and emergency management, including firefighting personnel and equipment. To enhance wildfire resilience in Cyprus, there is an opportunity to expand and complement this with mitigation and risk reduction efforts, including those related to the WUI. Related to this, it is anticipated that the reform of Civil Defence to Civil Protection will act as a catalyst for the formation of a functional, cohesive, holistic, and robust national civil protection mechanism.

Low-intensity or mild burns and sustainable land management practices should be encouraged for effective and natural landscape management. While the Department of Forests acknowledges the socio-ecological benefits of low-intensity burning, there is currently no program in place for such mild burns.[121] Controlled low-intensity burns can reduce fuel loads and maintain ecosystem health. Collaboration with local communities to reintroduce traditional practices such as free-range grazing can support wildfire mitigation and bolster agricultural activities such as the production of Halloumi cheese.[122] As stated earlier, in March 2025, the first-ever controlled burn took place, and a decision was made to adopt this practice.

A paradigm shift focused on IWFRM and community-centered approaches is needed for sustainable and effective risk reduction. It is critical to emphasize that not all fires are detrimental to the landscape and safety, and not all fires should be excluded.[123] Community-centered approaches should be prioritized, such as optimizing local adaptive institutions. Engaging communities in participatory wildfire mitigation initiatives fosters ownership and aligns prevention strategies with local expectations and national legislation. Integrating wildfire mitigation with broader goals such as nature conservation, cultural preservation, economic stability, and biodiversity can create synergies that improve both environmental and social outcomes.[124] Through the SEMEDFIRE project (Box 1), CERIDES is developing, alongside local and international stakeholders, an Integrated Fire Management Strategy. It is anticipated that this will be finalized within 2025. It is also important to provide financial mechanisms and incentive structures for prevention strategies, especially those that can support landowners and rural communities in undertaking fuel management actions.

[119] Pausas, J. G. 2015. "Evolutionary Fire Ecology: Lessons Learned from Pines." Trends in Plant Science 20 (5): 318–324. Link.
[120] European Commission. 2017. Adaptation Preparedness Scoreboard: Country Fiche for Cyprus. Link.
[121] Kirschner et al. 2024.
[122] European Commission. n.d. Geographical Indications and Quality Schemes Explained. Link.
[123] Pandey et al. 2023.
[124] Pandey and Kirschner 2021.

WILDFIRE EARLY WARNING AND PUBLIC AWARENESS

This chapter examines wildfire early warning and public awareness measures. It analyzes processes for identifying and implementing protective actions the public can take in the context of early warning and alerting, including contingency planning and educational activities.

CURRENT ARRANGEMENTS

Cyprus has an automatic fire detection system with pilot cameras in the Akamas forest in the northwest of the island, supported by air and ground patrols. This early detection network is administered by the Forest Department.[125] Warning of the population is through a network of electronically controlled sirens in cities and large villages, managed by CCD. Between 2018 and 2023, electro-optic sensors were employed for the automatic detection of fires, and unmanned aerial vehicles were used for surveillance. A comprehensive plan is under way for forest surveillance, fire detection, and image transfer. Aerial patrols using drones for fire detection systems have been installed in various forest areas.[126] Three special wildfire teams were also established to support learning during the fighting of wildfires.[127] The ERATHOSTHENES Data Cube demonstration project is anticipated to support EWSs for prediction and real-time monitoring.[128] The system includes multispectral data and AI models to assess risk factors such as biomass, vegetation indices, and land cover.[129] The system is still not included in the fire management decision making process.

Cyprus uses four preparedness levels. The first level, 'Green' (level 1), represents 'normal' preparedness and is permanently in force under the responsibility of the General Coordinator of each competent ministry. An additional 'Orange' level (1A) applies to smaller, localized incidents. The second level, 'Yellow' (level 2), is for local disasters requiring increased preparedness by other ministries and services. If assessments indicate that a crisis is likely, normal preparedness shifts to increased preparedness, prompting broader mobilization on the recommendation of the General Coordinator and approval by the ministry's General Director. At the third level, 'Red' (level 3), the Main National Plan is activated, involving the Inter-Ministerial Crisis Management Group and all relevant ministries and services in a full response effort. Finally, the 'White' level (4) focuses on recovery and assistance, involving a de-escalation of measures, damage and environmental assessment, support for those affected, and prevention of similar incidents in the future.

The Ministry of Education, Culture, and Sports manages an office of Civil Defence, Health, and Safety for schools.[130] There are theoretical lectures every year for students and teachers, and exercises are conducted at least once a year concerning safe evacuation after a fire or earthquake. The ministry collaborates with relevant departments to organize targeted risk awareness activities for students and teachers. These educational initiatives include topics on wildfire risk mitigation by the Forest Fire Service and aim to engage children, visitors, and the general public to create a culture of risk awareness. The Cyprus Forestry College has recently been reopened after approval by the Council of Ministers to ensure the ongoing professional development of forestry personnel.[131] Additionally, the college will soon work as a course provider for local communities and local authority leadership. Furthermore, the Ministry of Interior connects local communities and civil society for wildfire risk planning and mitigation.

[125] Cyprus Ministry of Interior 2020.
[126] Republic of Cyprus 2024.
[127] Kirschner et al. 2024.
[128] Erathosthenes Centre of Excellence. 2024. Cyprus Earth Observation Data Cube. Link.
[129] Prodromou et al. 2024.
[130] Kirschner et al. 2024.
[131] Republic of Cyprus 2024.

Surveys and collaborative initiatives highlight the state of wildfire risk awareness, supporting strategic efforts to address wildfire risks and forest degradation in Cyprus. A 2021 study revealed that 66 percent of Cypriot residents perceived moderate to significant degradation of Cypriot coniferous forests, attributing it to factors like tree die-back, decreased soil moisture, and regeneration difficulty.[132] This information can be used to promote tailored education and develop risk reduction and adaptation policies. In the past year, for the Cyprus Civil Defence's 60th anniversary and for Civil Defence Month, the CCD carried out two public awareness campaigns over the past year. It utilized children's booklets produced by FEMA and disseminated informational information via social media. Emergency preparedness exercises were also carried out in various districts.

Box 1. SEMEDFIRE

The SEMEDFIRE project improves Cyprus' wildfire readiness by training stakeholders in fire science and evacuation using real fire simulations.

The SEMEDFIRE project is a Horizon Europe initiative aimed at enhancing wildfire research and management capacities in the southeastern Mediterranean region. Coordinated by the European University in Cyprus (EUC), the project collaborates with leading institutions including Imperial College London, University of Wageningen, Pau Costa Foundation, and Nîmes Métropole. SEMEDFIRE contributes significantly to Cyprus' wildfire preparedness by providing stakeholders with comprehensive training in fire science, wildfire modeling, and community evacuation strategies. It features real fire demonstrations and technical presentations on wildfire behavior and modeling, allowing participants to apply theoretical knowledge to real-life situations. The project is supported by an advisory board representing the region and includes the following countries: Greece, Israel, Jordan, Lebanon, and Palestine. The success of SEMEDFIRE is in fostering collaboration among Mediterranean countries while promoting education and preparedness through a knowledge consortium.[133]

[132] Miltiadou, M., E. Antoniou, C. Theocharidis, and C. Danezis. 2021. "Do People Understand and Observe the Effects of Climate Crisis on Forests? The Case Study of Cyprus." Forests 12 (9): 1152. Link.

[133] Pandey et al. 2023.

KEY CHALLENGES

According to the EU Directive 2018/1972, Member States are required to have an EWS through mobile phones by June 2022. The Republic of Cyprus has operated a limited 112 service located at the Police, aiming to receive calls and redirect them. A 'next generation 112' is currently under preparation in compliance with EU Directive 2018/1972, and the Ministerial Council has approved the appointment of the national telecommunication authority as the organization that will build 112 from the ground up. This includes connecting the Fire Service, Department of Forests, Police, Ambulance Service, National Guard, and the JRCC. This new service will provide the backbone for the creation of a National Crisis Management Center, which will be in the center of the capital, Nicosia.[133]

While tools like the data cube enhance capabilities for understanding risk, there is a need for broader adoption and integration of predictive analytics, AI, and GIS technologies. This requires coordination between agencies and harmonization of data standards and quality that could be used for all phases but particularly helpful for emergency data to be shared within the public sector.

Further, public awareness and participation remain uneven in Cyprus, particularly in rural and economically disadvantaged areas.[134] CCD is contracting an organization (following a public tender) to build the broadcast system from scratch. Language and accessibility barriers further hinder effective outreach for wildfire risk awareness and preparedness. For example, the lack of a broadcast cell phone warning system and different forms of public information across Turkish, Greek, and English-language media during and after wildfires cause confusion and inhibit coordination.[135] There is a noticeable gap between risk awareness and actual preparedness actions, highlighting the need for more effective communication and accessibility to wildfire resources to improve readiness. Additionally, there is a need for improved multilingual dissemination and rapid public outreach. Compared to the rest of the EU, Cyprus shows similar trends in risk perception but has a slightly lower rate of preparedness actions and less confidence in preparedness, highlighting the challenge of moving awareness into preparedness actions. Further, Cypriots tend to trust public authorities and emergency services for disaster-related information, reflecting high confidence in these institutions.[136]

KEY OPPORTUNITIES

The CCD is keen on surveying societal perceptions of risk and embedding these findings within the next risk assessment. Support, financing, and implementation of perception findings should be included in local and national planning initiatives to ensure that awareness campaigns can target different parts of the population, including age-based groups, genders, non-Greek speakers, foreign workers, tourists, and others.[137] Furthermore, disaster risk awareness and disaster risk reduction are not formally included in education curricula, presenting an opportunity to embed strategic information regarding wildfire risk given the growing threat.[138]

[133] Philenews. 2025. "National Crisis Management Center in the Works." April 17. Link.
[134] European Commission 2024a. Disaster Risk Awareness and Preparedness of the EU Population: Cyprus. Link.
[135] Kirschner et al. 2024.
[136] European Commission. 2024a.
[137] Ibid.
[138] EC 2018.

WILDFIRE EARLY WARNING AND PUBLIC AWARENESS

A formal strategy for wildfire preparedness, awareness and information that sets goals and differentiates between target audiences does not currently exist in Cyprus and should be developed.[139] Relevant departments should promote actions to ensure that the public understands preparedness and prevention measures, with support from the Press and Information Office. The Civil Protection Month in Cyprus for March 2025 is a positive first-time initiative that can be expanded upon in subsequent strategies, with a national strategy based on risk assessment and public surveys to further strengthen education and awareness. A single entity should monitor the implementation of this strategy. The Cyprus Peer Review Report (2018) suggests the following areas of inclusion in a national strategy for public education and awareness:[140]

- Objectives of the strategy
- Responsibilities of all stakeholders and coordination mechanisms
- Activities to be carried out by stakeholders
- Target groups (including age, education, and so on)
- Main messages to be delivered to target groups
- Time frame of the strategy
- Identification of budget on a yearly basis (budgets for developing/maintaining the strategy as well as budgets for relevant departments)
- Identification of optimal use of available means
- Identification of innovative awareness tools.

In addition, it is important that the strategy is revised periodically following a monitoring and evaluation period and that lessons learned from one cycle can improve the implementation and scaling of awareness strategies to support the creation of a self-protection culture. Given that Cypriots tend to trust public authorities and emergency services, a more concerted awareness campaign for wildfire and other disaster safety could be highly effective.[141] Therefore, it is important to continue technological improvements in wildfire emergency data (for example, current fires and locations) that are accessible to the public and make these platforms accessible from all devices in multiple languages.

Finally, early warning capabilities should be enhanced in Cyprus. Coordinating the various information sources and ensuring clear and timely information delivery in Greek, Turkish, and English, as well as considering other common languages spoken on the island, are essential.[142] Data can be better integrated by including local weather data, applying ML algorithms, and using community-sourced inputs to enhance real-time monitoring and prediction accuracy.[143] Using remote sensing and geospatial information can improve detection and optimize resource allocation during emergencies. Engaging the local community to help with on-the-ground information can improve emergency risk assessments and procedures. All existing and new early warning and alerting systems should be coupled with thorough awareness programs to ensure all sectors of Cypriot citizens are aware of the alerts, protocols, and actions needed.

[139] Kirschner et al. 2024.
[140] European Commission 2018.
[141] European Commission 2024a.
[142] Kirschner et al. 2024.
[143] Pandey and Kirschner 2021.

WILDFIRE RISK PREPAREDNESS AND EMERGENCY RESPONSE

This chapter focuses on measures taken before a wildfire occurs, to ensure an effective response, including establishing necessary response capacities such as rescue capability, training, and situational awareness. It also covers emergency response activities during a wildfire event, including operations, coordination among key actors, international cooperation, and monitoring, but does not address EWSs.

CURRENT ARRANGEMENTS

Wildfire response is the responsibility of the Department of Forests, which falls under the Ministry of Agriculture, Rural Development, and Environment in areas designated as state forests and within a 2 km boundary around state forests.[144] Outside of the 2 km zone, the fire response responsibility falls on the Cyprus Fire Service under the Ministry of Justice and Public Order. Civil Defence supports all firefighting efforts. Other agencies participating in emergency response outside of state forest land include the Game and Fauna Service under the Ministry of Interior, the Cyprus Meteorological Department, and the district administrations. Police and National Guard provide additional helicopters as aerial assets. For large-scale incidents, assistance is provided by the JRCC ('ZENON' coordination centre), the UNFICYP, and the sovereign British bases. Also involved are electricity authorities, local authorities, volunteers, and residents. During a wildfire emergency, the relevant 'ZENON' plans are followed for tactical and operational response. The national and institutional framework for wildfire management is specified in the Forest Law and the Fire Fighting Action Plan in Rural Areas. In 2017, a permanent interagency fire committee was created to support communication and cooperation among government agencies and is led by the Department of Forests with representatives from all relevant public agencies.[145]

ZENON plans mainly cover preparedness and response aspects and are reviewed and revised by governments on a continual basis. In addition, regular, systematic exercises for each of the ZENON plans are not conducted in Cyprus. In practice, only a limited number are exercised and often not on a consistent schedule. DEMONAX is a plan that stands out as an exception, being one of the very few large-scale international disaster preparedness exercises held in the country, but it remains outside of any established nor recurring process. Furthermore, Cyprus does not currently implement a structured exercise and evaluation framework, such as the Homeland Security Exercise and Evaluation Program (HSEEP, USA). This means that when exercises occur, there is no standardized approach to analyzing and using lessons learned to enhance national response capacity.

IFESTOS and PYRSOS are the national plans for response to fires in forests, urban and rural areas and response to fires in agroforestry areas, respectively, both coordinated by the Ministry of Agriculture, Rural Development and Environment and the Ministry of Justice and Public Order. They are multi-operational plans that involve the cooperation of different national departments/services and organizations, such as the Department of Forests, the Fire Service, the Police, the Game and Fauna Service, other volunteer organizations etc. The role of each institution is defined, and exercises are carried out to practice implementation. Box 2 details an example of the EFAISTOS training that took place in 2024 and the institutions that participated in it.

The CCD is organized as Civil Defence Units in almost all urban areas and large villages.[146] These units are manned by conscripts and volunteers, who receive basic training and are later trained and stationed in different divisions of the CCD. Training is provided in-house and through the UCPM for permanent staff and volunteers. In 2017, there were over 500 volunteers in the CCD (see also Figure 4

[144] Kirschner et al. 2024.
[145] Kirschner et al. 2024.
[146] European Commission 2018.

provided above).

Wildfire risk preparedness and emergency response in Cyprus rely on a combination of ground forces, heavy machinery, aerial firefighting units, and interagency coordination to manage wildfire emergencies. The Department of Forests leads operational firefighting efforts, supported by the Fire Service and Civil Defence Units. Aerial firefighting, including helicopters and planes, and ground teams are trained in wildfire suppression tactics to ensure rapid deployment to high-risk areas. During the summer season, the Forest Department hires seasonal forest firefighters and rents additional helicopters and airplanes from abroad.[147] Response times have been reported to be fast, with teams from the Department of Forests typically arriving at fire incidents within 12 minutes after detection.[148] Experts in the field agree that the best way to control fires is to move fast, within 5 to 10 minutes, with measured force to ensure containment of the fire.[149] Concrete water tanks are strategically placed along forest roads near springs, and hydrants are installed on pipelines. Water for firefighting can also be sourced from dams and small pools along perennial streams.[150] Cyprus also has a network of forest roads and firebreaks with fire hoses and hydrants installed along the roads.

Since 2020, there have been registered volunteer teams of firefighters, **some coordinated by the Department of Forests and others by the Fire Service.** Residents with agricultural machinery are also legally required to assist in wildfire suppression, coordinated by the Ministry of Interior.[151] Cyprus is also participating in the EU Firefighting Prepositioning program, which was launched in 2024. The EU began a dynamic program that assembles 556 elite firefighters from 12 nations and deploys them to wildfire hotspots across Europe.[152]

Volunteer organizations in Cyprus play a growing role in disaster preparedness and response. SupportCY, coordinated by the Bank of Cyprus, is the most active volunteer network, providing equipment, training, and first response teams. The Cyprus Red Cross is also formally recognized in civil protection plans such as ESTIA. The CCD, along with the Citizens' Commissioner Office, has initiated a formal evaluation process to assess and register all volunteer organizations operating under the Pancyprian Volunteerism Coordinative Council umbrella.[153] The goal is to develop a comprehensive registry that can serve as the basis for collaboration with Civil Defence where applicable. As part of this effort, further collaboration is expected to improve the training, certification, and risk communication capacity among volunteer actors, enhancing the overall social resilience and readiness of communities at risk.

According to the 2018 Peer Review for Cyprus, the country has a relatively good response system compared to others in the region and other high-income countries in the EU.[154] The lack of coping capacity is defined as a structural shortcoming (institutional or infrastructural) that limits a country's ability to respond effectively to, and prepare for, disasters (see Table 1). An example of this is the practice by the Department of Forests that meets four times a year to coordinate prevention and response activities. This allows for a feedback loop of integrating lessons learned, which is then used in ZENON exercises.[155] Furthermore, the Republic of Cyprus uses the EU's rescEU capabilities effectively for large-scale forest and wilderness fires, highlighting the importance of external assistance.

[147] Georgiou 2023.

[148] Petrou, Panayiotis. 2024. "Development of Proposals to Improve the Public Policy of Forest Fire Management in Cyprus." Master's thesis, School of Economics, Business and Computer Sciences, Neapolis University, Paphos, Cyprus.

[149] Georgiou 2023.

[150] IFFN 2005.

[151] Kirschner et al. 2024.

[152] European Commission. 2024b. EU Boosts Readiness to Combat 2024 Wildfire Season. Link.

[153] PanCyprian Volunteerism Coordinative Council, Pancyprian Voluntary Organisations/NGOs. Link.

[154] European Commission 2018.

[155] European Commission 2018.

Table 1. Cyprus response coping capacity

Source: European Commission. 2018. Inform: Country Profiles, Cyprus. Link. Notes: Score scale = 0 (best) to 10 (worst). Total the weighted average.

Lack of coping capacity	Score
Institutional	3.7
Infrastructure	1.5
Overall lack of coping capacity	2.7

Box 2. The Cypriot Exercise EFAISTOS 2024

On May 23, 2024, the Department of Forests successfully organized the large forest fire extinguishing Exercise 'EFAISTOS 2024'.[156] The exercise aimed to test the effectiveness of the Special National Plan "EFAISTOS" for suppressing a large forest fire, to upgrade the operational preparedness of personnel and to optimize the cooperation of all bodies involved in forest firefighting.

The exercise scenario envisaged the occurrence of a forest fire in the area of the Troodos National Forest Park, near the Community of Kakopetria of the Nicosia District, which subsequently developed into a "Crisis". In the context of the scenario, the implementation of the Special National Plan "EFAISTOS" was deemed necessary. The firefighting work was further reinforced by forces from the Department of Forests, the Fire Service, the Police, the Nicosia District Administration, the Game and Fauna Service, the Civil Defence, the National Guard, the Search and Rescue Coordination Center, the Ambulance Service, the Meteorology Department, the British Bases, as well as the volunteer groups SOS, Kitas-weather, Support-CY[157] and ETEA.[158] The "IKAROS 2" Plan, which concerns aerial operations, was also implemented with the involvement of all the aerial assets available to the Republic of Cyprus and aerial assets from the British Bases. The aerial firefighting operations were also reinforced by aerial assets from the Hashemite Kingdom of Jordan.

Additionally, the exercise scenario provided for the implementation of an evacuation, the transportation of an injured, the feeding of all personnel involved in the operations, as well as mapping the perimeter of the fire and identifying any active outbreaks by unmanned aircraft. The entire operation was coordinated by the Fire Manager based at the Local Operations Center of the Department of Forests, in collaboration with representatives/liaisons of all the agencies involved.

[156] Government of the Republic of Cyprus, Ministry of Agriculture, Rural Development and Environment. 2024. Exercise EFAISTOS 2024. Link.
[157] Bank of Cyprus. n.d. SupportCY. Link.
[158] Volunteer Emergency Rescue Unit. Link.

KEY CHALLENGES

Despite existing arrangements and legal frameworks for wildfire emergency response and risk preparedness, several gaps and challenges remain. A major challenge is the lack of coordination among departments involved in extinguishing forest fires.[159] For example, the management of different types of fires within a particular spatial boundary by different services and ministries leads to coordination inefficiencies. Additionally, the decision-making process during emergencies is not streamlined, which can delay response actions. Due to the lack of Interministerial and departmental exchanges, inaction during emergencies can occur. Furthermore, being an island, emergency response and management in Cyprus can become logistically challenging, necessitating streamlined preparedness and response actions through planning and prepositioning of anticipated resources.

The link between the ZENON plans and the NRA is not clear and not sufficiently institutionalized, suggesting that the plans and risk assessments are not appropriately integrated.[160] It is also unclear how updates and feedback loops for the ZENON plans and their components are managed to improve risk preparedness and emergency response. Therefore, monitoring and evaluation of these plans, embedding lessons learned from previous disasters, and including prevention and recovery planning must be clarified and incorporated. Codification in legislation is needed for when and how updates should be made, which requires sufficient staff and budgeting.[161] Furthermore, it is common for the Department of Forests to respond to multiple fires simultaneously. Often, the resources of the Department of Forests are involved in suppressing six to eight incidents on a given day during the fire season.[162]

KEY OPPORTUNITIES

Establishing a central coordination body could streamline communication, ensure a unified approach, and prevent confusion and delays that currently occur due to the involvement of multiple agencies.[163] Additionally, formalizing interagency exchanges can improve response by creating formal protocols and establishing a permanent interagency fire committee to enhance collaboration and information sharing. Improving communication systems and ensuring information is accessible to all residents and inclusive of the various languages spoken in Cyprus is critical for situational awareness.

Another opportunity to harmonize risk preparedness and emergency response is to link the ZENON plans to the NRA. This would ensure that the operational and tactical plans are related to the most current information on risks. It is also important to relate this to the National Strategy for Adaptation to Change and other ongoing or planned state/EU-funded programs and investments to understand the anticipated needs of emergency response and risk preparedness in relation to the growing fire threat, as well as creating resilient communities in Cyprus. All national plans must be regularly updated with appropriate feedback loops, and adequate funding, staff, and time need to be dedicated to these activities.

Coordination initiatives such as bi-communal fire management volunteer groups may offer advantages in wildfire risk preparedness and emergency response during wildfires affecting broader areas.[164] Technical committees for environment and crisis management have been established by leaders of Greek Cypriot and Turkish Cypriot communities, and such endeavors should continue to be supported and encouraged, such as through a dedicated bi-communal workshop events.

Finally, there is a need for continued investment in technological advancements for early detection and situational awareness. This could include the use of AI and ML, which will enhance risk preparedness and emergency response capabilities.

[159] Kirschner et al. 2024.
[160] European Commission 2018.
[161] European Commission 2018.
[162] Cyprus Civil Defence. 2018. National Risk Assessment for the Republic of Cyprus. Link
[163] European Commission 2018.
[164] Kirschner et al. 2024.

WILDFIRE RECOVERY, RECONSTRUCTION, AND POST-DISASTER FINANCING

This chapter focuses on post-fire recovery, encompassing all the rehabilitation, restoration, and reconstruction interventions that take place after a wildfire, including short-term efforts to stabilize emergencies and long-term interventions aimed at the recovery of ecosystems and socioeconomic assets and systems.

CURRENT ARRANGEMENTS

Cyprus is one of several countries that have a high net government liability for flood and earthquake risk financing as a percentage of gross domestic product (GDP) (Figure 7), and this liability could affect planning for wildfire losses, which are increasing in the country.[165] Post-disaster financing of recovery is carried out by the relevant ministries and departments from their budgets, which can apply to the Ministry of Finance for additional funding. In any given crisis, when the relevant department or ministry has exceeded its budget in responding to disasters, it can apply to the Ministry of Finance for additional funds, with a provision of €500,000 available in the Ministry of Finance budget per year.[166] If necessary, further funds will be re-allocated.

Following a major disaster, different departments will take the lead on specific elements and leverage existing budgets.[167] For example, buildings and infrastructure recovery may be managed by the Technical Services of the Interior Ministry, aided by the Public Works Department, the Chamber of Engineers, and the district offices. For forests, the Forest Department may be aided by the Commissioner for the Environment. For private sectors such as ports and airports, managing companies insure assets or fund themselves for the cost of recovery following a disaster or adverse event. For certain disaster events, citizens must have their own insurance coverage, and the government only compensates the affected population using income criteria, while the majority of the population is encouraged to cover recovery costs through insurance schemes.

EU funds have also been used for post-disaster recovery, including the EU Solidarity Fund,[168] **as well as funding after the 2021 Arakapas fire that combined both national and EU funds for recovery.**[169] Between 2002 and 2025, Cyprus has requested the EUSF three times. It first applied in 2008 due to the severe drought that the country had suffered from, and it was granted €7.6 million by the EUSF. Then, in 2016, it applied again requesting financial support to face the severe weather conditions (drought that turned into wildfires) it had experienced, and it was granted €7.3 million. Hower, a year later, when it applied again for the same reasons, its request was rejected, because it did not meet the necessary criteria.[170] The EU has also co-funded beneficial ecosystem recovery and adaptation programs like LIFE AgrOassis, which has provided funding.[171]

Information about lost or damaged assets is collected and sent to the Ministry of Finance to request funds for damage repair.[172] The responsibility of reporting and recording disaster loss data belongs to various departments. For example, the area of agricultural land burned may be recorded by one department, the loss of life by another department, and the compensation for affected citizens by another department. It is the responsibility of individual government departments to determine whether and how to embed lessons learned into planning and operations.

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[165] World Bank. 2021a. Financial Risk and Opportunities to Build Resilience in Europe. Economics for Disaster Prevention and Preparedness. Link.

[166] Cyprus Ministry of Interior 2020.

[167] Cyprus Ministry of Interior 2020.

[168] European Commission. 2024. "Commission Takes Further Steps to Help Member States Recover from Climate Disasters." Link.

[169] Cyprus Mail. 2022. Over 6 Million Paid for Arakapas Damages. Link.

[170] European Commission. 2025. Beneficiary States of the EU Solidarity Fund Interventions since 2002 - Only Natural Disasters.

[171] Laona. n.d. LIFE-AgrOassis. Link.

[172] Kirschner et al. 2024.

KEY CHALLENGES

There is no overarching disaster risk financing (DRF) strategy or plan that takes into account current potential macro fiscal liabilities and offers a range of instruments. Post-fire recovery funds from national and EU sources are not conditional on having risk reduction measures appropriately in place in surrounding high-risk areas before a fire occurs. For instance, the €6 million distributed to the Arakapas wildfire recovery fund in 2021 was not conditional on any pre-fire preparation plans.[173]

Due to informal exchange between departments and ministries, there is a lack of action in terms of feedback loops following disaster events.[174] This can limit resilient rebuilding of assets and reduce coordination in reconstruction efforts. Furthermore, disaster losses are not centrally recorded, which complicates decision-making processes regarding the prioritization of lessons and recovery/rebuilding investments.[175] The responsibility for recording data is fragmented across departments, as mentioned above, and there is no coordinated process to collect comprehensive data about the damage caused by a disaster, including economic, social, cultural, and environmental data.

KEY OPPORTUNITIES

Departmental and ministerial agencies could develop a comprehensive recovery plan that embeds resilience to wildfires and other hazards. These plans should be coordinated with the NRA, Climate Change Adaptation Plans, and ZENON, and backed by necessary legislation. Currently, the resilience and recovery plan focuses more on economic recovery and should also consider building back better following major disaster events for both infrastructure/assets and natural resources.

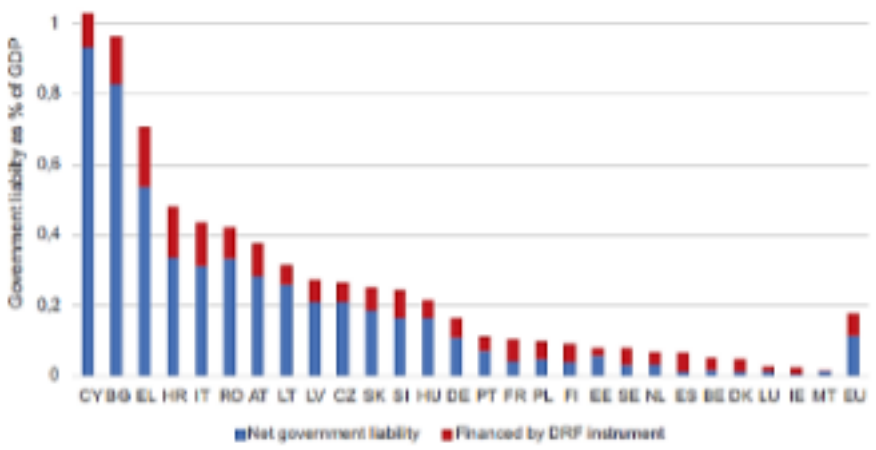
Cyprus could conduct analyses to understand potential liabilities, review current financial arrangements, and make improvements to existing or develop new instruments to manage the financial impacts of disasters. Adopting a risk-layering approach in DRF strategies can entail using a combination of budget reserves, contingent financing, and insurance to manage wildfire-related costs. This can help ensure both immediate response and long-term resilience to increasing fire risks. There is an opportunity to embed risk financing into Cyprus' wildfire recovery planning to ensure timely support for rebuilding, ecosystem restoration, and community recovery, particularly in high-risk rural areas. For example, a centralized disaster risk reduction fund could be created with earmarked allocation for wildfire risk reduction. Such a fund could support the immediate needs of citizens along with longer-term rebuilding needs. The funding could be available at various levels— individual, firms, and varying subnational levels —and could, as a best practice, be tied to having a rebuilding plan as well as a prevention and mitigation plan where relevant.

To improve wildfire recovery and reconstruction, a strategic review of current responsibilities and options is essential, **with a focus on data collection and management.** A key area to review involves examining how post-disaster loss information is collected across various departments to identify gaps and eliminate duplication. Exploring a centralized database is one option that could provide a comprehensive system to gather and analyze the economic, environmental, social, and cultural impacts of wildfires. Developing a standardized methodology for data collection and studying best practices from other countries can also inform how such a system could be implemented while ensuring data interoperability with existing and EU systems.

[173] Kirschner et al. 2024.
[174] European Commission 2018.
[175] European Commission 2018.

Figure 7. Countries sorted by average total government liabilities relative to GDP: High government liability scenario

Source: World Bank. 2021a.



CROSS-CUTTING TOPIC: SOCIAL RESILIENCE AND INCLUSION

This chapter covers wildfire-related social resilience, social protection, and inclusion, referring to the ability of communities to withstand, recover from, and adapt to the impacts of wildfires while ensuring that vulnerable groups are not left behind. These three elements work together to enhance communities' ability to withstand and recover from wildfires by strengthening networks, providing financial support and relief, ensuring vulnerable groups have access to necessary services and assistance, and contributing to building communities that are better equipped to handle the challenges posed by wildfires.

Vulnerable groups, as defined by the United Nations, are social groups at high risk of socioeconomic marginalization requiring specific attention. These include, but are not limited to, children and adolescents, the elderly, persons with disabilities, minorities, low-income or no-income individuals, migrants, homeless people, individuals living with HIV/AIDS, and those with chronic illnesses.

CURRENT ARRANGEMENTS

Cyprus integrates local resources into its emergency response system. The Department of Forests has played a central role in including the community by coordinating volunteer teams for firefighting. The intention is to increase local self-protection by harnessing residents' capabilities and integrating them into the national response framework.[176] This includes mandatory defensible spaces around properties and registration of residents with agricultural machinery. Volunteer teams have been registered and coordinated by the Department of Forests since 2020, highlighting the recognition and need for community involvement.

KEY CHALLENGES

While positive steps have been taken to include more of society in the management of wildfire risks in Cyprus, significant gaps remain. For example, wildfire management is still predominantly seen as a technical issue, overlooking the critical socio-ecological dimensions of risk. Many of the underlying causes of the growing fire risk are due to socio-spatial root causes and have not been sufficiently addressed.

Current management does not appropriately address the most vulnerable in Cypriot society, for example, foreign seasonal agricultural workers and firefighters who face a higher degree of risk during wildfire events and migrants and rural populations who have lower awareness of risk and confidence in preparedness.[177]

Furthermore, the government offers compensation based on income criteria and encourages citizens to have insurance. The challenge with this is that insurance penetration is relatively low in most EU countries, and income and exposure to risk are often linked. Therefore, the most vulnerable in society to wildfire risk and other risks are likely those who will have the lowest opportunity to rebuild their lives following a disaster.

KEY OPPORTUNITIES

There is a need to move beyond the technocratic interpretations of wildfire risk and focus more on the social drivers and societal impacts of wildfire risk in Cyprus.[178] Improving understanding of the specific challenges faced by vulnerable populations can support more inclusive wildfire risk reduction and preparedness. For example, researching appropriate messaging methods and audiences for wildfire alerts is critical to ensuring access to emergency information.

This also includes making deliberate efforts to engage with stakeholders who may not routinely be part of wildfire risk conversations. Farmers, for example, are often not well represented in Cyprus wildfire research and policy discussions. A recommendation to address this would be to present an economic assessment of impacts on the agricultural industry and consider compensating representatives from the most vulnerable and at-risk communities in Cyprus. Improving finan

[176] Kirschner et al. 2024.

[177] Ibid.

[178] Eriksen, C., and G. Simon. 2017. "The Affluence–Vulnerability Interface: Intersecting Scales of Risk, Privilege and Disaster." Environment and Planning A: Economy and Space 49 (2): 293–313. Link.

cial incentives, such as obtaining insurance or subsidies for preventive actions, may also help engage various communities in the wildfire conversation.

Reintroducing traditional methods such as grazing and prescribed burning under a robust legal framework can enhance ecological and social resilience and improve land management. This will require appropriate legislation, staffing, and budget to implement correctly and sustainably, along with appropriate training and guidelines.[179] CERIDES - Excellence in Innovation and Technology, through the Horizon Europe RESALLIANCE Project, organized a land-lab to illustrate the merits of reintroducing traditional methods in forest management and prevention.[180]

Overall, reframing wildfire management as a socio-ecological challenge requires active community involvement with an emphasis on prevention and empowerment. Employing participatory research methods alongside social science approaches can encourage discussions on equity, power, and justice as related to wildfire management. These elements often stem from, but are not limited to, agricultural practices, infrastructure developments, and economic opportunities in rural areas.[181]

[179] Ibid.
[180] European University Cyprus. 2025. "Great Success of SEMEDFIRE and RESALLIANCE Events in Cyprus." Link.
[181] Kirschner et al. 2024.

CROSS-CUTTING TOPIC: PRIVATE SECTOR

This section considers the role of the private sector in wildfire risk management across all phases. It highlights opportunities for leveraging public-private partnerships and technological advancements to enhance wildfire resilience while addressing key challenges such as regulatory enforcement, fragmented land ownership, and funding gaps.

CURRENT ARRANGEMENTS

The private sector in Cyprus has a limited role in wildfire management. Authorities can request farmers and companies for assistance during major fire incidents.[182] For private sector undertakings such as ports and airports, managing companies insure assets or fund themselves for the cost of recovery following a disaster or adverse event. Overall, based on available government research, there is little understanding of the role of the private sector in wildfire management systems for Cyprus, mainly focusing on recovery or post-disaster financing with some emphasis on preparedness support during emergencies. Examples such as the Bank of Cyprus funding SupportCY are few in the literature or publicly accessible.

KEY CHALLENGES

Fragmented land ownership by private owners makes it difficult to implement consistent prevention and fuel management strategies across different properties.[183] While there is financial compensation for preventive measures on private lands under EU programs, residents have limited awareness of these opportunities. Vegetation management plan implementation falls under the responsibility of municipality and district administrations, making fuel management uneven throughout the country.

There is also a lack of public-private partnerships to leverage the private sector's resources and expertise in areas such as technology, research, and innovation for fire management.[184] Additionally, the private sector does not have specific regulations for the reduction of risk and prevention of wildfires aside from the mandatory measures for new structures and the clearing of road networks.

KEY OPPORTUNITIES

Improving public-private partnerships could be beneficial for wildfire knowledge sharing, **capacity building, and prevention.** For example, the insurance industry could partner with disaster risk reduction authorities and planning agencies to provide the latest information on wildfire risk analysis, prediction, and detection. Additionally, agricultural sector workers could be employed to support land grazing efforts. A good example is Spain's Ramats de Foc or 'Fire Flocks' program coordinated by the Pau Costa Foundation, which helps manage forest fire risk through shepherding.[185] Fire Flocks brings together public and private agents interested in the continuity of pasture in forests to control the understory while compensating the shepherds for their time and resources.

The private sector should have regulations and incentives to develop wildfire risk mitigation and preparedness planning and actions. Public-private partnerships are critical but underleveraged for wildfire resilience. Structured initiatives, such as corporate social responsibility measures, such as those introduced by SupportCY, can improve preparedness training and equipment support and should be considered. These should be supported by government guidance and, where relevant and needed for the sector, subsidies as well. Finally, the private sector plays an important role in awareness raising and prevention, especially in the tourism industry that is a large economic

[182] Kirschner et al. 2024.
[183] Ibid.
[184] Ibid.
[185] Pau Costa Foundation. n.d. Ramats De Foc. Link.

sector for Cyprus. This and other industries should be engaged through specific strategies that address and mitigate risks in touristic areas and inform tourists of wildfire risks, resources, and best practices to reduce the ignition of fires.

INVESTMENT NEEDS AND RECOMMENDATIONS

This chapter proposes key priorities for reforms and investment areas, which may be considered as part of technical assistance, policies, or instruments. It is informed by desk research and consultations.

A list of recommendations to improve wildfire risk management in Cyprus is provided in Table 2 in line with the report's structure, with a short descriptive summary of recommendations following the table.

Table 2 recommendations are listed in the order following the analysis presented in the report, considering current financing, institutional capacity, and stakeholder engagement levels, as well as the potential impact on reducing wildfire risk.

Table 2. Key recommendations for wildfire risk management in Cyprus

Wildfire risk governance	• Align the National Risk Assesment (NRA) with ZENON plans and clarify interagency roles by establishing mechanisms to enhance collaboration and disaster response. • Transition to Integrated Wildfire Risk Management (IWFRM) by developing and enforcing clear legislative mandates, stakeholder awareness plans, and a cross-sectoral strategy that integrates NRA findings into fire-resilient land use practices. • Develop multilingual, audience-specific alerts and address the needs of vulnerable populations in Cyprus to ensure inclusive wildfire risk communication. • Develop land stewardship models and economic impact assessments in collaboration with farmers, landowners, and industries to strengthen multi-sector wildfire risk reduction. • Ensure inclusive wildfire risk communication by providing multilingual, audience-specific alerts and addressing the needs of vulnerable populations in Cyprus.
Understanding risk	• Institutionalize and harmonize the NRA process through legal mandates, standardized risk assessment methods, and multilingual public access to ensure aligned, evidence-based wildfire planning across national strategies. • Conduct probabilistic wildfire modeling that incorporates projections to inform regional scenario-based planning, long-term investment, and land use decisions. • Invest in AI-driven early detection, remote sensing, and real-time risk forecasting technologies, and integrate wildfire alerts into broader multi-hazard adaptation platforms. • Support interdisciplinary research on wildfire risk in WUI areas, develop regionalized infrastructure risk models, and pilot nature-based mitigation strategies to strengthen long-term resilience.
Wildfire Risk prevention, reduction, and mitigation	• Quantify and communicate the benefits of wildfire risk reduction investments to support evidence-based funding decisions and policy development. • Shift funding toward proactive wildfire prevention measures such as vegetation management and Firewise landscaping while empowering communities to lead in preparedness and risk awareness.
Wildfire early warning and public awareness	• Invest in targeted, data-driven public education campaigns on wildfire preparedness tailored to diverse audiences. • Embed risk reduction in school curricula and community engagement programs to build long-term resilience.
Wildfire risk preparedness and emergency response	• Establish a centralized wildfire coordination body, formal interagency protocols, and invest in inclusive, multilingual communication systems to enhance unified emergency response. • Support bi-communal fire management committees such as technical committees for environment and crisis management and coordination events to strengthen cross-community collaboration and shared wildfire response capacity. • Invest in Artificial Intelligence, Machine Learning, and real-time monitoring technologies to improve early detection and situational awareness for wildfire risk management.
Wildfire recovery, reconstruction, and post-disaster financing	• Review existing financial instruments and liabilities and develop or enhance tools to address the economic impacts of wildfires. • Adopt a risk-layering approach in disaster risk financing (DRF) strategies. • Integrate DRF strategies within the recovery framework. • Establish a centralized system with legal backing to collect and analyze wildfire disaster loss data across economic, environmental, and social dimensions, and ensure public access to non-confidential information.

Social resilience and inclusion	• Broaden wildfire risk assessments to include social impacts and improve alerting strategies for vulnerable populations. • Engage underserved stakeholders like farmers through economic impact assessments and targeted financial incentives. • Support the reintroduction of traditional practices such as grazing and prescribed burning under clear legal and training frameworks. • Reframe wildfire as a socio-ecological issue, fostering inclusive community participation and equity-driven approaches.
Private sector	• Create regulatory and financial incentives for private sector wildfire preparedness and mitigation planning. • Enhance public-private partnerships (PPPs) for wildfire risk analysis, early detection, and knowledge sharing, including collaboration with the insurance and agriculture sectors. • Adapt land management programs to reduce fuel loads through compensated forest grazing. • Engage the tourism sector in targeted wildfire awareness, prevention, and visitor education efforts.

GOVERNANCE

- **Move toward integrated wildfire risk management:** Transitioning from suppression-focused to landscape-level management and preventive actions is essential. This management approach can employ controlled burns for fire-resilient land use planning, controlled grazing, agroforestry, and silviculture. To facilitate these actions, appropriate and clear legislative mandates should be established, along with continuous awareness plans for relevant stakeholders. In line with this, a holistic and integrated IWFRM strategy could be developed and appropriately implemented. A comprehensive, vertical, and horizontal IWFRM strategy could integrate NRA findings across all relevant sectors and address the social, economic, environmental, and political dimensions of wildfire risk management.

- **Assess and enhance coordination mechanisms:** Strengthening coordination in wildfire risk management presents an opportunity to enhance disaster resilience in Cyprus. Given the involvement of multiple agencies in disaster risk education, reviewing responsibilities and exploring mechanisms for improved integration could streamline efforts. Aligning the NRA with the ZENON plans and related sub-plans can foster structured stakeholder collaboration, identify ways to enhance interagency coordination for wildfires, and contribute to a more cohesive and effective wildfire preparedness and response framework.

- **Stakeholder inclusion:** Strengthening multi-sector engagement by integrating farmers, private landowners, and industries into wildfire risk management is crucial. Encouraging collaborative land stewardship models such as fire-adapted communities and cooperative fuel reduction initiatives can enhance risk reduction efforts. Conducting economic impact assessments of wildfire damage across sectors will further incentivize private sector involvement and proactive investments in resilience.

- **Inclusive and equitable wildfire risk management:** Ensure accessibility of disaster information, including language and audience-specific messaging for wildfire alerts, and address vulnerable members of Cypriot society.

UNDERSTANDING AND COMMUNICATING WILDFIRE RISK

- **Institutionalize and harmonize the NRA process:** To improve wildfire risk management in Cyprus, it is crucial to formalize the NRA process through legal documentation that specifies the roles and responsibilities of all stakeholders, ensuring transparency and the inclusion of diverse data sources. A clear and standardized methodology should be developed for wildfire risk assessment, integrating scientific, local, and traditional knowledge, and using a probabilistic model that considers socioeconomic, environmental, and climate-related factors. It is essential to harmonize the NRA with other relevant plans such as the National Climate Change Adaptation Plan and the operational ZENON plan and its sub-plans related to fires to ensure that all plans are aligned and that lessons from past wildfire events are actively incorporated. Ensuring that the results of the NRA are publicly available in multiple languages will ensure that all stakeholders have access to vital wildfire risk information.

- **Climate analytics:** Conducting probabilistic wildfire risk modeling that incorporates climate projections for near, medium, and long-term futures will provide essential insights for adaptive planning. Scenario-based risk assessments should aim to be regionally or sub-regionally refined and made publicly available to support evidence-based policy making, investment strategies, and land use planning aimed at building long-term fire risk resilience.

- **Technological advancements:** Investing in strengthening early detection, fire modeling, and risk forecasting through AI analytics, remote sensing, and real-time monitoring can improve fire preparedness and response. Investing in multi-hazard platforms that integrate wildfire risk with broader climate adaptation strategies can provide actionable insights for decision-makers while ensuring public accessibility to wildfire alerts and safety recommendations.

- **Research and innovation:** Supporting interdisciplinary research on wildfire dynamics, prevention, and suppression, especially in WUI areas, is crucial for advancing risk reduction. Developing regionalized risk models for critical infrastructure, integrating climate and socioeconomic projections, and piloting nature-based fire mitigation solutions can help build longer-term resilience for wildfire risk.

WILDFIRE PREVENTION, MITIGATION, AND RISK REDUCTION

- **Quantify the benefits of wildfire risk reduction investments:** Efforts should focus on quantifying and qualifying the benefits of disaster risk reduction investments for wildfire prevention and risk reduction. This information can be used to secure funding and inform policies on wildfire risk management.

- **Prioritize wildfire prevention and preparedness**: Shift focus and funding to proactive and preventive measures such as vegetation management and Firewise landscaping. Firewise landscaping is a practice of designing and maintaining landscapes that reduce the risk of wildfire damage to homes and property. [186] Empower local communities to create a culture of fire knowledge, prevention, and preparedness.

- **Incentivize private sector involvement in IWFRM:** Develop incentives for the private sector to invest in wildfire prevention and mitigation, including tax breaks, subsidies, or compensation. The Fire Flocks program in Spain is a good example to emulate for involving shepherds in active fuel management in wildfire-prone regions. Coordinate and collaborate with the insurance sector, tourism sector, and other technological agencies to improve knowledge, awareness, insurance penetration, and detection/response capabilities.

WILDFIRE EARLY WARNING AND PUBLIC AWARENESS

- **Public awareness and education:** Investment in targeted and evidence-based public education campaigns is critical to improving wildfire preparedness and self-protection. Initiatives should be data-driven and aligned with risk assessments, adapted to various target audiences, including rural communities, landowners, and businesses. Embedding wildfire risk reduction into school curricula and expanding community-based engagement programs can enhance local capacity and long-term resilience.

WILDFIRE RISK PREPAREDNESS AND EMERGENCY RESPONSE

- **Enhance wildfire coordination and communication systems:** Establish a centralized coordination body and formalize interagency protocols, including a permanent fire committee to streamline response efforts. Invest in multilingual communication tools to ensure timely, inclusive information sharing for all residents.

- **Promote cross-community collaboration in fire management:** Support bi-communal volunteer initiatives and technical committees on environment and crisis management through dedicated events and coordination mechanisms that build trust and increase shared capacity.

- **Invest in technology for early detection and situation awareness:** Strengthen risk preparedness and response by integrating AI, ML, and real-time monitoring tools into Cyprus' wildfire management infrastructure.

[186] European Commission. 2025. Adapt and promote a resilient and Firewise living landscape. Project Description. Link.

WILDFIRE RECOVERY AND RISK FINANCING

- **Analyze possible liabilities, review current arrangements, and make improvements to existing or develop new instruments to manage the financial impacts of disasters and post-disaster recovery:** Apply a risk-layering approach to DRF strategies that blends reserve funds, contingency financing, and insurance to manage varying levels of fire-related financial risk. Integrate DRF principles into wildfire recovery planning by ensuring that funding mechanisms are in place to support the rapid restoration of affected communities, infrastructure, and ecosystems.

- **Collect and analyze wildfire disaster loss data:** Establish a centralized system with a legal mandate for collecting and analyzing disaster loss data by the coordinating agency. The data should include economic, environmental, social, and cultural impacts to inform future planning. Data standards should be established, and non-confidential information should be shared publicly, especially for wildfire risks and situational awareness.

WILDFIRES AND SOCIAL RESILIENCE AND INCLUSION

- **Expand wildfire risk understanding beyond technical metrics to include social drivers and impacts:** Conduct targeted research on how vulnerable populations receive and act on wildfire alerts and emergency messaging.

- **Engage underrepresented stakeholder groups** such as farmers and rural communities**:** Conduct economic assessments of wildfire impacts on agriculture and provide compensation or financial initiatives like subsidies and insurance for prevention efforts.

- **Reintroduce traditional land management practices** like controlled grazing and prescribed burning**:** Implement these practices under a well-defined legal and policy framework, backed by sufficient training, staffing, and resources to support ecological and social resilience.

- **Promote community-centered wildfire management:** Treat wildfire as a socio-ecological challenge that includes participatory research and social science tools to address issues of equity, justice, and empowerment, especially for at-risk populations.

WILDFIRES AND PRIVATE SECTOR

- **Promote innovative land management models such as Spain's 'Fire Flocks' program:** Compensate shepherds for forest grazing to reduce wildfire fuel loads. Adapt this approach in Cyprus with the support of agricultural and environmental stakeholders.

- **Introduce regulations and incentives for the private sector to develop wildfire preparedness and mitigation plans:** Support these plans with subsidies, corporate responsibility programs (for example, SupportCY), and government guidance.

- **Engage tourism and other key industries in wildfire awareness and prevention campaigns:** Develop tailored strategies for high-risk tourist areas to inform visitors about fire risks, safe behavior, and available resources.

While the recommendations outlined above are wildfire-specific, many have clear applications in a broader, multi-hazard context. For example, enhancing risk understanding through probabilistic modeling, investing in AI-driven early detection technologies, and institutionalizing risk assessments are strategies relevant to diverse hazards beyond wildfires. Similarly, coordinated governance structures, multilingual risk communication tailored for vulnerable populations, and inclusive stakeholder engagement, including private sector partnerships and community-led prevention initiatives, are universally valuable for managing various risks. The emphasis on integrating disaster-risk financing strategies, social resilience considerations, and nature-based mitigation approaches also resonates with multi-hazard risk management. Therefore, this report may serve as a useful resource for stakeholders seeking insights and lessons applicable to integrated, multi-hazard risk governance and resilience-building efforts.

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ANNEX 2. SUPPLEMENTAL TABLES

Table 3. Special national thematic plans

Source: Kathimerini Cyprus. 2018. "In Cyprus We Have a Crisis Plan." Link; Cyprus Civil Defence. 2016. Cyprus Emergency Plans and Practices. Link.

ID	Plan name	Title	Coordinator
1	IFESTOS (HEPHAES-TUS)	Response to fires in urban and rural areas	Ministry of Agriculture, Rural Development and Environment – Justice and Public Order
2	PYRSOS	Response to forest fires	Ministry of Agriculture, Rural Development and Environment – Justice and Public Order
3	ICARUS	Reduction in accident probability during large fires fire fighting	Forestry Department and Fire Service
4	ENGELADOS	Response to earthquake on land and at sea	Ministry of Interior/Civil Defence
5	POLYVIOS	Evacuation of inhabited areas due to natural or man-made disasters	Ministry of Interior/Civil Defence
6	PROMITHEAS	Response to extreme weather phenomena	Ministry of Interior/Civil Defence
7	DEMONIKOS	Response to large-scale accidents involving liquid fuels (type 'SEVESO')	Ministry of Interior
8	NAVKRATIS	Mass arrival of illegal immigrants	Ministry of Interior/Asylum Service
9	NEARCHOS	National research and rescue plan	Ministry of Defence/Joint Research and Rescue (JRCC)
10	TEFKROS	Response to major naval and air accident	
11	ELECTRA	Response to radiological/nuclear event within the territory	Ministry of Labour, Welfare and Social Insurance
12	ESTIA	Evacuation of citizens from neighboring countries	Ministry of Foreign Affairs
13	KAPODIS-TRIAS	Support of third friendly countries in crisis, accident to a large number of Cypriot foreign nationals	Ministry of Foreign Affairs
14	KLEON	Response to a single incident in the Nicosia FIR or EEZ by foreign forces	Ministry of Foreign Affairs
15	ORFEAS	Response to major marine pollution on coasts and open sea	Ministry of Communications and Works
16	ARISTEAS	Response to interruption of communication and information networks	Ministry of Communications and Works
17	NIKIAS	Response to terrorist incident with civil aircraft in flight	Ministry of Communications and Works
18	PINDAROS	Response to shutdown of main airports or seaports	Ministry of Communications and Works
19	FAEDROS	Response to interruption of electricity supply	Ministry of Energy, Trade, Industry and Tourism
20	KADMOS	Response to interruption of governmental informa-tion systems	Ministry of Finance
21	LITO	Response to exposure of individuals in high risk biological factors	Ministry of Health
22	AMFITRITI	Response to pandemics	Ministry of Health
23	ASPIDA	Response to terrorist action in ships – aircraft at airports – onshore facilities within a territory	Ministry of Justice and Public Order
24	PATROKLOS	Response to contamination of large dam, water supply, desalination, pumping stations, main pipelines	Ministry of Agriculture, Rural Development and Environment
25	DORIDA	Response to drought	Ministry of Agriculture, Rural Development and Environment
26	DEIMOS	Prevention of terrorist actions in facilities	

ANNEX 3. EXPANDED EXECUTIVE SUMMARY

Cyprus faces a significant and increasing risk of wildfires, as evidenced by recent large-scale fires. The island has become increasingly susceptible to extreme weather events.[187] Wildfires are a hazard in all regions of Cyprus, with the southern coast and the center of the island being most at risk. The likelihood of weather conditions leading to wildfires that can cause loss of life and property is estimated to be greater than 50 percent in any given year, with the highest risk between June and August. Forest fires present the highest level of risk compared to other risks, including earthquakes, coastal erosion, and floods.[188]

Cyprus ranks second out of 24 European countries when total burned area is divided by the countries' surface area,[189] and the fire danger for Cyprus is the highest among the Mediterranean islands.[190] This is due to the island's specific environmental conditions, including drought, high temperatures, and flammable vegetation.[191] Projections for Cyprus indicate that 'high' and 'extreme' fire risk days are expected to increase in 2021–2050.[192]

Drivers of wildfire risk include climatic conditions , **flammability of vegetation**, **the island's topography**, **human factors**, **and several outdated policies.**[193] The fire paradox prioritizes suppression of all fires, which increases the fuel loads over time, thus resulting in greater flammability and more extreme fires. This requires a paradigm shift from a sectoral, fragmented and response-focused approach towards an all-of-society and all-of-government approach to manage and mitigate wildfire risk in Cyprus.

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[187] EC 2018.
[188] International Association of Wildland Fire 2023.
[189] Fernandez-Anez et al. 2021.
[190] Bacciu, et al. 2021.
[191] Lemesios, et al 2014.
[192] International Monetary Fund. 2024. Addressing Climate Change in Cyprus: Policy Options and Strategies. Link.
[193] Georgiou 2023.

GOVERNANCE OF WILDFIRE RISK MANAGEMENT

The governance of wildfire risk management in Cyprus involves multiple agencies with overlapping responsibilities.[194] The Department of Forests is the primary authority for wildfire risk management and response, with jurisdiction within state forests in a 2 km perimeter. Other agencies, such as the Cyprus Fire Service and CCD, are involved in firefighting and rescue. The Game and Fauna Service has a peripheral role in firefighting and the National Guard and Police provide primary or secondary aerial means of firefighting. It should be noted that the aerial firefighting means of the Department of Forests, as of the fire season 2025, are transferred to the National Guard for economies of scale. Key opportunities include improved coordination among the various organizations involved in wildfire management, as well as enhanced regional collaboration for wildfire risk management. In addition, it should be noticed that the Republic of Cyprus is currently undergoing a major effort to create a national civil protection mechanism. With European Commission funding for a TSI, the CCD is working along a defined timeline to transform itself into a modern Civil Protection Authority.[195]

UNDERSTANDING WILDFIRE RISK MANAGEMENT

The National Risk Assessment (NRA) serves as the primary framework for understanding wildfire risk in Cyprus and is updated every three years in accordance with EU guidelines.[196] The assessment is conducted at the national level and is part of a broader DRM framework with legislative, procedural, and institutional aspects.[197] Key governmental contributors to wildfire risk identification include the Department of Forests, the Meteorological Services, academic institutions, and research institutions such as the **Cyprus Technological University,** the Oceanography Centre at the University of Cyprus, and the CERIDES at European University Cyprus, among others.[198] The Civil Defence has contracted a consortium led by the Cyprus University of Technology to study natural and anthropogenic risks, with the Department of Environment providing relevant information. These results are expected to significantly aid decision-making and adaptation.

The assessments draw from available data and information to understand current and projected risks, main drivers of the risk, as well as socioeconomic and environmental impacts. Quantitative data from the involved services are scarce and currently not well organized. While this is a promising start to understanding wildfire risk in Cyprus, there is a key opportunity to consider the unique socioeconomic and environmental dynamics on the island along with the technical focus on wildfire behavior that is currently being done.[199] A probabilistic risk assessment model would support a more comprehensive wildfire risk understanding and is particularly important for identifying high-risk areas and guiding the development of targeted risk reduction measures. Such a model should also integrate the impacts of climate change to ultimately support the development of adaptation strategies.[200] Further, wildfire risk assessments in Cyprus would benefit from

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[194] Kirschner et al. 2024; Original source: CORINE landcover 2018, European Forest Fire Information System.

[195] French Embassy in Nicosia. 2025. "Project to Improve the Organization and Procedures in the Field of Civil Protection." February 14. Link.

[196] Cyprus Civil Defence 2018.

[197] Cyrus Ministry of Interior 2020.

[198] Cyprus Civil Defence 2018.

[199] European Commission 2018.

[200] Lemesios et al. 2014.

including subnational and regional level information to support wildfire risk reduction at the local level. Finally, a more unified framework is needed to effectively integrate multiple data sets from various governmental agencies, to provide navigable information related to fires that is accessible to all citizens. It is anticipated that the TSI from the European Commission mentioned above will lead to the establishment of a National Data Platform.

WILDFIRE RISK PREVENTION, RISK REDUCTION, AND MITIGATION

Cyprus is actively working to reduce wildfire risks through various measures, **including supporting fire-resilient landscapes.** The Department of Forests offers vegetation management plans and technical advice to communities on how to reduce the risk of fires around properties.[201] The implementation of IWFRM, which includes proactive prevention strategies, is considered essential to limit fire danger. There is an opportunity to promote community awareness of financial incentives for wildfire risk reduction. For example, compensation for prevention measures on private lands offered by the EU Agricultural and Rural Development programs could be more effectively utilized with improved awareness of such funds and their use. To further enhance preventive measures for wildfire risk management, there is an opportunity to move beyond technocratic approaches and consider the social drivers of wildfire risk. This includes understanding the role of human activity and land use in creating conditions that contribute to wildfires. Promoting prescribed burning where appropriate and other methods for reducing hazardous fuel loads are key management strategies. On March 12, 2025, the first-ever controlled burn took place on the outskirts of Nicosia, with one acre burned. In a joint statement, the Department of Forests and CERIDES - Excellence in Innovation and Technology at European University Cyprus stated that this will be an additional tool for managing fuel load in forests from now on. A course, including manuals and films, is under preparation and will be used to train foresters in this technique.[202] Controlled grazing is another method to reduce vegetation load, which is now being piloted by the government in certain areas of the island.

EARLY WARNING AND PUBLIC AWARENESS

Cyprus utilizes various methods for wildfire early warning and public awareness, including a **strong emphasis on early detection and quick response, with fire lookout stations, electro-optical sensors, and air and ground patrols.** Currently, four sensors, which are cameras that identify fires within a 10 km radius, are installed in selected locations in Cyprus. An ambitious plan is under approval, aiming to increase the number of these sensors to 18. The country's relatively small size and accessibility help teams from the Department of Forests to reach incidents quickly. There is an opportunity to have a more unified framework to integrate data sets that could provide fire information more accessible to the general public. Furthermore, it is important to understand the risk perceptions, needs, and concerns of local communities and to explore public expectations toward wildfire strategies.

[201] Kirschner et al. 2024.

[202] Government of Cyprus. 2025. "Joint Announcement of the Department of Forests and the CERIDES Center of the European University Cyprus Regarding the Pilot Implementation of Controlled Burning for the Prevention of Forest Fires and the Conservation of Biodiversity." Link.

WILDFIRE RISK PREPAREDNESS AND EMERGENCY RESPONSE

Cyprus has a well-structured wildfire risk preparedness and emergency response system that leverages interagency coordination, rapid deployment of firefighting resources, and participation in European wildfire response initiatives. The Department of Forests leads suppression efforts within state forest areas, while the Fire Service, CCD, and other national and local agencies contribute to response efforts beyond these zones. The country uses aerial firefighting assets, a network of forest roads and firebreaks, and a robust training program that includes annual exercises under the ZENON plans. Cyprus also actively participates in EU-led initiatives such as the Firefighting Prepositioning Program, which enhances its capacity to manage large-scale wildfires. Cyprus has the opportunity to further enhance coordination, streamline decision-making, and integrate wildfire response with broader risk assessments and adaptation strategies. Expanding community engagement through volunteer fire brigades, bilingual communication strategies, and bi-communal technical committees and volunteer initiatives can enhance preparedness across all communities. Investments in technological advancements, including AI-driven early detection systems, can further improve Cyprus' ability to respond swiftly and effectively to wildfire threats.

WILDFIRE RECOVERY AND RECONSTRUCTION

Post-fire recovery and reconstruction in Cyprus have been shaped by a multi-agency approach which leverages existing national and European resources to restore ecosystems, infrastructure, and socioeconomic assets. Information on lost or damaged assets is gathered by various departments and forwarded to the Ministry of Finance to request funds for damage repair. While different entities oversee specific aspects of disaster loss reporting, the decentralized structure presents an opportunity to enhance coordination and data integration.

Post-disaster financing in Cyprus currently relies on a combination of government allocations, international aid, and private insurance. Citizens are encouraged to maintain insurance coverage, with government compensation available based on certain criteria. The establishment of a centralized disaster risk reduction fund earmarked specifically for wildfire risk reduction could streamline response efforts and enable proactive measures following post-fire recovery and reconstruction. Additionally, integrating lessons from previous recovery efforts into national policies can support a more resilient reconstruction approach. By embedding risk reduction measures into pre-fire preparedness plans, Cyprus can optimize funding utilization and build a stronger, wildfire-prepared landscape.

SOCIAL RESILIENCE

The Department of Forests has made significant strides in integrating local resources by coordinating volunteer firefighting teams and encouraging self-protection measures. Expanding these efforts to ensure that all communities, including seasonal agricultural workers, migrants, and rural populations, have access to wildfire preparedness resources can enhance overall resilience. Encouraging greater participation in insurance coverage and support programs can also help more people recover effectively after a disaster.

Building on existing initiatives, Cyprus can further promote inclusive wildfire risk reduction by tailoring emergency messaging for diverse communities and broadening stakeholder engagement, particularly with farmers and other key groups. Financial incentives for wildfire prevention, along with the reintroduction of traditional land management practices such as grazing and prescribed burning under structured conditions, can offer a pathway for strengthening social and ecological resilience. By continuing to embed social equity into wildfire policies, Cyprus can cultivate a more community-driven, preventive approach that enhances long-term preparedness and response.

PRIVATE SECTOR

The private sector in Cyprus presents an opportunity to play a greater role in wildfire risk management through innovative collaboration and strategic investment. The private sector's current involvement is focused on post-disaster recovery, with some support provided during emergencies. Expanding this role to include other phases of wildfire risk management could strengthen wildfire resilience in the country. For instance, partnerships with the insurance industry can enhance wildfire risk analysis and prediction, while agricultural workers could contribute to land management through grazing initiatives.

PPPs can also drive technological advancements and resource sharing in wildfire prevention and response. Strengthening regulations and incentives for private landowners and businesses to engage in wildfire risk mitigation can support more consistent fuel management in different areas of the country. Additionally, engaging the tourism sector in wildfire awareness efforts can help reduce ignition risks and better inform visitors about safety measures.

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