This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037419

Prof. Kostas Kalabokidis, Ph.D.
(Univ. of Montana & Colorado State Univ., USA)

Living Fire Lab: Greece (or …Some like it hot ☺

University of the Aegean – Department of Geography – Mytilene, Greece

ΑΚΑΔΗΜΙΑ ΑΘΗΝΩΝ

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Υπουργείο Κλιματικής Κρίσης και Πολιτικής Προστασίας

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FireLab

Missoula Fire Sciences Laboratory, USA

USDA FOREST SERVICE U.S. FOREST SERVICE
Caring for the land and Serving the people
United States Department of Agriculture

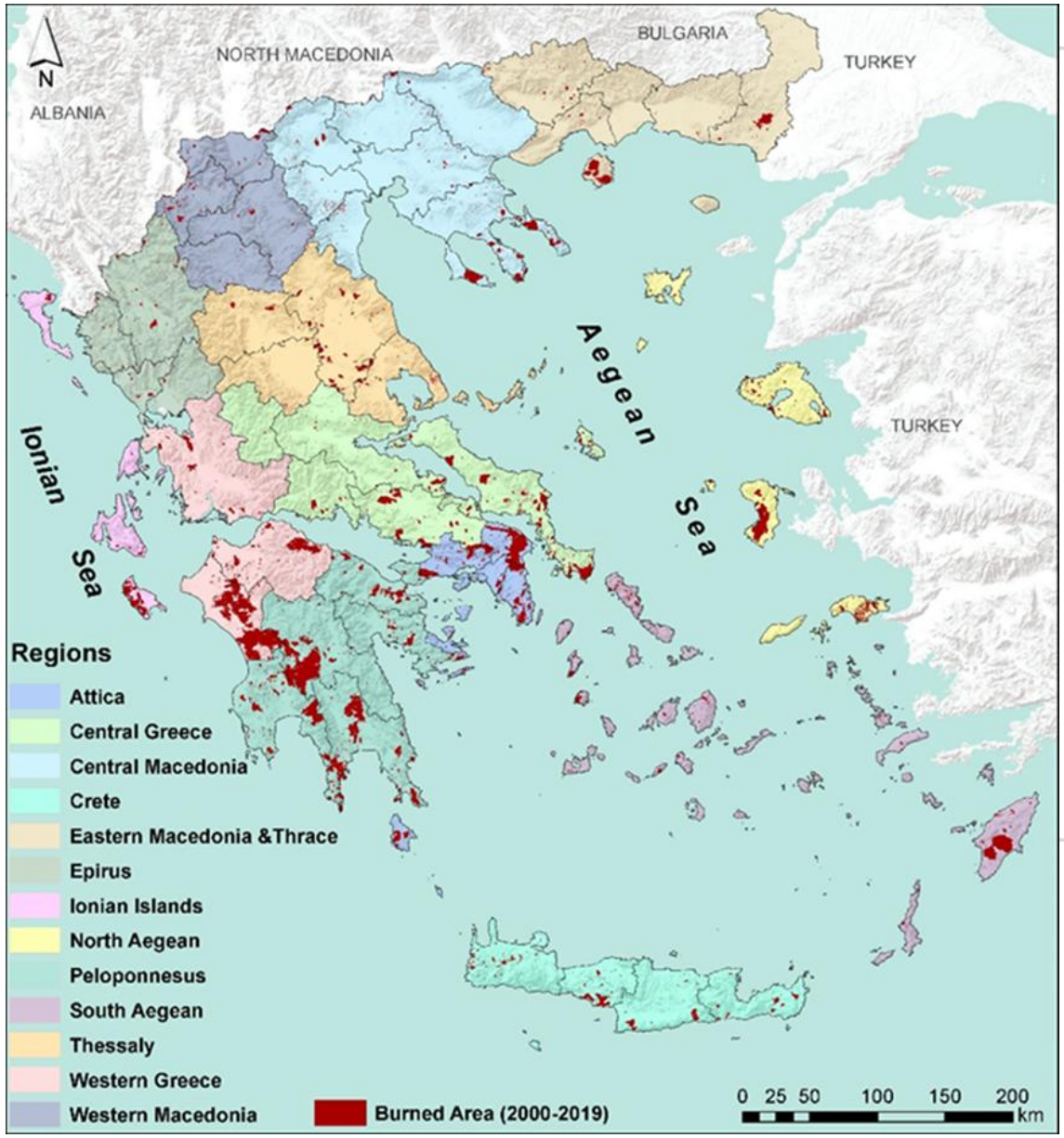
European Commission

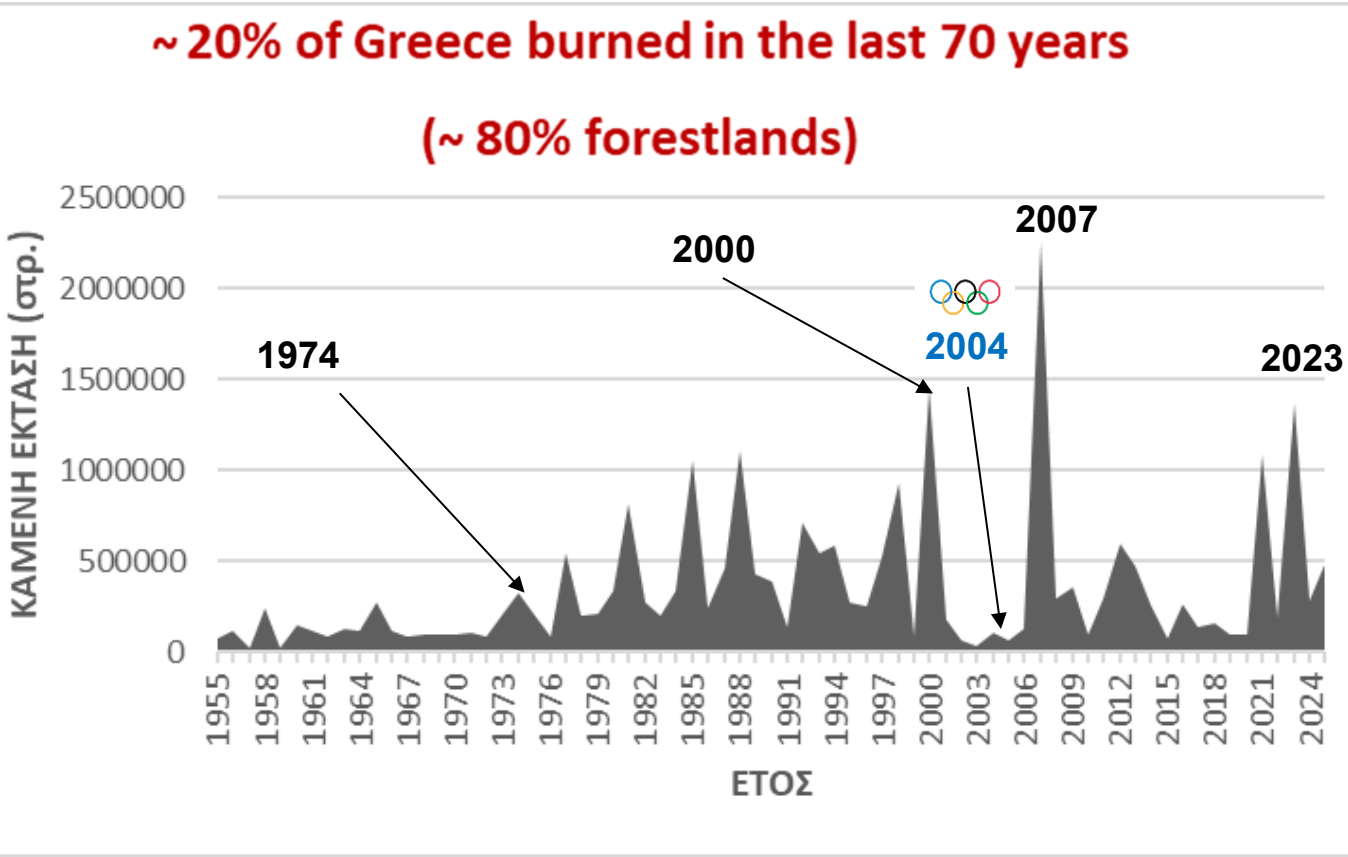
Microsoft Research

NATO OTAN
The NATO Science for Stability Programme

European Academies
easac
Science Advisory Council

Burned area mapping (>100-ha fires; 2000-2019)





Annual Avg. Burned Area -- EFFIS

~ 43,000 ha (1974-1999)

~ 42,000 ha (2000-2025)

Fire management in Greece

- Fire management is being coordinated centrally by the upgraded General Secretariat for Civil Protection in Athens

- Fuel management efforts in natural areas is done by the Forest Service, while fuel reduction in and around settlements is the responsibility of Local Government entities

- Fire suppression is mainly carried out by the Fire Brigade, in cooperation with the Air Force, Army and volunteer firefighters

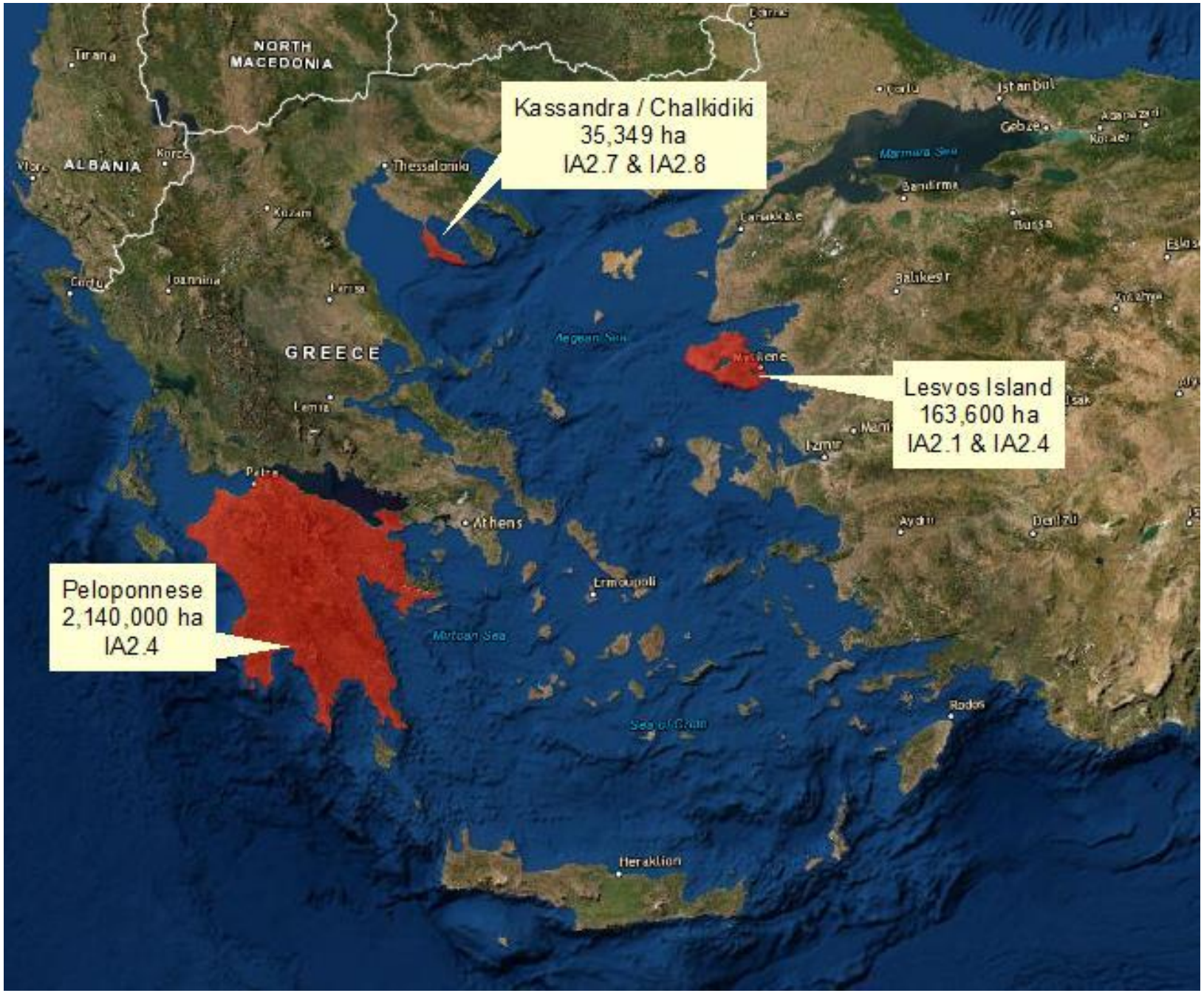
Challenges

- **Socioeconomic conditions (rural/ urban interface, urban sprawl, land abandonment, population size/ density, resource-values, human-caused fires)**

- **Environmental factors (climate change, unmanaged forest areas, mountainous topography, geographical distribution)**

- **Special conditions regarding forest fire management on the islands, WUI and high-elevation forestlands**

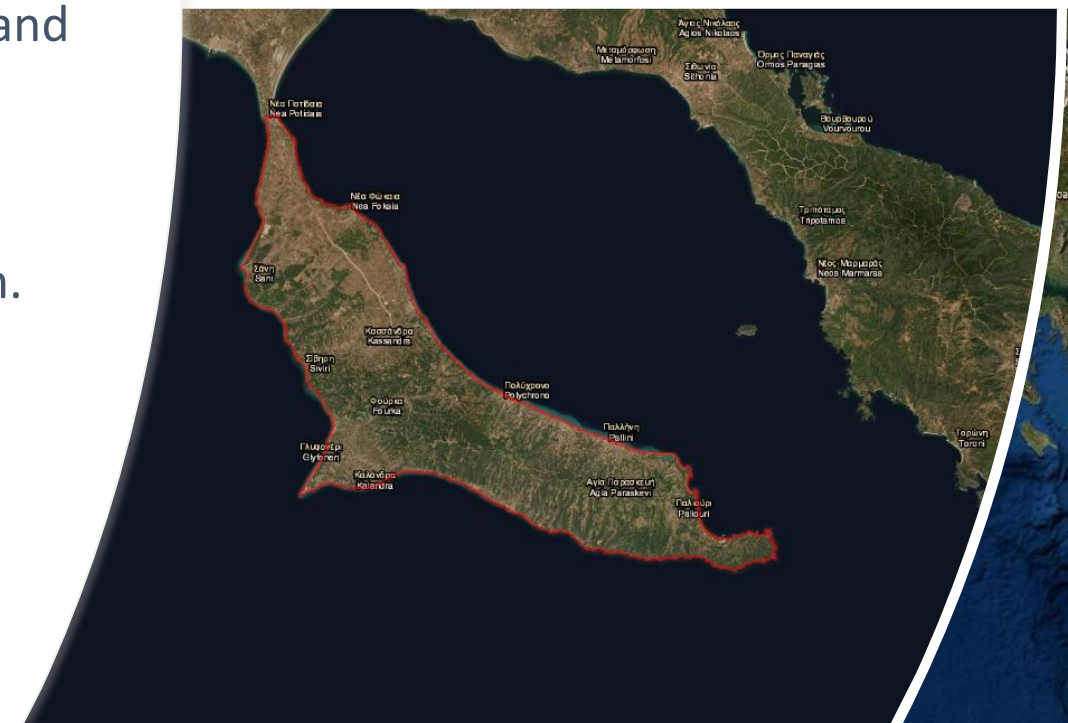
The Greek Living Fire Lab; examples

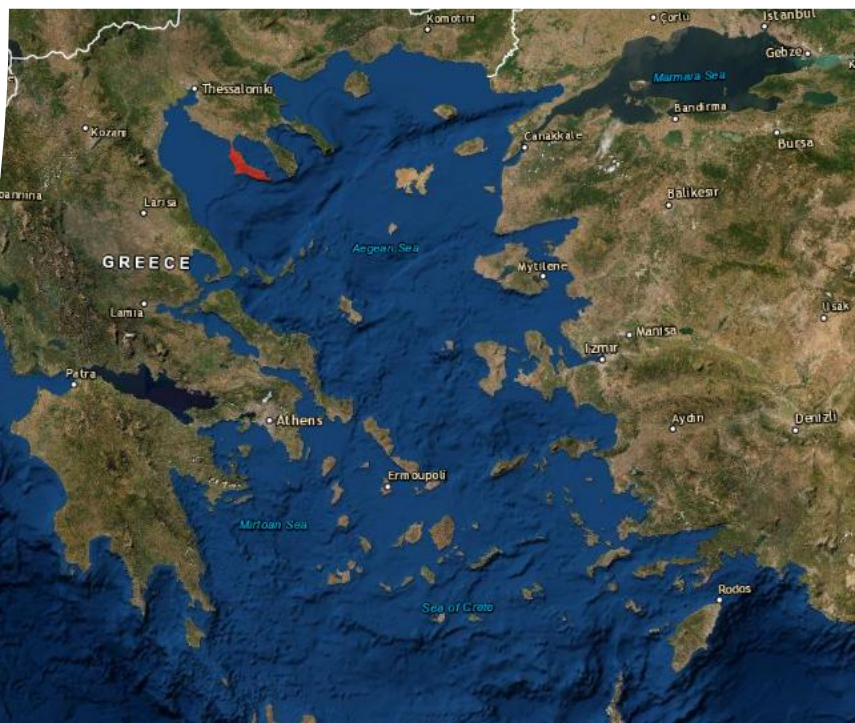


FIRE-RES

1. Chalkidiki (Coastal Greece)

- The region is a highly intensive touristic WUI, covered by pine, oak and beech forests around olive cultivations, vineyards and fertile farmlands inland and by the coast.
- High pressures on the landscape from tourism.





2. Lesvos Island (Aegean Greece)

- Pine forests and olive groves dominate almost half of the island's area, making it one of the most tree covered islands of Greece.
- Other fire-prone species include phrygana or garrigue-type shrubs in grasslands, evergreen-sclerophylous or maquis-type shrubs, deciduous oaks and other agricultural lands.
- Mostly agricultural or livestock related fires (land clearance to improve forage or clearing of fields from unwanted vegetations). Smaller pressure from development, WUI and tourism compared to other Greek areas.

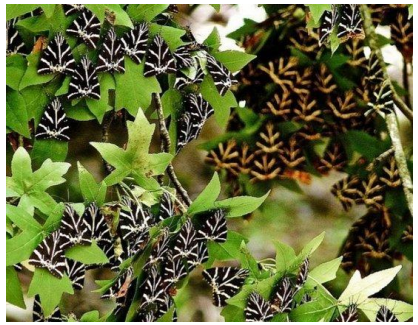
3. Peloponnese Region (Mainland Greece)

- The region is covered by evergreen shrublands, grasslands and phryganic ecosystems, oak woodlands, fir, broadleaf forests and pine forests. Olive and other tree cultivations dominate the agricultural areas.
- The extensive WUI and rural-urban interface areas around towns, villages and touristic communities, and in conjunction with land abandonment and reforestations, increase the risk of human causalities from wildfires -- i.e. the region where the 2007 disastrous mega-fires occurred in Greece (worst in history).

NATURAL HAZARDS GEOGRAPHY









Focus on socioeconomic & biophysical causes of risk pathology *(Natural Hazards Geography)* rather than trying to treat the symptoms

Need to develop and apply novel policies towards a vision of integrated fire management (*5-Rs of IFM*) to mitigate risks from *EWE* and to protect values-at-risk in relation to socio-ecological objectives

Sunset over Mt. Taygetus – Messenia

Fuel treatment plans have profound effects on reducing fire behavior (e.g. *ANTI-NERO* program in public forests and high-use *WUI*)

Clouds over Mt. Athos Gulf – Chalkidiki

Adapting to a climate resilient future with strategic wildfire risk governance

Mt. Olympus – Lesvos Island

Our approach: Integrated Fire Management

Integrated Fire Management is a planning and operational approach that includes **social, economic, cultural and ecological dimensions**.

Its objective is to minimize the damage caused by wildfires and maximise its benefits. To move towards an Integrated Fire Management approach, FIRE-RES adopts 4 main pillars:

Extreme Wildfires' behaviour and drivers

Landscape and economy

Emergency management

Governance, society, communication and risk awareness

Prevention & preparedness

Detection & response

Restoration & adaptation

FIRE-RES preliminary results

Innovation Actions in FIRE-RES

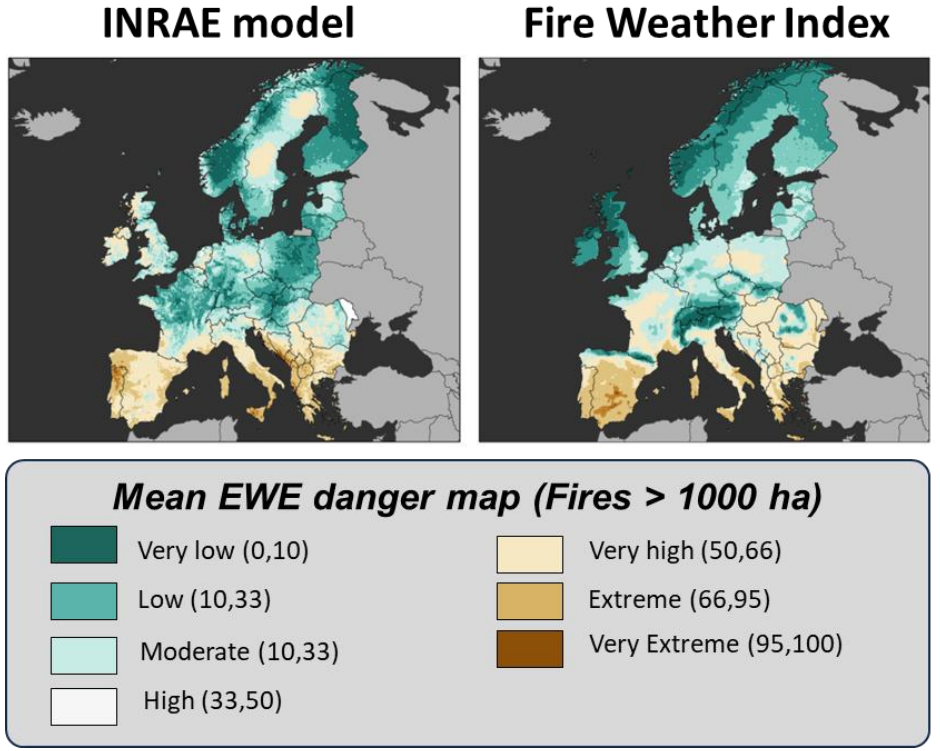
The 34 Innovation Actions are organized in 5 groups:

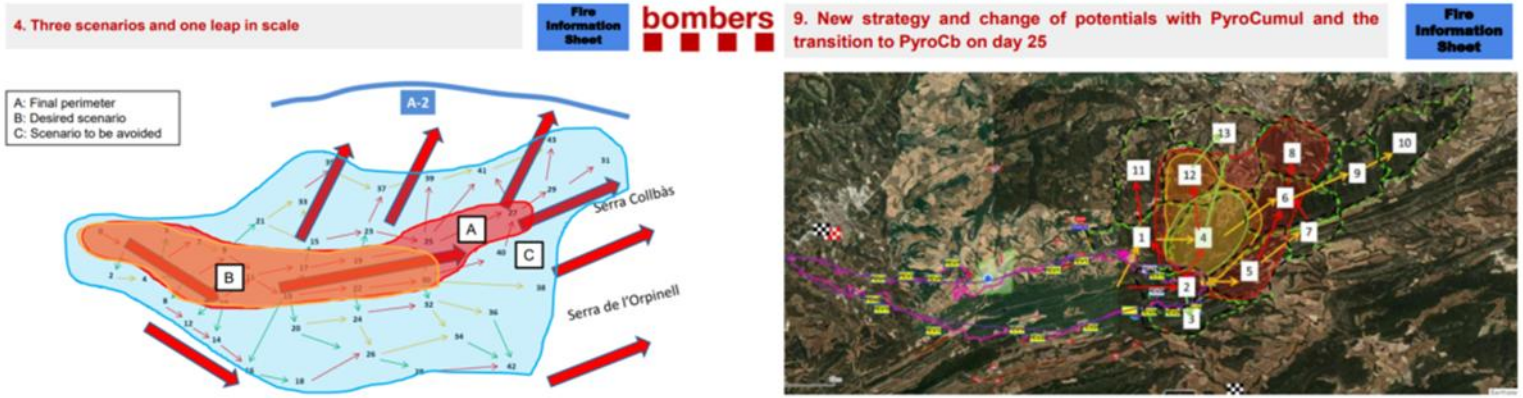
1. Emergency, Risk Mapping and Sustainable Fire Management Models
2. Ecosystem Conservation and Landscape design
3. Economic drivers, Incentives and Insurance Solutions
4. Governance, Society, Communication and Risk Awareness
5. Advanced Technology Solutions - Support Tools for Integrated Fire Management

1. Emergency, risk mapping and sustainable fire management models

➢ IA1.3: Piloting early-warning indicators of EWEs incorporating fire-weather and vegetation conditions

- ❑ Development of a spatially explicit model for **daily forecasts of EWE occurrence** at the European level.
- ❑ Prototype **model for Large Fires occurrence**.
- ❑ Enhance **short-term wildfire response planning and resource allocation**.



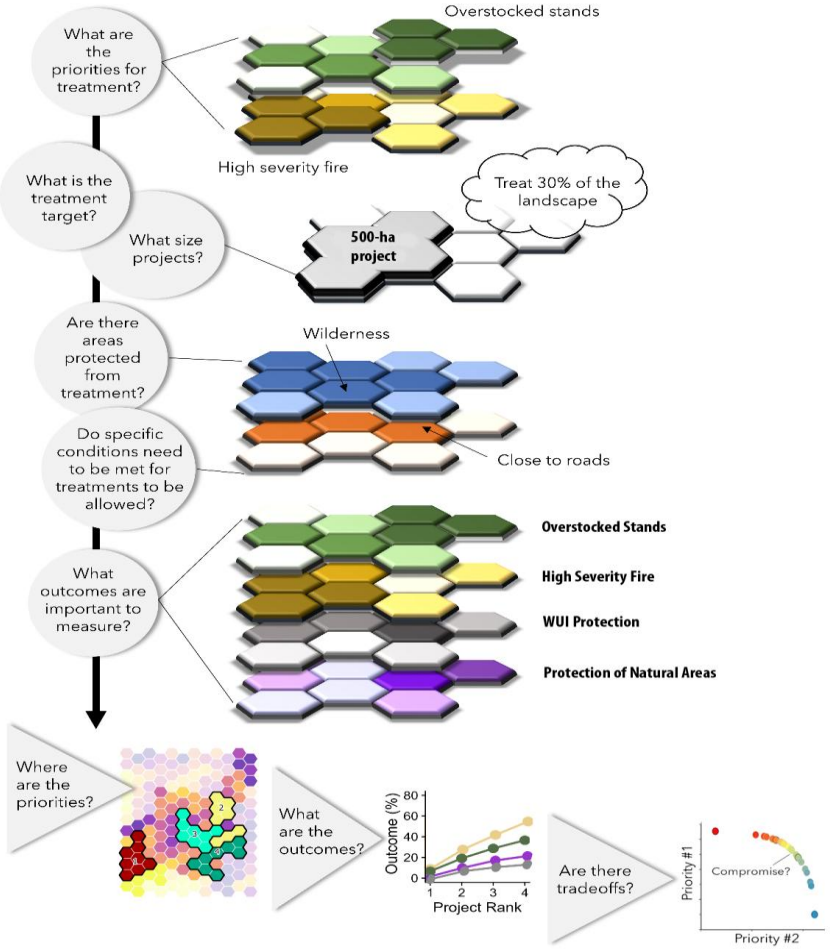


2. Ecosystem conservation and landscape design

IA2.4: Landscape configuration and fire management policies to minimize expected losses

1. Prioritizing **investments and allocation** in forest and fuel management projects and measuring expected outcomes

- Combine fire simulators and fuel management evaluation systems
- LTD/ForSysX Tool, developed by the USDA Forest Service to provide a platform for prioritizing risk reduction and restoration investments using spatial optimization methods that are widely used in conservation planning and the forest industry
- LLs: Greece, Catalonia, Portugal, Chile and Aquitaine

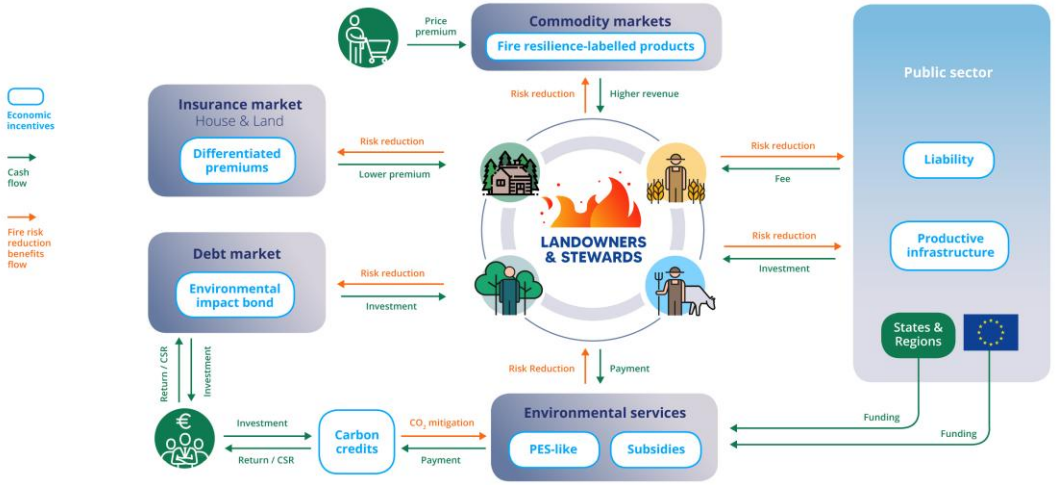


3. Economic drivers, incentives and insurance solutions

➢ IA 3.1: Engaging wineries in maintaining fire-resilient territories

- Exploration of wine sector needs and interests regarding wildfire (survey & interviews)
- Open launch event of the FireWine network

➢ IA 3.2: Financial incentives for fire-resilient landscape measures



4. Governance, society, communication and risk awareness

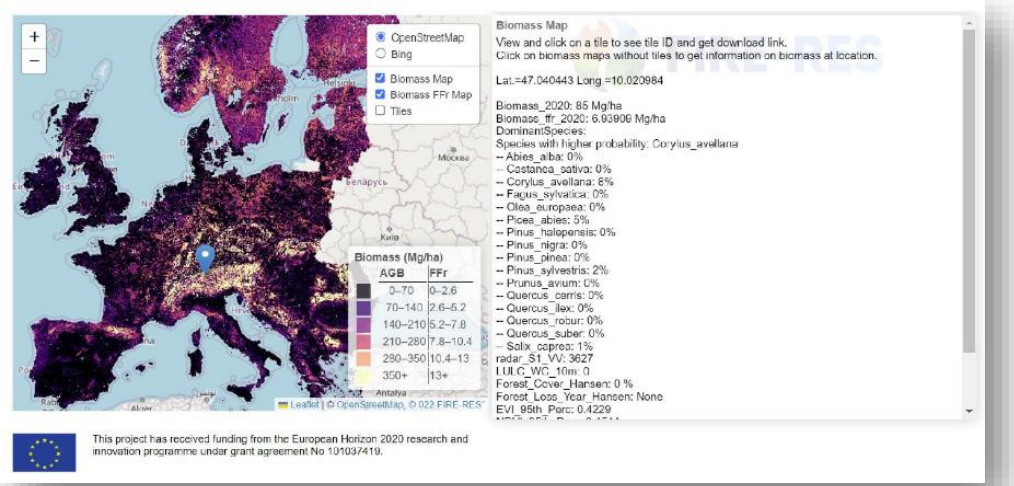
XUNTA DE GALICIA

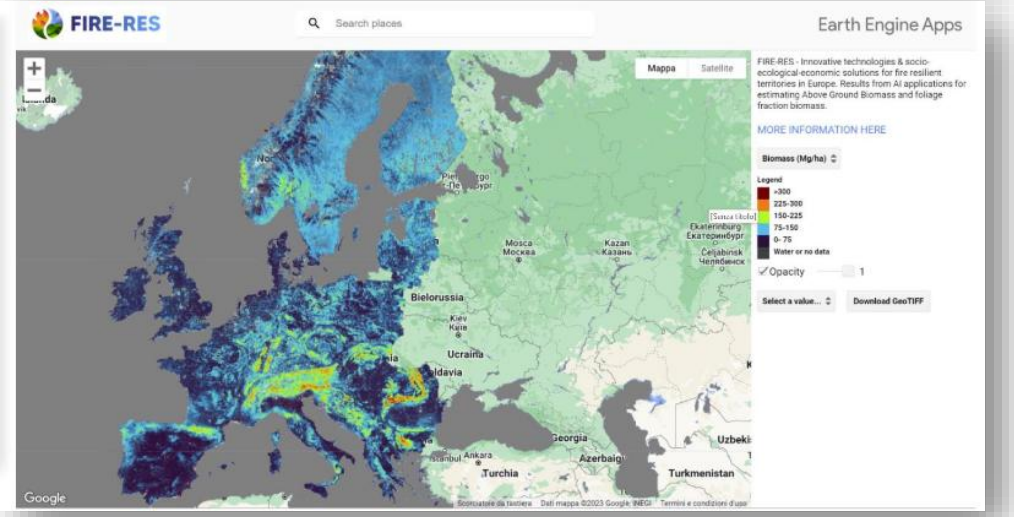
➢ IA 4.4: Fire-safe villages

Municipal level initiatives **to reduce houses and people vulnerability** (through e.g. new bioeconomy opportunities) and **improving response behaviour**.

5. Advanced technology solutions – support tools for integrated fire management

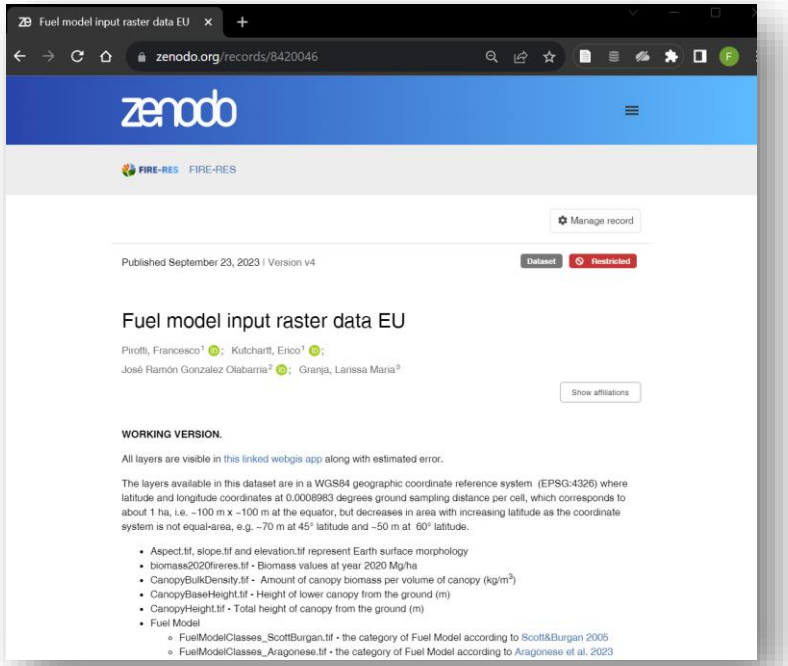
➢ IA 5.10: Development of a Pan-European system to define management priorities to mitigate fire impact





Web-based portal for access, query and download of custom polygons:

- Fuel map at EU level at 100 m scale.
- Canopy fuel layers (also intermediate products and uncertainty maps) in Zenodo.



CTFC

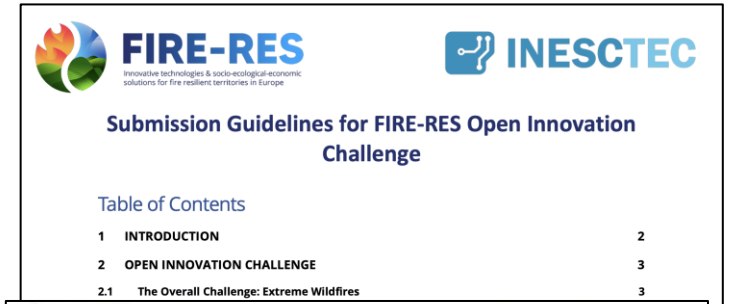
Fast-track-to-innovation and exploitation programme

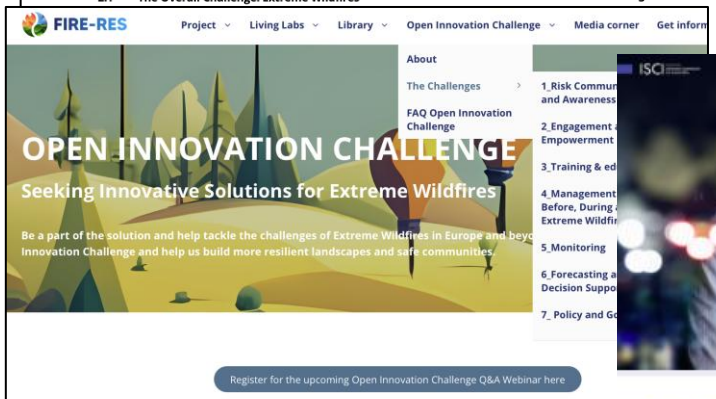
INTERIM QUERIES and RESULTS

Community of Wildfire Innovation—CWI

Open Innovation Campaign—OIC

OIC to support Integrated Fire Management (IFM)





Frequently Asked Questions

A list of the most frequently asked questions is available below. For further doubts, please send an email to our Helpde
carefully read the FAQs before submitting any questions to the Helpdesk.
Please consider that your question can be published as a FAQ unless you mark it as confidential.

+ What is the OIC (Open Innovation Challenge)?
+ What are the main challenges addressed by the OIC?

How to apply?

Review the challenges, prepare a compelling application, and submit your solution through the application form hosted on F6S. Visit the submission guidelines for complete information about eligibility, application, and evaluation.
Submit your proposal by 19 November at 23:59 CET.
In more detail, the recommended procedure is:

− Access information

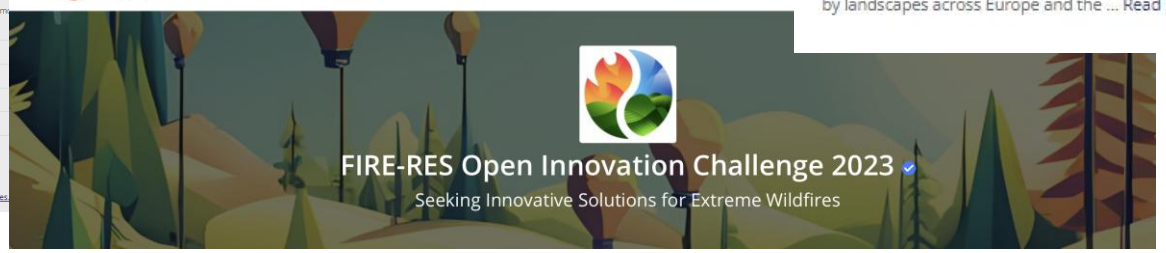
Read thoroughly all information and materials on the FIRE-RES Open Innovation Challenge, particul
information about eligibility, application, and evaluation.
Take note of the Challenges, to which you wish to propose a solution (if your solution addresses m
indicate this in the application form).

+ Create a profile to submit an Application
+ Complete your Application
+ Submit your Application
+ Next steps

Submit your application!

Join us in the Fight against Extreme Wildfires!
If you wish to submit more than one solution, please contact the challenge organisers on oic@fire-res

Points of contact

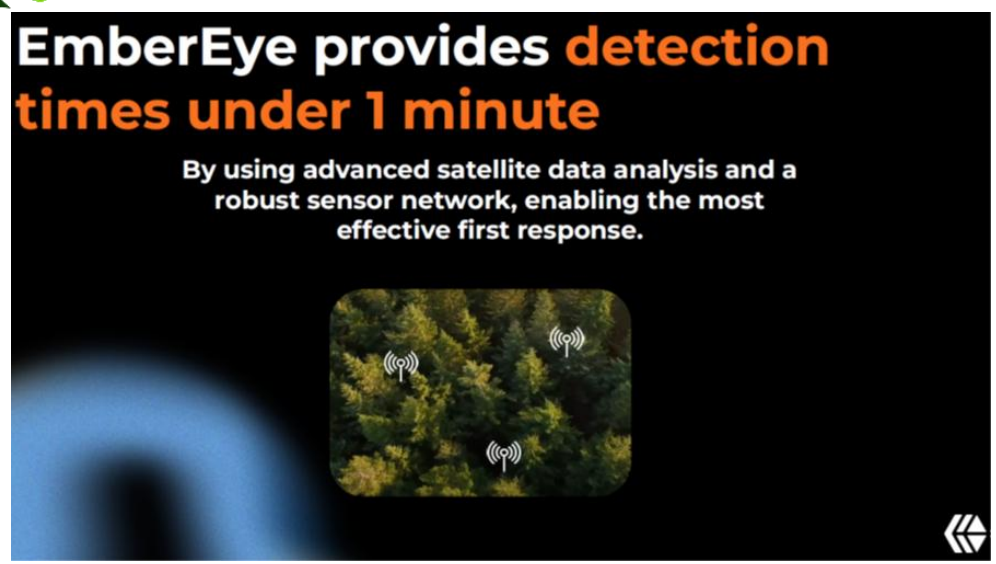


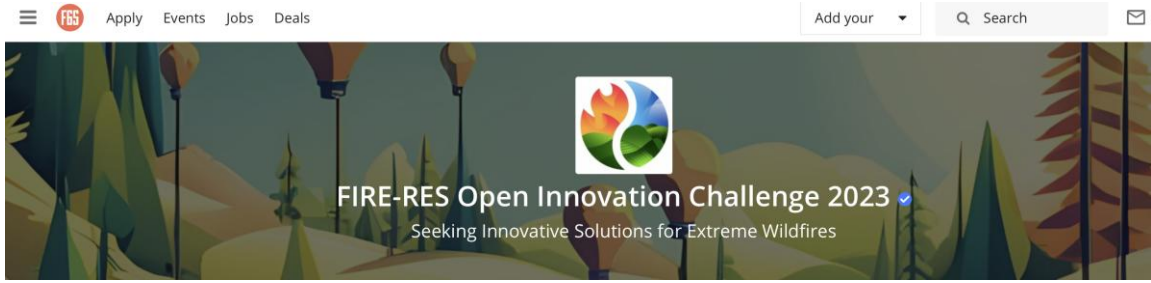
EUROPE IS READY TO HARNESS INNOVATIVE SOLUTIONS TO ADDRESS EXTREME WILDFIRE EVENTS

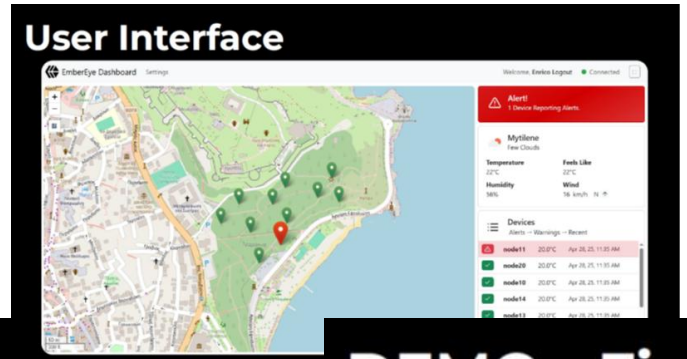
27 October 2023

The Open Innovation Challenge initiated by the FIRE-RES project calls for applications that help address key challenges before, during and after large-scale wildfires increasingly faced by landscapes across Europe and the ... Read more

OIC to support Integrated Fire Management (IFM)







"Fires in Chios: The University of the Aegean is present for a better future"

US: "...results of an ex-post benefit–cost analysis suggest a net benefit of $333 million from suppression efforts..."

- large-scale land use changes
- control of off-plan urban development
- smart fire strategies in wildland-urban interface

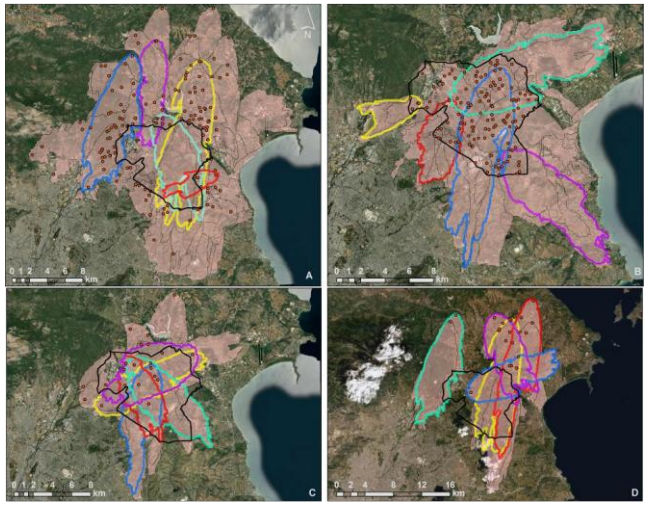
PHOTO: ΘΑΝΑΣΗΣ ΑΝΔΡΕΑΔΗΣ


"Fires in Chios: The University of the Aegean is present for a better future"
VIDEO: ΘΑΥΜΠΟΣ ΑΝΘΡΕΩΠΗΣ ΑΥΓ. 2025


"Fires in Chios: The University of the Aegean is present for a better future"
VIDEO: ΘΑΥΜΠΟΣ ΑΝΔΡΕΑΔΗΣ ΑΥΓ. 2025

10 WILDFIRE PROTECTION PROPOSALS IN A CHANGING CLIMATE

1. scenario planning and stochastic simulation AI models
2. implementation of prescribed fire
3. vegetation management including fuel break zones
4. large-scale land use change
5. control of non-urban development
6. fire-smart strategies in WUI
7. prevention of human-caused fires
8. strengthening of wildfire detection and response
9. investing in fire-resilient infrastructures
10. postfire restoration and adaptation of landscapes



"...as a good example of a government at a crossroads: Does it begin to invest heavily in proactive large-scale efforts to mitigate the effects of current and future wildfires (i.e., preventive landscape-scale treatments), or does it continue to primarily react with fire suppression and postburn recovery measures?"

Our Related Bibliography

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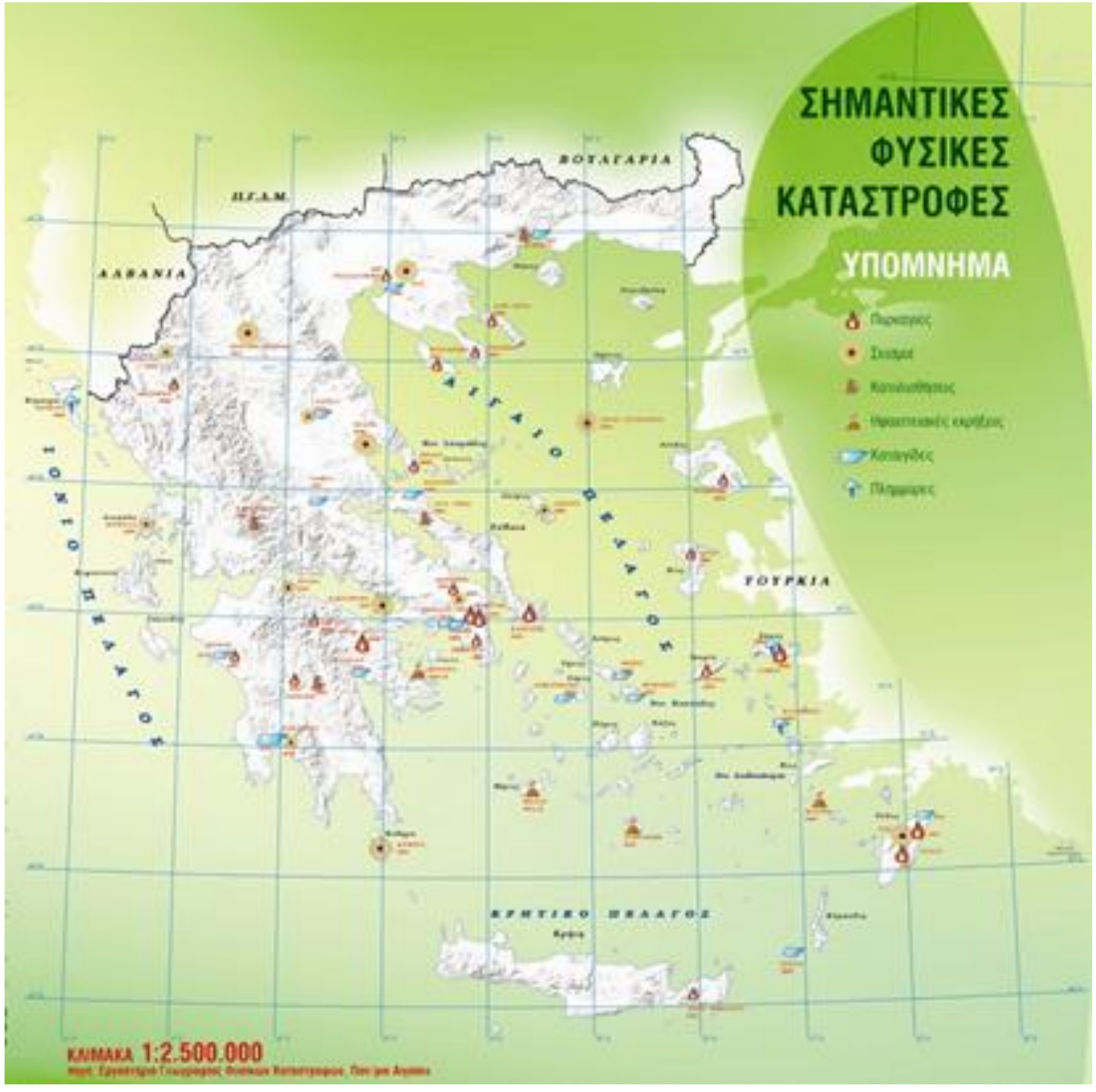
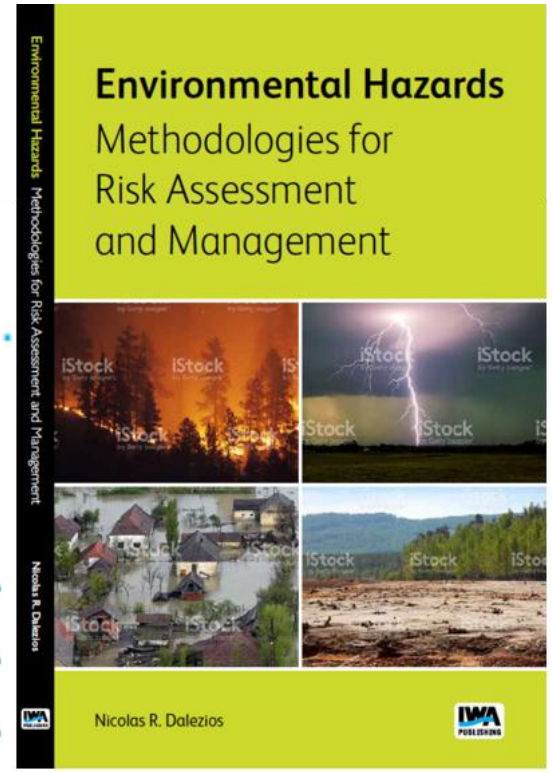


2013. Hot & dry gravity winds fuel large fires…
[LOS ANGELES/ CAL WILDFIRES-- JAN. 2025]

FIRE METEOROLOGY AND FOREST FIRE BEHAVIOR IN A CHANGING CLIMATE



Chapter 9
Wildland fires 307

Alan Ager, Mark Finney, Kostas Kalabokidis and Peter Moore

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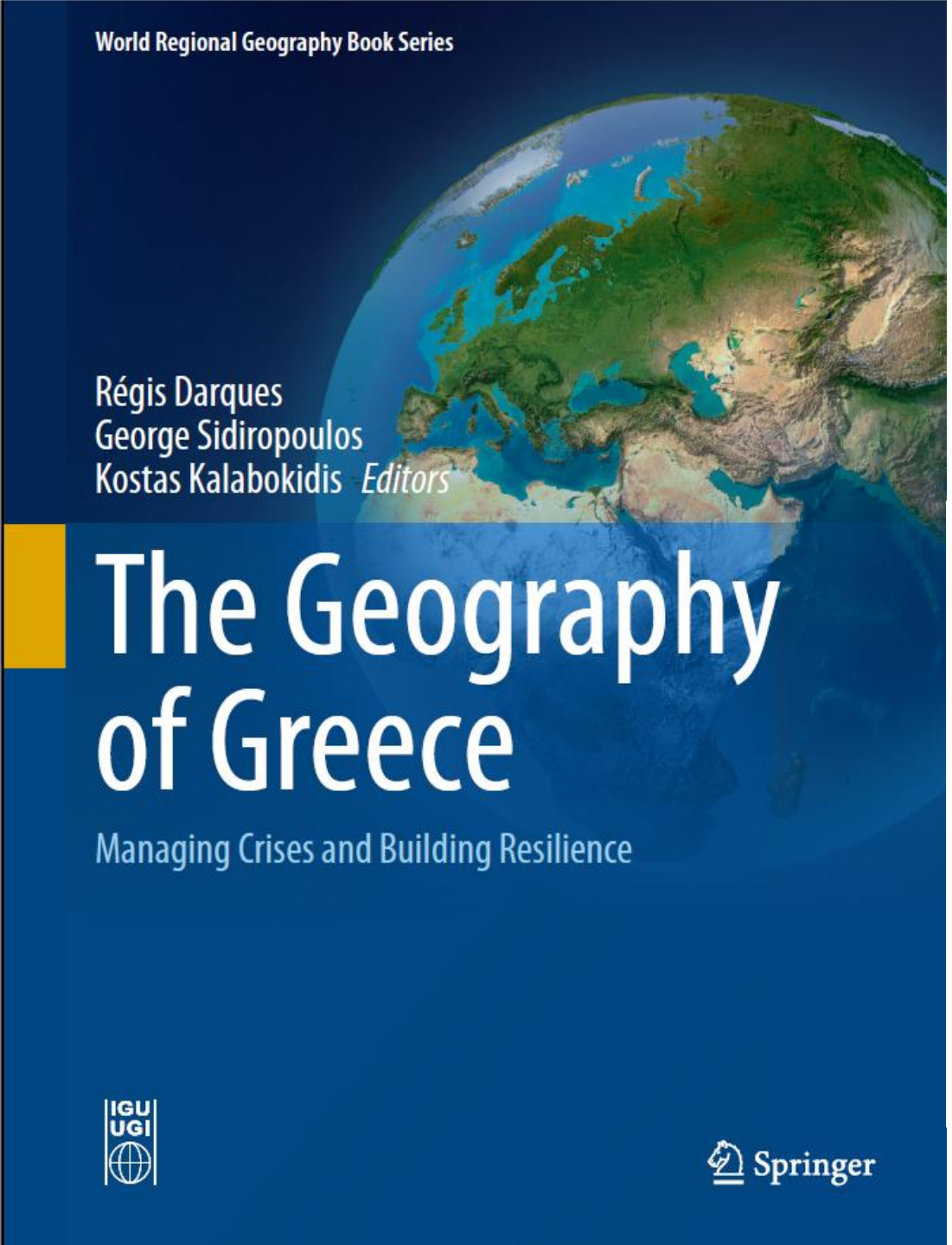

The Geography of Greece

Managing Crises and Building Resilience

Book | © 2024

Overview

Editors: Régis Darques, George Sidiropoulos, Kostas Kalabokidis

- Analyses the geography and Greek crisis/crises outside the area of finance, focusing on human and physical geography
- Breaks stereotypes about this country and collects the most relevant and up-to-date information from renown experts
- Contains maps, photos, and tables and provides key insights into the dynamics of change and resilience

Part of the book series: World Regional Geography Book Series (WRGBS)

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"Changing Wildfires - Policy Options for a Fire-adapted and Fire-literate Europe"

an *ad hoc* Report by the National Academies of Science of Europe

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3d •

Europe is the world's fastest-warming continent, and 2024 was the warmest year on record, according to the latest European State of the Climate 2024 Report published jointly by the World Meteorological Organization (WMO) and Copernicus Climate Change Service.

https://lnkd.in/dzCSwyPq

Higher temperatures also bring more droughts, which means higher risks of wildfires. "Europe has to learn to live with fire", says Prof Thomas Elmqvist, EASAC Environment Director. EASAC has brought together leading #scientists from all over Europe to analyse which options European policymakers have to make Europe more fire-literate and fire-adapted.

The launch of the Report takes place in close connection with the 3rd clustering event of the EU project Firelogue.eu. And we are particularly happy to announce that Jutta Paulus, Member of the European Parliament, will join us as a panellist.

Don't miss it:
19 May 2025, 12.30 h to 14.30 h in Brussels or online
Register now: https://lnkd.in/e6XWBah4

#itsscience #natureconservation #EUGreenDeal #natureconservation #forests Cathelijne Stoof Kostas Kalabokidis Todor Stoyanov Pierre L. Ibisch Bachisio Arca Urbano Fra Tobias Plieninger

Thank you

European Commission

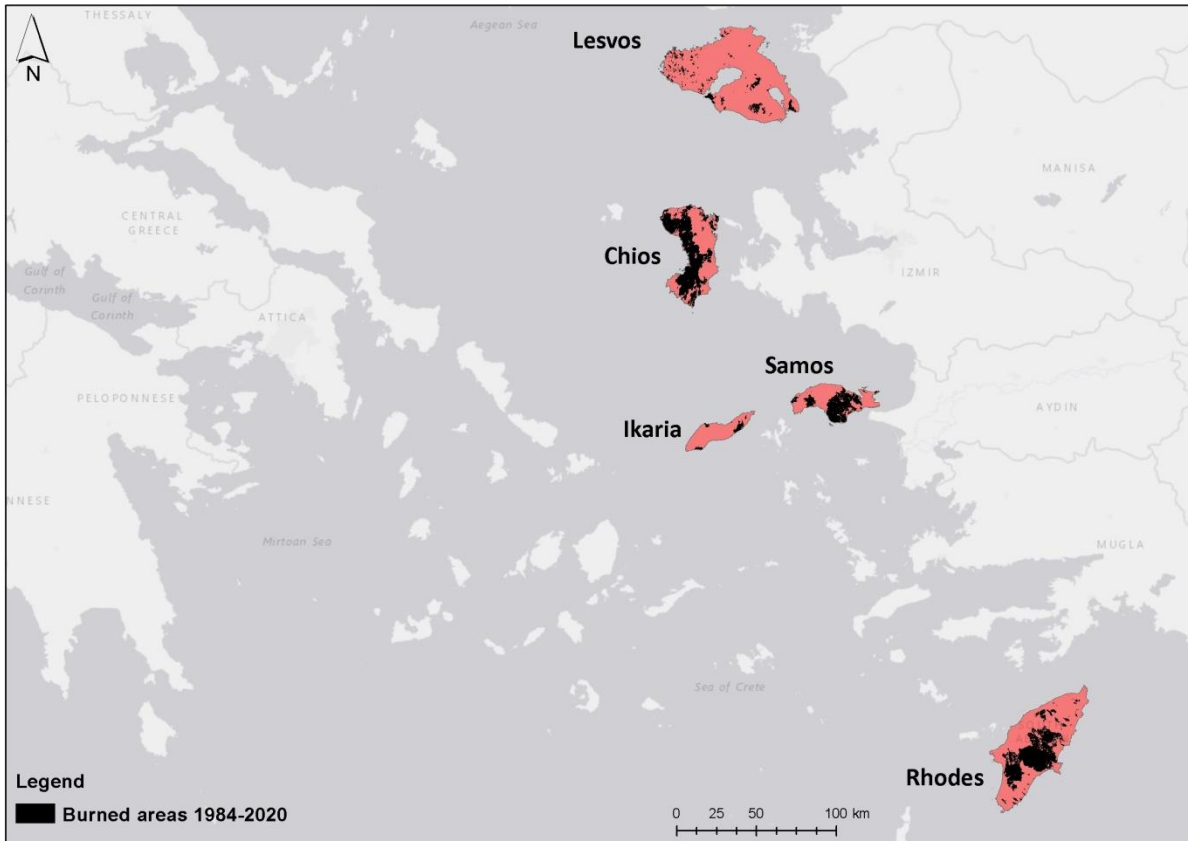
ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΙΓΑΙΟΥ - UNIVERSITY OF THE AEGEAN -

Το επίπεδο του κινδύνου πυρκαγιών στα 5 μεγάλα νησιά του Ανατολικού Αιγαίου

Approximately 5,000 ignitions burned 50,000 ha over the last two decades in the large islands (i.e. Lesvos, Rhodes, Chios, Samos and Ikaria).

Large islands had extensive areas covered with *Pinus brutia* forests in the past, but after half-a-century of repeated wildfires these forests have receded to a large extent.



AEGIS+

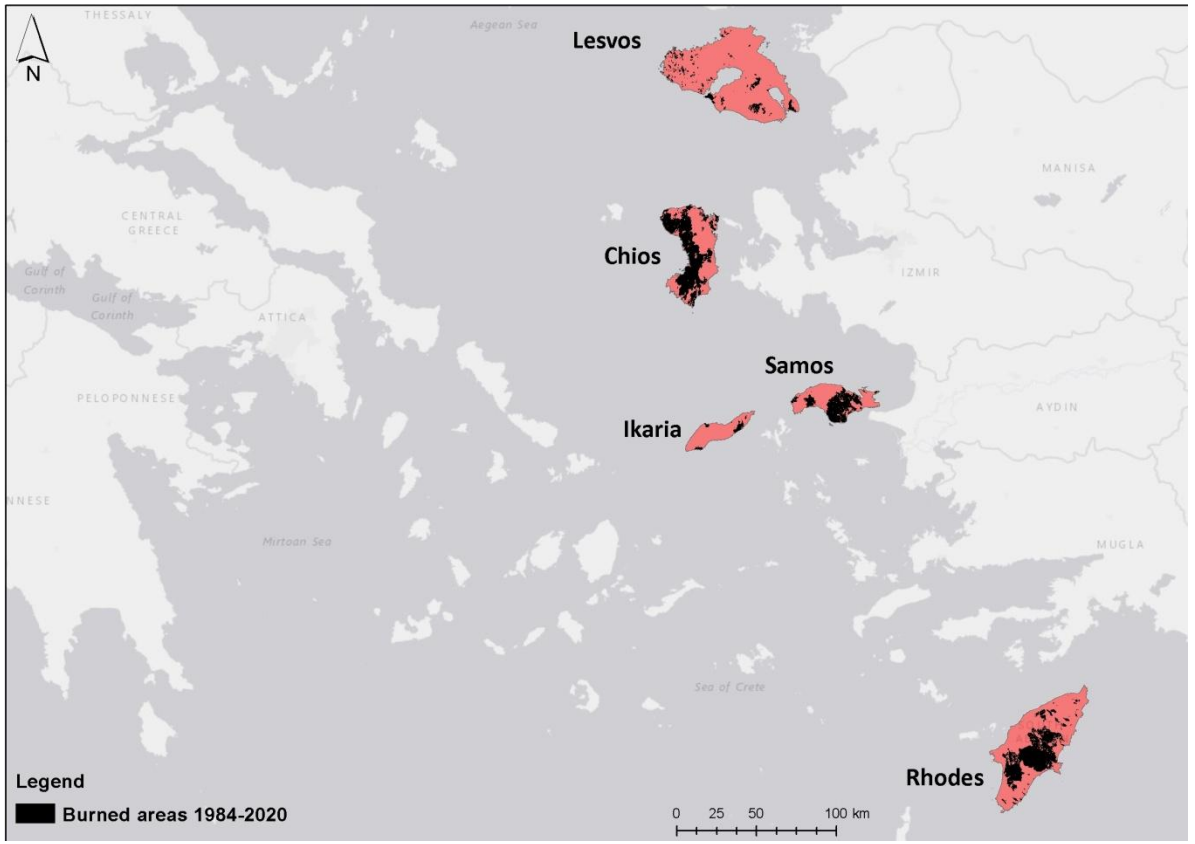
FIRE-RES
Innovative technologies & socio-ecological-economic solutions for fire resilient territories in Europe

European Commission

Το επίπεδο του κινδύνου πυρκαγιών στα 5 μεγάλα νησιά του Ανατολικού Αιγαίου

Large wildfires in each of the islands occurred in the summers of:

- **1993 in Ikaria (1,150 ha burned)**
- **1994 in Lesvos (2,500 ha burned)**
- **2000 in Samos (14,500 ha burned)**
- **2012 in Chios (15,000 ha burned)**
- **2023 in Rhodes (18,000 ha burned)**



Σκοποί της Έρευνας

- Use the Minimum Travel Time (MTT) fire spread algorithm to simulate over 100,000 fires for each of the most forested and prone to large-scale wildfire islands, under varying weather conditions and ignition locations.
- Produce estimates of annual burn probabilities and conditional flame length.
- Use the simulated fire perimeters and ignitions to map the spatial scale and complexity of wildfire exposure.
- Assess the exposure of important values-at-risk in each island.
- Understand where large wildfires are expected to appear in the near future and inform decision-makers to take action there to reduce the vulnerability of these important values-at-risk.

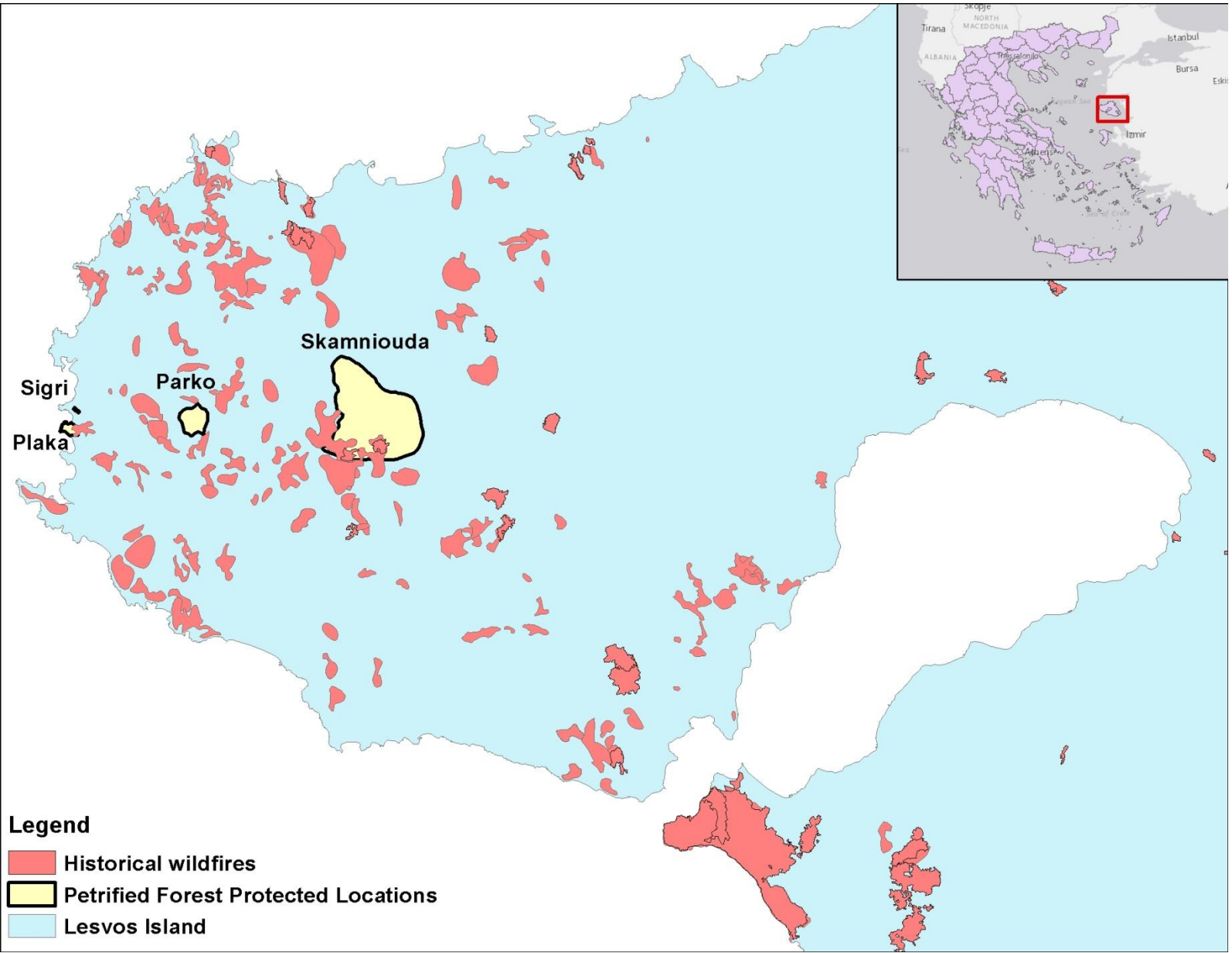
Νήσος Λέσβος: Το Απολιθωμένο Δάσος

- **What it is: volcanic materials covered and petrified the forest 20 million years ago. The findings in the Petrified Forest reveal that the area was part of a mixed forest of conifers and angiosperms, an indicator that the flora of the region has been evolved considerably.**
- **Why at risk: Excavations revealed and exposed several fossils – wildfires can harm the findings (smoke and flame damage).**

Νήσος Λέσβος: Το Απολιθωμένο Δάσος

- **Wildfire situation: frequent and repeated fires burn short brush mixed with cured grasses. The origin of fires is mostly related to agricultural-livestock practices, although burning is illegal.**
- **Exposed petrified trunks and roots to flames – vegetation inside or near fossil positions.**

Νήσος Λέσβος: Το Απολιθωμένο Δάσος



- **>120 recent fires burned on average 31 ha, with maximum fire size 270 ha**
- **We assessed the exposure of the four main excavation locations**

Νήσος Χίος: Καλλιέργεια Μαστίχας

- **What it is: Cultivation of mastiha is a laborious and time-consuming process that is faithfully carried out by the 5,000 mastiha growers of the island. The mastic trees must be fertilized, pruned, the soil around them must be cleared and then incisions must be made in the bark of each tree to release and collect the mastiha sap (*Pistacia lentiscus* var. *Chia)***
- **Why at risk: The plant is evergreen, from 1 to 5 m high, and very flammable due to the resin and other volatile compounds of the leaves and branches**

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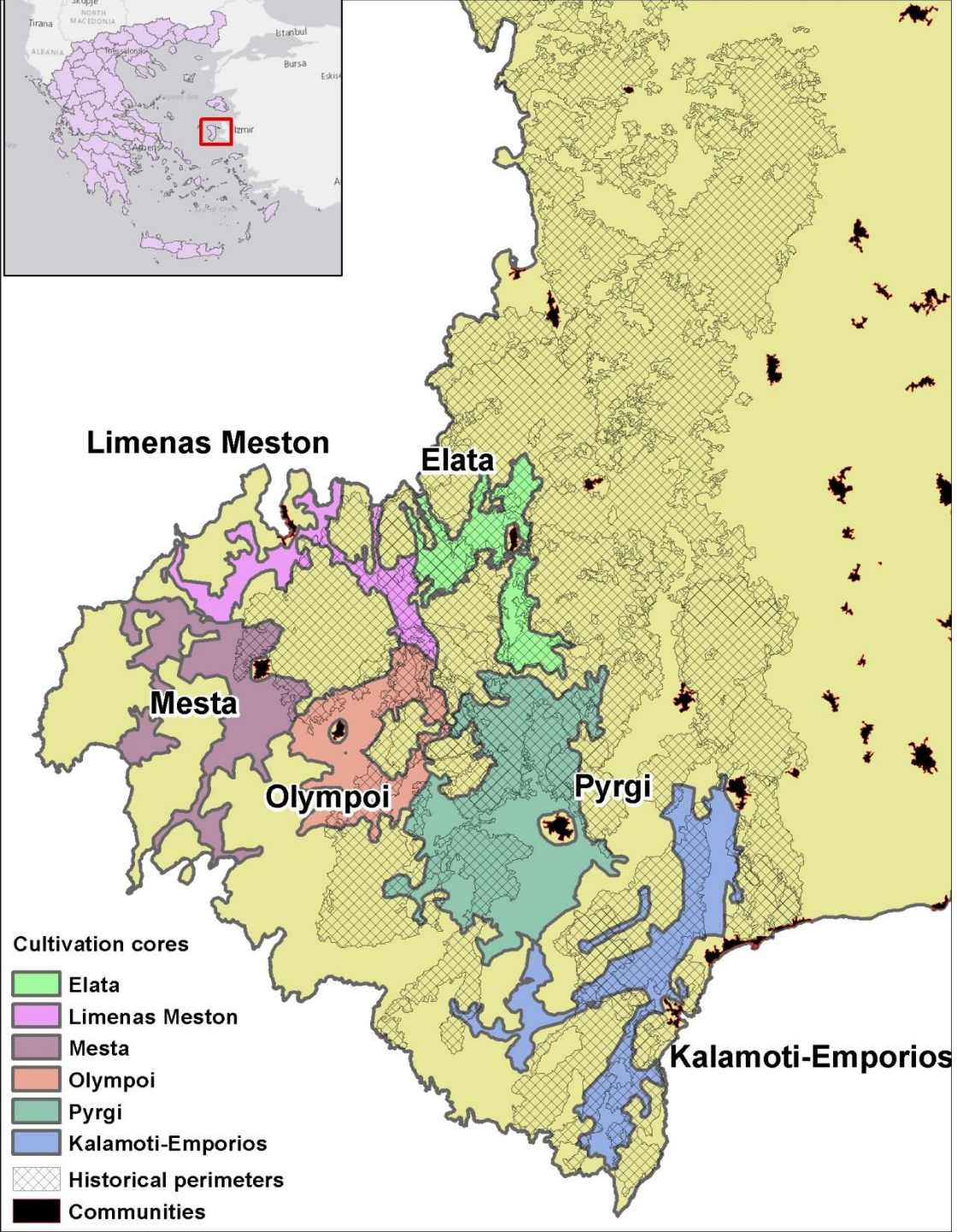
Νήσος Χίος: Καλλιέργεια Μαστίχας

- **Wildfire situation: large scale wildfires burned twice during the last decade important Mastiha cultivation locations. It is estimated that during the 2012 wildfire, 25% of cultivations were affected. Another fire in 2016 burned 110,000 Mastiha trees.**
- **It takes more than 7 years after replanting to be able to produce again the sap/resin that creates the Mastiha.**
- **Mastiha is a tall shrub – fire can crawl into cultivation through grasses or from neighboring vegetation (trees or shrublands).**
- **Wildfires are mostly incoming, from the northern pine-covered forests or shurblands.**

Νήσος Χίος: Καλλιέργεια Μαστίχας

- 10 wildfires since 1985 – The largest burned 15,000 ha in 2012
- We assessed the exposure of the six main cultivation cores



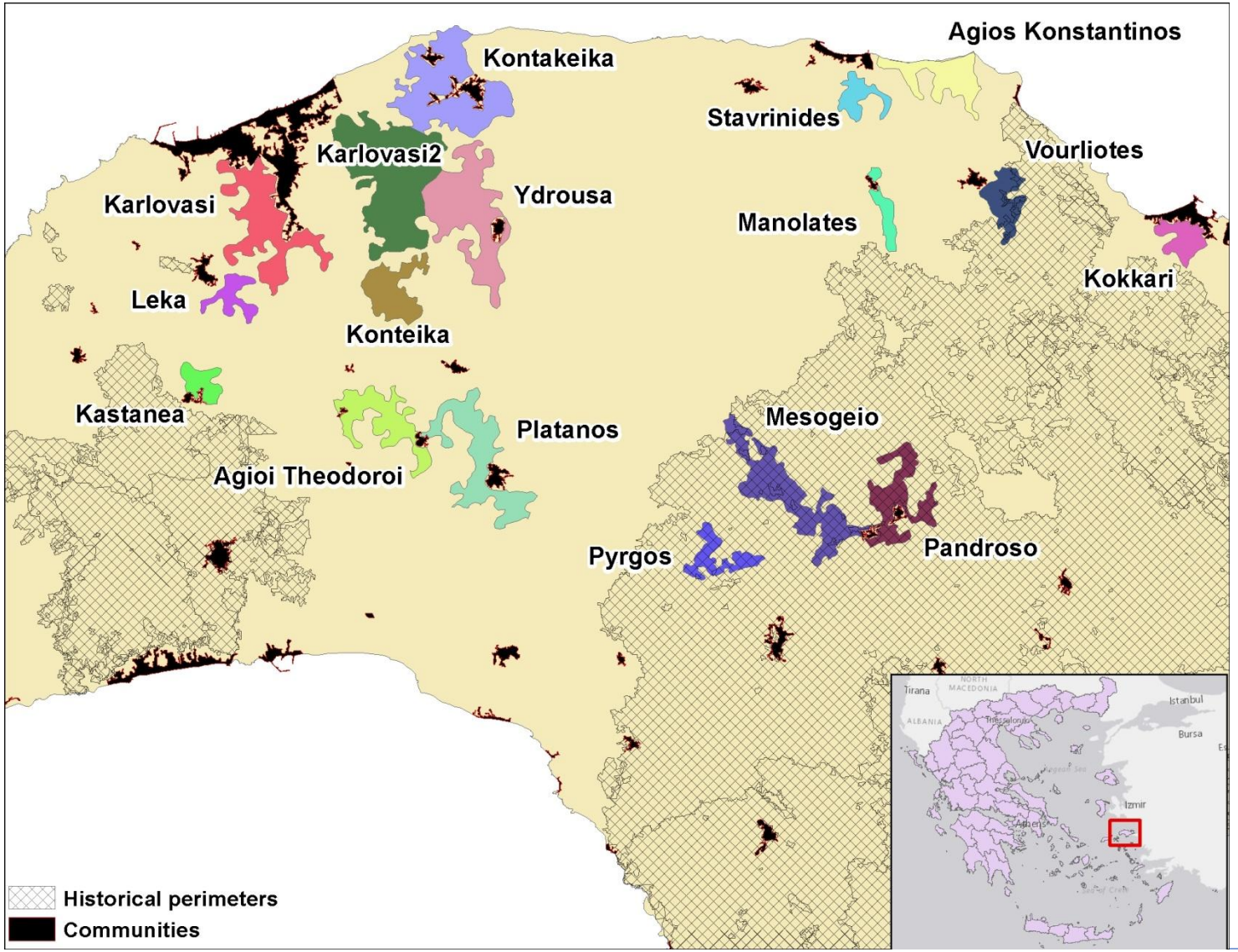
Νήσος Σάμος: Καλλιέργεια Αμπελώνων

- **What it is: The area of cultivated vineyards in Samos is about 1,900 hectares. More than 98% of these vineyards are White Samos Muscat, a small-berried variety that is considered the noblest clone of the large family of muscats.**
- **The muscat grape is grown on “terraces” (ancestral dry-stone terraces) built to hold and drain the precious soil, creating successive narrow stripes of land.**
- **Why at risk: Vineyards are important to the local economy and large-scale wildfires can be devasting for the industry. Vineyards are in proximity to natural vegetation.**

Νήσος Σάμος: Καλλιέργεια Αμπελώνων

- **Wildfire situation: mostly small fires that are extinguished rapidly. Vegetation expansion into formerly agricultural lands can transit fires into the vineyards. Mostly in proximity to dense shrublands and grasslands, mixed with other cultivations.**
- **Frequent conifer stands at the borders of vineyards.**
- **Landscape fragmentation.**

Νήσος Σάμος: Καλλιέργεια Αμπελώνων



- 30 wildfires between 1993-2020. In 2000, 14,500 ha were burned, mostly inside conifer forests over rugged terrain.
- We assessed the exposure of the 17 core cultivated vineyard areas.
- 4 core cultivations were affected from the 2000 wildfire

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Νήσος Ικαρία: Το Δάσος Ράντη

- **What it is: The Ranti Forest lies at the central Ikaria Island and covers an area of approximately 1,600 ha.**
- **The forest has a legacy spanning over two centuries, with some of the oldest trees exceeding 300 years. A unique *Quercus ilex* (Holm oak) habitat can be found.**
- **The history of Ranti is intriguing with many dry-stone walls and shelters scattered throughout the landscape, preserving its ancient history.**

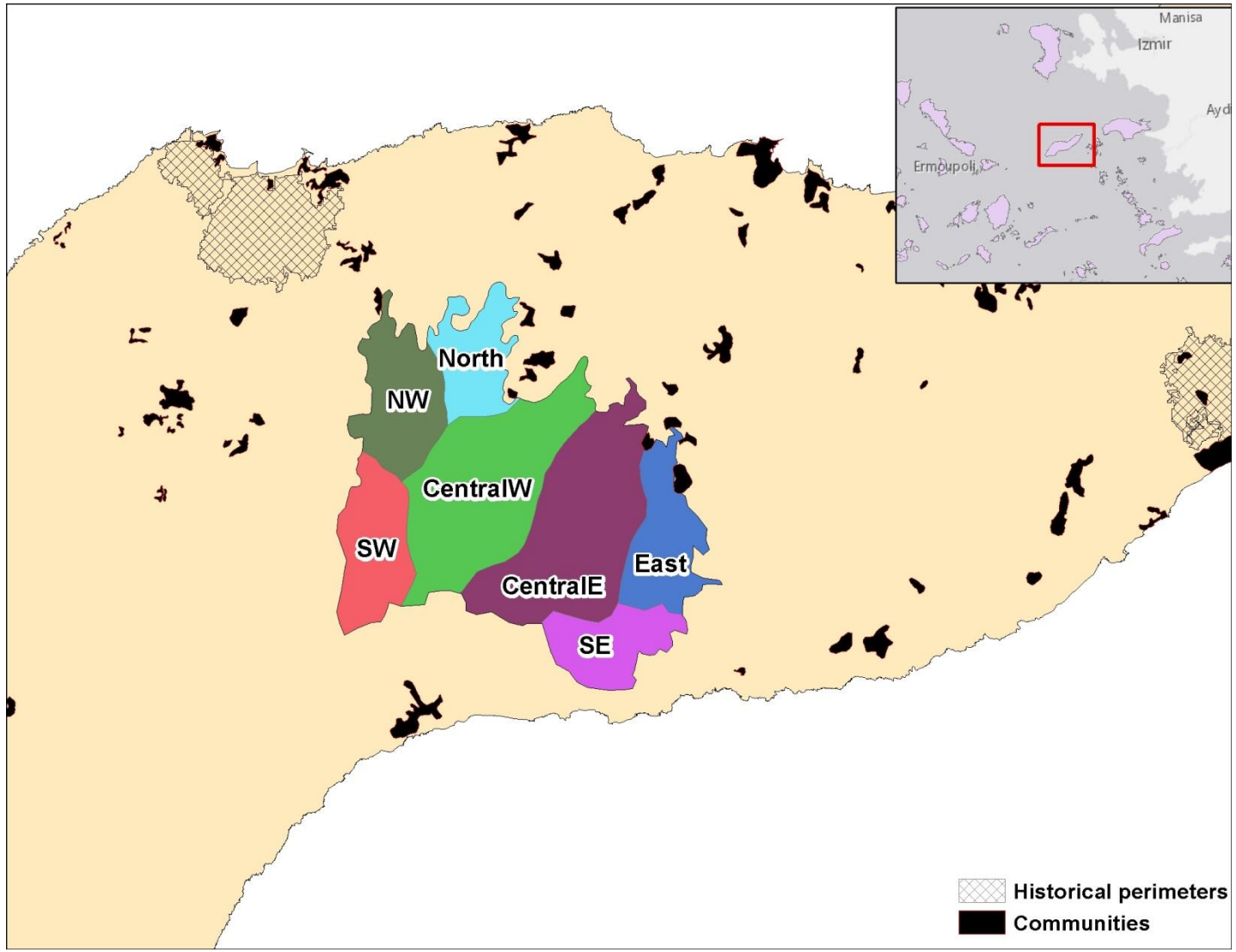
Νήσος Ικαρία: Το Δάσος Ράντη

- **Why at risk: It is the largest un-fragmented area of Quercus ilex forest in Greece, while also being the last remaining forest, of this size and age, within the northeastern Mediterranean.**
- **As *Quercus ilex* is rarely found forming forests (mostly are in shrub form) in the Mediterranean region, and hence Ranti Forest has a great significance at an EU level (dense and dark stands, 12-15 m height).**

Νήσος Ικαρία: Το Δάσος Ράντη

- **Wildfire situation: recorded historical fires are small and rapidly extinguished.**
- **These fires cleared the understory and allowed *Quercus ilex* to growth tall enough to form forested stands.**
- **The understory is mostly comprised of dead leaves and grass.**
- **In areas, shrubs and small trees can be found.**
- **Grazing is keeping fuel loads in certain parts of the forest, although it increases erosion.**
- **The ruggedness of the terrain makes the approach to fight future fires difficult and firefighting is heavily relying on aerial means.**

Νήσος Ικαρία: Το Δάσος Ράντη

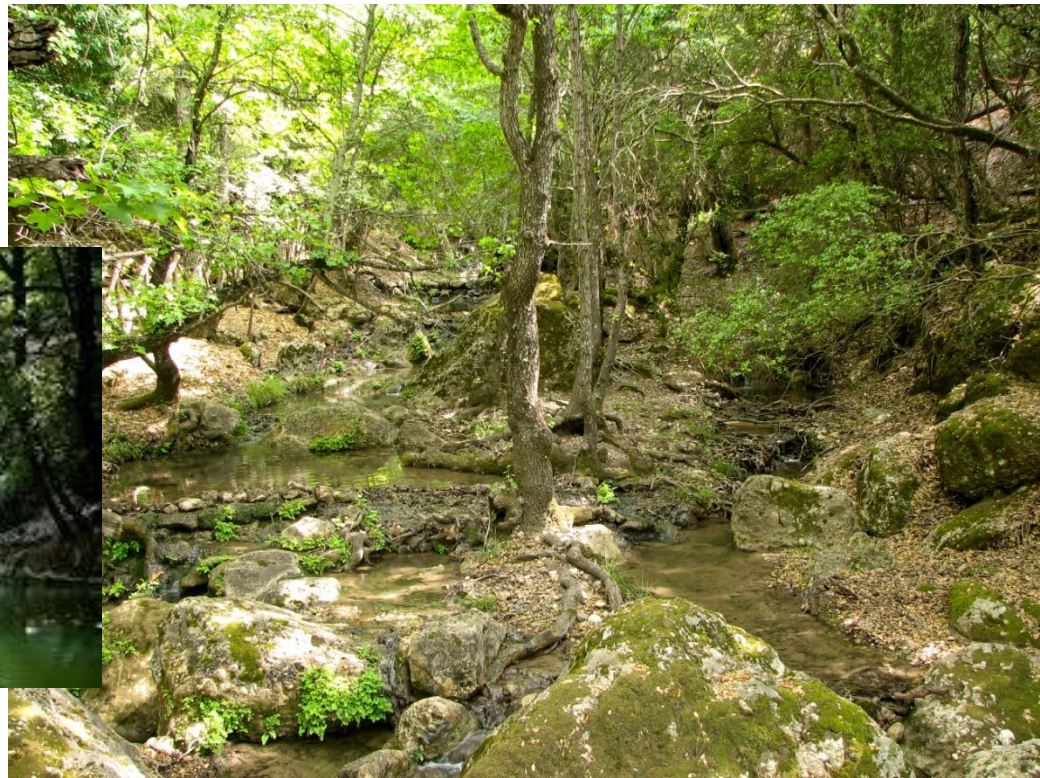


- **11 wildfires since 1991 – The largest burned 1,150 ha in 1993 and killed 13 people.**
- **We divided the forest into 7 sectors based on sub-watershed boundaries.**

Νήσος Ρόδος: Περιοχές Φυσικού Κάλλους

What it is:

- **Butterfly Valley: Apart from its aesthetic value, it is also the site of the only natural forest of *Liquidambar orientalis* or in Greek "Zitia" (Oriental Sweetgum trees) in Europe, and a resting point for the *Panaxia Quadripunctaria* (Jersey tiger), a nocturnal moth.**
- **Why at risk: the number of butterflies is increasingly reduced due to the impact of tourism on their natural environment. The only reproductive habitat of the species on the island.**



Νήσος Ρόδος: Περιοχές Φυσικού Κάλλους

What it is:

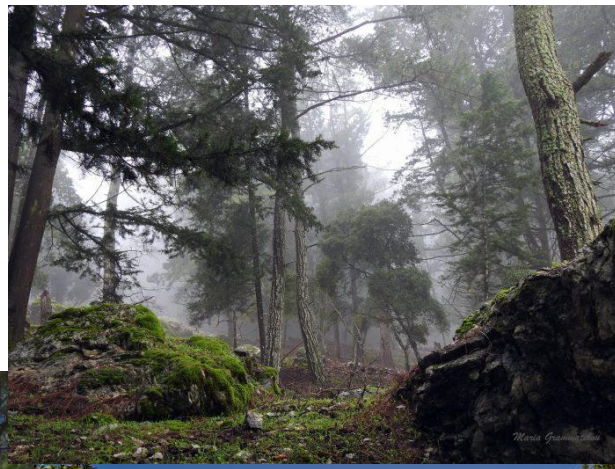
- **Monolithos: This castle was built in 1480 by the Knights of Saint John to protect the island from attacks.**
- **Why at risk: this monument is of very high aesthetic and tourism value, surrounded by dense *Pinus brutia* forests. The lack of fuel management and the steep terrain can create wildfires that will change totally the natural environment of the site.**

Νήσος Ρόδος: Περιοχές Φυσικού Κάλλους

What it is:

- **Profitis Elias: Surrounded by a scenic Cypress forest, this hill hosts one of the most unique hotels (Elaphos) of Greece. It was intended as a retirement home for Benito Mussolini. In the vicinity, the Eleousa was built by the Italians (Campochiaro was its original name) and loggers from northern Italy settled there. Their goal was not only the utilization of timber, but also the care of the forest for tourist reasons.**

- **Why at risk: Profitis Ilias is covered with forests of pines (*Pinus brutia*) and dense cypress (*Cupressus sempervirens*) and maquis shrubland. It is a place of unique beauty.**

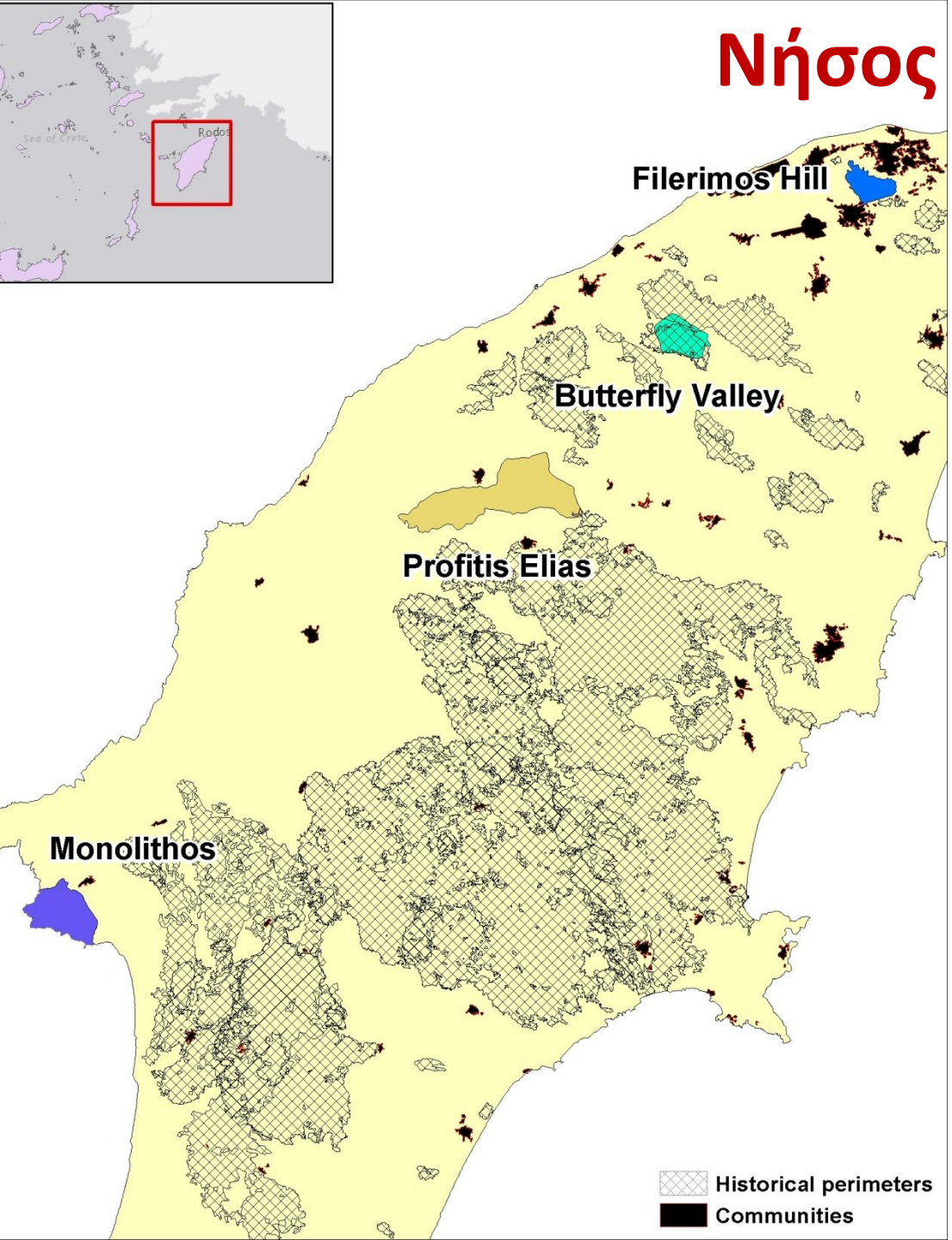


Νήσος Ρόδος: Περιοχές Φυσικού Κάλλους

What it is:

- **Filerimos Hill: Outside the capital Rhodes (15 km), a hill of 267 m altitude, is a thickly wooded area covered with cypresses, pines and shrubs. A Christian Orthodox relic with a temple.**
- **Why at risk: crowded with tourists during the summer, the risk of new ignitions inside this densely wooded area is high. Also, the lack of management increases the probability of large incoming fires.**

Νήσος Ρόδος: Περιοχές Φυσικού Κάλλους

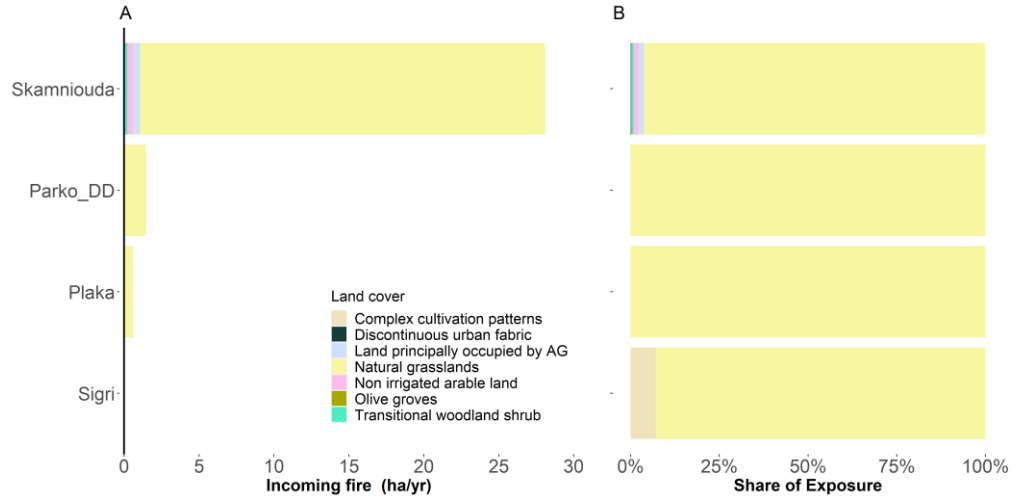


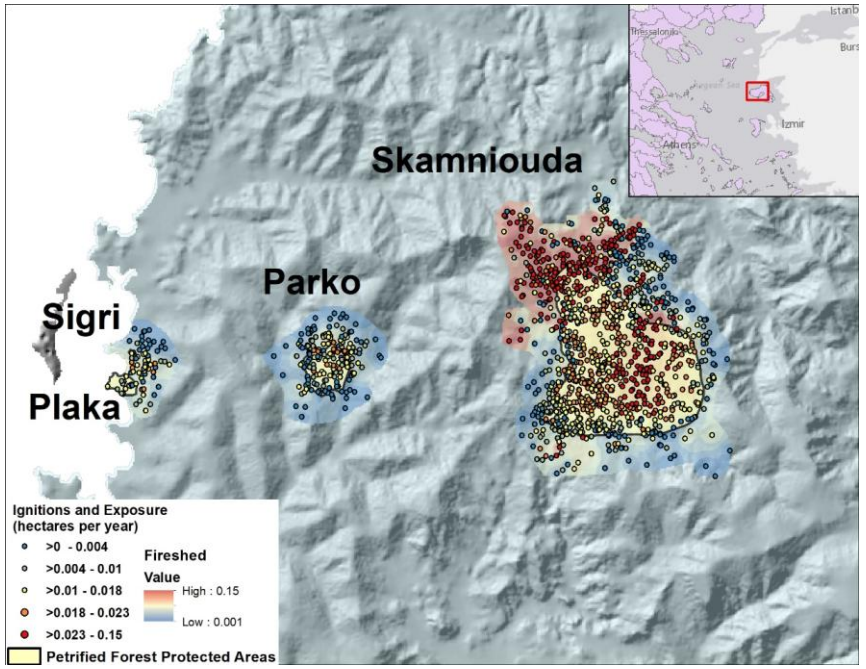
- >65 wildfires between 1984-2021.
- Two wildfires grew >12,000 ha
- We assessed the exposure of the 4 scenic forested areas
- Butterfly valley has been affected twice by past fire events: the 1988 event burned ~300 ha, mostly in the valley, and the 2021 event burned at the north of the previous perimeters (only partially affecting the valley)
- Monolithos, Profitis Elias and Filerimos have not been affected by wildfires during the past 4 decades

ICFBR 2022
3rd INTERNATIONAL CONFERENCE ON FIRE BEHAVIOR AND RISK

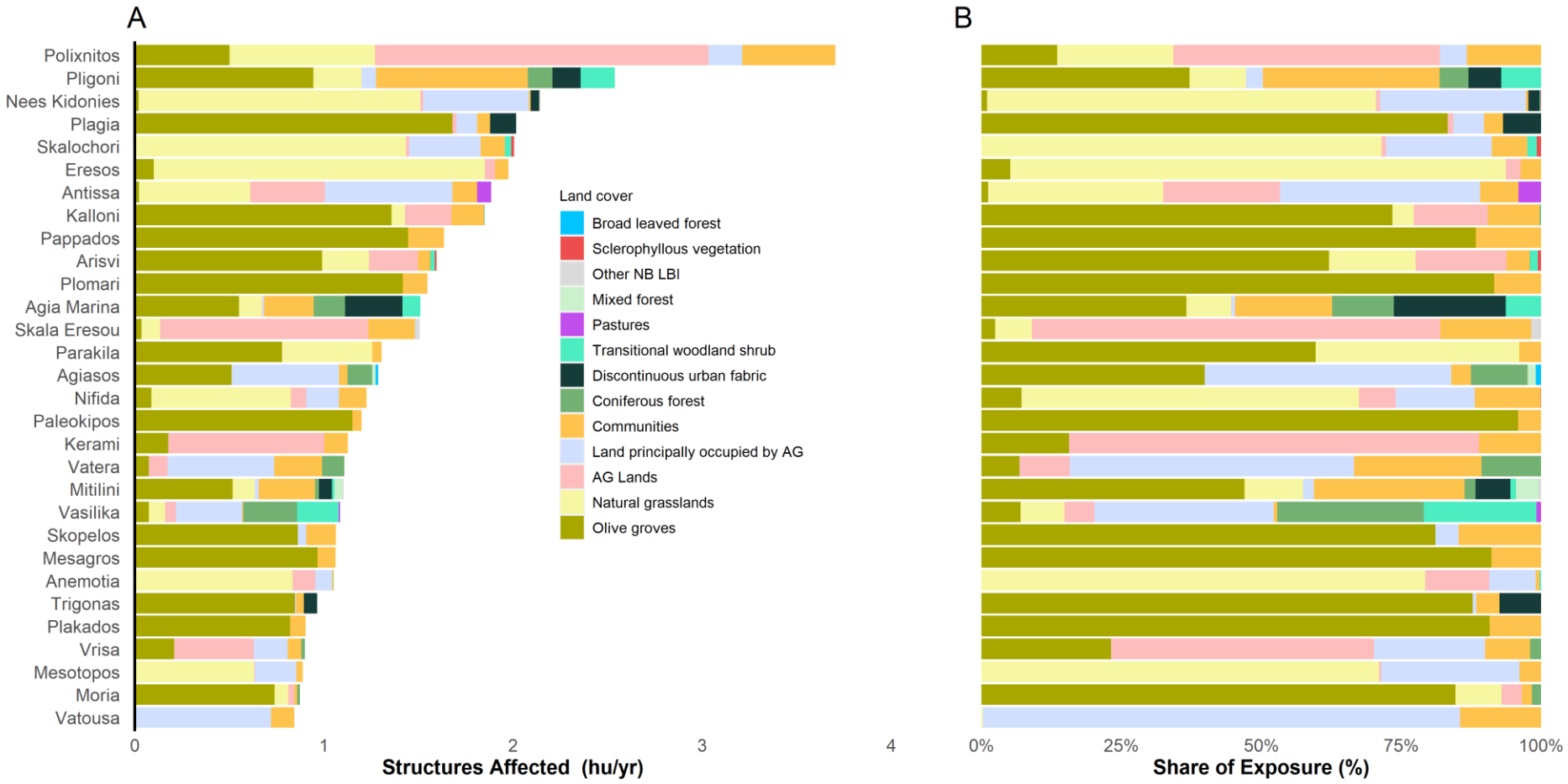
Λέσβος: Το Απολιθωμένο Δάσος

- **Σε ποιους τύπους βλάστησης ξεκινούν οι αναφλέξεις που φτάνουν ή καίνε μέσα στις περιοχές του Απολιθωμένου Δάσους Λέσβου;**

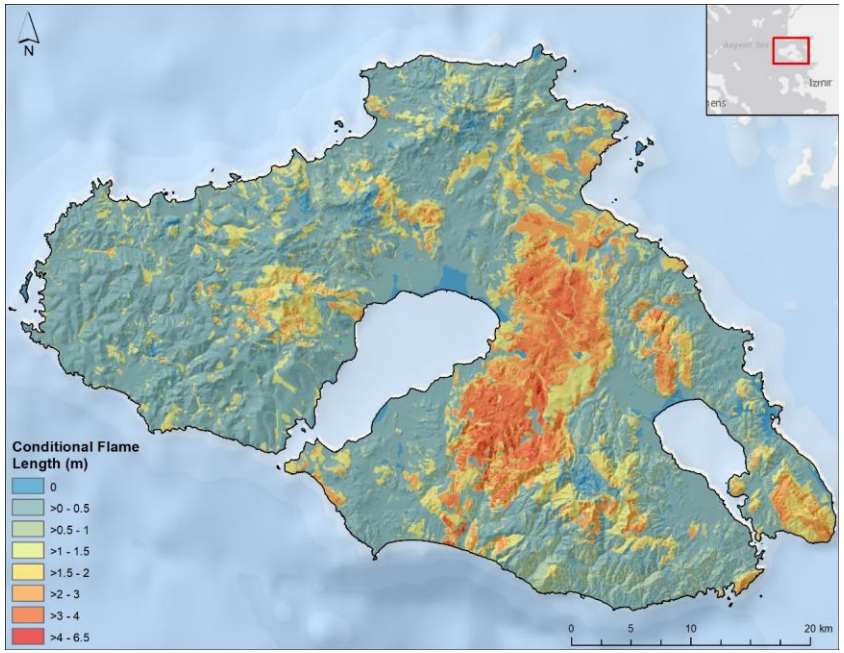


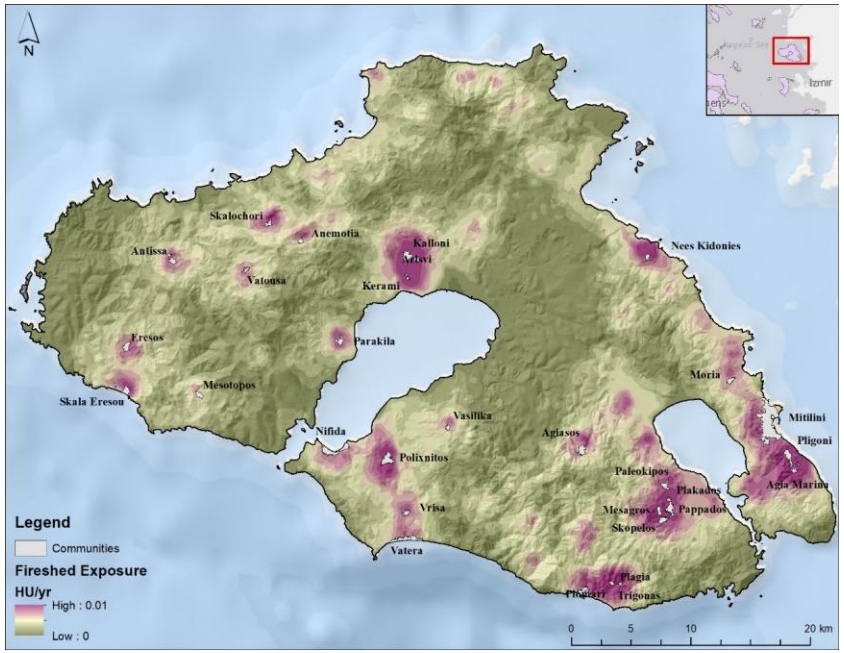


Οι 30 οικισμοί με τη μεγαλύτερη έκθεση στις πυρκαγιές



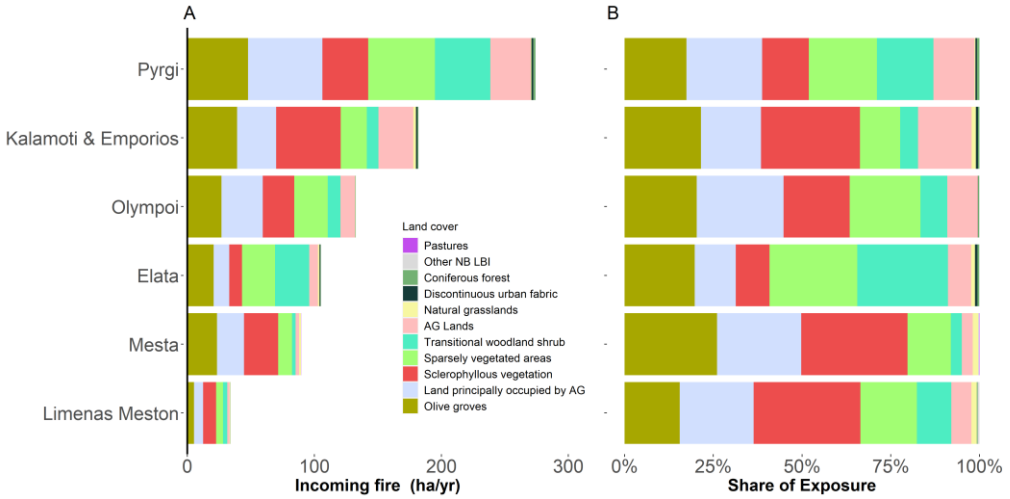
Ένταση πυρκαγιών και περιοχές από όπου ξεκινούν οι πυρκαγιές που φτάνουν στους οικισμούς

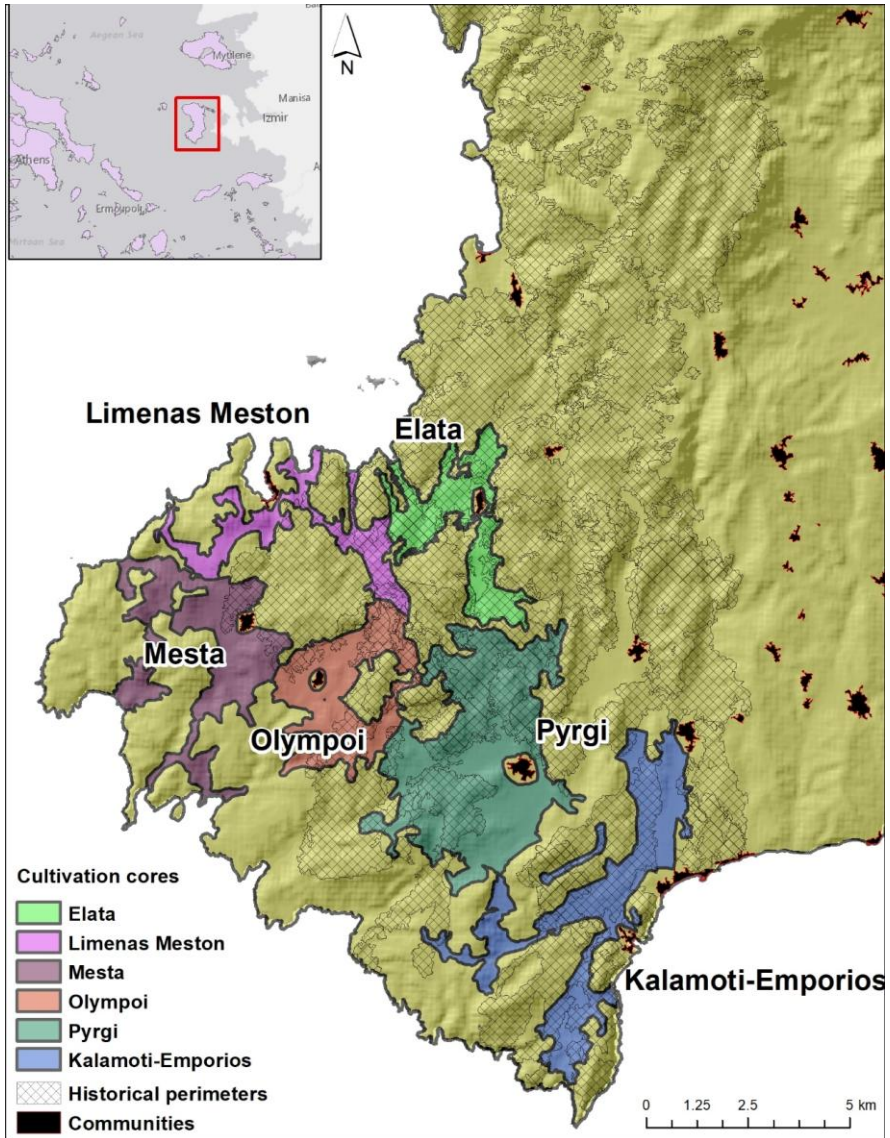




Χίος: Καλλιέργεια Μαστίχας

- **Σε ποιους τύπους βλάστησης ξεκινούν οι αναφλέξεις που φτάνουν ή καίνε μέσα στις περιοχές καλλιέργειας μαστίχας;**





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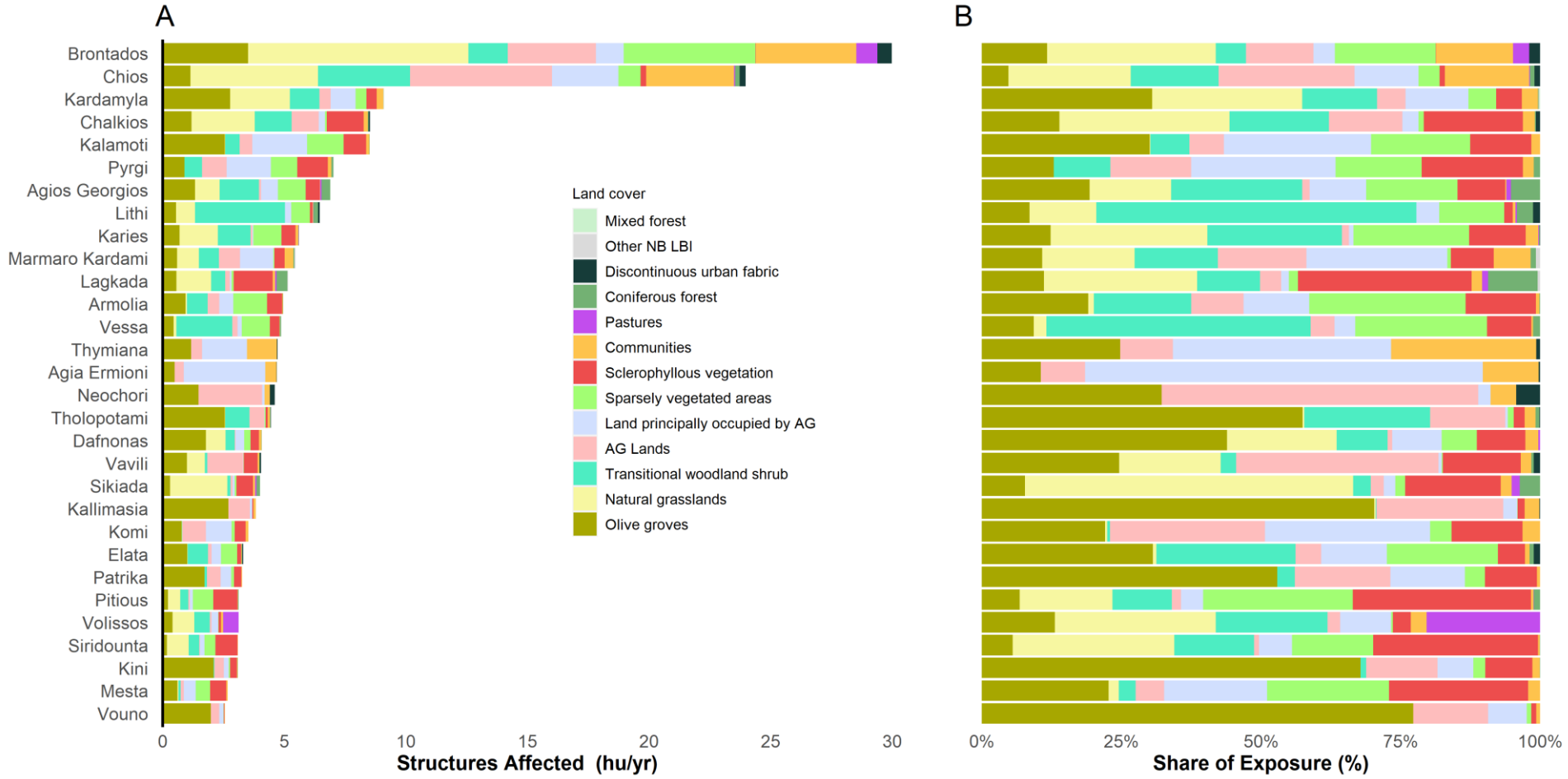

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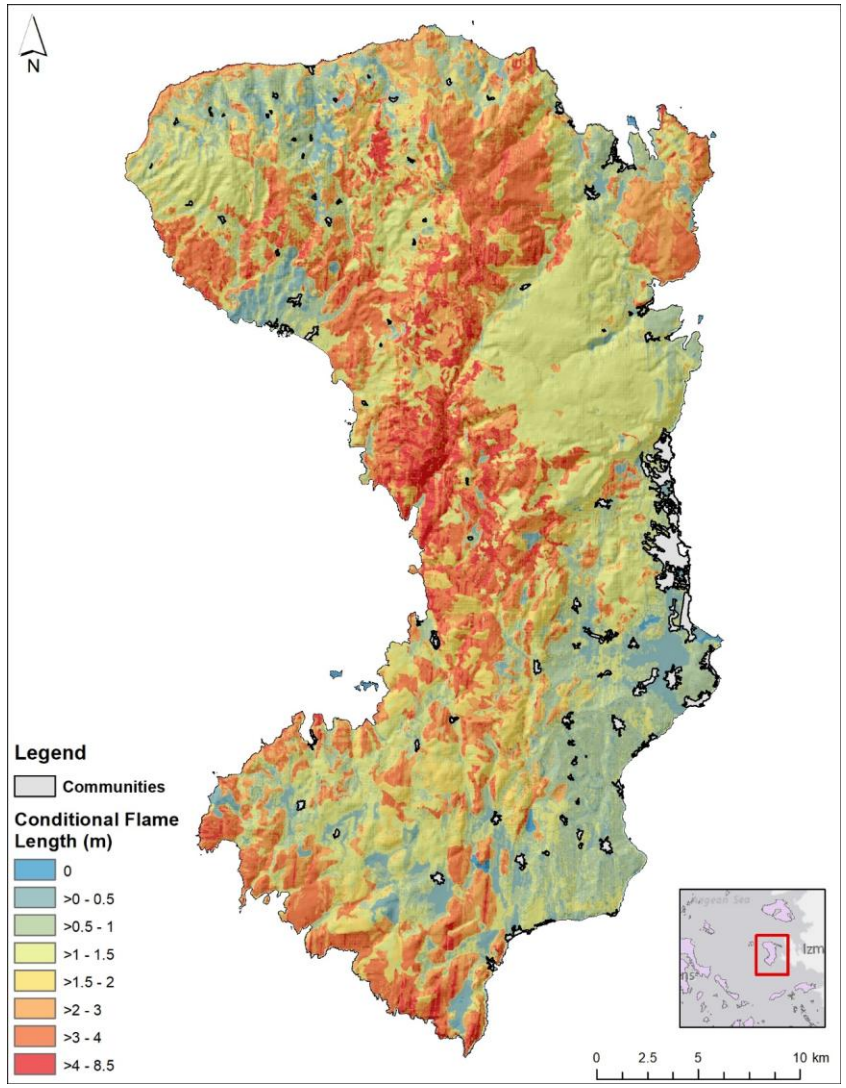

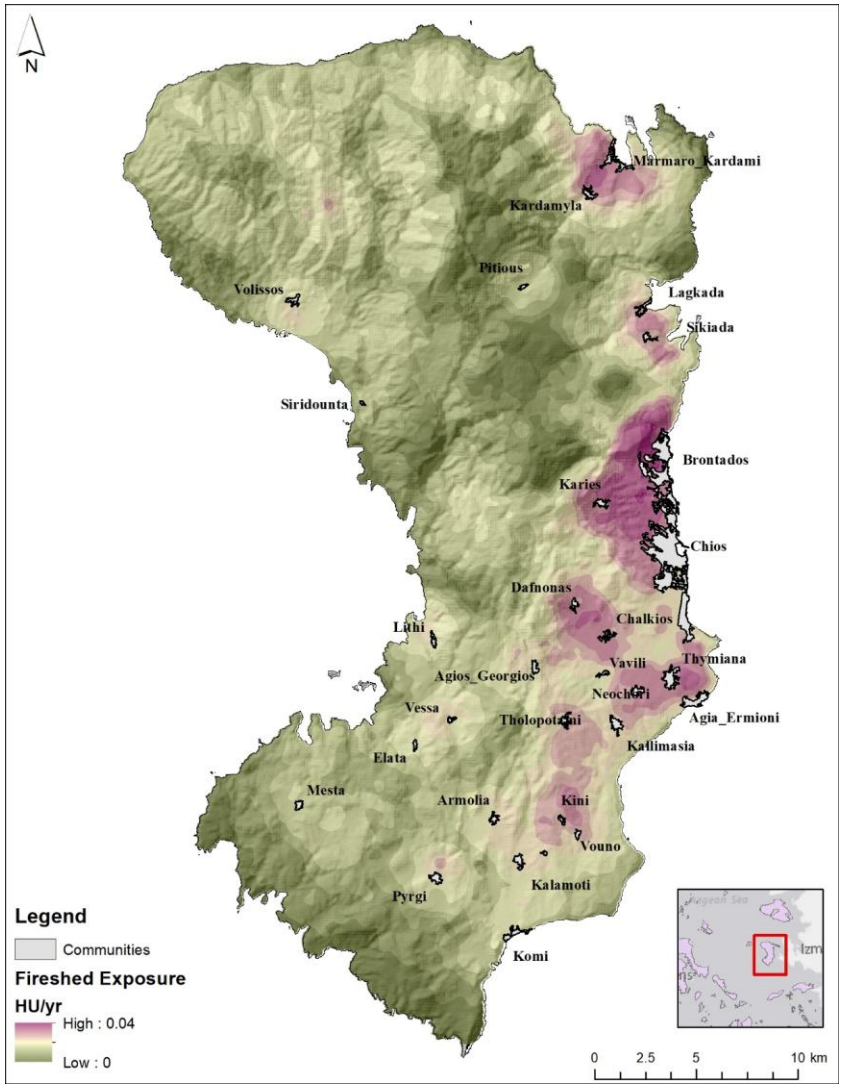

Σάμος: Καλλιέργεια Αμπελώνων

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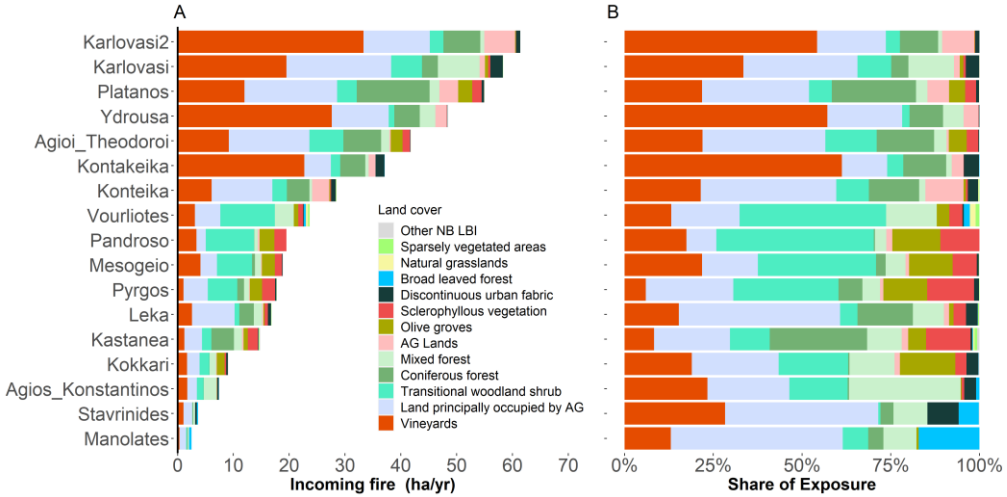

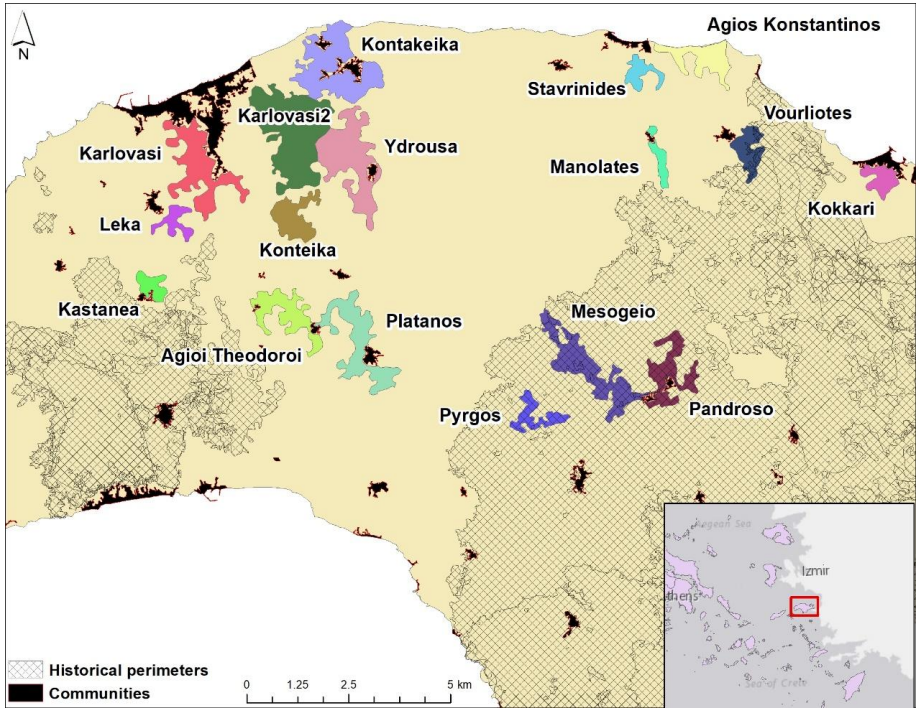

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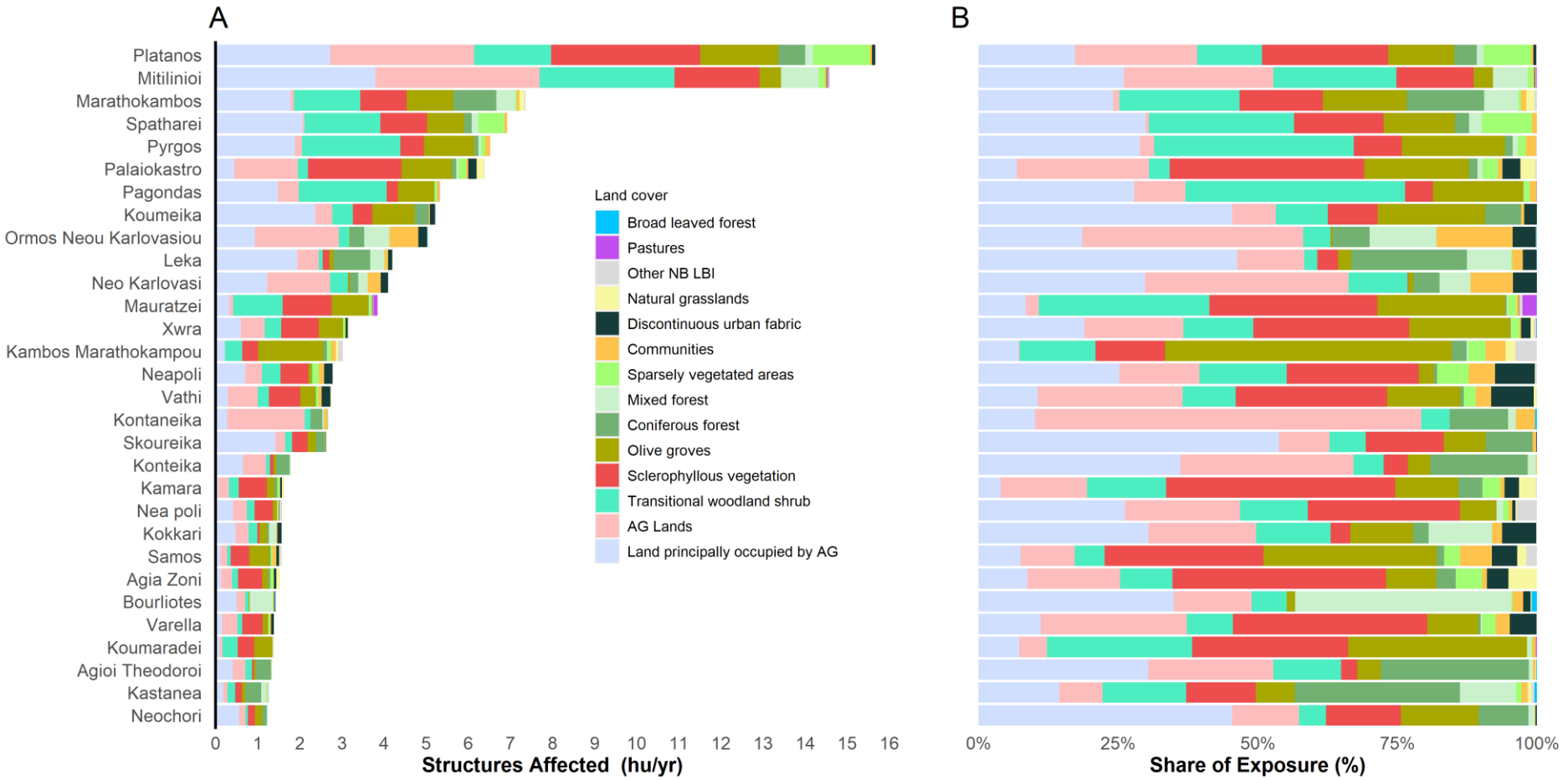

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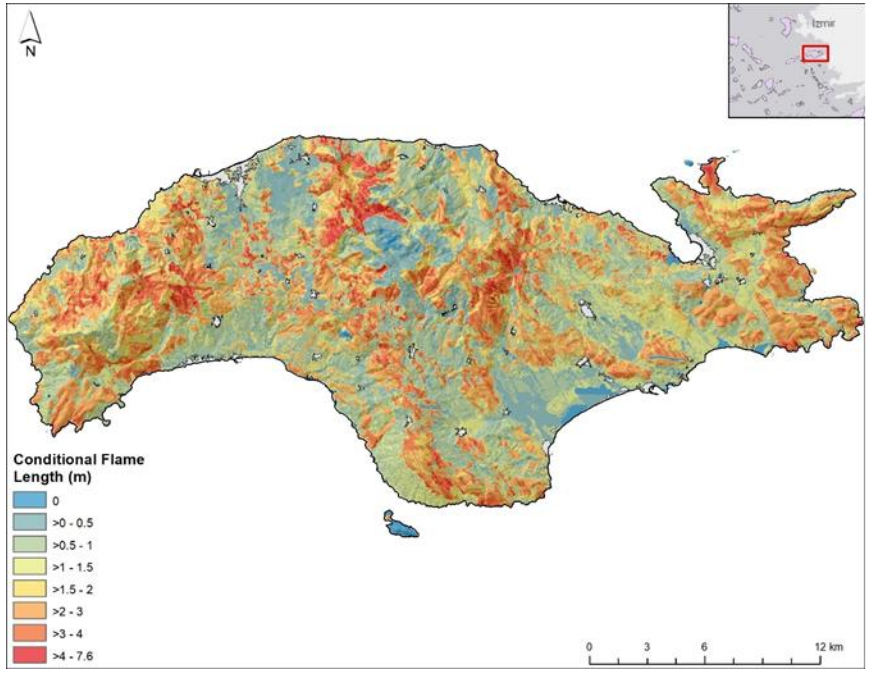
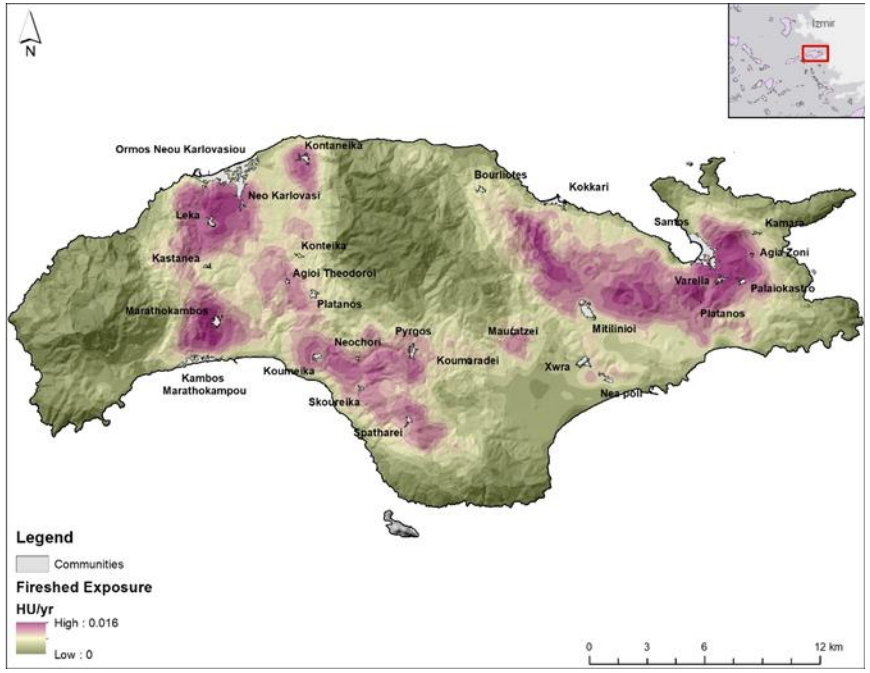
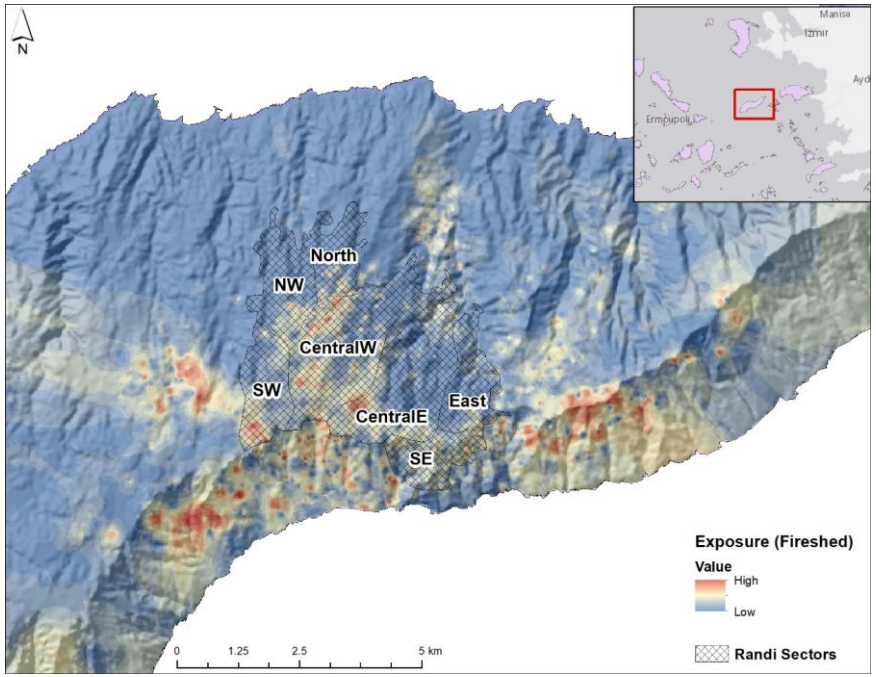
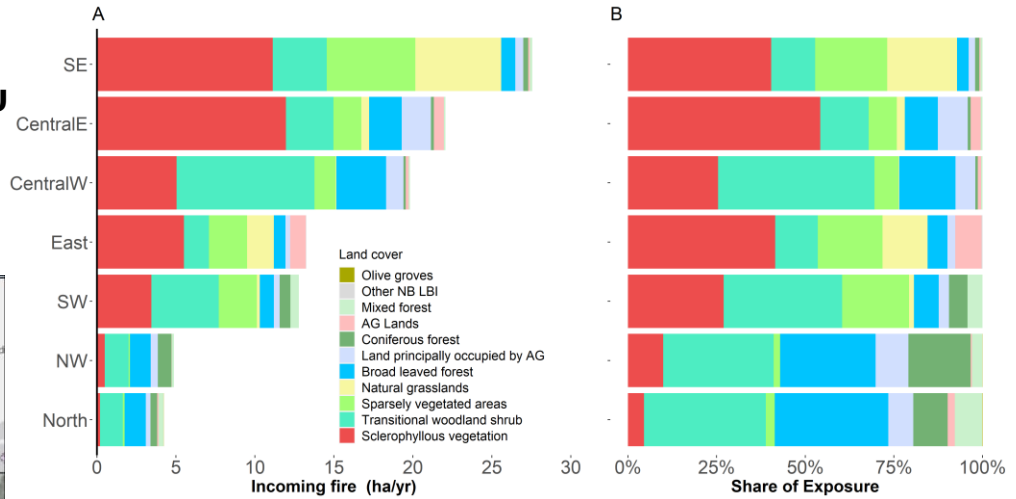


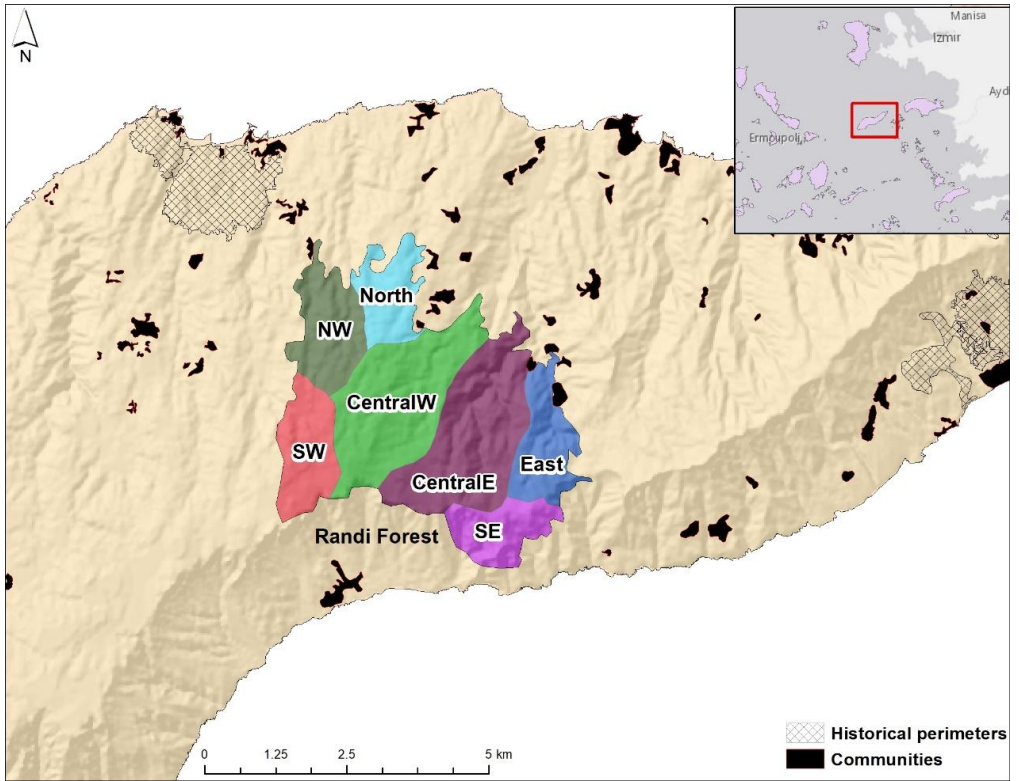


Ικαρία: Το Δάσος Ράντη

- **Σε ποιους τύπους βλάστησης ξεκινούν οι αναφλέξεις που φτάνουν ή καίνε μέσα στις περιοχές στο Δάσος Ράντη;**







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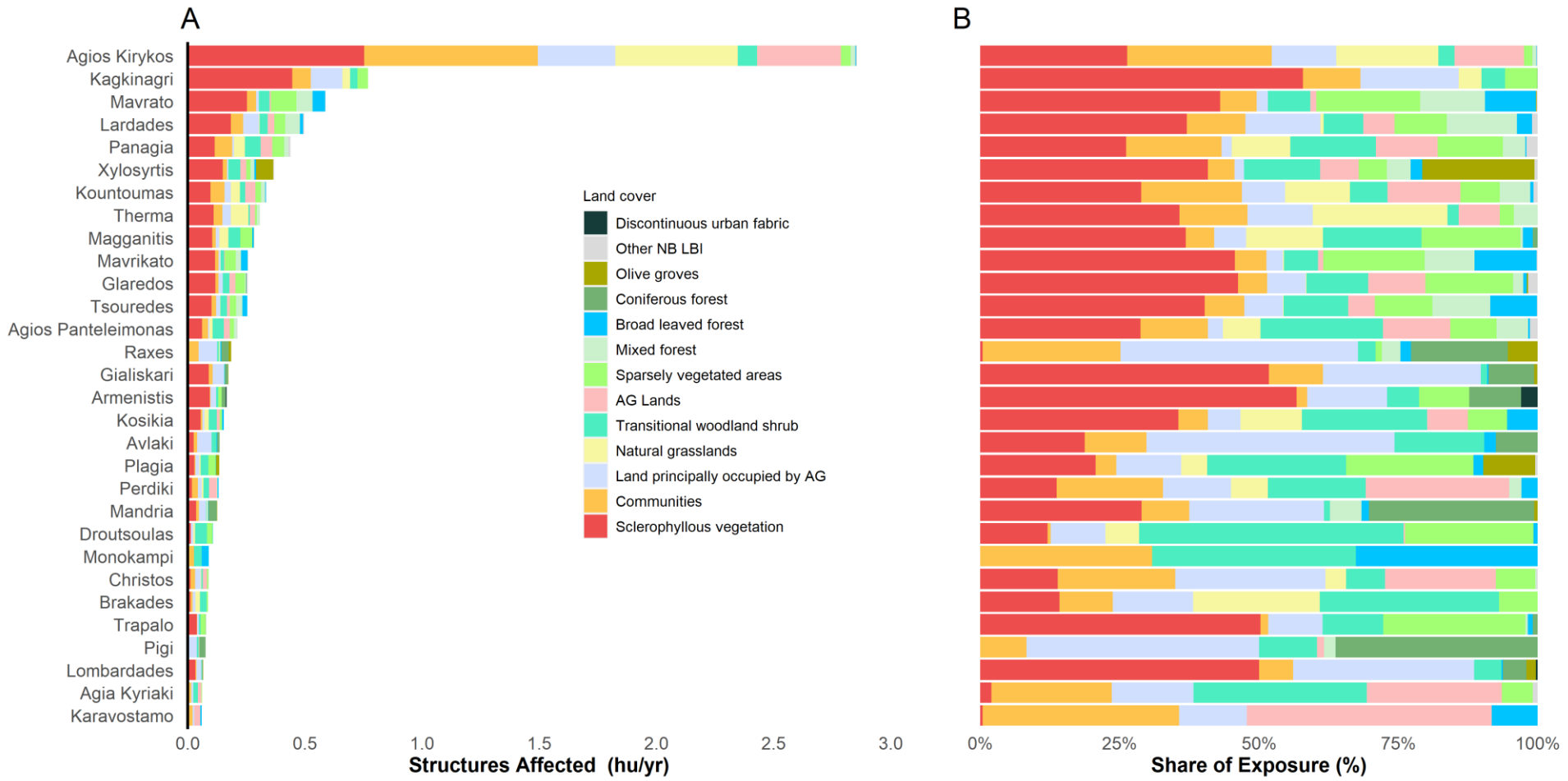
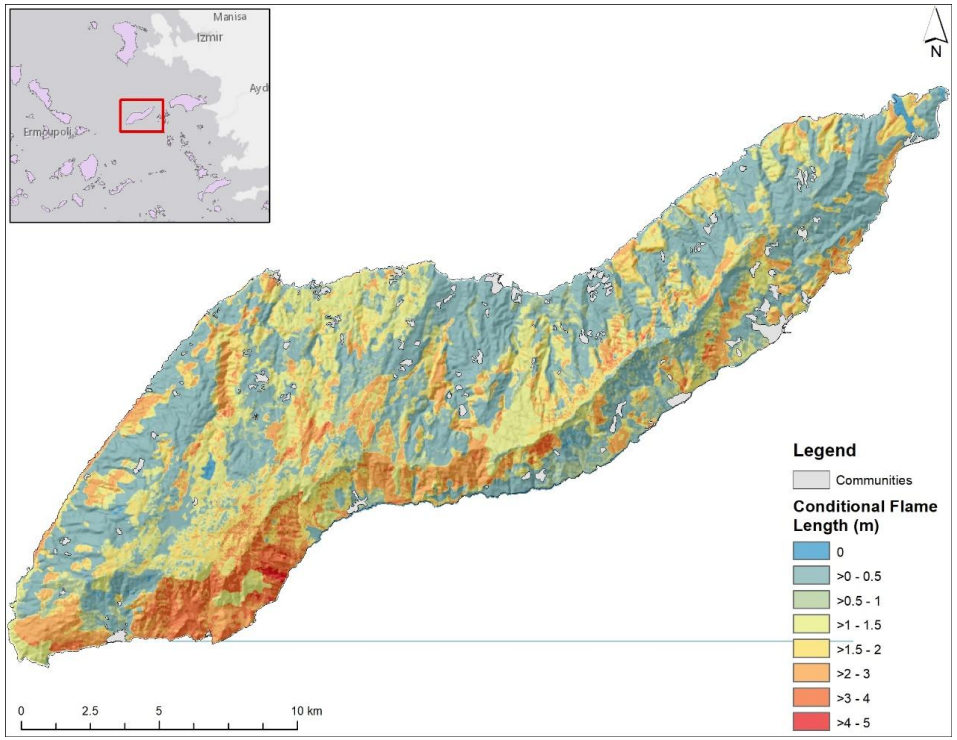
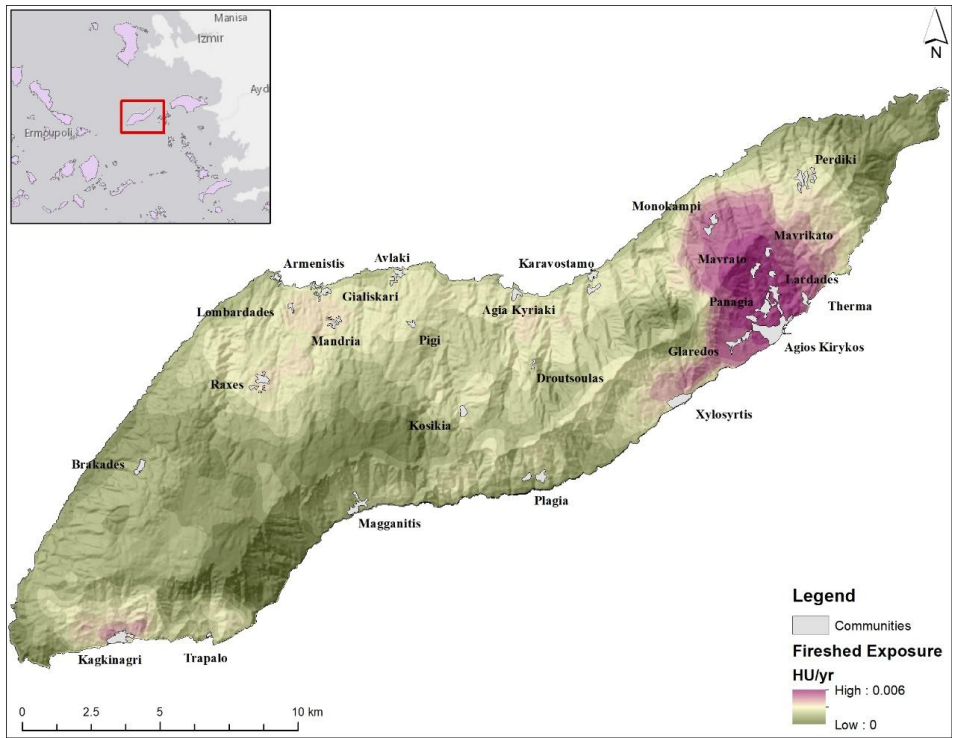


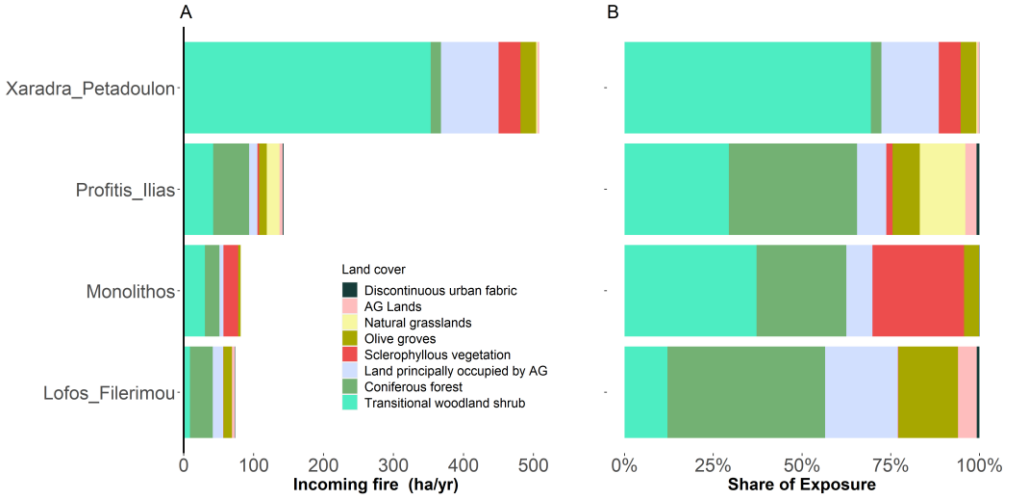
Ένταση πυρκαγιών και περιοχές από όπου ξεκινούν οι πυρκαγιές που φτάνουν στους οικισμούς

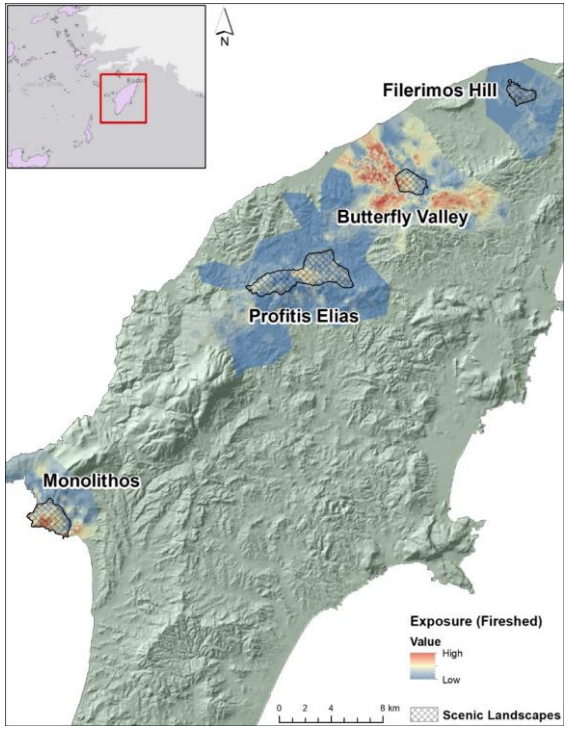


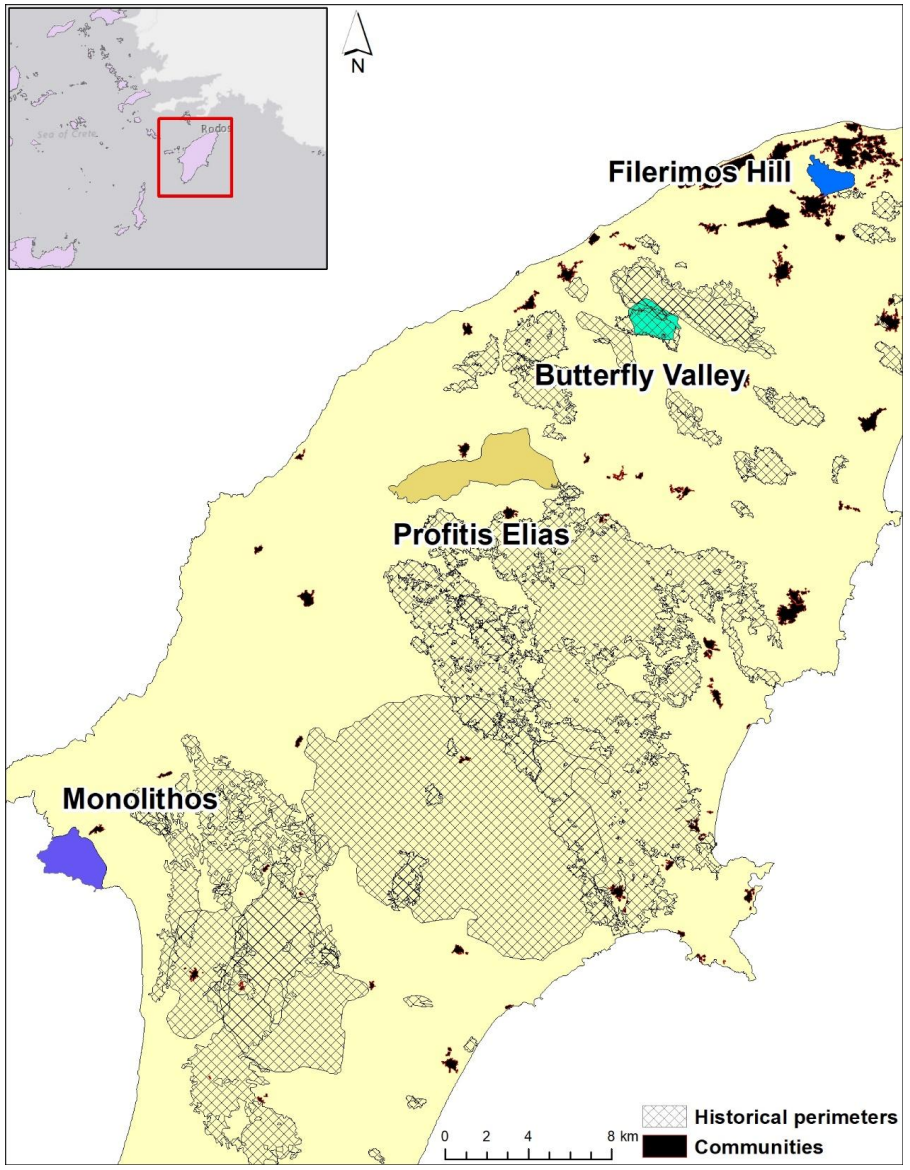


Ρόδος: Περιοχές Φυσικού Κάλλους

- **Σε ποιους τύπους βλάστησης ξεκινούν οι αναφλέξεις που φτάνουν ή καίνε μέσα στις περιοχές φυσικού κάλλους;**







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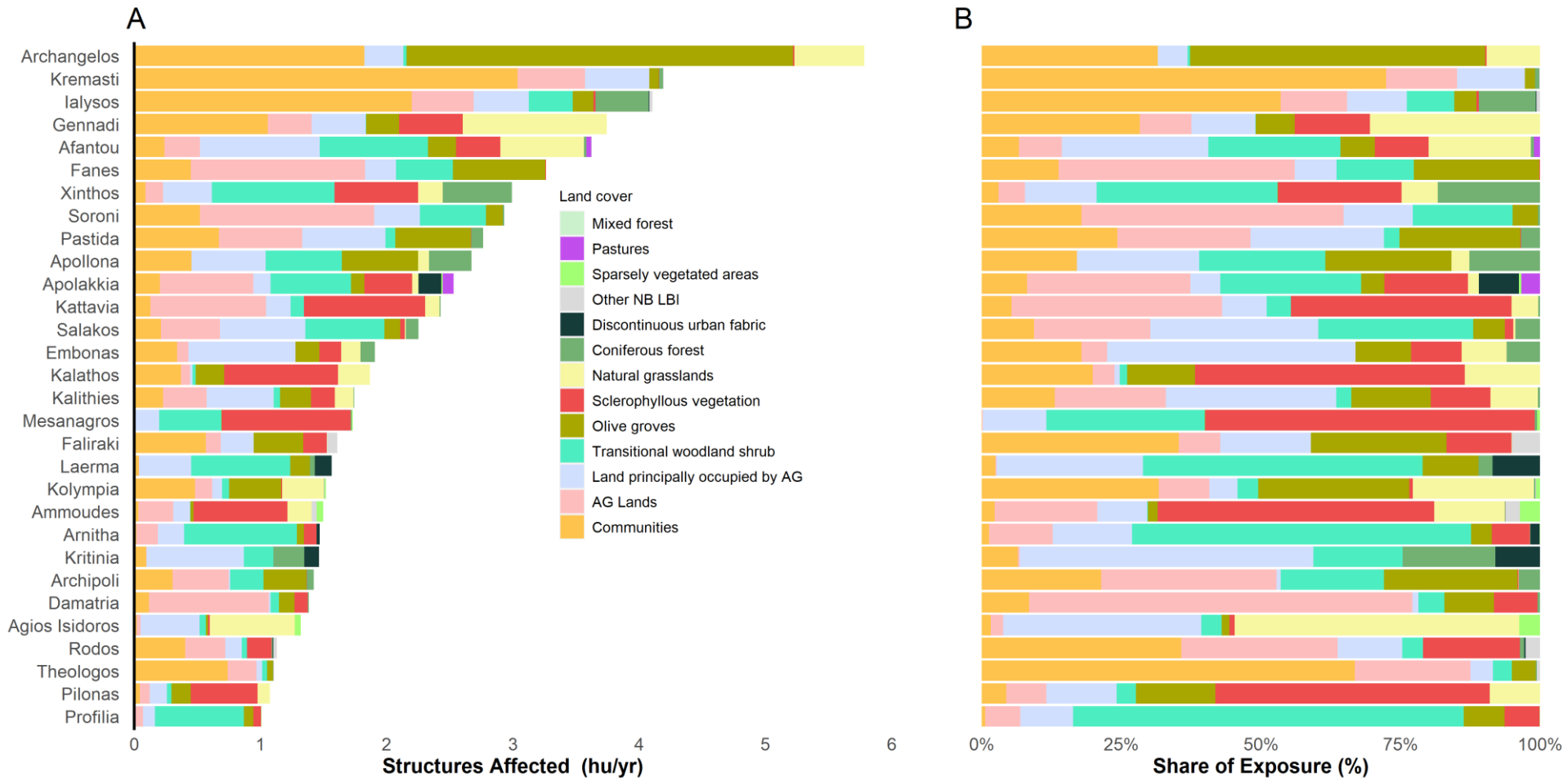
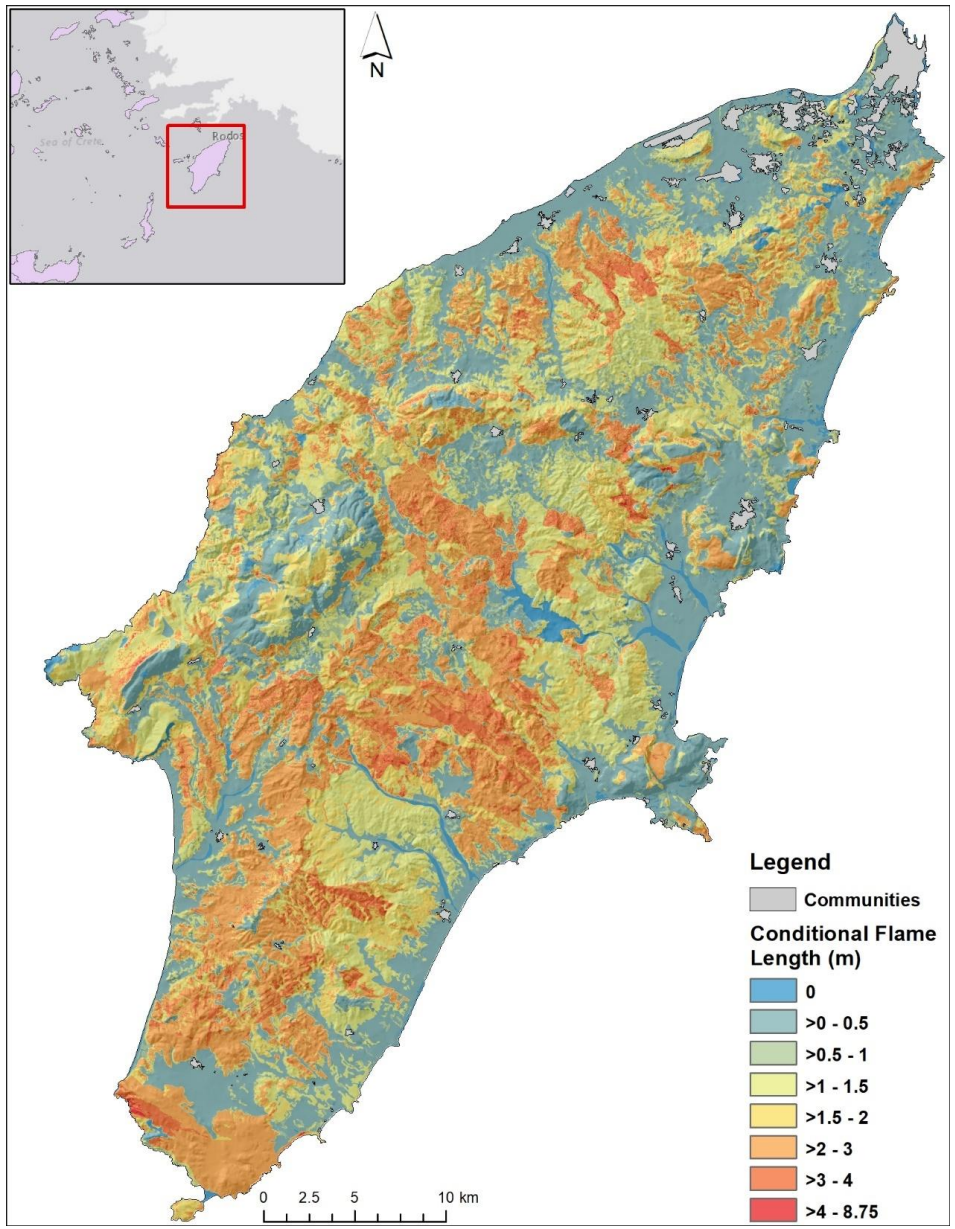
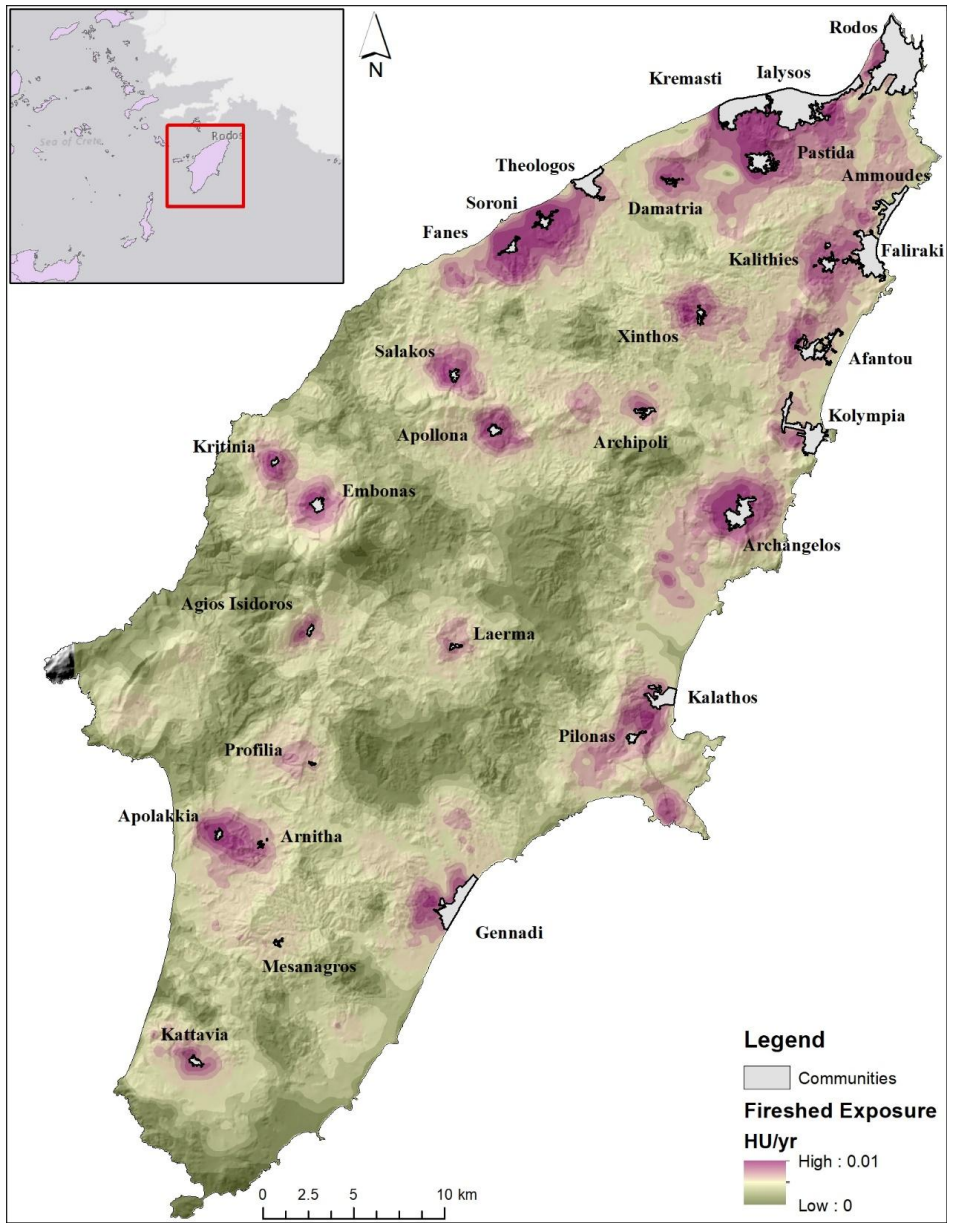
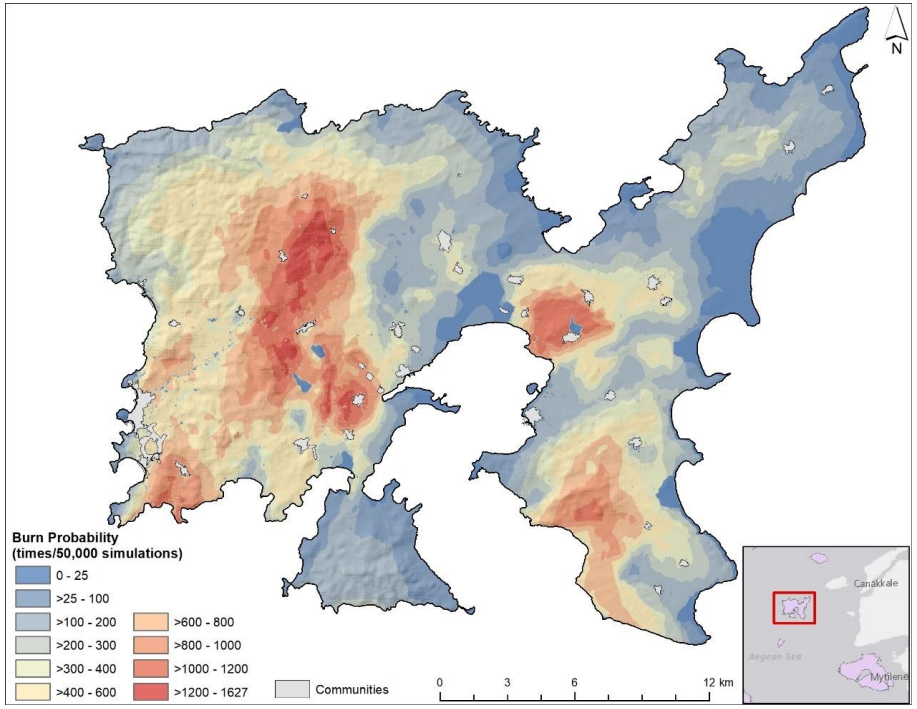


Ένταση πυρκαγιών και περιοχές από όπου ξεκινούν οι πυρκαγιές που φτάνουν στους οικισμούς



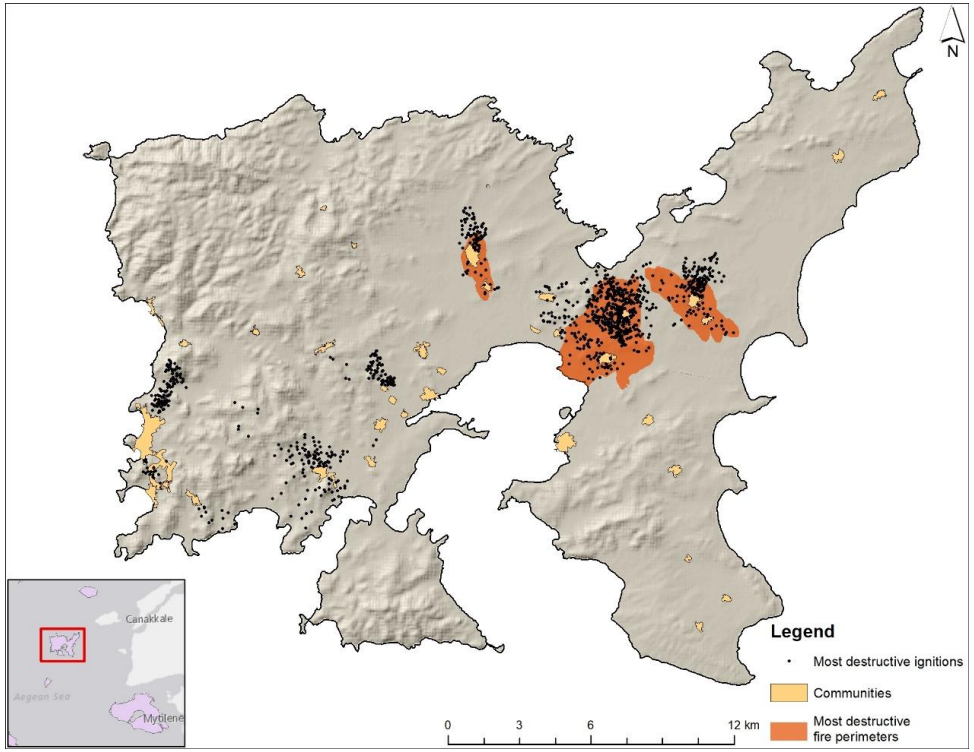


Λήμνος: Περιοχές Φυσικού Κάλλους

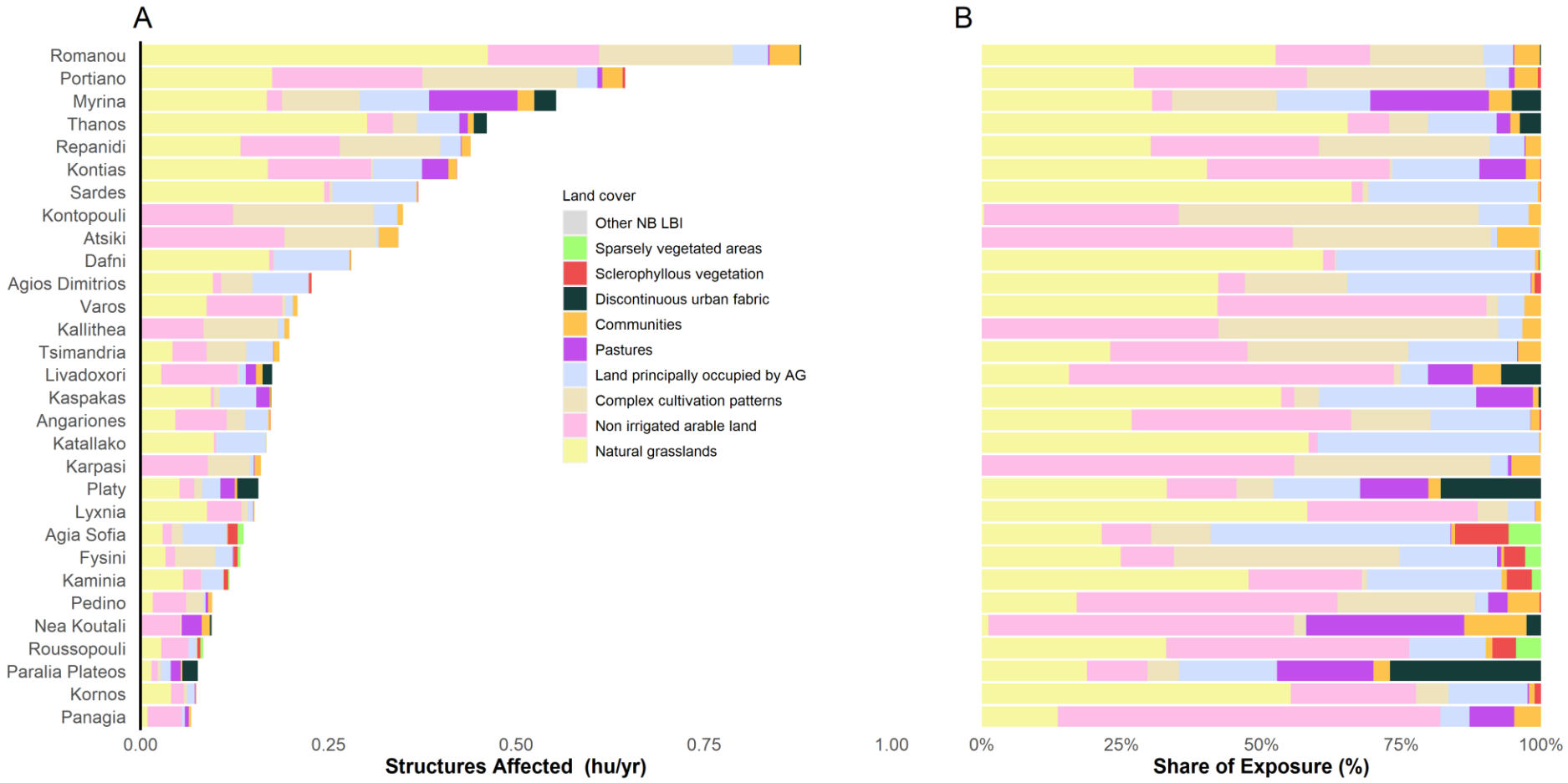


Πιθανότητες καύσης από μελλοντικές πυρκαγιές

Πού ξεκινούν οι καταστροφικότερες πυρκαγιές που μπορούν να φτάσουν σε οικισμούς;



Οι 30 οικισμοί με τη μεγαλύτερη έκθεση στις πυρκαγιές



Ένταση πυρκαγιών και περιοχές από όπου ξεκινούν οι πυρκαγιές που φτάνουν στους οικισμούς