



**Mediterranean  
Network**

FORUM/22

# Mediterranean Forest Research Agenda **2030**



**WEBINAR #2**

**Forest resilience in a context of  
global change-related forest  
disturbances**

*Joan Pino,*  
**CREAF**

Centre for Research on Ecology and  
Forestry Applications

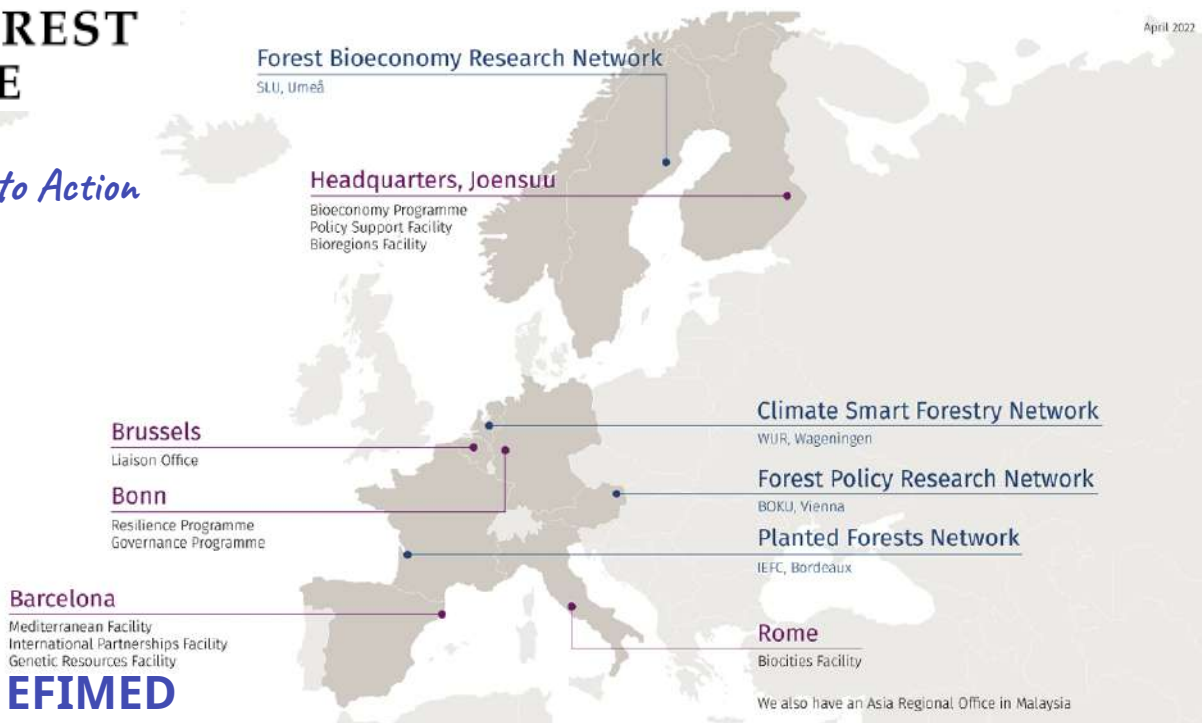
10 Nov. **2022**



# EUROPEAN FOREST INSTITUTE

*Connecting Knowledge to Action*

April 2022





# Mediterranean Network FORUM/22

**Barcelona**

29 Nov. – 1 Dec.

**2022**

# Mediterranean Forest Research Agenda 2030



WEBINAR SERIES

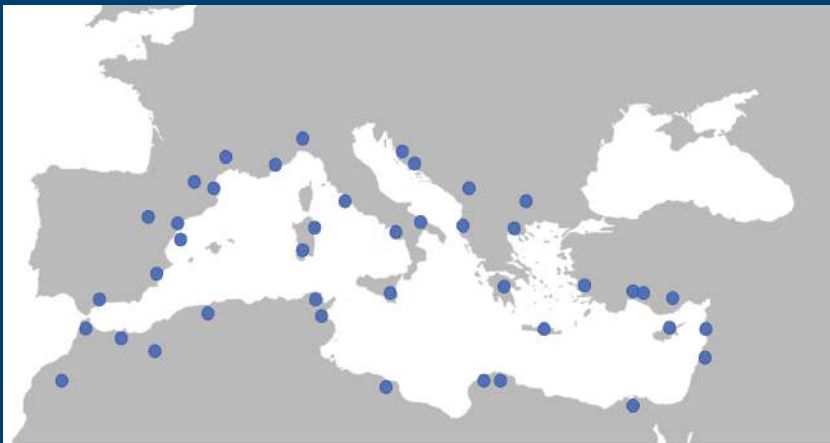


**Mediterranean  
Network**  
**FORUM/22**



Q2

**4 commissioned papers**







Mediterranean  
Network

FORUM/22

# Mediterranean Forest Research Agenda **2030**

▶ WEBINAR #1

Forest management addressing  
trade-offs and synergies  
between multiple ecosystem  
services

*Davide Travaglini,*  
University of Florence  
3 Nov. **2022**



Mediterranean  
Network

FORUM/22

# Mediterranean Forest Research Agenda **2030**

▶ WEBINAR #2

Forest resilience in a context of  
global change-related forest  
disturbances

*Joan Pino,*  
CREAF  
Centre for Research on Ecology and  
Forestry Applications  
10 Nov. **2022**



Mediterranean  
Network

FORUM/22

# Mediterranean Forest Research Agenda **2030**

▶ WEBINAR #3

Conservation and management  
of biodiversity and forest  
genetic resources

*Bruno Fady,*  
INRAE  
French National Institute for  
Agriculture, Food, and Environment  
17 Nov. **2022**



Mediterranean  
Network

FORUM/22

# Mediterranean Forest Research Agenda **2030**

▶ WEBINAR #4

Social and business innovations  
and policy instruments to  
implement the Mediterranean  
forest-based bioeconomy

*Laura Secco,*  
University of Padova  
23 Nov. **2022**



**Mediterranean  
Network**

FORUM/22

# Mediterranean Forest Research Agenda **2030**



**WEBINAR #2**

**Forest resilience in a context of  
global change-related forest  
disturbances**

*Joan Pino,*  
**CREAF**

Centre for Research on Ecology and  
Forestry Applications

10 Nov. **2022**



# European Forest Institute Mediterranean Facility



Mr. Michele Bozzano



Giuseppe Tripodi



Prof. Magda Bou Dagher Kharrat



Eduard Mauri



Sarah Adams



Carola Chiusi



Gerard Fernández



Siebe Briers



Cecilia Fraccaroli



Governance



Miss Rhea Kahale



Mediterranean Youth Task ...



Mlle Leila Rossa Mouawad



Mediterranean Youth Task ...



Ms. Hiba Mohammad



Mediterranean Youth Task ...



Mr. Moustapha KOLAWOLE



Mediterranean Youth Task ...



Miss Federica Romagnoli



Mediterranean Youth Task ...



**Joan PINO - CREAM**



**Josep Peñuelas**



**Jordi Sardans**



*forests*



*Review*

# **Global Change and Forest Disturbances in the Mediterranean Basin: Breakthroughs, Knowledge Gaps, and Recommendations**

**Josep Peñuelas <sup>1,2</sup>  and Jordi Sardans <sup>1,2,\*</sup> **

<sup>1</sup> CSIC, Global Ecology Unit CREAM-CSIC-UAB, 08913 Bellaterra, Spain; josep.penuelas@uab.cat

<sup>2</sup> CREAM, 08193 Cerdanyola del Vallès, Spain

\* Correspondence: j.sardans@creaf.uab.cat

<https://doi.org/10.3390/f12050603>



# Expert's view

**Mr. Daniel Abel-Schaad-**  
Universidad de Granada



- Ecology
- Botany
- Biodiversity conservation
- Climate Change
- Paleoecology



**Mr. MOHAMED IDBELLA**  
University of Naples Federico II  
Hassan II University, Morocco

**Mrs. Elsa Varela**  
Bioeconomy and governance  
CTFC - Centre de Ciència i  
Tecnologia Forestal de Catalunya

**Mrs Cristina Quintas Soriano**  
Department of Biology and Geology  
University of Almería

cf. their papers in the RESOURCES section



15 min

## Discussion #1

### Questions:

- 1) what is the area covered by Med. Forest sensu lato?
- 2) Do the data show a comprehensive overview of med.Forest?
- 3) How to cope with seasonal changes ?
- 4) Which are the resources that countries have to deal with climate change related hazards? -> Unbalance of resources among countries that area affected by climate change issues
- 5) Current forest management strategy is the main cause for wild fire?  
Under debate, on one hand it influence but unclear if there is strong and verified connection

### Needs:

- 1) Develop specific management plans for specific cases/ areas -> conduct research at local level
- 2) Take into consideration future changes in: intensity, severity, frequency and length of drought
- 3) Have a Mediterranean forest plan that include all the countries in med. area

### challenges:

1. define what is mediterranean forest -> very diverse region with a variety of landscape
2. Landscape variety
- 3) Climate models: modified seasonal length

### Opportunities:

Some areas that are not typically mediterranean ( ex in Italy or Balkans) will become mediterranean in the future: they can should be included as med.Forest to have adequate management policy in the future

Take lessons from what is already happening in south of med. rim to address challenges that will affect the north rim in the future

# Key research questions identified:

- 1- How is climate change transforming **forest structures**, especially regarding changes in **precipitation** and increases in **temperature** and aridity?
- 2- What are the key elements of **plant-soil interactions** in relation to nutrient and carbon cycling under increasing aridity and leaching of nutrients?
- 3- How have tree **morphology, physiology, growth, reproduction, and mortality** responded to, or been influenced by climate-change impacts?
- 4- What is the role of Mediterranean forests in the **creation of rainfall**?
- 5- What **integrated approaches to conservation and management** can improve the resilience of forests including those involving microbes, fungi, lichens, and animals that are sensitive to the impacts of drought, fire, and other disturbances?
- 6- How do **disturbances create or accelerate changes** in forest ecosystems? What are the consequent **effects on the economic and social functions** of such shifts on species? How to **build back** better adapted ecosystems?
- 7- What **management approaches** help develop forest resilience without compromising their economic, social and biodiversity-related ecosystem services. (e.g., approaches such as reforestation, afforestation, and livestock management?)
- 8- How might comprehensive **land abandonment** impact and promote key future changes for both ecosystems and local communities?



Go to **menti.com**

The voting code

**7378 7068**





# Q 2: You are ...

0  
NGO representative

0  
Policy maker

8  
Researcher

3  
Student

0  
Forest manager

1  
Forest owner

0  
Government representative

1  
UN agency representative

0  
Public administration

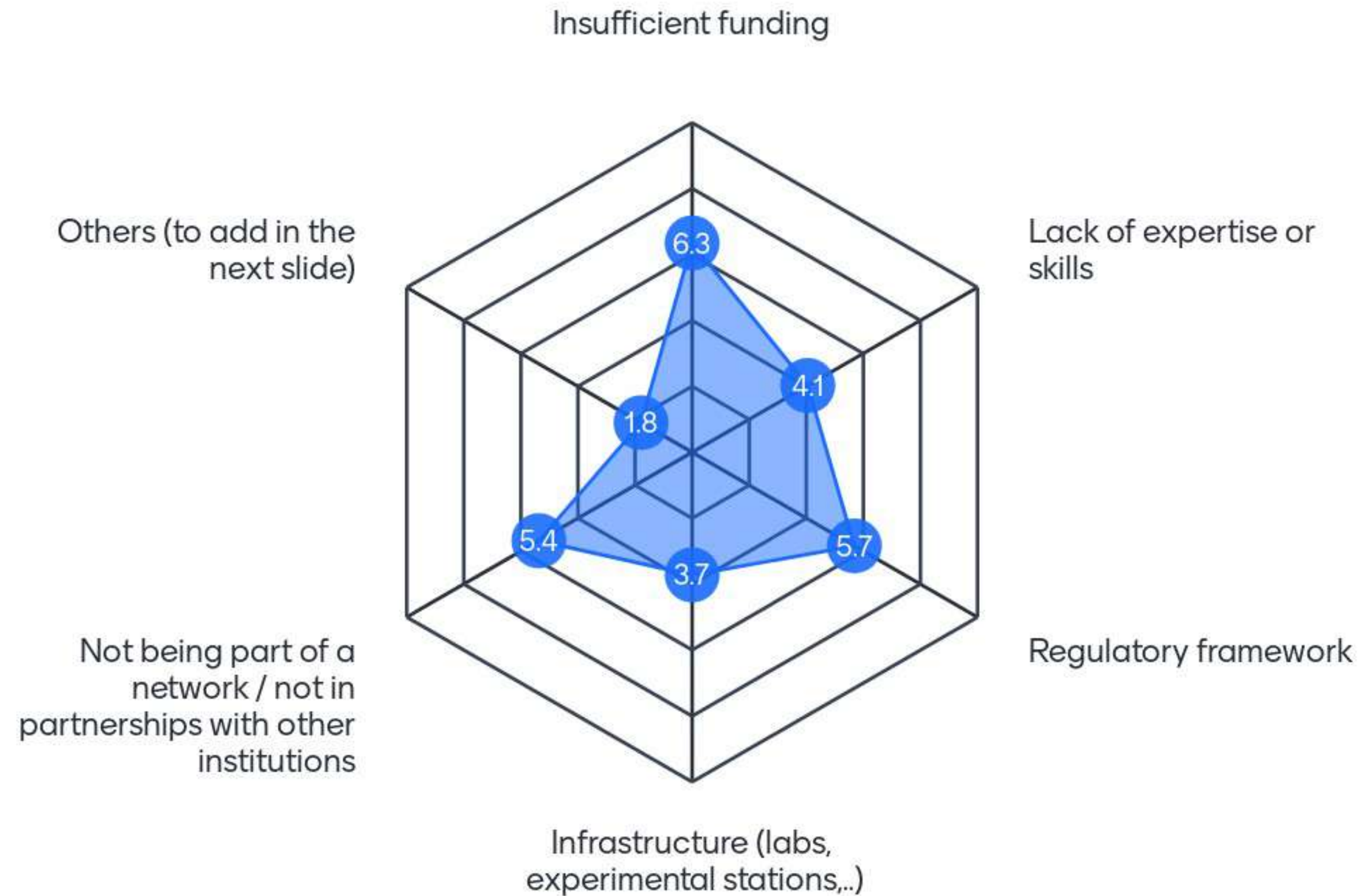


# Please rate how relevant are those questions for your country





# Q 3: The main challenges in your country to implement the research proposed are ?





# Q 4: What are the additional challenges to implement this work?

forest fragmentation  
 fragmented property  
 rural social problems  
 expert skills  
 different stakeholder  
 e economy nobody can mana  
 different interests  
 conflicting interests  
 investigation networks  
 include practioners  
 ge for free to understand  
 to avoid constraints to m  
 lack of cooperation  
 no integrative approach  
 anage by biodiversity ite  
 id rural abandon  
 forests aren't managed  
 fragmented responsibility  
 listen to landowners  
 lack of profit from fores  
 what is happen must be su  
 to have certain and secur  
 lack of forest management  
 lack of working force  
 lack of common ground  
 we consider important avo  
 ms is one contradiction i  
 pported by some budget  
 forests aren't profitable  
 different usages  
 real colaboration  
 desertification  
 rural abandonment  
 communication



# **Menti Results**

**Q#1 : Are the research questions relevant to your country?**

**Q#2 : Is there any missing research question?**

# **Challenges for implementation**

What are the main challenges in your country to implement the research proposed are ?

# RESOURCES - Featured scientific papers

[Global Change and Forest Disturbances in the Mediterranean Basin: Breakthroughs, Knowledge Gaps, and Recommendations](#)

[Are Cedrus Atlantica forests in the Rif Mountains of Morocco heading towards local extinction?](#)

[Impact of prescribed burning, mowing and abandonment on a Mediterranean grassland: A 5-year multi-kingdom comparison](#)

[Effects of land abandonment on nature contributions to people and good quality of life components in the Mediterranean region: A review](#)

[Soil degradation in the European Mediterranean region: Processes, status and consequences](#)<https://doi.org/10.1016/j.scitotenv.2021.150106>

[Long Term Post-Fire Vegetation Dynamics in North-East Mediterranean Ecosystems. The Case of Mount Athos Greece](#)<https://doi.org/10.3390/fire4040092>

[\*\*Unravelling opportunities, synergies, and barriers for enhancing silvopastoralism in the Mediterranean\*\*](#)

# RESOURCES - Projects

**RESONATE** : <https://resonateforest.org/>



**FIRE-RES**: <https://fire-res.eu>



**FIRE-RES**

**TREEADS**: <https://treeads-project.eu>



**INTEGRATE** : <https://integratenetwork.org/>

**ResAlliance**: <https://cordis.europa.eu/project/id/101086600>

# RESOURCES - Videos

[Enhancing the resilience of European forests - from concept to forest management application](#)

**Forest Resilience bond (US)**: <https://www.youtube.com/watch?v=rwbXzTNwiww>





## Participants from around the Mediterranean

