

# INFORMED



Algeria (INRF, UMMTO) ; Bulgaria (UF) ; Croatia (IAC, CFRI, UZ) ; France (INRA, AgroParisTech) ; Greece (AUTH) ; Italy (CNR, UNIPD) ; Portugal (ISA) ; Slovenia (SFI, ULJ-BF) ; Spain (CREAF, CTFC, INIA, UVA, CETEMAS) ; Tunisia (INRAT, INRGREF)

## INtegrated research on FOrest Resilience and Management in the mEDiterranean

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Mediterranean climate regions are a hotspot for biodiversity, with many endemic species adapted to their hot dry summers and mild winter conditions. Human societies have for centuries adapted their socio-economic systems to constrained climatic conditions and related risks (drought, fire, etc.) that now, under most climate change scenarios, are expected to expand rapidly at a larger scale.

However, climate change is expected to be particularly severe at these latitudes and climatic fluctuations have a higher impact in those fragile areas : tipping points can be crossed with low fluctuation.

Therefore, advancing on the understanding of the resilience mechanisms of Mediterranean forest social-ecological systems is a general concern but also a potential relevant source of information for other areas.

Aiming to propose solutions to foster resilience of Mediterranean forest systems through managing biodiversity, the research project INFORMED, funded by the ERA-Net FORESTERRA, is conducted by a multidisciplinary consortium of 21 research groups from 10 countries, representing both the Northern and Southern Rim.

The project aims to : (1) produce global change scenarios specifically dedicated to the Mediterranean forests, (2) develop quantitative assessment of biodiversity and functional response of Mediterranean forests to disturbance and management, (3) develop integrated assessment of ecosystem services and their dynamics based on ecosystem functions and their economic evaluation, and (4) evaluate adaptive management strategies, policy and governance options for their expected impact on resilience of Mediterranean forests.



Mediterranean forests provide multiple goods and services



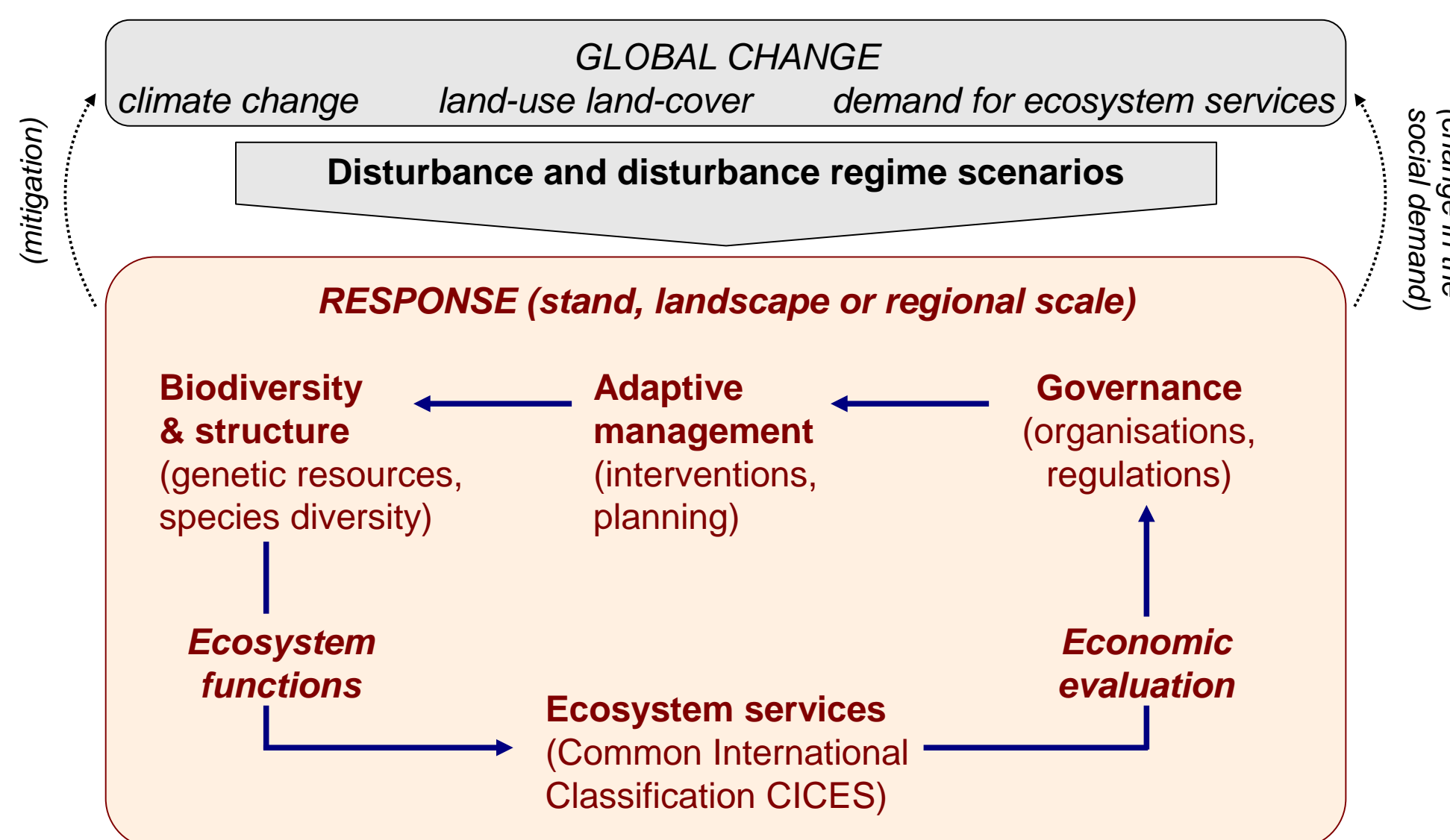
Prescribed burning is an example of controlled disturbance used as a forest management tool for fire prevention, sometimes also used for biodiversity management



Biodiversity is a trajectory : this old *Quercus pubescens* tree inside a *Pinus sylvestris* stand is a legacy of past coppice management.



Resilience : this oak had dropped its leaves during a severe drought event to avoid waste of water by transpiration, it now recovers

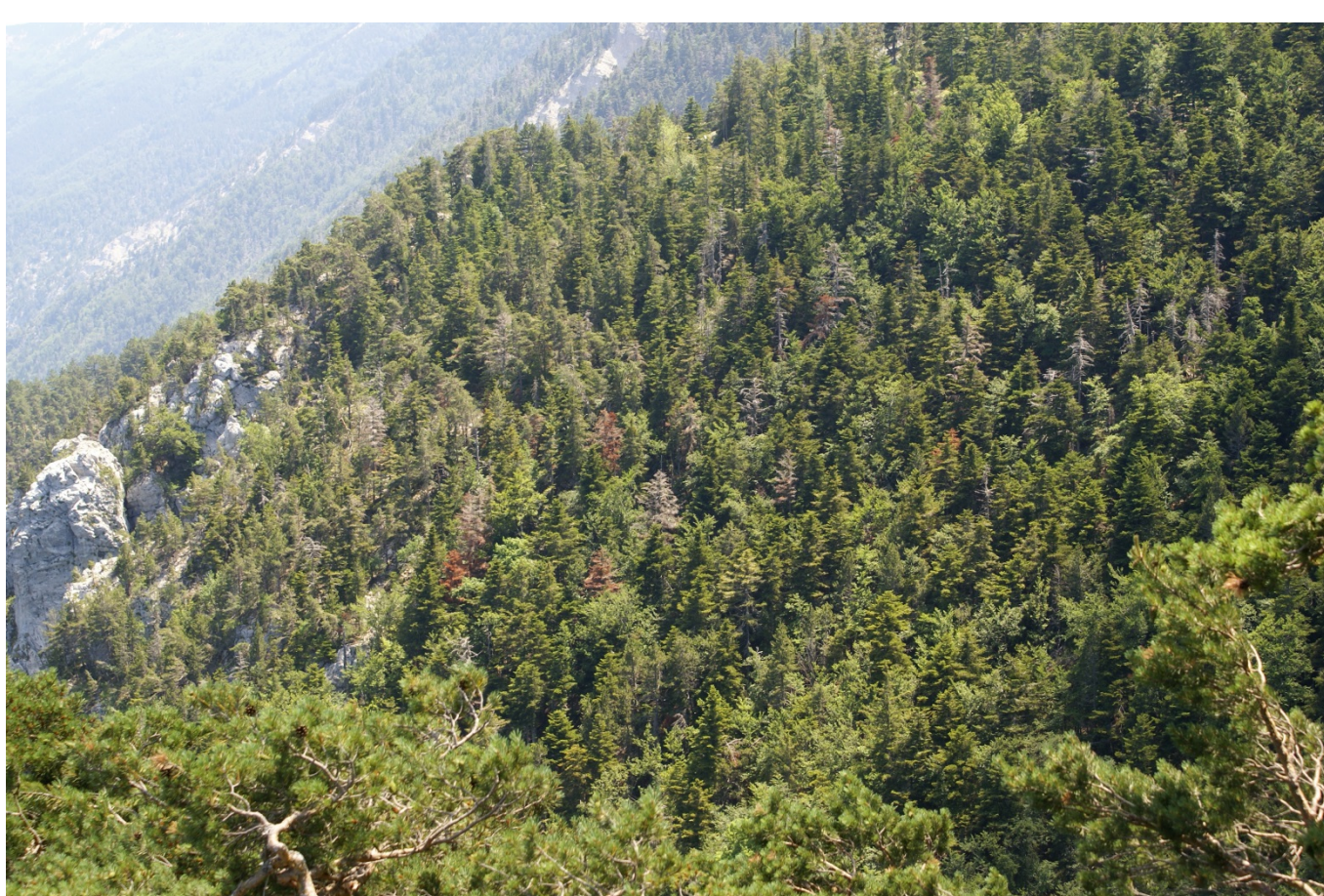


INFORMED relies on a process-based approach that integrates knowledge (i.e. data and models) issued from a broad range of case studies representing various forest types, socio-economic assets and global change scenarios found in the area, from Northern Africa to the Mediterranean margins of temperate forests.

Integrated (●) and focused (●) case studies are related by forest types, management, spatial scales and global change scenarios.

Mediterranean forests are viewed as complex social-ecological systems where management, ecological and socio-economic processes operate at different spatial-temporal scales and interact, determining their response to disturbance and disturbance regime scenarios.

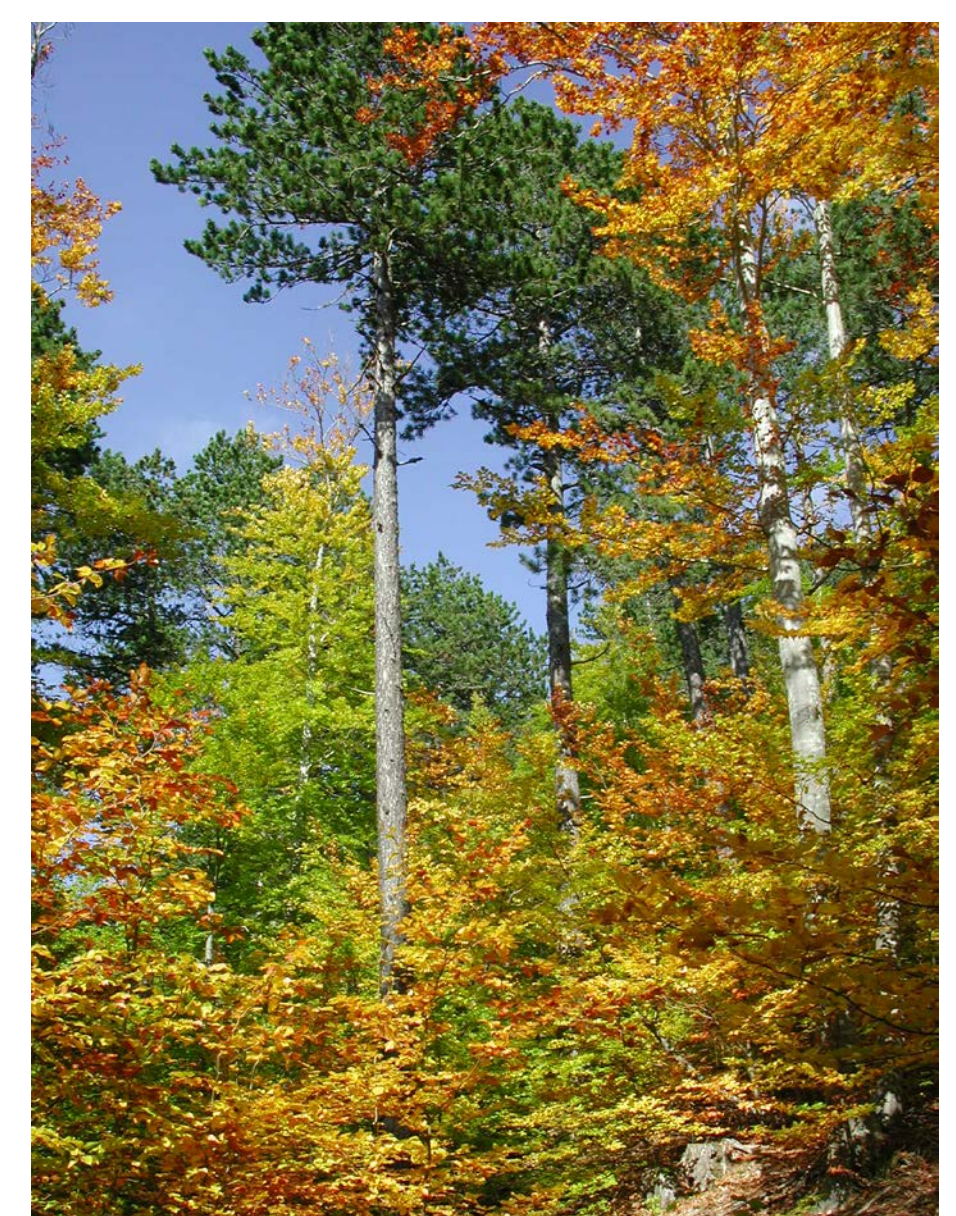
Mediterranean forests resilience results from the interplay between human decisions and natural processes. Considering the context of change, facing increased hazards and uncertainties, a new paradigm emerges where adaptation and long term preservation of options are both needed, following a more flexible approach to managing forests.



Severe climatic events now occur more frequently, Mediterranean forest ecosystems respond in terms of biodiversity and function



Adaptation : scientists and practioners share their expertise to better understand the processes that drive the forest trajectory in the mean and long-term



Biodiversity is not only a reservoir of different living forms but also a set of processes that permanently puts the system in evolution