European Commission

FOREST FIRES

Sparking firesmart policies in the EU

R&I Projects for Policy

International Association of fire Safety Science
Workshop to define a Fire Safety Mission for Europe

Context of the P4P on Forest Fires

- **2017 Fire Season**

- **Juncker's speech - 18 October 2017**
- **Open letters & MEPs questions to the European commission**

- **R&I initiative to address the challenge**
  - need for advanced research in critical areas of fire science (e.g., safety technologies)
  - particular efforts to communicate and disseminate the results of EU R&I on forest fires.
  - Increase uptake of R&I knowledge, methods and tools by forest fire practitioners

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Outline

- introduction
- EU wildfire context
- EU Forest Fire Research
- Policy considerations
- coming next

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Each year in the EU...

65 000 Fires

€2.2 billion spent in firefighting

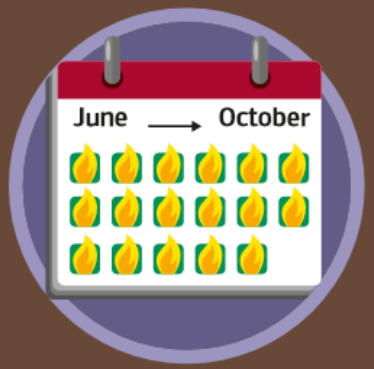
€3 billion economic damage

480 000 Ha forests burned

avg. 34 firefighters and civilians killed

(26/07/2015) Odena wildfire in Catalonia © LIFE MONTSERRAT

More people will be at risk, for longer periods of time



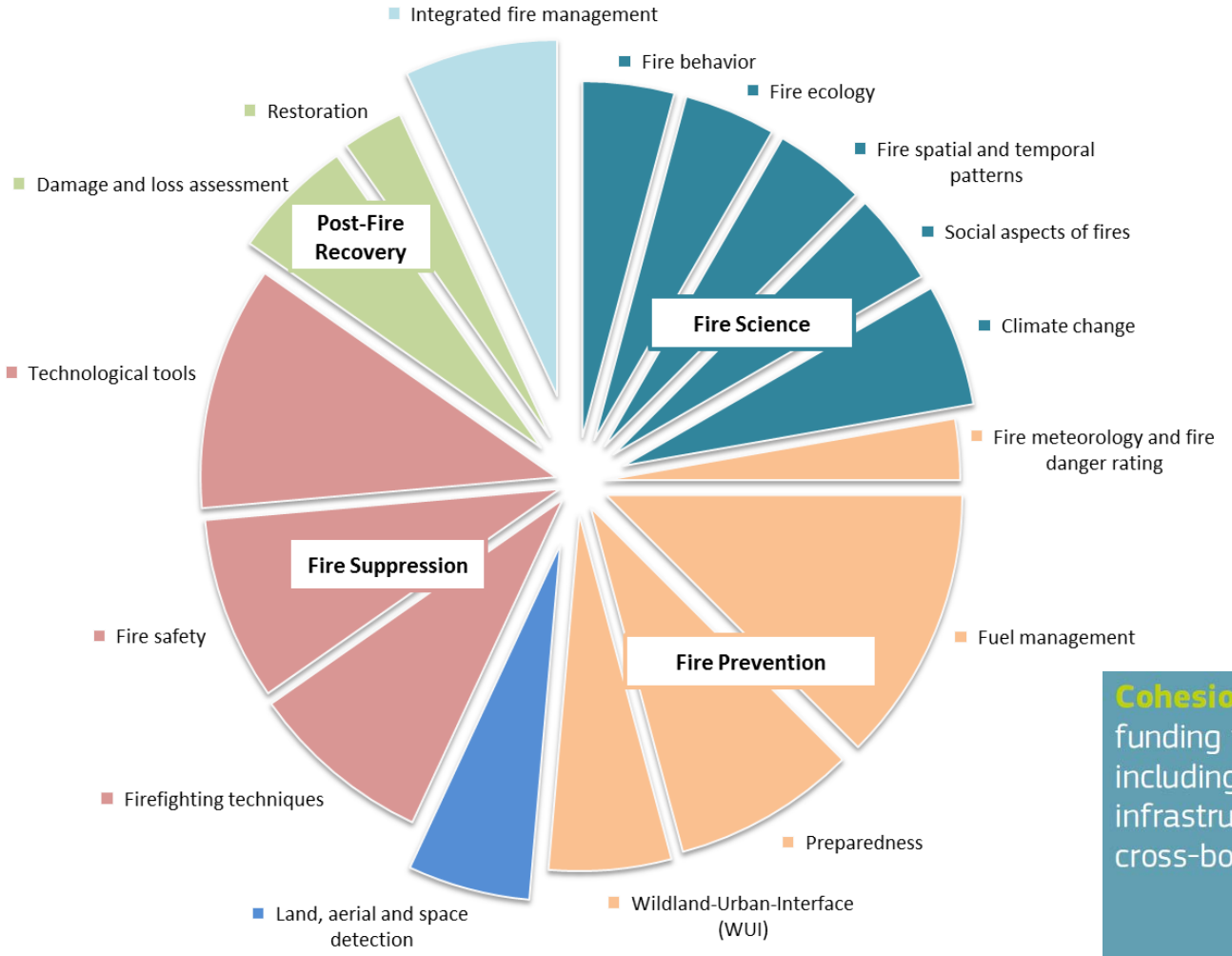
longer fire seasons

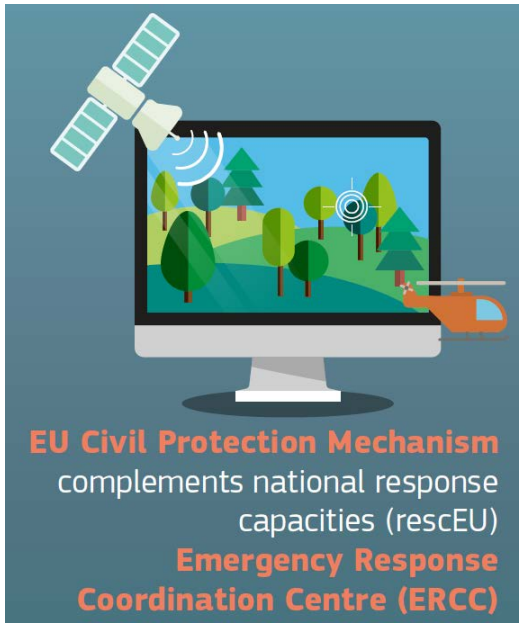
more fire-prone areas

new wildfire context with mega-fires

Portfolio of projects: review of EU-funded research

57 Projects & 6 Research areas





P4P – from results to recommendations

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Policy challenges

Effective forest fire management and decision-making requires science-based information

New wildfire context calls for better prevention and preparedness

Firefighting and rescue services need better coordination

Laws and policies must be adapted in fire-vulnerable areas

Landscapes and communities need to become more resilient to forest fires

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R&I contribution - Advancing our scientific understanding

how forest fires are changing in time and space

- **Trends in fire frequency and burned area in southern Europe are not following those of climate change, suggesting the importance of country-level structural factors (FIRE PARADOX, FUME, GRADIENT)**

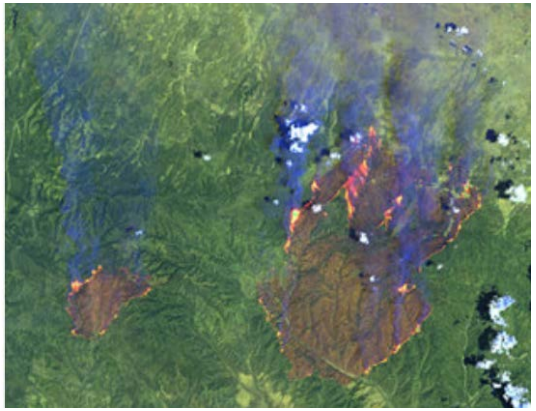
how ecosystems respond to fire

- **shifts in vegetation dominance (from *Pinus* to *Quercus* species) may occur as a result of one fire owing to past management practices (FUME, FIRESCAPE and FILE)**

how the climate will change and will affect future fire conditions

- **vegetation-fire models and climate scenarios indicate that changes in land use and land cover affecting forest productivity may constrain fires where these are prevalent today (e.g., Iberian Peninsula) and that other areas such Eastern Europe, may become a fire hotspot under unabated climate change (EARLYHUMANIMPACT, FUME, HESFIRE)**

R&I contribution - Supporting operational management



How to detect a forest fire in the initial stage

- **projects contributed to reducing the high rate of false alarms typically associated with these systems through the development and use of appropriate sensors and algorithms (FIRESENSE and ODS3F)**

how to develop special firefighting techniques

- **Strategic Management Points enable reducing fire spread speed and intensity while ensuring a secure point for firefighters (LIFE DEMORGEST)**

how to improve fire resistance and resilience in highly fire-prone systems

- **A toolbox (MOTIVE) for adaptive forest management under climate change contributed to equip forest managers with methods for strategic forest management planning**

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R&I contribution - Better-informed decision-making

how to cope with more severe forest fires in Europe

- **fire risk communication toolkit and specific assistance to national civil protection authorities (FIRELIFE and eFIRECOM)**

how to estimate wildfire risk probability and severity at different scales

- **geospatial methodology to classify forest vegetation into fuel types in Europe and map them (ArcFUEL) This methodology, based on EFFIS classification, allows production of reliable and accurate estimations of wildfire spread and behaviour for improved decision-making**

Recommendations for policymakers

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Recommendations for policymakers

- promote the use of decision-support systems
- train and equip multidisciplinary teams
- use of new fire-suppression techniques or firefighting products

- target the reduction of fire ignition as well as the management of fuels
- combine prevention with socioeconomic and environmental benefits, e.g. further support bioeconomy value chains

- cross-sectoral approach to guarantee effective collaboration
- effective multilevel coordination - harmonisation of wildfire regulations

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Recommendations for policymakers

- promote knowledge exchange
- regulation of the use of fire as a fuel-management and suppression tool
- rehabilitation of burned areas

- enhance citizen awareness through targeted education curricula
- citizen engagement and accountability
- transparent governance mechanisms

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Coming next

- P4P report available online since 22 November

ec.europa.eu/research/environment/forestfires

- 38th Meeting of the Commission EGFF
- 2018 European Forum on Disaster Risk Reduction
- Virtual P4P – pilot for the DRMKC (2019)
- ECCA 2019 in Lisbon
- Horizon 2020 call – Forest Fire risk reduction

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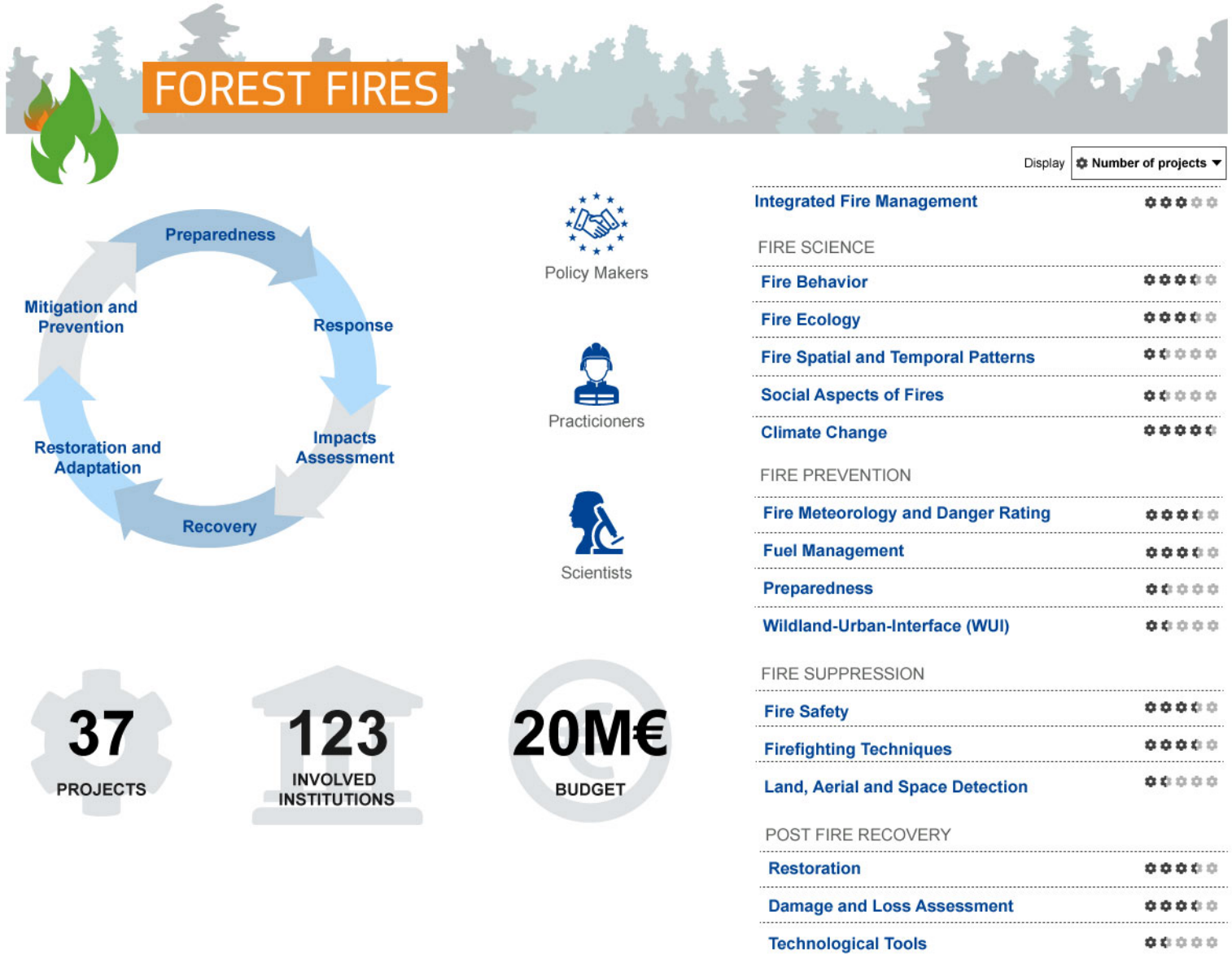
Virtual P4P – pilot for the DRM Knowledge Centre



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Virtual P4P – pilot for the DRM Knowledge Centre

FOREST FIRES

Mitigation and Prevention

Mitigation and Prevention
Policy Makers

Mitigation and Prevention

Restoration a Adaptation

Topic Area	Recommendations
Wildland-Urban-Interface (WUI)	Promote education and training on wildfire risk among vulnerable groups

Topic Area	Recommendations
Fuel Management	Promote residual forestry biomass exploitation targeted at private owners (e.g. markets for forest biomass residues and other low-value forest products)

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PROJECTS

INVOLVED INSTITUTIONS

BUDGET

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Wildland-urban interfaces (WUI)

Wildland-urban interface are the zones of transition between urban areas and wildlands or lands occupied by forests or shrublands. These zones are generally at risk of wildfires.

Challenges

The abandonment of rural lands and the expansion of urban areas led to the creation of important interfaces between houses and other built infrastructures with forests and other vegetation types with high fuel load that, when burning, create very significant threats to people and make firefighting and other civil protection operations much more difficult to coordinate. This situation results in more intense wildfires able to devastate large geographic areas causing significant losses of human lives and property. This situation is expected to get worst due to the predicted decreases in precipitation and also increased temperature projected in the future climate scenarios.

Research in this topic area

Display: Number of partners

Project	Approach	Achievements
FIRE-PARADOX	■ Recommendations for planning and management of WUI areas	■ An useful GIS tool in the mitigation of the harmful effects of wildfires and for fuel reduction planning efforts in Europe ■ On-line platform for external communication to involve communities and enhance public awareness ■ Technical guide to map and characterize WUI
FUME	■ Systems to evaluate and map wildfire risk	■ A map tool (RUIMap)- an easy-to-use software designed for RUI mapping at different scales: local, regional, and global
WUIWATCH	■ Platform to exchange experiences and knowledge for all involved in forest fires at the WUI interface	■ Web site which includes a permanent discussion forum, an online application and a knowledge base for experience capitalisation, documents repository, a transversal search engine, evaluation tools, and several complementary and expandable databases
SMART FIRE BARRIER	■ Development of a business model for providing technology in fire prevention and firefighting in WUI areas	■ Technological products useful in firefighting at the WUI. Those are low cost, safe, easy to use and based on sustained technology products

Priorities for future research

- Further dedicated work on wildfire events, wildfire behavior and specific firefighting and life protection aspects at the WUI
- Study on the heterogeneous fuel complexes around urban areas for better simulations
- The research on the implications of climate change in the wildfire problem at the WUI
- Creation of databases that have to be built continuously to give updated recommendations and guidance for best practices

Recommendations for stakeholders

Stakeholder	Recommendations	
Policy Makers	Promote education and training on wildfire risk among vulnerable groups	PARTNERSHIP
Practicioners	Promote residual forestry biomass exploitation targeted at private owners (e.g. markets for forest biomass residues and other low-value forest products)	KNOWLEDGE
Scientists	Promote residual forestry biomass exploitation targeted at private owners (e.g. markets for forest biomass residues and other low-value forest products)	INNOVATION

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