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**
  - fires early in the season
  - complex rural/forest interfaces
  - hazardous landscapes
  - severe weather conditions
  - multiple countries affected

- **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
Outline

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

EU forest strategy
actions to support sustainable forest management

57 Projects & 6 Research areas

Post-Fire Recovery
- Integrated fire management
- Fire behavior
- Fire ecology
- Fire spatial and temporal patterns
- Social aspects of fires
- Climate change
- Fire meteorology and fire danger rating

Fire Science
- Technological tools
- Damage and loss assessment

Fire Suppression
- Fire safety
- Firefighting techniques

Fire Prevention
- Preparedness
- Land, aerial and space detection
- Wildland-Urban Interface (WUI)

Disaster Risk Management
Knowledge Centre

EU Civil Protection Mechanism
complements national response capacities (rescEU)
Emergency Response Coordination Centre (ERCC)

Cohesion Policy
funding for prevention and preparedness, including support for civil protection units, infrastructure, education, training and cross-border coordination
P4P – from results to recommendations

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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.
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)
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
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)

• 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

how to estimate wildfire risk probability and severity at different scales
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
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
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
Virtual P4P – pilot for the DRM Knowledge Centre

**FOREST FIRES**

- Preparedness
- Mitigation and Prevention
- Restoration and Adaptation
- Response
- Impacts Assessment
- Recovery

**Display**

- Number of projects

### Integrated Fire Management

- FIRE SCIENCE
  - Fire Behavior
  - Fire Ecology
  - Fire Spatial and Temporal Patterns
  - Social Aspects of Fires
  - Climate Change

- FIRE PREVENTION
  - Fire Meteorology and Danger Rating
  - Fuel Management
  - Preparedness
  - Wildland-Urban-Interface (WUI)

- FIRE SUPPRESSION
  - Fire Safety
  - Firefighting Techniques
  - Land, Aerial and Space Detection

- POST FIRE RECOVERY
  - Restoration
  - Damage and Loss Assessment
  - Technological Tools

- **37 PROJECTS**
- **123 INVOLVED INSTITUTIONS**
- **20M€ BUDGET**
Virtual P4P – pilot for the DRM Knowledge Centre

Mitigation and Prevention

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

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

Wildland-urban interfaces (WUI)

**Challenges**
The co-existence of rural lands and the expansion of urban areas led to the creation of improper interfaces between houses and other built infrastructures with forests and other vegetation types with high fuel load that, when burned, create very significant threats to people and make firefighting and other civil protection operations much more difficult to coordinate.

**Research in this topic area**

**Recommendations for stakeholders**

- Promote education and training on wildfire risk among vulnerable groups
- Promote residual forestry biomass exploitation targeted at private owners (e.g., markets for forest biomass residues and other low-value forest products)

**PROJECTS**

- ArchFuel
- Energoscrub
- Fume
- Life Demorest
- FireSmart

**INSTITUTIONS INVOLVED**

**BUDGET**

- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
Nicolas Faivre
DG Research and Innovation
Sustainable Management of Natural Resources
nicolas.faivre@ec.europa.eu