Debate on “Climate change and forest fires in Europe”

Sustainable forest management and rural fires
from a Southern European perspective

João Soveral - jsoveral@cap.pt
Sustainable forest management and rural fires from a Southern European perspective

Portugal

No major variation in the (average) burnt area
Sustainable forest management and rural fires from a Southern European perspective

Portugal burnt area (1980 – 2018)

- Forest stands
- Shrub
- Forest spaces
PORTUGAL BURNT AREA (1990 - 2018)

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Portugal - Burned areas (1990 - 2018)

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No major variation in the average burnt area by decade in the last 30 years

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Yet, a reduction in the number of occurrences has been achieved.
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Portugal

Dramatic change in the fire regime
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Dramatic change in the fire regime in the last 20 years

- 2003 – 425,839 hectares
- 2005 – 339,089 hectares
- 2007 – 32,595 hectares
- 2008 – 17,565 hectares
- 2014 – 19,930 hectares
- 2017 – 442,418 hectares
- 2018 – 35,605 hectares

PORTUGAL BURNT AREA (1998 - 2018)

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Large and very large rural fires in Portugal (1988 – 2017)

> 500 hectares

> 1.000 hectares
Large and very large rural fires in Portugal (1988 – 2017)
Portugal

Farmland abandonment
Evolution of agricultural area in Portugal in use (1979 – 2009)

Agricultural area: - 29,2 %

Number of farms: - 61,1 %
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Portugal

Dramatic change in demography in rural spaces

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Potential Sustainability Índex (PSI)

<table>
<thead>
<tr>
<th>Territórios</th>
<th>Índice de Sustentabilidade Potencial</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1960</td>
</tr>
<tr>
<td>Portugal</td>
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<tr>
<td>Continente</td>
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<tr>
<td>Norte</td>
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<tr>
<td>Centro</td>
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<td>Área Metropolitana de Lisboa</td>
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<td>Alentejo</td>
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<td>Algarve</td>
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<td>Região Autónoma dos Açores</td>
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<td>Região Autónoma da Madeira</td>
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<tr>
<td>Ignorado/Outro</td>
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</table>

1997-2004
### Portuguese municipalities with lower PSI

<table>
<thead>
<tr>
<th>Municipality</th>
<th>PSI 1997-2004</th>
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<tbody>
<tr>
<td>Melgaço</td>
<td>1.5</td>
</tr>
<tr>
<td>Vinhais</td>
<td>1.4</td>
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<tr>
<td>Nisa</td>
<td>1.4</td>
</tr>
<tr>
<td>Vimioso</td>
<td>1.4</td>
</tr>
<tr>
<td>Oleiros</td>
<td>1.4</td>
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<tr>
<td>Mação</td>
<td>1.3</td>
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<tr>
<td>Vila de Rei</td>
<td>1.2</td>
</tr>
<tr>
<td>Gavião</td>
<td>1.2</td>
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<tr>
<td>Sabugal</td>
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<tr>
<td>Pampilhosa da Serra</td>
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</tr>
<tr>
<td>Idanha-a-Nova</td>
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</tbody>
</table>

*1997-2004*
Portugal

And about climate change?...
Sustainable forest management and rural fires from a Southern European perspective

IPCC 2014

The Mediterranean will maintain its hotspot status in the coming decades

Precipitation

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IPCC 2014

The Mediterranean will maintain its hotspot status in the coming decades

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How can forestry and forest spaces management cope with the challenge?
Sustainable forest management is needed, but it’s not enough!
Forestry in Southern Europe, i.e., in the Mediterranean region, needs agriculture

- space organization (territorial resilience)
- diversity of economic activities (economic resilience)
- revenues (human resilience)
What is needed:

• public policies that allow the articulation between agriculture and forestry as complementary productive activities;

• long-term compensation schemes (at least 15 years) for ecosystem services provided by agriculture and forests.
To address climate change and increasing fire risk in Southern Europe, Sustainable Forest Management requires a much stronger integration of forestry with agriculture.
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