

# The impact of wildfire on ecosystem services: relationships between wildfire, climate change and people

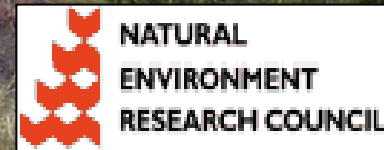
## FIRES 2

*University of Manchester, 24 June 2008*

**Julia McMorrow**  
FIRES coordinator



[www.fires-seminars.org.uk](http://www.fires-seminars.org.uk)





# **FIRES: Fire Interdisciplinary Research on Ecosystem Services**

1. The role of managed fire in ecosystem services of UK moorlands and heathlands  
*Edinburgh, 31 March – 1 April 2008*
2. The impact of wildfire on ecosystem services: relationships between wildfire, climate and people.  
*Manchester, 24 June 2008*
3. Forecasting and modelling wildfire risk in UK moorlands and heathlands  
*Manchester, 31 March – 1 April 2009*
4. Adaptive management and wildfire risk: implications for moorland and heathland ecosystem services  
*Peak District National Park, May/June 2009*



# FIRES Steering Group

## **Coordinator**

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## **Co-Investigators**

Colin Legg

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Moors for the Future  
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## **Co-opted**

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Heather Trust

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Chief Fire Officers' Association

Gina Cavan

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# Remit of ESRC/NERC transdisciplinary seminar series ecosystem services

- To develop *trans-disciplinary* research across social and natural sciences under the theme of sustaining future ecosystem services.
- To bring together economists, social and environmental scientists, other experts and stakeholders to explore and develop *ecosystems services approaches* and build research capacity for future inter-disciplinary research.
- Focus on advancing *research* & enhancing *knowledge exchange* with non-academic users/or international academics.



# Cooperation between communities

ESRC/NERC want us to maintain balance within and between three sets of participants:

- **Disciplines**; socio-economic, environmental and physical scientists
- **Career stages**; established and early career
- **Sectors**; academics, policy-makers, land managers and other stakeholders

Willingness to be open-minded and contribute outside our comfort zone.

An example....



# Meaning of hazard & risk varies between disciplines...

To international fire community:

- **Fire hazard** *∴ biophysical*  
Fire danger contributed by fuels available for burning - relative amount, type, and condition, arrangement, location, moisture content ∴  
Determines ease of ignition and difficulty of fire suppression.
- **Fire risk** *usually human*  
Risk of occurrence of an ignition source together with the likelihood of a fire spreading.

Global Fire Monitoring Centre (2008) for FAO

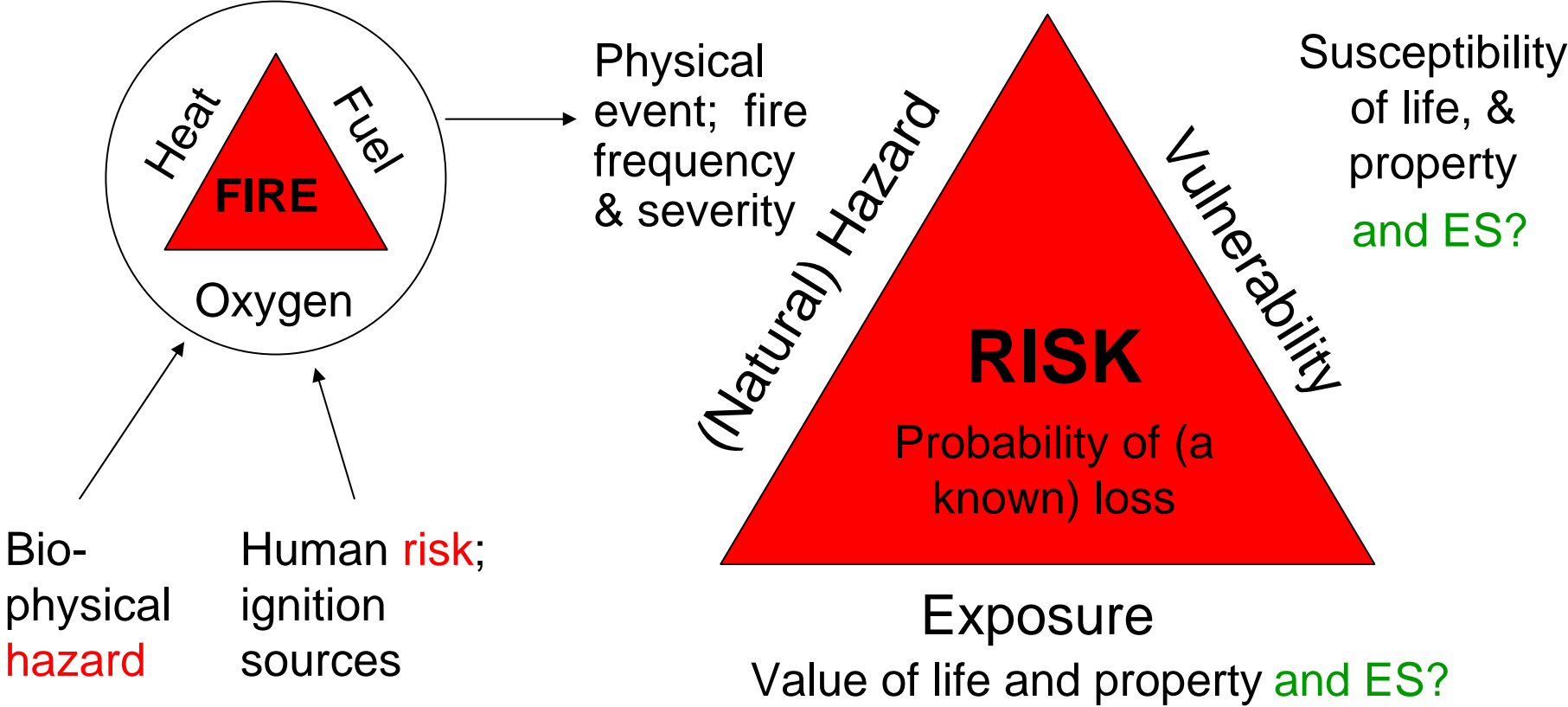
<http://www.fire.uni-freiburg.de/literature/glossary.htm>

# Insurance risk assessment; Crichton's risk triangle

All 3 needed to create a risk. Focus on life & property.

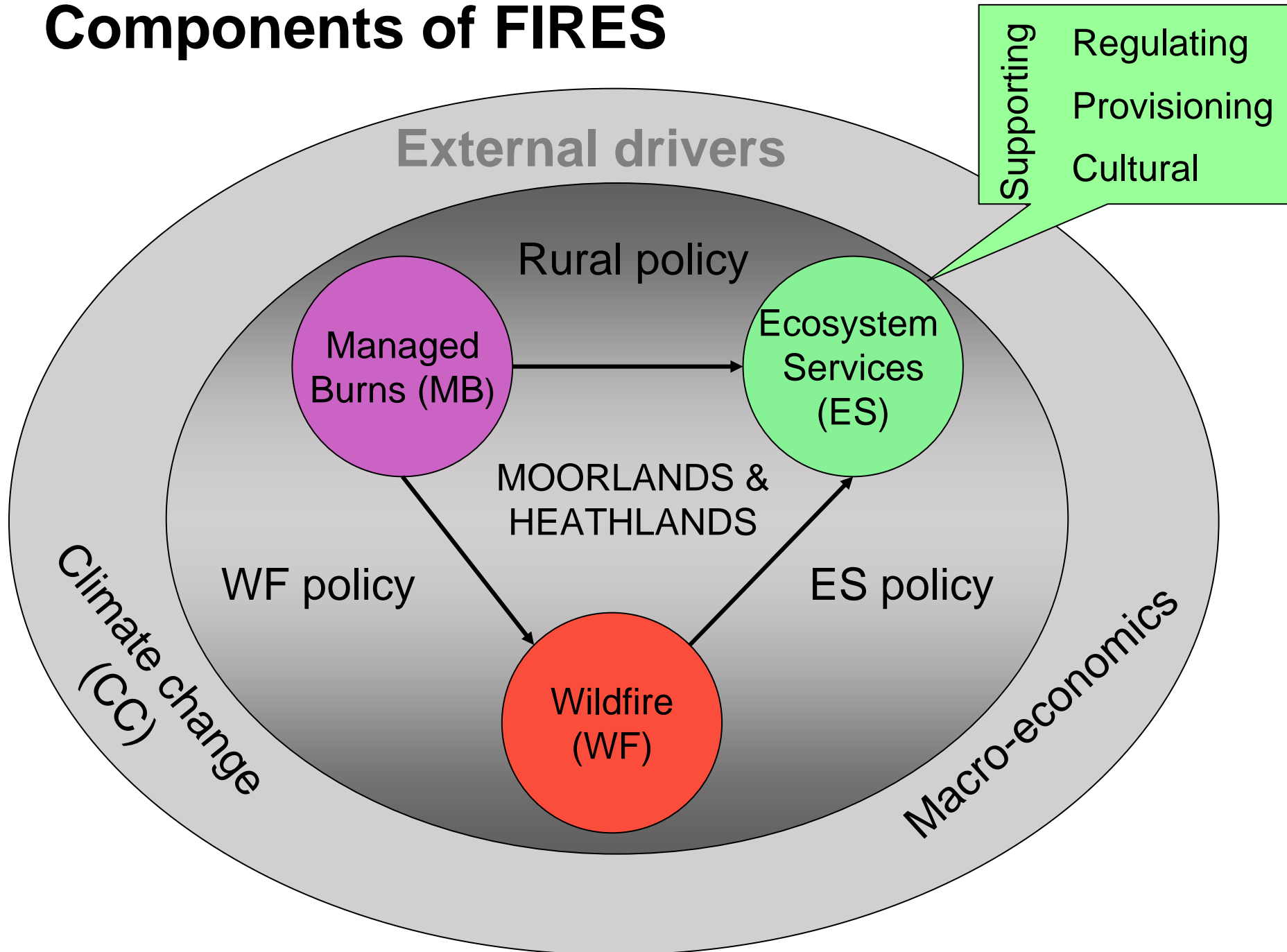
How well does this fit wildfire?

How well does it fit ecosystem services?



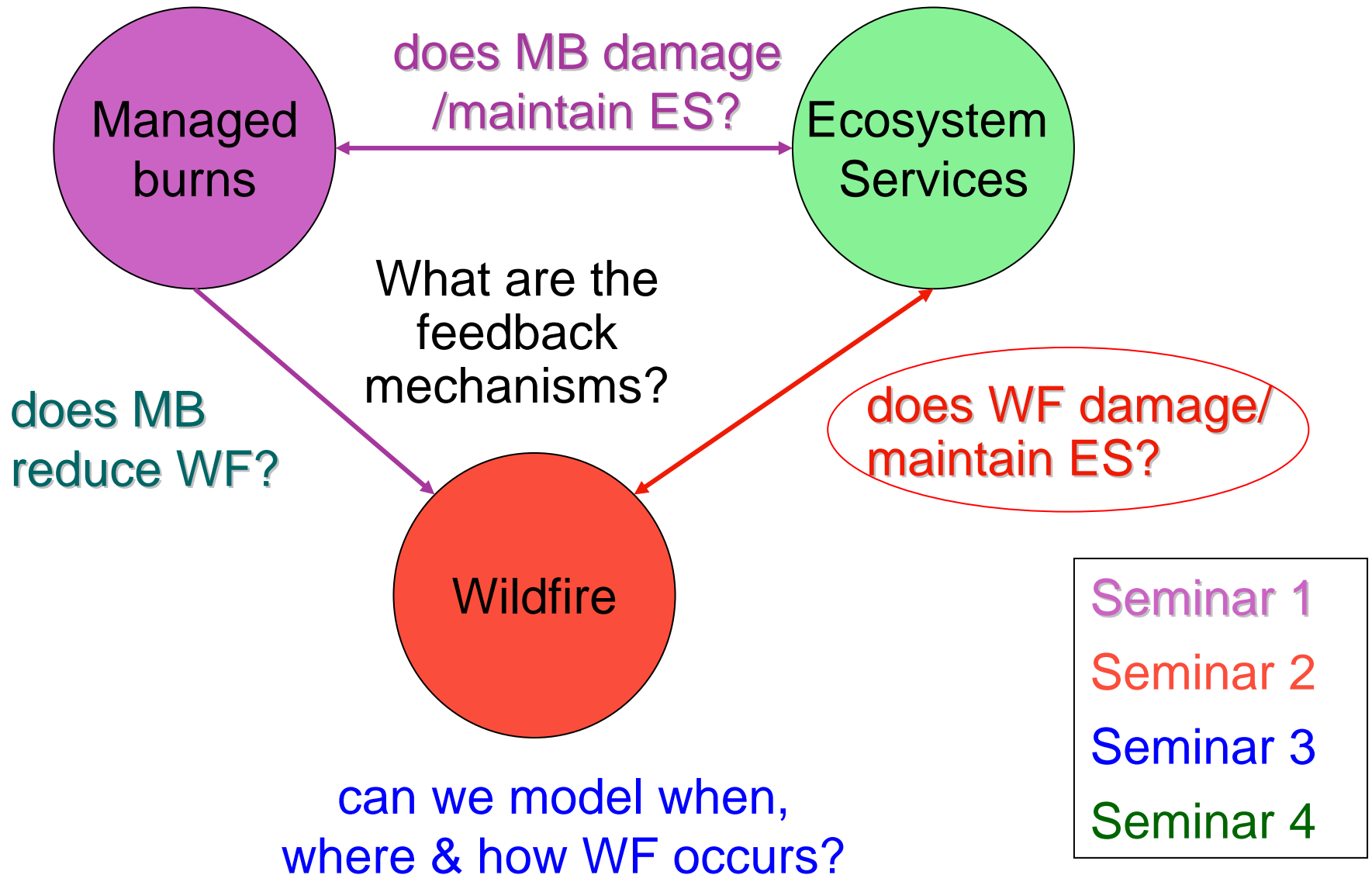
Crichton, D. (1999) The risk triangle. In, J. Ingleton (Ed.) Natural Disaster Management, London: Tudor Rose.

# Components of FIRES



# Basic questions

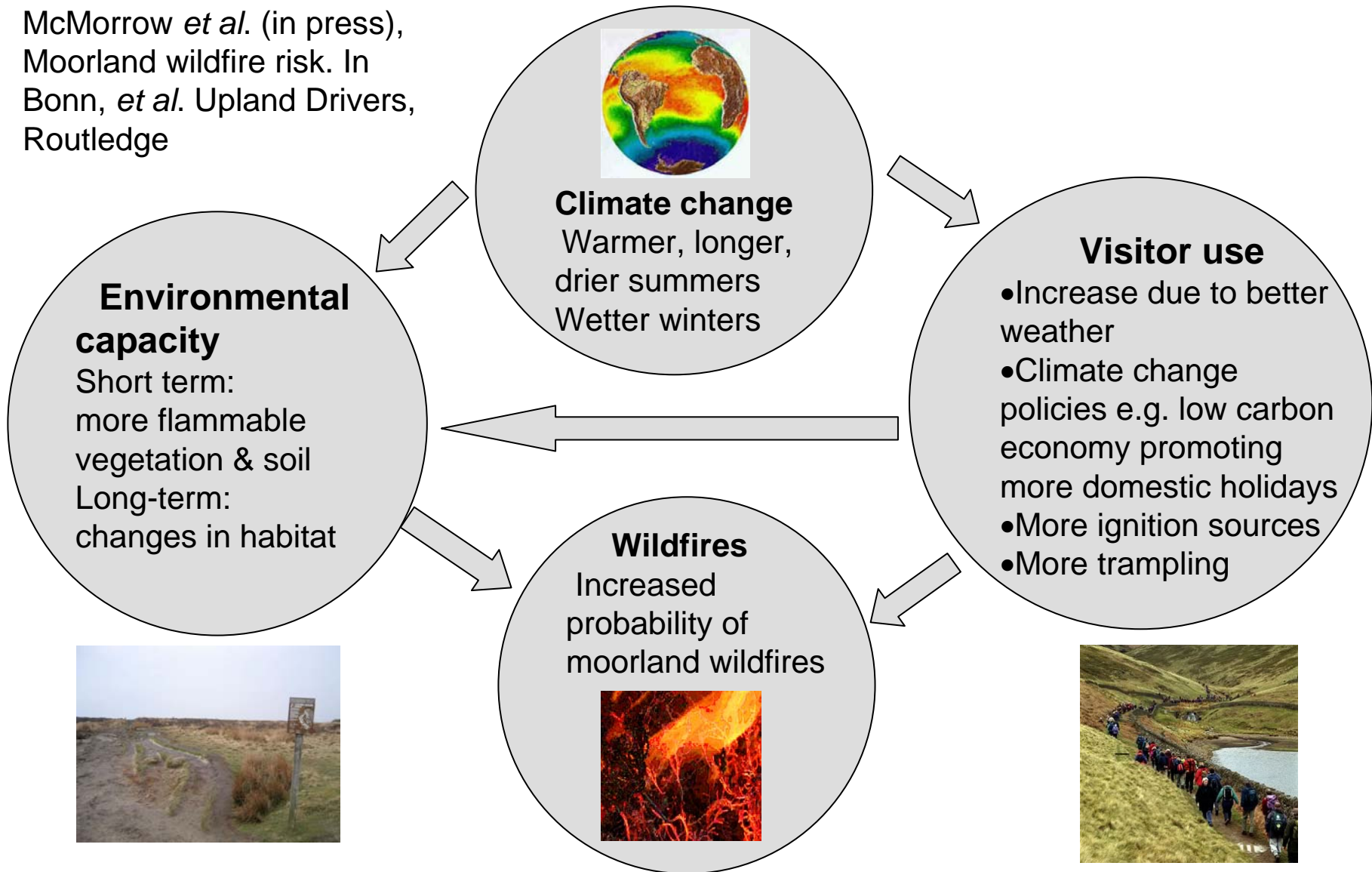
To what extent .....





# Relationships between climate change, visitors, ecosystems and wildfires

McMorrow *et al.* (in press),  
Moorland wildfire risk. In  
Bonn, *et al.* Upland Drivers,  
Routledge





# Today's programme

*Pre-circulated keynote & responses, discussion*

**Session 1:** Where, when and how do wildfires occur?

**Session 2:** How will climate change affect wildfire risk, hazard and fire regime?

*Breakout groups*

How will a changed wildfire regime affect ecosystem services? What are the research needs?

*Plenary*

**Public lecture**

'Wildfires and Climate Change: an American perspective', Jim Smalley, National Fire Protection Association, USA