

What frameworks will help inform wildfire risk management to support community resilience to climate change?

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Abstract

Climate change is likely to exacerbate wildfire risk. This research aims to characterise frameworks that fire risk management agencies might use to analyse and inform their policy and practice in order to support community resilience to climate change. The study will be guided by the concept of social-ecological system resilience as opposed to anticipatory approaches that assume a predictable future. The research will also analyse whether current wildfire risk management policies and practice will support community resilience to climate change.

Introduction

Both past and future anthropogenic CO₂ emissions will continue to contribute to warming for more than a millennium....it is *very likely* that hot extremes and heat waves will continue to become more frequent (IPCC 2007). Along with mitigation of greenhouse gas emissions, adaptation is a key component of the risk management challenge climate change presents. Adaptation requires a holistic, long-term perspective that considers not only the risks, opportunities and limitations posed by current and future climate conditions, but also societal changes (OECD 2005). Adaptation represents formidable challenges to governance, science and ultimately to the sustainability of society and the environment on which it depends (Adger, Arnell & Tompkins 2005).

It is now well recognised that because climate change will exacerbate high temperatures, increased severity and frequency of droughts, and extreme weather events, it has the potential to affect the intensity, return periods and spread of wildfire (Hennessy *et al.* 2006). Studies continue to show that climate change is likely to increase wildfire risk in areas where it is already a major issue. These areas include Australia, the Americas, Southern Africa, and European countries such as France, Italy, Spain and Portugal (E.g. Hennessy *et al.* 2006, Moriondo *et al.* 2006, Kitzberger *et al.* 2007). Supporting community adaptation or resilience is just one of the climate change concerns wildfire management agencies face.

The United Nations (UN) Food and Agriculture Organisation's draft Fire Management Code (2006) "aims to support national and international capacity in appropriate, proactive fire management response [to climate change]". At a national level, a Council of Australian Governments inquiry, for example, stated that "long-term strategic research, planning and investment are necessary if the Australian Government and state and territory governments are to prepare for the changes to bushfire regimes and events that will be caused by climate change"(Ellis *et al.* 2004).

This research aims to characterise frameworks or models that might be used by wildfire risk management agencies to analyse and inform their policies and practice in order to support community resilience to climate change. It will also analyse whether current wildfire risk management policies and practices can support community resilience to the implications of climate change.

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Research approach and anticipated outcomes

The study will be guided by the concept of social-ecological system resilience to the uncertainties engendered by climate change, as opposed to anticipatory approaches that assume a predictable future. Concurrently, it will “build on the knowledge and experience of natural disaster management institutions” (OECD 2005).

Drawing upon knowledge and experience of experts, practitioners and relevant parties, through focus groups, interviews, surveys, literature reviews and other techniques, this research will:

- Analyse the implications of climate change impacts on wildfire risk for community resilience
- Examine and appraise key frameworks and models for their utility in informing wildfire risk management policy and practice to support community resilience to climate change
- Evaluate the capacity of current wildfire risk management policy and practice to support community resilience to climate change, by ‘testing’ selected frameworks or models in a number of case study locations, including South-East Australia and southern Europe
- Characterise frameworks or models that could be used by fire management agencies to analyse and inform their risk management policies and practice in order to support community resilience to climate change

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