

An aerial photograph showing a landscape with a large, billowing plume of white and grey smoke or ash rising from the ground. The plume is dense and extends upwards, partially obscuring the terrain below. The surrounding land appears to be a mix of brown and green, suggesting a natural environment. The sky is a deep blue, and the overall scene conveys a sense of a significant fire event.

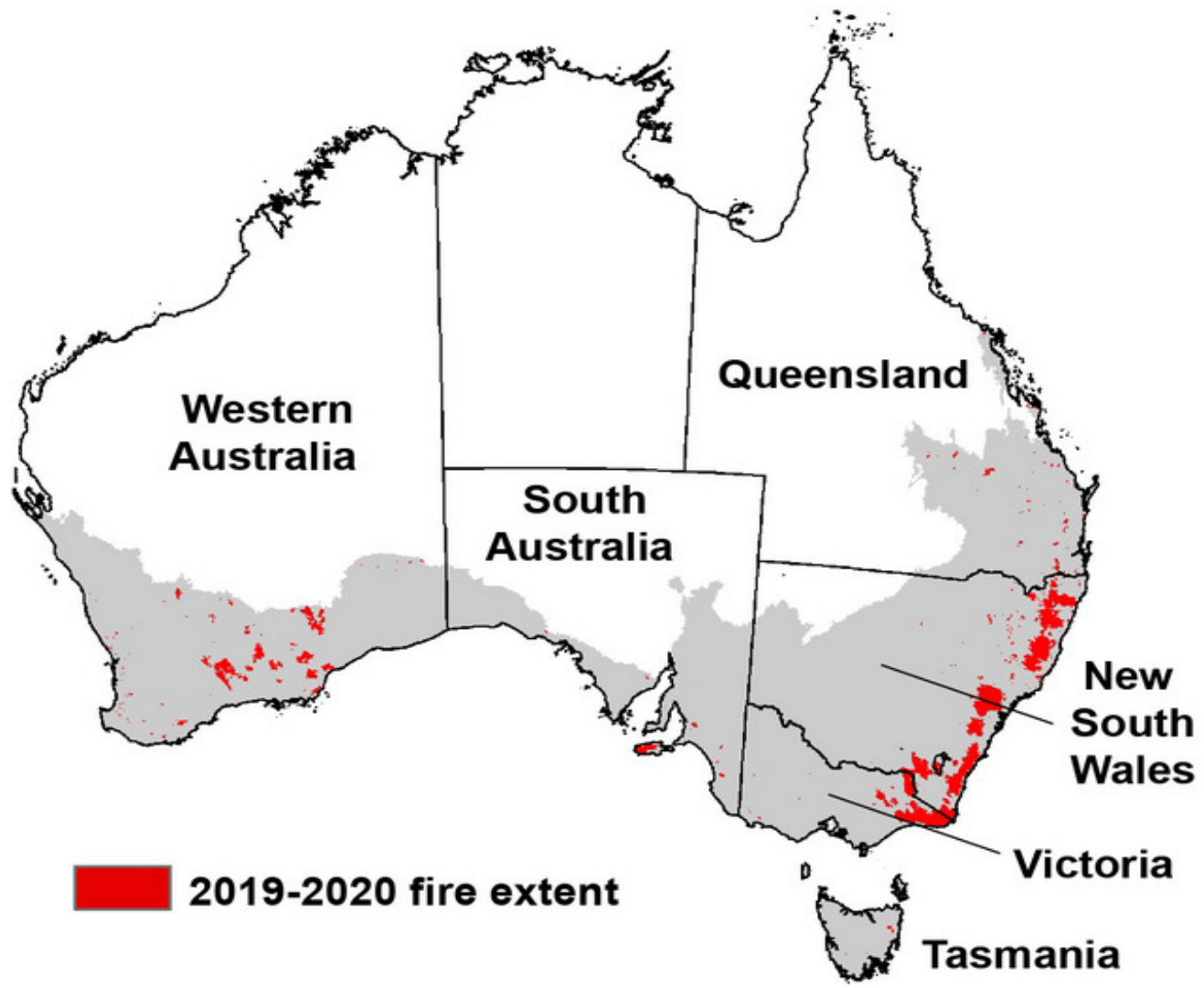
# Fire and biodiversity in southern Australia









**Charles Sturt  
University**

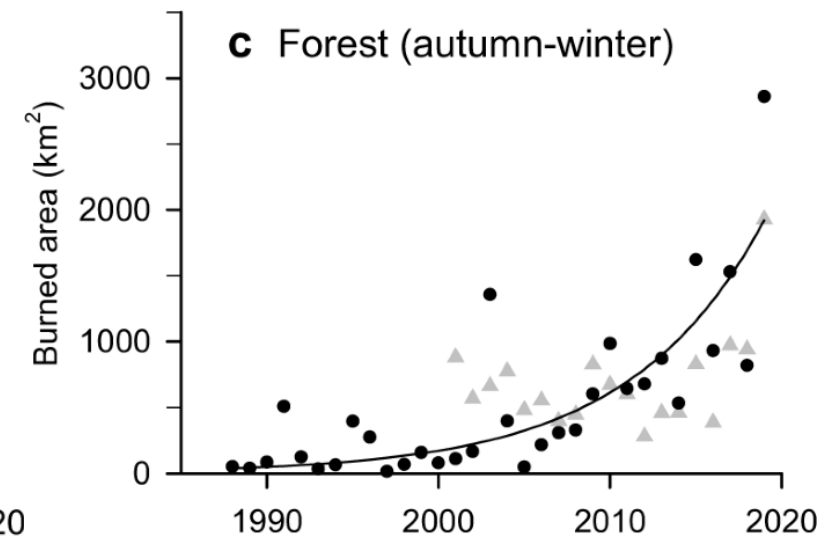
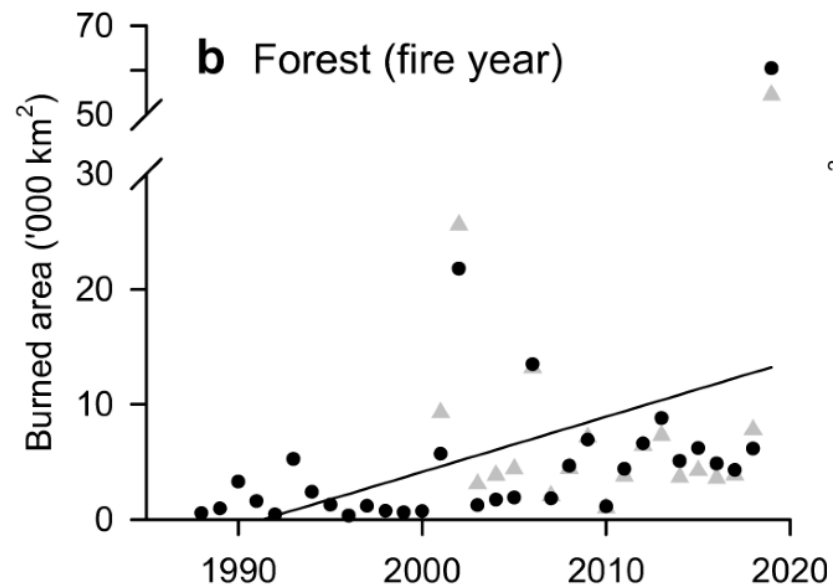
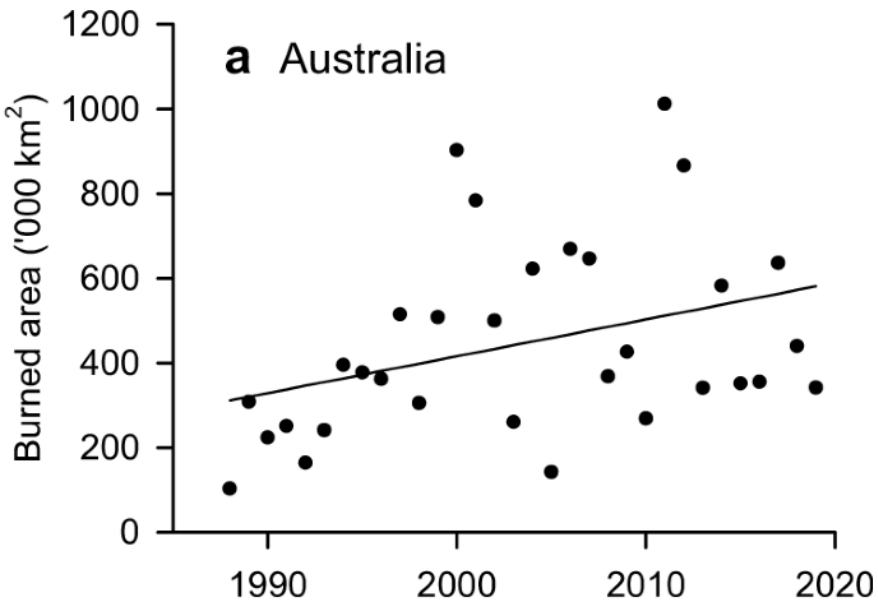
**Gulbali Institute**  
Agriculture Water Environment

**Professor Dale Nimmo**



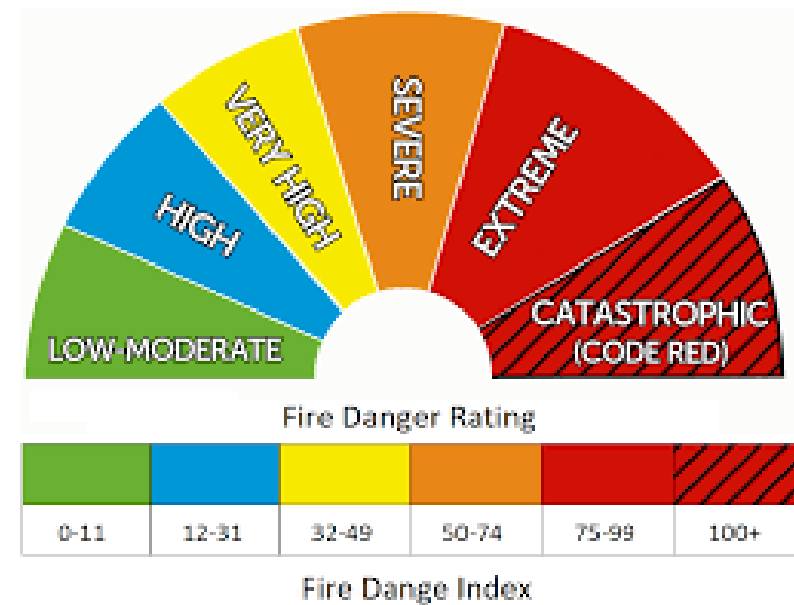
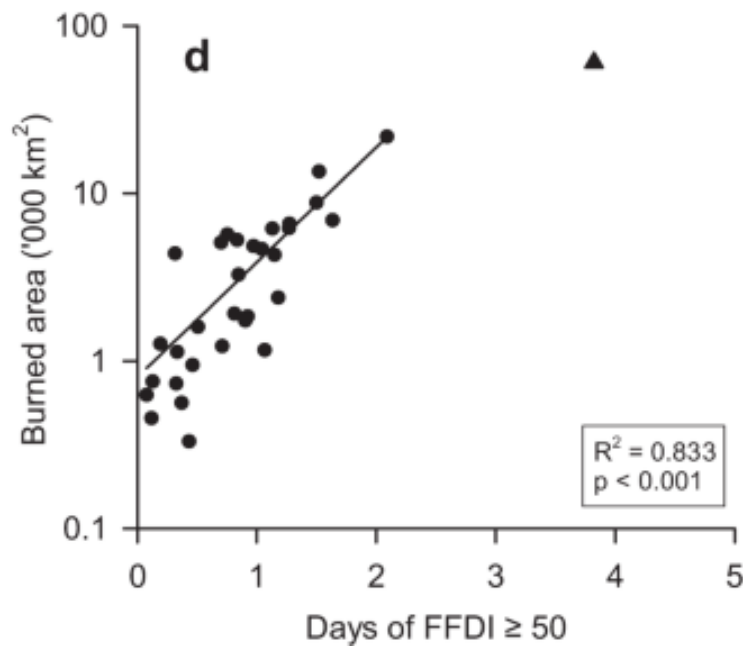
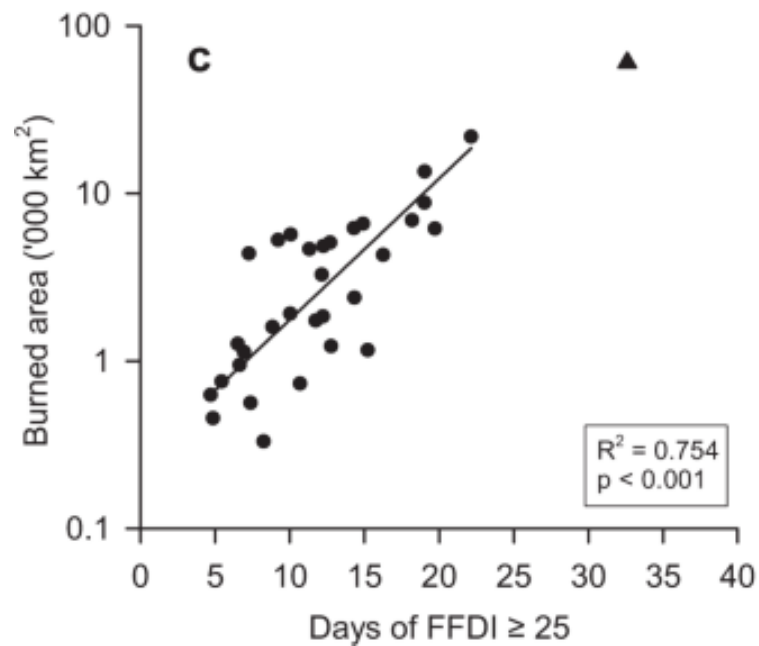
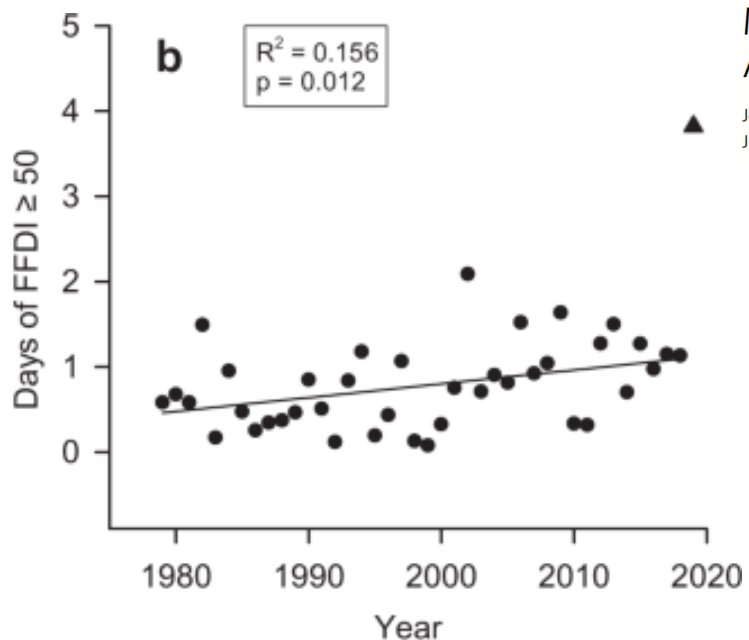
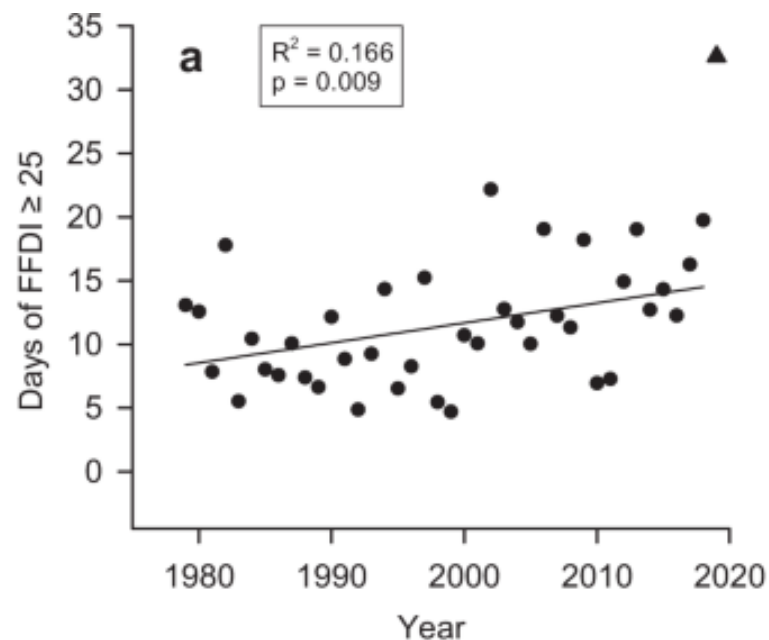
# Multi-decadal increase of forest burned area in Australia is linked to climate change

Josep G. Canadell <sup>1</sup>✉, C. P. (Mick) Meyer<sup>2</sup>, Garry D. Cook <sup>3</sup>, Andrew Dowdy <sup>4</sup>, Peter R. Briggs <sup>1</sup>, Jürgen Knauer <sup>1</sup>, Acacia Pepler <sup>4</sup> & Vanessa Haverd<sup>1</sup>

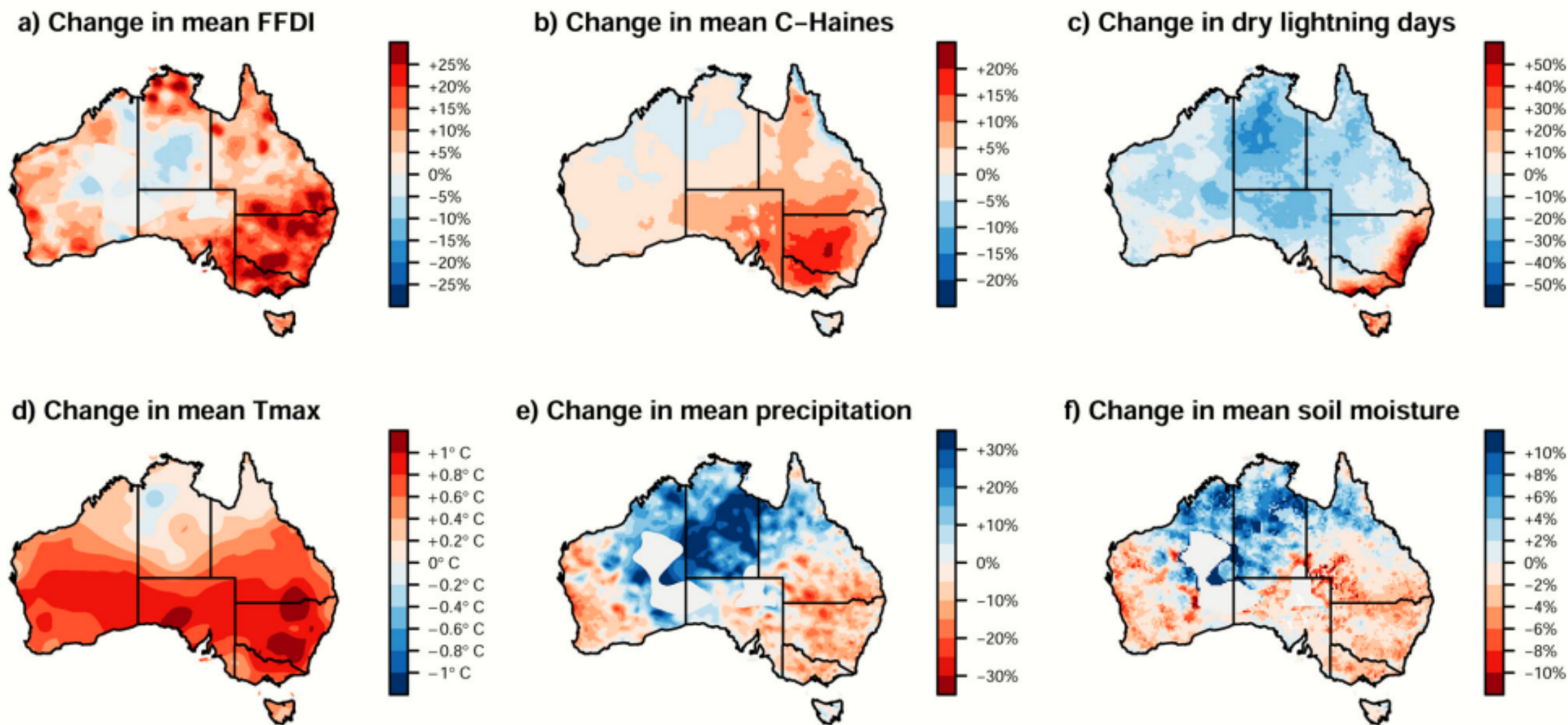


# Multi-decadal increase of forest burned area in Australia is linked to climate change

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**Fig. 5 Climate change factors associated with wildfire weather and activity.** **a** Near-surface fire weather conditions based on the Forest Fire Danger Index, **(b)** mid-tropospheric fire weather conditions based on the C-Haines Index, **(c)** dry lightning conditions as key factors for ignitions, **(d)** daily maximum temperature, **(e)** annual rainfall deficit and **(f)** soil moisture (0-23 cm) associated with dryness of the forest system. Changes are calculated as the changes from 1980-1999 to 2000-2019, calendar years, for all variables except for dry lightning to 2000-2016. Grey areas in **(e)** and **(f)** denote areas with insufficient data availability.

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## Australia's fires 'killed or harmed three billion animals'





