Ecological impacts of extreme climate events

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Biography:
Katinka is a research scientist with the Department of Biodiversity, Conservation and Attractions (DBCA) and Kings Park Science. Her interests include fire return intervals, climate change impacts on forest health, plant-animal interactions; and, improving rehabilitation success of degraded ecosystems.

Extreme climatic events have profoundly impacted biota globally over the past decade. A heat wave in southwestern Australia in 2011, for example, affected both marine and terrestrial ecosystems at a subcontinental scale, impacting larger areas and a greater taxonomic breadth than previously envisioned. Chronic and acute drought events have also had landscape scale impact on terrestrial ecosystems. And surprisingly, large-scale frost events have also occurred in southwestern Australia, affecting the dominant forest ecosystem. Using climatic and multi-species data collected from the region, we show that extreme events have triggered abrupt, and multi-trophic ecological disruptions, including mortality, demographic shifts and altered species distributions. Our research shows that a broad range of taxa are being affected by extreme climatic events, implying that the extent of ecological vulnerability to projected increases in extreme events is underestimated.

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