



Insights from landowners on Australia's Black Summer bushfires: impacts on soil and vegetation, perceptions, and behaviours

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The 2019-2020 bushfire season (the Black Summer) in Australia was unprecedented in its breadth and severity as well as the disrupted resources and time dedicated to studying it. Right after one of the most extreme fire seasons on record had hit Australia, a once-in-a-century global pandemic, COVID-19, occurred. This pandemic caused world-wide lockdowns throughout 2020 and 2021 that prevented travel and field work, thus hindering researchers from assessing damage done by the Black Summer bushfires. Early assessments show that the bushfires on Kangaroo Island, South Australia caused declines in soil nutrients and ground coverage up to 10 months post-fire, indicating higher risk of soil erosion and fire-induced land degradation at this location. In parallel to the direct impacts the Black Summer bushfires had on native vegetation and soil, the New South Wales Nature Conservation Council observed a noticeable increase in demand for fire management workshops in 2020. What was observed of fires and post-fire outcomes on soil and vegetation from the 2019-2020 bushfire season that drove so many citizens into action? In collaboration with the New South Wales Nature Conservation Council and Rural Fire Service through the Hotspots Fire Project, we will be surveying and interviewing landowners across New South Wales to collect their observations and insights regarding the Black Summer. By engaging landowners, this project aims to answer the following: within New South Wales, Australia, what impact did the 2019-2020 fire season have on a) soil health and native vegetation and b) human behaviours and perceptions of fire in the Australian landscape. The quantity of insights gained from NSW citizens will provide a broad assessment of fire impacts across multiple soil and ecosystem types, providing knowledge of the impacts of severe fires, such as those that occurred during the Black Summer, to the scientific community. Furthermore, with knowledge gained from reflections from citizens, the Hotspots Fire Project will be better able to train and support workshop participants, while expanding the coverage of workshops to improve support of landowners across the state. Data regarding fire impacts on soil, ecosystems, and communities has been collected by unknowing citizen scientists all across New South Wales, and to gain access to that data, we need only ask.