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Ten years post-wildfire recovery and health of Eucalypt forests and woodland in the Sydney Basin, Australia, using remotely sensed vegetation indices

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The response of vegetation after a wildfire is dependent on factors such as fire intensity and vegetation type. Australian woody vegetation species have evolved two mechanisms of disturbance survival i) seed germination (obligate seeders) and ii) resprouting from dormant vegetative buds and/or lignotubers (obligate resprouters). The majority of post wildfire vegetation response studies conducted in Victoria, Australia have been in obligate seeder dominant communities. These studies have found that there is a significant delay in species germination as they rely on the seed bank. Those studies do not represent the response of vegetation in the Sydney Basin, which is dominated by obligate resprouter species. This study examines the vegetation recovery of four burnt subcatchments affected by the summer 2001/02 wildfire event and compared to three unburnt subcatchments. The study uses a 20 year time series of Landsat and SPOT satellite data assessing vegetation 10 years pre-wildfire and 10 years post-wildfire on an annual basis. Several vegetation indices were compared to assess the health and integrity of eucalypt forests and woodlands (NDVI, NDVIc, NBR). This study provides land managers with crucial information about the response of vegetation communities to wildfire within the Sydney Basin.