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## Lightning Fire ignitions in the Warren Region of South-West Western Australia: 1977-2012

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Lightning is an important cause of fire ignition in south-west Western Australia. Fire reports from 1974 to 2011 were collated for the Warren Region, an area that encompasses 0.8 million hectares of public land comprised of tall open forest, open forest, woodland and coastal shrubland. Reports provided details of the location, date and time of lightning-caused bushfires attended by the Department of Environment and Conservation and its predecessor agencies. Data from more than 200 lightning-caused bushfires were used to examine spatial patterns of fire occurrence, year to year variation in the frequency of lightning ignition activity, and the number of lightning fire events within each season. Seasons of high lightning fire activity occurred at least once a decade, and sometimes several times a decade. The relationship between lightning fire activity and seasonal climate factors is being explored as a better understanding of the climatology of these events would facilitate improved seasonal fire outlooks and modelling of ignition probability under future climate regimes. A high proportion of lightning-caused fires originated from strikes on trees. Once ignited, trees with a significant amount of dead wood in the crown can remain alight for extended periods and persist through subsequent periods of cool and moist weather. Although the level of lightning fire ignition in the Warren Region may be low relative to other biomes, the persistence of ignitions on large mature trees tends to elevate the importance of lightning as an ignition source to a higher level than suggested simply by the number of ignitions.



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