

Comparison of lightning strikes and overshooting tops across Australia

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In this study, we compare the frequency of overshooting tops (OT) and lightning strikes (LS) to better understand severe storm occurrences in Australia. OT events are detected based on infrared satellite imagery using the method of Khlopenkov et. al. (2021) with a probability threshold of 0.5 to 1. LS events are identified based on ground-based lightning observations from the Weatherzone Total Lightning Network using thresholds of 1 and 100 strikes. OT and LS frequencies conform over the northern and eastern coasts of Australia but differ in western Australia. In diurnal variation, OT hours are bimodal whereas LS hours are unimodal.

