

Comparative study on lightning fatality rate in Malaysia between 2008 and 2017

ABSTRACT

Statistics of lightning fatalities and injuries are difficult to obtain as mandatory reporting of such events is seldom required. As a result, many cases will not be in official records. However, for injury prevention efforts and calling a government's attention to these as a serious problem, information on numbers and more vulnerable locations are important. In this study, Gomes-Kadir equation was used to estimate the annual lightning deaths in Malaysia using lightning density and sociological factors. The recorded data shows a lightning fatality rate of 12.5 deaths yr⁻¹ with 4 deaths per ten-million population yr⁻¹. The empirical formula estimates 20.9 deaths yr⁻¹ and 6.7 dptm yr⁻¹. Under-reporting of death events and the lack of consideration of topological factors in Gomes-Kadir equation have been highlighted as the reasons behind this discrepancy.

Keyword: Lightning density; Flash; Fatalities; Lightning safety; Lightning hazard; Lightning injury; Natural disaster