

E1-54: A study of physical features of places attracting ground lightning flashes

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The energy of a lightning flash is about 5×10^8 Joules and therefore it is hazardous. Houses and other buildings are constructed in almost all environments. Increased exposure of buildings to the atmosphere and badly planned construction are some of the factors that enhance lightning hazards to buildings.

A study was conducted to identify the physical features of places with frequent lightning incidents.

Information of locations and incidents of lightning strikes was collected with the help of Meteorological observers and 15 specially selected observers, public, media and personal contacts. 100 such locations were inspected to collect data.

It was found that maximum damages over Sri Lanka due to lightning occur in April. The lightning activity is considerable during 1600-2000 h with a maximum peak of activity during 1500 to 1600 h. First aid is given only in 28% of the cases with human beings affected. The type/kind of tree is irrelevant when lightning damages are concerned. Chances of damage to electrical instruments by lightning flashes are the same for all such instruments. Precautionary steps are **not** taken in 74% of the cases, 25% of the locations with lightning incidents are low lying, 16% are hilly flat and 19% are hill top, 62% of the locations struck by lightning are sandy, 21% are clayey and 17% are rocky, 68% of locations struck by lightning are with main power supply, only in 16% of the cases the earth resistance is below 50 ohms and 67% of the buildings struck by lightning are tile roofed, 17% are aluminum roofed, 13% are asbestos roofed and 3% thatched roof.

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