

A Science Service Feature

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? WHY THE WEATHER ?

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ELECTRIC STORMS

The term "electric storm" is commonly applied in the western United States, not to an ordinary thunderstorm, but to a dust storm or sand storm in which insulated metal objects become strongly charged with electricity, so that they give off brush discharges that are visible by night and administer shocks to persons touching them. Probably these phenomena depend upon friction between different kinds of dusty material in the atmosphere, and a difference between the prevailing size of the particles of one substance as compared with those of another that permits the wind to have a sorting effect upon them. The result would be an extensive separation of positively charged particles from negatively charged particles and hence strong potential gradients in the atmosphere.

During these storms wire fences, stoves, etc., give severe shocks to persons who touch them, and it is not uncommon for housewives to cover the handles of cooking utensils with cloths to avoid the discomfort of such shocks. By night observers report herds of cattle with "balls of fire" on their horns and the barbs of wire fences ablaze with electric discharges.

During an exceptionally severe electric storm in western Kansas on March 23, 1913, sparks two or three inches long were drawn from a wire running to a windmill, and a prairie fire was thought to have been started by sparks at the break in a fence wire.

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