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A Science Service Feature

? WHY THE WEATHER ?

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THE COLORS OF LIGHTNING

Lightning flashes have been reported of all colors, but they are mainly white, yellow or pink. Red or pink flashes, when examined with the spectroscope, are found to owe their color in certain cases to the presence of hydrogen in the atmosphere. This substance is furnished by the decomposition of water along the lightning path; water being a compound of hydrogen and oxygen. Sometimes, however, the reddish hue is not due to the presence of hydrogen but to the same process of selective scattering that often gives us a red sky at sunrise or sunset. Probably the reddest flashes occur when there is an unusually large amount of smoke or dust in the air. White lightning is due to the light from the oxygen and nitrogen that form the main constituents of the atmosphere. These substances together yield a combination of spectral colors that neutralize one another, and^{the} resulting color is white.

Black lightning is common in photographs but does not exist in nature. It is due to the reversal of the image of a lightning flash by exposure of the film or plate to a second flash. This process of reversal is known as the "Clayden effect".

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