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A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
of Clark University,
tells of:

FOREST FIRES SET BY LIGHTNING

In the western forests, lightning is a leading cause of forest fires. Since 1911, lightning has started about 40 per cent of the fires in California, and 50 per cent of those in Washington. A single severe storm has been known to start as many as 340 fires in one day. Thunderstorms are responsible for so many fires in the west because, in that region, they are usually accompanied by little or no rain. The air is so dry that the rain evaporates before reaching the ground. The base of the thundercloud is not less than a mile or two above the ground and the strong upward drafts which make and sustain the storm greatly hinder the fall of raindrops. So the dark rain smudges may be seen descending only a third or half of the way to the ground before the raindrops, and often hail, of which they are made disappear. Nevertheless, the electrical separation resulting from the great numbers of small drops carried upward, away from the larger drops, produces such a difference of potential that numerous lightning discharges to the ground are necessary to relieve the tension. These ignite the dry forests in an appalling number of places within an hour or two. It is no wonder that fire fighting forces, however large, cannot prevent large tracts from burning.

The heavy downpour characteristic of eastern thunderstorms greatly reduces the fire hazard from lightning. Even so, it is reported that as many as 20 per cent of Michigan's forest fires are set by lightning. In New England, however, the percentage is under 10.

(Tomorrow: Fire Weather)

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