A Science Service Feature

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? WHY THE WEATHER ? Mailed June 29, 1926

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SLANTING RAIN

When there is a cloud from which rain is falling, does the rain reaching the ground cover a strip as wide as the cloud? It is not likely to, for rain is usually the result of air rising when winds convergo. Thus the inblowing wind will carry the raindrops slightly toward the center of the storm, thereby reducing the area over which rain will fall.

The spreading of upward currents of air in the upper portions of rain clouds increases the area of cloud from which rain may be falling without at the same time necessarily increasing the area over which it reaches the ground. For the light drippings from the outer portions of cloud have farther to drop through the air and a greater chance to evaporate. Furthermore, the air through which these drops must go is drier than that nearer the rain center. Thus the area of cloud from which rain may be falling at one time may be considerably larger than that on the earth where rain reaches the ground.

In local showers, there is a counter tendency. The rain streaks flare out at the bottom in accordance with the outblowing squall wind. But this spreading below involves a height which is small in proportion to the distance from the middle portions of the rain cloud to the ground. Therefore, even in such showers the area over which rain falls is likely to be appreciably less than that of the raining cloud.

An interesting result of this tendency for rainfall to occur on a more restricted area than that of the cloud is the greater concentration of rainfall. In heavy showers this concentration by inblowing wind action may be responsible for short downpours of exceedingly great intensity.

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