A Science Service Feature

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? WHY THE WEATHER ?

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STUDYING WINDS WITH A BALLOON

Much interesting information about the devious ways of the wind may be obtained by releasing a small balloon and watching it as long as it can be seen. The process is so simple and the incidental cost is so small that one wonders why balloons are not more widely used for this purpose in schools where instruction is given in the elements of meteorology. Balloons can be bought in quantity from some of the rubber companies at a few cents apiece, and the hydrogen for inflating them costs only a cent or two for each filling.

Prof. C. F. Brooks, of Clark University, Worcester, Mass., who has adopted this method of demonstrating atmospheric movements, writes:

"Inflate a small balloon and watch it rise out of the surface layer of air. Rarely does it continue in a straight line. Even if the wind is strong and deep from much the same direction, the turbulence of the air over trees and buildings keeps the balloon in irregular up and down and sideways motion. The balloon, when it gets to a moderate height, will usually move off faster and in a direction somewhat to the right of the original. If the wind is light the balloon will go up more directly and is more likely to turn to an entirely new direction. Near a thunderstorm, for example, a moderate outward flow of air at the bottom drove the balloon away, while a little higher the balloon came back again and disappeared into the storm. In winter a calm, smoky layer of air near the ground is often found to be overridden by a moderate wind from the south; the precursor of a storm."

There are many weather stations where such balloons are sent up at fixed hours every day and sighted through theodolites, in order to obtain information about the "winds aloft" for the benefit of aeronauts and forecasters.

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