

A Science Service Feature

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? WHY THE WEATHER ?

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BALANCING FLOWS

Did you EVER stop to think where all the air of a gale comes from, and how the wind can KEEP on blowing from the same direction for some time? Did you EVER SEE a long parade on the stage: or, better, did you EVER "supe" in an endless stage mob and KEEP on appearing again and again after running round behind the scenes? That is what the wind does sometimes. If we could tag large masses of air we might be surprised to recognize them on a return journey.

In a steam or hot water system one of the essentials is a return flow to the heater. In any combination of great high and low pressure areas in a steady state a return flow is vital. Billions of tons of air could NEVER keep coming from a high without lowering the pressure there unless there were a feeder aloft. And such a return flow is almost always to be seen by one who watches cloud motions sharply. Into a region/<sup>from</sup> which air is pouring in great masses there must be other air arriving with equal or greater rapidity if the process is not soon to stop.

A low pressure area is invariably marked by air leaving the center in the upper levels while it flows in below. The outflow is not so much in all directions as is the inflow at the bottom. The air leaving goes commonly in a great stream ahead of the low, in the form of a current from a westerly direction topping the progressively moving and spirally inflowing system of the lower levels. A big fire has a low-level indraft on all sides, and an outflow above moving in accord with the general wind.

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