

No. 460

A Science Service Feature

Oct. 31

? WHY THE WEATHER ?

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DIVERSE WINDS MAKE CLOUDS

Clouds are most likely to form where winds are diverse at different levels, for then contrasts in temperature and moisture occur most frequently. Thus, on a sunny day, a cool wind aloft increases the contrast between warm air near the ground and cool upper air and hastens the appearance of the daytime fair weather clouds. Or, convection may take place at a higher level between a warm southerly wind of moderate elevation and a colder, northwesterly one higher up. Warm, light air beneath cold, heavy air often creates an unstable condition, resulting in up and down air currents. The rising currents of warm air are likely to become cloud capped, the descending currents mark holes between the clouds.

Sometimes sheet clouds form on the boundary between two layers of wind of different temperature and moistness. In this way, a warm, damp, south wind arriving at night and blowing over the cold air near the ground is chilled by the contact, maybe to the point where some of its moisture condenses to form a cloud.

Again, the beautiful rippled cloud effects, such as the mackerel sky, may be caused by waves in the air, the clouds marking the crests in the waves. These air waves are caused in one wind by another wind blowing across it, somewhat as wind over a water surface makes waves in the water.

(Tomorrow: Average November Weather)

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