

A Science Service Feature

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? WHY THE WEATHER ?

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CUMULUS LIMITED

Fine cumulus clouds forming on a cool summer's morning when there is a northerly wind, send their cottony heads upward as if there were nothing to hinder. But soon their form begins to change. Above a prominently rising cloud peak a disc-like cloud forms, grows denser and soon forms a cap on the rising mass. Will the cumulus head continue upward irresistably and make a shower? No, its top, little more than making an upward dent in the cap, begins to spread, mushroom-like.

Large downward rounded forms appear as the excess cloud matter spreads and falls. Before long the upward feeding, central column begins to disintegrate, and soon there is only the upper widespread cloud disc left. Other cloud discs have also formed, and now the sky is nearly covered, leaving only irregular holes here and there between the interfering or irregularly overlapping sheets of bumpy strato-cumulus and alto-cumulus clouds.

Observations have shown that the air becomes much warmer at the spreading height. Here is the top of the cool current of air. Above this ceiling the general air is more buoyant than the rising air from below, and so the ascent of the cumulus clouds must stop. Though a sunny day becomes a cloudy one, the ceiling prevents the formation of intense local showers. Concentrated convection, like concentrated effort, produces the most striking results.

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