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A Science Service Feature

? WHY THE WEATHER ?

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WHAT MAKES HIGHS AND LOWS ?

Higs and lows, ^{representing} areas of high and low atmospheric pressure, are always moving across our weather maps. Sometimes lows come onto the map from the Pacific or a high may come down from Canada, again a new low may appear, with little warning, on the middle of the map. What makes these areas of high and low pressure is still largely an unsolved problem.

One of the most satisfactory explanations of their origin is the counter-current theory. In the temperate latitudes the air is moving in general from west to east in a great whirl around the polar regions. If some disturbance or irregularity of surface or temperature conditions upsets the balance and throws some of the mid-latitude moving air poleward, this air is forced to go faster than the air nearer the pole and crowds into the colder air. A return current from higher to lower latitudes, replacing the disturbed air, gets left behind in the whirl.

You have then two opposing currents, a northward and a southward, both turning to the right, or away from each other, crowding the air on their margins and stretching or expanding it between them. The region between the opposing currents is the nucleus of a low pressure area. And, on either side, highs tend to be formed. If the original thrust is from a poleward direction the interference comes to the same result - interrelated high and low pressure areas.

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