A Science Service Feature

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? WHY THE WEATHER ?

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SPEED STORMS

Recent unusually high temperatures in the South had a connection with the rapidly moving storms and rather dry weather in the North. Our storms generally move from west to east, in accordance with the prevailing westerlies, and their speed varies with changes in the strength of this great flow of air from the west. The wind velocities at heights of one to three or more miles vary closely in accordance with the north slopes of the isobaric surfaces, or surfaces of equal pressure, at these heights. And these slopes vary with the temperature contrast between south and north. When the air in the South is much warmer than usual it is more expanded, and, in consequence, the height at which a certain isobaric surface is to be found is greater than usual. If, at the same time, the North is cold, normal, or not so much above normal as is the South, the heights at which a particular isobaric surface will be found is lower than usual relative to its height in the South. This means stronger winds because there is a larger difference in pressure, and winds are from the west because the earth's turning deflects them.

Fast-moving lows are come and gone before the winds in front can import much vapor and before the opposite sides can become greatly contrasted in temperature. This results in restricted intensity of the storm, and, because of its rapid movement, a thin spreading of its weak precipitation.

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