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A Science Service Feature

? WHY THE WEATHER ?

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By Dr. Charles F. Brooks
of Clark University

TROUGH RAINS

Those who have been following the daily weather map recently have noted two eastern highs with a rather compressed and locally very wet trough of low pressure between them. In the Southeast is the normal subtropical Bermuda high. This seems to stick through thick and thin, though it temporarily weakens and recedes toward the east. Into the North and Northeast a slowly transient high has drifted and sent its outflowing northerly and northeasterly winds to engage in battle with the similarly outflowing southerly and southwesterly winds of the southeastern high. Where these winds meet the pressure is lowest.

The northerly winds, being cooler and drier and therefore denser than the warmer and damper southerly ones, run under and wedge them aloft. This favors general rains. But the process is locally complicated by marked instability where large masses of the muggy air become entrapped by the cold air. There great showers occur, marked by lightning and thunder, and sometimes by more violent phenomena, squalls, whirls, or hail. The rainfall may be terrific.

When the northern high is slow in moving, the stretch of country that is covered by the zone of overlapping northerly and southerly winds may have rains daily or nearly so for some time, while dryness approaching drought may prevail farther north. Such was the contrast in much of August between the wet middle Atlantic states and southern New England and the dry northern New England.

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