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A Science Service Feature

? WHY THE WEATHER ?

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FLOODS FROM STALLED LOWS

A flood usually comes from much rainfall in too short a period for the water to drain away, from rapid melting of snow, or a combination of the two. Continuous rainfall, much of it intense, for 40 hours could not equal Noah's 40 days of rain, but it did make the greatest floods of a decade in parts of New England during the closing days of March. Melting snows, torrential rains, and enduring rainfall together were responsible; and for these three conditions a slowly moving intense "low" or storm area that stopped over New England was immediately to blame. As the "low" approached from the west at a leisurely gait air from the south and southeast had ample time to reach New England from the Gulf Stream before the low could pass. An abundance of muggy air favored the southeastward development of the "low", while the mass of chilly air to the northeastward proved adverse to the "low's" progress in that direction. With plenty of energizing warmth and water vapor the "low" settled down simply to cooling and precipitating the moisture. In less than two days this had been done so effectively that floods resulted where the cooling had been most rapid. Some of the convection was so intense that thunderstorms added lightning damage to the flood damage.

While this is a particular case it is typical of heavy rain and flood producing conditions in eastern North America: a slowly moving "low" imports much moisture from the warm Gulf of Mexico or Gulf stream and then precipitates it over a limited area.

(Tomorrow: Spring Sunshine)

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