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A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
Secretary, American Meteorological Society,
discusses:

THE MUGGINESS OF LAKE SHORES

The shores of small lakes which in summer are heated to temperatures of 75 to 80 degrees are likely to be very muggy as compared with the surrounding country, when the weather is warm and the winds light. In hot spells the lake water and the air resting upon its surface are cooler than the surrounding atmosphere. This relatively thin layer of cool air, undisturbed by the warmer air above it, retains practically all of the moisture evaporated from the lake and thus becomes very humid. The layer spreads out to envelope the shores, and a condition of extreme mugginess is created. In cool weather this effect is not felt, for the surface layer, under these conditions warmer than the surrounding atmosphere, is rapidly replaced and dissipated by the cool air.

North, northeast and east shores of small, and especially of shallow lakes, and even the beaches of sheltered ocean bays are most affected by the mugginess created in hot weather. An interesting example of the warming action of the sands of shallow bays is found on the inside shores of Cape Cod. The temperature of the incoming tide on a hot sunny day in midsummer at Provincetown rises to above 90 degrees, which is 15 degrees or more higher than the water at the surface of Massachusetts Bay a mile or two from the shore. Under these conditions the relative humidity near the shore has been observed to be 75 per cent, while at the top of the Pilgrim Monument, close by, but about 300 feet higher, it was 47 per cent.

(Tomorrow: Last Day of a Hot Spell)

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