

A Science Service Feature

Released on receipt
but intended for use
November 29, 1926

? WHY THE WEATHER ?

Mailed November 22, 1926

By Dr. Charles F. Brooks
of Clark University

FOG IS THEN WARMER

Dense fogs of the cold season, as indeed at other times, are caused by the adequate chilling of air that has enough vapor in it to provide droplets sufficient to obstruct our vision considerably. Unfortunately, the amount of vapor necessary is very small, and dense fogs readily occur with temperatures as low as the freezing point. In winter the readiest sources of vapor for the eastern half of North America are the Gulf of Mexico and the Gulf Stream. Southerly winds, therefore, provide vapor. The ground, naturally, does the cooling. As the surface of the ground is generally colder than air that is blowing over it from the south, it can be readily understood that in the hundreds of miles of travel over colder ground the damp south wind may get chilled to its dewpoint and beyond. Presto - there is a fog!

But a winter fog may not begin its formation at the ground. A low sheet of stratus cloud may first appear and be seen thickening and working its base lower, till its under surface envelopes us in what we call a dense fog. For a fog is merely a cloud in contact with the ground. The lower air may not be in motion, and it may be cooling off at night: nevertheless, here is the fog. A fine drizzle may fall from the now densest portions, where the stratus cloud was first seen forming.

In the morning when the sun shines, though we cannot see it, the fog slowly thins, "lifts", and breaks, revealing whatever clouds may be above. The fracto-stratus remnants of the fog may be seen scudding from the south, though the lower air may not be stirring. More sunlight warms the ground and the thin layer of cool air. Then down comes the south wind, and the rest of the day is much warmer.

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE,
21st and B Sts.,
Washington, D.C.