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? WHY THE WEATHER ?

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FORMATION OF ICE ON AIRPLANES

The formation of ice on airplanes has undoubtedly caused many disasters, and it has been plausibly suggested as the reason why some of the aviators who attempted to fly across the Atlantic and of whose fate no definite information was ever obtained failed to reach their goals.

Recent studies of this phenomenon by Messrs. Carroll and McAvoy, of the Langley Memorial Aeronautical Laboratory, lead to some rather reassuring conclusions. The danger exists, but it is one against which precautions can be taken. The ice forms only when there is visible moisture in the air, in the form of clouds, fog or rain. Within a narrow range of temperature, extending from the freezing point (32 degrees Fahrenheit) down to a few degrees below freezing, the ice forms as a clear, smooth coating, such as we see on trees and telegraph wires in an "ice storm", and which American meteorologists call "glaze". This is dangerous to the aviator because the ice is deposited in such a way as to alter the shapes of the wings and other parts of the plane, causing a loss of "lift" and otherwise diminishing its efficiency.

At still lower temperatures the deposit consists of a rough, opaque, more or less feathery species of ice known as "rime". This not only builds up in such a way that it does not necessarily interfere with efficiency, but also is easily shaken off by the motion and vibration of the plane and hence is not likely to accumulate in large amounts.

It should generally be possible for a pilot to avoid flying into rain, fog or cloud when the temperature is within the limits of danger, or, if he finds himself in such a situation, to seek a higher or lower level, where the temperature is outside these limits. A well exposed thermometer, connected with a dial on the instrument board, is a valuable safety device in this connection.

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