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? WHY THE WEATHER ?

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ATMOSPHERIC LAYERS

It has long been recognized by meteorologists that the atmosphere is often horizontally stratified; in other words, it contains layers of air that differ abruptly from one another in temperature, humidity and density. Two adjacent layers that thus differ may glide over each other very much as air flows over water, and with the same effect of producing waves at the boundary surface. Air waves formed in this way become visible when the humidity at the interface is such that the slight difference in temperature between the crests and troughs is sufficient to keep the one cloud-capped and the other free from cloud.

Systems of clouds obviously due to air waves are a familiar sight, but it must happen in the majority of cases that the humidity conditions are not just right to produce these clouds and that hence the waves remain invisible. Under such circumstances an aviator may pass without warning from one air stratum to another and suddenly find the "lift" of his machine increased or diminished on account of the difference in the direction and velocity of the wind in the two strata. Loss of lift due to this cause or any other constitutes a so-called "hole in the air".

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