

A Science Service Feature

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? WHY THE WEATHER ? Mailed August 22, 1929

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THE AVIATOR'S CEILING

Until a few years ago the term "ceiling", as used in connection with aviation, was universally applied to the greatest height above sea level attainable by any individual aeroplane, as limited by the density of the atmosphere and the climbing power of the machine. Different planes had widely different ceilings. Now in America, the term generally means the height above the ground of the lowest clouds present at any place. While the ceiling, in this sense of the term, does not necessarily limit the height at which a pilot may fly, it limits the height from which he can see to make a safe landing. The ceiling (sometimes called the "ceiling height") is reported by weather observers along airways, in conjunction with other conditions of interest to flyers. On certain airways in the United States hourly reports are now made and thus a pilot, before taking off, can obtain recent information of the ceiling at all points along his prospective route. "No ceiling" means that clouds or fog come all the way down to the ground. A pilot may be justified in flying over portions of the route that report no ceiling or low ceiling, provided he knows the ceiling to be high enough for safety at his destination.

Ceiling is measured in the daytime by releasing a pilot-balloon or a smaller balloon known as a "ceiling balloon", either of which rise at a known constant speed, and noting the time it requires to reach the base of the clouds. At night it is measured by a trigonometrical method involving the projection of a spot of light on the clouds by means of a so-called "ceiling light".

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