

A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks,  
Secretary, American Meteorological Society  
tells about:

VISIBILITY

Visibility is a term that has come into use with the development of aviation. "Foggy" or "hazy" to indicate obscurity of the air proved too indefinite, and an international scale of degrees of visibility was established, reckoned in meters, a meter being nearly 1.1 yards, as follows:

0, dense fog, prominent objects not visible at 50 meters; 1, very bad, limit of visibility under 200 meters; 2, bad, under 500 meters; 3, very poor, under 1,000 meters; 4, poor, under 2,000 meters; 5, indifferent under 4,000 meters; 6, fair, under 7,000 meters; 7, good, under 12,000 meters; 8, very good, under 30,000 meters (about 20 miles); 9, excellent, prominent objects visible beyond 30,000 meters

Visibility depends upon four factors; the amount and direction of the lighting, the dustiness of the air, the humidity, and the temperature homogeneity of the air. It is usually best in the direction away from the source of light. Other conditions being equal, it decreases as the dust in the air increases. Smoke is a common cause of low visibility about cities, and sometimes hundreds of miles away from its source, in cases of forest fires. Because many of the dust particles take up moisture and thereby become larger when the air is damp, the higher the humidity, the poorer the visibility. Finally, when air consists of masses at different temperatures, as on a clear day when local convection is taking place, light is refracted, or bent, when it passes from one to another of these masses, and thus is dispersed, so that on an otherwise clear day visibility is low because distant objects are made to appear both faint and fuzzy. When there is haze, visibility may be less with strong light than when the light is shut off by clouds, for the strong light illuminates the haze and weakens the visibility of distant objects. All things considered, visibility is best in the early morning after a clear night following a rainy day.

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(Tomorrow: When Geese Fly South.)  
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