

LOG 1004

# NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: October 2, 1979

Forwarded to:

Honorable Langhorne M. Bond  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-79-75

On December 21, 1978, a Cessna 207, N7378U, crashed while on approach to Chevak, Alaska, resulting in two fatalities and serious injuries to four other persons. Occasional "white-out" conditions near Chevak at the approximate time of the accident were reported by another pilot.

Safety Board accident records indicate that in 27 accidents from 1973 through 1977, white-out was listed as a cause/factor. All of these accidents involved general aviation aircraft.

Our investigations indicate there is a belief prevalent among pilots in Alaska that, based on the prevailing visibility and ceiling, they are "technically" operating in visual meteorological conditions (VMC) while flying in white-out conditions.

A pilot operating in white-out conditions is engulfed in what appears to be a uniformly white glow. Neither clouds, horizon, nor shadows are distinguishable; all sense of depth and orientation is lost; and only very dark, nearby objects can be seen.

In United States weather-observing practice, visibility is defined as the greatest distance in a given direction at which it is possible to see and identify with the unaided eye (a) in the daytime, a prominent dark object against the sky at the horizon, and (b) at night, a known, preferably unfocused, moderately intense light source.

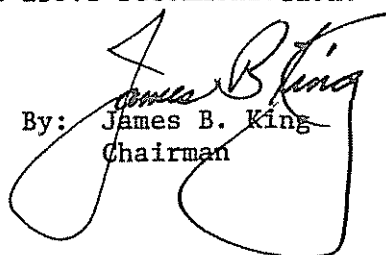
Based on the visibility definition, daytime estimates of visibility are subjective evaluations of atmospheric attenuation of contrast. In white-out conditions this contrast is nonexistent. It is our belief, therefore, that a pilot is not "technically" operating in VMC while flying in white-out conditions.

We note that the Airman's Information Manual, in Chapter 8, Medical Facts for Pilots, cautions against the hazards of reduced or impaired vision. We note also that Advisory Circular AC 91-13B, dated January 17, 1978, advises pilots to be prepared for white-out conditions. Neither publication, however, incorporates a complete discussion of this meteorological phenomenon and its associated hazards which is comparable to the indepth discussion accorded the nature and hazards of thunderstorms as a meteorological phenomenon in Chapter 6 of the Airman's Information Manual. We conclude that more detailed information should be made available to assure that all pilots who fly regularly in Alaska and other regions with similar environmental conditions are fully aware of white-out hazards.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Initiate action to disseminate additional information to the general aviation community to make it more fully aware of the hazards associated with flight in white-out conditions in Alaska and other regions with similar environmental conditions; and undertake an aggressive educational program to correct apparent misconceptions regarding visual flight rules (VFR) operations in white-out conditions. (Class II - Priority Action) (A-79-75)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in the above recommendation.

By:   
James B. King  
Chairman