



WESTERN REGION TECHNICAL ATTACHMENT

NO.87-33

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IMPACT OF WEATHER ON AVIATION #3

VFR/IFR--Whose Definition is being Used?

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VFR (visual flight rules) means ceilings are at least 1,000 feet, and visibilities are at least 3 miles, and that any conditions below those thresholds indicate IFR (instrument flight rules) conditions. Right? Wrong.

The pilot flying VFR is responsible to see and avoid other aircraft. Rules governing VFR flight have been adopted and contain minimum weather conditions for safe operations. The ceiling and visibility criteria which determine VFR conditions for a pilot are determined by (1) flight level and (2) whether the airspace occupied at the time is controlled or uncontrolled. Sometimes these criteria are the same as what the NWS uses; sometimes they are not.

Except for near the larger cities or the major airports in the West, most of the pilots who seek NWS pilot weather briefings will be flying in uncontrolled air space. During the period when the pilot is less than 1,200 feet above the ground, he/she needs at least one statute mile of flight visibility and must stay clear of clouds. Above 1,200 feet AGL, but less than 10,000 feet MSL, the pilot still needs one statute mile flight visibility. However, he/she must stay at least 500 feet below higher clouds, at least 1,000 feet above lower clouds, and at least 2,000 feet away from clouds at that flight level. Above 10,000 feet MSL (except when within 1,200 feet of the ground), the pilot must have a flight visibility of 5 statute miles. Also, the pilot must remain at least 1,000 feet from higher or lower clouds and at least one statute mile horizontally from clouds at the same level. This is not quite the same definition of VFR that the NWS uses!

In controlled airspace, more restrictions apply to VFR flight. Whenever the aircraft is below 10,000 feet MSL or within 1,200 feet of the surface, flight visibility must be at least 3 statute miles for VFR flight. The aircraft must stay at least 500 feet below higher clouds, at least 1,000 feet above lower clouds, and at least 2,000 feet in the horizontal from clouds. For remaining areas above 10,000 feet MSL, at least 5 miles statute visibility are required. The plane must stay at least 1,000 feet away from lower and higher level clouds, and at least one statute mile horizontally from clouds at the same level as the flight.

Fine, but what is controlled airspace? The "Positive Control Area" is all airspace above 18,000 feet MSL. It is the area most often dealt with at Air Route Traffic Control Centers, and aircraft in the area must be operating on an IFR flight plan. The Positive Control Area overlaps the "Continental Control Area", which is most airspace above 14,500 feet MSL. All primary airports have Control Zones around them (usually within a radius of 5 statute miles). There are other types of control areas, such as Transition Zones and areas based on radar services.

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So what do all of these matter to an NWS briefer or forecaster? There's no need for you to memorize the different control areas for the airports in your usual briefing/forecast areas. Nor should you adjust your references to VFR/IFR to correspond to pilot definitions--use the published NWS definitions. However, it is important that you realize conditions which the NWS considers IFR may actually permit VFR flight in some cases, and vice versa.

To add to the confusion which may already exist, there are two more types of VFR: special VFR and VFR-on-top. Special VFR is a clearance issued to VFR flight to depart in IFR conditions within a controlled area. At least one mile flight visibility, one mile statute visibility, and flight clear of clouds are required. VFR-on-top is for pilots filed on an IFR flight plan who want to fly VFR. This permits the pilot more freedom in choosing flight levels.