

Department of Transportation
FEDERAL AVIATION ADMINISTRATION
VFR PILOT EXAM-O-GRAM* NO. 21
FLYING INTO UNFAVORABLE WEATHER

How many times have you overheard or perhaps made similar statements yourself - "Let's go, we don't need weather, we'll make it okay." All too often a departing pilot merely glances at or completely ignores weather reports and forecasts because of a biased opinion that "weathermen never hit it right anyway". True, ceiling and visibility reports are sometimes estimated and a forecast is for conditions likely to occur; but if you don't utilize this information, your flight may be full of unhappy surprises. Accident investigation statistics continue to reveal "flight into unfavorable weather" as the chief cause of VFR fatal accidents. Results of FAA written examinations confirm that many pilots lack an adequate understanding of weather information.

WHY DO PILOTS FLY INTO UNFAVORABLE WEATHER?

1. GO-ITUS -- "I gotta get there . . ."; "I don't have time to wait." This is a condition that usually converts HOT PILOTS into COLD BODIES, and is a most difficult "disease" to cure. This attitude can be controlled only through sound reasoning and judgment by the individual.
2. MISINTERPRETATION OF FORECASTS AND REPORTS -- "It looks like VFR . . ."; "aw, it's good enough." Applicant performance on FAA written examinations indicate that the problem lies not in reading the data, but in knowing just what it means in terms of expected weather conditions.
3. FAILURE TO KEEP ABREAST OF WEATHER CHANGES -- Weather conditions do change, and the best way to keep informed en route is to listen to in-flight advisories and scheduled broadcasts.
4. IGNORING IN-FLIGHT WEATHER SIGNS -- "It's just a little shower . . ."; "just a few puffs of clouds." Rarely does weather suddenly go bad with no warning. Signs of deteriorating weather should be learned and observed by the VFR pilot.

ARE YOU "WEATHER WISE" OR OTHERWISE?

DOES A STATION REPORT OF VFR CEILING MEAN EN ROUTE VFR? NO, the ceiling reported is the height above the reporting point only. It must also be related to the surrounding and en route terrain to determine if adequate VFR separation can be maintained between stations. (See Exam-O-Gram 20.) Additionally, unreported conditions between stations may be lower than those reported at the stations.

IS REPORTED VISIBILITY THE SAME AS VISIBILITY ALOFT? NO, the reported visibility is the visibility at the surface only. Conditions aloft may restrict flight visibility more or less than that reported. (See Exam-O-Gram 20.) Cockpit visibility in precipitation is further reduced by rain, drizzle, or snow spreading over the windshield. Forward visibility in a light snowfall may be zero due to the relative horizontal movement of the snow. Sunlight reflecting off haze or dust aloft reduces the visibility considerably.

WHAT CAN BE LEARNED FROM TEMPERATURE REPORTS? High temperatures reduce takeoff and landing performance. Low temperatures reflect the approximate freezing level and the areas of possible icing in precipitation. Sudden temperature changes reveal the relative position of a front and its associated weather.

WHAT IS THE SIGNIFICANCE OF DEW POINT? Specifically, a dew point value relatively close (2° - 5°) to the air temperature is indicative of the probability of fog, low clouds, or precipitation.

* Exam-O-Grams are non-directive in nature and are issued solely as an information service to individuals interested in Airman Written Examinations.

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WHY SHOULD THE REPORTED WIND DATA BE NOTED? The velocity and direction of the surface wind should be related to the runway at the point of intended landing to determine the degree of cross wind. Wind data also reflects the degree of turbulence to expect. A sudden shift in direction often reveals the position of frontal weather relative to a station.

OF WHAT VALUE IS THE ALTIMETER SETTING? Correct cruising altitudes and adequate vertical clearance are dependent on the application of altimeter settings. A rapid and continual drop in pressure (altimeter setting) forewarns of approaching inclement weather.

WHAT IS A PIREP AND WHERE IS IT FOUND? A PIREP is a report of weather conditions at flight altitude, particularly between stations, seen by the pilot instead of the ground observer. Reports are often broadcast, and a pilot report summary is disseminated hourly to stations by teletype. Cloud base and top reports are found in the Remarks section of sequence reports.

ARE YOU GETTING THE REAL PICTURE FROM FORECASTS AND REPORTS? Only when the above are considered in analyzing forecasts and reports will you have the full story.

WHAT ARE SOME OF THE WEATHER SIGNPOSTS AND THEIR WARNINGS?

Blowing Dust -- turbulence, poor visibility at low levels, particularly into the sun.

Low Layer of Haze -- possible fog or stratus cloud in early morning or late evening; poor visibility, particularly into the sun.

Light Puffs of Clouds at Low Levels -- probable fog or stratus cloud, particularly in early morning or late evening.

Ragged Cloud Base -- turbulence, erratic visibility, possible precipitation.

Bulbous Cloud Base -- turbulence, possible precipitation, conducive to TORNADOES.

Roll-Type Clouds -- DANGEROUS turbulence, dust and poor visibility, hazardous landing conditions, subsequent precipitation.

Line of Heavy Dark Clouds -- SEVERE turbulence, dust and poor visibility, hazardous landing conditions, precipitation, hail.

Opening in Wall of Dark Clouds (SUCKER HOLE) -- DANGEROUS turbulence, possible precipitation and poor visibility as the hole is entered.

Gradual Lowering and Thickening of the Ceiling -- inadequate terrain clearance, possible widespread precipitation, and fog.

Near Freezing Temperature -- poor visibility in precipitation with ice forming on the windshield as well as the aircraft structure.

THE 180° TURN IS AVIATION'S BEST SAFETY DEVICE -- IF USED PRIOR TO BEING ENVELOPED BY ADVERSE WEATHER. DON'T BE A "PUSHER" IN THE HOPE THAT THE WEATHER WILL GET BETTER!

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