

Instrument Pilot

I. Preflight Preparation

Task	B. Weather Information
References	14 CFR part 91; FAA-H-8083-25, AC 00-6; AC 00-45, AIM
Objective	To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with obtaining, understanding, and applying weather information for a flight under IFR.
Knowledge	The applicant demonstrates understanding of:
<i>IR.I.B.K1</i>	Sources of weather data (e.g., National Weather Service, Flight Service) for flight planning purposes.
<i>IR.I.B.K2</i>	Acceptable weather products and resources utilized for preflight planning, current and forecast weather for departure and en route operations and arrival phases of flight.
<i>IR.I.B.K3</i>	Meteorology applicable to the departure, en route, alternate, and destination for flights conducted under Instrument Flight Rules (IFR) to include expected climate and hazardous conditions such as:
<i>IR.I.B.K3a</i>	a. Atmospheric composition and stability
<i>IR.I.B.K3b</i>	b. Wind (e.g., crosswind, tailwind, windshear, mountain wave, etc.)
<i>IR.I.B.K3c</i>	c. Temperature
<i>IR.I.B.K3d</i>	d. Moisture/precipitation
<i>IR.I.B.K3e</i>	e. Weather system formation, including air masses and fronts
<i>IR.I.B.K3f</i>	f. Clouds
<i>IR.I.B.K3g</i>	g. Turbulence
<i>IR.I.B.K3h</i>	h. Thunderstorms and microbursts
<i>IR.I.B.K3i</i>	i. Icing and freezing level information
<i>IR.I.B.K3j</i>	j. Fog/mist
<i>IR.I.B.K3k</i>	k. Frost
<i>IR.I.B.K3l</i>	l. Obstructions to visibility (e.g., smoke, haze, volcanic ash, etc.)
<i>IR.I.B.K4</i>	Flight deck displays of digital weather and aeronautical information.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
<i>IR.I.B.R1</i>	Factors involved in making the go/no-go and continue/divert decisions, to include:
<i>IR.I.B.R1a</i>	a. Circumstances that would make diversion prudent
<i>IR.I.B.R1b</i>	b. Personal Weather Minimums
<i>IR.I.B.R1c</i>	c. Hazardous weather conditions to include known or forecast icing or turbulence aloft
<i>IR.I.B.R2</i>	Limitations of:
<i>IR.I.B.R2a</i>	a. Onboard weather equipment
<i>IR.I.B.R2b</i>	b. Aviation weather reports and forecasts
<i>IR.I.B.R2c</i>	c. Inflight weather resources
Skills	The applicant demonstrates the ability to:
<i>IR.I.B.S1</i>	Use available aviation weather resources to obtain an adequate weather briefing.
<i>IR.I.B.S2</i>	Analyze the implications of at least three of the conditions listed in K3a through K3l above, using actual weather or weather conditions in a scenario provided by the evaluator.
<i>IR.I.B.S3</i>	Correlate weather information to make a competent go/no-go decision.
<i>IR.I.B.S4</i>	Determine whether an alternate airport is required, and, if required, whether the selected alternate airport meets regulatory requirements.

Sources of Weather and Acceptable Products: By now, you should have a good understanding on where to get your weather information. However....

if you are flying under FAR Part 91, there is really only one regulation that you need to comply with regarding weather briefings—FAR 91.103. It requires each pilot in command to become familiar with all available information concerning that flight to include weather reports and forecasts if the flight is being operated under IFR or for a flight “not in the vicinity of an airport.” FAR 91.103 is that catch-all for “all available information.”

The point is this: If your weather briefing (including notams) isn’t recorded or “provable,” it’s difficult to defend yourself if, let’s say, you busted a temporary flight restriction (TFR) or didn’t comply with a notam that had been issued affecting your route of flight.

Weather Applicable to the flight (departure, enroute, arrival):

1. Atmospheric composition and stability
2. Wind
3. Temp
4. Moisture/Precipitation
5. Weather masses and fronts
6. Clouds
7. Turbulence
8. Thunderstorms and Microbursts
9. Icing and Freezing Level
10. Fog/mist
11. Frost
12. Smoke, Haze, Volcanic Ash, etc

Flight Deck Displays of Digital Weather and Aeronautical Information (AC 00-63A, AIM 7-1-23)

1. FAA FIS-B: This is your ADSB weather.
2. Non FAA FIS Systems: XM weather

FIS aviation weather products (for example, graphical ground-based radar precipitation

depictions) are not appropriate for tactical (typical timeframe of less than 3 minutes) avoidance of severe weather such as negotiating a path through a weather hazard area. FIS supports strategic (typical timeframe of 20 minutes or more) weather decision making such as route selection to avoid a weather hazard area in its entirety. The misuse of information beyond its applicability may place the pilot and aircraft in jeopardy. In addition, FIS should never be used in lieu of an individual preflight weather and flight planning briefing.

Circumstances that would make diversion prudent.

1. Anything that exceed your personal minimums
2. Icing
3. Windshear
4. Fog
5. Ice Pellets (Freezing Rain)
6. TFR's
7. Red on your FRAT (Flight Risk Assessment Tool), Possibly Yellow

