Appendix 7
Weather Analysis Checklist – IFR Flight

Ceiling and Visibility

- ✓ Is the forecast ceiling for my estimated time of arrival high enough to make the approach?
- ✓ What visibility can I expect for each phase of flight (departure, enroute, destination)?

  --Will I have enough visibility to legally make an instrument approach at the destination?

  --Do current or forecast ceiling and visibility conditions require me to select and file an alternate? (1-2-3 rule.)

  --Where is the nearest GOOD weather alternative?
- ✓ How do reported and forecast conditions for ceiling and visibility compare with my personal minimums for IFR?

Aircraft Performance

- ✓ Given temperature, altitude, density altitude, and aircraft loading, what is the expected aircraft performance?
  - Takeoff distance
  - Time & distance to climb
  - Cruise performance
  - Landing distance
- ✓ Are these performance values sufficient for the runways to be used and the terrain to be crossed on this flight?

  (*Remember that it is always good practice to add a 50% to 100% safety margin to the "book numbers" you derive from the charts in the aircraft's approved flight manual (AFM)*).
- ✓ Will weight restrictions allow me to carry more than the normal fuel reserve?

  (*More fuel means that you have more options to escape weather*.)
- ✓ *Icing*. What is the forecast freezing level for this flight?
  - Are there any pilot reports (PIREPS) for my route, or points on the route that support or rebut the icing forecast?
  - Where are the cloud bases and cloud tops?

Turbulence

- ✓ Are the wind conditions at the departure and destination airports within the gust and crosswind capabilities of both the pilot and aircraft?
- ✓ What is the maneuvering speed (V_A) for this aircraft at the expected weight?

  (*Remember that V_A is lower if you are flying at less than maximum gross weight.)*
- ✓ *Thunderstorms*. Does the forecast include convective activity at any point along my proposed route?

IFR Analysis Worksheet		Turbulence	Ceiling & Visibility			Visibility & Performance	Trends
Place	**Time**	**Wind**	**Visibility**	**Weather**	**Ceiling**	**Temp/Dewpt**	**Altimeter**

Nearest VFR Weather

Direction:
N S E W

Distance:
____ nm

Flying time to nearest good VFR:_____

Turbulence Analysis

Personal Minimums:
Wind speed = _____
Gust factor = _____
Crosswind = _____

Departure wind = _____@_____
Destination wind = _____@_____
En route wind = _____@_____
Maneuvering speed = _____*

T-storms forecast? Yes ☐ No ☐
Convective SIGMETS? Yes ☐ No ☐

** V_A decreases as weight decreases*

Ceiling and Visibility Analysis

Personal IFR Approach Minimums:
Ceiling = _____
Visibility = _____

Planned altitude = _____ } _____
- Lowest en route ceiling = _____ } ground clearance

Planned altitude = _____ } _____
- Highest en route obstacle = _____ } clearance

Planned altitude = _____ } _____
- Highest en route terrain = _____ } clearance

Cloud bases = _____ Cloud tops = _____

Alternate required ? Yes ☐ No ☐
Over mountainous terrain ? Yes ☐ No ☐
Over large bodies of water ? Yes ☐ No ☐

Departure visibility = _____
Lowest en route visibility = _____
Destination visibility = _____

Performance Analysis

Density altitude = _____
Freezing level = _____

Takeoff distance = _____
Runway length = _____

Landing distance = _____
Runway length = _____

Cruise performance = _____

Fuel available = ____gal____hrs
Fuel required = ____gal____hrs
Fuel reserve = ____gal____hrs

Note: It is good practice to add a 50% to 100% safety margin to the "book numbers" you derive from charts in the approved flight manual (AFM).

NOTE: In the Performance Analysis above, think about other weather products related to airframe ice. Always know cloud bases and tops, sky cover, freezing levels, AIRMET's/ SIGMET's, PIREP's, and frontal activity along route and up-weather. Also know where nearest VFR is.