

Pilot Self-Briefing



Developed
by
Terry Lankford

Reality Check

"Every theory of the course of events in nature is necessarily based on some process of simplification of the phenomena and is to some extent therefore a fairy tale."



Sir William Napier Shaw
Manual of Meteorology, 1926

Overview



Weather is *complex* and *dynamic*.



Watch out for absolutes. There are few, if any, *never* or *always* when it comes to the weather.



Be careful of *oversimplification* and *generalizations*. (Rules of thumb.)

14 CFR 91-GENERAL OPERATION AND FLIGHT RULES

§91.103 Preflight action.

"Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include—


(a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts,..."




 Pilot weather briefing services were transferred to FSS in the 1960s.



 With the evolution of computer technologies, FSS began implementation of the LSAS in 1978; the FAA began certifying private contractors to provide briefing services in 1989.

 In the 1990s commercial vendors began providing General Aviation with weather and flight plan services—including graphic products.





 In 2005 Lockheed Martin (now Leidos Flight Services) assumed FSS functions.

Pilot Briefing Services

Self-Briefing Issues

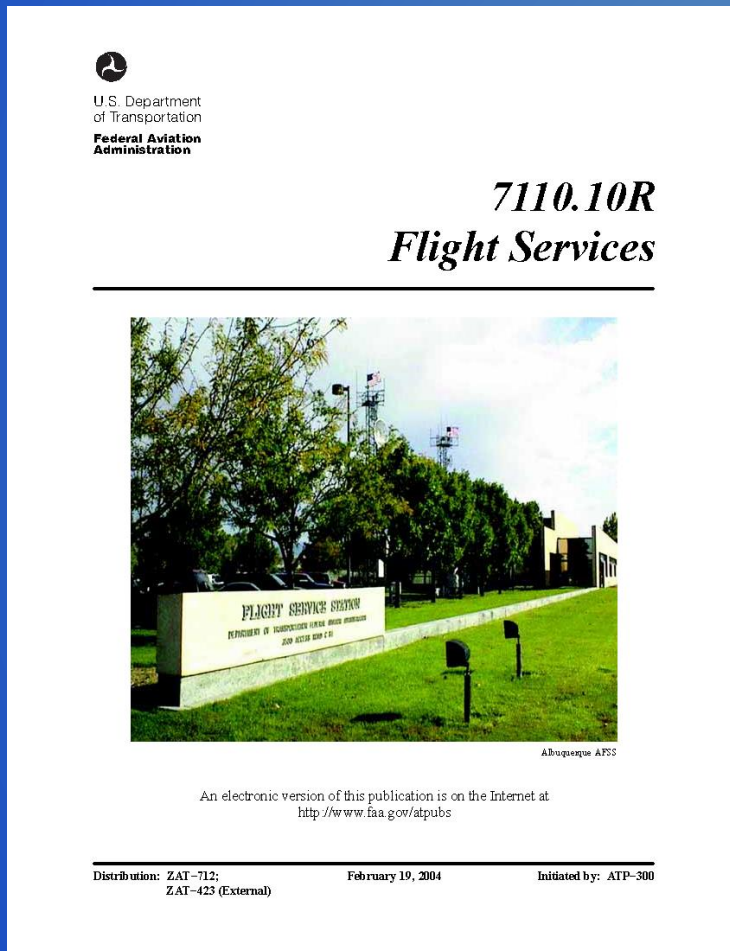
 FAA policy acknowledges that government sponsored sources are not the only “compliant” means for obtaining weather and encourages pilots to use self-briefing services.

 With the almost limitless sources and amount of information, how do we fulfil with our obligation—and teach learners—”compliant” self-briefing techniques?

 Which products should be considered *mandatory*; which are supplementary/outlook—provide additional insight into the weather.

 How do we document compliance?

FAA Handbook 7110.10 *Flight Services*



FAA Handbook 7110.10 *Flight Services* (paragraph 2-2-1 c.) specifies the “briefing elements” required for the conduct of an FAA “Standard Weather Briefing.” Weather and most non-meteorological products are *required* to comply with "**§91.103 Preflight action.**"

FAA vs Self-Briefing

Standard Briefing

1. Adverse Conditions
2. (VFR not recommended)
3. Synopsis
4. Current Conditions
5. Enroute Forecast
6. Destination Forecast
7. Winds Aloft
8. Notices to Air Missions
9. (Prohibited Areas...Special Rules Area....)
10. ATC Delays
11. (Request for PIREPs)
12. (Items Upon Request)

Compliant Briefing

1. Weather Advisories
2. Synopsis (Not directly related to operational requirements.)
3. Current Conditions
4. Enroute Forecast
5. Destination Forecast
6. Winds and Temperatures Aloft Forecast
7. Notices to Air Missions (non-meteorological)

DOCUMENTATION: Leidos Flight Service phone, radio, and web briefings are recorded and logged—easy. Commercial weather providers may document products—check with provider. Users may copy and save pertinent briefing material.

FAA/Compliant Briefing Elements

FAA STANDARD WEATHER BRIEFING (LEIDOS FAA/WEB PORTAL)		COMPLIANT WEATHER BRIEFING	
Briefing Element	Products	Briefing Element	Products
1. Adverse Conditions ¹	Weather Advisories: WA,WS,WST,CWA,SAW	1. Weather Advisories	WA,WS,WST,CWA SAW
	PIREPs: UUA		
	NOTAMs: TFR, Closed/Unsafe		
2. (VNR)			
3. Synopsis ²	SFC ANALYSIS	2. Synopsis ²	SFC/500mb Analysis; PROG Charts
4. Current Conditions ³	Reported Weather Conditions METAR, SPECI, UA	3. Current Conditions	METAR, SPECI, UA
5. Enroute Forecast ²	AVI SFC/CLDS FCST	4. Enroute Forecast ²	AVI SFC/CLDS FCST, GFA
6. Destination Forecast ^{2,4}	TAF, AVI SFC/CLDS FCST	5. Destination Forecast ^{2,4}	TAF, AVI SFC/CLDS FCST,GFA
7. Winds Aloft ⁵	FB	6. Winds and Temps Aloft	FB
8. NOTAMs		7. NOTAMs	
9. (Prohibited Areas)			
10. ATC Delays			
11. Request for PIREPs			
12. (Upon Request)			



¹May contain other weather elements.

²Requires the availability of graphic products.

³May be omitted with ETD beyond 2 hours.

⁴ETA ±1 hour/ETA ±2 hours.

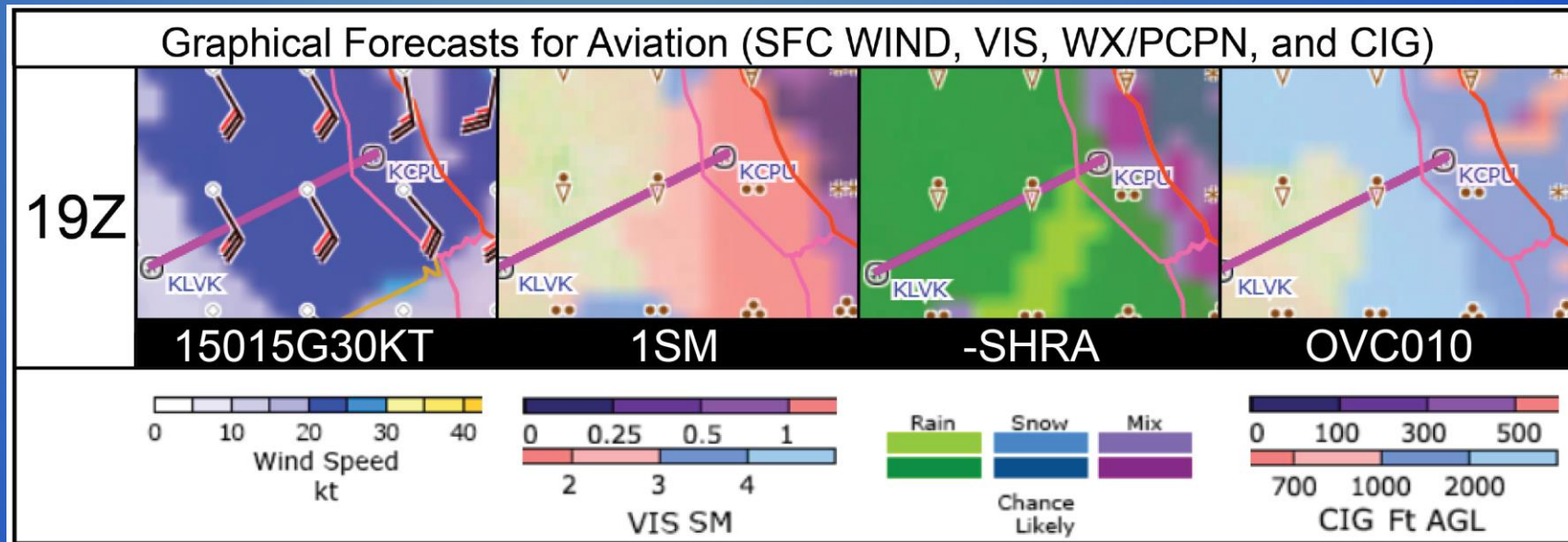
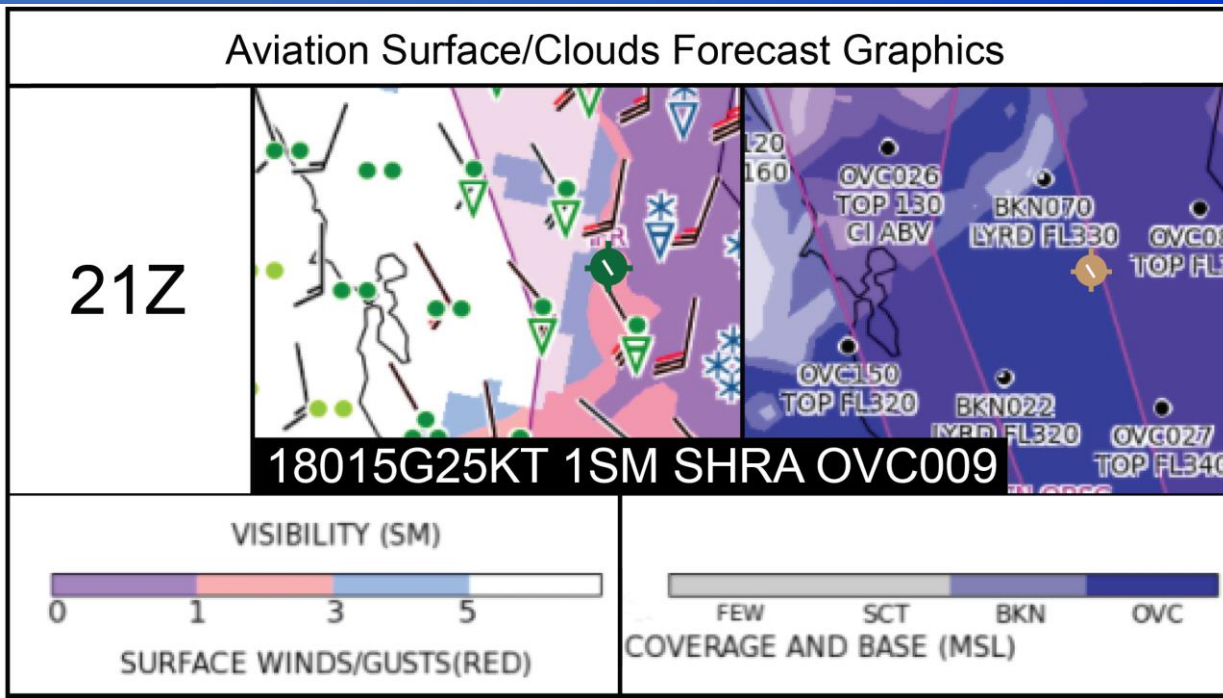
⁵Temperature on request.

Graphical Forecasts for Aviation

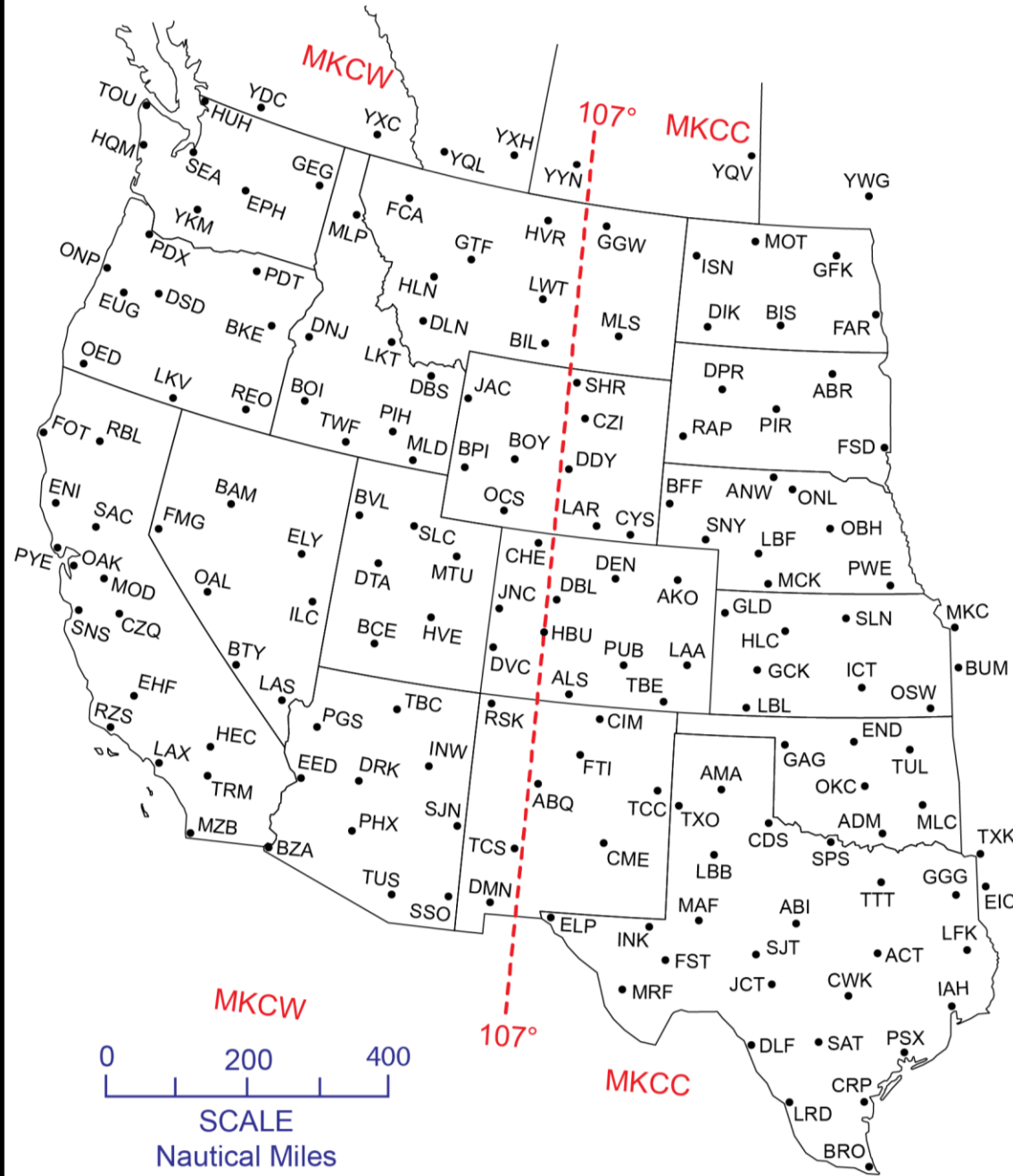
 Aviation Surface Forecasts

 Aviation Clouds Forecasts

 Graphical Forecast for Aviation (GFA)



WEATHER LOG - WEST



<input type="checkbox"/> Weather Advisories
<input type="checkbox"/> Synopsis
<input type="checkbox"/> Current Weather
<input type="checkbox"/> Forecast Weather
<input type="checkbox"/> Winds Aloft
<input type="checkbox"/> NOTAMS

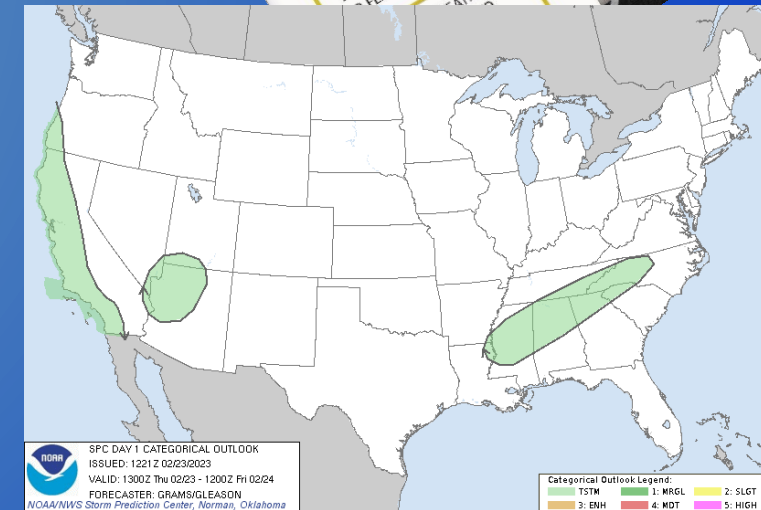
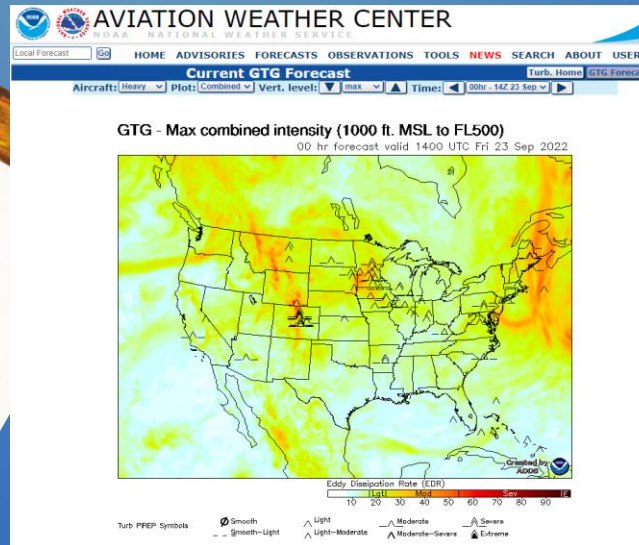
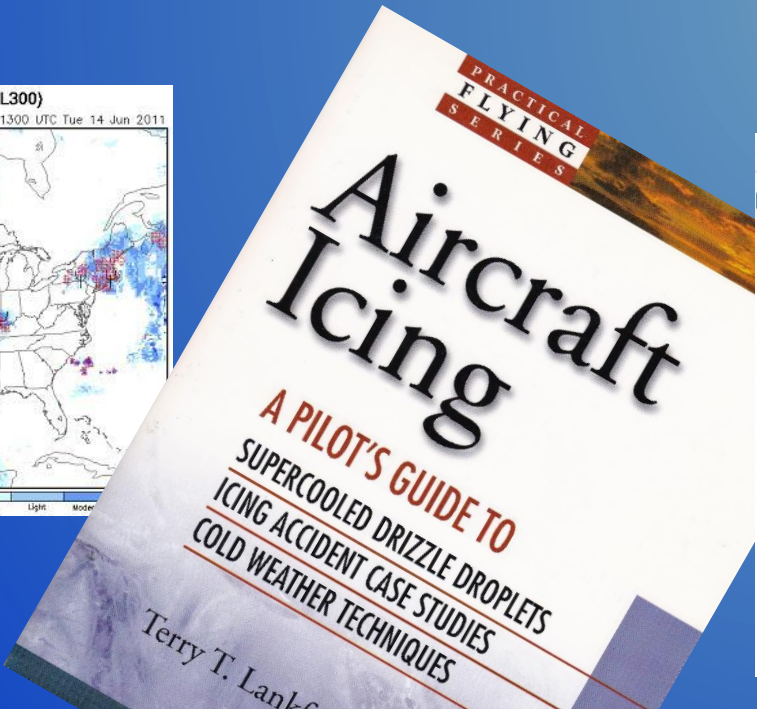
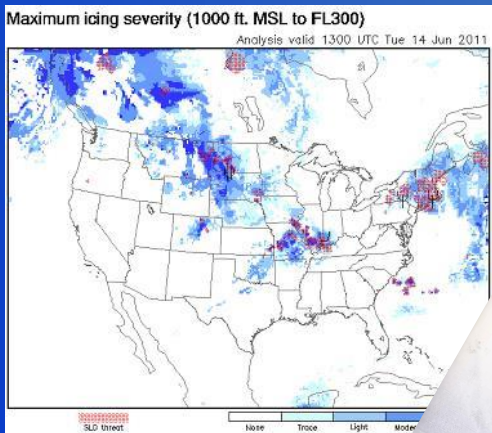
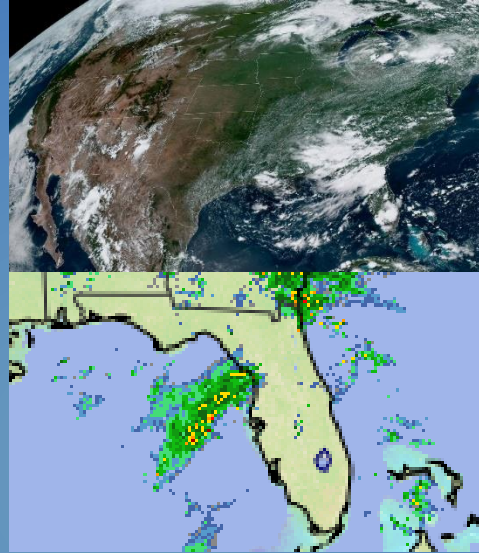


No Forecaster Input

Supplemental/Outlook Products

WARNING

All products have limitations that must be understood to be applied in an operational environment.



5/1/2023

Personal Minimums/Acceptable Risk

PILOT	CROSS COUNTRY ¹		SURFACE WINDS			LOCAL ²		PATTERN ²		
	DAY	NIGHT	WINDS ALOFT	CROSS WIND	SUS-TAINED	GUSTS	DAY	NIGHT	DAY	NIGHT
STUDENT	5000/7	NA	25 KT	7 KT	15 KT	NONE	3000/5	NA	2000/3	NA
PRIVATE	4000/5	7000/7	25 KT	POH ³	20 KT	10 KT	FAR ⁴	4000/3	FAR ⁴	1500/3
COMMERCIAL*	FAR ⁴	4000/3	35 KT	POH ³	25 KT	10 KT	FAR ⁴	4000/3	FAR ⁴	1500/3
Dual VFR	FAR ⁴	4000/5	35 KT	POH ³	PD ⁷	PD ⁷	FAR ⁴	4000/4	FAR ⁴	1500/3
Dual IFR	FAR ⁴	800/2	35 KT	POH ³	PD ⁷	PD ⁷				
Instrument	600/2 ⁵	1000/2 ⁶								

Notes: All heights are AGL; all visibilities SM.

NA—Not Authorized

*Commercial Pilot or Private Pilot with Instrument Rating.

¹Maximum allowable fuel.

²ETE plus 1 hour reserve or 2 hours, whichever is more.

³Pilots Operating Handbook (POH) maximum demonstrated crosswind component.

⁴14 CFR Part 91 minimums.

⁵Or, FAA published minimums, including climb gradients, whichever is greater.

⁶Night circling Not Authorized.

⁷Instructor Pilot's discretion (PD).

Flight Category		Ceiling	Visibility	Alternate	Fuel ¹
VFR	Night ²				+1:15
Special VFR ³	Departure			≥3000/5	+1:30
	Arrival			≥3000/5	+1:30
IFR	New ⁴	+400	+1 SM	≥3000/5	+1:00
	<10 HR in Type	+400	+1 SM	≥3000/5	+1:00
	<5 HR PIC Inst.	+400	+1 SM	≥1000/3	+1:00
	Good to Poor			≥1000/3	+1:00
	TAA ⁵	+400	+1 SM	≥1000/3	+1:00
	Recent ⁶	+400	+1 SM	≥1000/3	+1:00
	Night Circling ²	+500	+1 SM	≥2000/3	+1:00

¹Above FAA minimums.

²NA over scarcely populated areas.

³NA until pilot receives training in SVFR weather.

⁴Less than 10 hours PIC in type and/or less than 5 hours PIC actual instrument.

⁵Or, training/certification in TAA, flying analog or non-TAA aircraft.

⁶Less than double FAA recent flight experience requirements.

Illness



Stress



Medication



Emotion










Alcohol



Fatigue

I'm Safe

Operational Considerations—Preflight


-  Monitor weather patterns—up to 7 days—prior to the planned flight.
-  Obtain a Complete (FAA Standard/Compliant) Weather Briefing:
 -  Including reported enroute weather and forecasts; and,
 -  forecasts for locations without a TAF.
 -  The lack of Weather Advisories does not guarantee the absence of hazardous weather.
-  Minimize latency by obtaining a briefing as close to departure time as possible. Especially, when there are weather issues.
-  Develop contingency plans based on reported or forecast weather.

Operational Considerations—Enroute

 Update weather enroute.


 Check METARs for destination and alternates.

 Check TAFs—especially at TAF update times.

 Whether or not an advisory is in effect, never overlook "real time" sources, including pilot observations, METARs, PIREPs, and Radar and Satellite products.

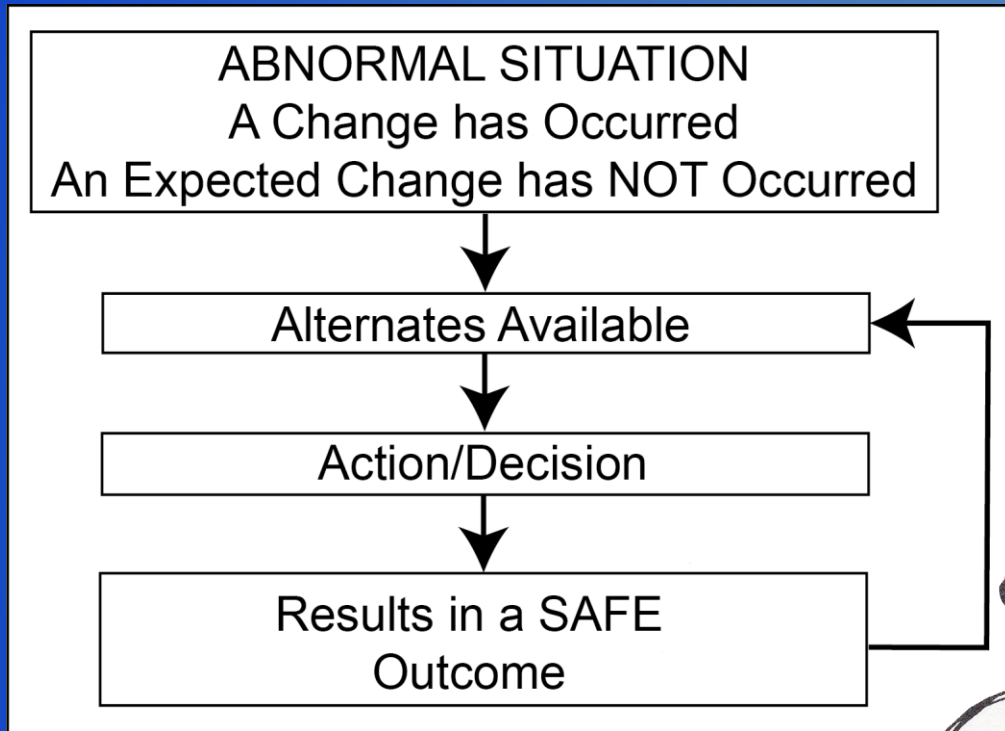
 Get into the IFR system well before encountering IMC.

 Monitor fuel reserves.

 Land short or divert should conditions approach, or deteriorate below, regulatory or (*realistic*) personal minimums—including fuel and surface winds.

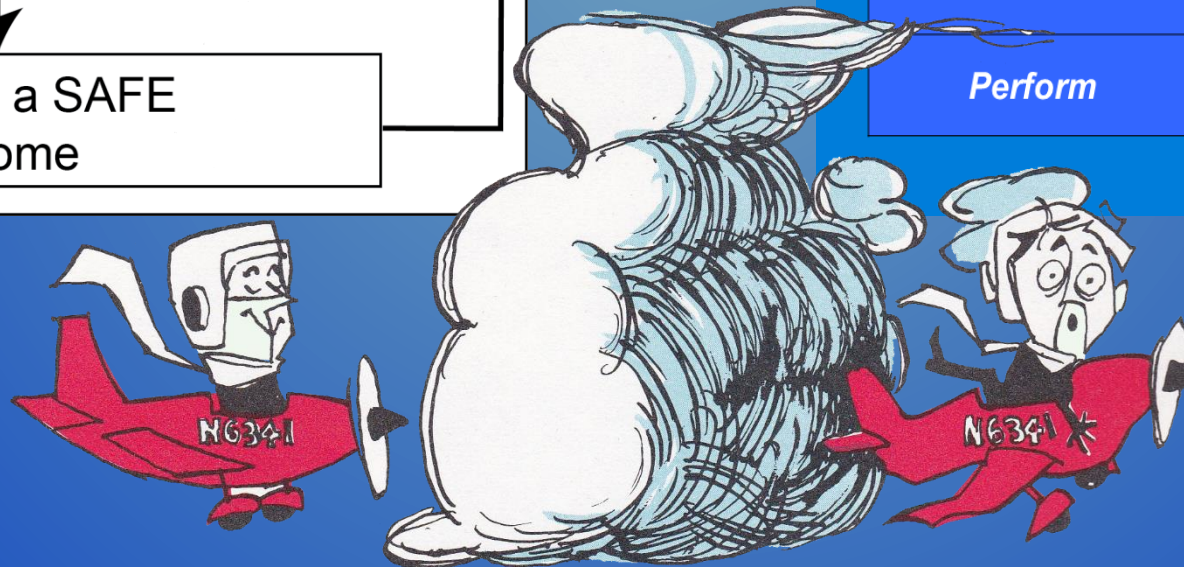
 Do not hesitate to execute a missed approach should circumstances warrant.

Abnormal Situation



The "3 P" Model

<i>Perceive</i>	Perceive a hazards that could adversely affect the flight.
<i>Process</i>	Process the information to determine whether the hazards create risk, which is the potential impact of a hazard that is not controlled or eliminated.
<i>Perform</i>	Perform by acting to eliminate the hazard or mitigate the risk.



Enforcement Action

Enforcement actions may be considered when a pilot fails to obtain or ignores compliant briefing items, exceeds pilot experience/training, or aircraft operating limitations. (For example, VFR or IFR limitations, winds, icing, density altitude, etc.)

Enforcement may be considered (including application of the FAA's "Compliance Program") when a pilot could reasonably expect the likelihood of encountering hazardous weather. Relevant regulatory sections include:

14 CFR §91.103 Preflight Action.

14 CFR §91.9 ...Aircraft Flight Manuals....

14 CFR §91.13 Careless or Reckless Operation.

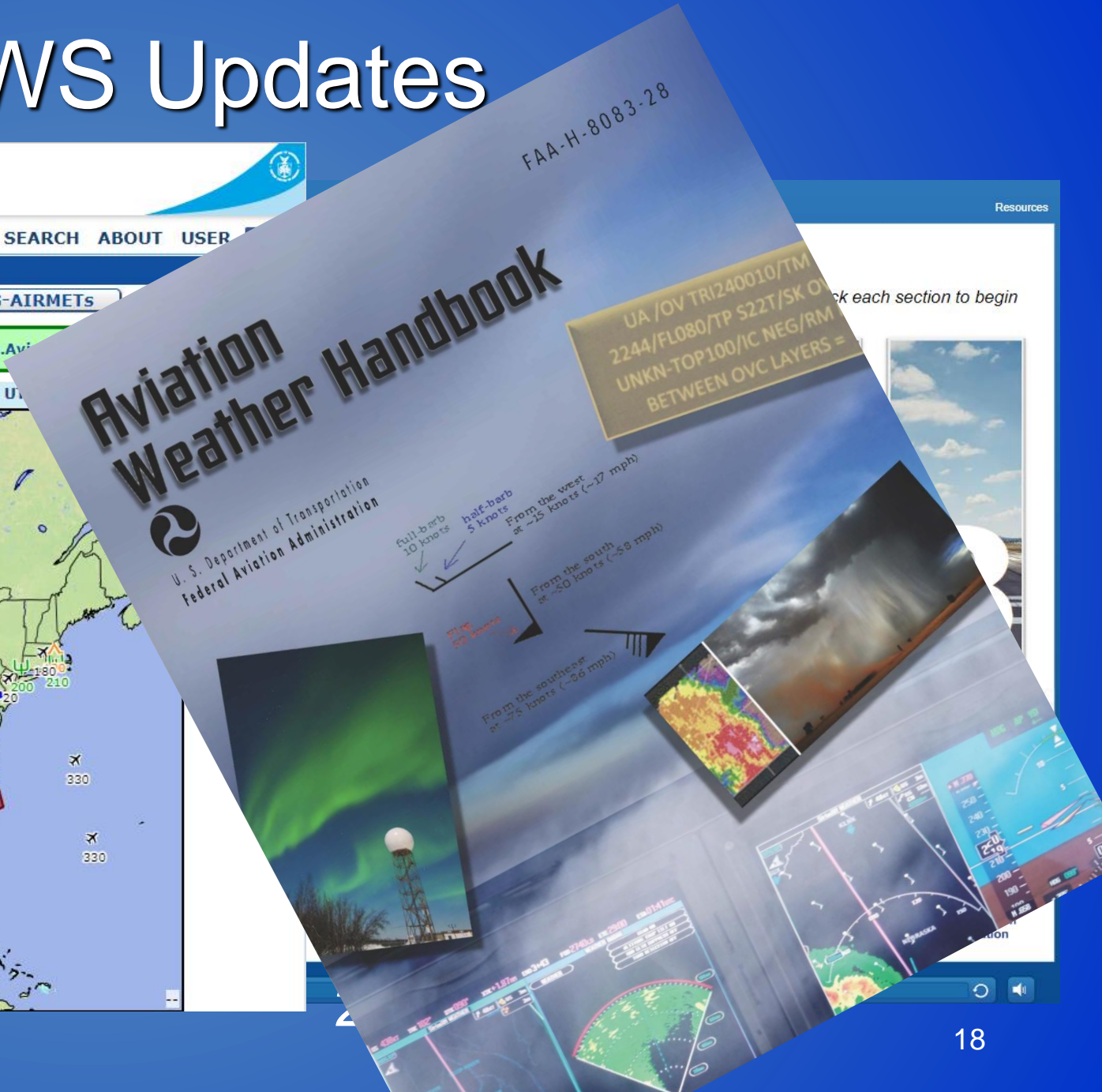


FAA/NWS Updates

Aviation Weather Overview

- METARS
- TAFs
- AIR/PIREPs
- SIGMETs
- G-AIRMETs

NOTICE Please check out the experimental preview of an upcoming version of this site at Beta.AviationWeather.gov



ACREF

Compliant Briefing Elements

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Aviation in itself is not inherently dangerous. But to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity or neglect.



Captain A. G. Lampugh
British Aviation Insurance Group
London, ~1935

LEGAL does not necessarily mean SAFE.



Runway incursion?

SAFE does not mean risk free.

Send questions, comments, or suggestions to:

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