

# Weather Planning





## How do You Flight Plan ??

- Look out the Window ??
- Watch the Local News or The Weather Channel ??
- Check the AWOS ??
  - KPJC: (724) 452-5304KBTP: (724) 586-6434KPIT: (215) 798-0218
- Go Online ??
- Call Flight Service ?? (1-800-WX-BRIEF)
  - In 2005, Lockheed Martin (now Leidos Flight Services) assumed FSS Functions.
- Account-Based Online Services ?? (1800wxbrief.com)
- Subscription-Based Tools ?? (Foreflight, etc.)
- Have you set Personal Minimums ??



## Weather Briefings

- What do the FARs say? (91.103 Preflight Action)
  - "Each pilot in command shall, before beginning a flight, <u>become familiar with all available information</u> 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, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which the pilot in command has been advised by ATC;
  - (b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information..."
- FAA Quote in *Flying* Magazine (May 22, 2024):
  - "The FAA does not prefer one weather source over another, nor do we define a 'legal weather briefing.' It is up to the pilot in command (PIC) to use a weather source that best suits their needs and allows them to meet the preflight planning requirements."
- Obtaining a "Compliant" Self-Briefing:
  - Use Account-Based Login Services (1800wxbrief.com) and/or Subscription-Based Tools (Foreflight) that provide a <u>Structured Briefing</u> as well as a <u>Documented Record of the Briefing</u>.



## Standard vs "Compliant" Briefing

#### Standard (FAA/FSS) Briefing

- 1. Adverse Conditions
- 2. \*\* VFR Not Recommended
- 3. Synopsis
- 4. Current Conditions
- 5. Enroute Forecast
- 6. Destination Forecast
- 7. Winds Aloft
- 8. NOTAMs
- 9. (Prohibited Areas... Special Rules Area)
- 10. ATC Delays
- 11. (Request for PIREPs)
- 12. (Request for TFRs)

#### **Compliant Briefing**

- 1. Adverse Conditions (including TFRs)
- 2. Synopsis
- Current Weather
- 4. Enroute Forecast
- 5. Destination Forecast
- 6. Winds and Temperatures Aloft Forecast
- 7. NOTAMs



#### METARs, TAFs, etc.

- METARs (Meteorological Aerodrome Report)
  - (5) SM Radius, Valid up to (1) Hour from Observation
- TAFs (Terminal Area Forecasts)
  - (5) SM Radius, Issued every (6) Hours, Valid for (24) to (30) Hours
- SPECI (Special Weather Report)
  - Special METAR issued more frequently if conditions change rapidly
    - Visibility Dropping Rapidly
    - Wind Shift by 45 degrees or more
    - Onset of Thunderstorms or other severe Wx
    - Rapid changes in Temperature, Dewpoint, or Pressure
- MOS (Model Output Statistics)
  - Combines outputs from multiple Weather Prediction Tools for >2000 US Airports
  - Up to (72) Hour Forecast
    - \*\* METARs & TAFs Alone are NOT Sufficient for Trip Planning \*



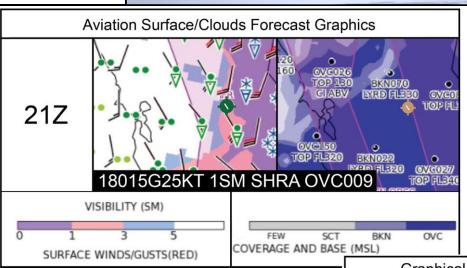
# Subscription-Based Tools (EFBs)

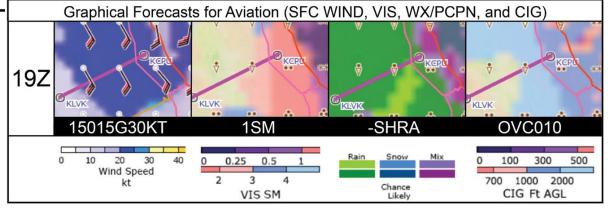
Feature	iFly EFB	ForeFlight	Garmin Pilot	WingX Pro	FlyQ	DroidEFB	Paper Chart
VFR & IFR Navigation Charts	~	~	-	~	~	~	~
Geo-referenced Approach Plates	~	~	~	~	~	~	×
Synthetic Vision	~	~	1	1	~	×	×
Terrain/Obstacle Alerts	~	~	~	~	~	×	×
Scratch Pad	~	1	~	1	~	~	1
Nexrad WX Imagery	~	~	~	~	~	~	×
VFR & IFR Flight Planning	~	-	-	~	~	~	×
Automated VFR Plans (RealPlan)	~	×	×	×	×	×	×
Wind Optimization	~	~	Δ	~	~	Δ	×
Airspace Alerts	~	-	~	×	~	×	×
Visual Terrain Planning	~	1	×	×	×	×	×
Leidos Online Filing	~	~	1	~	~	~	×
Weight & Balance	-	1	-	~	1	~	×
Leidos Preflight Briefing	~	~	-	~	~	~	×
Flight Data Recording	~	~	~	~	~	~	×
Logbook	Δ	~	-	×	~	~	×
Chart Supplement Data	~	~	1	~	~	~	~
FBO Directory	~	~	~	~	~	~	×
Realview Airport Images	~	~	×	×	Δ	×	×
Fuel Prices	~	~	~	~	~	~	×
Graphical TFR, AIRMETS, SIGMETS	~	~	~	~	~	-	×
Backup Flight Instruments	~	~	-	1	~	×	×
Vertical Profile View	-	1	Δ	×	-	×	×
Auto-Taxi Airport Diagrams	~	~	1	~	~	~	×
Auto-Taxi Satellite Images	~	1	×	×	×	×	×
Connected Panel (EFIS)	-	-	-	~	~	~	×
Open ADS-B Receiver Support	~	1	Δ	~	~	~	×
ADS-B Traffic w/Alerts	~	~	~	~	~	~	×
3D ADS-B Traffic Display	1	1	1	×	×	×	×
ADS-B Weather	~	~	1	_	~	~	×
Supported Hardware & Tech Support							
iPad/iPhone	~	1	~	~	~	×	×
Android	~	×	Δ	Δ	×	~	×
Windows	~	×	×	×	×	×	×
Live Support Desk	~	×	1	~	×	×	×
Active Social Media/Forums	_	~	×	×	×	×	×
Overall Score	97%	89%	81%	71%	74%	59 %	1%
User Reviews (App Store/Google Play)	4.6	4.4	3.3	3.4	4.5	4.4	n/a
Annual Subscription (This grid updated January 2024)	VFR 194,99 IFR 1149.99	Basic \$120.00 Pro \$240.00 Perf \$360.00	Std \$109.99 Prem \$209.98	Base 174,99	VFR 199.99 IFR 199.99	Basic <sup>1</sup> 74.99 Pro <sup>1</sup> 149.99	VFR 13,134.0 IFR 5,321.0 Estimate for 1 year, page, always curren





## Graphical Forecasts for Aviation (GFAs)

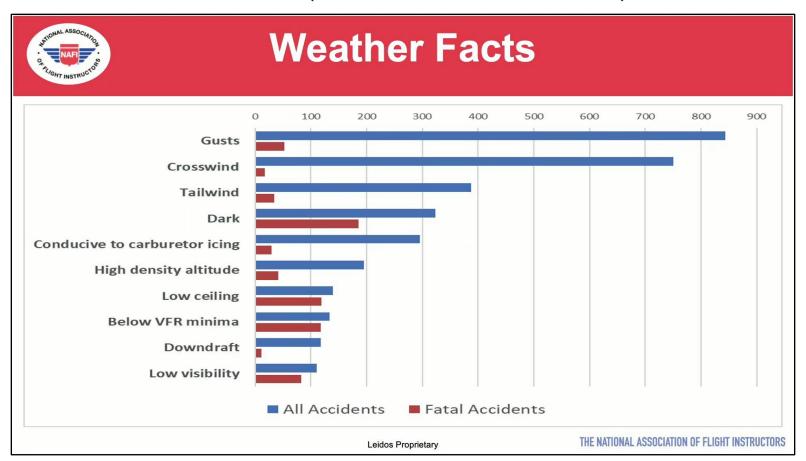






#### Weather-Related GA Accidents

(~25% of All GA Accidents)





## **Personal Minimums**

AOPA AIR SAFETY IN STITUTE  VFR PILOT PERSONAL MINIMUMS CONTRACT  PILOT  MIN. HOURS (LAST 30/90 DAYS)  MIN. HOURS IN TYPE (LAST 30/90 DAYS)  —/	WEATHER  MAX. WIND VELOCITY AND GUST  MAX. CROSSWIND  MIN. CEILING  MIN. VISIBILITY  MIN. VISIBILITY  AIRPORT  RUNWAY MIN. LENGTH  RUNWAY MIN. WIDTH	I WILL  Only fly when I am proficient with the air limitations, performance, normal and emprocedures, systems, and avionics.  Use precautions when transitioning to diffusion aircraft/avionics/systems.  Consider the risks of flying over mountail  Fly with a current GP5 database, charts (a backup (as required).  Consider increasing my personal minimum	ergency fferent nous terrain.	WEATHER	AIRCRAFT
MIN. LANDINGS (LAST 30/90 DAYS)  MIN. LANDINGS (LAST 30/90 DAYS)  VFR INTO IMC TRAINING COMPLETED WITHIN LAST 12 MONTHS  MIN. RECURRENT TRAINING COMPLETED (circle one) PAST 6 / 12 / 24 MONTHS  ASI recommends recurrent training every 12 months with a CFI who s familiar with the aircraft make, model, and equipment.  AT A MINIMUM, MY OVERALL WELLNESS SHOULD BE  ADEQUATE OR WELL VERY WELL  ASI recommends considering sleep, medications, aichol, stress, and other factors that could affect the safety of flight.	Aircraft performance degrades when density altitude is above 1,000 feet. As a result, ASI recommends adding 50 percent to the POH takeoff or landing distance over a 50-foot obstacle.  AIRCRAFT  MIN. FUEL RESERVES (hours: minutes)  DAY	and family are on board.  Always get a recorded FAA weather brief activate a flight plan for flights away fron Request flight following if services are av Fb with a qualified pilot or CFI (or postp. if my personal minimums are not met.  Pilot signature  CFI/witness  Last updated/	AOPA AIR SAFETY INSTITUTE  PROPIDOT MINIMUMS CONTRACT  PILOT MIN. HOURS (LAST 30/90 DAYS) MIN. HOURS IN TYPE (LAST 30/90 DAYS) MIN. HOURS ACTUAL OR SIM. IFR (LAST 30/90 DAYS)  VFR INTO IMC TRAINING COMPLETED WITHIN LAST	MAX. WIND VELOCITY AND GUST  MAX. CROSSWIND  MIN. CEILING  MIN. VISIBILITY  MY EN ROUTE MININUMS  CEILING  DAY  NIGHT  MY EN ROUTE MININUMS  CEILING  DAY  MIGHT  MY PRECISION APPROACH MINIMUMS  CEILING  CEILING  DAY  NIGHT  MY NON-PRECISION APPROACH MINIMUMS  CEILING  CEILING  DAY  NIGHT  MY NON-PRECISION APPROACH MINIMUMS  CEILING  CEILING  DAY  NIGHT  MY NON-PRECISION APPROACH MINIMUMS  CEILING  CEILING  CEILING  DAY  NIGHT  MY NON-PRECISION APPROACH MINIMUMS  CEILING  CEILING  CEILING  DAY  NIGHT  FLIGHTS INTO DEPICTED RADAR RETURNS  (CHECK YOUR COMFORT LEVEL)  RAIN  LIGHT  MODERATE  HEAVY	MIN. FUEL RESERVES (hours : minutes)  DAY : NIGHT : NIGHT : NIGHT of the Iremaining.  As! recommends landing with at least one hour of tuel remaining.  NIGHT FLIGHT IN A SINGLE-ENGINE AIRCRAFT Y / N  IF YES, LIST LIMITATIONS (e.g., no mountainous terrain, no over-water flights, will reach cruise altitude before sunset)    WILL     Only fly when I am proficient with the aircraft imitations, performance, normal and emergency procedures, systems, and avionics.  Use precautions when transitioning to different aircraft/avionics/systems.  Consider the risks of flyling over mountainous terrain.    Fly with current GFS database, charts (or EFB), and a
		© AOPA FOUNDATION	12 MONTHS  MIN. RECURRENT TRAINING COMPLETED (circle one) PAST 6 / 12 / 24 MONTHS  COMPLETED IPC WITHIN LAST 12 MONTHS  ASI recommends recurrent training every 12 months with a cFI who's familiar with the aircraft make, model, and equipment.  AT A MINIMUM, MY OVERALL WELLNESS SHOULD BE  ADEQUATE OK WELL VERY WELL  ASI recommends considering sleep, medications, aicohol, stress, and other factors that could affect the safety of flight.	SNOW	backup (as required).  Not use my aircraft's decining and anti-icining equipment for prolonged flights in icining conditions, but rather to escape icining conditions.  Fly with adequate de-icining fluid (if applicable).  Always get a recorded FAA weather briefling for flights away from home base.  Fly with a qualified pilot or CFI (or postpone the flight) if my personal minimums are not met.  Pilot signature  CFI/witness  Last updated



- Boldmethod Aviation Weather Quiz 1
- Boldmethod Aviation Weather Quiz 2
- Comparing Airborne Radar to Aviation Weather
- CondorAero.com
- <u>1800WXBRIEF.com Demo</u>
- ForeFlight Web Demo
- ADS-B Weather Quiz
- ADS-B Traffic Quiz



## Questions?

