



## On-Board UPDATE for AFC Volunteer Pilots

### FLIGHT COORDINATION - Keeping the CG for AFC



**MISSION PLANNING** - The challenges of mission planning during the winter emphasizes the importance that AFC Pilot(s) have the last word on mission planning. You are the PIC, Safety is the Key! Look at the Origin, Destination & Hand-off Points for your mission. The Coordination Team picks airports near a passenger's home, near their treatment facility and hand-off airports 250-300 mile intervals in between. You review your itinerary and realize there is a better way! Talk it over with your connecting pilot(s) and CALL US (or email a few days ahead) with any airport changes that are better for the passenger (nearer their home), supports the connecting pilot(s) (connect at your home base) and supports the return trip for the passenger; PLUS may be safer for everyone (you prefer a towered airport). But we DO need to hear from you to assure that everyone has been informed (including passengers, other angel flight organizations, and all pilots). AFC knowing the airport identifier changes is a safety measure for you, assures accurate record keeping and helps with future flight planning for the passengers & other pilots.

**Email for Missions:** [request@angelflightcentral.org](mailto:request@angelflightcentral.org)

**PHONE for Missions:** 866-569-9464

**Evenings & Weekends for Urgent issues:** 800-474-6464#



### WINTER FLYING -- "Pilot-To-Pilot"

What's one sure-fire way to know that winter is on its way? If you're a pilot, it's the appearance of icing airmets, low ceilings and frozen precip in the weather brief. While the mention of ice in the forecasts seem to become ubiquitous all winter long, we need to have a strategy for gathering and understanding all the weather data to make sound go/no-go decisions during the winter.

A good place to start is a look at the big picture, what meteorologists call the synoptic situation. Fortunately we have a number of online tools to evaluate the potential for IFR conditions and icing hazards. If you use [ForeFlight](#) on your tablet or smartphone, a review of the various weather products

depicted in graphical national maps is a great way to understand frontal activity and pressure patterns. You can also visit the [ADDS-Aviation Digital Data Service](#).

After checking out the latest surface analysis, prog charts and significant weather outlook, you should have a pretty good idea of what's happening. [Airmets](#) are also good products to review as they advise of weather that may be hazardous—other than convective activity—to light aircraft, as well as larger planes. Airmets are typically issued for conditions that are widespread, meaning it covers at least 3,000 square miles, and are issued in six-hour periods.

As a quick review, airmet components consist of instrument meteorological conditions (Airmet Sierra), turbulence (Airmet Tango) and icing (Airmet Zulu). Gone are the days of trying to decipher and visualize long airmet codes. Today, with a few clicks, we can view a graphical representation of airmets. A picture really is worth a 1,000 words!

Cold fronts, especially fast moving ones, often trigger convective activity as colder air overtakes and plows under warmer air. In the wintertime, our concern with convective activity is its ability to lift substantial amounts of moisture to altitudes where temperature is below freezing. The cloud droplets are cooled to temperatures below 0 degrees Celsius, and yet can remain, for a time at least, in this liquid form.

Warm fronts, defined as warmer air overtaking and being gradually lifted up and over colder air at the surface, often have more limited vertical extent than those associated with cold fronts. The area over which the clouds spread is often greater, however, which can spread low ceilings and limited visibility over a similarly larger number of potential destination and alternate airports under consideration for our planned trip.

The most serious possibility that warm fronts present to us is that of freezing rain or freezing drizzle. Rain forming in the clouds in the overrunning warm air falls through colder air below the frontal surface. If the temperature of this air is less than 0 degrees C, the raindrops will initially be supercooled. Ultimately, given enough time and distance of fall, something will trigger the freezing process in these raindrops.

Thankfully, we've got some excellent technology on our side. The Current Icing Potential (CIP) is an online display of high-precision maps and is updated hourly. It identifies areas of potential aircraft icing produced by cloud droplets, freezing rain and drizzle. The Forecast Icing Potential (FIP) tool depicts icing hazards up to 12 hours in advance. It provides color-coded maps of icing potential from altitudes of 1,000 to FL290 MSL.

In ForeFlight, there is a robust suite of icing products (including [CIP & FIP](#)) that allow you to view the forecast for the severity probability of ice and the lowest freezing level. You can also find these depictions on ADDS.

**Let's Get Specific** Once we have the big picture, we will want to start looking at specifics of the reported and forecast conditions at our departure, destination and alternate airports. En route surface reports may also provide insight into whether a front or pressure system is behaving as predicted. Pilot reports near our departure airport can be valuable data for our decision-making process. As long as the [PIREPs](#) are current, and in a relevant position, they can provide a glimpse of conditions as they existed at the time.

In ForeFlight, you may have noticed a forecasting product called Model Output Statistics (MOS) forecast alongside the traditional TAF. As the name implies, MOS is derived from weather forecasting models, including the NAM (North American Mesoscale) and GFS (Global Forecast System.) At the risk of

venturing into weather geek territory, MOS takes the long- and short-range model guidance and attempts to produce an objective and more useful site-specific forecast. MOS is used by forecasters at the NWS to help generate TAFs, but is never used solely for constructing the TAF.

MOS does have limitations. It cannot "fix" a bad or faulty model forecast. If you use MOS, verify against METARs, satellite and radar data to ensure the MOS guidance appears on track. Also, MOS tends to be less accurate for extended forecasts. In fact, MOS forecast beyond 72 hours isn't much better than using climatology averages. Finally, MOS is not good at predicting extreme conditions. All that said, MOS is best used for generalizations and tracking trends. Once you've gathered all the pertinent weather information, consider these questions:

- 1) Where are the fronts moving relative to your departure, route and destination?
- 2) Where are the cloud tops? If you can get on top, will you be able to stay on top?
- 3) What are the cloud bases along your entire route?
- 4) Where is the warm air?
- 5) Are the surface winds within my personal minimums?
- 6) When is sunrise and sunset? Short winter days may mean some flights may push into darkness, which brings its own hazards.
- 7) What's the runway surface conditions like? Don't trust what you read online. Pick up the phone and call the destination FBO who has eyes outside.
- 8) Is every system on your aircraft operational, such as prop heat, pitot heat, windshield defrostere, anti-ice systems, lights, etc.?
- 9) Do I have plenty of fuel? Plan conservatively, especially in winter when winds can be stronger than forecast.
- 10) What's your out? Regardless of your experience, recent IFR time and equipment, never leave yourself without an out. What if conditions rapidly deteriorate? What if the engine begins to run rough? Always plan our your alternate courses of action, even if it means you return to better weather conditions behind you.

For more great information, check out AOPA's excellent content on [Icing and Cold Weather Ops](#).

AFC Pilot Dianne White served 14-years as Editor-in-Chief of Twin & Turbine Magazine, the first monthly publication devoted to the owner-pilots of heavy twins and turbine aircraft. Today she and her husband Tim White own and operate Kansas Aircraft Corporation, an aircraft sales firm located at New Century Air Center (KIXD). Dianne is a graduate of the University of Missouri School of Journalism and is an active multi-engine, instrument-rated pilot.



## **Civil Air Patrol & AFC Working Together**

Civil Air Patrol members now have the opportunity to use CAP aircraft, nationally, for Angel Flight Central missions. Joe Tebo [AFC Pilot and Major with CAP] worked out the details with AFC for members of the Missouri Wing of CAP. AFC Pilots Stan Edwards and Hans Brosbol (CAP



**AFC/CAP Pilots Hans Brosbol (L) and Stan Edwards (R) - Expanding Opportunities for Pilots**

Captains) also helped with the details and flew the first test flights under the new arrangement. Pilots are given a discount for plane rental and follow the AFC procedures and CAP protocols for flights. See the announcement in [AOPA NEWS](#).

Contact your area [CAP](#) for more information. Contact [Brenda Champagne](#) for AFC questions.

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Boulevard Brewery Beer, Joe's Kansas City BBQ,  
Entertainment and a special gift to take home! [Register Today](#)

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