



December 2023

EAA Chapter 1387 Newsletter



President's Corner | December 2023 | Brett Siefert

We need your help! Would you like to help with the success of Chapter 1387? In order to keep the Chapter running smoothly, elections are now open and we're seeking both President and Vice President positions. Nominations are closed and there is one candidate per position:

President - Bill Jagust

Vice-President - Don Glaser III

To vote, please simply send an email to our current Secretary - Dale Baldwin,
dale.baldwin@gmail.com.

Thank you, Brett

See you at the December meeting!

Event: EAA 1387 Meeting

Date: 13 December 2023

Time: 7:00 PM

Location: Lincoln County Health Department Community Room

5 Health Department Drive

Troy MO 63379

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Please complete your EAA Survey!! This is vital information for what we need to do to



improve our Chapter. Your feedback counts and helps all of us. This also helps EAA Headquarters recognition program and can also impact our ability to capture Ray Scholarship Awards for our members. **Please take the time to do this.** All surveys due by the end of December.



Washington SOAR into STEM follow up

Chapter 1387 along with help from Chapter 32, flew a total of 25? Young Eagles on 4 & 11 November who also participate in the local Washington High School STEM program.

A big thank you to the volunteers. Pilots: Mike Bradsher, Joe Veile, Dave Brickhaus, Bill Jagust. GroundStaff: Brody Seth, Dale Baldwin, Don Glasser, Sarah Lowery, Pat Donovan, and Jennifer Kephart from the Washington School District.

Great weather day with overcast conditions making for generally smooth flights for all!!

Here's some additional info from Dr. Jennifer Kephart who is responsible for this program.

- ➔ [Fall 2023 Video LINK](#): Madelene Jensen from our SOAR class put the video together
- ➔ [Kephart Communications Podcast LINK](#): PeteKephart and Brandon Dowil, from our SOAR class, share information about the program on November's podcast episode
- ➔ Fall 2023 Impact Report (attached): provides overview information on our program



RAY AVIATION SCHOLARSHIP



Congratulations to Brody Seth!!

Brody is our newest Ray Aviation Scholarship award recipient.



The EAA Ray Aviation Scholarship is a scholarship program that is funded by the Ray Foundation, managed by EAA, and administered through the EAA Chapter network. Through the generous support of the Ray Foundation, EAA provides up to \$11,000 to deserving youths to help cover their flight training expenses, totaling \$1,800,000 in annual scholarship funding.

Scholar headsets provided by:



LIGHTSPEED®



In this month's Chapter Video Magazine, Charlie Becker gets you up to date on EAA happenings:

- 1.) EAA Hall of Fame Ceremony
- 2.) EAA Homebuilders Week
- 3.) Webinar - Starting a Flying Club
- 4.) Chapter 1095 Nametags
- 5.) Chapter Survey
- 6.) Chapter Renewal



[Click here!](#)



Chapter 1387 Events for 2023. Always looking for membership inputs on what everyone is working on or what you'd like to share with the Chapter. Building projects, Items of Interest, etc. would be ideal. Please review and send me your input to share! Thanks, Joe V.

Chapter 1387 Calendar of Events - 2023

November

- Officer Elections – President and Vice President
- Member Input – YE Update at Washington STEM Program 11/4 and 11/11

December

- Election Results
- Chapter Renewal by 31 Dec for HQ



AIR FACTS

the journal for personal air travel—by pilots, for pilots

ARTICLES MOST POPULAR VIDEOS NEWSLETTER WRITE FOR US WHAT IS AIR FACTS? Q

TAFs are so last century—here are four new tools to try

SEPTEMBER 18, 2023 / 8 COMMENTS / BY JOHN ZIMMERMAN

If your preflight weather briefing habits don't change every few years, you probably aren't curious enough. Occasionally there are major shifts, like the one from Flight Service phone calls to iPad app self-briefings, but more often we slowly integrate new weather resources and let others fade away. That's exactly what I've done with the Terminal Aerodrome Forecast (TAF), the gold standard of aviation forecasts. I still take a look, but it plays a much less central role in my decision-making process than it did five years ago.

Nothing has really changed with TAFs, but maybe that's exactly the problem. They are still issued four times per day, in the same infuriating format that was first invented for telex machines half a century ago. Sure, an iPad app can translate that code (and those of us who learned to fly before 2000 can even speak fluent METAR/TAF), but why should they have to?

More importantly, the rigid format of the TAF limits the value of the forecast they provide. A TAF is exactly what it says, an aerodrome forecast, so it's limited to conditions within five statute miles of the airport. That means it won't offer much help if the world is ending 10 miles to the west in heavy rain and hail but the airport is clear. And of course there are thousands of airports with no TAF at all. As you may have noticed, weather happens in between TAF locations.



The TAF also has no room for uncertainty or suggesting multiple scenarios. If rain might move in at 1200Z but the forecaster is also considering snow at 1300Z, too bad. The final TAF will probably be quite explicit one way or the other. It's not the forecaster's fault, it's just what the format demands.

The other problem with TAFs is their limited forecast period: 24 hours for most airports, but out to 30 hours at some larger airports. That's not all bad—a detailed forecast like a TAF probably wouldn't be worth much at 72 hours—so the limitation is hardly arbitrary. But sometimes it's helpful to know what the day after tomorrow might be like, at least in general. Low IFR with gusty winds or severe clear? Sometimes a hint is enough to help a GA pilot plan.

While I'm being hard on the TAF, it's mostly doing its job. And to be clear, TAFs are created by experienced forecasters with local knowledge. They are far more than a data puke from a computer model, and should be read that way. But the fact is, we have access to more and better tools now.



Forecast discussion

First up is the forecast discussion, a textual product that is now available in most electronic flight bag apps. This is a fantastic complement to the TAF, because it allows the forecaster room for uncertainty and context. It also stretches out a full week, at least for the broader parts of the forecast. If the TAF is the play-by-play announcer, the forecast discussion is the color commentator (but not quite as annoying as Tony Romo).

If you read one, you'll notice there is an aviation-specific section with details on ceilings and visibility. This is very valuable, but don't skip over the other parts of the forecast. You can learn a lot about how the forecaster arrived at their conclusions by reading about concepts like short waves and troughing aloft. Even if you don't know what all that means, it's a great way to learn about how forecasts get made.

KJKL Forecast Discussion	KJKL Forecast Discussion	KJKL Forecast Discussion
AFD JKL 30m ago	AFD JKL 30m ago	AFD JKL 30m ago
SHORT TERM	LONG TERM	LONG TERM
<p>(TODAY THROUGH TUESDAY) ISSUED AT 501 AM EDT MON SEP 11 2023</p> <p>EARLY THIS MORNING, AN UPPER LEVEL RIDGE OF HIGH PRESSURE WAS CENTERED OVER PORTIONS OF THE WESTERN ATLANTIC WHILE ANOTHER UPPER LEVEL RIDGE WAS CENTERED OVER NORTHERN MEXICO AND EXTENDED INTO PORTIONS OF THE WESTERN CONTINENTAL UNITED STATES. A NARROW SHORTWAVE RIDGE EXTENDED FROM THE LOWER MS VALLEY INTO THE OH VALLEY REGION BEHIND A DEPARTING SHORTWAVE TROUGH. MEANWHILE A DEVELOPING UPPER LEVEL TROUGH EXTENDED FROM AN UPPER LEVEL LOW IN THE HUDSON BAY VICINITY INTO PORTIONS OF THE UPPER MS VALLEY TO THE CENTRAL PLAINS. AT THE SFC, A FRONTAL ZONE HAS SHIFTED WELL TO THE EAST AND SOUTHEAST OF THE APPALACHIANS WITH A RIDGE OF HIGH PRESSURE ACROSS THE LOWER OH VALLEY AND TN VALLEY REGIONS AN SOUTHERN APPALACHIANS TO EASTERN GREAT LAKES REGIONS. PRECEDING THE DEVELOPING UPPER LEVEL TROUGH A SURFACE LOW WAS CENTERED NEAR CHICAGO WITH A WAVY FRONTAL ZONE WEST AND WEST SOUTHWEST TO EASTERN KS TO THE TX PANHANDLE TO SOUTHERN ROCKIES. ALTHOUGH PATCHY BANDS OF MID LEVEL CLOUDS WERE MOVING ACROSS THE REGION CLEARING ACROSS THE REMAINDER OF THE AREA HAS RESULTED IN EXTENSIVE STRATUS ALONG WITH SOME VALLEY FOG AND STRATUS BUILD DOWN FOG. VISIBILITIES HAVE BEEN REPORTED DOWN TO A QUARTER OF A MILE OR LESS AT TIMES AT SEVERAL OBSERVING SITES, THOUGH THESE ARE LARGELY RIDGETOP LOCATIONS. AN SPS HAS BEEN ISSUED TO ACCOUNT FOR THIS FOG TO AFFECT THE MORNING COMMUTE.</p> <p>TODAY, SOME MINOR HEIGHT RISES ARE EXPECTED THROUGH MIDDAY BEFORE A TREND TOWARD FALLING HEIGHTS AHEAD OF THE UPPER LEVEL. THE AXIS OF WHICH</p>	<p>(TUESDAY NIGHT THROUGH SUNDAY) ISSUED AT 416 AM EDT MON SEP 11 2023</p> <p>THE 11/00Z MODEL SUITE 500H ANALYSIS SHOWS TROUGHING DROPPING DEEP INTO THE OHIO AND TENNESSEE VALLEYS ON TUESDAY EVENING WHILE ITS ~561 DAM PARENT LOW WILL BE PASSING OVER THE UPPER GREAT LAKES. LOW PRESSURE PASSING THROUGH THE OTTAWA VALLEY WILL BE SWEEPING A COLD FRONT ACROSS THE APPALACHIANS. BEHIND THAT FRONT, A CHILLY ~1023 MB SURFACE HIGH IS CENTERED OVER/NEAR LAKE SUPERIOR.</p> <p>SHOWERS ARE EXPECTED TO LINGER INTO THE DAY ON WEDNESDAY, ESPECIALLY OVER SOUTHEASTERN KENTUCKY BEHIND THE DEPARTING COLD FRONT AS NORTHWESTERLY FLOW ADVECTS IN THE MUCH COOLER CANADIAN AIR MASS. THE LINGERING CLOUDS AND SHOWERS SHOULD DRY UP BY WEDNESDAY EVENING AS HIGH PRESSURE BUILDS ACROSS THE OHIO VALLEY. THIS HIGH WILL BRING FAIR AND COOL WEATHER FOR THE REMAINDER OF THE WORK WEEK. ANOTHER MOISTURE-STARVED COOL FRONT ARRIVES TO START NEXT WEEK, BRINGING INCREASED CLOUD COVER AND THE POSSIBILITY FOR SOME LIGHT QUANTITATIVE PRECIPITATION FORECAST (QPF). TEMPERATURES WILL BE ON THE COOL SIDE OF NORMAL THROUGH THE PERIOD WITH HIGHS PRIMARILY IN THE LOWER AND MIDDLE 70S. LOWS START OFF IN THE MID 50S TO AROUND 60S ON TUESDAY NIGHT, BUT COOL OFF INTO THE MID 40S TO LOW 50S FROM WEDNESDAY NIGHT THROUGH FRIDAY NIGHT, BEFORE MODERATING BACK INTO THE 50S OVER THE WEEKEND.</p> <p>AVIATION</p> <p>(FOR THE 12Z TAFS THROUGH 12Z TUESDAY MORNING) ISSUED AT 817 AM EDT MON SEP 11 2023</p> <p>AT ISSUE TIME A MIXTURE OF LOW STRATUS AND FOG WITH VISIBILITIES DOWN TO 1/4 OR LESS OR BELOW AIRPORT MINS WAS REPORTED IN SEVERAL LOCATIONS. UNCERTAINTY REMAINS IN TIMING OF HOW QUICKLY THIS LIFT AND DISSIPATES AT ANY INDIVIDUAL TAF SITE OR LOCATION. HOWEVER, THROUGH 15Z, A GRADUAL IMPROVEMENT TO VFR IS EXPECTED AREAWIDE. VFR SHOULD THEN LARGELY PREVAIL, ALTHOUGH SOME VALLEY FOG WITH REDUCTIONS TO AT LEAST MVFR MAY OCCUR LATE IN THE PERIOD. WINDS WILL GENERALLY BE LIGHT AND VARIABLE THROUGH 14Z AND THEN GENERALLY NO MORE THAN 5 KT TO END THE PERIOD.</p> <p>JKL WATCHES/WARNINGS/ADVISORIES</p> <p>NONE.</p> <p>UPDATE... JP SHORT TERM... JP LONG TERM... GEERTSON AVIATION... JP</p>	<p>COVER AND THE POSSIBILITY FOR SOME LIGHT QUANTITATIVE PRECIPITATION FORECAST (QPF). TEMPERATURES WILL BE ON THE COOL SIDE OF NORMAL THROUGH THE PERIOD WITH HIGHS PRIMARILY IN THE LOWER AND MIDDLE 70S. LOWS START OFF IN THE MID 50S TO AROUND 60S ON TUESDAY NIGHT, BUT COOL OFF INTO THE MID 40S TO LOW 50S FROM WEDNESDAY NIGHT THROUGH FRIDAY NIGHT, BEFORE MODERATING BACK INTO THE 50S OVER THE WEEKEND.</p> <p>AVIATION</p> <p>(FOR THE 12Z TAFS THROUGH 12Z TUESDAY MORNING) ISSUED AT 817 AM EDT MON SEP 11 2023</p> <p>AT ISSUE TIME A MIXTURE OF LOW STRATUS</p>

The Forecast Discussion provides a lot more human perspective than the TAF.

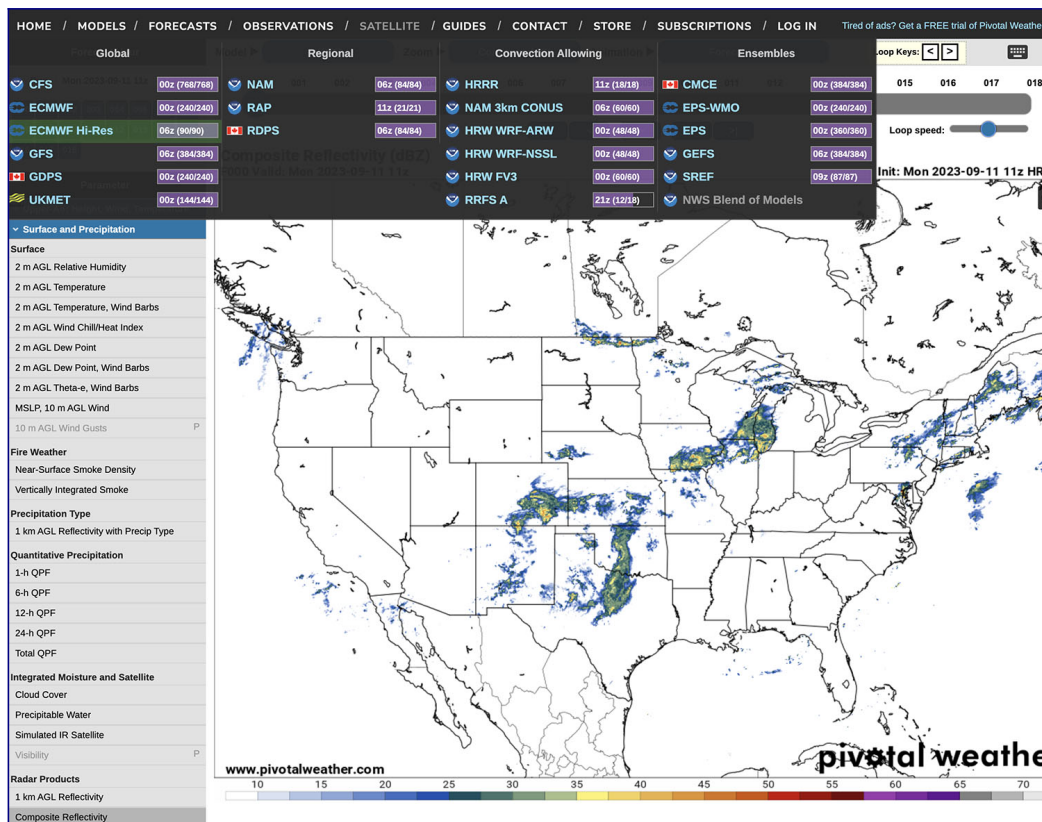


I always note what the forecaster is looking at, because if those big picture trends change then I'll know to be suspicious of the overall forecast. For example, if good visibility is expected due to high overnight low temperatures but you notice temperatures are dropping quickly, then you should be on the lookout for fog. The assumptions underlying the forecast are not holding, so the forecast might not either.

Forecast discussions can vary in style depending on the forecaster (whose name is usually at the end), but the best ones read like great short stories. In particular, you can sometimes see the meteorologist struggling with whether to include a weather phenomenon in the TAF. One recent one read, "Widely scattered showers are likely to develop over central OH, but kept out of the Columbus TAFs due to low probability." That's great information for a VFR pilot flying to Columbus—at least you know how things might go wrong.

Graphical models

For pilots interested in a more visual weather product, there is a flood of graphical weather models now available online, which are essentially computer simulations of what might happen in the future. Most aviation apps don't offer these, but sites like [Pivotal Weather](https://pivotalweather.com) are easily accessible and free. The navigation can be confusing due to the huge number of options, but it's worth the effort. First click on Models in the top menu, then choose one from the top of the map (blue button next to Model>). Once you've selected a model, you can choose which map to view (precipitation, temperature, etc.) from the left side menu, then choose the Forecast Loop option from the Animation> menu so you can see the trend developing over time.

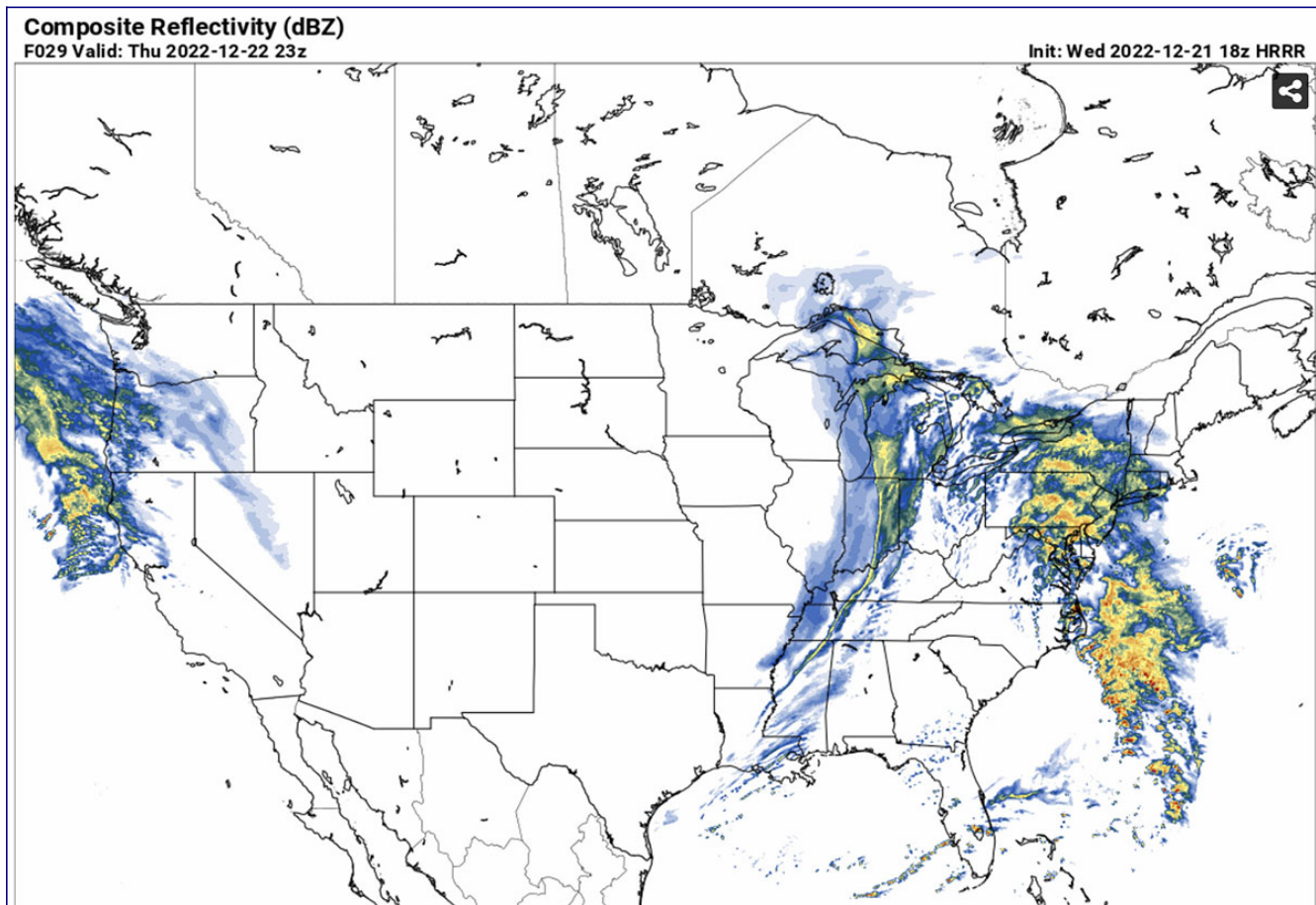


There are plenty of models to choose from: the GFS and HRRR are two to start with.

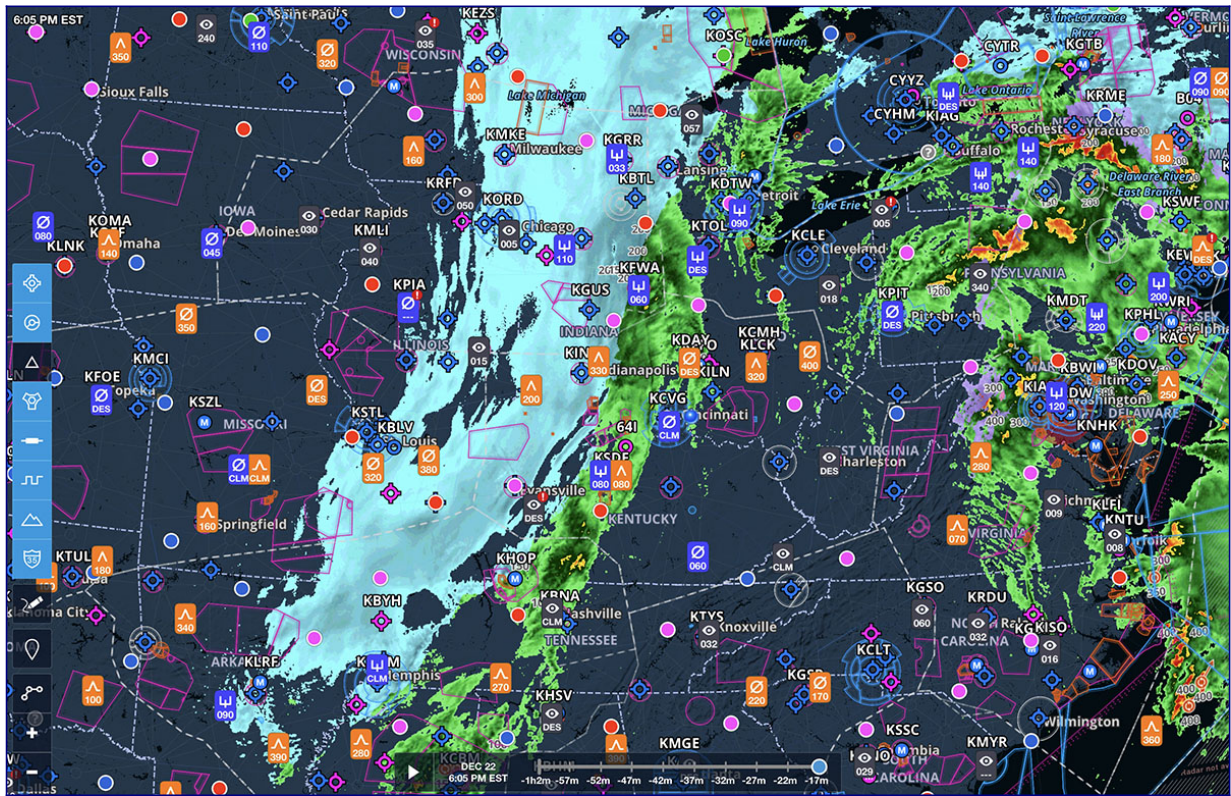


Meteorologists will argue over what the best model is, just like pilots love to argue about the best airplane. The truth is, in the same way a Carbon Cub is not the perfect airplane for every mission, each model has its strengths and weaknesses. Two in particular that I look at are the High-Resolution Rapid Refresh (HRRR) and the Global Forecast System (GFS). The HRRR is a shorter range forecast (typically 18 hours, but four times a day it goes out to 48 hours) and is highly specific about rain and even convection. You can choose simulated reflectivity to see a “forecast radar” map and animate it to see hourly changes. This is tremendously helpful for visualizing how rain or storms might develop, and always something I look at if I’m trying to plan the best departure time.

It’s worth emphasizing that this is a model, so just because the HRRR shows no storms at your departure time 24 hours in the future does not mean you are guaranteed a smooth flight. This should be backed up by a look at the surface analysis, satellite imagery, TAFs, and all kinds of other weather products. It’s also worth noting how well the 0-hour forecast matches current conditions—if the model has a bad starting point, it may not get better. Having said that, I have found this model to be quite accurate in recent years. Here’s an example of an HRRR simulated reflectivity image for 29 hours out:



And here’s the actual radar image:

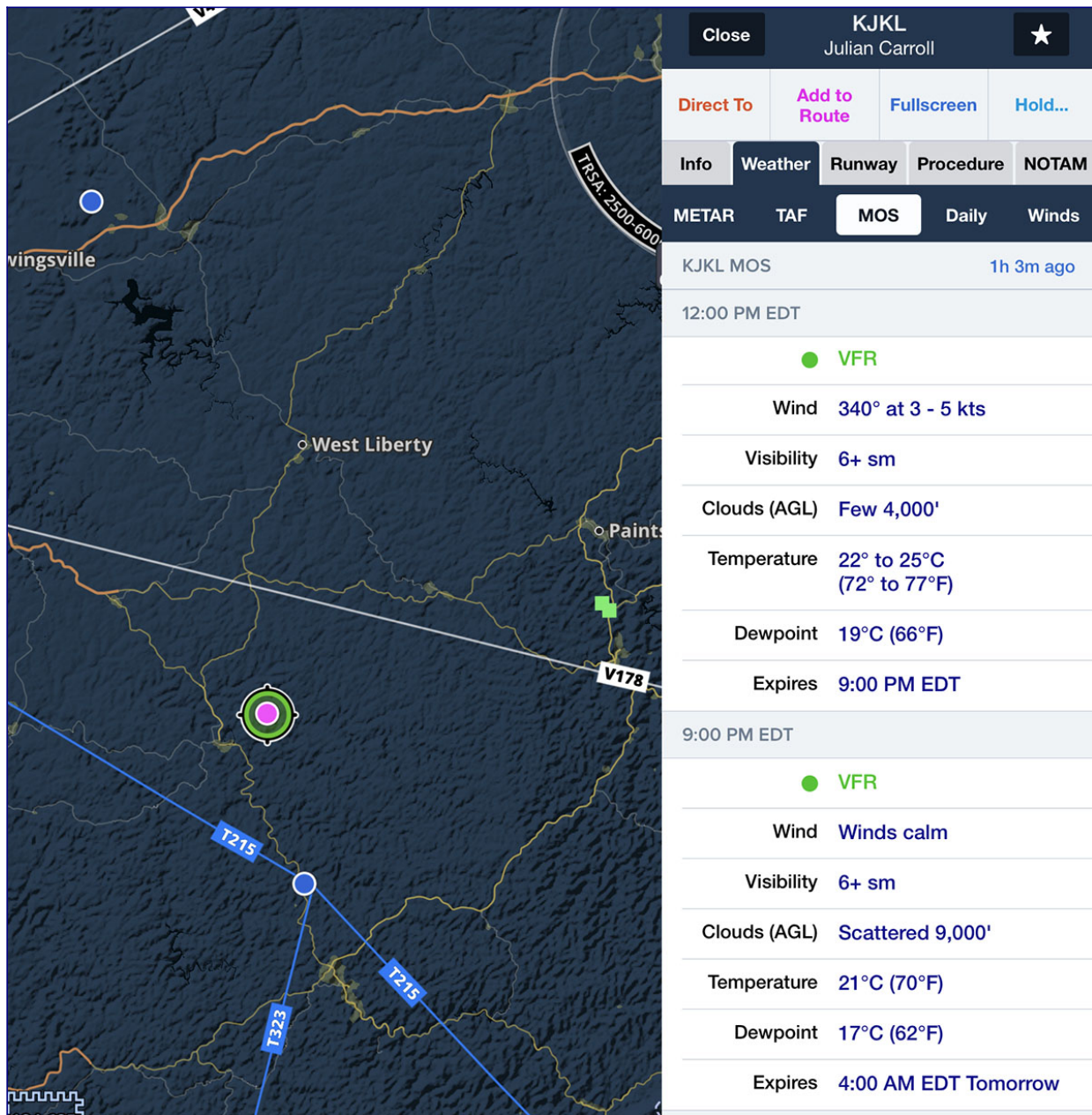


Not bad for planning possible scenarios for a flight tomorrow.

The GFS model is not as precise as the HRRR—the simulated reflectivity layer is not quite as detailed and the forecast resolution is 3 hours—but it goes out 16 days in advance. I use this model for longer range planning: should I come home next Saturday or Sunday? The GFS can't give you a black and white answer, but it can suggest when a big front might be moving through. If nothing else, it helps to refine the next steps in your planning.

Model Output Statistics

Another way to look at models is with the textual Model Output Statistics (MOS), which are essentially a text version of the models above (meteorologists: I know it's a little more complicated, so don't send hate mail just yet). These have been around for decades, but in recent years they have found their way into aviation apps because they are available for over 1500 locations—many more than the number TAF sites. In ForeFlight, for example, tap on an airport and go to the weather section, then MOS. The app decodes the text into an easily readable format, including wind, visibility, ceiling.



MOS forecasts are available in most EFB apps, like ForeFlight.

No human is involved in a MOS and the predictions are mostly categorical (visibility of 2 miles probably means IFR, not literally 2 miles), so don't make the mistake of reading one like a TAF. They are also not a replacement for a TAF when it comes to alternate airport planning. But a MOS is a helpful resource at remote airports, and the forecast goes out to three days. The key is to focus on the trend (are ceilings coming down tomorrow afternoon?) instead of specifics (what will the wind be at 1800Z?).

Graphical Forecasts for Aviation

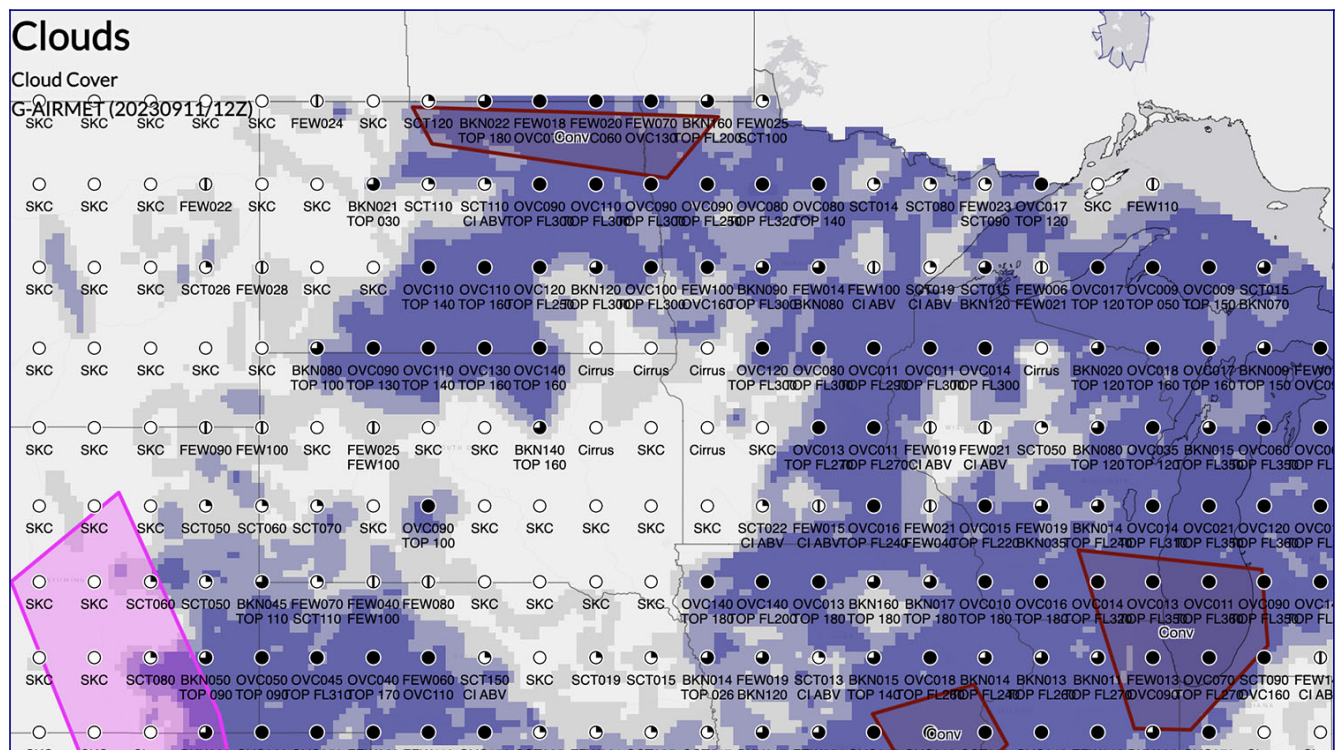
While I do most of my preflight planning in ForeFlight or Garmin Pilot, for challenging flights it's definitely worth visiting [AviationWeather.gov](https://aviationweather.gov). This has recently been upgraded to be much more



modern and interactive (although there are a few quirks to learn). The most valuable tool is the Graphical Forecasts for Aviation (GFA), which provides forecast maps for precipitation, clouds, turbulence, icing, and much more.

For VFR pilots, the forecast cloud map is particularly helpful. This is an easy-to-read depiction of cloud bases and tops, in one-hour increments out to 18 hours. At a glance, you can tell whether that cloud layer is low and thick or just high level cirrus. Likewise, it's easy to see how widespread clouds might be, and whether a new route might keep you clear of them. For IFR pilots, the cloud tool is great for staying out of ice: can you get on top or will you be slogging through below-freezing clouds?

Don't forget the 4D element of this tool. By using the slider bar at the bottom, you can see how clouds change over time. Often the go/no-go decision comes down to "when should we go?" The GFA map is ideal for testing out different scenarios.



The cloud forecast chart is a great way to play VFR flights.

Use all the tools

To be clear, I'm not suggesting pilots ignore TAFs. If a professional forecaster is calling for low IFR conditions at your destination all day, that's a strong hint that a VFR flight for a \$100 hamburger is a bad idea. But neither should pilots rely solely on a TAF for preflight planning—it's like trying to understand the world around you by looking through a periscope.

Fortunately for pilots, there is a whole new world of weather tools out there, available for free on your phone or tablet. Learn how they work and use them. They can absolutely help you fly more safely, but at the very least they can reduce some preflight stress.





PILOT'S TIP OF THE WEEK

Set Pitch Trim in One Shot

Featuring Bruce Williams

Subscriber question:

"My instructors always told me to 'trim off the control pressures,' but no matter how much I try, I feel like I never get the airplane perfectly in trim. What am I doing wrong?" — Joe P.

Bruce:

“Early in our flight training, most of us learned a simple mantra for using trim: Pitch ... Power ... Configuration ... Trim.

If you change pitch, power, or configuration, you affect airspeed (actually you affect AoA) and you need to adjust the elevator trim — eventually.

Unfortunately, we're often too quick to reach for the trim. If you trim before the airplane has settled at a new constant airspeed, you just need to trim again later. You end up making frequent, small adjustments and the airplane is never properly trimmed.

Here's a simple fix: When you change pitch, power, or configuration, wait at least five seconds before you touch the elevator trim. If it helps, verbally or silently count to five (or even ten), and only then reach for the trim.

The key to using trim correctly is remembering that elevator trim is a secondary flight control, adjusted to relieve control pressures after the airplane has stabilized. Unless the change is temporary, such as when you make a small pitch change to recapture cruise altitude after updating the altimeter setting. In that case, you quickly return to the previously trimmed steady state.

The five-second rule might not always apply. For example, suppose you have trimmed the airplane at or near idle power with full flaps on final approach. The trim is set far into the nose-up range. If you add full power for a go-around, you must push forward on the yoke or stick to keep the nose from rising abruptly.

In this situation, it's helpful give the trim a quick nose-down swipe immediately after you add power to help manage the force required to hold the nose at the correct go-around attitude. You can fine-tune the trim after the airplane is climbing safely away from the runway and you have established the pitch attitude and configuration for a stable climb speed.”





Upcoming EAA Webinars

EAA gratefully acknowledges the support of Aircraft Spruce and Specialty Co. for their generous sponsorship of EAA webinars. **Registration is required, and space is limited.**

[The Clyde Lee and Earl Iverson Story](#) | Museum Webinars Series

Tuesday, December 12, 7 p.m. CST with Amelia Anderson and Chris Henry

In a time when flying the Atlantic was only for the daring, one team with an Oshkosh tie decided to give it a try. Let's talk about this footstep in aviation history.

[Starting a Flying Club](#)

Wednesday, December 20, 7 p.m. CST with Timm Bogenhagen

EAA's initiative to support the formation of flying clubs by the members of EAA's chapter network continues to grow, and Timm Bogenhagen from the EAA will help you learn the basics of forming a separate nonprofit flying club at your local airport!

[Time & Materials Maintenance](#) | Qualifies for FAA WINGS and AMT Credit

Wednesday, January 3, 7 p.m. CST with Mike Busch

In this webinar, GA maintenance advocate Mike Busch A&P/IA discusses this issue, and suggests some better ways to deal with aircraft maintenance pricing.

[The Van's RV](#) | Museum Webinars Series

Tuesday, January 9, 7 p.m. CST with Chris Henry & Dick VanGrunsven

The Van's RV series is one of the designs that changed the landscape of homebuilt aircraft. Tonight we will talk about the examples in the EAA Aviation Museum collection, as well as the history of the type.

[Chilly Checklist: Tips to Preheat Aircraft Engines](#) | Qualifies for FAA WINGS Credit

Wednesday, January 10, 7 p.m. CST with Prof. H. Paul Shuch

This FAA Safety Team WINGS and AMT Award webinar is being presented in the dark and chill of Northern Hemisphere winter, when aircraft engines are especially difficult to start. Prof. H. Paul Shuch discusses why, wherefore, and how to preheat your engine, review products on the market that will help you to do so, and even learn how to build your own budget preheater. Don't let low temperature starts ground or damage your aircraft!



This and That.....

As if Brody isn't busy enough - Nice Buck Brody!

Courtesy of the Lincoln County Journal



**Brody Seth, age 17
13 point buck near Perryville, MO**

Anyone know if this is Jake M?....a little low!





How Can We Help?

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Helpful Links:<https://www.eaa.org/ea><https://chapters.eaa.org/EAA1387><https://www.faasafety.gov>

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