

## Using Your Resources: Weather Products

By Chip Legett

CFIs, how do you check your students' weather before you send them out on a cross country? Are you relying on them to find the problems?

If your student doesn't hand you a printout of their DUATS WX Briefing (with everything included), you should be looking at the weather as if you were going on the flight and taking a loved one with you.

I was reviewing a student's WX briefing materials one time and just happened to pull up the TAF from what I thought was the nearest airport. I was wrong, but I was lucky. It turns out that there was actually an airport about three miles closer. My student had gotten information from the other airport's TAF and it showed everything to be clear and beautiful. When I pulled up the TAF from the slightly further away airport, I happened to notice one thing that hadn't been on the other TAF: WS010/36040KT. Do you know what that means? Would you send a student into that? It means that my student could have encountered almost 40KTs of wind shear at or near traffic pattern altitude. The winds above the shear level (1000AGL) were 360 @40KTs, below they were almost calm.

There are a large number of times where I must confess to having taken a quick look at the weather for a flight and called it "good enough." This WX-at-a-glance usually consisted of a quick glance at the TAF's for OUN and where ever I was going and a peek at a surface map or weather depiction chart. No low clouds? No precip? No fronts? WX is a go!

Except not.

Two things in this scenario are just waiting to turn around and bite you. First, nowhere in there did we actually look at the forecasts along our route of flight. Second, we're depending on the TAFs to detect any adverse weather at or near our destinations.

The things we should do at a minimum to check the forecast conditions along our route of flight include pulling the winds aloft, looking at all the TAFs along the route, and reading the area forecast and convective outlooks. Huge benefit can also be found by reading the PIREPs, AIRMETs, SIGMETs, and Convective SIGMETs for the area within 200nm of our route of flight.

Ok, head on over to <http://www.aviationweather.gov> and pull up the TAF request form. See the bold example text right above the box? Ever stop to wonder what the @KS is all about? It gives you the TAFs for the **entire state**. There are only 17 in Oklahoma. Go ahead and type @OK in the box and hit "Get TAFs." Now just scan down the left hand side of the page until you find something remotely near your route of flight. Read those TAFs. Any low clouds? Any precip? What are the winds like? Visibilities OK? Now we're getting a little better picture of what's going on. Learn to read military TAFs. They're a little

different, but you can get the gist of what's going on with just a quick glance. One quick rule: 9999 means visibilities are good... if you don't see that, investigate further.

The winds aloft bear a little more looking at than usual too. What times are those winds valid for? Ever use the time period selection option at the top right of the page? You might be looking at what the forecast winds are right now, but not what they're supposed to be in an hour!

Our second problem from above, only using the TAFs to detect adverse weather, takes a little more doing. Area forecasts are generally useful only as a starting place. They're very "coarse" when it comes to forecasting weather. They'll show you many major problems, but you can expect them to gloss over important things like forecasted wind shear or more than just a basic "OTLK VFR" if things aren't terrible. This is a great place to **start** looking at the weather as it can clue you in on what things you might want to focus on later. One last thing here: Kansas is in a different area than Oklahoma, make sure you're reading the right one if you're flying up there.

A good place to go next is the convective outlook. This is a much more technical outlook designed primarily for other meteorologists. If you are reading this and you don't understand what they're talking about, it's OK. Just keep reading until you find something you understand. A perfect example of this is the current Outlook as I'm writing this. I've highlighted the parts you should actually take away from reading this part of the discussion:

**THE DEEP LAYER SHEAR WOULD BE SUPPORTIVE OF ORGANIZED STORMS...BUT SINCE THE STRONGEST FORCING WILL REMAIN NORTH OF THE FRONT AND FORECAST SOUNDINGS SHOW A WARM LAYER BETWEEN 600-700 MB...THE SEVERE POTENTIAL APPEARS LOW.**

As you can see, you can cut a lot of the meteorology out of it and it still makes sense. Depending on who is writing it for that period, it may have a nice section called SYNOPSIS. If it's there, you can usually get away with just reading that first to figure out what else you need to read.

As always, check the prog charts. ALL of them. There are only 4 panels to look at and they're pretty simple: any area/line/shading/symbol along or near your route of flight needs to be explained. I don't care about the WX in Florida, just what's going on between here and wherever I'm going. Look at the 24 hour forecast too, it tells you what's supposed to be happening later. It's a forecast, it can be way off on the arrival time. It will also give you a better idea of what's going on.

In short, don't skimp on the weather. Don't let your students skimp on the weather. If you don't understand the situation to your comfort, call a briefer and ask them questions, that's what they're there for. No more accepting "Yeah it's fine" as a response to "How's the weather look?" If Dave walks up to you and asks you about the weather along your student's route of flight will you have to look it up or will you already know?