Can we safely fly gliders on windy days?

1. What are the risks with stronger winds, and where do you draw the line?

Strong, gusty winds can make:

1) handling a glider on the ground more difficult

2) takeoffs more turbulent and increase the risk of a difficult or unsafe emergency landing caused by, e.g., a broken tow line

3) it more difficult to remain a safe distance upwind of the airport

4) flying a safe landing pattern more difficult since the effects of ground speed changes can cause you to think that: you are too high, only to realize that once you turn into the wind (onto base or final leg, say) your descent angle will increase significantly

5) turbulence on final and during roll-out after touchdown, leading to possible loss of control.

One more important factor to consider is the wind speed compared to an aircraft's approach and stall speed. For most gliders, certainly our 2-33, having wind gusts exceeding or even approaching 50% of either of those speeds means that it's a good day to stay on the ground.

So, where do we draw the line? For most gliders, and especially for newer, less experienced pilots, I consider 15 kts to be the 'red line.' One of the things a pilot must learn is when NOT to fly. Why take an unnecessary chance?

2) I noticed today's forecast calls for winds in the SW direction, which I think is somewhat in line with the runway. I understand that generally all strong winds are unfavorable no matter the direction, but would you give any special consideration to a forecasted cross wind?

Good question about crosswinds. The challenge of maintaining a safe position and altitude in the pattern remains the same. But turbulence closer to the ground is much more likely (especially when landing on R23 at Van Sant), and touching down and rolling out under full control in a lively cross wind can be more difficult. In general, a strong, steady wind right down the runway is much easier to deal with than a direct cross wind of the same speed.

But even a smooth, steady wind right down the runway can cause problems. Let's say you've entered the pattern properly and realize that there is a 20 kt wind right down the runway. Unless you plan ahead and correct for it on the crosswind leg, that wind will push you to your left so that you enter the downwind leg of the pattern closer to the touchdown end of the runway. And, on downwind, your groundspeed will have increased by what is now your tailwind. That, in turn, will make it seem that you are too high at a point where you might normally turn onto base. And when you do turn onto base, what will now become a left crosswind could push you farther from the runway than you should safely be. Then, when you do turn onto final, your groundspeed will decrease because of that 'headwind,' and your descent angle will increase, making it more difficult to touchdown safely on the runway.

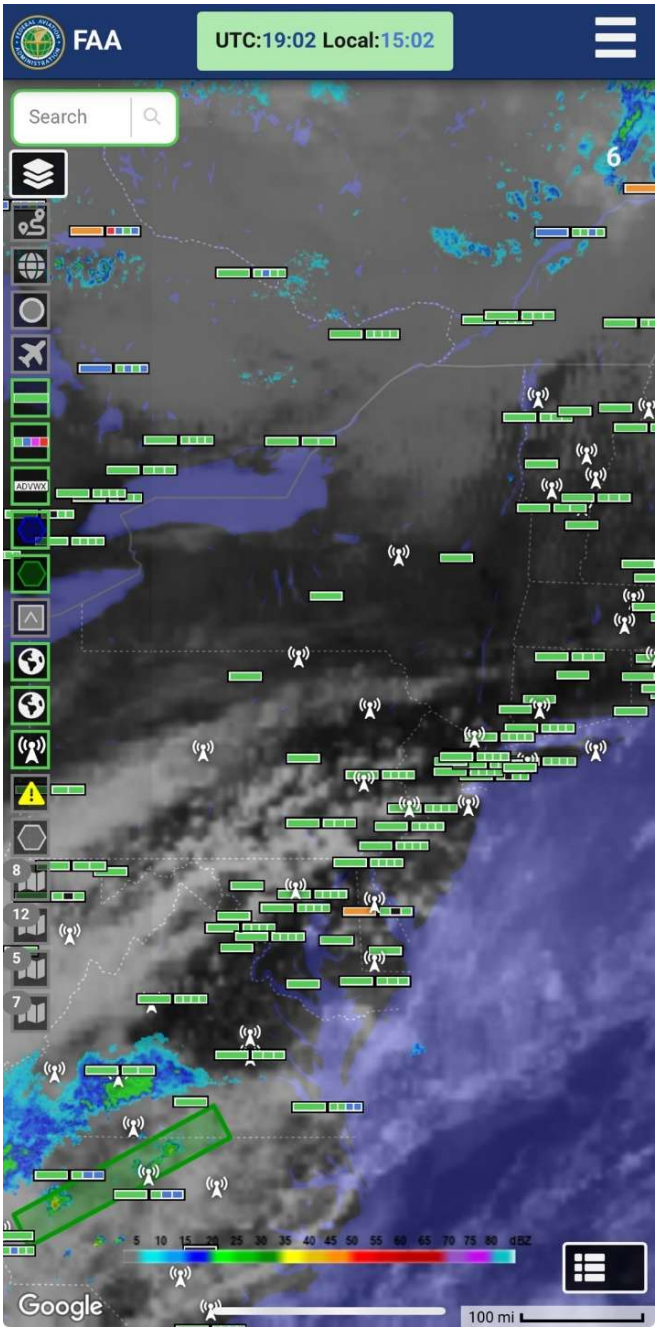
And what about take-offs into a strong, steady wind? Even when no turbulence, nice and smooth…. But, at 250' you get a rope break. You turn to the left and plan the landing. But you realize that, with this wind, you are much higher than you'd like to be given your position. And, what is now a strong downwind is going to make a safe landing on the runway a lot more difficult.

What weather forecasting app is best to use to predict soaring weather?

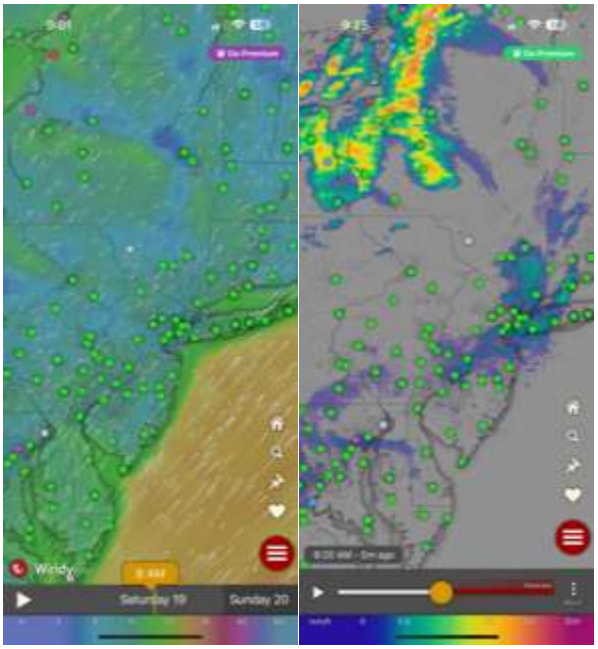
1) Is there a particular forecast app or website you prefer to use?

The app that I tend to use is **ForeFlight** https://foreflight.com/**, but that's not a free one**. (It offers much more than weather.) But for a quick check using 'official' data, there's **FlyQ Insight** on iOS and Android. https://www.seattleavionics.com/FlyQInSight.aspx. You can select an airport (such as nearby Doylestown (KDYL) that reports weather and see the current METAR ("Meteorological Aerodrome Report") as well as the TAF (Terminal Air Forecast) for it or the nearest reporting airports. (For Doylestown that would be Trenton – KTTN, and Allentown - KABE.) And it also gives the very important 'winds aloft' info.

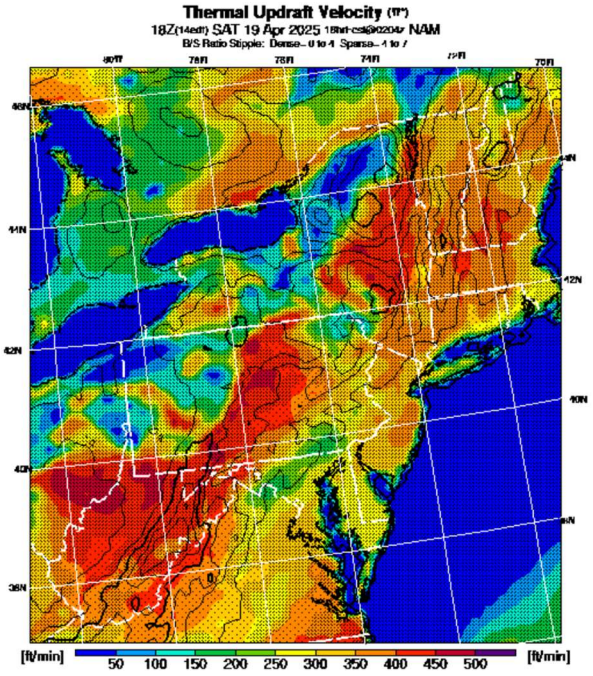
The FAA recently launched its own **WeatherCams** app https://weathercams.faa.gov, also available on iOS and Android. It offers so much (as you might guess from the tabs on the left of the screenshot) that it can be a bit confusing at first, but it is very powerful and useful.



Another interesting weather app is **Windy** https://www.windy.com. It provides all sorts of information but has recently increased its (free) services to include aviation weather. You can tap on any of the colored circles for airports on the app's map and get weather info - so far everything I've seen has matched the 'official' data. What I like about it is that this map also shows arrows representing wind direction and relative speed just to get a quick overall view of what's happening in your general area. It also can display weather radar, so you can make sure to avoid any rain or thunderstorms that might be on their way.



4) For predictions about thermals, you can use **Drjack,** http://www.drjack.info/BLIP/NAM/NE/index.html, but I've found that looking at the cloud layers, the winds aloft, and the temp-dew point spread provides a pretty good estimate of what lift might be available.



"These recommendations have not been evaluated or approved by the FAA and are not designed to diagnose, treat, cure, or prevent any piloting deficiency."