Weather Resources For
the Glider Pilot

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What You Need to Know

- VFR conditions
- Surface winds at home airport
- Winds aloft at 3000’ and 6000’
- Soaring conditions
Official Weather Briefing

- § 91.103 Preflight action for a flight not in the vicinity of an airport must include obtaining weather reports and forecasts
- Only two ways to get an official briefing:
  - 1-800-WX-BRIEF
  - DUAT (requires current Medical)
Gotcha!

- FAA has no specific fixed definition of “in the vicinity of an airport.”
- Meaning is interpreted on a case-by-case basis.
- Don’t count on a favorable interpretation.
- Example: “congested area…” in 91.119
Non-official Briefing

• The Aviation Weather Center has links to all the information provided in an official briefing:

• With one exception (TI), every type of weather info to be discussed here can be accessed from the AWC.
Thought Question

• Why can’t you *legally* fly a glider in IMC?
• …even if you have this:
VFR Requirements

- **Altitude**: over a “congested” area, 1000’ above highest obstacle within a horizontal radius of 2000’ of the aircraft (91.119)
- **Weather minimums**: Visibility = 3 statute miles; Distance from clouds = 500’ below (91.155, Class E)
Obstacles at 3B3
Weather Minimums at 3B3
A Closer Look
Do the Math

- *Minimum altitude* except for takeoff and landing = 750’ + 1000’ = 1750’ MSL
- *Minimum ceiling*: 1750’ + 500’ = 2250’ MSL
- *Visibility*: If you can see *all* of Mt. Wachusett (including the tower) you’ve got enough.
Prepare for a Quiz

• 24-hour forecast
• 48-hour forecast
• We’ll do this “live”, so there’s no guarantee of flyable weather. We get what we get.
Graphical Forecasts

- General weather information, but with some aviation-relevant information:
METARs and TAFs

- **METAR**: *Current* weather at a specific airport (ICAO)
- **TAF**: *Forecast* weather for a specific airport (ICAO)

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*MÉTéorologique Aviation Régulière
*Terminal Aerodrome Forecast
Additional Local WX Info

• Worcester Airport (KORH) ATIS
  – 126.55
  – (508) 757-0962

• Fitchburg Airport (KFIT) ASOS:
  – 135.175
  – (978) 343-9121
Winds Aloft

- Altitudes up to 12,000’ are MSL
- Winds and Temperatures Aloft forecast is displayed as: **DD ss +/- TT**:
  - DD = Two-digit wind direction (True)
  - ss = Two-digit wind speed, knots
  - TT = Two-digit temperature, Celsius
- Forecast made four times a day: 0000Z, 0600Z, 1200Z and 1800Z
- [http://www.usairnet.com/cgi-bin/Winds/Aloft.cgi](http://www.usairnet.com/cgi-bin/Winds/Aloft.cgi)
Winds Aloft Special Cases

- Wind speeds over 99 knots are decoded by subtracting 50 from the direction and adding 100 to the speed.
- Light and variable winds are coded as 9900.
Progs

• Analysis and forecast of surface weather conditions: a prog shows pressure centers and frontal positions. Yellow dashed lines indicate troughs of low pressure.
• Use progs to estimate flying conditions in the near future (up to 48 hours)
• http://www.aviationweather.gov/adds/progs
Prog Details

- Analysis data for the "latest analysis" chart is provided every 3 hours.
- 12 and 24-hour forecast data are produced four times per day at approximately 0300Z, 0900Z, 1500Z, 2100Z.
- 36 and 48-hour forecast data are produced twice daily at approximately 0600Z and 1800Z.
Prog Symbology

- **Surface front codes**

- **Precipitation symbols**
SIGWX Charts

• Graphical forecast of aviation weather hazards
• Use for go/no-go decisions
  – http://www.aviationweather.gov/products/swl/
• Help for interpreting SIGWX charts
Weather On Your Smartphone

• Weather apps:
  – https://market.android.com/apps/WEATHER
• Also check out the December 2011 issue of *Soaring* for more aviation apps
Jetstream Online School for Weather

• Learn all about weather and weather information sources.
  – http://www.srh.noaa.gov/jetstream/
Quiz

• 24-hour forecast?
• 48-hour forecast?
What are you going to put in Box 12?

![FLIGHT PLAN](image)

**CLOSE VFR FLIGHT PLAN WITH**

PSS ON ARRIVAL
Answer to Thought Question

• A glider cannot meet the fuel requirements of 91.167.
• No exemption for uncontrolled airspace: flight visibility and cloud clearance rules are still in effect (91.155)
• Operating in IMC without an instrument rating is “careless or reckless” operation under 91.13.
Thermal Index

• TI is a measure of atmospheric instability
• Subtract the temperature of a rising parcel of air from the temperature of the surrounding air at the same altitude.
• **Negative** result means the rising air is warmer and will continue to rise.
Interpreting TI’s

- -1 to -2 produce barely soaring conditions
- -3 produces minimal soaring conditions
- -5 to -9 produce the best soaring conditions
- < -9 leads to overdevelopment and thunderstorms
TI Reports

• GBSC website provides TI reports for Sterling and Franconia

• Direct links for Sterling:
More on soaring in our next session
- The End -