



Students & Rusty Pilots

Program 1

Aviation Weather 101

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The Disclaimer

I'm just a pilot sharing aviation knowledge with those who are interested. I'm assuming I'll learn/relearn some things as well.



To Fly or Not to Fly?

- If it were only this easy to decide.



This is the Question

- Can we fly when it's like this.



FAR Weather Minimums

- 91.155 Basic VFR weather minimums (abridged)
 - Class B
 - Visibility => 3SM
 - Distance from clouds => Clear of clouds
 - Class C, D, E below 10,000 feet MSL:
 - Visibility => 3SM
 - Distance from clouds => 500' below, 1,000' above, 2,000' horizontal
 - Class G \leq 1,200' AGL
 - Day: Visibility => 1SM, Clear of clouds
 - Night: Visibility => 3SM, 500' below, 1,000' above, 2,000' horizontal



Weather Basics

- The atmosphere is thicker at the equator and thinner at the poles and would flow in a circular pattern between the equator and poles if...

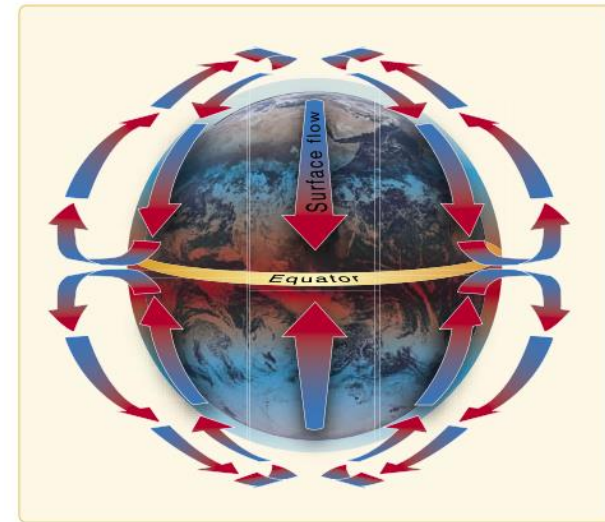


Figure 11-3. Circulation pattern in a static environment.



The Coriolis Effect

- Northern Hemisphere
 - High pressure winds are CW
 - Low pressure winds are CCW
- [Toilets or Weather?](#)
- [Spinning Storms](#)



Figure 11-5. *Three-cell circulation pattern due to the rotation of the Earth.*



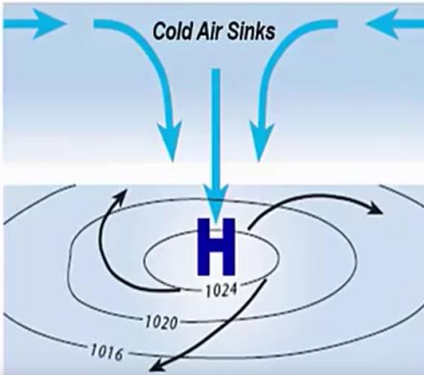
Weather Simplified

- Weather = moisture and wind

High Pressure

H stands for “High Pressure” which brings... Happy Weather!

- ✓ Clear Skies
- ✓ Calm Conditions
- ✓ Dry Weather
- ✓ High Day Temps
- ✓ Low Night Temps

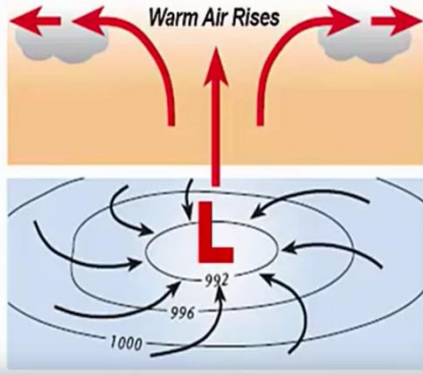


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Low Pressure

L stands for “Low Pressure” which brings... Lousy Weather!

- ✓ Cloudy Skies
- ✓ Windy Conditions
- ✓ Wet Weather
- ✓ Followed by colder weather

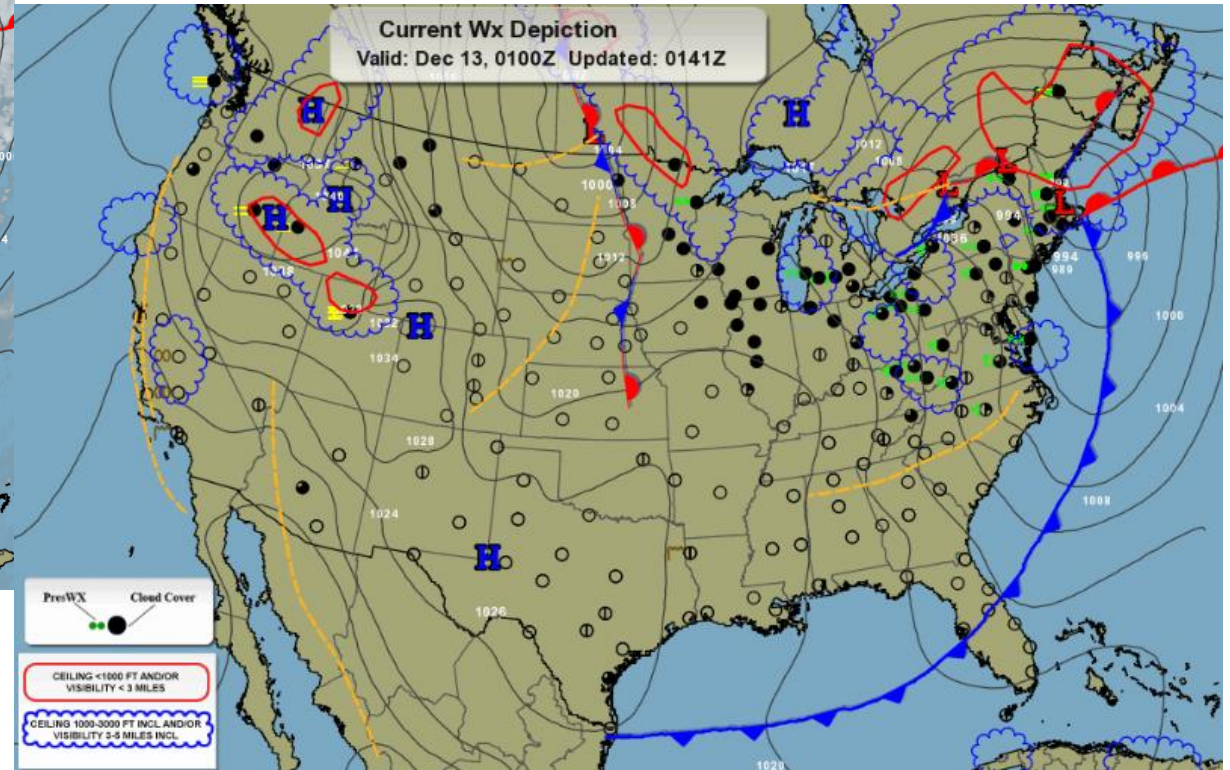
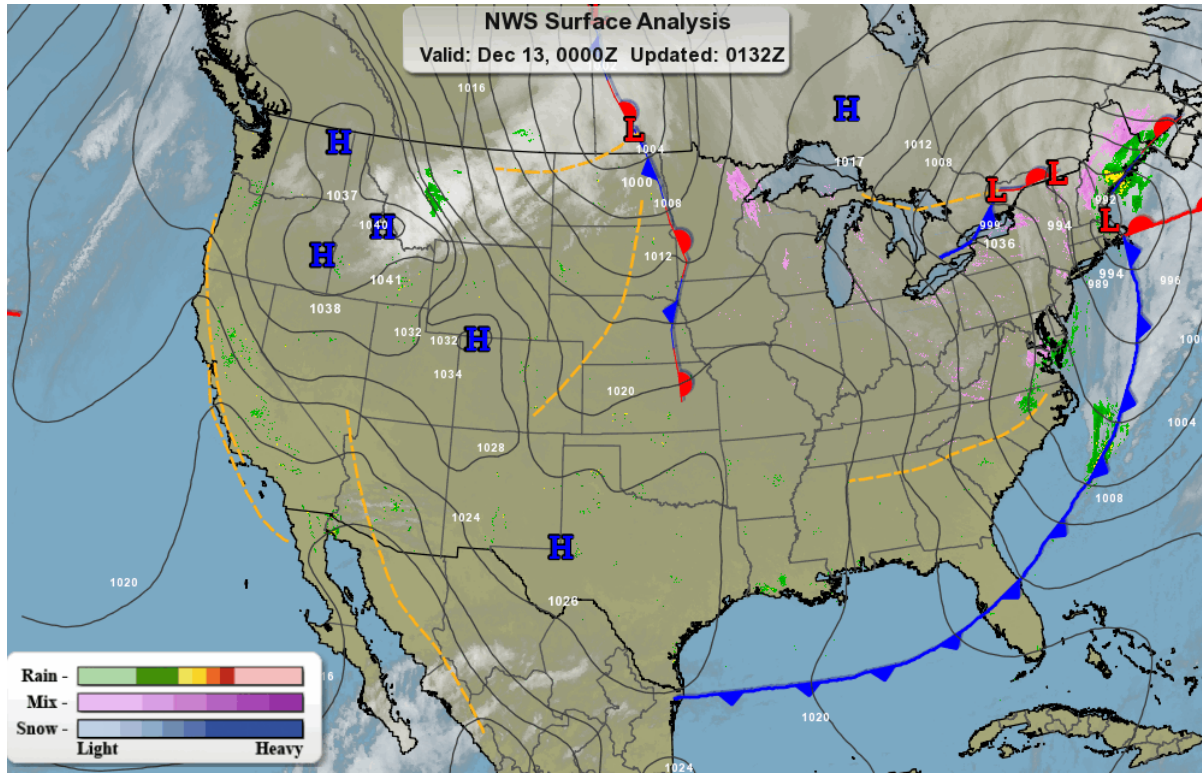


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Get The Big Weather Picture

- Is the weather improving or deteriorating?
- If it's good now, will it be good when I get there?



Aviation Weather & Flight Planning

- Weather.com – The Weather Channel (my personal favorite)
- Duats.com – CSRA Duats
- 1800wxbrief.com – Flight Service
- AOPA.org – Aircraft Owner & Pilots Association
- Aviationweather.gov - AWC - Aviation Weather Center
- flyq.seattleavionics.com – Online EFB (iPad)
- Skyvector.com – Aeronautical Charts



Personal Minimums

- Ceiling - a 1,000' AGL is legal but watch out for towers
- Visibility – 3SM is not good, 6SM is still not great, 10SM good
- Winds – depends on the plane and your crosswind comfort
- Routes – GPS direct, Airways, unpopulated areas, IFR (I Follow Roads)
- Distance – Aircraft range, how long can you hold it?
- Altitude – air is thinner higher up; less oxygen



Aviation Learning

- [Faasafety.gov](https://faasafety.gov) – FAA Safety Team (FAASTeam)
- Youtube
- [Pilot Handbook of Aero Knowledge](#)

