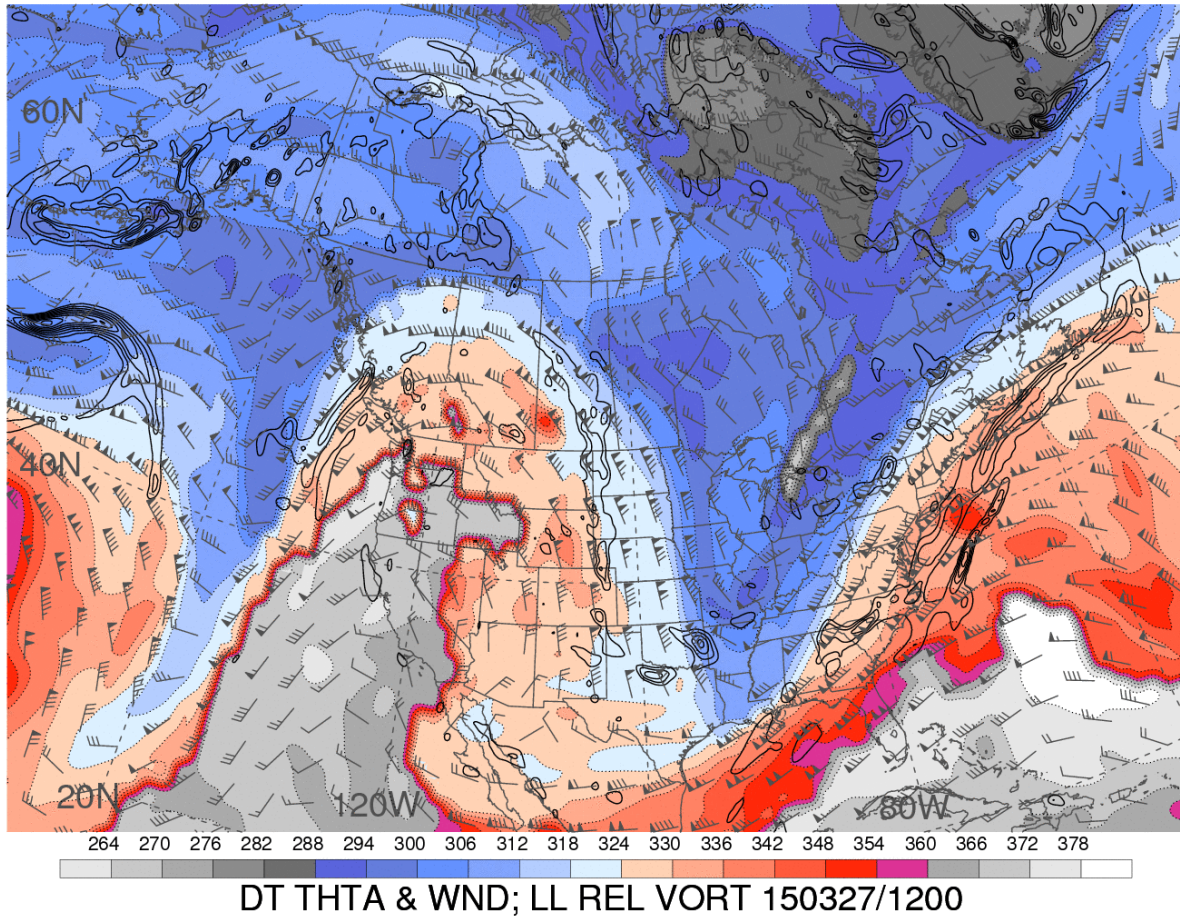


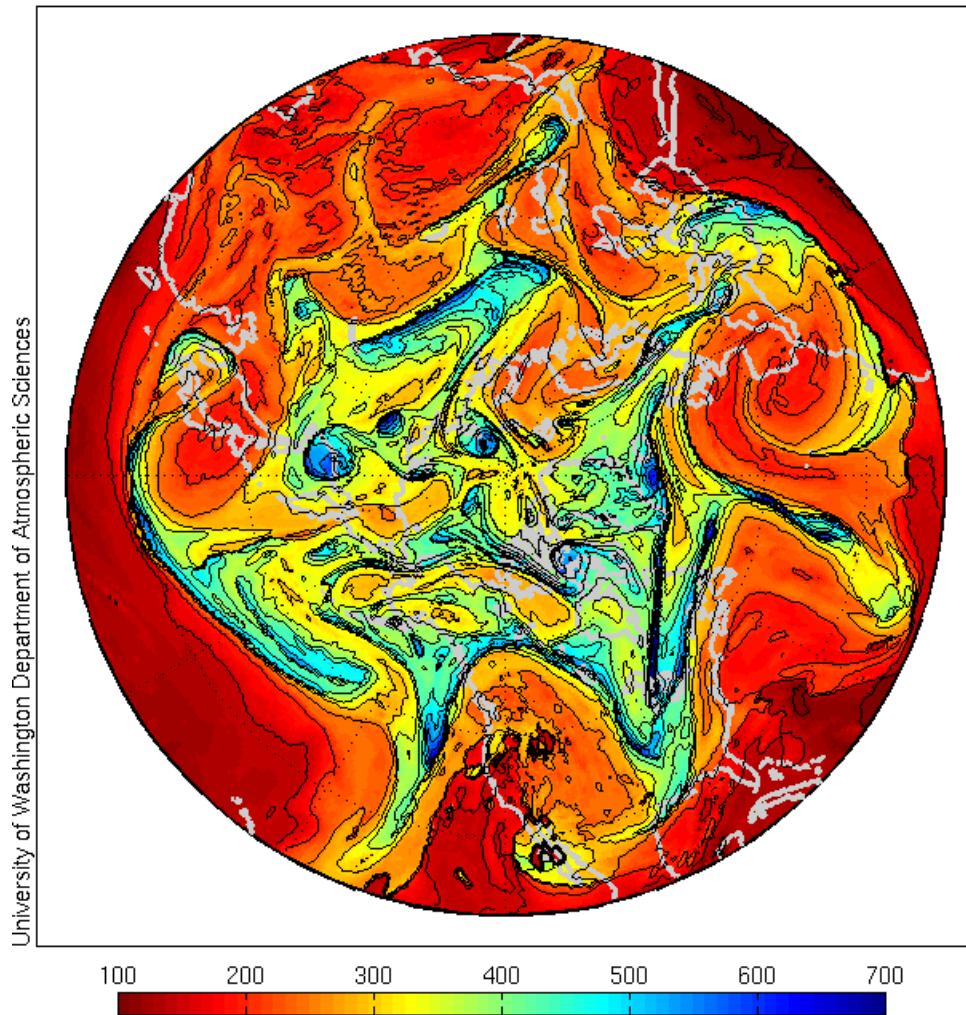
## Synoptic Meteorology II: Constructing the Dynamic Tropopause

Below are images used during the in-class lecture on the dynamic tropopause, accompanying the Introduction to Isentropic Potential Vorticity lecture. Please refer to these notes for guidance regarding how to best interpret these images.

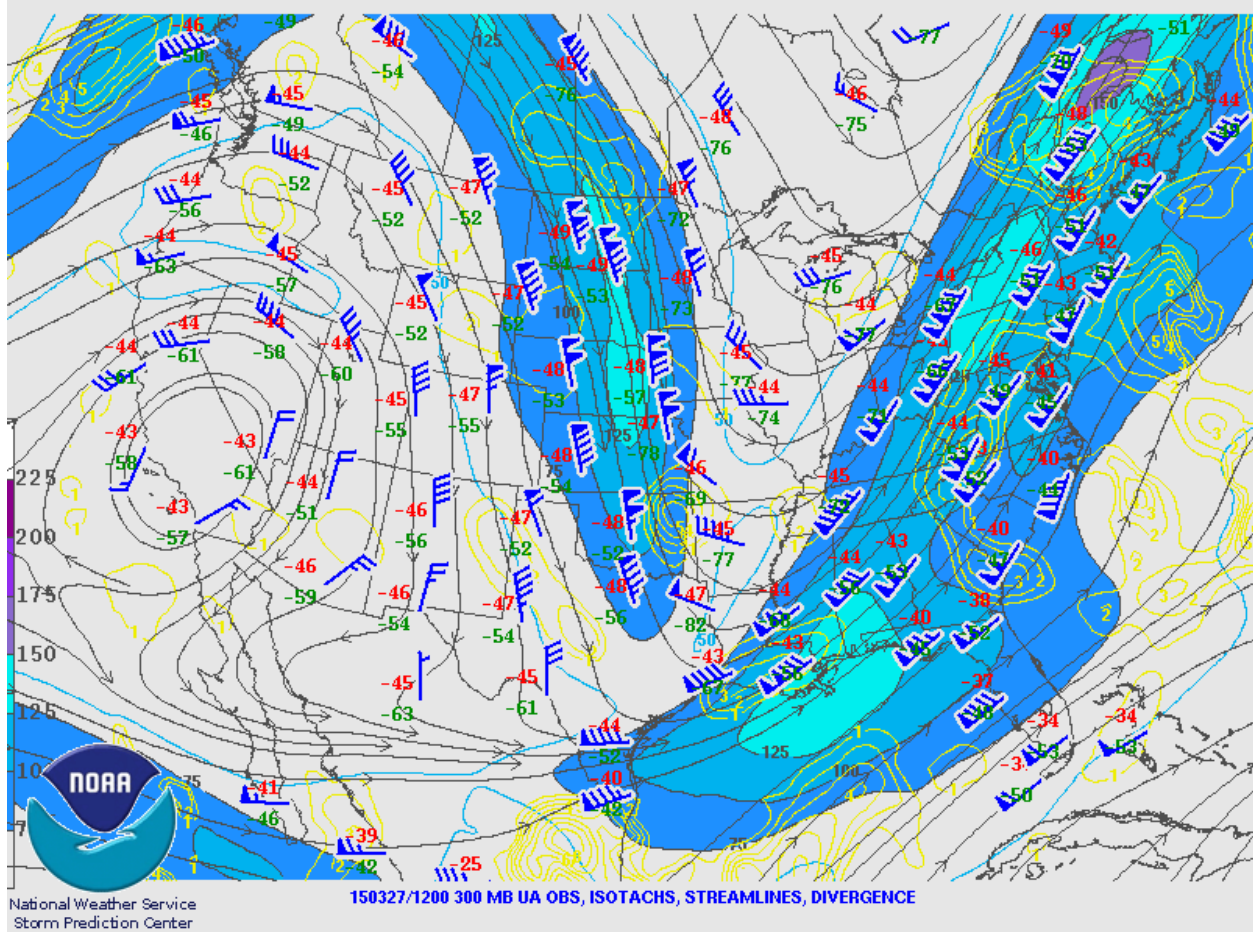


**Figure 1.** Potential temperature (K; shaded per the color bar at bottom) and wind (half-flag: 5 kt, full flag: 10 kt, pennant: 50 kt) on the dynamic tropopause (1.5 PVU surface) and 925-850 hPa layer-mean relative vorticity (contoured every  $5 \times 10^{-5} \text{ s}^{-1}$  for positive values only) at 1200 UTC 27 March 2015. Image courtesy <http://www.atmos.albany.edu/student/heathera/2015.html>.

## Tropopause Pres 03/27/2015 1200 UTC

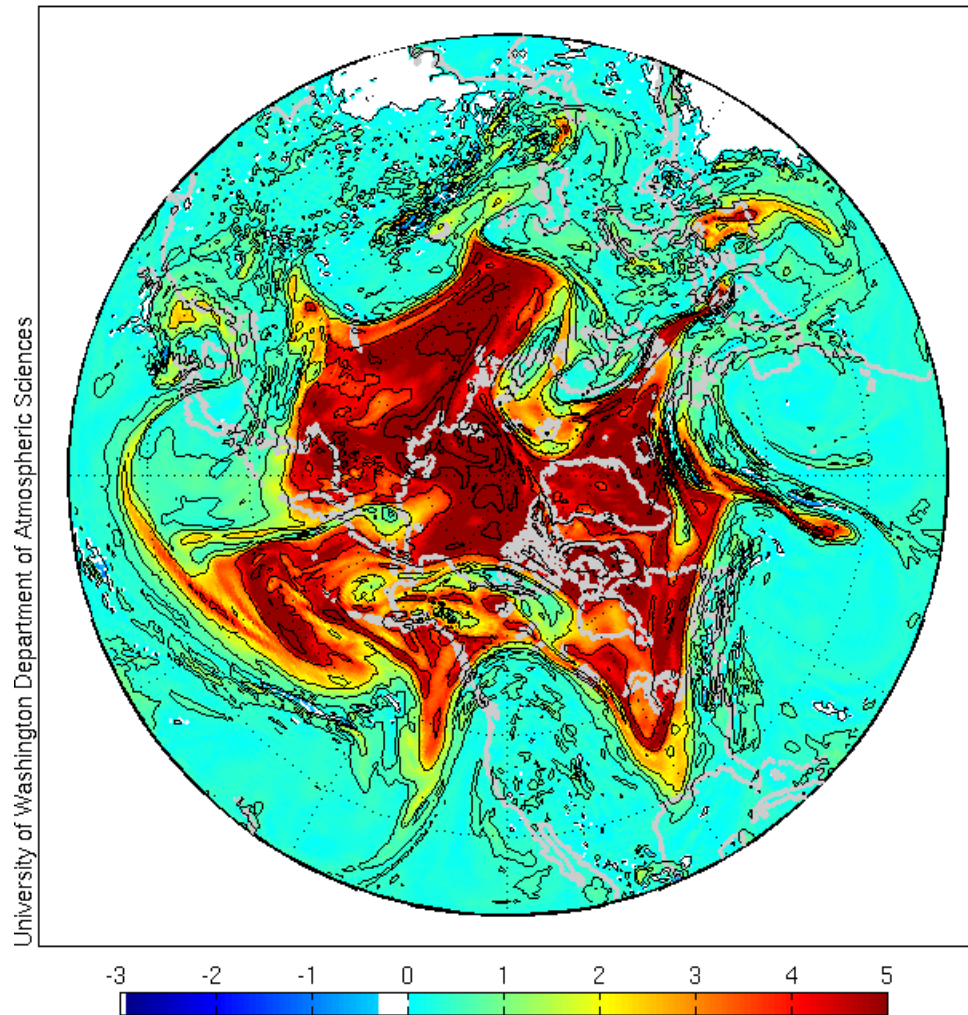


**Figure 2.** Pressure (hPa; shaded per the color bar at bottom and contoured every 50 hPa) on the dynamic tropopause (1.5 PVU surface) valid 1200 UTC 27 March 2015. Image courtesy <https://atmos.uw.edu/~hakim/tropo/>.

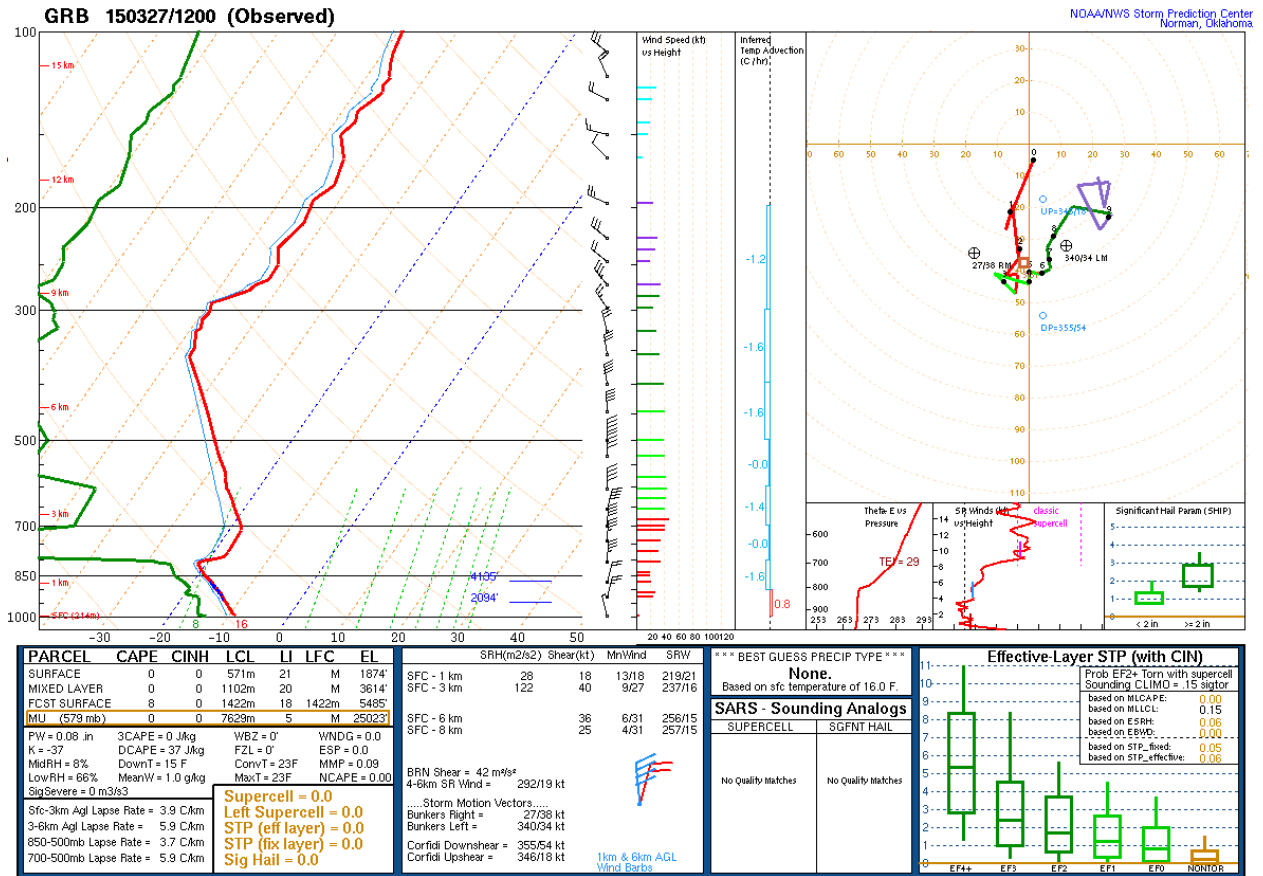


**Figure 3.** 300 hPa observations (temperature in °C in red; dew point temperature in °C in green; and wind in the blue barbs, with half-flag: 5 kt, full flag: 10 kt, and pennant: 50 kt), streamlines (black lines), isotachs (kt; shaded per the color bar at left), and divergence (yellow contours every  $1 \times 10^{-5} \text{ s}^{-1}$  for positive values only) at 1200 UTC 27 March 2015. Image courtesy <http://www.spc.noaa.gov/obswx/maps/>.

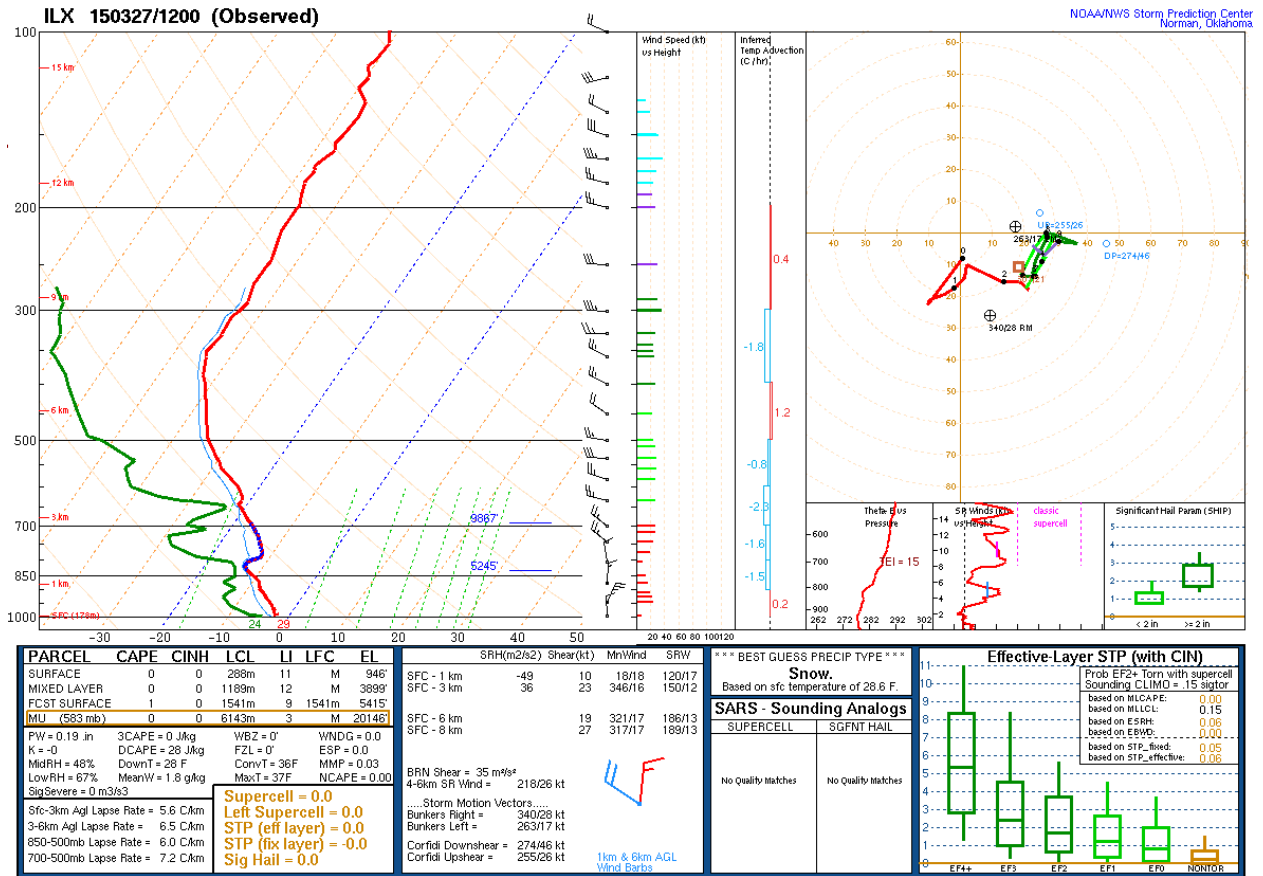
PV on 310 K 03/27/2015 1200 UTC



**Figure 4.** Isentropic potential vorticity (PVU; shaded per the color bar at bottom and contoured every 1 PVU) on the 310 K isentropic surface valid 1200 UTC 27 March 2015. Image courtesy <https://atmos.uw.edu/~hakim/tropo/>.



**Figure 5.** Skew- $T/\ln-p$  diagram for Green Bay, Wisconsin (GRB) valid 1200 UTC 27 March 2015. Image courtesy <http://www.spc.noaa.gov/expert/soundings/>.



**Figure 6.** As in Fig. 5, except for Springfield, IL (ILX).

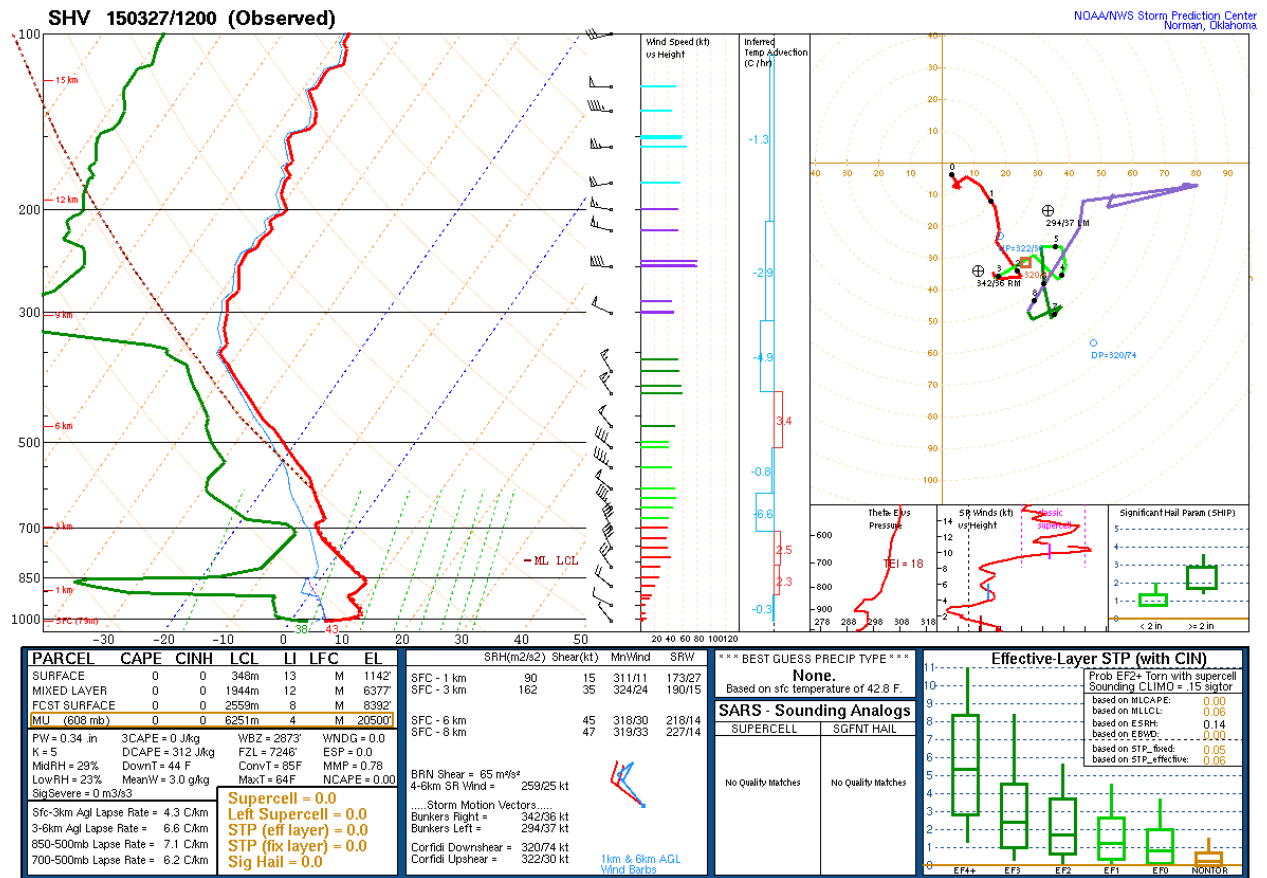
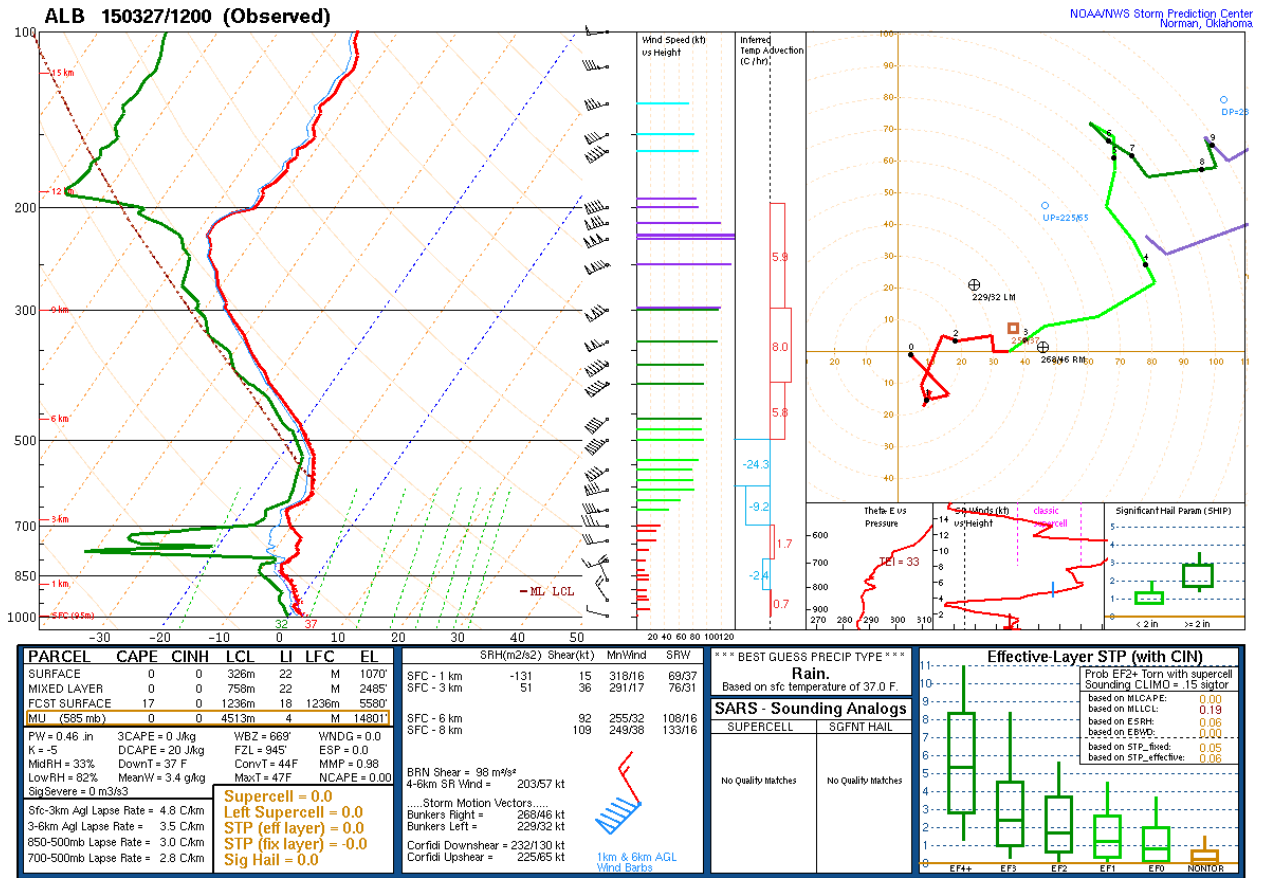


Figure 7. As in Fig. 5, except for Shreveport, LA (SHV).



**Figure 8.** As in Fig. 5, except for Albany, NY (ALB).



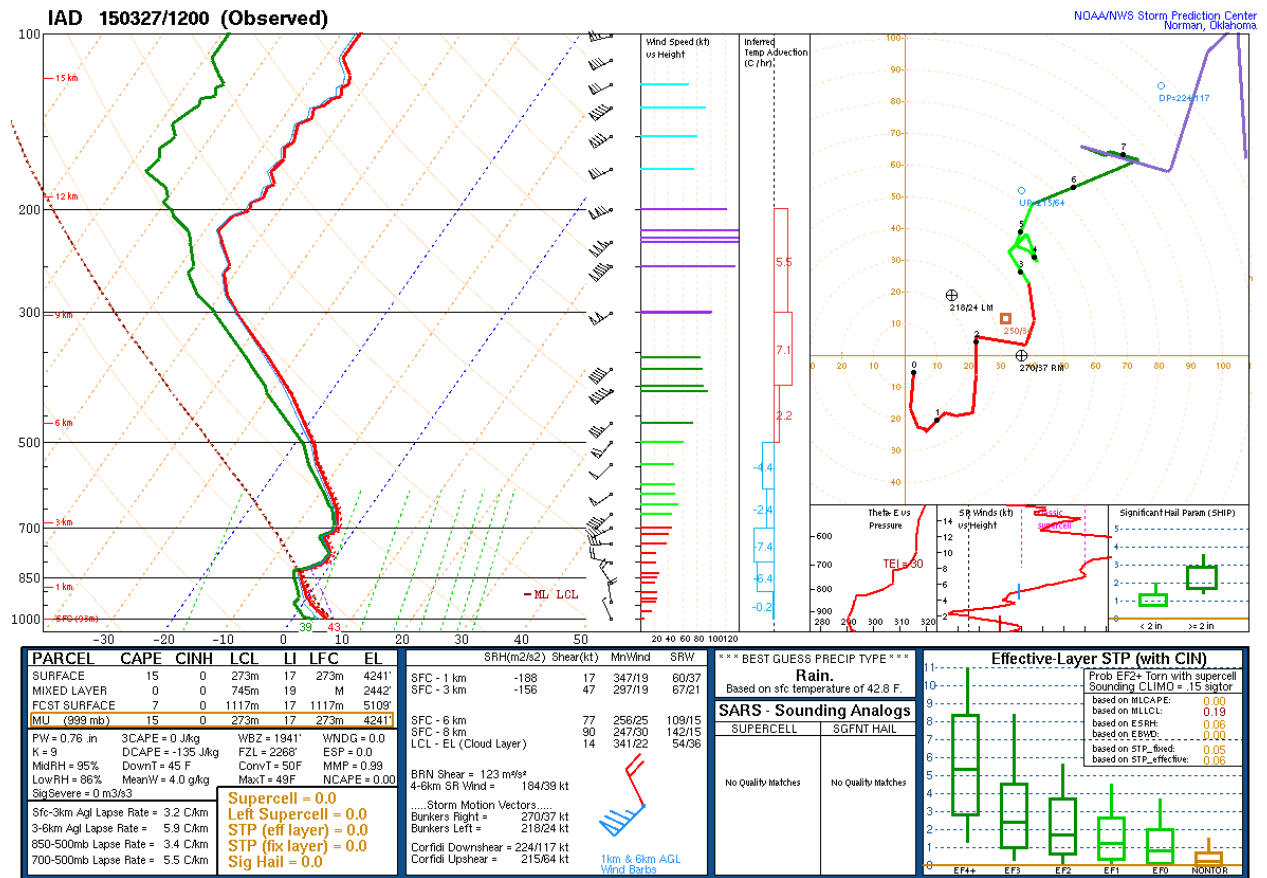


Figure 9. As in Fig. 5, except for Washington, D.C./Dulles Intl. Airport (IAD).

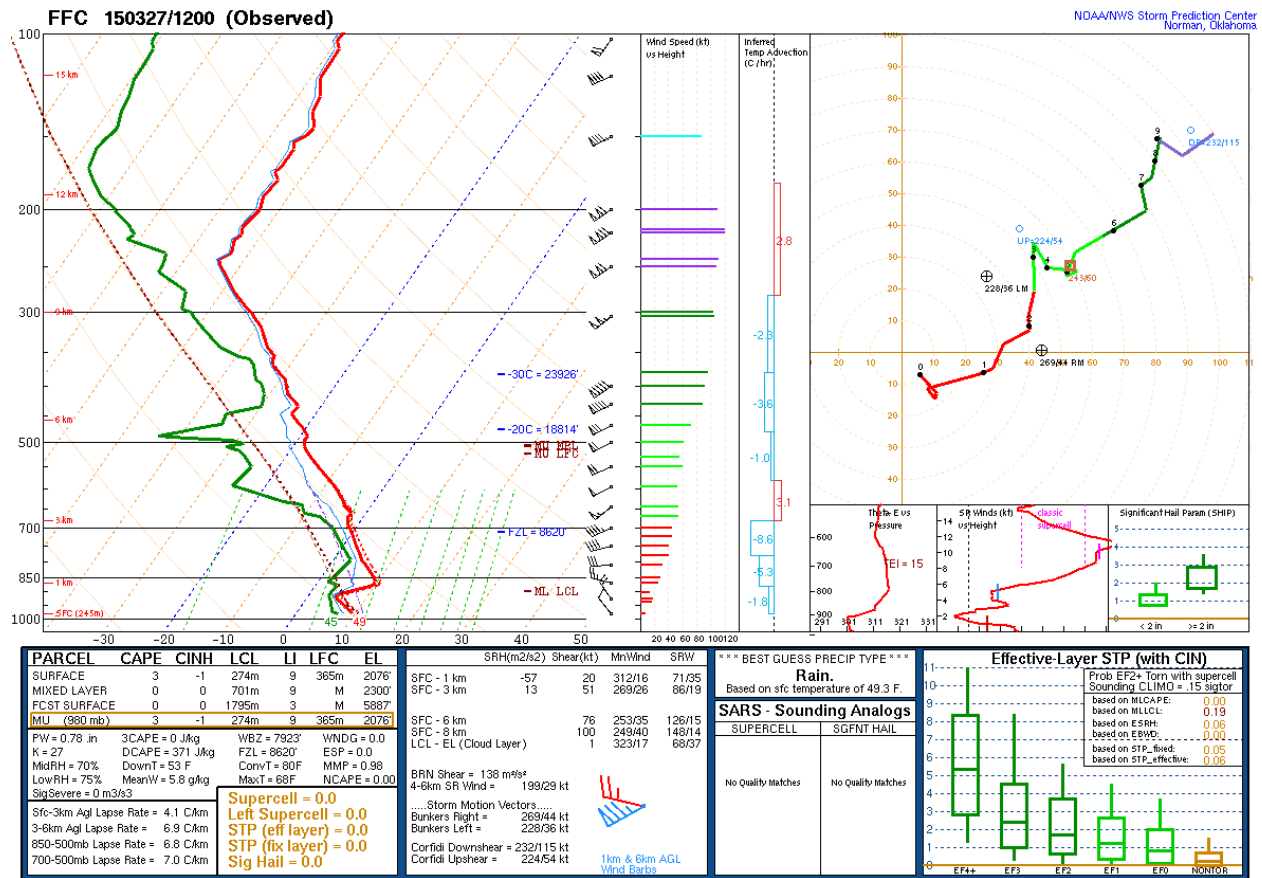


Figure 10. As in Fig. 5, except for Peachtree City, GA (FFC).