

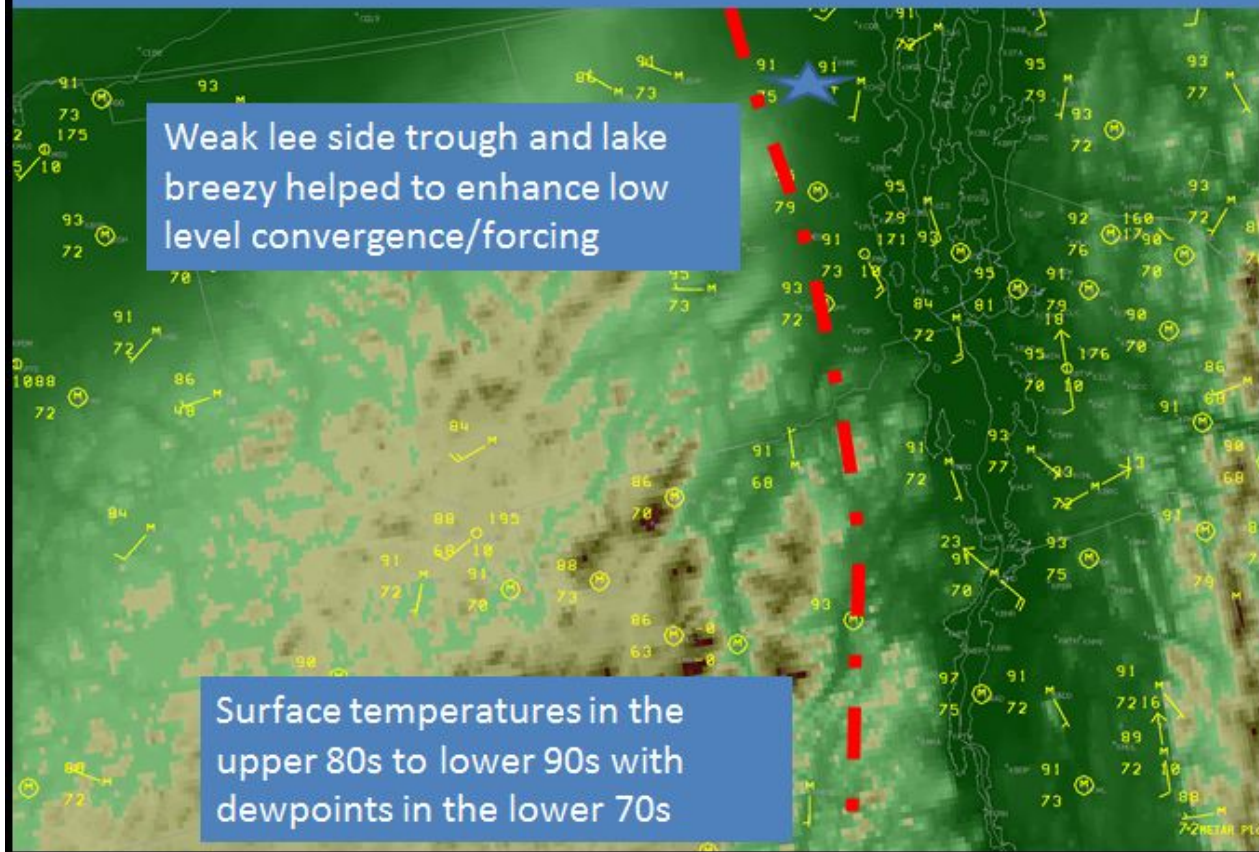
# Isolated Microburst Review over Chazy NY Mesonet Site on 5 July 2018

Goal: To increase awareness of the pre storm environment and radar signatures, which produced a 63 mph observed wind gust at Chazy, New York mesonet site on 5 July 2018.

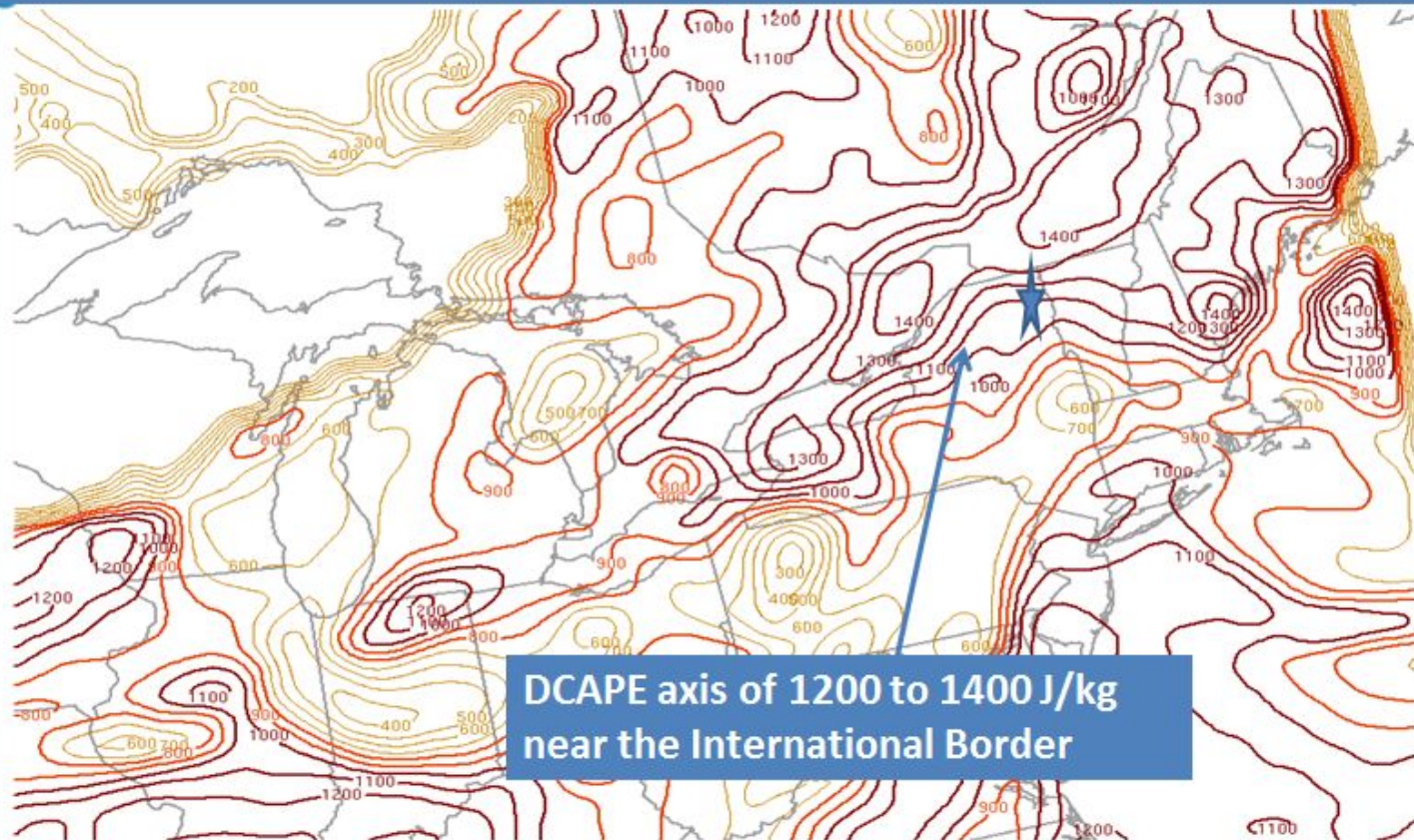
# Discussion Items

- Pre Storm Environment
  - Sounding
  - Surface Map
  - DCAPE Values
- Radar Analysis
  - Cross Section
  - Storm Evolution
  - Reflectivity and Velocity Signatures
- Chazy, NY Profile Data Review

# 2100 UTC Surface Map on 5 July 2018



# RAP13 DCAPE at 2000 UTC on 5 July 2018



# RAP13 Sounding Data at PBG at 2100 UTC on 5 July 2018

450	6.8	6.6	6.3	6.1	5.9	5.7	5.7	5.8	5.9	6.4	7.1
500	6.8	6.5	6.2	5.9	5.6	5.3	5.2	5.3	5.2	5.5	
550	7.0	6.7	6.3	6.0	5.7	5.3	5.1	5.2	4.9		
600	7.3	7.0	6.5	6.3	5.9	5.4	5.2	5.5			
650	7.7	7.3	6.8	6.5	6.1	5.3	5.0				
700	8.2	7.8	7.3	7.0	6.6	5.7					
750	8.8	8.4	7.9	7.8	7.6						
800	9.1	8.7	8.1	8.0							
850	9.5	9.1	8.2								
900	10.2	10.0									
950	10.4										

Dry air entrainment caused the water drops to evaporate, lowering the air temperature through evaporative cooling

The steep low level lapse rates helped to accelerate the cooler air parcel toward the surface

Overlays: **Convection** Lake Effect Alerts CONRAD Controls

Equilibrium Lvl  CAPE  Elevated CAPE

Wet Bulb Zero  CINS

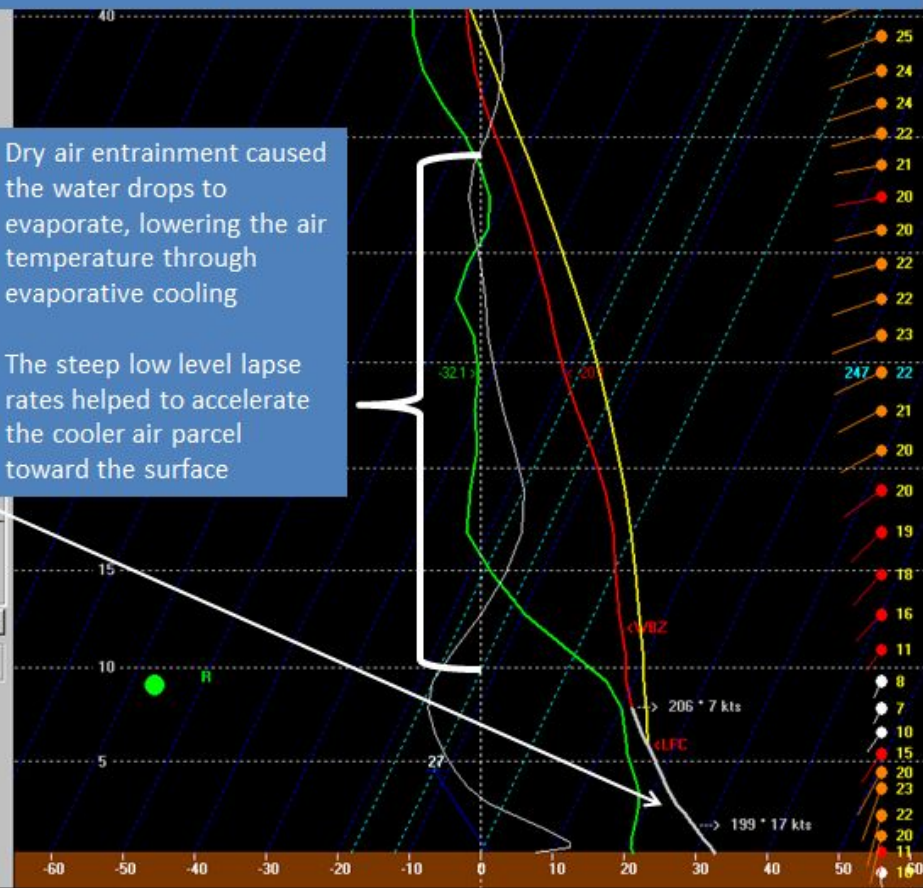
LFC  CCL

LCL  ConvctTemp

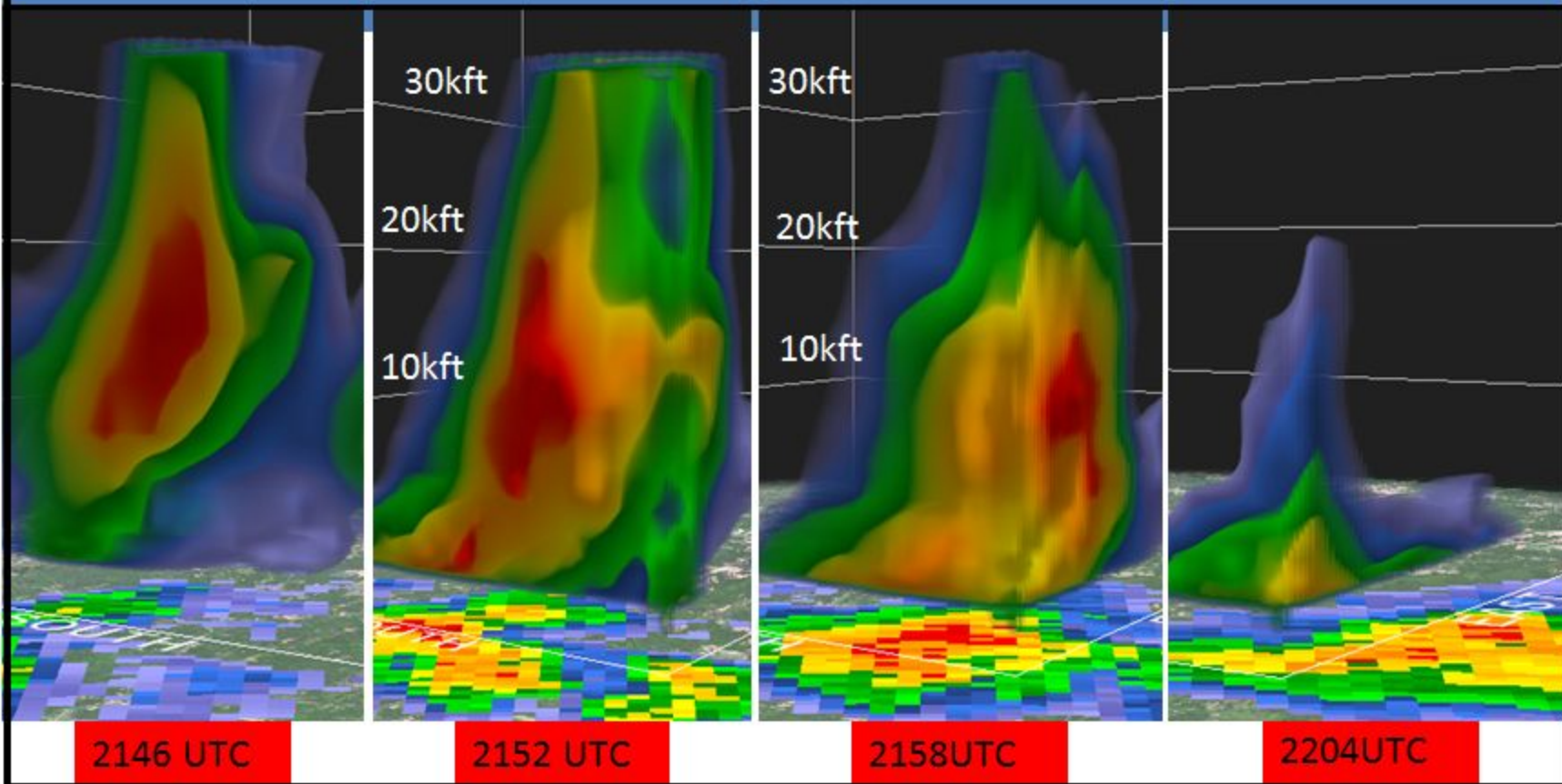
CAPE CIN  
Hail CAPE CIN  
NCAPE EQL

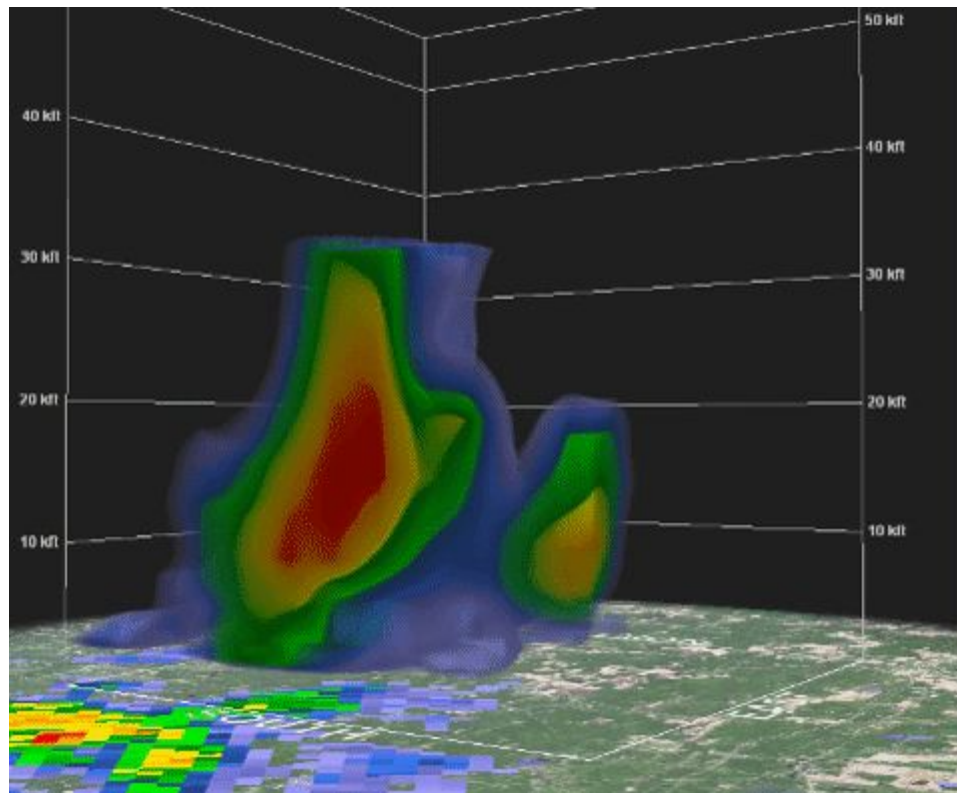
F1 F2 F3 F4 F5 F6 Save Recall F1 F2 F3 F4 F5 F6

A B C D E F G H I J K L M N O P Q R S T U V



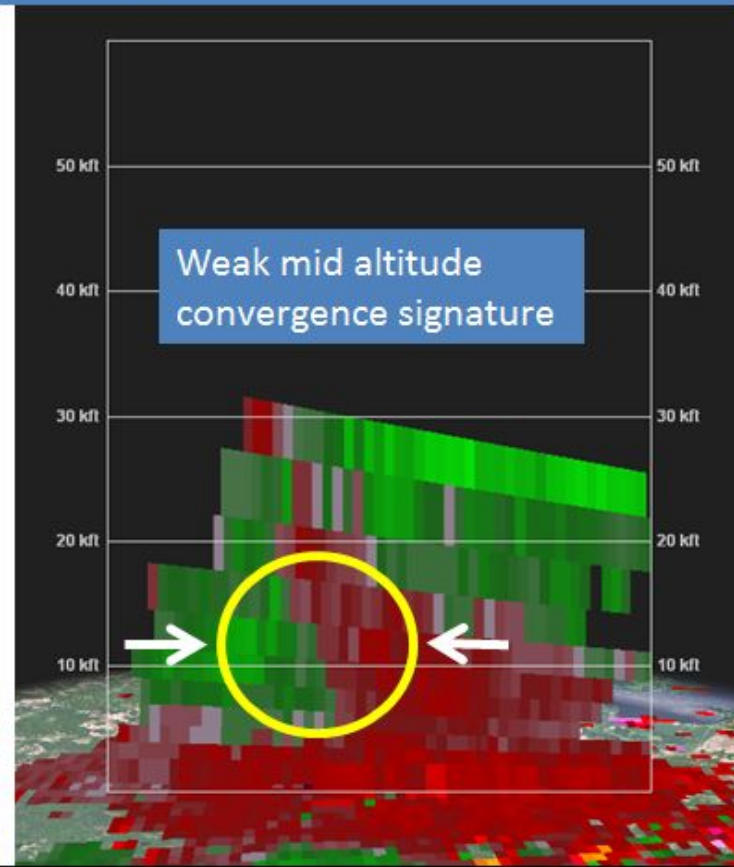
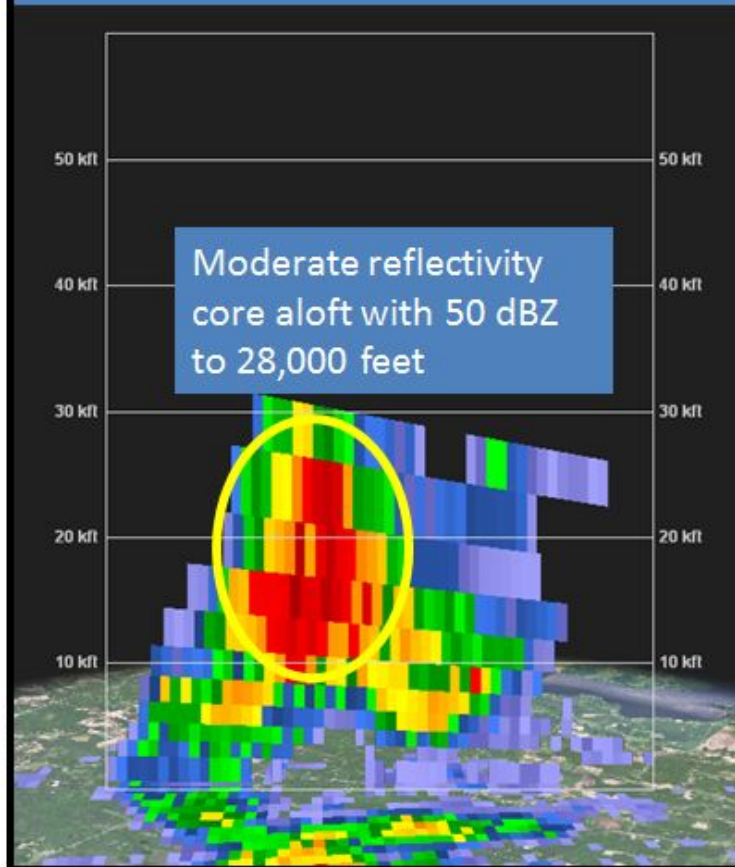
# Evolution of Collapsing Reflectivity Core Aloft



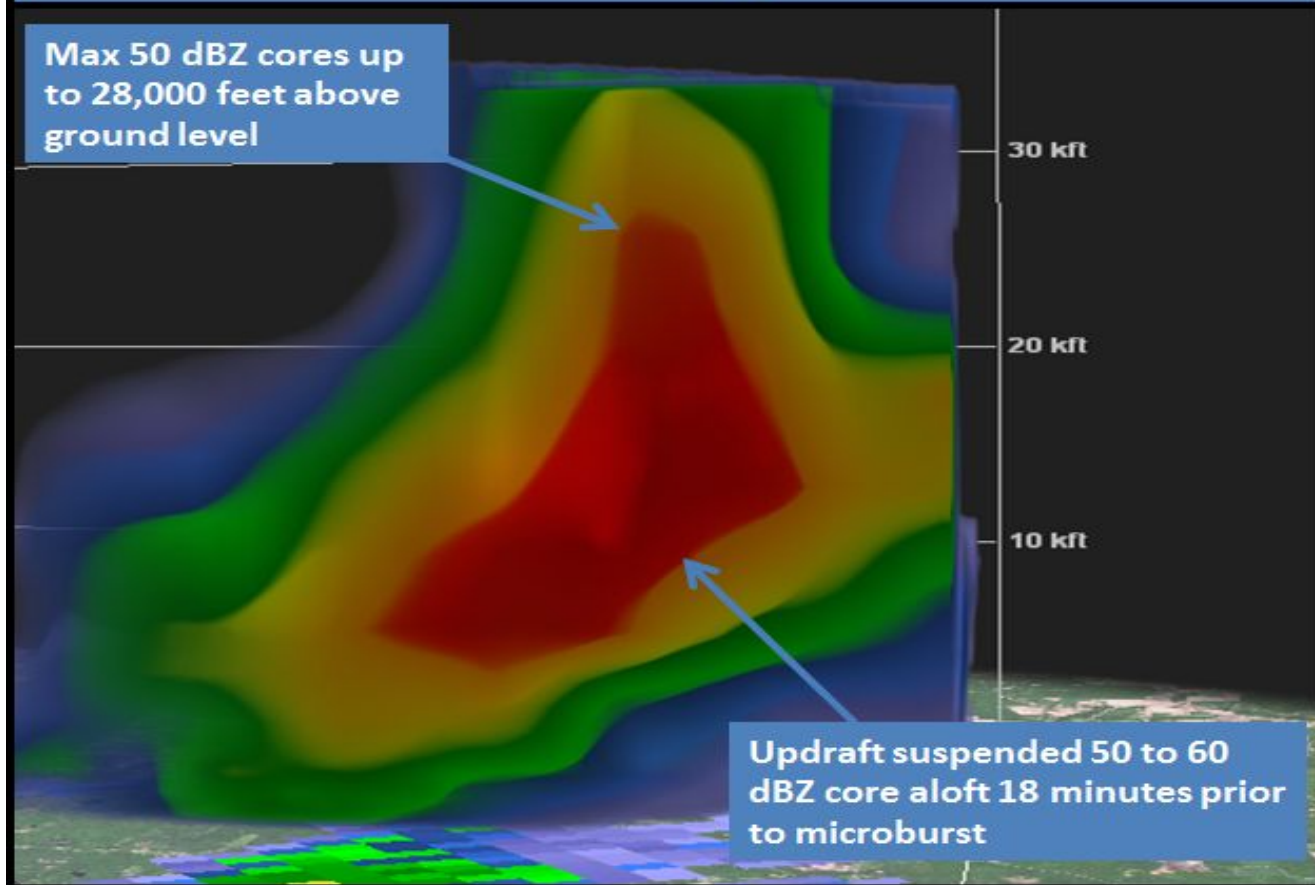




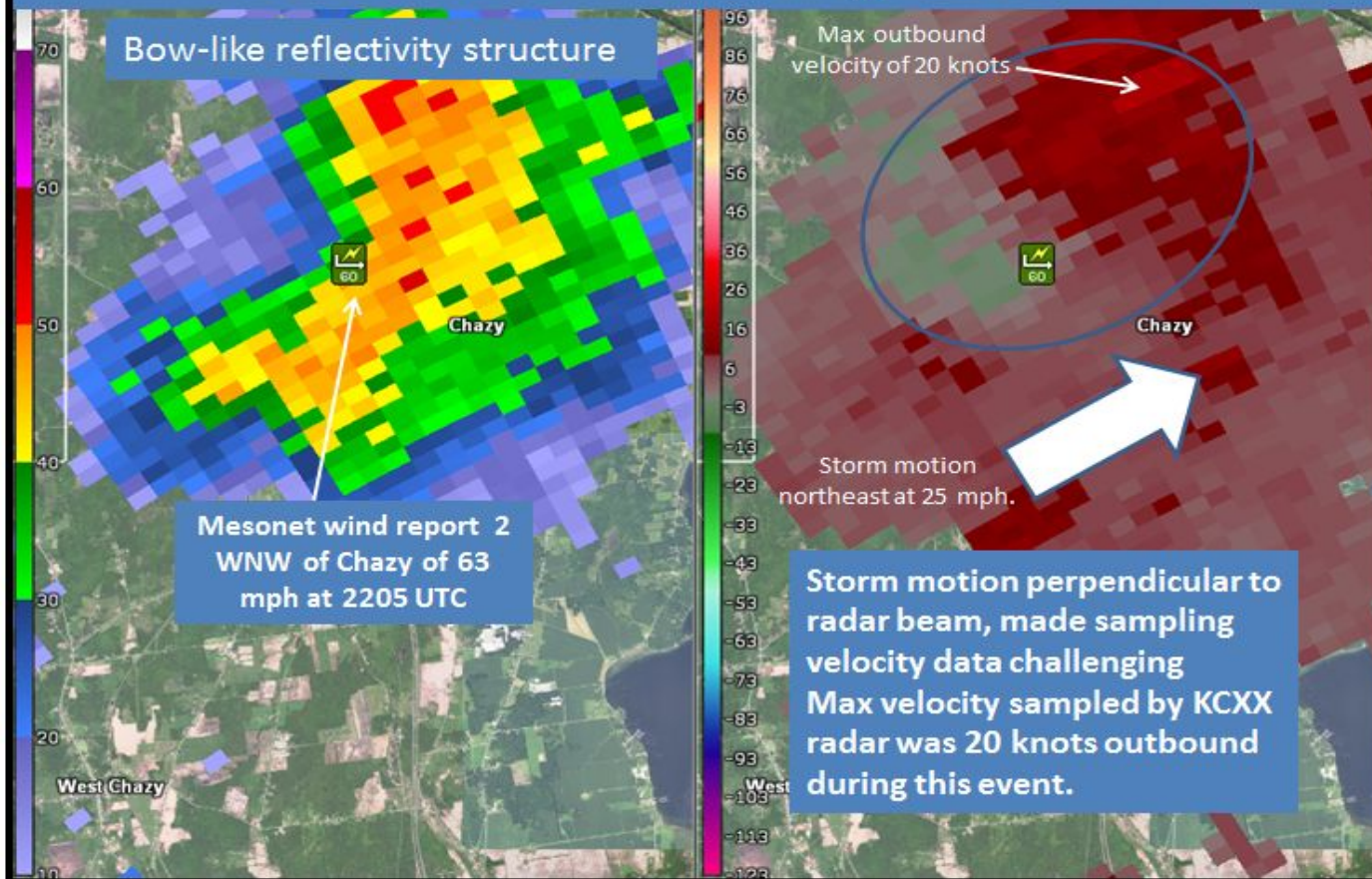
# KCXX Reflectivity and Velocity Cross Section at 2146 UTC near Chazy, New York



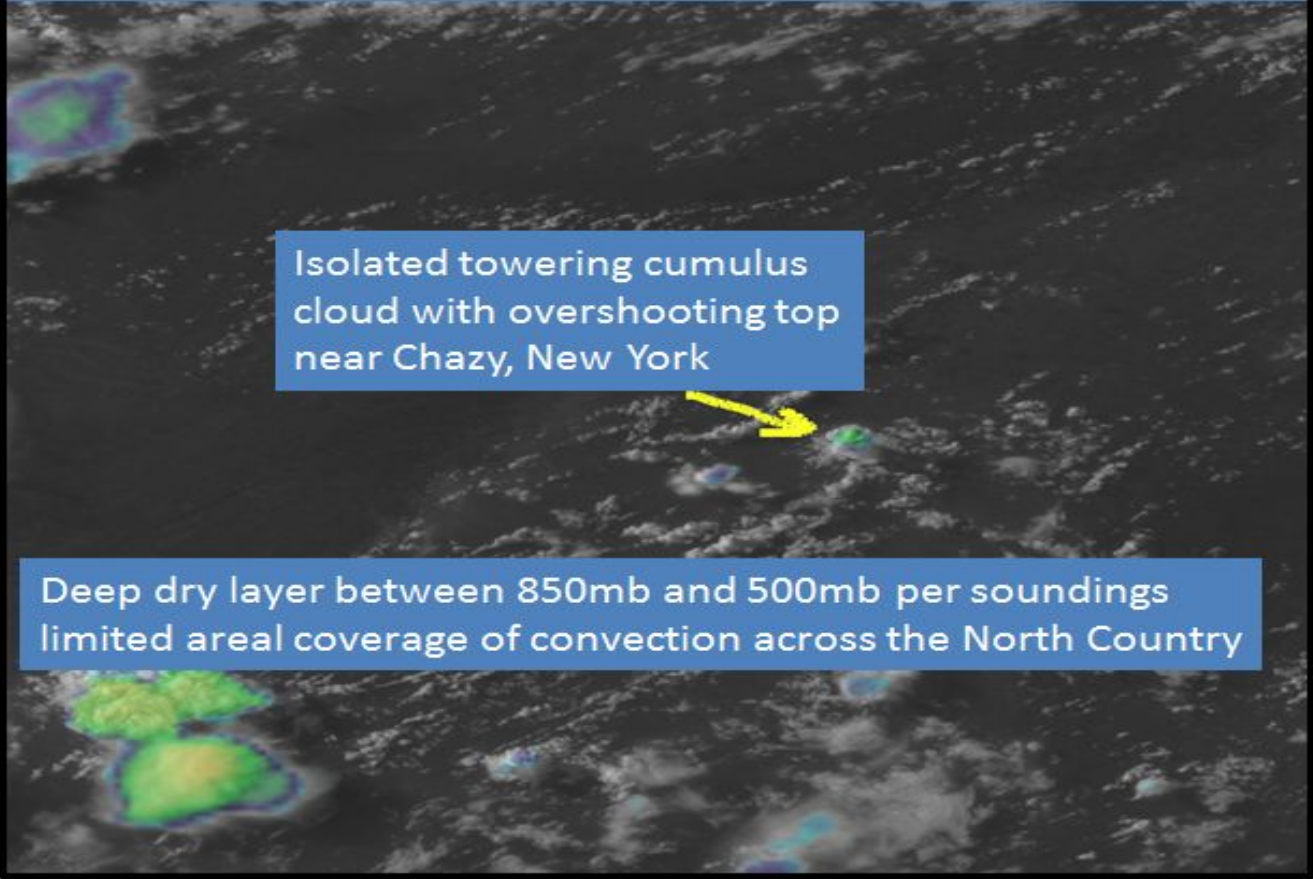
# Reflectivity Cross Section at 2146 UTC near Chazy, New York



# KCXX 0.5° Reflectivity and Velocity at 2206 UTC near Chazy, New York



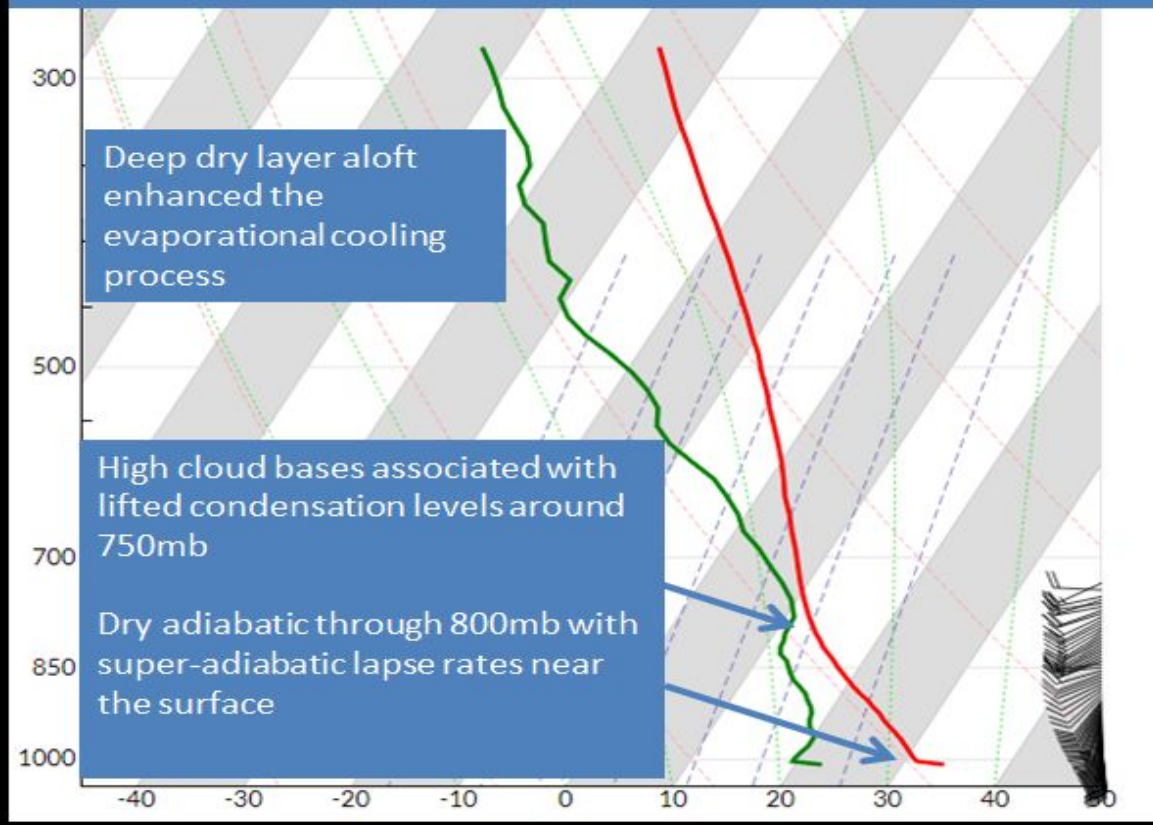
# GOES 16 Visible and IR Satellite Overlay at 2202 UTC on 5 July 2018



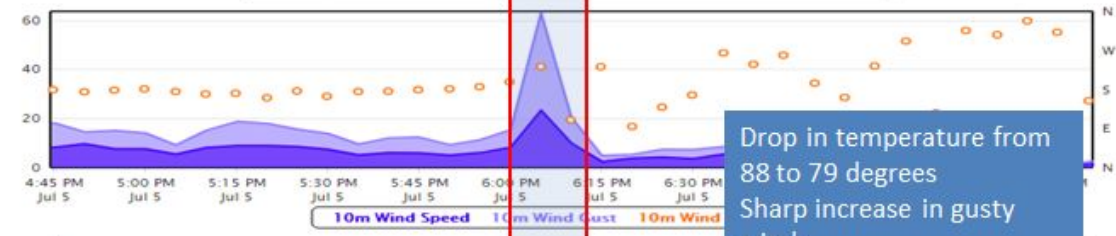
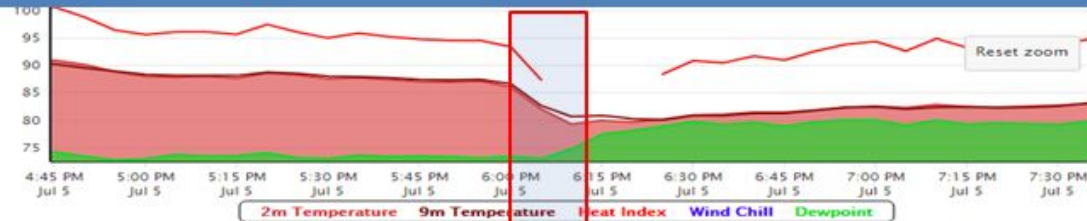
Isolated towering cumulus cloud with overshooting top near Chazy, New York

Deep dry layer between 850mb and 500mb per soundings limited areal coverage of convection across the North Country

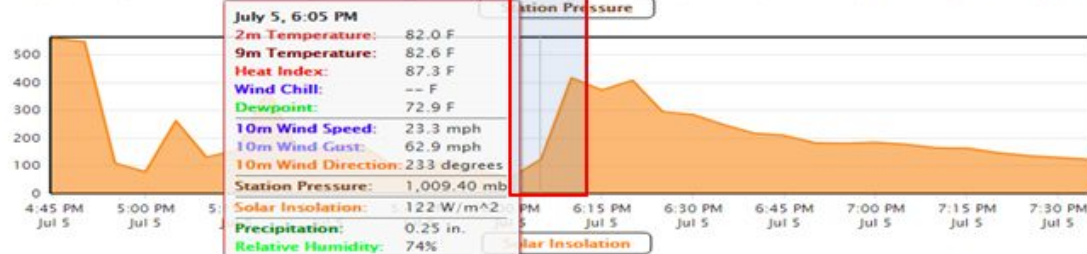
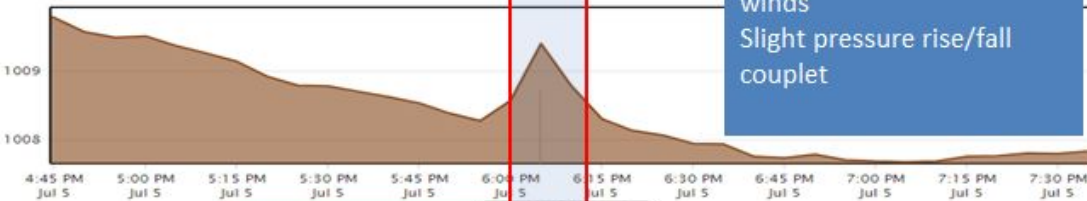
# Sounding Profiler from Chazy, NY Mesonet Site at 2100 UTC



# Meteogram for Chazy, New York Mesonet Site



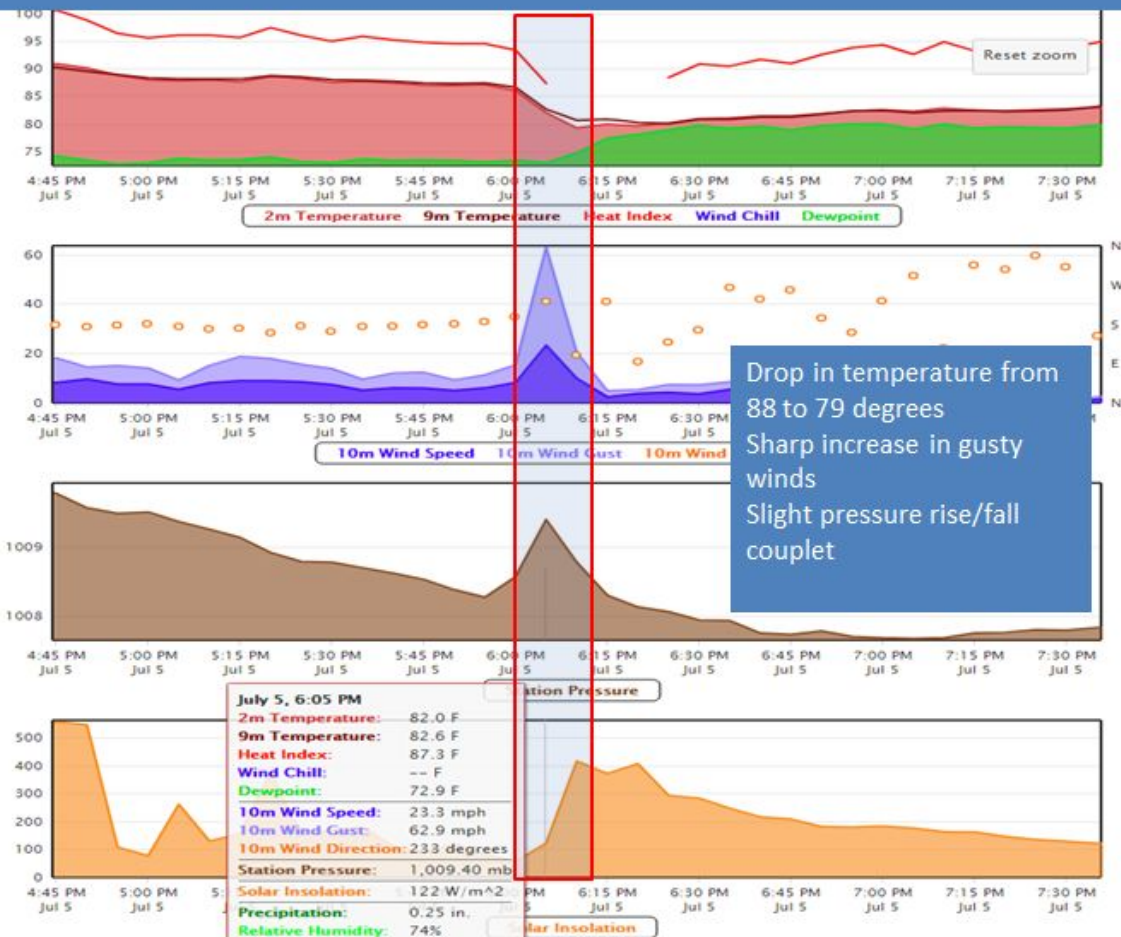
Drop in temperature from 88 to 79 degrees  
 Sharp increase in gusty winds  
 Slight pressure rise/fall couplet



**July 5, 6:05 PM**

2m Temperature:	82.0 F
9m Temperature:	82.6 F
Heat Index:	87.3 F
Wind Chill:	-- F
Dewpoint:	72.9 F
10m Wind Speed:	23.3 mph
10m Wind Gust:	62.9 mph
10m Wind Direction:	233 degrees
Station Pressure:	1,009.40 mb
Solar Insolation:	122 W/m <sup>2</sup>
Precipitation:	0.25 in.
Relative Humidity:	74%

# Meteogram for Chazy, New York Mesonet Site



# Local Storm Report (LSR)

NWUS51 KBTW 061936  
LSRBTV

PRELIMINARY LOCAL STORM REPORT  
NATIONAL WEATHER SERVICE BURLINGTON VT  
336 PM EDT FRI JUL 06 2018

..TIME...	...EVENT...	...CITY LOCATION...	...LAT.LON...
..DATE...	....MAG....	..COUNTY LOCATION..ST..	...SOURCE....
..REMARKS..			
0605 PM	TSTM WND GST	2 WNW CHAZY	44.90N 73.46W
07/05/2018	M63 MPH	CLINTON	NY NYSM

MEASURED AT NY STATE MESONET SITE

&&

EVENT NUMBER BTV1801405

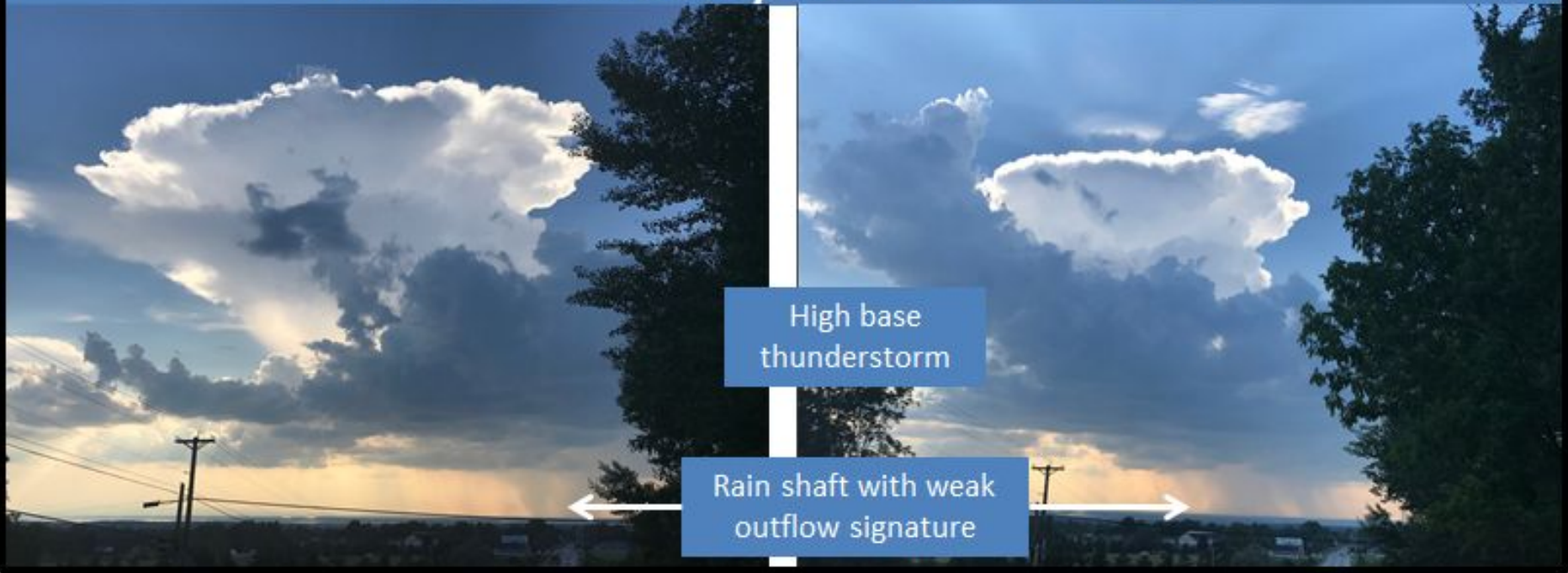
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NASH



# Isolated Thunderstorm near Chazy, NY

Photos Courtesy of Matt Sutkoski



High base  
thunderstorm

Rain shaft with weak  
outflow signature