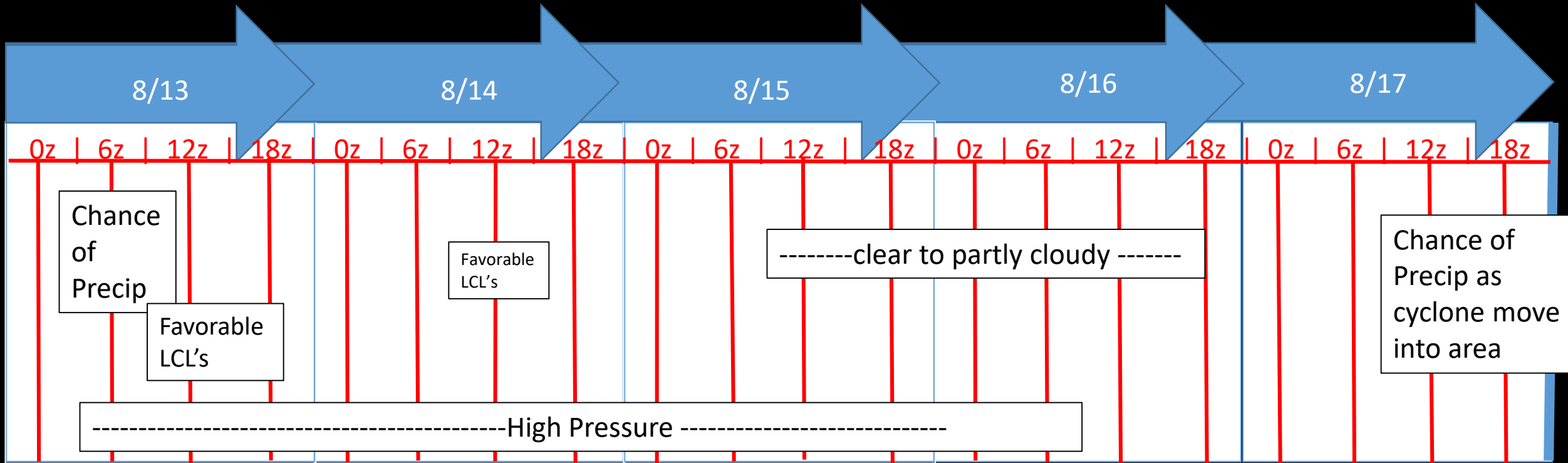


# Forecast for 8/13-8/17

Forecaster: Matthew Brewer

Forecast made: 8/12/2017

# Outlook



Day -1

Day 0

Day 1

Day 2

Day 3-5

# Overview for Day 8/12

- High pressure system will start to move into our area
- NW winds at the summit
- Low LCLs in the morning and possibly early afternoon
- Precip is unlikely

Day -1

Day 0

Day 1

Day 2

Day 3-5

# Overview for 8/13

- The GFS, 3km NAM, and NWS Burlington predict a mostly dry day with possible scatter showers earlier in the day
- The Euro is forecasting precip for the morning and into the early afternoon
- LCL's in the morning will likely be below Whiteface summit

Day -1

Day 0

Day 1

Day 2

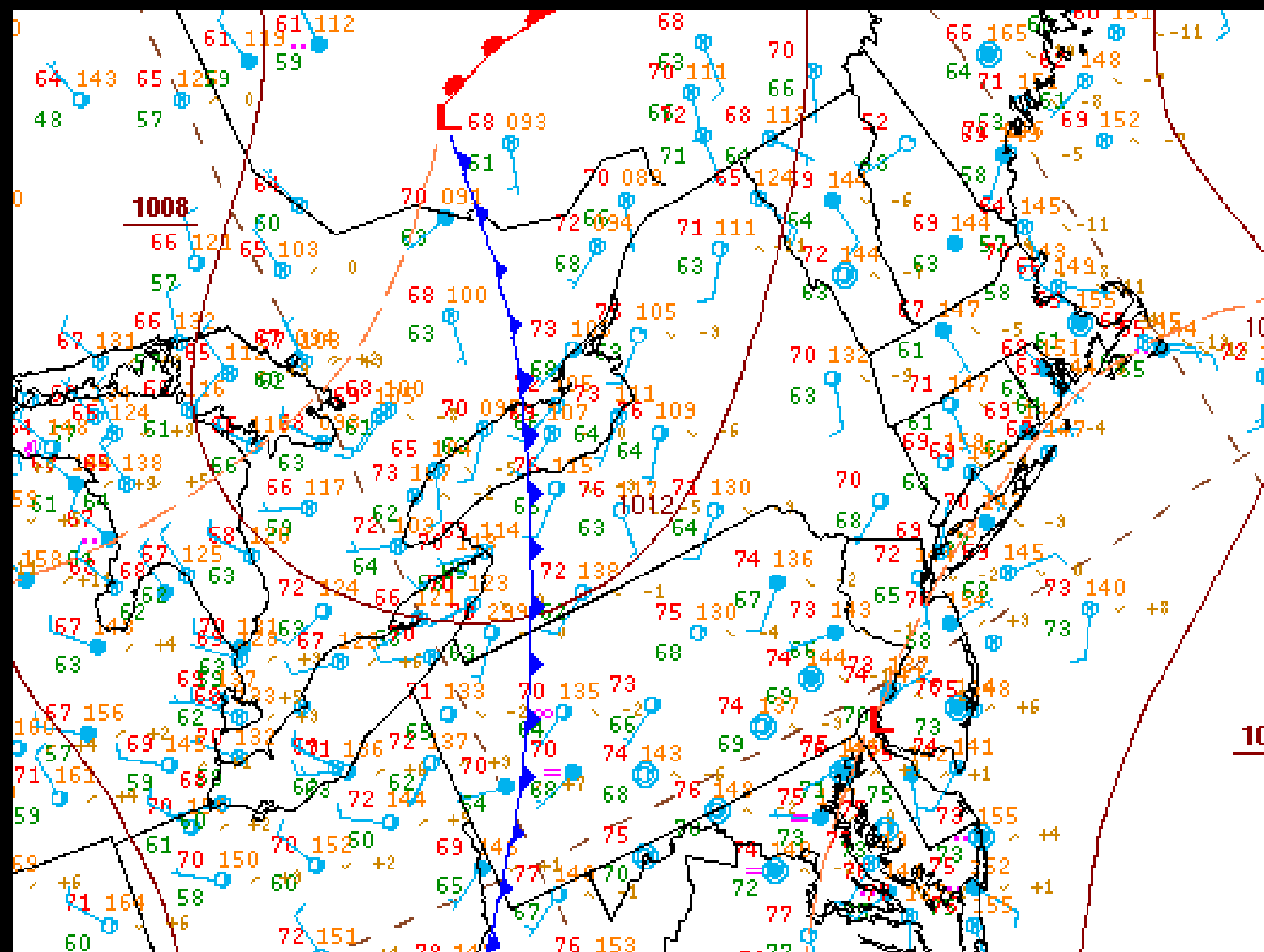
Day 3-5

## Overview for Day 3-5

- High pressure system will move into the area Monday bringing generally drier weather
- However chance of precip cannot be completely ruled out Monday and Tuesday evening

# Current Surface Analysis

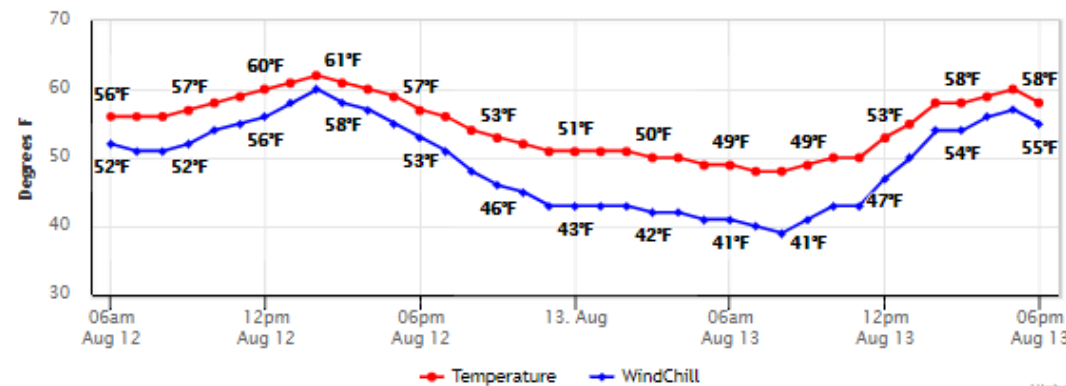
- Shown is the NOAA WPC surface analysis from 15z 8/12
- The warm front associated with the cyclone passed through the area last night and the weak cold front will likely move through the area this evening possibly bringing some showers



# Summit forecast

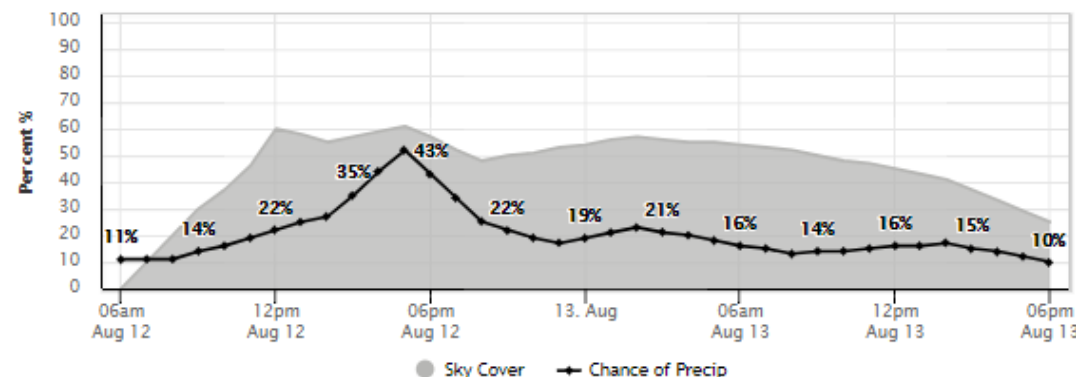
- Shown is the NWS Burlington's summit forecast
- This forecast predicts that the summit will not be fully in cloud tomorrow morning
- The greatest probability of rain will be associated with the weak cold frontal passage in the evening

Temperature & Wind Chill Forecasts for Whiteface Mountain, NY at 4867'



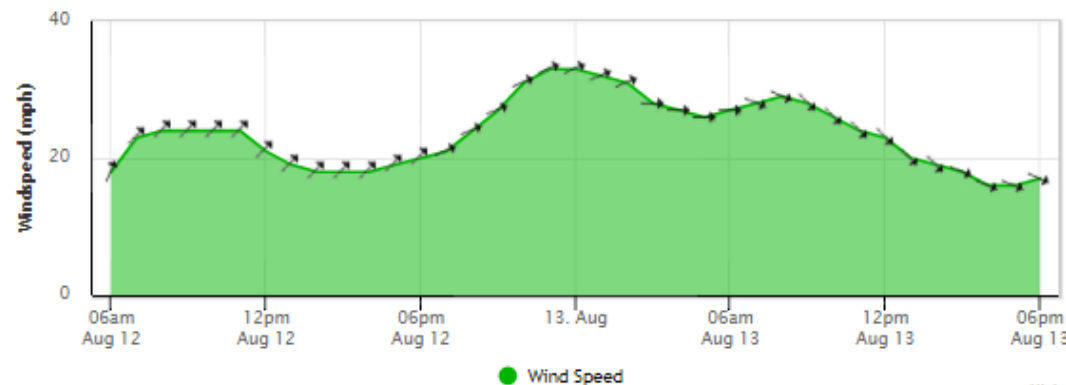
Highcharts.com

Precipitation & Sky Cover Forecasts for Whiteface Mountain, NY at 4867'



Highcharts.com

Wind Speed & Direction Forecasts for Whiteface Mountain, NY at 4867'



Highcharts.com

Day -1

Day 0

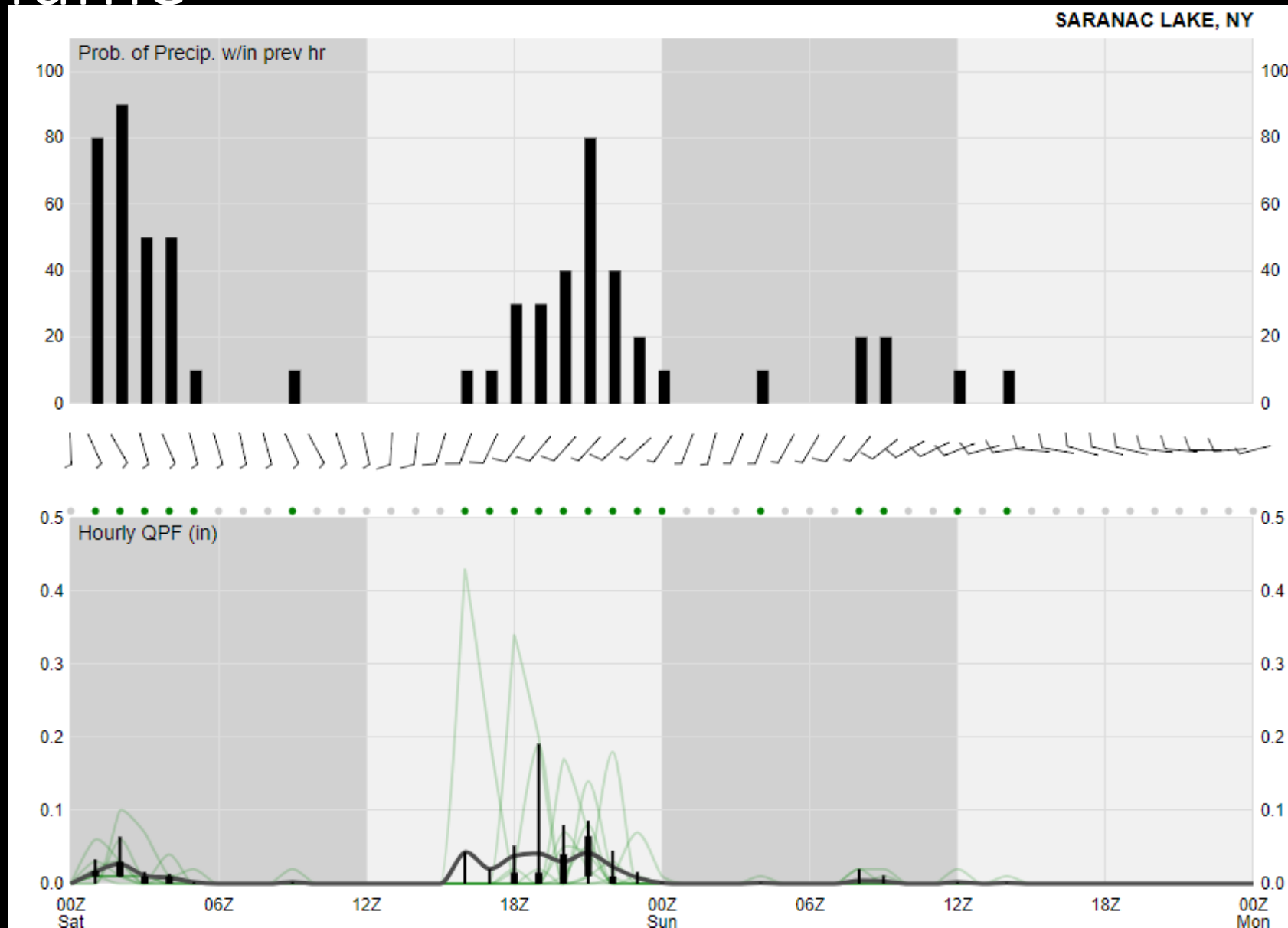
Day 1

Day 2

Day 3-5

# NCAR ensemble plume

- Shown is the 0z 8/11 NCAR ensemble Probability of precip and QPF
- The chance of precip tomorrow morning is likely associated with the weak frontal passage





Day -1

Day 0

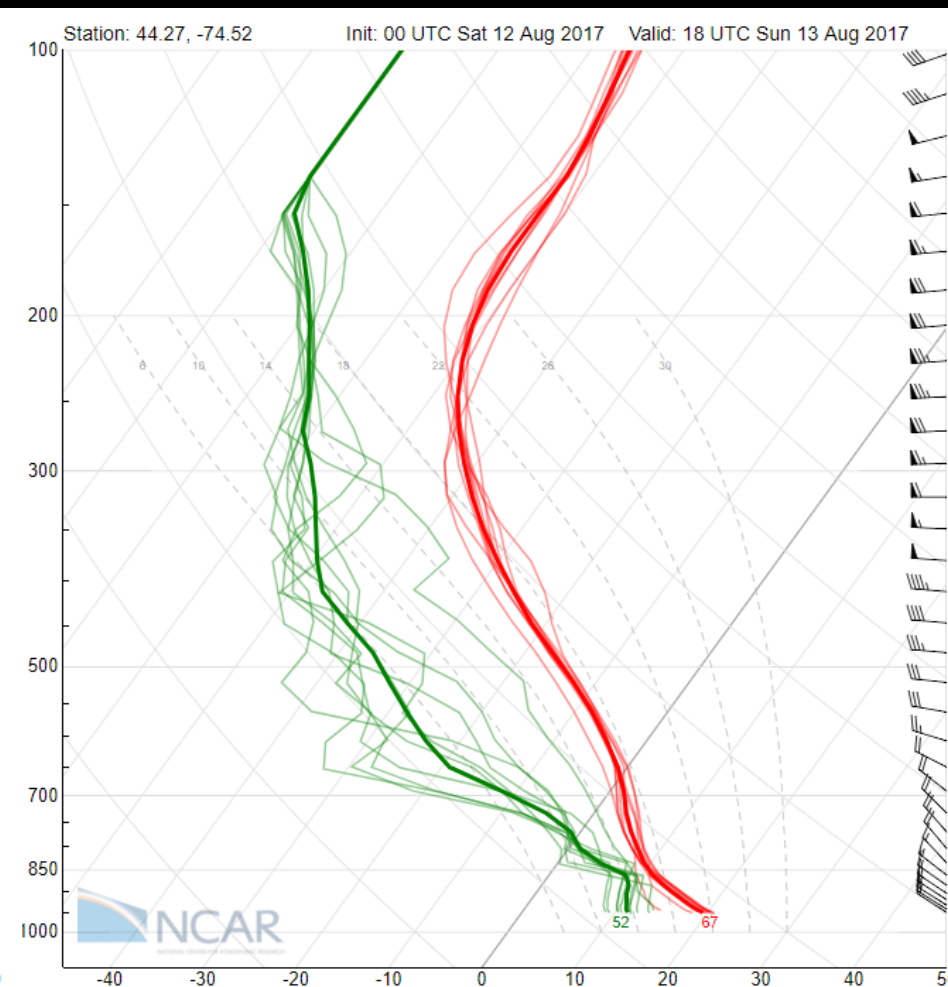
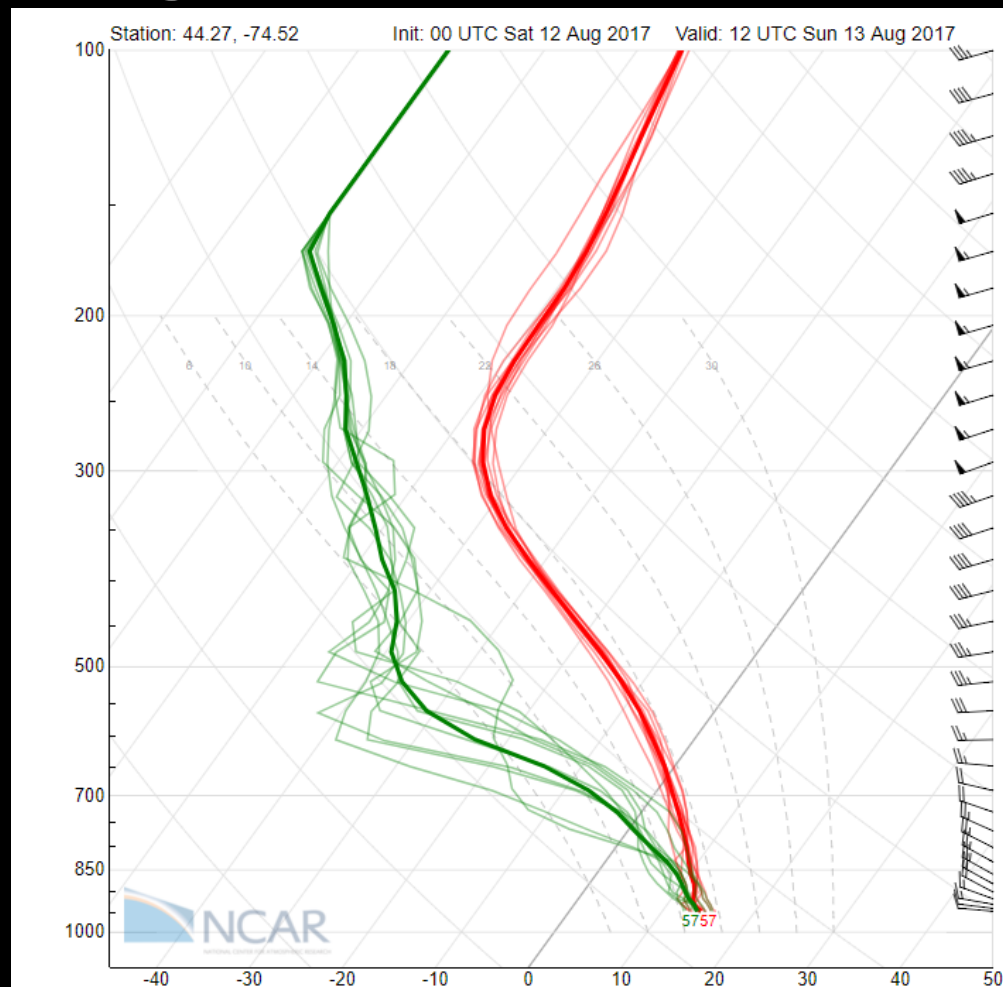
Day 1

Day 2

Day 3-5

# Model Soundings

- Top: NCAR Model Soundings for 12z and 18z
- The morning forecast has the surface completely saturated which may create fog and low clouds
- Some members of the after sounding show the LCL to be at or just below 850mb



# Model Soundings

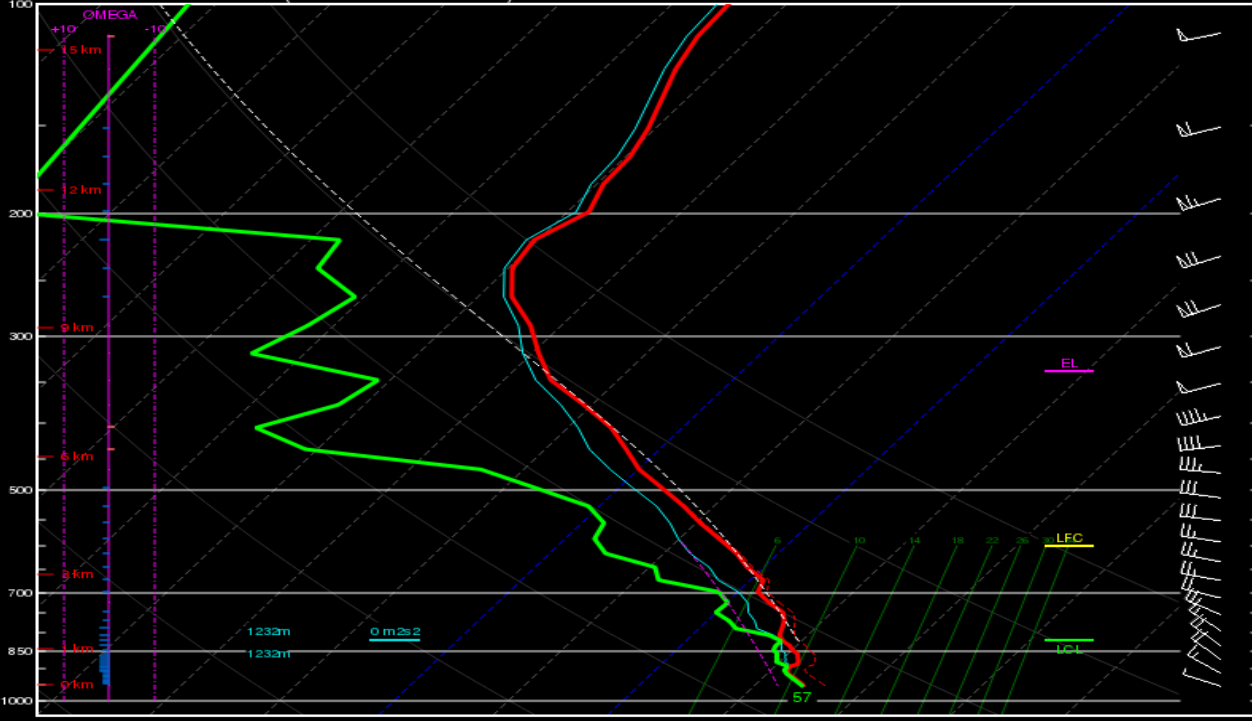
<http://www.spc.noaa.gov/exper/soundings/help/>

URL explaining everything on this sounding

Shown is the 8/12 12z 3km NAM valid for 12z and 18z 8/13

- The LCL shown in the morning forecast is for the most unstable parcel but the LCL will likely be lower since the surface will be completely saturated possibly creating fog and low clouds
- As the surface warms the LCLs will likely lift to summit levels
- The 18z model sounding indicates that the LCL will still be just below the summit

KSLK 20170813/1200 (12Z 3km NAM F024)



PCL	CAPE	CINH	LCL	LI	LFC	EL
SFC	77	-83	15	-1	4021	6705
ML	18	-149	486	0	4855	6188
FCST	747	0	1159	-4	1159	9053
MU	114	-44	1249	-1	3766	8023

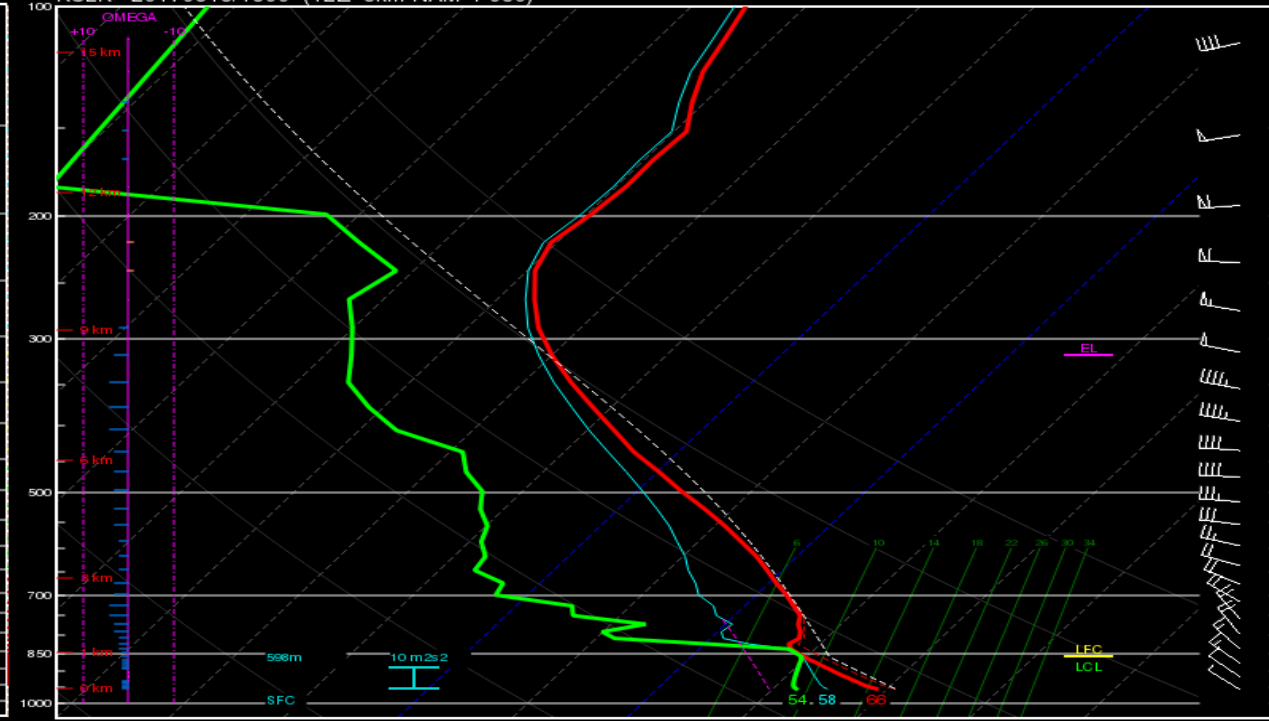
PW = 0.95in	K = 31	WNDG = 0.0
MeanW = 9.4g/kg	TT = 51	TEI = 7
LowRH = 95%	ConvT = 58F	3CAPE = 0
MidRH = 64%	maxT = 71F	MBURST = 0
DCAPE = 455	ESP = 0.0	SigSvr = 285 m3/s3
DownT = 54F	MMP = 1.0	

Sfc-3km AGL LR = 5.2 C/km	Supercell = 0.0
3-6km AGL LR = 7.5 C/km	STP (cin) = 0.0
850-500mb LR = 6.5 C/km	STP (fix) = -0.0
200-500mb LR = 2.0 C/km	STP (fix) = -0.0

SRH (m2/s2)	Shear (kt)	MnWind	SRW
SFC-1km	-11	16	307/16
SFC-3km	36	18	301/18
Eff Inflow Layer	0	0	311/19
SFC-6km	31	31	292/21
SFC-8km	49	49	285/23
LCL-EL (Cloud Layer)	46	46	279/26
Eff Shear (EBWD)	17	17	289/22
BRN Shear =	9 m2/s2		
4-6km SR Wind =	181/16 kt		
... Storm Motion Vectors...			
Bunkers Right =	305/35 kt		
Bunkers Left =	249/18 kt		
Corfidi Downshear =	260/46 kt		

KSLK 20170813/1800 (12Z 3km NAM F030)



PCL	CAPE	CINH	LCL	LI	LFC	EL
SFC	323	0	885	-2	885	8442
ML	142	-34	889	-1	4166	7838
FCST	427	0	1133	-2	1133	8549
MU	323	0	885	-2	885	8442

PW = 0.62in	K = 9	WNDG = 0.0
MeanW = 9.0g/kg	TT = 50	TEI = 18
LowRH = 80%	ConvT = 68F	3CAPE = 19
MidRH = 20%	maxT = 69F	MBURST = 0
DCAPE = 401	ESP = 0.0	SigSvr = 2544 m3/s3
DownT = 49F	MMP = 1.0	

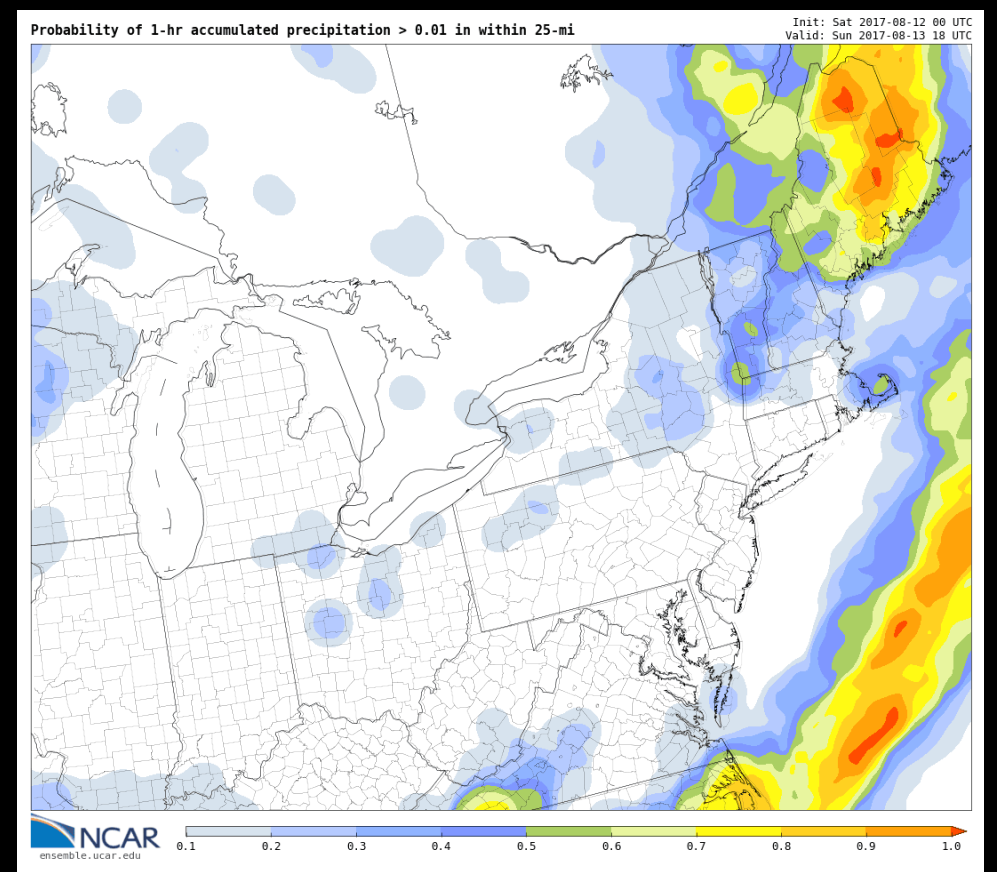
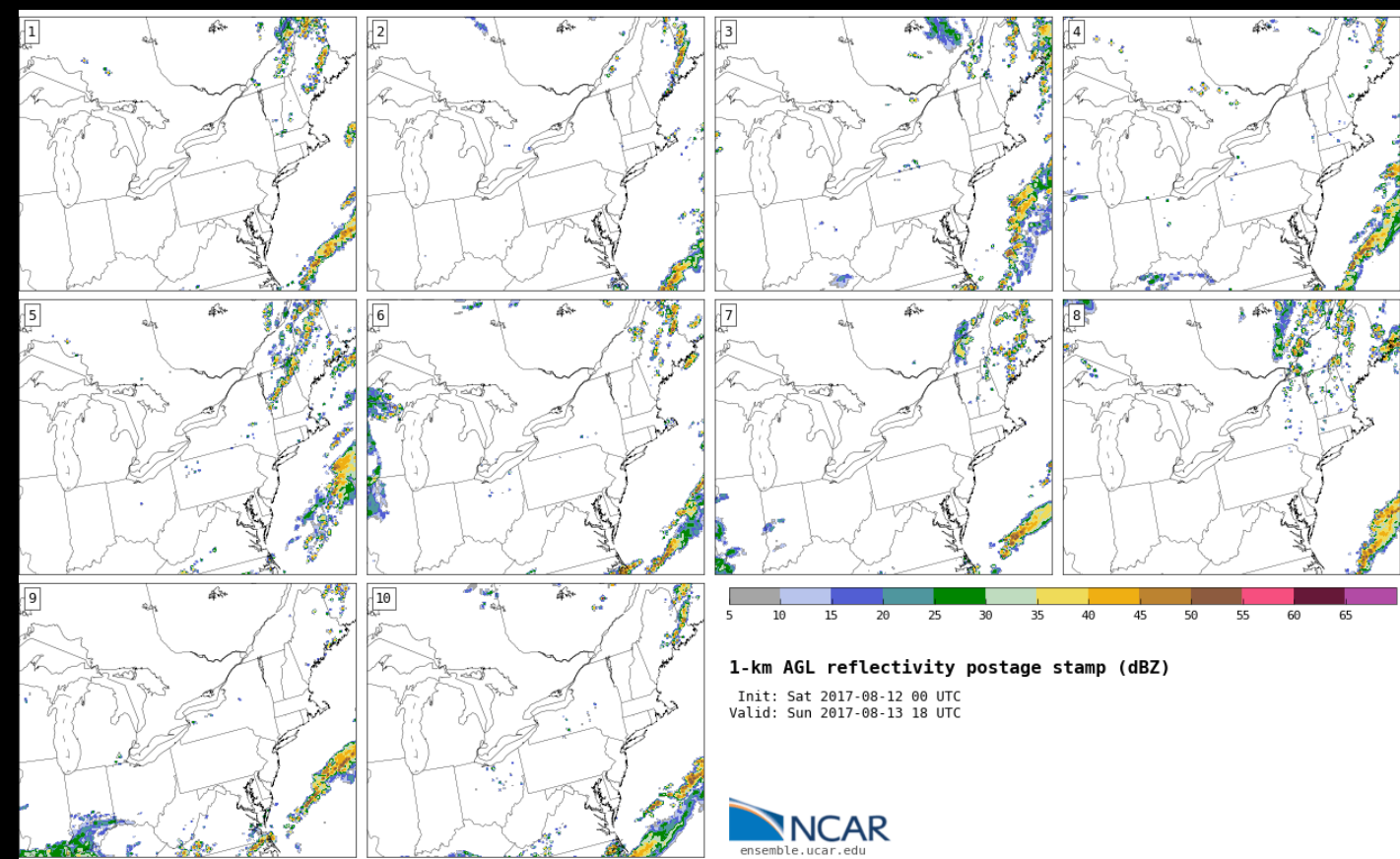
  

Sfc-3km AGL LR = 6.9 C/km	Supercell = 0.0
3-6km AGL LR = 7.4 C/km	STP (cin) = 0.0
850-500mb LR = 6.2 C/km	STP (fix) = 0.0

SRH (m2/s2)	Shear (kt)	MnWind	SRW
SFC-1km	9	7	311/12
SFC-3km	28	12	314/15
Eff Inflow Layer	10	6	310/12
SFC-6km	35	35	298/19
SFC-8km	41	41	294/22
LCL-EL (Cloud Layer)	38	38	291/25
Eff Shear (EBWD)	23	23	307/17
BRN Shear =	9 m2/s2		
4-6km SR Wind =	215/23 kt		
... Storm Motion Vectors...			
Bunkers Right =	325/29 kt		
Bunkers Left =	250/16 kt		
Corfidi Downshear =	279/46 kt		

# Synoptic Forcing

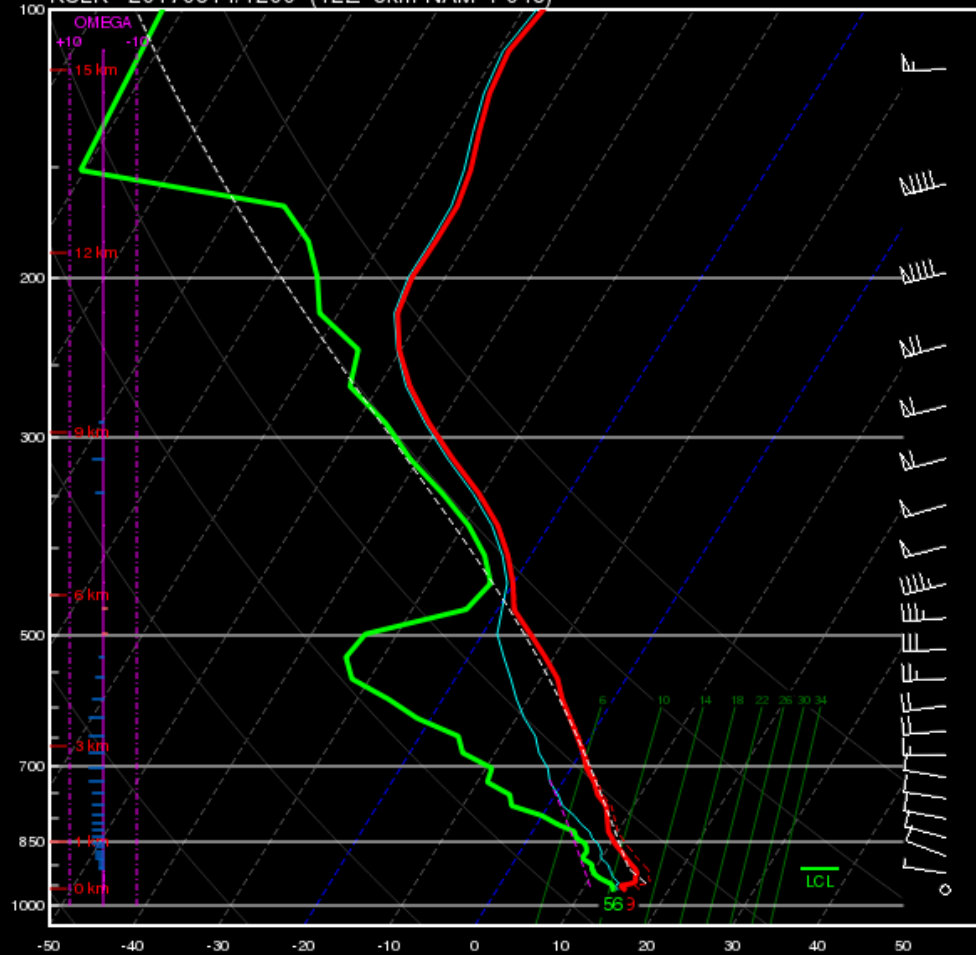
- Left: 0z 8/12 NCAR ensemble run valid for 18z 8/13 NCAR ensemble 1km AGL reflectivity postage stamps
- Right: 0z 8/12 NCAR ensemble run valid for 18z 8/13 showing probability of  $>0.01$ in accumulated precip within 25miles
- Of all the members only 1 is indicating any chance of precip to occur tomorrow afternoon, the forecasted probability is less than 20%



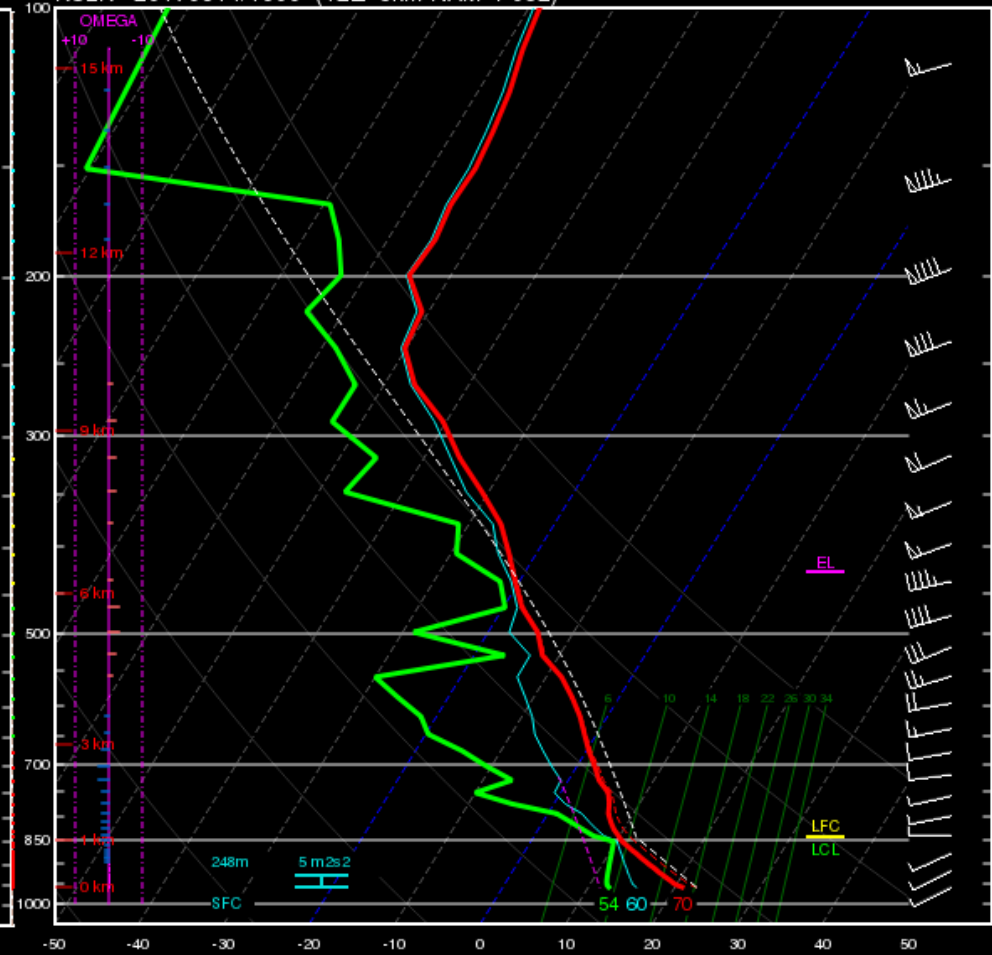
# Model Sounding

- Right: 12z 8/12 3km NAM Model sounding for 12z and 16z 8/14
- The soundings show the low LCL in the morning associated with the moist surface which is quickly mix by 16z bringing the LCL above the summit level

KSLK 20170814/1200 (12Z 3km NAM F048)



KSLK 20170814/1600 (12Z 3km NAM F052)



PCL	CAPE	CINH	LCL	LI	LFC	EL
SFC	0	0	166	1	--	166
ML	0	0	900	2	--	900
FCST	130	0	1377	-1	1377	6243
MU	0	0	443	1	--	443

PW = 0.76in	K = 20	WNDG = 0.0
MeanW = 8.5g/kg	TT = 46	TEI = 11
LowRH = 77%	ConvT = 59F	3CAPE = 0
MidRH = 41%	maxT = 72F	MBURST = 0
DCAPE = 408	ESP = 0.0	
DownT = 52F	MMP = 0.0	SigSvr = 0 m3/s3

SRH (m2/s2)	Shear (kt)	MnWind	SRW
SFC-1km	25	11	284/6
SFC-3km	50	15	280/9
Eff Inflow Layer	--	--	--/--
SFC-6km	41	272/15	163/15
SFC-8km	54	267/18	177/15
LCL-EL (Cloud Layer)	0	288/4	131/20
Eff Shear (EBWD)	--	--/--	--/--
BRN Shear =	17 m2/s2		
4-6km SR Wind =	205/18 kt		

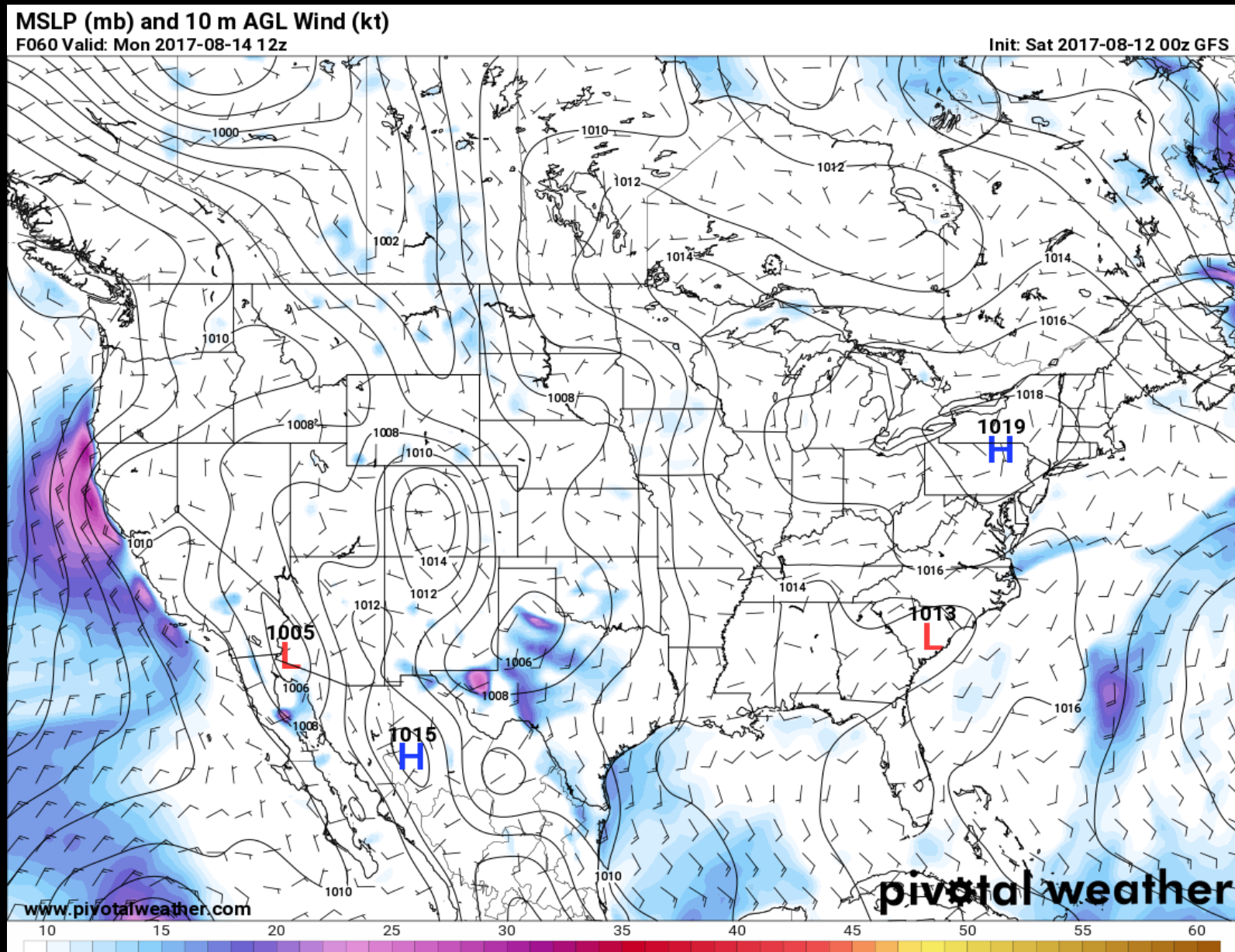
PCL	CAPE	CINH	LCL	LI	LFC	EL
SFC	234	0	1083	-1	1083	6415
ML	100	-1	1080	0	1080	5988
FCST	285	0	1318	-2	1318	6590
MU	234	0	1083	-1	1083	6415

PW = 0.8in	K = 22	WNDG = 0.0
MeanW = 9.1g/kg	TT = 48	TEI = 16
LowRH = 72%	ConvT = 70F	3CAPE = 48
MidRH = 38%	maxT = 72F	MBURST = 0
DCAPE = 436	ESP = 0.0	
DownT = 52F	MMP = 1.0	SigSvr = 2013 m3/s3

SRH (m2/s2)	Shear (kt)	MnWind	SRW
SFC-1km	8	2	244/4
SFC-3km	34	9	257/6
Eff Inflow Layer	5	1	242/3
SFC-6km	39	255/12	183/16
SFC-8km	54	254/17	195/18
LCL-EL (Cloud Layer)	40	256/17	198/18
Eff Shear (EBWD)	12	257/6	160/15
BRN Shear =	11 m2/s2		
4-6km SR Wind =	214/24 kt		

# Synoptic weather

- Shown is the 0z 8/12 GFS MSLP and 10m winds valid for 12z 8/14
- The high pressure center will be located directly over our area Monday and will continue to move east throughout the day





# Long Range

- Left: 12z 8/12 ECMWF run showing 6hr precip and 850 temps valid for 18z 8/17
- Right: 12z 8/12 GFS run showing 6hr precip and MSLP valid for 18z 8/17
- The Euro has the system moving faster affecting us throughout the day Thursday while the slower GFS has the system off to the west at the same time

