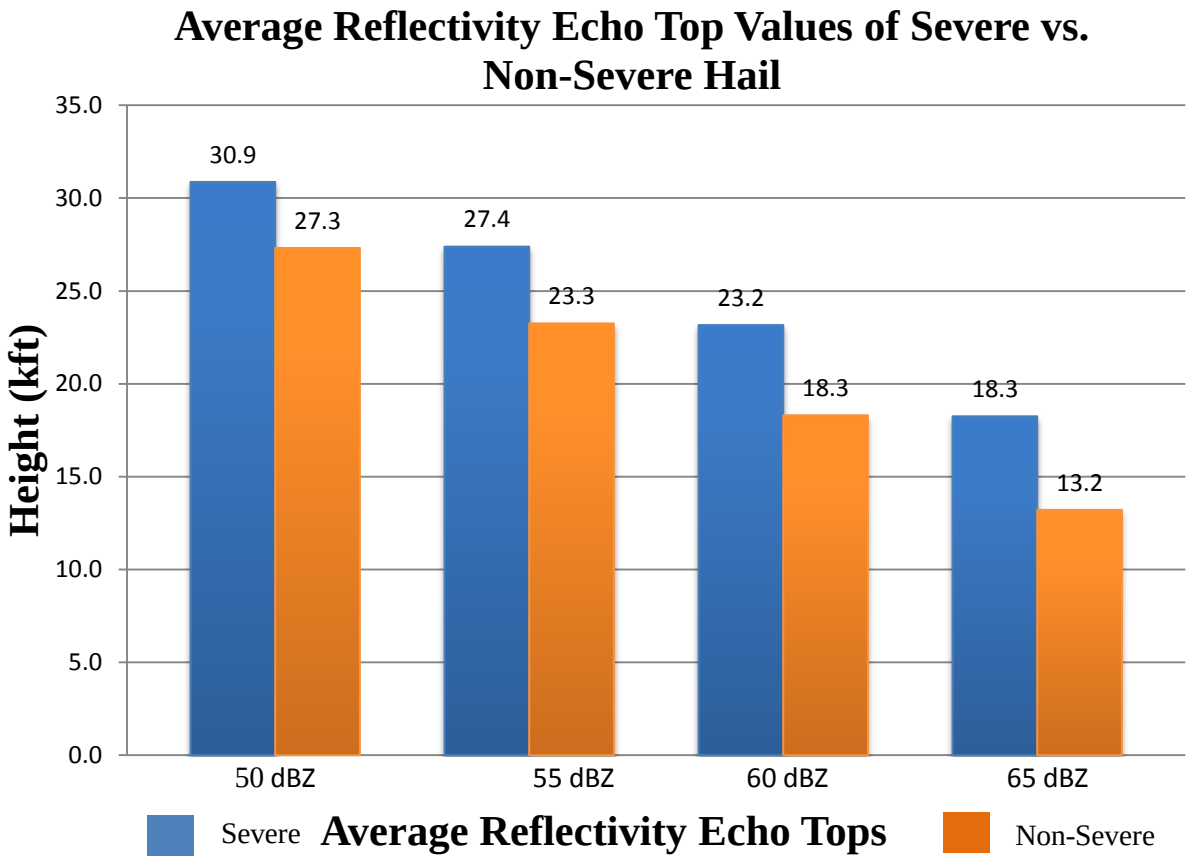
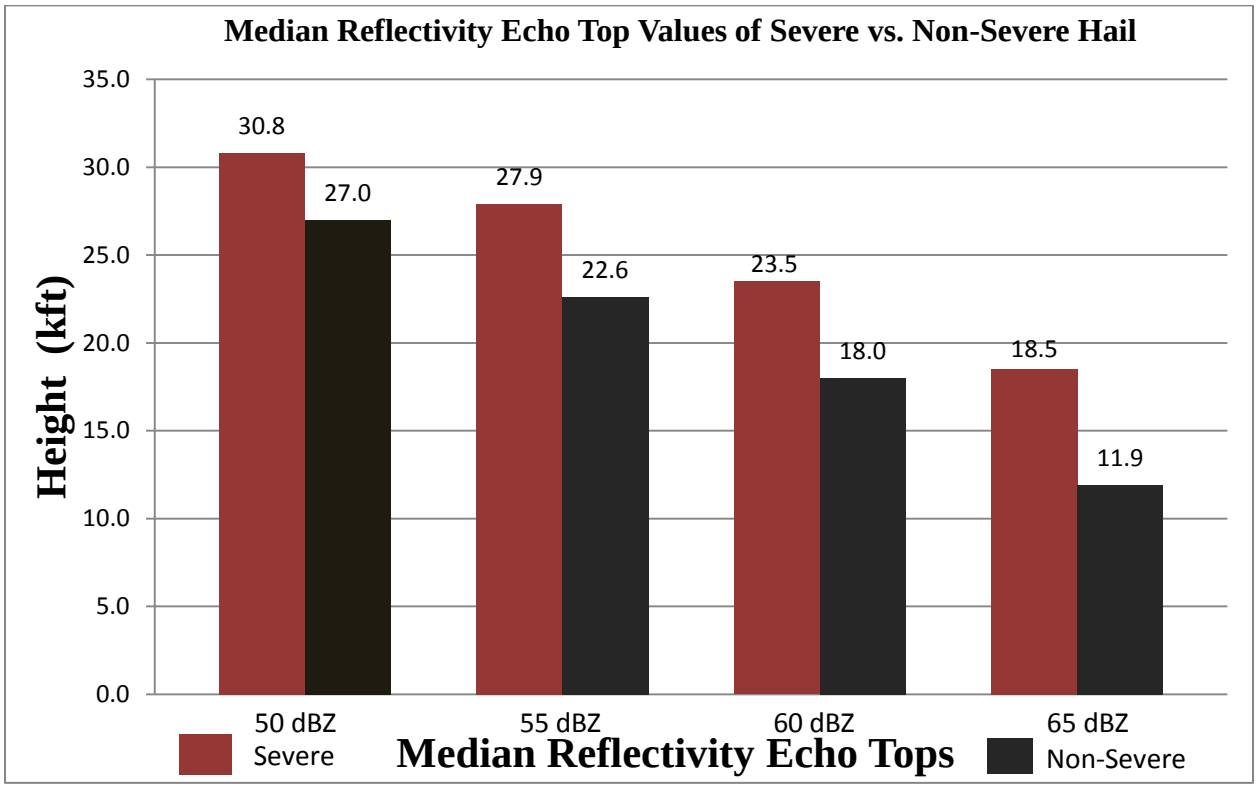
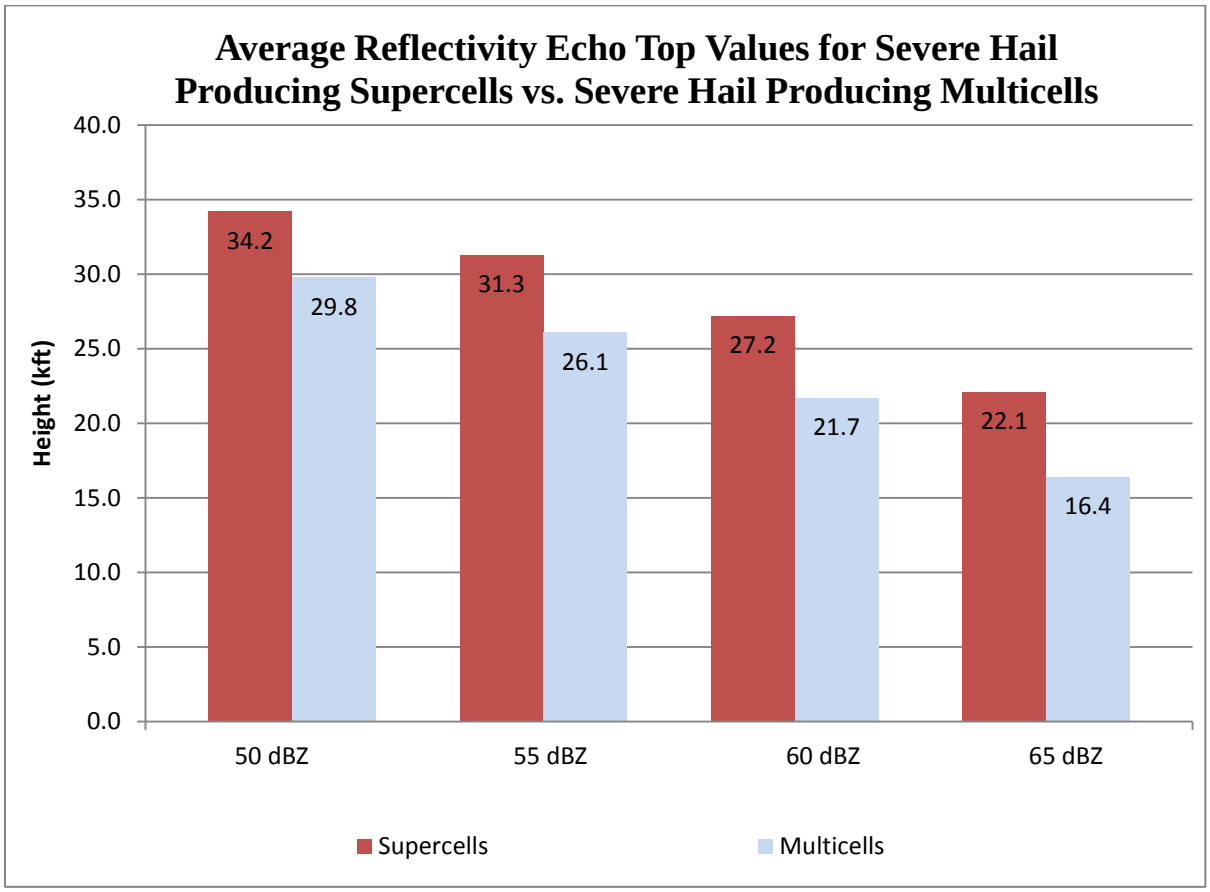
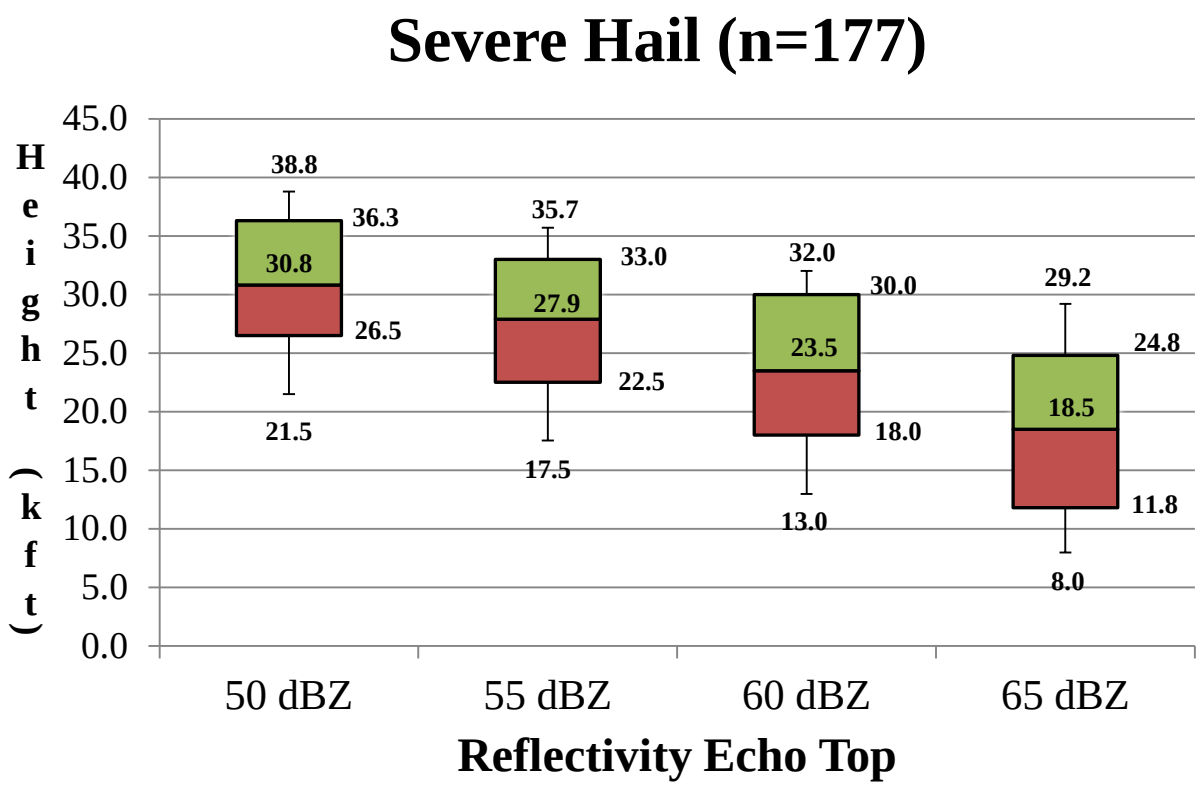
Statistics from the Albany 1" Hail Study by Brian Frugis and Tom Wasula
Based off 384 hail events from 2005-2010 from the Albany CWA

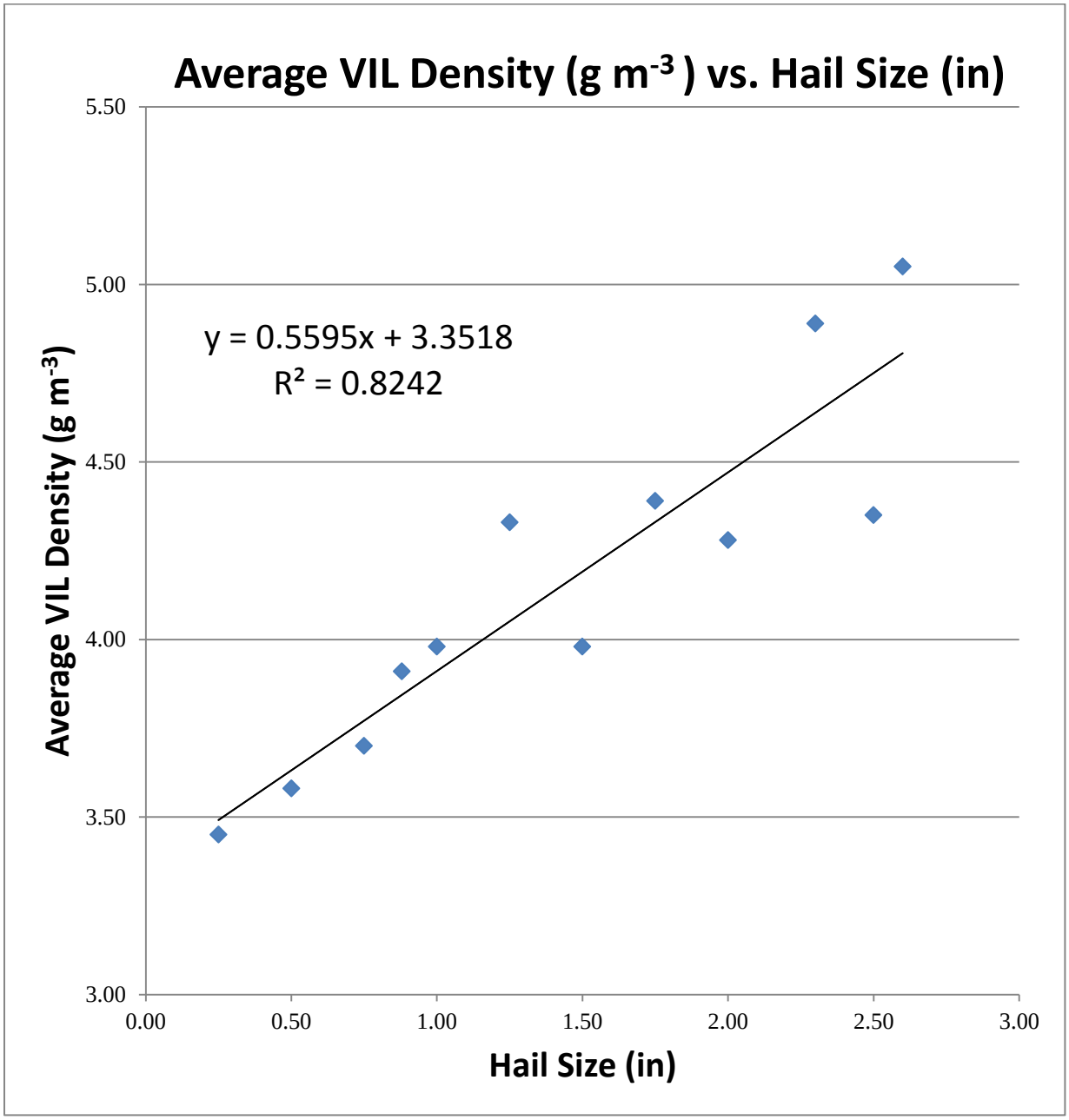
	SEVERE **1.00"+ (Quarter or Larger) Hail**	**NON-SEVERE** **0.25"- 0.88" (Nickel or smaller) Hail**	**Difference**
Average Height of 50 dBZ Echo Top	**30.9 kft**	**27.3 kft**	**3.6 kft**
Average Height of 55 dBZ Echo Top	**27.4 kft**	**23.3 kft**	**4.1 kft**
Average Height of 60 dBZ Echo Top	**23.2 kft**	**18.3 kft**	**4.9 kft**
Average Height of 65 dBZ Echo Top	**18.3 kft**	**13.2 kft**	**5.1 kft**
Average Height of 50 dBZ Echo Top above -20° C Isotherm	**8.7 kft**	**5.5 kft**	**3.2 kft**
Average GVIL (kg/m^2)	**50 kg/m^2**	**44 kg/m^2**	**6 kg/m^2**

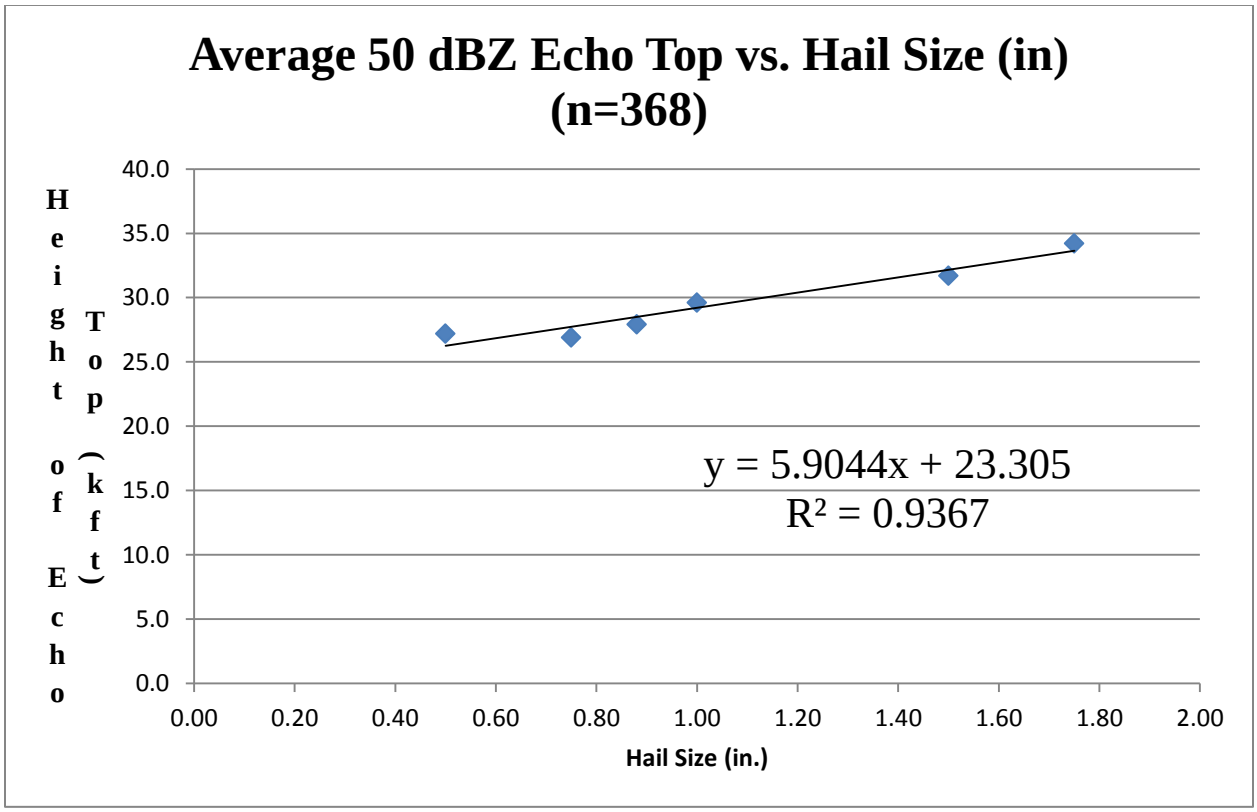

Average Reflectivity Echo Top Values of Severe vs. Non-Severe Hail
Height (kft)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
30.9
27.3
27.4
23.3
23.2
18.3
18.3
13.2
50 dBZ
55 dBZ
60 dBZ
65 dBZ
Severe
Average Reflectivity Echo Tops
Non-Severe


Median Reflectivity Echo Top Values of Severe vs. Non-Severe Hail
Height (kft)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
30.8
27.0
27.9
22.6
23.5
18.0
18.5
11.9
50 dBZ
55 dBZ
60 dBZ
65 dBZ
Median Reflectivity Echo Tops
Severe
Non-Severe


Average Reflectivity Echo Top Values for Severe Hail Producing Supercells vs. Severe Hail Producing Multicells
Height (kft)
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
34.2
29.8
31.3
26.1
27.2
21.7
22.1
16.4
50 dBZ
55 dBZ
60 dBZ
65 dBZ
Supercells
Multicells


Severe Hail (n=177)
Height (kft)
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
38.8
36.3
30.8
26.5
21.5
35.7
33.0
27.9
22.5
17.5
32.0
30.0
23.5
18.0
13.0
29.2
24.8
18.5
11.8
8.0
50 dBZ
55 dBZ
60 dBZ
65 dBZ
Reflectivity Echo Top


Average VIL Density (g m-3) vs. Hail Size (in)
y = 0.5595x + 3.3518
R² = 0.8242
Average VIL Density (g m-3)
Hail Size (in)
5.50
5.00
4.50
4.00
3.50
3.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00


Average 50 dBZ Echo Top vs. Hail Size (in) (n=368)
Height of Echo Top (kft)
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
1.60
1.80
2.00
Hail Size (in.)
y = 5.9044x + 23.305
R² = 0.9367