

35.5 Hour Snowstorm January 22-23, 2016

The total snow for the 22nd-23rd was 15.1 inches with 6.0 inches of snow falling on the 22nd and 9.1 inches of snow on the 23rd. The total water content was 2.26 inches. Of this total approximately 0.80 inches fell as sleet from 1730 on the 22nd to 0300 on the 23rd during a 9.5 hour period. The snow during the storm equaled approximately 1.46 inches of the liquid. The maximum wind gust during the storm was 33 mph at 0821 on the 23rd but several afternoon gusts were 30 mph. The maximum drift measured in and around the yard was about 30 inches.

Video of the storm Click on the Icon or go to the following address in Chrome.

<http://www.glenallenweather.com/alink/18snow/winters/snows15-16/1-22-23-2016.avi>

The Time line- Jan 22, 2016

Remarks for the Time Period

0 1005 hrs. T T 26.1 The snow has just started as extremely small flakes as the flakes are falling through very dry air and sublimation has reduced the flake size. The current dew point is 16.7°F. The flakes were easily seen by 1015 and are in the form of very small and are broken and irregular needles and the dew point is already 17.1°F. By 1030 the street was white and the intensity has increased with a NE wind at 5 to 10 mph.

1 1100 hrs. 0.3 0.02 25.2 The yard is starting to get white and the current intensity is light to moderate but increasing. The dew point is now 20.5°F and the wind is east at 5 to 10 mph. At 1130 the snow fall rate was moderate and the total was 0.8 inches and the dew point 21.8°F and the wind was 5 to 8 mph from the east-northeast.

2 1200 hrs. 1.2 0.09 25.2 The snowfall rate is now heavy with 0.9 inches this past hour. The flakes are still made up of mostly needles and the dew point temperature is now 22.1°F with a NE wind at 5 to 8mph. What information do needles give? Needles generally form when there is an abundance of moisture aloft and the temperature is around 23°F. They can be up to about 3mm in length but these today are about 2mm.

3 1300 hrs. 2.2 0.16 25.8 At 1245 the flakes started to form larger aggregates flakes which generally mean temperatures warming aloft. Currently the basic crystal form is broken and irregular particles and rarely seen single crystals with a few needles. The irregular particles also show some riming in the last 15 minutes of this period.

4 1400 hrs. 3.0 0.24 25.9 During the past hour 0.8 inches of snow has accumulated thus moderate to heavy snow this past hour. The dew point is now 23.1°F

and the snow decreased some during the last 15 minutes of this period and has just started to increase again in the form of form larger aggregates flakes.

5 1500 hrs. 3.2 0.26 25.4 After the first ten minutes of this period the Glen Allen Station had very light snow even flurries for about 30 minutes until 1450 when the snow rate increased again.

6 1600 hrs. 3.9 0.34 24.0 The snowfall has increased this period particularly during the last 30 minutes and the wind has increased from the NE at 8 to 15 mph. There was little wind during the 1500 period.

7 1700 hrs. 4.8 0.43 23.1 Snow moderated to heavy during the past hour and the wind has increased from 14 to 18 mph. The snow is blowing now and is becoming more difficult to measure. The snow camera is not working currently.

8 1800 hrs. 5.7 0.53 23.0 Glen Allen currently has sleet and snow but in the pass 5 minutes it is more sleet than snow.

9 1900 hrs. 5.5 0.64 23.1 Warm air aloft is causing the sleet we have had during the past hour. The weight of the sleet has acutually caused the snow to settle more and we have lost 0.2 of an inch. The snow camera has been fixed this past hour but the sleet is going to lower the snow totals.

10 2000 hrs. 5.5 0.68 23.4 The plume of moisture up the east coast has shut down and as the low approaches and the low is giving sleet not snow. It looks like the predictions of all the models will fall very short of their projected totals. Also we didn't get any snow rates of two inches per hour this afternoon. One inch per hour was the greatest snowfall intensity of today. Glen Allen had only 0.04 of an inch of sleet an no snow this past hour any accumulation was off set by settling of the snow base.

11 2100 hrs. 5.7 0.75 23.9 Glen Allen has had more sleet this past hour than last hour and there is some sleet that hasn't melted in the tripping bucket gauge still. The sleet has accumulated 0.2 more than the settling of the snow base.

12 2200 hrs. 5.8 0.81 24.3 Sleet fell during the first part of the hour that add 0.1 inches to the total but has now turned to snow grains or granular snow. Precipitation is now in the form of very small, opaque particles of ice; the solid equivalent of drizzle.

13 2300 hrs. 5.8 0.83 24.3 Very light sleet and some snow grains this past hour but not enough to add to the snow total.

14 2400 hrs. 6.0 0.91 23.7 Some light sleet the first 35 minutes then increasing in intensity. Currently Glen Allen has moderate to heavy sleet that added another 0.1 to the total frozen precipitation. Taking a break here as the sleet accumulates slowly and the snow camera is at 6.0 inches and give a fair assessment of the additional precipitation in the early morning hours.

Jan

23 0700 hrs. 6.7 1.41 23.9 The snowboards were cleared at midnight and placed level with the snow surface. From midnight until 0700 Glen Allen had 0.50 inches of added precipitation mostly in the form of sleet. All sleet stopped by 0330 and snow started again around 0600 the wind blew much of the added accumulation from snow camera board.

16 0800 hrs. 7.0 1.44 24.3 Light snow and blowing snow very difficult to measure now winds 18 to 28 mph during the past hour.

17 0900 hrs. 7.4 1.49 24.9 A wind gust of 33 mph at 0821 giving blowing snow and removing snow from several snowboards but the snow fence is some help. The snow settled some from midnight to the 0700 observation so the total snow depth is now only 6.4 inches but the total snow measured is 7.4 inches. The snow base is dense with the sleet last night that has caused compaction of the snow beneath. This snow base is going to make for hard shoveling due to its density and weight.

18 1000 hrs. 7.7 1.52 25.7 The peak gust during this past hour was 30 mph causing the snow on the sleet surface to drift on the back side of fences or any obstructions. The actual snow fall rate has increased in the past ten minutes. Please read the 0900 observation for more clarification of observations.

19 1100 hrs. 8.3 1.59 25.8 Some may think the models were off the mark but it was the sleet that gave this illusion. This is interesting how much more snow Glen Allen would have had if so much of the precipitation wasn't sleet. The snow to water ratio at 4PM yesterday before any sleet was 11.4 inches to one inch. The current liquid precipitation total is 1.59 inches. Multiplying the snow to water ratio times the current liquid precipitation gives 18.1 inches. If all of the precipitation had been snow the current snow depth would have been 18.1 inches even more than the forecasted amount. So shoveling this 8.3 inches is going to be like shoveling 18.1 inches of snow.

20 1200 hrs. 8.8 1.64 27.3 Winds are still 20 to 30 mph from the north with blowing snow and a chill factor currently of 19°F but the minimum chill factor for today is 5°F at 1:58 am. The cleared snowboard placed on the surface of the new snow at midnight had 3 inches of new snow and sleet now since midnight and 6 inches was recorded at midnight or a total of 9 inches. The 8.8 inch measurement may be a little on the low side. Drifts are now 17 inches along the front and back of the yard fence and drifting is making snow measurements difficult.

21 1300 hrs. 9.4 1.70 26.7 The chill factor is now 17°F and a wind gust to 31 this past hour. This is 3.4 inches since midnight.

22 1400 hrs. 9.8 1.74 26.8 Winds are still 18 to 28 mph causing drifting and current wind chills to 13°F and visibility is reduced by snow and blowing snow. This is 3.8 inches since midnight.

23 1500 hrs. 10.7 1.83 25.9 Winds are still 18 to 25 mph causing drifting and current wind chills to 14°F and visibility is reduced by snow and blowing snow. This is 4.3 inches since midnight and now heavy snow with visibility less than .2 of a mile you can't see the other end of the street.

24 1600 hrs. 12.5 2.01 26.1 Starting around 1500 we had 0.3 mile visibility then by 1520 we had 0.2 mile visibility and at times less. Then I had to cut on the auxiliary heat source as there was enough heat to melt the snow it was falling so fast like 2.0 inches per hour. We did have 1.8 inches in this past hour and I believe for a short while it was falling at 2.5 inches per hour. I also had to raise my snow camera as it was getting buried in the snow.

25 1700 hrs. 13.4 2.10 25.7 Glen Allen still has poor visibility but better than last hour but still moderate to heavy snow. Last hour was the heaviest snow I have seen since the winter of 2009 and 2010. The storm record total for Glen Allen is 12.9 inches which was broken this hour. The snow is now over my high top boots and drift are around 28 inches now. The snow camera board has lost snow because of drift but still shows 13 inches.

26 1800 hrs. 14.5 2.19 25.8 Still moderate to heavy snow with another 0.8 inches this past hour and the wind is from 18 to 28 mph from the north. Note that even with drifting and blowing snow that the snow camera shows over 14 inches of snow. At about 1750 the snow has decreased in intensity after giving a record breaking snow. The anemometer cups and wind vane on the snow camera have been stopped but the deep snow.

27 1900 hrs. 14.7 2.21 26.2 Snowfall has decreased a good bit during the past hour but the wind is still 28 to 31mph from the north.

28 2000 hrs. 14.8 2.22 26.8 Only a little snow the first of this past hour and no snow currently. Looking at radar there may be another bang to cross this area in the next couple of hours.

29 2100 hrs. 15.0 2.25 27.1 It started to snow again around 2025 at a light to moderate intensity as another band move over the area.

30 2200 hrs. 15.1 2.26 27.9 Checking the radar the storm is all but over and will end observations for the day. Only a few flurries of very fine snow now. The gauges have all been reset and the snow camera will be left on overnight just to be prepared. So the new storm total for Glen Allen will be 15.1 inches of which 6.0 inches fell yesterday and 9.1 inches today.