

The long, white 2013-2014 winter: Bringing snowy back to the D.C. region (season statistics)

- By Ian Livingston
- March 27 at 12:10 pm



March 17, 2014 – Record-breaking mid-March snow covers the U.S. Capitol. (Ian Livingston)

For the last few winters before this one, all D.C. snow lovers talked about was how it doesn't seem to snow anymore.

Sure, the record-setting snows of 2009-10 were recent, but then we achieved our longest drought without a 2 inch snowstorm on record.

This winter featured a full reverse. The snow has kept coming and coming over the course of several months – not quite to record levels, but in many areas – close.

Consider these snowy statistics:

- * Both Reagan and Dulles Airports experienced twice as many days with at least 1" of snow compared to normal**
- * Reagan National Airport received measurable snow on 16 days**
- * Dulles Airport's 11 days with at least 1" were second most on record (since 1963)**

- * Reagan National's 8 snow events (of at least 1") tied for the most on record (since 1945)
- * It was Reagan National's 9th snowiest winter on record (since 1945) with 32.0 inches, and 18th snowiest in longer D.C. records dating to 1888
- * It was Dulles Airport's 3rd snowiest winter on record (since 1963) with 52.8 inches
- * It was Reagan National's 2nd snowiest March on record (since 1945) with 12.7 inches, and 5th snowiest in longer D.C. records dating to 1888
- * It was Dulles Airport's snowiest March on record (since 1963) with 19.8 inches

* Many areas in D.C.'s north and west suburbs exceeded 50 inches of snow for the season. For additional details, read below. In this analysis, I heavily focus on the current D.C. weather record location at Reagan National Airport (DCA). It has been up and running since the mid-1940s, with the overall D.C. record dating back to the 1880s. While snow can vary widely across the region, as I'll briefly touch on below, the snow day counts and event counts below often end up quite similar throughout the region. Typically, there's more "weight" to each category as you head west and north, and less south and east (locals know the drill). Dulles (IAD) is also discussed, since it's a bit more representative of our western suburbs.

Snow days at D.C. and Dulles

Days with at least 0.1"

Winter 2013-14 (defined throughout as the entire cold season) brought snow accumulation of 0.1 inch or greater on 16 days in the city (DCA). That's the most since the 19 days in 2002-2003. It's also well above the 30 winter average, ending last winter, of eight days.

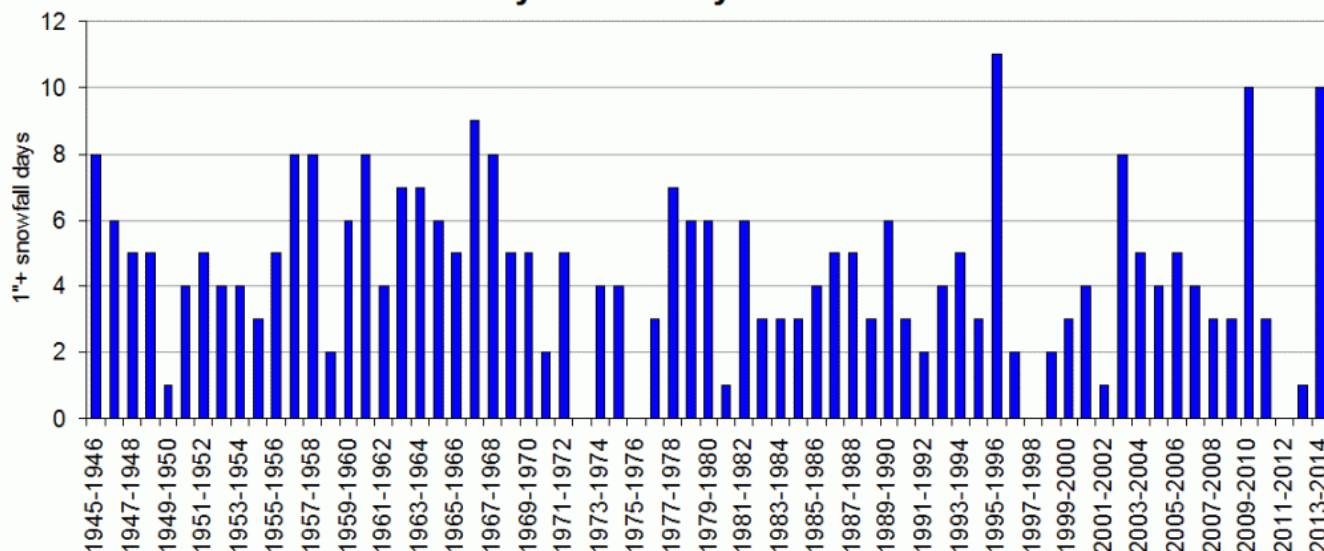
Heading west to Dulles (IAD), 20 days recorded 0.1 inch or more snow. That's more than the snowy winter of 1995-96 which finished at 19. Only two winters exceed 1995-1996: 1981-82 with 20 days and 1977-78 with 21 days.

Note: 0.1 inch is a pretty low mark and often captures storms that are mostly rain. Not so much this year, but many.

Days with at least 1 inch

To get a better sense of the frequency of more significant snow output, raising the bar to 1 inch can be useful. On this count, DCA has seen 10 such days — well above the 30-winter average of four. Only the winter of 1995-96 had more days. If we were to look at the whole record, the winters of 1889-99 and 1904-05 are kings, with 14 such days.

1"+ snowfall days at D.C. by winter since 1945-46

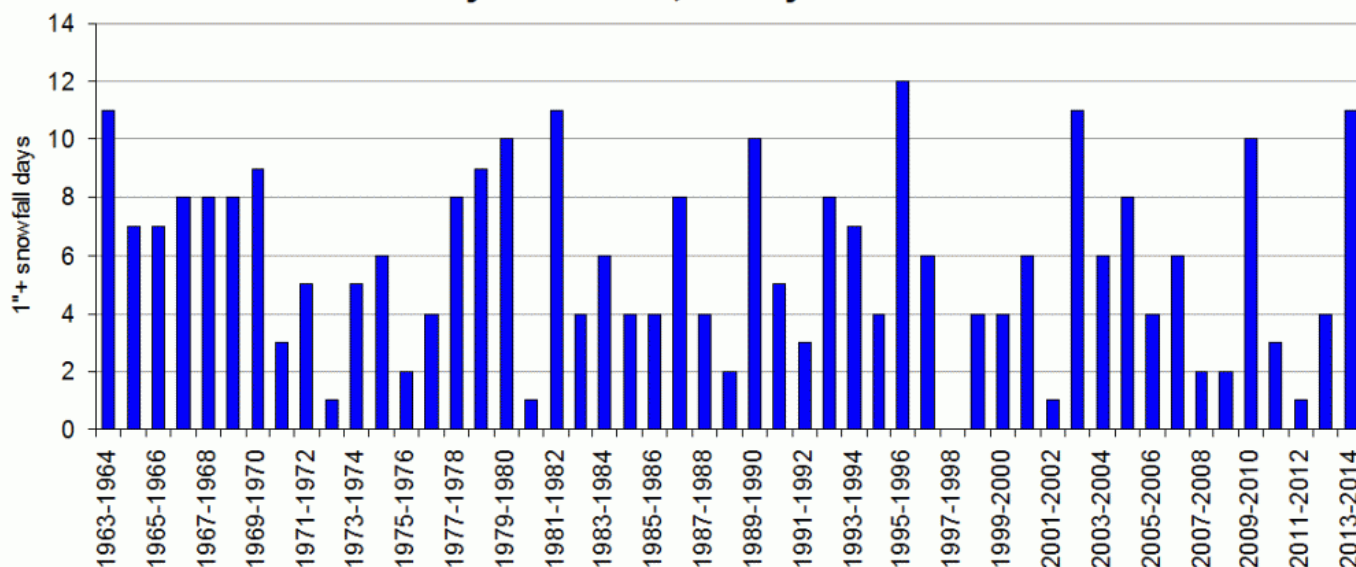


Days with one inch or greater snowfall accumulation in D.C., as measured at Reagan National Airport by winter. (Ian Livingston)

Related: Government shutdown winters tend to be cold and snowy in D.C. (October 2)

The one inch or greater count is also about as high as has ever been seen at IAD. 11 days have reached that mark this winter, with only 1995-96 seeing more days with this level or greater accumulating snow. The average is five days per cold season at IAD.

1"+ snowfall days at Dulles, Va. by winter since 1963-64



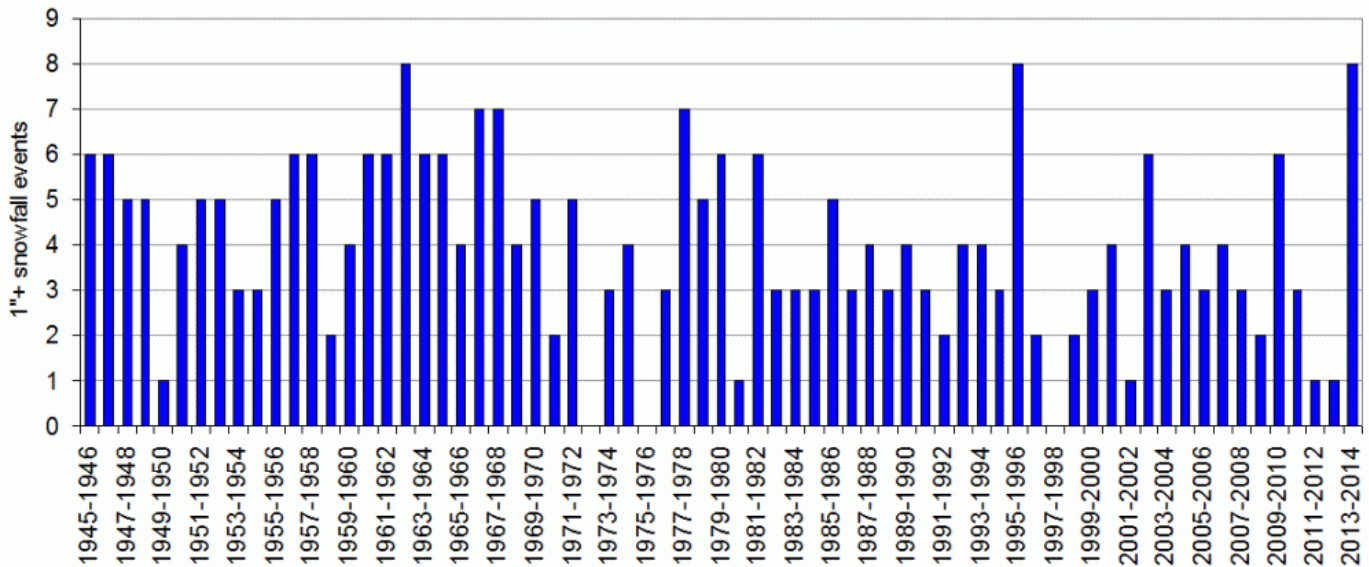
Days with one inch or greater snowfall accumulation at Dulles Va., as measured at Dulles Airport and supplemented by NWS DC/Baltimore by winter.

So, at both D.C. metro locations, 2013-14 runs about twice normal on the frequency of days with at least one inch of snow.

The number of snow events or storms

Of course, in reality a lot of snow events happen over two (or even more) days. So if we're trying to get a handle on how many snow events or storms occurred, we need to examine the number of instances where multi-day totals exceeded an inch (while not double counting consecutive days in which over 1 inch fell from the same storm/event).

1"+ snowfall events at D.C. by winter since 1945-46



Events that may overlap two or even more days featuring one inch or greater snowfall accumulation in D.C., as measured at Reagan National Airport by winter. (Ian Livingston)

Looking at the total numbers of events, this winter clearly rises to the top of the pack at DCA. The change from the last two winters is also stark.

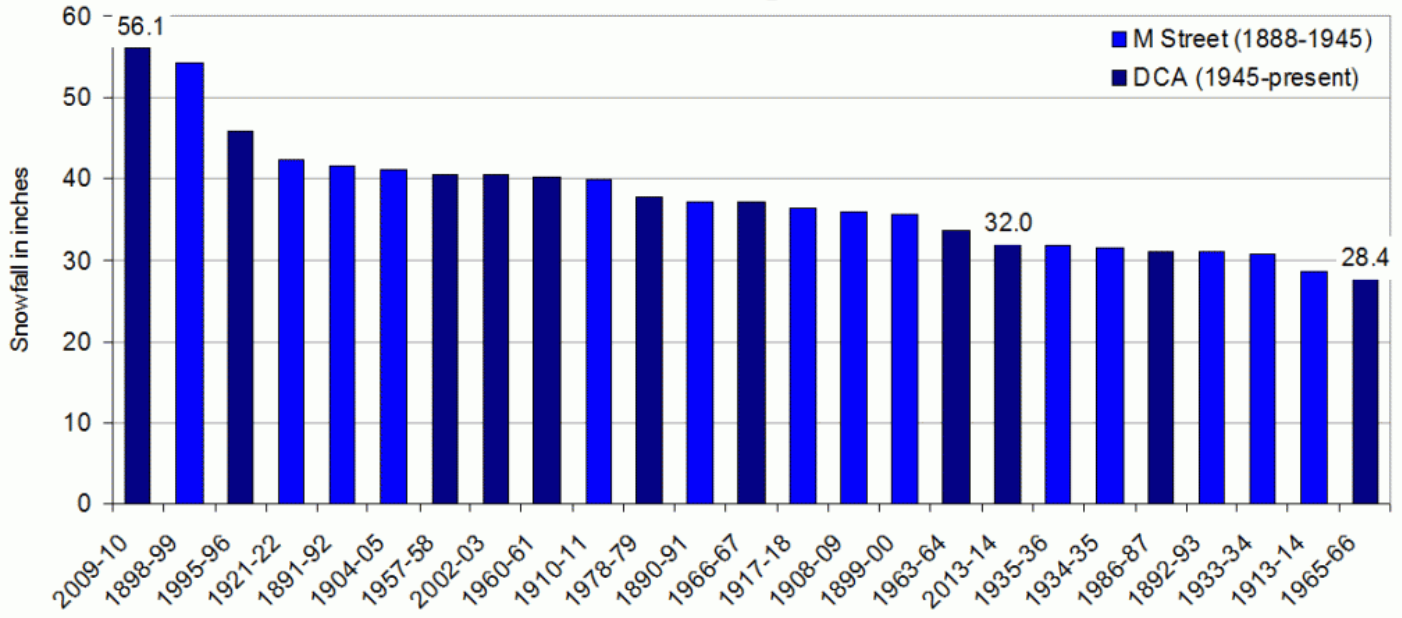
In fact, this winter has seen more 1 inch or greater events than either the record-breaking 2009-10, or the extra-snowy 2002-2003. 2013-14 joins 1995-96 and 1962-63 as the only DCA winters with so many one inch or greater snowfalls. The current 30-winter average is three such events. Both 1892-93 and 1904-05 lead the longer-term D.C. record books with 11.

Seasonal totals and a very snowy March

For most folks living in the immediate area, this winter's snow output rose to *at least* number four status in recent decades, only behind 2009-10, 2002-03 and 1995-96. All epic winters.

In some places, it has even surpassed totals in one or more of those winters. The seasonal tallies are respectable for both D.C. and Dulles, and generally range from about 50 inches to as much as 70 inches in the areas north and west of I-95. Northern Md. is approaching or surpassing 80 inches up in the way yonder hills.

25 snowiest winters at Washington, D.C. since 1888-89



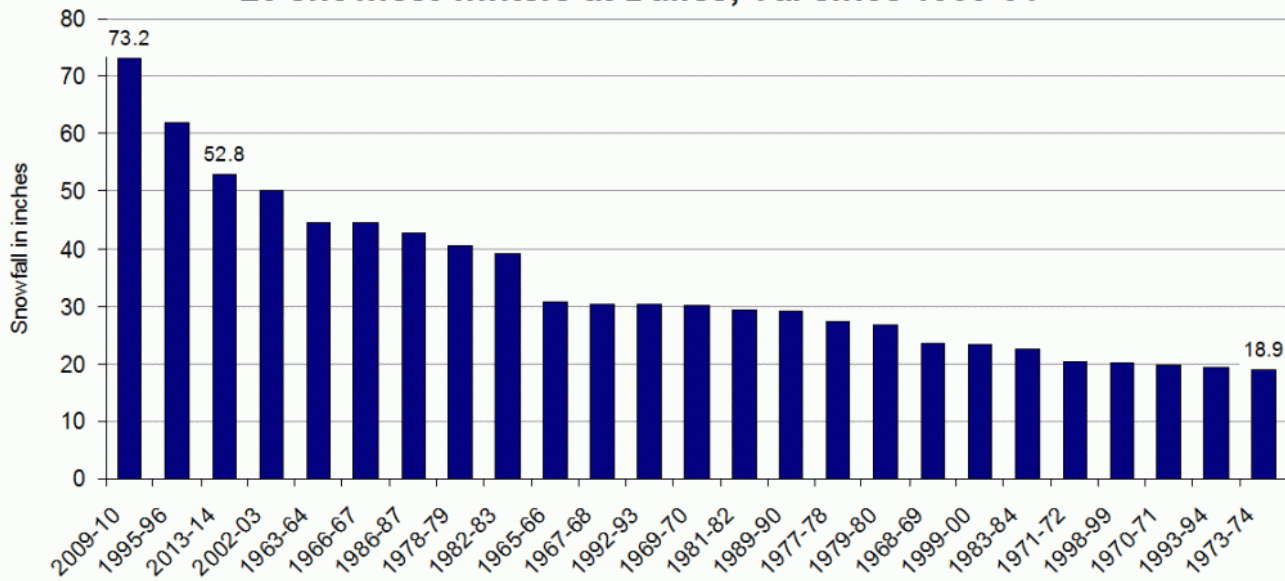
Top 25 winter snowfall years and totals in Washington, D.C. 2013-14 ranks number 18 overall. (Ian Livingston via NWS Baltimore Washington data)

In Washington, D.C. the snowfall total of 32.0 inches is right around double the current (1981-2010) average of 15.4 inches. This total makes it a top 20 winter — number 18 to be exact — in records dating to the late 1800s. It's also risen to the number nine winter at the current observation location at DCA, back to the mid-1940s.

Related: Astonishing snow in upper Montgomery County: nearly 70 inches (March 18)

While DCA is more or less representative of downtown, the monument core, and much of the local tidal Potomac, totals have as usual been notably higher rising into the hills within the city. At my own location in northwest D.C., I've measured 42.5 inches. According to CWG's Matt Ross, this bumps right up near totals seen in the 2002-03 winter in this part of the city.

25 snowiest winters at Dulles, Va. since 1963-64



Top 25 winter snowfall years and totals at Dulles, Virginia. 2013-14 ranks number 3 overall. (Ian Livingston via NWS Baltimore Washington data)

At Dulles, where the record is much shorter than D.C.'s, 2013-14 has reached the number three spot, behind only the "I'll tell my grandchildren about those winters" 1995-96 and 2009-10. The late March snow event pushed IAD well past the still mammoth 50.1 inches recorded in 2002-03. The 52.8 inches that has fallen at Dulles is more than twice the current average of 22 inches.

A quick sample of other totals through March (some western spots do actually average snow in April) includes 61.5 inches in Leesburg, Va.; 52.75 inches in North Bethesda, Md.; and 35.7 inches in Rose Hill, Va.

CWG reader Ron Berger provides these season totals from cooperative and COCORAHS weather observers in Montgomery County:

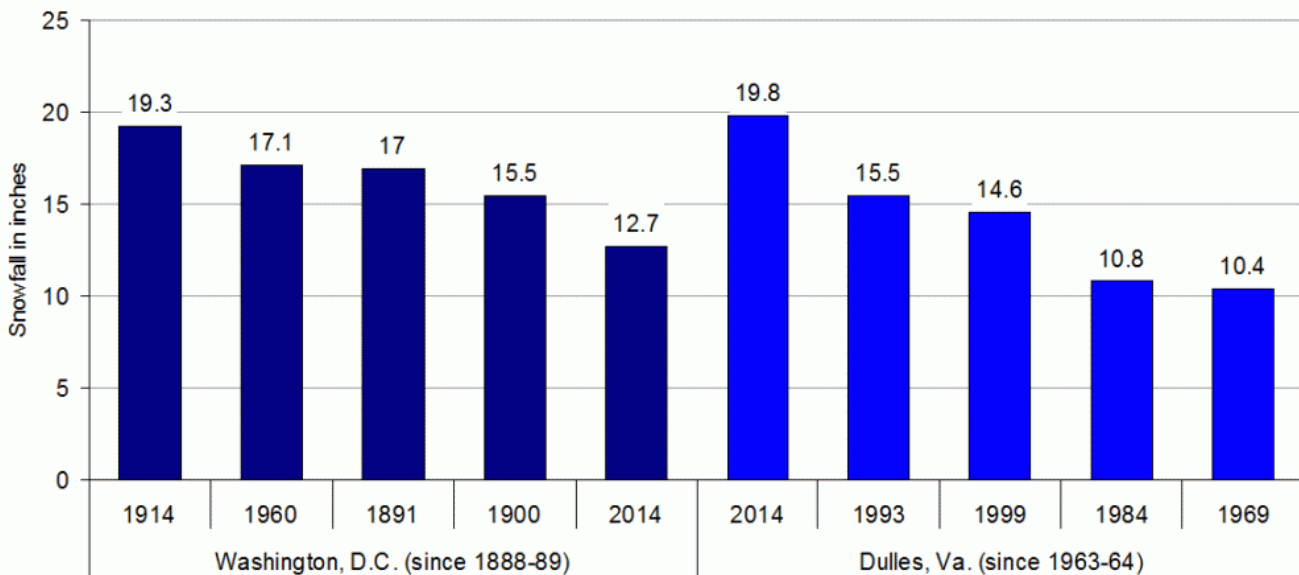
id #	LOCATION	SEASONAL SNOWFALL
MD-MG-29	Clarksburg 2.1 NE	75.4
DMAM2...	Damascus 3SSW	71.8
MD-MG-5	Norbeck 1.1 ESE	57.4
MD-MG-65	Poolesville 0.4 SE	57.1
MD-MG-8	Gaithersburg 2 WNW	55.5
MD-MG-63	Gaithersburg 3.1 NE	54.7
MD-MG-18	Colesville 1.7 W	54.4
MD-MG-68	Gaithersburg 2.5 SW	53.7
MD-MG-78	Olney 1.4 ENE	53.2
SSYM2...	Brighton Dam	53.0
MD-MG-83	Silver Spring 4.7 NNW	50.2
MD-MG-55	Rossmoor 1.3 ESE	49.8
MD-MG-24	White Oak 1.2 N	47.7
MD-MG-61	Silver Spring 7.4 N	46.3
MD-MG-42	Takoma Park 0.6 NNW	46.2
MD-MG-86	Silver Spring 5.7 NW	45.5
DALD2...	Dalecaria Reservoir	36.1

The 71.8 inches measured in Damascus (shown above) is the third most in its 54-year record, according to observer Robert Leffler, behind 98.4 inches in 2009-10 and 79.4 inches in 1995-1996 (19.2 inches have fallen in March alone, a record, besting 19.0 inches in 1962).

Related: Astonishing snow totals this winter in upper Montgomery County: nearly 70 inches Joseph Fiore, a certified weather spotter, reports 55 inches have fallen in Ashburn, Va. (If you have any to fill in, would love to hear location and total in comments).

Finally — maybe not finally since this winter might never end — we would be remiss not to stand with mouths agape at this March.

Top 5 March snowfall years at Washington, D.C. and Dulles



Top 5 March monthly snowfalls and years at D.C. and Dulles. (Ian Livingston via NWS Baltimore Washington data)

Dulles picked up an astonishing 19.8 inches in the three March 2014 snow events that hit the area, demolishing the previous March record held by 1993 of 15.5 inches. The location also accomplished something it has never done before thanks to the snowy March: The first three month streak (Jan-Mar) of monthly totals 10 inches or greater.

Related: Over 7 inches in D.C.: Third biggest snow so late in season (March 17)

Washington (DCA) officially finished with a respectable 12.7 inches during the month, which puts it at number five all time, covering the much longer period back to the late 1880s. It's also about 10 times the normal snowfall during the month. In NW D.C., I picked up 15 inches in March.

Certain winters just want to snow, and if nothing else March personified that idea with this one. Now, let's "hope" we don't need to make any corrections to the numbers and graphs in April...