



Christmas Day Climatology



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Normal Max / Min		Richmond		Norfolk		Salisbury, MD	
		48	30	50	34	46	28
Warmest	Daily Max	75	2015	79	2015	75	2015
		74	1955	75	1964	73	1932
		72	1982	73	1982	72	1964
	Daily Mins	64	2015	66	2015	66	2015
		58	1964	59	1964	60	1964
		58	1932	59	1932	56	1987
Coldest	Daily Mins	3	1983	7	1983	2	1989
		3	1935	11	1989	3	1980
		7	1989	*16	*1980	5	1983
	Daily Max	14	1983	16	1983	16	1983
		30	1969	32	1999	27	1968
		*30	*1962	*32	*1989	*29	*2000
% Chc White Christmas		8%		5%		8%	
Top 5 Snow Depths (Depth measured at 7am)		7"	1908	5"	1935	6"	1966
		5"	1914	4"	1966	6"	1935
		4"	1966	2"	1962	3"	1945
*White Christmas is:		3"	1935	2"	1914	3"	1908
Snow Depth \geq 1" at 7am		*2"	*2009	*1"	*1945	2"	1967
% Chc Snowfall \geq 0.1"		8%		5%		8%	
Top 5 Snowfalls		5.4"	1914	2.4"	1947	3.0"	1962
		4.3"	1962	1.6"	1914	0.5"	1909
		2.7"	2010	0.8"	2010	0.3"	1914
		1.8"	1969	0.4"	1948		
		1.8"	1909	0.2"	1917		
% Chc Precip \geq 0.01"		36%		34%		34%	
Top 5 Precip Amounts		1.70"	2005	1.55"	1921	1.93"	1962
		0.96"	1969	1.20"	2005	0.95"	1909
		0.94"	1913	1.19"	1914	0.88"	1914
		0.88"	1921	1.15"	2006	0.65"	1969
		0.82"	1914	1.03"	1981	0.60"	1921

* Denotes events that also occurred in previous years

Snowfall & Snow Depth:

The official definition for a "White Christmas" is for a *morning snow depth of 1" or greater* (measured at 7 am EST). Going by this, Richmond, Norfolk, and Salisbury all have less than a 10% chance of experiencing a white Christmas in any given year (see table).

The last Christmas that officially qualified as a white Christmas in Richmond was in 2009 when 2" remained on the ground at 7 am that morning (from a snowstorm that impacted the region on Dec 18-19th that year. However, no snowfall occurred that Christmas and all remaining snow had melted by that afternoon due to moderate to heavy rains and temperatures in the 50s.). Norfolk's most recent white Christmas by the official definition was way back in 1966 when the morning depth was 4" and Salisbury's was in 1989 (depth 1").

Snowfall on Christmas Day is a different statistic, and measures all of the *snow that falls during the 24 hour period midnight to midnight* that is Christmas Day. Measureable snowfall occurs less than 10% of the time at all sites as well. The top five snowiest Christmas' are listed in the table (snow depths and snowfalls). Going by this, the probabilities are similar, but dates may differ from the snow depth statistics. At all three sites, 2010 is the most recent Christmas with measurable snowfall. No snow was on the ground Christmas morning, but snow developed during the late afternoon and evening hours, with a major winter storm then continuing through the next day. For the Christmas day proper, 2.7" of snow fell in Richmond, 0.8" at Norfolk, and 1.0" at Salisbury. The bulk of snowfall occurred on the 26th at Norfolk and Salisbury, with storm total amounts (25th through 26th) of 4.3" at Richmond, 14.2" at Norfolk, and 10.4" at Salisbury. This is Norfolk's 3rd largest storm total snowfall on record.



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		3	1935	11	1989	3	1980
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	Daily Max	14	1983	16	1983	16	1983
		30	1969	32	1999	27	1968
		*30	*1962	*32	*1989	*29	*2000
% Chc White Christmas		8%		5%		8%	
Top 5 Snow Depths		7" 1908		5" 1935		6" 1966	
(Depth measured at 7am)		5" 1914		4" 1966		6" 1935	
		4" 1966		2" 1962		3" 1945	
*White Christmas is:		3" 1935		2" 1914		3" 1908	
Snow Depth >= 1" at 7am		*2" *2009		*1" *1945		2" 1967	
% Chc Snowfall >= 0.1"		8%		5%		8%	
Top 5 Snowfalls		5.4" 1914		2.4" 1947		3.0" 1962	
		4.3" 1962		1.6" 1914		0.5" 1909	
		2.7" 2010		0.8" 2010		0.3" 1914	
		1.8" 1969		0.4" 1948			
		1.8" 1909		0.2" 1917			
% Chc Precip >= 0.01"		36%		34%		34%	
Top 5 Precip Amounts		1.70" 2005		1.55" 1921		1.93" 1962	
		0.96" 1969		1.20" 2005		0.95" 1909	
		0.94" 1913		1.19" 1914		0.88" 1914	
		0.88" 1921		1.15" 2006		0.65" 1969	
		0.82" 1914		1.03" 1981		0.60" 1921	

* Denotes events that also occurred in previous years

Temperature:

Referring to the table to the left, note that highs on Christmas Day average in the mid to upper 40s to around 50 degrees, with lows in the upper 20s to lower 30s. However, there is a significant amount of variability as highs have varied from the balmy 70s to the frigid teens, although 30s, 40s and 50s are most commonly observed. High temperatures that fail to rise above freezing are relatively rare, having occurred on just 7 dates in over 115 years of data at both Richmond and Norfolk.

Daily minimum temperatures are not quite as varied, generally in the 20s and 30s, although they are occasionally as warm as the 60s or on a few rare occasions in the single digits.

The *coldest Christmas* by a long shot occurred in 1983 when high temperatures failed to get out of the teens over the entire state of Virginia and Maryland, the high of 16 degrees at Norfolk being the 5th coldest day recorded in Norfolk since the 1870s. A severe arctic outbreak affected the entire nation east of the Rockies that Christmas, with highs in the 30s and lows in the single digits as far south as north Florida.

The *warmest Christmas* occurred just last year (2015) when high temperatures were in the mid to upper 70s. Morning lows in the 60s were 15 to 20 degrees above the values for average daily highs! This was part of the warmest December on record as the entire month of December averaged more than 10 degrees above average across the entire region.