Weather of 2010: Brutal, record snowy winter followed by record warmth, dry at Times

2010 will be remembered for many things, including its extreme weather. From severe winter storms to floods then drought conditions, and a long streak of record heat during the spring and summer months, 2010 indeed was a year of extremes.

The year began cold and windy, with heavy snows in the mountains. 10 consecutive days from January 2nd-11th had sub-freezing high temperatures. A "January thaw" followed, with highs reaching the low 50s by the end of the second week, and the first significant rains falling on the 17th. An ice storm followed on the 22nd, with heavy rains of over an inch on the 24th-25th. The northern edge of a clipper brought a surprise 3" of fluffy snow to the area on the 30th.

February was unreal, with record amounts of snow. Back-to-back Nor' Easters slammed the Mid-Atlantic states on the 5th and 6th and again on the 9th and 10th. The first storm was by far the most significant in Allegany County and rivaled the record blizzards of 1996 and 2003. A total of 26.5" of snow fell in about 24 hours on the 5th-6th, equating to 2.43" of precipitation. 16" of snow fell in a 6-hour period overnight, a rate of nearly 3 inches per hour!

As the area was digging out from this paralyzing storm, which brought over 3 feet of snow to parts of central and northern Maryland, another major storm took aim on the Mid-Atlantic. 9" of snow fell on the 9th-10th, with upwards of two feet in the same areas that bore the brunt of the first storm. Two to three seasons worth of snow fell within a week in major cities such as Washington D.C., Baltimore and Philadelphia, completely paralyzing the region. The rest of February was cold and snowy, with 4" falling on the 15th, and light snows on the 26th-27th, from another Nor' Easter that pummeled much of New York and New England. Over two feet of lake-effect snow fell in the mountains. February racked up 42.5" of snow, making it the snowiest February and month on record. A total of 78.3" of snow fell during the 3 winter months of 2009-2010, also a record.

However, the weather pattern abruptly turned around in March. Spring arrived on cue. After light snows on the 3rd, temperatures reached the 60s by the 2nd week and 70s by the 3rd week. Over 2" of rain fell from the 12th-14th, which, combined with snow melt, caused flooding in the area. An early-season severe thunderstorm hit Cumberland on the 22nd, bringing heavy rain and high winds. Another system brought nearly an inch of rain on the 28th. March precipitation was above normal. More significantly, temperatures were way above normal, a huge reversal from a brutally cold winter. In fact, March ranked 4th warmest in 63 years of records, since 1948, with a mean temperature of 46.2 F.

April was exceptionally warm and dry. The month began with record heat during the first week. Highs of 92 on the 6th and 7th marked the earliest 90+ degree readings on record. For the balance of the month, temperatures fluctuated quite a bit but overall continued warm. Precipitation was scant, despite numerous frontal passages. 1.29" of total rain fell, the 3rd driest April on record. It was also the 3rd warmest April on record.

May began with record heat. The high reached 92 again on the 1st. Heavy rains totaling 1.62" fell on the 2nd-3rd from a slow-moving cold front. A cold front on the 8th brought very cool temperatures. The high on the 11th was only 45, tying the record low

max temperature for the entire month of May. Over an inch of rain fell through the 14th, most of it on the 11th. The active weather pattern continued, with nearly 1.5" of rain falling on the 17th-18th. More locally heavy rains moved through the evening of the 22nd.

2010 was a lackluster thunderstorm year, but a backdoor cold front on the 28th brought scattered severe thunderstorms along the Alleghany Front. One of these storms ravaged the northwest portion of the county. Large hail up to the size of golf balls, damaging winds, and torrential rains of 2-3" hit the Frostburg and Mt. Savage areas, causing flash flooding. Frostburg NWS observer Dr. Greg Latta described it as the "most severe isolated thunderstorm he has ever observed" at his station since he began observing in October, 1997. The storm weakened as it inched east, but still brought damaging winds, hail, and heavy rains, especially in Cumberland where nearly 1.5" fell.

The summer of 2010 was extremely hot. June began warm and humid, with just one bout of cool weather on the 8th-9th, along with steady rains. Throughout the month, many strong to severe storms evaporated or split and went north and/or south of us. The final week was very hot, with a high of 95 on the 27th and a June record high min of 77 on the 28th. June 2010 was the hottest June on record, with a mean temperature of 73.7 F, beating 1994's record of 73.3 F. Unusually warm nights, with many lows in the 60s and 70s, contributed to this record. June ranked 5th driest ever, with only 1.38" rain.

July began cool, with lows in the low 50s the 1st-3rd. However, extreme heat followed. Every day from the 3rd-9th was in the 90s. The 7th and 8th were the hottest, with highs reaching 98. Meanwhile, no rain fell the first 8 days, and drought conditions developed. However, a couple of relentless thunderstorms dumped torrential rains totaling 2.71" on the afternoon of the 9th, as a cold front passed through. Another more widespread storm brought an additional 1.69" of rain on the night of the 13th-14th. These two rain events accounted for 83% of the month's total of 5.32" rain.

The remainder of July was very hot, humid, and dry. 17 days reached 90 or higher. The mean min of 66.5 set a record high for any month, and a low of 82 on the 24th set an all-time record warm low temperature. July 2010 was the hottest month on record, with an average temperature of 77.8 F. The previous record was in 1999 (77.2 F).

An intense squall line brought violent thunderstorm winds, clocked at 78 mph in Cumberland on August 4th. Tragically, a tree fell on a woman riding a bike, killing her, and marking the first known direct weather-related death in Allegany County in recent history. August was much like the rest of the summer of 2010 – very hot and dry. It was the 3rd driest August with only 1.19" of rain and the 5th hottest, with a mean temperature of 75.2 F. The summer of 2010 was the hottest on record, with a mean temperature of 75.6 F, shattering records set in 1991 and 1995. 13 more days in August reached the 90s.

Extreme heat continued into September. A high of 97 on the 2nd was the hottest September reading in 56 years. It was also 96 on the 3rd. Lawns continued to bake due to the dry heat and lack of rainfall. Thunderstorms brought modest amounts of rain on the 11th, 16th and 22nd. The heat continued, with a high of 91 as late as the 24th.

The extreme drought conditions came to an abrupt end the final four days of September. An inch of rain fell the 27th-28th, with highs only in the 60s. Then on the 30th, the remnant moisture from Tropical Storm Nicole streamed north through the Mid-Atlantic, dumping 3.14" of rain in a 12-hour period, causing some flash flooding. Extreme amounts of rain, in excess of 10 inches, fell over the Chesapeake Bay area.

October began somewhat cool, with highs in the 50s from the 3rd-6th and light rains. Temperatures rebounded to 80 by the 10th. A number of weak weather systems passed through, bringing only light amounts of rainfall. Only .97" of rain fell all month, the driest month of 2010. Meanwhile, there was a notable lack of cold weather. The first frost and freeze didn't come until the 30th, one of the latest first frosts/freezes on record.

November was the 9th consecutive month with above normal temperatures. However, this anomaly was very weak, and was mostly due to above normal nighttime lows. Four significant weather systems affected the area. The first two brought about an inch of rain on the 4th-5th and again on the 16th. A cold rain fell on Thanksgiving Day, the 25th, with snow, sleet and freezing rain at higher elevations. The first snow flurries of the season flew on the 27th.

The fourth 2+" precipitation event of 2010 brought a widespread 2 to 3 inch rainfall on November 30th and December 1st. A total of 2.73" of rain fell, causing minor flooding in the area again. The rain briefly turned to sleet, before ending around mid-day on the 1st. Following the cold front, temperatures remained consistently cold through the entire month of December. 18 days failed to reach above freezing, the second highest December total since the record cold December 1989. Very little precipitation fell after the 1st. Snow showers dropped 2.5" on the 16th. The streak of above-normal temperatures abruptly ended. Despite a mild finish, with highs reaching 50 on New Year's Eve, December's average max of 32.0 F ranked 3rd coldest on record. Despite a cold December, 2010 still beat out 1998 for the 4th warmest year on record. The average temperature in 2010 was 53.6 F, 1.8 degrees above normal.

2010 LaVale/Cumberland Area Weather Statistics

2010 Monthly and Annual Climate Summary
LaVale, MD, Allegany County
Observer Scott Lohr (data compiled by Nate Mullins)
Station Observation Time: Midnight
Lat: 39.657780°, Long: - 78.821871°, Elevation 1016'

	Temperature, ° F								Number of days		
Month	Mean Max	Mean Min	**Mean Temp**	Departure	**Max Temp**	Date	**Min Temp**	Date	Max ≥ 90	Max ≤ 32	Min ≤ 32
Jan	33.9	22.5	**28.2**	-1.6	**52**	16	**5**	31	0	13	27
Feb	34.2	23.3	**28.8**	-3.6	**47**	21	**7**	7	0	13	28
Mar	56.1	36.3	**46.2**	5.5	**73**	21	**23**	6	0	0	10
Apr	69.5	44.4	**56.9**	5.1	**92**	7*	**34**	29	2	0	0
May	73.1	53.4	**63.2**	2.4	**92**	1	**33**	10	1	0	0
Jun	83.1	64.3	**73.7**	4.8	**95**	27	**48**	8	5	0	0
Jul	89.1	66.5	**77.8**	5.0	**98**	8*	**50**	2	17	0	0
Aug	85.5	64.9	**75.2**	3.7	**95**	11	**54**	28*	13	0	0
Sep	79.0	56.1	**67.6**	3.4	**97**	2	**46**	11	5	0	0
Oct	64.0	46.0	**55.0**	1.8	**80**	10	**32**	30	0	0	1
Nov	51.8	33.9	**42.9**	0.3	**68**	22	**21**	29	0	0	12
Dec	32.0	22.7	**27.3**	-5.6	**56**	1	**10**	16	0	18	31
Year	**62.6**	**44.5**	**53.6**	**1.8**	**98**	**7/8***	**5**	**1/31**	**43**	**44**	**109**

Month	Precipitation, Inches				Number of days				Snow/ice, Inches		
	Total Precip	Departure	Max Day	Date	≥ 0.01"	≥ 0.10"	≥ 0.50"	≥ 1.00"	Total Snow	Max Day	Date
Jan	**2.82**	-0.05	1.06	25	6	4	3	1	**7.2**	3.0	30
Feb	**3.51**	0.79	1.34	6	10	4	3	2	**42.5**	13.5	6
Mar	**4.44**	0.61	1.14	13	11	7	4	2	**0.3**	0.3	3
Apr	**1.29**	-2.39	0.53	25	7	4	1	0	**0.0**	-	-
May	**5.90**	1.77	1.27	17	15	9	6	2	**0.0**	-	-
Jun	**1.38**	-2.24	0.66	9	8	4	1	0	**0.0**	-	-
Jul	**5.32**	1.63	2.71	9	10	7	3	2	**0.0**	-	-
Aug	**1.19**	-2.10	0.45	24	6	3	0	0	**0.0**	-	-
Sep	**5.05**	1.56	3.14	30	8	5	3	1	**0.0**	-	-
Oct	**0.97**	-2.01	0.23	19	9	4	0	0	**0.0**	-	-
Nov	**4.06**	0.81	1.42	30	9	4	3	1	**T**	T	27
Dec	**1.68**	-1.34	1.31	1	6	3	1	1	**3.5**	2.5	17
Year	**37.61**	**-2.97**	**3.14**	**9/30**	**105**	**58**	**28**	**12**	**53.5**	**13.5**	**2/6**

Note: * = also occurred on earlier dates that month

Month	Number of days with						Monthly Summary Comments
	Fog	Sleet	Glaze	Thunder	Hail	Dmg wind	
Jan	4	1	1	0	0	1	Cold, windy start, then mild, rainy
Feb	1	1	0	0	0	1	42.5" snow, record for any month
Mar	7	0	0	1	0	0	Much warmer, mid-month floods
Apr	3	0	0	2	0	0	Record warm 1st week, very dry
May	9	0	0	1	1	1	Warm, wet, severe t-storm 28th
Jun	3	0	0	5	0	0	Record heat, humid, very dry
Jul	4	0	0	3	0	0	Record heat, heavy rains 9th-14th
Aug	3	0	0	1	0	1	Very hot, dry, severe t-storm 4th
Sep	2	0	0	3	0	0	Warm, dry, tropical deluge 30th
Oct	2	0	0	0	0	0	Mild, breezy, variable, very dry
Nov	4	0	0	0	0	0	Seasonable temps, wet 2nd half
Dec	2	2	0	0	0	0	Cold, windy, dry, light snows
Year	**44**	**4**	**1**	**16**	**1**	**4**	Very warm, dry after record snow