

# The Weather Wire

November 2019

Volume 26 Number 11

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## Denver Snow Extremes

After October 2019 coming in well above normal in the snowfall department let's take a look at the top 10 snowiest years for every month that produces snow in Denver.

September:

October:

November:

December:

20 SNOWIEST SEPT  
(1882-2019)

1	17.2	1971
2	16.5	1936
3	12.9	1959
4	11.4	1895
5	8.7	1985
6	7.4	1995
7	6.5	1908
8	5.8	1961
9	5.5	1965
10	5.4	1993
11	5.2	1984
12	4.7	1996
13	4.6	1970
14	4.2	1951
15	4.0	1913
16	3.1	1999
17	2.8	1935
18	2.3	1989
19	1.8	1974
20	1.7	1927

20 SNOWIEST OCT  
(1882-2019)

1	31.2	1969
2	22.7	1906
3	22.1	1997
4	17.8	1923
5	17.2	2009
6	16.4	1897
7	16.2	1929
8	14.0	1889
9	13.8	1905
10	13.6	1908
11	13.1	1984
12	12.5	2019
13	11.8	1959
14	11.7	1917
15	10.6	1942
16	10.5	2005
	10.5	1925
18	9.8	2006
19	9.7	1972
20	8.6	1913

20 SNOWIEST NOV  
(1882-2018)

1	42.5	1946
2	29.9	1991
3	29.3	1983
4	23.1	1929
5	23.1	1928
6	22.9	1908
7	22.3	1979
8	21.3	1956
9	20.1	1992
10	19.4	1972
11	17.4	1993
12	17.0	1985
13	16.9	1994
14	15.6	1931
15	15.4	1922
16	15.3	1938
17	15.2	1975
18	14.5	1952
	14.5	1951
20	14.2	1918

20 SNOWIEST DECS  
(1882-2018)

1	57.4	1913
2	30.8	1973
3	29.4	2006
4	27.1	1982
5	21.5	1987
6	20.9	2007
7	19.6	1918
8	18.4	1924
9	17.8	1960
10	17.5	1891
11	16.5	2011
	16.5	1979
13	16.3	1916
14	16.2	1892
15	15.5	1898
16	15.3	1923
17	14.8	1926
18	14.4	1953
19	14.2	1978
20	13.3	1925

## January:

20 SNOWIEST JANS  
(1882-2019)

1	24.3	1992
2	22.2	1949
3	20.5	1883
4	19.2	1948
5	17.4	1959
6	17.2	1962
7	17.0	1987
	17.0	1891
9	15.9	2007
10	15.7	1951
11	14.3	2014
12	14.1	1991
13	13.5	1944
14	13.2	1965
15	13.0	1989
16	12.5	1985
	12.5	1930
18	12.3	1980
19	12.1	1973
20	12.0	1921

## February:

20 SNOWIEST FEBRS  
(1882-2019)

1	22.4	2015
2	22.1	1912
3	20.2	2012
4	19.5	1942
5	18.3	1960
6	18.3	1909
7	18.0	1931
8	17.5	1959
9	17.1	1965
10	16.9	1993
11	16.5	1953
12	16.3	1939
13	15.7	1913
14	15.6	1934
15	15.2	1929
16	14.6	1966
17	14.1	2013
18	14.0	1915
19	13.8	1923
20	13.6	1893

## March:

20 SNOWIEST MARCH  
(1882-2019)

1	35.2	2003
2	32.5	1944
3	31.3	1891
4	30.5	1983
5	29.2	1961
6	26.8	1959
7	25.7	1923
8	25.2	1952
9	24.8	1929
10	24.0	1981
11	23.9	1906
12	23.5	2013
13	21.9	1990
14	21.8	1886
15	20.8	1948
16	20.5	1970
17	20.4	1899
18	20.3	1924
19	20.2	1909
20	20.0	1940

## April:

20 SNOWIEST APRS  
(1882-2019)

1	33.8	1933
2	32.0	1885
3	28.3	1920
4	28.2	1954
5	25.5	1957
6	25.4	1909
7	25.0	1907
8	24.8	1973
9	23.3	1935
10	20.4	2013
11	19.7	1999
12	19.6	1900
13	19.5	1944
14	18.0	1884
15	17.8	1974
16	17.6	1959
17	17.2	1995
	17.2	1972
19	16.8	1984
20	16.2	1921

## May:

20 SNOWIEST MAYS  
(1882-2019)

1	15.5	1898
2	13.7	1950
3	13.5	1978
4	13.2	1912
5	12.0	1917
6	10.0	1908
7	9.0	1907
8	8.9	1893
9	8.8	1957
10	8.3	1944
11	8.2	1979
12	7.8	1931
13	7.6	1983
14	7.4	1915
15	7.2	2001
16	7.0	2003
17	6.4	1961
18	6.3	1910
19	6.1	1975
20	4.7	1918

## June:

6 SNOWIEST JUNE  
(1882-2019)

1	0.4	1919
2	0.3	1951
3	0.3	1974
4	T	1947
5	T	1937
6	T	1917

The previous record of 0.5" on June 5th, 1953 was recorded as Hail. Therefore, the record snowfall for June is 0.4" which fell on June 1st, 1919.

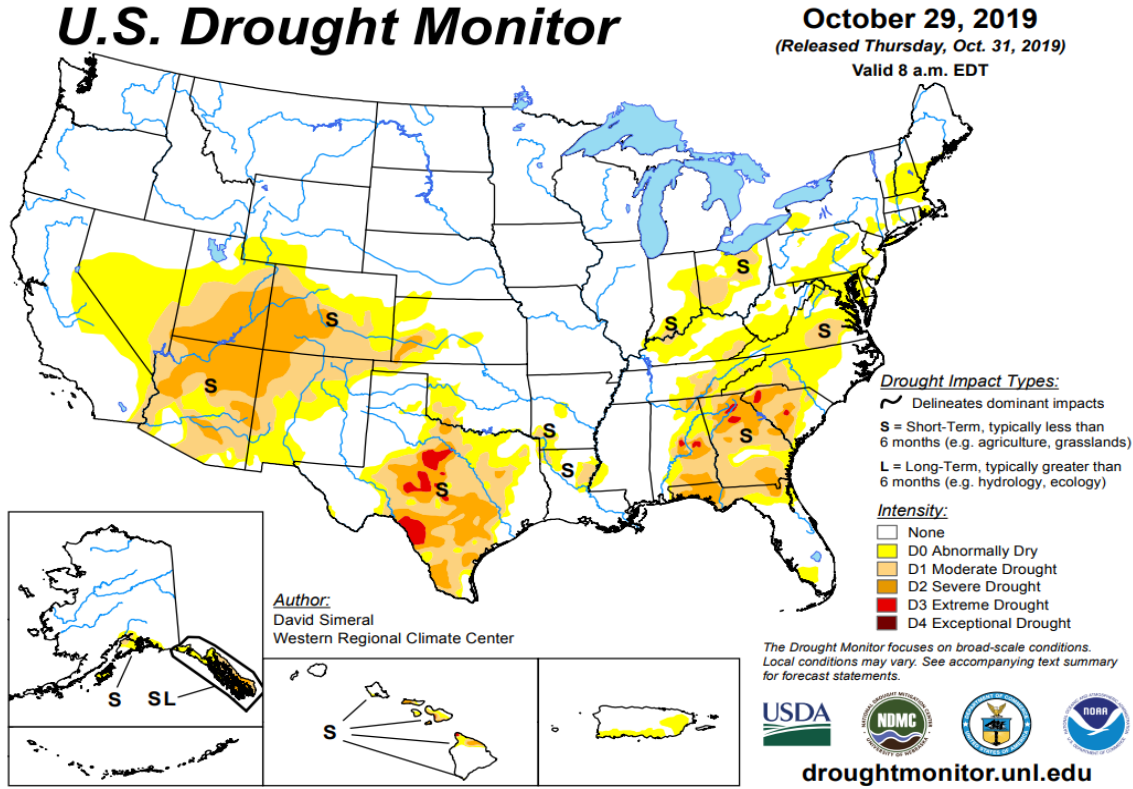
Looking at all the extreme snow years it's NOT March or April with the highest monthly totals in which we associate our big spring storms its actually November and December that record the highest monthly snow totals in Denver history!

This information and more can be found on the web at the NWS Boulder climate page:

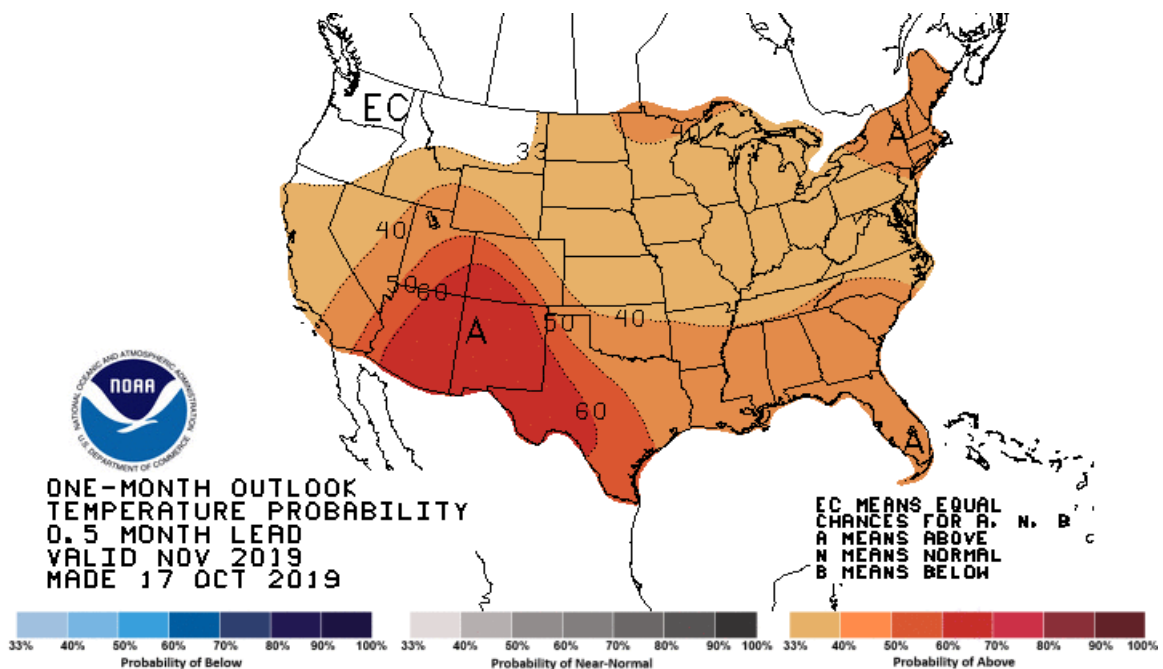
[https://www.weather.gov/bou/local\\_climate](https://www.weather.gov/bou/local_climate)

# Drought Update

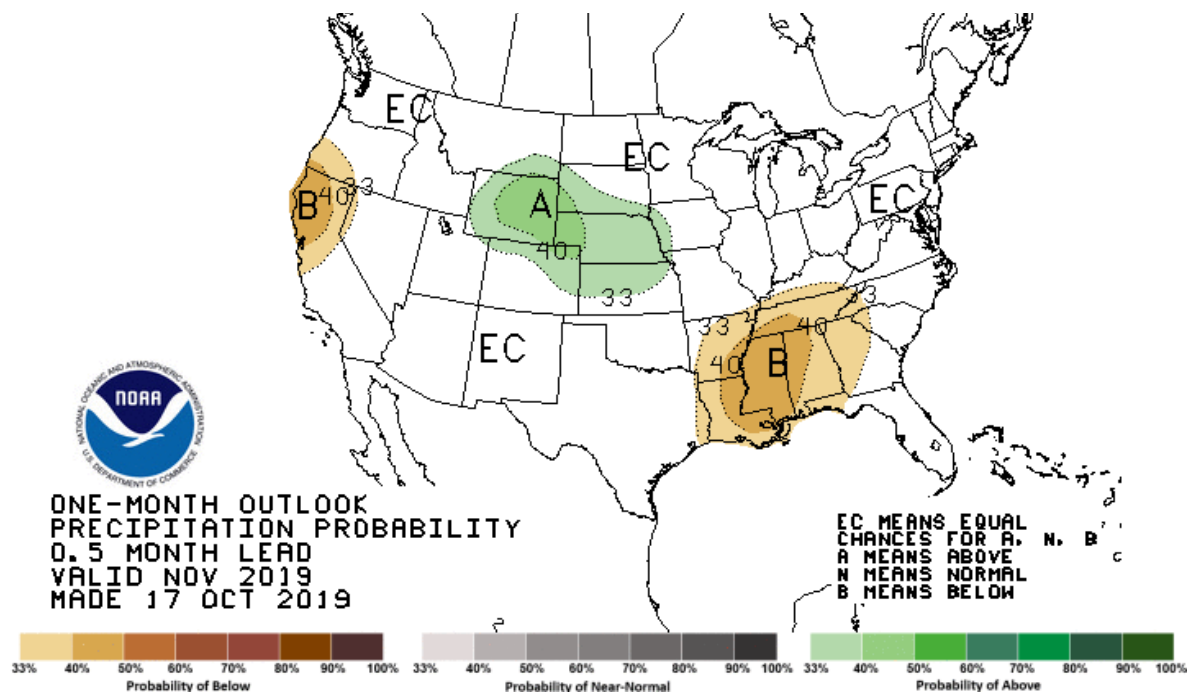
Colorado is starting to show increasing drought conditions over portions of W, SW and SE Colorado due to the lack of moisture this summer. NE Colorado remains generally drought free due to recent moisture. Elsewhere, much of TX, the desert SW and the SE US are experiencing severe to extreme drought.



The map below shows forecasted temperature deviances for November 2019. There is a bias toward above normal temperatures across Colorado favoring SW Colorado.



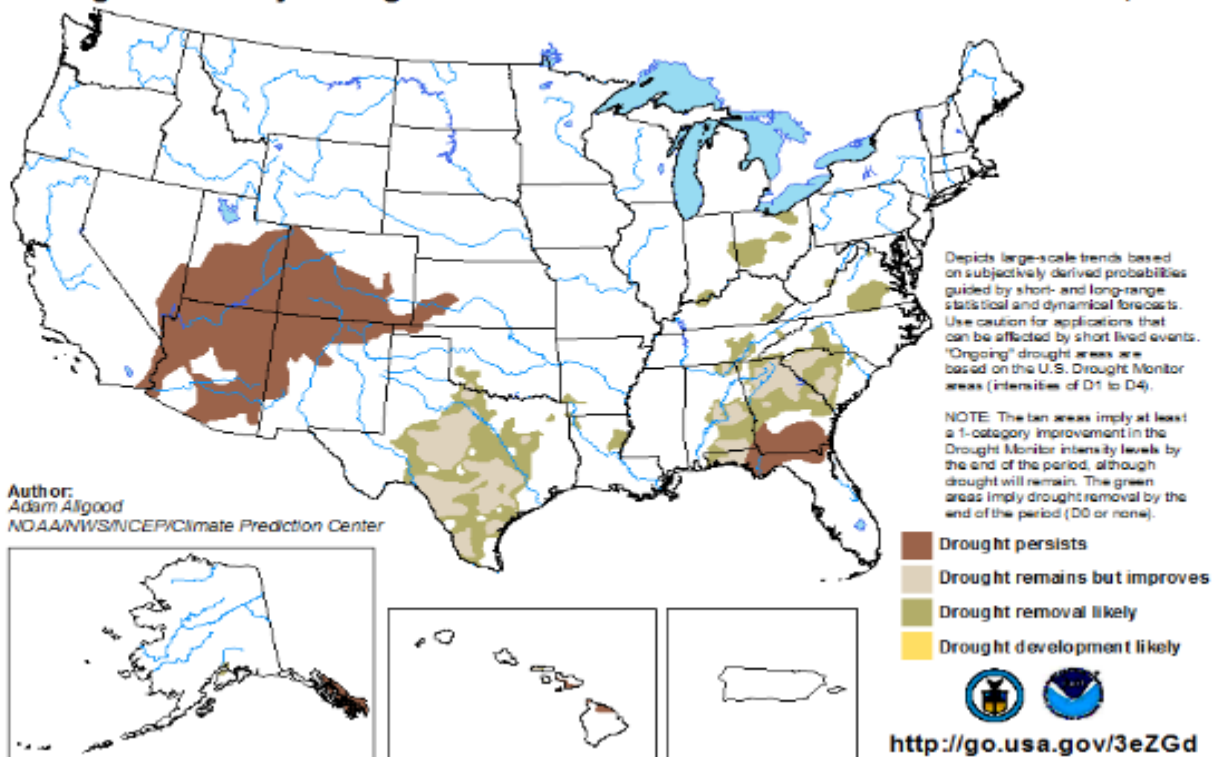
The map below shows forecasted precipitation deviances for November 2019. There is a slight chance for above normal precipitation over N and NE Colorado.



Colorado is not expected to see any worsening of the drought conditions this month but areas of drought will persist over portions of the state. Drought conditions look to improve over the SE US and TX.

### U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

Valid for November 2019  
Released October 31, 2019

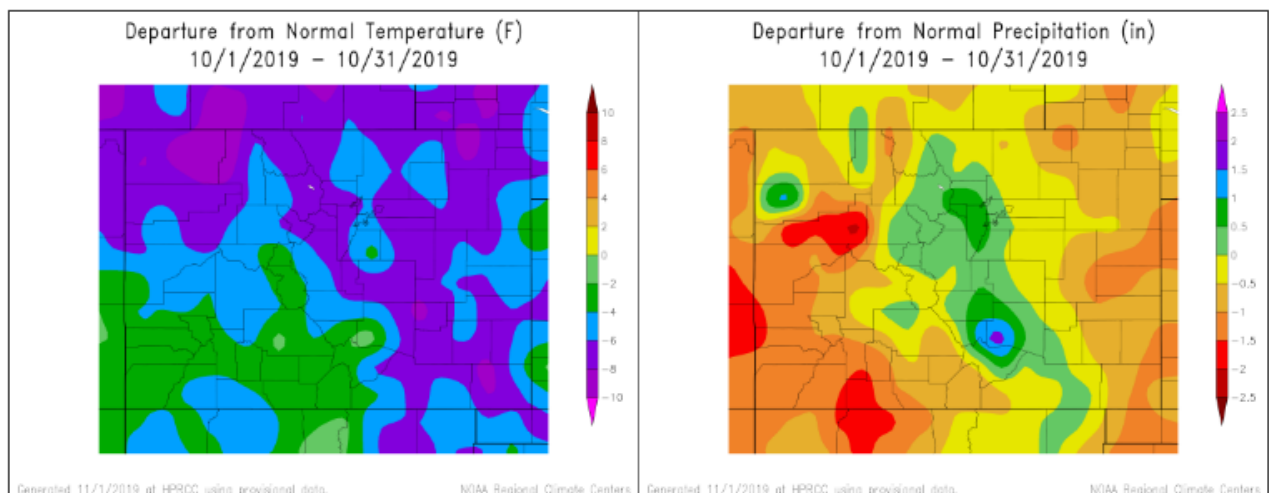


## October Summary

October of 2019 was well below normal in temperature and slightly below normal in precipitation but well above normal in snowfall. Due to a series of unseasonably cold storm systems for October standards the monthly mean temperature was 7.2 degrees below the normal of 50.9 degrees at 43.7 degrees. The 43.7 degrees ranks October of 2019 4<sup>th</sup> all time. Average highs for the month was 58.5 degrees compared to the 65.3 average. The average monthly low was 28.9 degrees compared to the average of 36.6 degrees. A number of low temperature records were broken for the month with 2 new record low maximum temperatures: (1) High of 21 on the 28<sup>th</sup> broke the old record low max of 30 degrees set in 1925, (2) High of 18 on the 29<sup>th</sup> broke the old record low max of 25 degrees set in 1993. There were 4 record low temperatures for the month: (1) Low of 13 set the 10<sup>th</sup> broke the old record of 17 set in 2009, (2) Low of 9 set on the 11<sup>th</sup> smashed the old record low of 22 set in 1945, (3) Low of 3 set on the 30<sup>th</sup> broke the old record of 7 set in 1991, (4) Low of 7 set on the 31<sup>st</sup> broke the old record of 10 set in 1991. With all of the cold temperatures precipitation generally fell as snow with 12.5" measured at DIA. Although 12.5" may sound like a lot of snow the majority of the Denver suburbs reported 15-25" during the month! All of the snow fell in 4 different storm systems. Despite all of the snow moisture fell just short of normal at DIA with 0.91" of moisture in rain and melted snow. The 0.91" was 0.11" below the normal of 1.02". For the year DIA has now reported 13.90" of moisture which is 0.56" above the normal of 13.34" for this time of year.

Southeast Colorado also experienced below normal temperatures and above normal snowfall. The average temperature in Colorado Springs was 43.1 degrees which was 6.3 degrees below normal and makes October of 2019 the 5<sup>th</sup> coldest on record. Colorado Springs reported 0.82" of moisture which is right around normal and 12.6" of snow which was 9.7" above normal and makes October 2019 the 5<sup>th</sup> snowiest on record for the City. Further south into Pueblo average temperatures for the month were 46.2 degrees which was 5.6 degrees below normal and makes October of 2019 the 2<sup>nd</sup> coldest on record. The airport in Pueblo reported 1.15" of moisture which was 0.43" above normal. The airport in Pueblo measured 12.0" of snow which was 10.7" above normal and the 3<sup>rd</sup> snowiest on record. Pueblo also reported the coldest temperature ever recorded during October with a reading of -6 on the 30<sup>th</sup> which broke the old record of -4 set over 100 years ago back in 1917!

Below are maps for departure from normal temperature and precipitation:



## October Stats

### TEMPERATURE (IN DEGREES F)

AVERAGE MAX	58.5	NORMAL	65.3	DEPARTURE	-6.8
AVERAGE MIN	28.9	NORMAL	36.6	DEPARTURE	-7.7
MONTHLY MEAN	43.7	NORMAL	50.9	DEPARTURE	-7.2
HIGHEST	83 on 10/9				
LOWEST	3 on 10/30				

DAYS WITH MAX 90 OR ABOVE	0	NORMAL	0.0
DAYS WITH MAX 32 OR BELOW	5	NORMAL	0.4
DAYS WITH MIN 32 OR BELOW	18	NORMAL	8.5
DAYS WITH MIN ZERO OR BELOW	0	NORMAL	0.0

### TEMPERATURE RECORDS

Record Low Max set on 10/28 and 10/29

Record Low set on 10/10, 10/11, 10/30, 10/31

### HEATING DEGREE DAYS

MONTHLY TOTAL	653	NORMAL	440	DEPARTURE	213
SEASONAL TOTAL	675	NORMAL	581	DEPARTURE	94

### COOLING DEGREE DAYS

MONTHLY TOTAL	1	NORMAL	5	DEPARTURE	-4
YEARLY TOTAL	916	NORMAL	769	DEPARTURE	147

### PRECIPITATION (IN INCHES)

MONTHLY TOTAL	0.91	NORMAL	1.02	DEPARTURE	-0.11
YEARLY TOTAL	13.90	NORMAL	13.34	DEPARTURE	0.56
GREATEST IN 24 HOURS	0.22" on 10/29				
DAYS WITH MEASURABLE PRECIP.	9				

### SNOWFALL (IN INCHES)

MONTHLY TOTAL	12.5	NORMAL	4.0	DEPARTURE	8.5
SEASONAL TOTAL	12.5	NORMAL	5.3	DEPARTURE	7.2
GREATEST IN 24 HOURS	6.6"				
GREATEST DEPTH	6"				

## WIND (IN MILES PER HOUR)

AVERAGE SPEED	10.0 mph
PEAK WIND GUST	57 mph from the N on 10/9

## MISCELLANEOUS WEATHER

NUMBER OF DAYS WITH THUNDERSTORM	1	NORMAL	1
NUMBER OF DAYS WITH HEAVY FOG	3	NORMAL	1
NUMBER OF DAYS WITH HAIL	0		
NUMBER OF SUNNY DAYS	13		
NUMBER OF PARTLY CLOUDY DAYS	13		
NUMBER OF CLOUDY DAYS	5		
AVERAGE RELATIVE HUMIDITY	51%		

## November Preview

Temperatures begin to cool off significantly during the month of November as the start of meteorological winter nears, and November is also the second snowiest month on average in Denver, behind only March. Over the course of the month, the average high in November falls from 59 on the 1st to 46 by the 30th. Overall, the average high for the month is 52.1 and the average low for the month is 24.5. The all-time record high for November of 80 degrees occurred in 2006, while the all-time record low of -18 occurred all the way back in 1877. Often, the first arctic cold front of the season occurs in November but we have already had a couple arctic outbreaks in October but temperatures remained above zero at DIA. In November the threat for sub-zero temperatures increases significantly with at least 1 day during the month reporting a sub-zero temperature. A remarkable mid-November cold snap occurred 5 years ago in 2014, with low temperatures of -13 and -14 on the 12<sup>th</sup> and 13<sup>th</sup> respectively, marking the earliest instance of a -10 degree reading in Denver's history. Denver typically experiences 2-4 measurable snowfall events over the course of November with a monthly average of 8.7", and occasionally can experience major snowstorms similar to those that occur in the spring. Denver's largest snow event on record in November occurred in 1946 when 30.4" fell. This is also the third largest snowstorm ever in Denver's history. An average of 0.61" of precipitation occurs in Denver in November, with much of this usually falling as snow. Snowfall in early and mid November is often heavier and wetter in nature with better melt on pavement occurring, but toward the end of the month, snow tends to easily accumulate on pavement due to colder temperatures and lower solar angles but we will see how that plays out this year with all of the snow and cold weather in October. Most likely October has set the stage for less melting from snow events in November as the ground has already cooled significantly. For November 2019 Skyview Weather believes temperatures will be near normal and snowfall will likely be below normal many areas as there is not any significant weather systems projected through the middle part of

the month. Best chances for near normal snow looks to be over northern Colorado favoring the 2<sup>nd</sup> half of the month.

**DENVER'S NOVEMBER CLIMATOLOGICALLY NORMAL  
(NORMAL PERIOD 1981-2010 DIA Data)**

**TEMPERATURE**

AVERAGE HIGH	52.1
AVERAGE LOW	24.5
MONTHLY MEAN	38.3
DAYS WITH HIGH 90 OR ABOVE	0
DAYS WITH HIGH 32 OR BELOW	3
DAYS WITH LOW 32 OR BELOW	23
DAYS WITH LOWS ZERO OR BELOW	1

**PRECIPITATION**

MONTHLY MEAN	0.61"
DAYS WITH MEASURABLE PRECIPITATION	5
AVERAGE SNOWFALL IN INCHES	8.7"
DAYS WITH 1.0 INCH OF SNOW OR MORE	3

**MISCELLANEOUS AVERAGES**

HEATING DEGREE DAYS	801
COOLING DEGREE DAYS	0
WIND SPEED (MPH)	8.2mph
WIND DIRECTION	South
DAYS WITH THUNDERSTORMS	0
DAYS WITH DENSE FOG	1
PERCENT OF SUNSHINE POSSIBLE	674%

**EXTREMES**

RECORD HIGH	80 on 11/8/2006
RECORD LOW	-18 on 11/29/1877
WARMEST	50.9 in 1949
COLDEST	22.0 in 1880
WETTEST	3.21" in 1946
DRIEST	Trace in 1949, 1901, 1899
SNOWIEST	42.6" in 1946
LEAST SNOWIEST	0.0" in 1995



# Snowfall

## October 2019 to May 2020

City	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
Aurora (Central)	17.2								17.2
Boulder	26.7								26.7
Brighton	12.1								12.1
Broomfield	24.0								24.0
Castle Rock	22.4								22.4
Colo Sprgs Airpor	12.6								12.6
Denver DIA	12.5								12.5
Denver Downtowr	21.2								21.2
Golden	22.5								22.5
Fort Collins	10.1								10.1
Highlands Ranch	19.5								19.5
Lakewood	19.2								19.2
Littleton	18.0								18.0
Monument	19.4								19.4
Parker	15.9								15.9
Sedalia - Hwy 67	22.0								22.0
Thornton	16.6								16.6
Westminster	19.8								19.8
Wheat Ridge	20.8								20.8

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