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## **Winter Weather Watches/Warnings and Advisories**

It is that time of year again to review what the NWS Winter Weather Watches, Warnings and Advisories mean. Below are the common types of Watches, Warnings and Advisories we see here along the Front Range:

### **WATCHES AND WARNINGS**

#### **SNOW:**

A **WINTER STORM WATCH** is issued when hazardous winter storm conditions are possible within the next 3 to 4 days, but the timing, intensity, or occurrence may still be uncertain.

A **BLIZZARD WATCH** is issued when blizzard conditions are possible in the next 12 to 36 hours.

A **WINTER STORM WARNING** is issued for the occurrence of heavy snow or any combination of heavy snow and other events. Other events include such things as blowing snow or very cold wind chill temperatures.

**WARNING CRITERIA for HEAVY SNOW** is defined by the following amounts.

**IN THE MOUNTAINS...8 inches of snow in 12 hours, or 12 inches or more in 24 hours.**

**ON THE PLAINS...6 inches in 12 hours, or 8 inches or more in 24 hours.**

A **BLIZZARD WARNING** is issued for the *plains* when the following conditions are expected to occur for at least 3 hours:

- Sustained winds of 35 mph or greater
- considerable falling and/or drifting snow

- with visibilities frequently less than 1/4 mile

A **BLIZZARD WARNING** is issued in the *mountains and foothills* for the conditions above, but with winds in excess of 50 mph at the higher elevations.

## **WIND:**

A **HIGH WIND WARNING** is issued for the following conditions:

### **MOUNTAINS and FOOTHILLS**

- sustained winds of 50 mph or more for at least 1 hour...or gusts of at least 75 mph for any duration.

### **LOWER ELEVATIONS**

- sustained winds of 40 mph or more for at least 1 hour...or gusts of at least 58 mph for any duration.

A **HIGH WIND WATCH** is issued when high wind conditions are expected to develop in the next 12 to 36 hours.

A **WIND CHILL WARNING** will be issued for the following wind chill temperatures...when combined with sustained winds of at least 10 mph.

**MOUNTAINS...minus 35 degrees Fahrenheit or colder**

**LOWER ELEVATIONS...minus 25 degrees Fahrenheit or colder**

A **WIND CHILL WATCH** is issued when wind chill warning criteria are possible in the next 12 to 36 hours.

## **ADVISORIES:**

Advisories for winter weather are issued for *potentially* hazardous conditions.

A **WINTER WEATHER ADVISORY** is issued when:

**MOUNTAINS...4 to 8 inches of snow falls in 12 hours, or 6 to 12 inches in 24 hours**

**LOWER ELEVATIONS...3 to 6 inches of snow falls in 12 hours, or 4 to 8 inches in 24 hours**

Or when the following conditions are expected:

- When falling snow is accompanied by blowing snow to cause travel problems due to lower visibilities.
- When wind blown snow will occasionally reduce visibilities and create a hazard for travelers.
- For freezing drizzle or a mix of precipitations types, such as snow and sleet, that will impact travel conditions.

A **WIND CHILL ADVISORY** is issued when the following is expected:

**MOUNTAINS...wind chills between 25 below and 34 below zero**

**LOWER ELEVATIONS...wind chills between 18 below and 24 below zero**

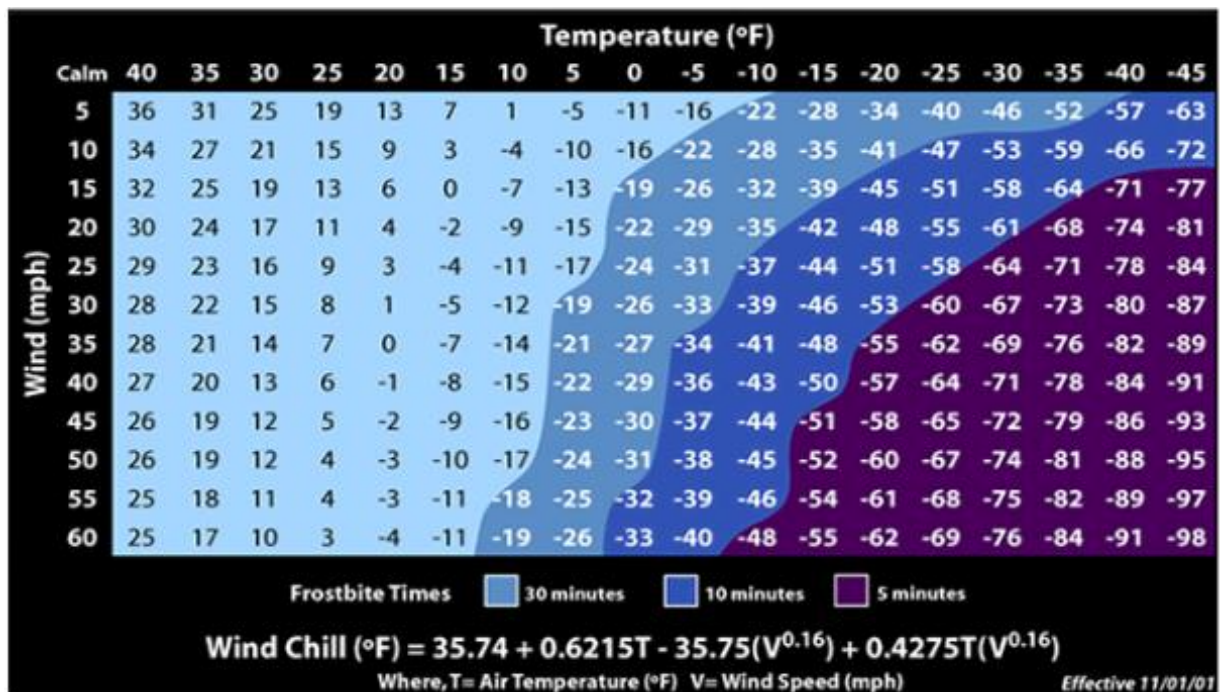
A **DENSE FOG ADVISORY** is issued for fog reducing visibilities to 1/4 mile or less.

## **SUMMARY:**

**Watches:** Indicates that conditions are favorable for the particular weather event in and near the Watch area, and which may pose a risk to life and property. Watches are issued up to 48 hours in advance with forecaster confidence around 50%.

**Warning/Advisory:** Indicates that a particular weather event is imminent or occurring. **Advisories** are issued if the weather event will lead to nuisance conditions, while **Warnings** are issued for significant weather events which will pose a risk to life and property. Warnings and Advisories are issued up to 48 hours in advance with forecaster confidence of at least 80%.

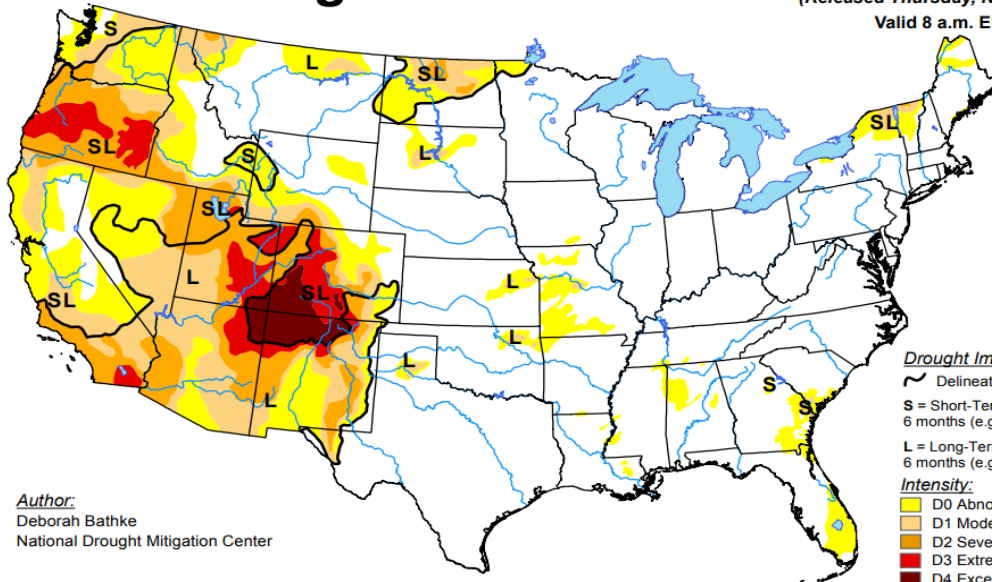
## **Wind Chill Chart:**



## **Drought Update**

# U.S. Drought Monitor

October 30, 2018  
 (Released Thursday, Nov. 1, 2018)  
 Valid 8 a.m. EDT

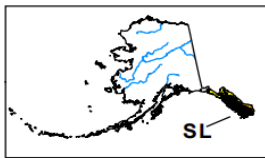


Author:  
 Deborah Bathke  
 National Drought Mitigation Center

**Drought Impact Types:**  
 ~ Delineates dominant impacts  
 S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)  
 L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

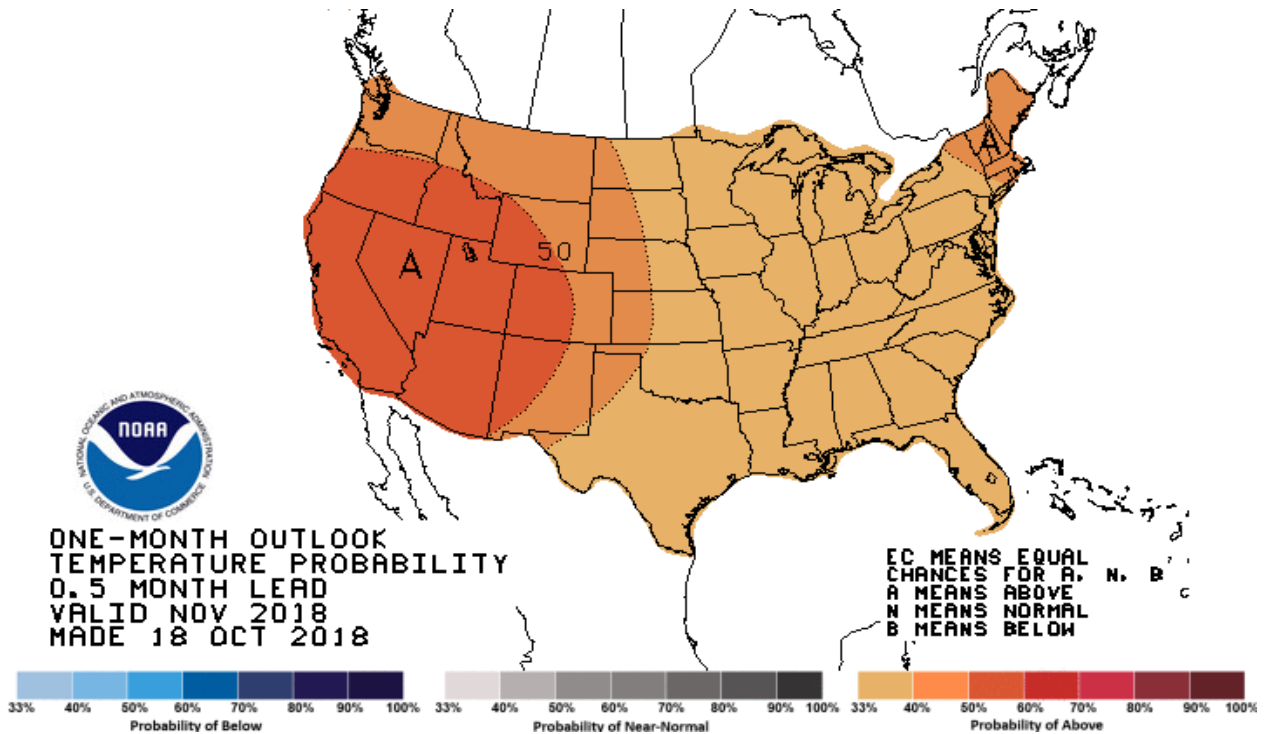
**Intensity:**  
 D0 Abnormally Dry  
 D1 Moderate Drought  
 D2 Severe Drought  
 D3 Extreme Drought  
 D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

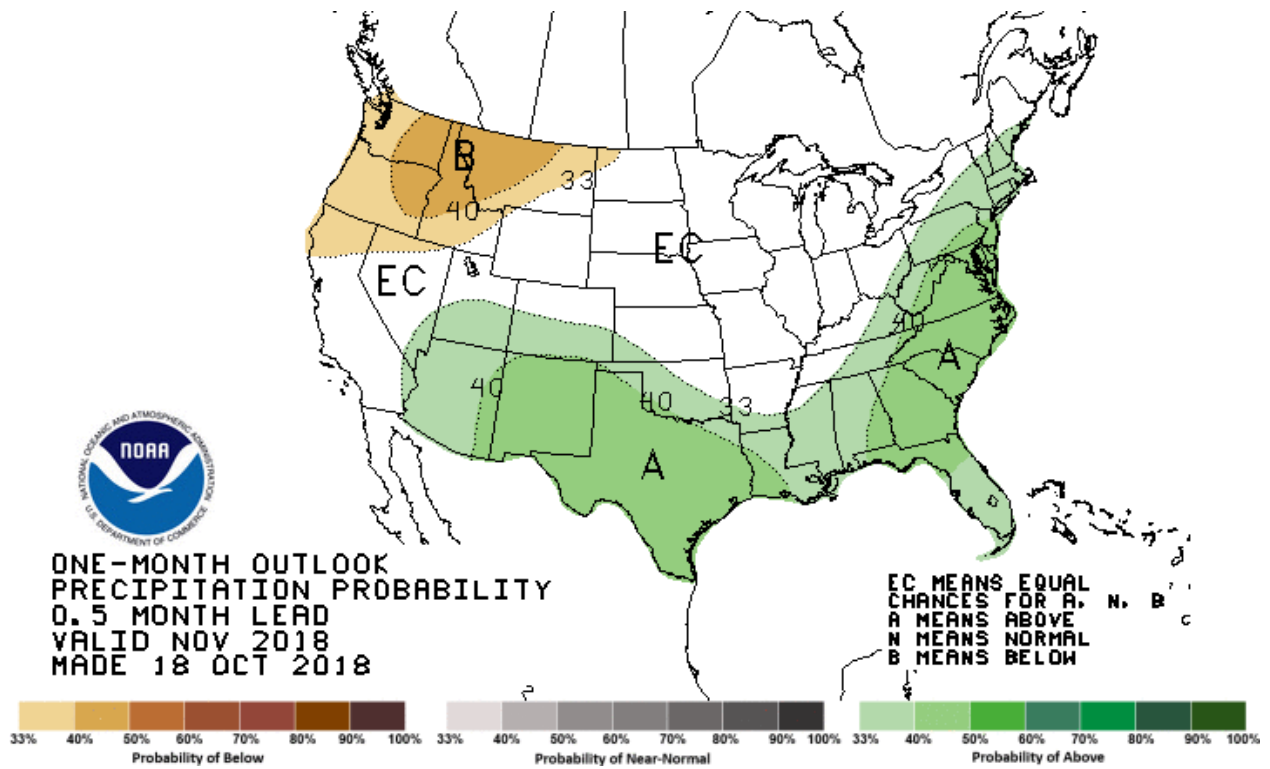


<http://droughtmonitor.unl.edu/>

The map below shows forecasted temperature deviances for October 2018. There is a strong bias for above normal temperatures statewide.



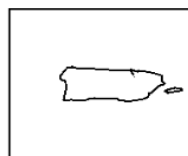
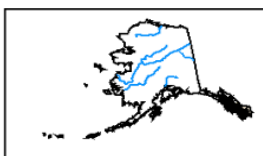
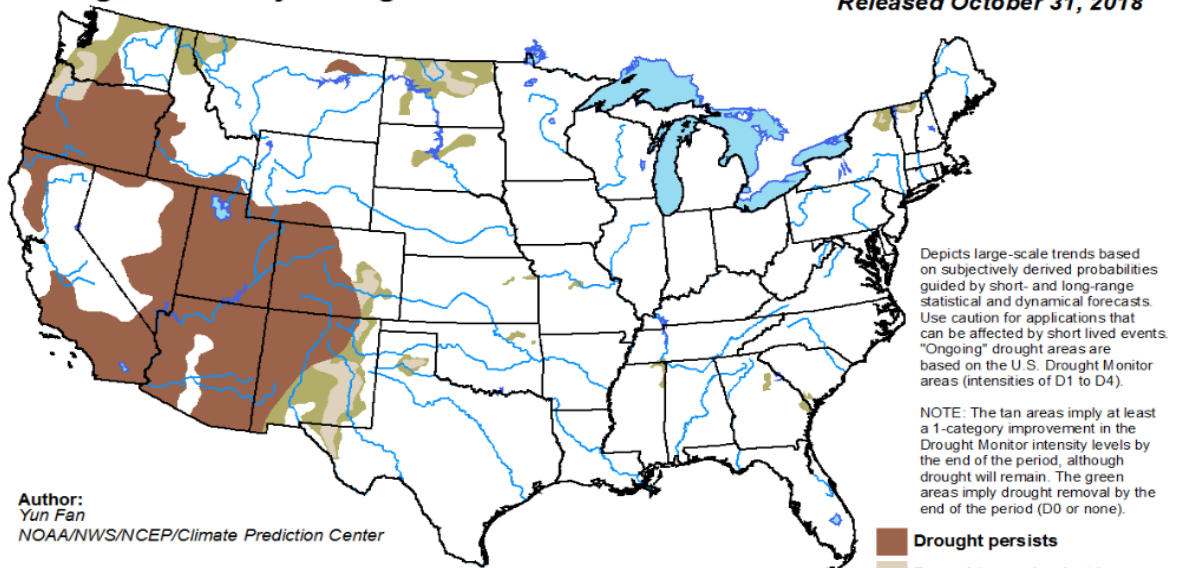
The map below shows forecasted precipitation deviances for October 2018. There is a slight bias toward above normal precipitation across S Colorado, and equal chances for above or below normal precipitation over N Colorado.



Drought conditions are expected to persist across much of W and SW Colorado with some improvement over portions over E and SE Colorado.

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

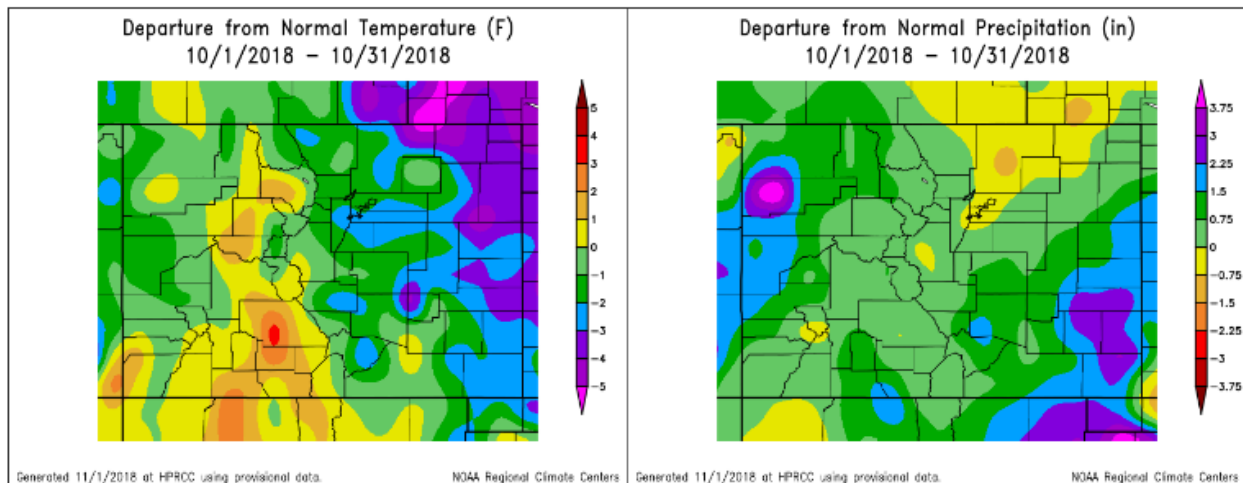
Valid for November 2018  
Released October 31, 2018





## October Summary

October of 2018 was below normal in temperatures and near normal in precipitation with slightly below normal snowfall at DIA. Thanks to a relatively cool stretch from the 7-16<sup>th</sup> of the month average highs were 61.6 degrees which was 3.7 degrees below normal. Low temperatures were slightly above normal at 36.8 degrees compared to 36.6 degrees. A record low maximum temperature was set on the 14<sup>th</sup> with a high of only 27 degrees. This was much colder than the previous record low maximum of 36 set back in 1969. The following morning the 15<sup>th</sup> a new record low was set at 18 degrees breaking the record of 20 set back in 1970. DIA reported a trace of moisture or more on 16 calendar days with 9 of those days producing measureable precipitation beyond a trace. The first measureable snow fell on the 5<sup>th</sup> where 0.5" was measured but most of the snow fell on the 14<sup>th</sup> with 2.7" measured bringing the monthly total to 3.2". There were 5 additional days during the month that produced only a trace of snow. Rain and melted snow tallied up to 0.99" for the month, slightly below the 1.02" on average. The deficit for the year now stands at 5.43"! There were 7 days considered sunny and 16 days partly cloudy with 8 being cloudy. The highest snowfall totals for Front Range communities was from Boulder County northward through Fort Collins where the 13<sup>th</sup> into 14<sup>th</sup> storm produced 5-9". The Denver Metro area reported 2-6" of snow most areas with higher amounts of 10-30" for the month in the foothills of Larimer, Boulder and Jefferson Counties. Colorado Springs even got in on the act this month with 4-10" of snow in and around the City. Below is a map showing departure from normal temperature and precipitation statewide for the month of October:



## October Stats

### TEMPERATURE (IN DEGREES F)

AVERAGE MAX	61.6	NORMAL	65.3	DEPARTURE	-3.7
AVERAGE MIN	36.8	NORMAL	36.6	DEPARTURE	0.2
MONTHLY MEAN	49.2	NORMAL	50.9	DEPARTURE	-1.7
HIGHEST	86 on 10/3				
LOWEST	18 on 10/15				

DAYS WITH MAX 90 OR ABOVE	0	NORMAL	0.0
DAYS WITH MAX 32 OR BELOW	1	NORMAL	0.4

DAYS WITH MIN 32 OR BELOW	7	NORMAL	8.5
DAYS WITH MIN ZERO OR BELOW	0	NORMAL	0.0

### TEMPERATURE RECORDS

Record low maximum of 27 on 10/14

Record low of 18 on 10/15

### HEATING DEGREE DAYS

MONTHLY TOTAL	487	NORMAL 440	DEPARTURE 47
SEASONAL TOTAL	565	NORMAL 581	DEPARTURE -16

### COOLING DEGREE DAYS

MONTHLY TOTAL	4	NORMAL 5	DEPARTURE -1
YEARLY TOTAL	1026	NORMAL 769	DEPARTURE 257

### PRECIPITATION (IN INCHES)

MONTHLY TOTAL	0.99	NORMAL 1.02	DEPARTURE -0.03
YEARLY TOTAL	8.15	NORMAL 13.58	DEPARTURE -5.43

GREATEST IN 24 HOURS 0.31" on 10/7

DAYS WITH MEASURABLE PRECIP. 9

### SNOWFALL (IN INCHES)

MONTHLY TOTAL	3.2	NORMAL 4.0	DEPARTURE -0.8
SEASONAL TOTAL	3.2	NORMAL 5.3	DEPARTURE -2.1

GREATEST IN 24 HOURS 2.7

GREATEST DEPTH 1

### WIND (IN MILES PER HOUR)

AVERAGE SPEED 9.7 mph

PEAK WIND GUST 49 mph from the N on 10/29

### MISCELLANEOUS WEATHER

NUMBER OF DAYS WITH THUNDERSTORM	5	NORMAL 1
NUMBER OF DAYS WITH HEAVY FOG	4	NORMAL 1
NUMBER OF DAYS WITH HAIL	0	

NUMBER OF SUNNY DAYS	7
NUMBER OF PARTLY CLOUDY DAYS	16
NUMBER OF CLOUDY DAYS	8
AVERAGE RELATIVE HUMIDITY	59%

## 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 late November with the first single-digit or subzero temperatures. A remarkable mid-November cold snap occurred 4 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 more easily accumulate on pavement due to colder temperatures and lower solar angles. For November 2018 Skyview Weather expects above normal temperatures and near normal precipitation and snowfall.

### 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 TRACE OR MORE OF SNOW 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 64%

### 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 2018 to May 2018

City	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
Aurora (Central)	2.5								2.5
Boulder	10.0								10.0
Brighton	3.4								3.4
Broomfield	5.1								5.1
Castle Rock	5.5								5.5
Colo Sprgs Airpor	5.3								5.3
Denver DIA	3.2								3.2
Denver Downtowr	2.5								2.5
Golden	7.0								7.0
Fort Collins	6.0								6.0
Highlands Ranch	6.5								6.5
Lakewood	3.4								3.4
Littleton	4.5								4.5
Parker	3.8								3.8
Sedalia - Hwy 67	5.2								5.2
Thornton	5.0								5.0
Westminster	3.2								3.2
Wheat Ridge	4.1								4.1

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