



The Weather Wire

June 2014

Volume 21 Number 06

Contents:

- [Wireless Emergency Alerts \(WEA\)](#)
- [Drought Monitor](#)
- [May Summary/Statistics](#)
- [June Preview](#)
- [Sunrise/Sunset](#)
- [Snowfall Totals](#)

Wireless Emergency Alerts (WEA)

Over the past month severe weather has impacted eastern Colorado prompting numerous wireless emergency alerts or WEA's to be issued. These alerts are meant to keep the public informed of potential **emergency situations in their vicinity but many times the area that these alerts are sent include a much larger area than where the actual threat is located**. Due to the large number of people receiving alerts out of the threat area there has been some confusion and may eventually result in a de-sensitizing of the public for these alerts. For severe weather the alerts in Colorado we will be seeing Flash Flood Warnings and Tornado Warnings but there are other WEA alerts including Amber Alerts and Presidential Alerts.

Below is the WEA guide from the FCC and can be seen in full at:
<http://www.fcc.gov/guides/wireless-emergency-alerts-wea>.

What Are Wireless Emergency Alerts (WEA)?

WEA (formerly known as the Commercial Mobile Alert System (CMAS) or Personal Localized Alerting Network (PLAN)) is a public safety system that allows customers who own certain wireless phone models and other enabled mobile devices to receive geographically-targeted, text-like messages alerting them of imminent threats to safety in their area. The technology ensures that emergency alerts will not get stuck in highly congested areas, which can happen with standard mobile voice and texting services. WEA was established pursuant to the Warning, Alert and Response Network (WARN) Act.

WEA enables government officials to target emergency alerts to specific geographic areas (e.g. lower Manhattan) through cell towers. The cell towers broadcast the emergency alerts for reception by WEA-enabled mobile devices.

WEA complements the existing Emergency Alert System (EAS) which is implemented by the FCC and FEMA at the federal level through broadcasters and other media

service providers. WEA and the EAS are part of FEMA's Integrated Public Alert and Warning System (IPAWS).

Wireless companies volunteer to participate in WEA, which is the result of a unique public/private partnership between the FCC, FEMA and the wireless industry to enhance public safety.

Participating wireless carriers were required to deploy WEA by April 7, 2012.

How does WEA work?

Pre-authorized national, state or local government may send emergency alerts regarding public safety emergencies, such as evacuation orders or shelter in place orders due to severe weather, a terrorist threat or chemical spill, to WEA.

Alerts from authenticated public safety officials are sent through FEMA's IPAWS to participating wireless carriers.

Participating wireless carriers push the alerts from cell towers to mobile devices in the affected area. The alerts appear like text messages on mobile devices.

Who will receive the alerts?

Alerts are broadcast only from cell towers in the zone of an emergency. The alerts are geographically targeted to cell towers in the location of the emergency. Phones that are using the cell towers in the alert zone will receive the WEA. This means that if an alert is sent to an area in New York, all WEA-capable phones in the alert area can receive the WEA, even if they are phones that are roaming or visiting from another state. In other words, a customer visiting from Chicago would receive alerts in New York if they have a WEA-enabled mobile device and their phone is using a cell tower in the alert zone.

How much will consumers pay to receive WEA?

Alerts are free. Customers do not pay to receive WEA.

Do consumers have to sign up to receive alerts?

Consumers do not need to sign up for this service. WEA allows government officials to send emergency alerts to all subscribers with WEA-capable devices if their wireless carrier participates in the program.

What alerts will WEA deliver?

Alerts from WEA cover only critical emergency situations. Consumers will receive only three types of alerts:

1. Alerts issued by the President
2. Alerts involving imminent threats to safety or life

3. Amber Alerts

Participating carriers may allow subscribers to block all but Presidential alerts.

What will consumers experience when they receive a WEA?

A WEA alert will be accompanied by a unique attention signal and vibration, which is particularly helpful to people with hearing or vision-related disabilities.

Will consumers be able to receive WEAs on a prepaid phone?

Yes. Consumers with prepaid phones can receive WEAs as long as their provider has decided to participate in WEA and the customer has a WEA-enabled device. These consumers will receive WEA just as customers with postpaid, monthly service will.

Will WEA track my location?

No. WEA is not designed to – and does not – track the location of anyone receiving a WEA alert.

Are WEAs text messages?

No. Many providers have chosen to transmit WEAs using a technology that is separate and different from voice calls and SMS text messages. This technology ensures that emergency alerts will not get stuck in highly congested areas, which can happen with standard mobile voice and texting services.

Will consumers need a new phone or a smart phone to receive alerts?

Some phones may require only software upgrades to receive alerts, while in other cases a subscriber may need to purchase a new WEA-capable device. Consumers should check with their wireless carrier regarding the availability of WEA-capable handsets.

Is WEA available everywhere?

Participation in WEA by wireless carriers is widespread but voluntary. Some carriers offer WEA over all or parts of their service areas or over all or only some of their wireless devices. Other carriers may not offer WEA at all. Even if you have WEA-enabled device, you will not receive WEAs in a service area where the provider is not offering WEA or if your device is roaming on a provider that does not support the WEA service. Consumers should check with their wireless carriers to determine the extent to which they are offering WEA.

Can consumers block WEAs?

Partially. Participating wireless carriers may offer subscribers with WEA-capable handsets the ability to block alerts involving imminent threats to safety of life and/or AMBER Alerts; however, consumers cannot block emergency alerts issued by the President.

Why can't consumers block WEAs issued by the President?

In passing the WARN Act, Congress allowed participating carriers to offer subscribers the capability to block all WEAs except those issued by the President.

How will subscribers know if their carrier offers WEA?

The FCC requires all wireless carriers that do not participate in WEA to notify customers. Consumers should check with their wireless carriers to determine the extent to which they are offering WEA.

My friends and I have the same wireless carrier. They just received a WEA over their cell phones, but I have not. Why?

Some participating carriers are offering WEA on some, but not all, of their mobile devices. Consumers should check with their wireless carriers to find out if their cell phone is WEA-capable. Information about WEA-capable handsets.

Sometimes, even though you and a friend are in the same location, your mobile devices may be using different towers. If you are on the edge of an alert zone, your phone may be using a tower that is outside of the alert zone and therefore not broadcasting the alert. As you move around, your phone changes from tower to tower to offer the best service. When your phone starts using a tower that is in an alert zone, you will receive the WEA.

Why are some consumers receiving WEA test alerts on their mobile phones?

Participating wireless carriers are required under FCC rules to conduct periodic testing of their WEA infrastructure. As part of their test, some participating carriers may choose (but are not required) to send test alerts to WEA-enabled handsets. Consumers with questions about these test messages should contact their wireless carriers.

How geographically precise is WEA?

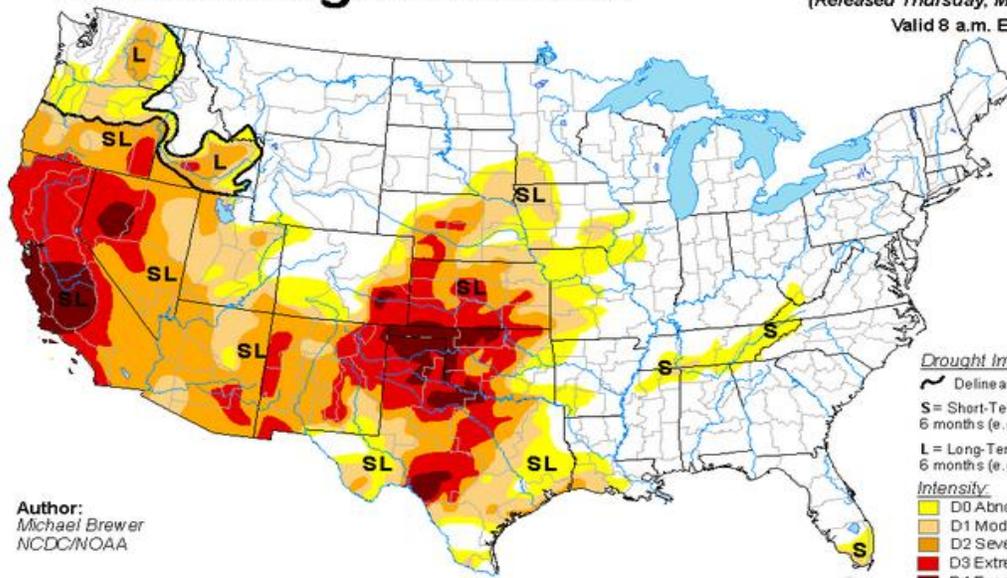
Participating wireless providers are generally required to send the alerts to a geographic area no larger than the county or counties affected by the emergency situation. In some cases, however, participating carriers may be able to target alerts to smaller areas.

Drought Update

Drought persists over the majority of the SW states especially over portions of CA, NV, NM, OK, SE Colorado and the TX panhandle with generally drought free conditions over the eastern 1/2 of the US.

U.S. Drought Monitor

May 27, 2014
 (Released Thursday, May 29, 2014)
 Valid 8 a.m. EDT

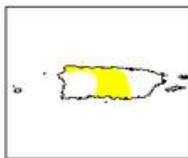
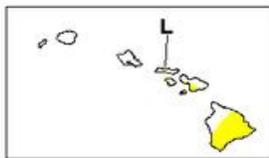


Author:
 Michael Brewer
 NCDC/NOAA

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)

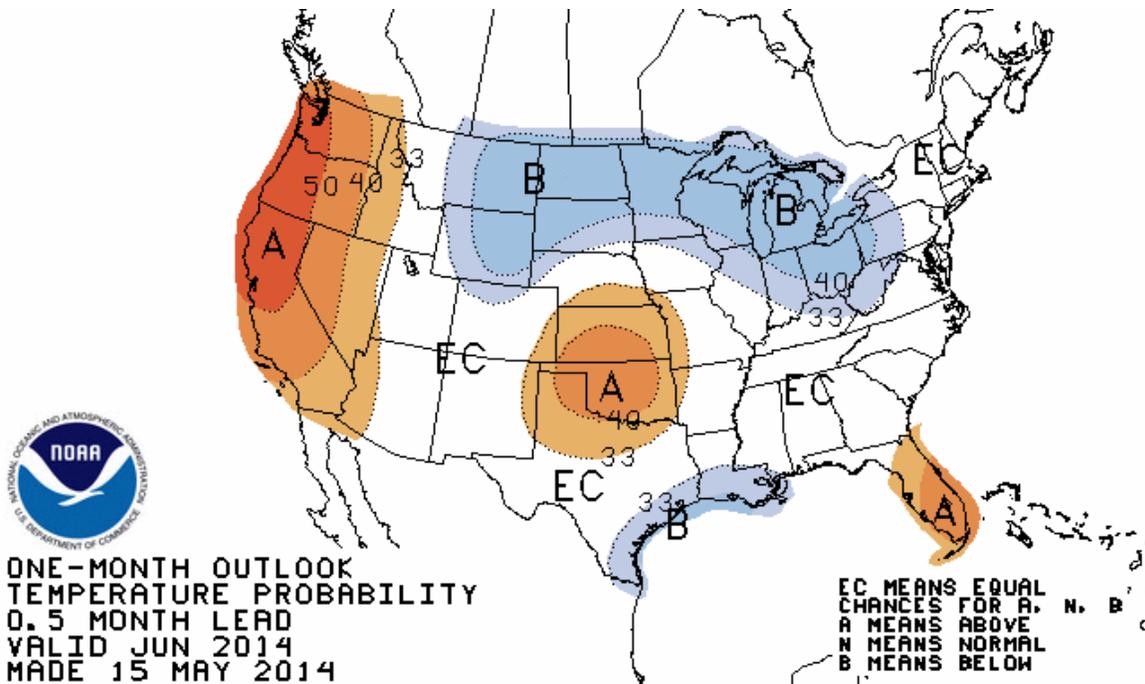
Intensity:
 D0 Abnormally Dry
 D1 Moderate Drought
 D2 Severe Drought
 D3 Extreme Drought
 D4 Exceptional Drought

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



USDA
 National Drought Mitigation Center
 NOAA
<http://droughtmonitor.unl.edu/>

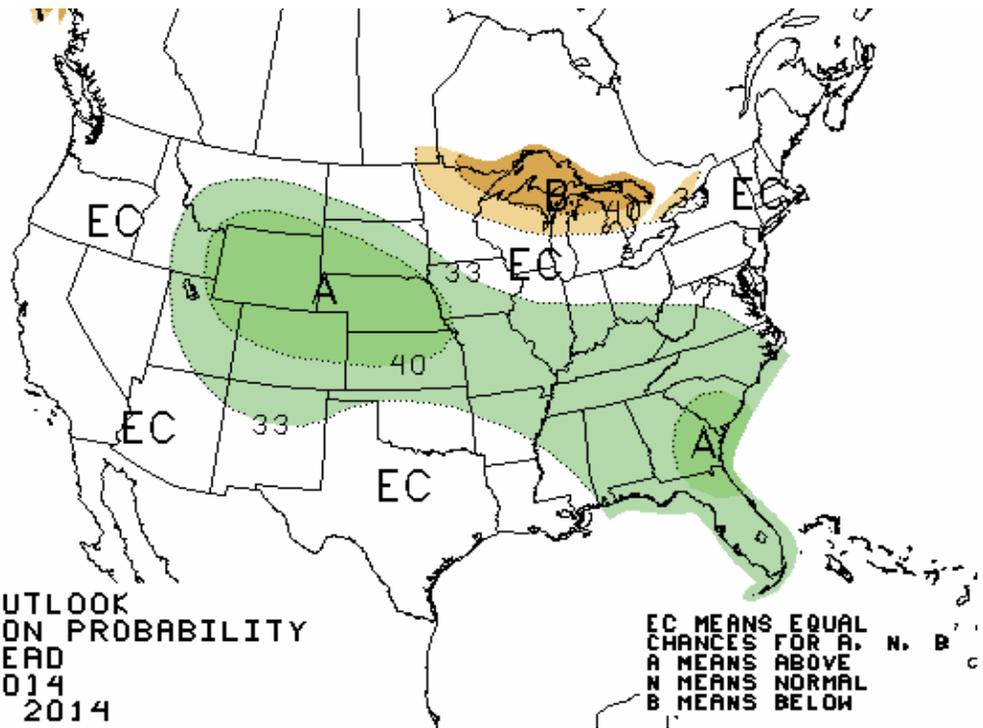
The map below shows forecasted temperature deviances for June 2014. There is a high probability of near normal temperatures over most of the state.



The map below shows forecasted precipitation deviances for June 2014. Above normal precipitation is forecast for the state of Colorado with possibly well above normal precipitation for some areas of northern Colorado.



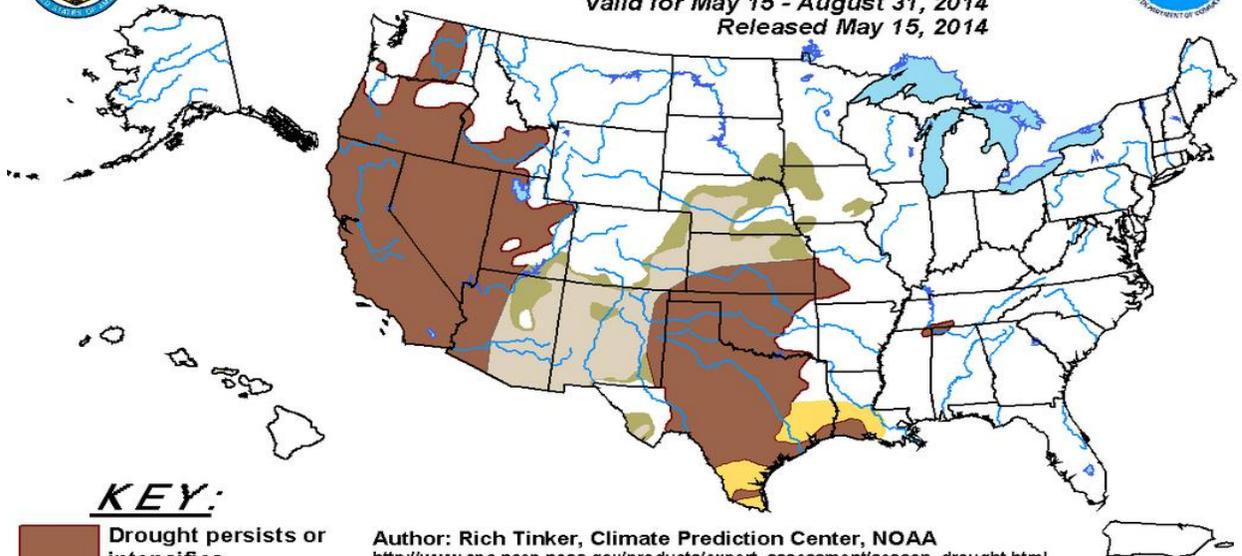
ONE-MONTH OUTLOOK
 PRECIPITATION PROBABILITY
 0.5 MONTH LEAD
 VALID JUN 2014
 MADE 15 MAY 2014



Drought conditions are forecast to improve over southeast Colorado with generally drought free conditions over the remainder of the state.



U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid for May 15 - August 31, 2014 Released May 15, 2014



KEY:

- Drought persists or intensifies
- Drought remains but improves
- Drought removal likely
- Drought development likely

Author: Rich Tinker, Climate Prediction Center, NOAA
http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor.
 NOTE: The tan area areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain. The Green areas imply drought removal by the end of the period (D0 or none)

May Summary

May of 2014 would not disappoint in the precipitation and snowfall departments with near normal temperatures. High temperatures for May averaged 70.6

degrees which was about 1 degree below normal. Low temperatures averaged 44.5 degrees which was 1.8 degrees above normal. There were 4 days during the month with temperatures at or below freezing with the last freeze of the year on morning of the 14th. There was one snow during the month which produced 1.1" of snow at DIA but many other areas of the western and southern Denver suburbs reported 4-9" of snow with higher amounts in the foothills. Precipitation during the month was abundant with 13 days reporting measureable moisture at DIA and 3.51" of total precipitation. This was 1.39" above the normal of 2.12". There were also 13 days with thunderstorm activity in and around DIA with one day reporting hail. Many areas of the City saw at least one round of hail for the month with up to 3 rounds for the unlucky areas. For the season 38.4" of snow was tallied at DIA which is well below the normal of 53.8" and not very representative of Denver Metro area as a whole and many locations which received anywhere from 45-60" or more. See 2013-2014 snow summary for all reporting locations and their season totals.

May Stats

TEMPERATURE (IN DEGREES F)

AVERAGE MAX	70.6	NORMAL 71.5	DEPARTURE -0.9
AVERAGE MIN	44.5	NORMAL 42.7	DEPARTURE 1.8
MONTHLY MEAN	57.5	NORMAL 57.1	DEPARTURE 0.4
HIGHEST	87 on the 28 th and 29 th		
LOWEST	30 on the 12 th		

DAYS WITH MAX 90 OR ABOVE	0	NORMAL	1
DAYS WITH MAX 32 OR BELOW	0	NORMAL	0
DAYS WITH MIN 32 OR BELOW	4	NORMAL	2
DAYS WITH MIN ZERO OR BELOW	0	NORMAL	0

TEMPERATURE RECORDS

No temperature records tied or broken

HEATING DEGREE DAYS

MONTHLY TOTAL	244	NORMAL 265	DEPARTURE -21
SEASONAL TOTAL	5974	NORMAL 5996	DEPARTURE -22

COOLING DEGREE DAYS

MONTHLY TOTAL	21	NORMAL 21	DEPARTURE 0
YEARLY TOTAL	21	NORMAL 22	DEPARTURE -1

PRECIPITATION (IN INCHES)

MONTHLY TOTAL	3.51	NORMAL	2.12	DEPARTURE	1.39
YEARLY TOTAL	6.71	NORMAL	5.53	DEPARTURE	1.18
GREATEST IN 24 HOURS	1.39" on 5/20-5/21				
DAYS WITH MEASURABLE PRECIP.					13

SNOWFALL (IN INCHES)

MONTHLY TOTAL	1.1	NORMAL	1.1	DEPARTURE	0.0
SEASONAL TOTAL	38.4	NORMAL	53.8	DEPARTURE	-15.4
GREATEST IN 24 HOURS	1.1" on 5/21-5/22				
GREATEST DEPTH	NA				

WIND (IN MILES PER HOUR)

AVERAGE SPEED	10.6mph
PEAK WIND GUST	42mph from the NW

MISCELLANEOUS WEATHER

NUMBER OF DAYS WITH THUNDERSTORM	13	NORMAL	6
NUMBER OF DAYS WITH HEAVY FOG	3	NORMAL	1
NUMBER OF DAYS WITH HAIL	1		
NUMBER OF SUNNY DAYS	3		
NUMBER OF PARTLY CLOUDY DAYS	18		
NUMBER OF CLOUDY DAYS	10		
AVERAGE RELATIVE HUMIDITY	55%		

June Preview

June is the month where severe weather is in full swing with strong thunderstorms capable of producing large hail, damaging winds, heavy rainfall and tornadoes. There can be snow in June but it has only happened 6 times in Denver history with a trace or more of snow. Snow is certainly not expected to fall this year. Temperatures for June jump about 10 degrees from May with average highs of 82.4 degrees. Average highs to start June are 77 degrees and by month end are at 87 degrees. The record high for the month is 104 degrees and it is not uncommon to reach or exceed 100 degrees towards the final 2 weeks of the month. Our threat of a freeze is gone but there has been a freeze in Denver's history in June as late as the 8th of the month. Average lows

start at 48 degrees and end the month at 56 degrees. Temperatures for June of 2014 are expected to be near normal. With the warming ground and abundant sunshine the vegetables in the garden really begin to experience a growth spurt during June. Precipitation takes a step down from May but nearly 2" of moisture is average for June at 1.98". There are typically around 10 thunderstorm days during the month with severe weather likely from some of those storms. June of 2014 is expected to feature normal to above normal precipitation for northeastern Colorado.

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

TEMPERATURE

AVERAGE HIGH	82.4
AVERAGE LOW	52.3
MONTHLY MEAN	67.4
DAYS WITH HIGH 90 OR ABOVE	8
DAYS WITH HIGH 32 OR BELOW	0
DAYS WITH LOW 32 OR BELOW	0
DAYS WITH LOWS ZERO OR BELOW	0

PRECIPITATION

MONTHLY MEAN	1.98"
DAYS WITH MEASURABLE PRECIPITATION	8
AVERAGE SNOWFALL IN INCHES	0.0
DAYS WITH 1.0 INCH OF SNOW OR MORE	0

MISCELLANEOUS AVERAGES

HEATING DEGREE DAYS	133
COOLING DEGREE DAYS	62
WIND SPEED (MPH)	8.9mph
WIND DIRECTION	South
DAYS WITH THUNDERSTORMS	10
DAYS WITH DENSE FOG	0
PERCENT OF SUNSHINE POSSIBLE	70%

EXTREMES

RECORD HIGH	104 on 6/26/1994
RECORD LOW	30 on 6/2/1951
WARMEST	73.5 degrees in 1994
COLDEST	60.6 degrees in 1967
WETTEST	4.96" in 1882
DRIEST	Trace in 1890
SNOWIEST	0.4" In 1919
LEAST SNOWIEST	0.0"

Sunrise/Sunset (July - December Denver area)

	JAN	FEB	MAR	APR	MAY	JUN	
	SR - SS						
01	0720-0445	0706-0517	0631-0550	0642-0722	0559-0752	0532-0820	01
02	0720-0446	0705-0518	0630-0551	0641-0723	0558-0753	0532-0821	02
03	0720-0447	0704-0520	0628-0552	0639-0724	0556-0754	0532-0822	03
04	0720-0448	0703-0521	0627-0553	0637-0725	0555-0755	0531-0823	04
05	0720-0449	0702-0522	0625-0554	0636-0726	0554-0756	0531-0823	05
06	0720-0449	0701-0523	0624-0555	0634-0727	0553-0757	0531-0824	06
07	0720-0450	0700-0524	0622-0556	0633-0728	0552-0758	0531-0824	07
08	0720-0451	0659-0526	0621-0557	0631-0729	0551-0759	0530-0825	08
09	0720-0452	0658-0527	0619-0558	0630-0730	0550-0800	0530-0826	09
10	0719-0453	0657-0528	0717-0700	0628-0731	0549-0801	0530-0826	10
11	0719-0454	0656-0529	0716-0701	0627-0732	0548-0802	0530-0827	11
12	0719-0456	0654-0530	0714-0702	0625-0733	0547-0803	0530-0827	12
13	0719-0457	0653-0532	0713-0703	0624-0734	0546-0804	0530-0828	13
14	0718-0458	0652-0533	0711-0704	0622-0735	0545-0805	0530-0828	14
15	0718-0459	0651-0534	0710-0705	0621-0736	0544-0806	0530-0828	15
16	0717-0500	0649-0535	0708-0706	0619-0737	0543-0807	0530-0829	16
17	0717-0501	0648-0536	0706-0707	0618-0738	0542-0808	0530-0829	17
18	0717-0501	0647-0537	0705-0708	0616-0739	0541-0809	0530-0829	18
19	0716-0502	0645-0539	0703-0709	0615-0740	0540-0810	0530-0830	19
20	0715-0503	0644-0540	0702-0710	0613-0741	0540-0811	0531-0830	20
21	0715-0504	0643-0541	0700-0711	0612-0742	0539-0812	0531-0830	21
22	0714-0505	0641-0542	0658-0712	0611-0743	0538-0812	0531-0830	22
23	0714-0507	0640-0543	0657-0713	0609-0744	0537-0813	0531-0831	23
24	0713-0508	0639-0544	0655-0714	0608-0745	0537-0814	0532-0831	24
25	0712-0509	0637-0545	0653-0715	0606-0746	0536-0815	0532-0831	25
26	0711-0510	0636-0546	0652-0716	0605-0747	0535-0816	0532-0831	26
27	0711-0511	0634-0548	0650-0717	0604-0748	0535-0817	0533-0831	27
28	0710-0513	0633-0549	0649-0718	0603-0749	0534-0817	0533-0831	28
29	0709-0514		0647-0719	0601-0750	0534-0818	0533-0831	29
30	0708-0515		0645-0720	0600-0751	0533-0819	0534-0831	30
31	0707-0516		0644-0721		0533-0820		31

Snowfall

October 2013 to April 2014

City	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
Aurora (Central)	3.5	3.0	5.4	13.4	2.8	7.0	12.0	5.0	52.1
Brighton	2.0	2.4	4.5	15.3	3.1	4.6	4.1	3.0	39.0
Broomfield	3.9	3.1	4.5	20.5	3.0	10.2	9.6	7.5	62.3
Castle Rock	3.7	1.9	8.3	17.8	3.9	13.3	15.6	10.5	75.0
Colo Sprgs Airport	TR	3.9	2.9	14.2	2.0	2.8	7.5	0.4	33.7
Denver DIA	1.4	2.0	4.7	14.4	3.2	6.0	5.6	1.1	38.4

Denver Downtown	1.7	2.1	5.4	14.6	4.4	7.2	9.5	6.5	51.4
Golden	3.6	3.2	10.4	28.8	4.7	11.9	11.1	7.0	80.7
Fort Collins	4.1	3.0	6.3	18.1	5.0	4.5	3.2	5.0	49.2
Highlands Ranch	3.5	3.3	10.1	22.3	4.7	14.0	16.5	7.6	82.0
Lakewood	2.1	2.0	7.0	18.6	3.4	8.6	7.8	5.3	54.8
Littleton	2.5	2.2	7.9	20.7	3.3	10.2	10.6	6.5	63.9
Parker	3.2	2.7	6.4	17.3	3.0	10.8	11.5	6.0	60.9
Sedalia - Hwy 67	4.0	2.6	9.7	17.0	3.2	12.8	14.6	7.5	71.4
Thornton	2.9	2.7	6.9	17.9	2.9	7.3	5.0	6.6	52.2
Westminster	3.3	3.0	5.9	20.3	3.8	10.1	6.0	6.0	58.4
Wheat Ridge	3.0	2.3	9.2	18.5	6.5	8.2	7.1	4.9	59.7

Italics = 0.1" of snow was added to Jan as the tail end of a storm produced snowfall after midnight on the 31st. Technically 14.3" of snow accumulated at DIA for Jan and 3.3" for Feb.

Skyview Weather
2350 N Rocky View Rd
Castle Rock, CO 80108

Phone: (303) 688-9175
Fax: (303) 380-3338

E-mail: Tim@SkyviewWeather.com
On the web at www.SkyviewWeather.com

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