



#### Utilities

electric · stormwater · wastewater · water  
700 Wood Street  
PO Box 580  
Fort Collins, CO 80522

**970.221.6700**

970.221.6619 – fax  
970.224.6003 – TDD  
[utilities@fcgov.com](mailto:utilities@fcgov.com)  
[fcgov.com/utilities](http://fcgov.com/utilities)

## MEMORANDUM

**DATE:** January 9, 2018

**TO:** Water Board

**FROM:** Tony Spencer, Water Resources Engineer  
Donnie Dustin, P.E., Water Resources Manager

**RE:** **January 2018 Water Resources Division Staff Report**

### Purpose

This memorandum is intended to update the Water Board on water resource conditions for the City of Fort Collins Water Utility (Water Utility) over the month of December.

### Water Resources Summary

Weather: The conditions measured at the Colorado State University weather station for the month:

- Mean daily high temperature for the month: 47.1°F.
  - 4.4°F above average for the month.
- Total recorded monthly precipitation: 0.29 inches.
  - 57.8% of average for the month.

Water Demand: Water demands within the Water Utility service area for the month:

- Water demand for the month: 92% of the amount projected.
- Water demand for calendar year: 95% of projected.

Poudre River Streamflows: Poudre River streamflows measured at Colorado Division of Water Resources gage CLAFTCCO/ U.S. Geologic Survey gage 06752000 at the canyon mouth:

- Mean daily discharge at canyon mouth: 67cfs.
  - 152% of average for the month.

Reservoir Storage: End of month reservoir storages:

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 78% full (128% of average based on 19 years of data).
  - Lake Granby: 94% full (141% of average).
  - Carter Reservoir: 45% full (90% of average).
  - Horsetooth Reservoir: 51% full (100% of average).
  - Joe Wright Reservoir: 70% full

Snowpack:

- Natural Resources Conservation Service SNOTEL program percent of average snow water equivalent totals as of 1/09/2018:

- Upper Colorado Basin: 69% of average.
- South Platte Basin: 82% of average.
- Poudre Basin (Joe Wright & Deadman Hill): 95% of the 1981-2010 combined average.

Water Supply Outlook:

- National Oceanic and Atmospheric Administration (NOAA) climate outlooks for the northern Front Range and northern mountains, over the next three months<sup>1</sup>:
  - Normal precipitation.
  - Above normal temperature.
- El Niño – Southern Oscillation (ENSO) conditions<sup>1</sup>:
  - Currently ENSO conditions lean towards weak La Niña, which is expected to continue through the winter.

---

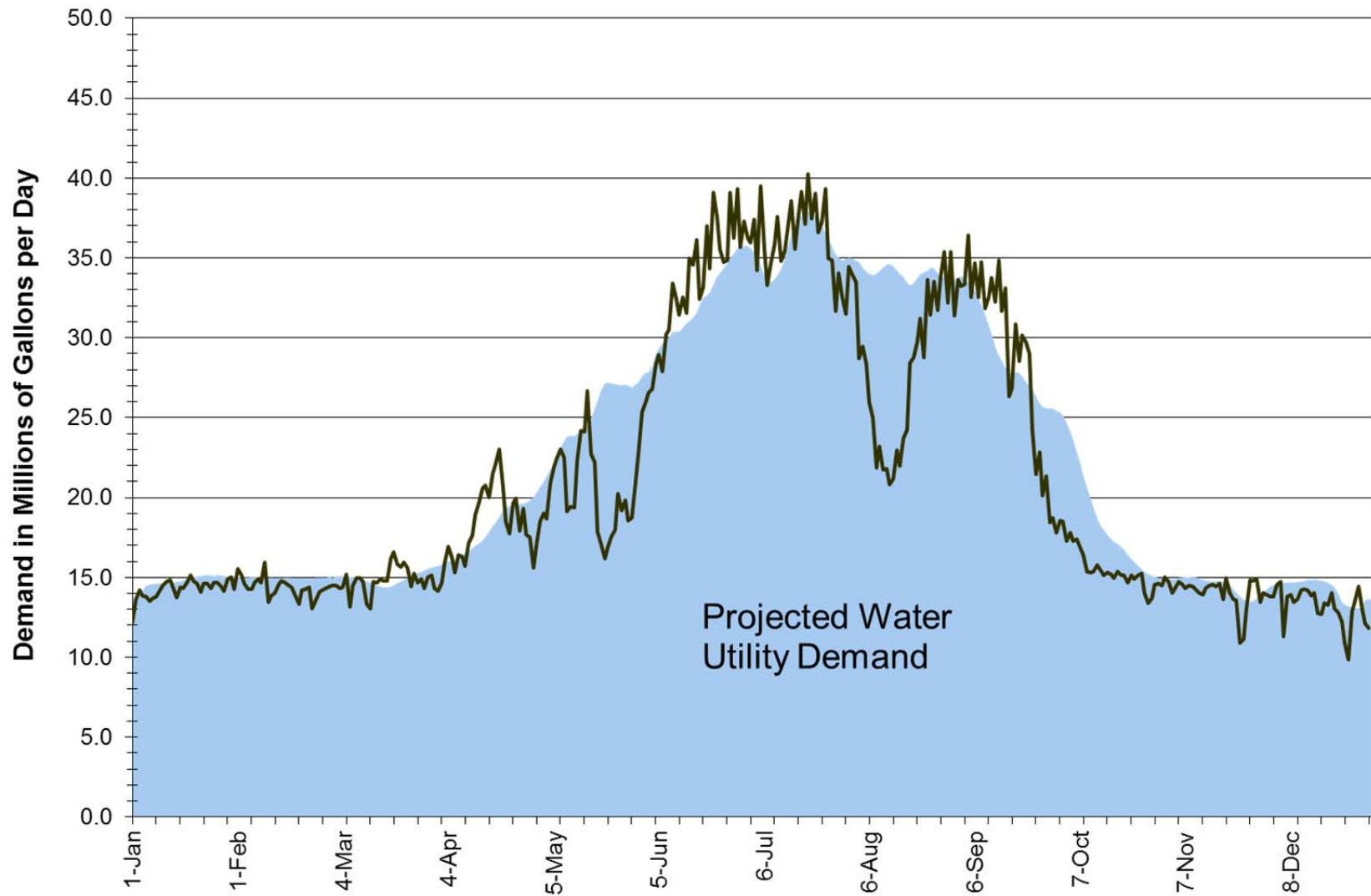
<sup>1</sup> Western Water Assessment. (2018). “Intermountain West Climate Dashboard.”  
<<http://wwa.colorado.edu/climate/dashboard.html#briefings>>.



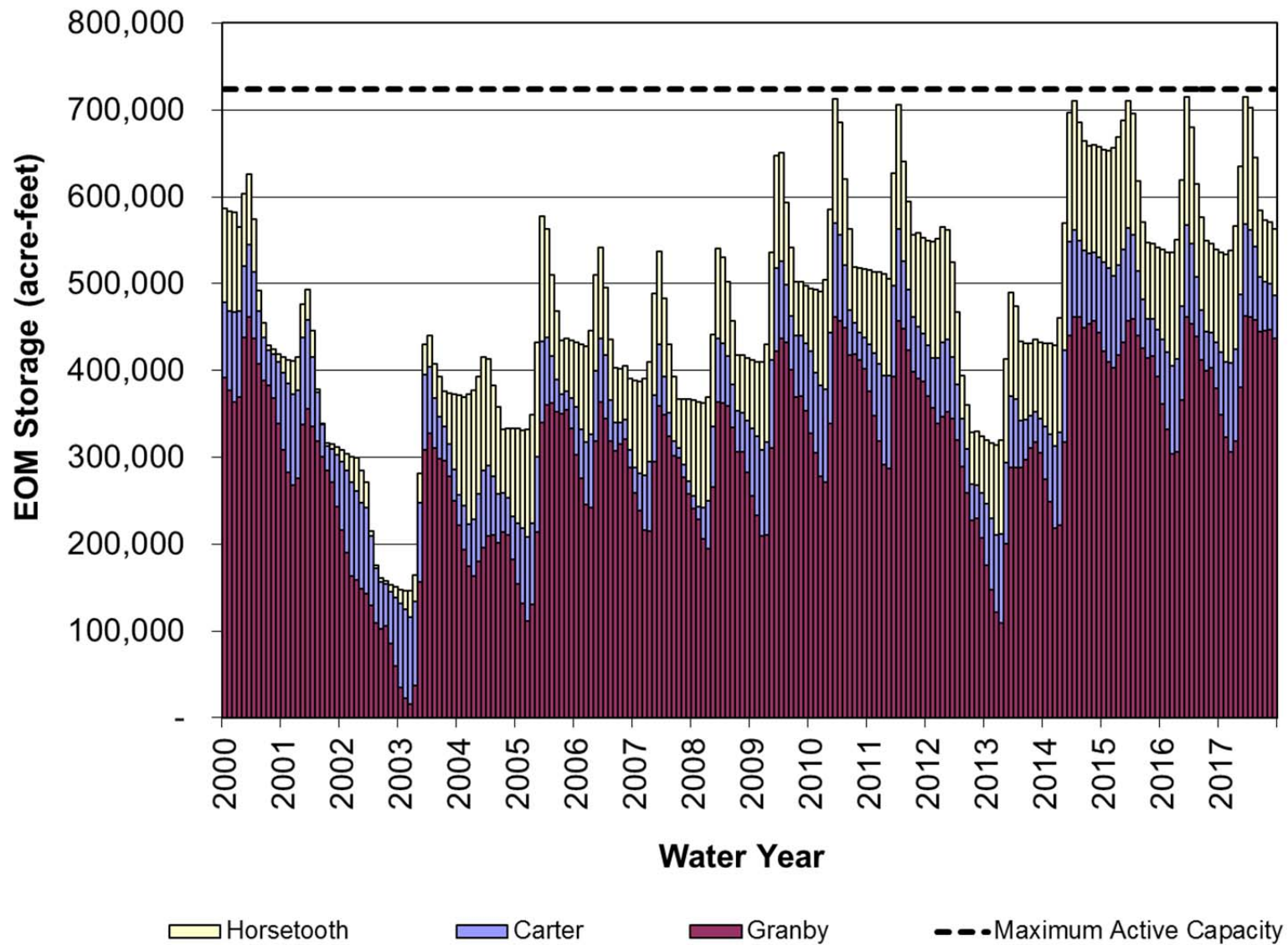
**City of Fort Collins Utilities  
Treated Water Monthly Summary  
2017**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
<b>WTF Water Supply (MG)</b>													
From Poudre	265.0	252.5	304.3	435.4	228.6	398.7	609.9	484.4	438.8	303.4	151.5	71.8	3,944.2
From Horsetooth	201.2	192.3	214.9	183.4	483.7	746.7	684.2	519.0	538.4	242.3	313.6	390.9	4,710.6
Total Raw Water	466.2	444.8	519.2	618.8	712.3	1,145.4	1,294.1	1,003.4	977.2	545.7	465.1	462.7	8,654.8
<b>Demands (MG)</b>													
WTF Production	461.3	422.1	492.5	589.5	693.3	1,087.1	1,231.4	951.1	921.5	514.9	437.6	434.0	8,236.2
Change in Storage	0.8	-1.1	0.8	7.7	3.9	1.8	-1.3	1.9	-3.0	-1.0	0.2	-1.8	
Demand on WTF	460.5	423.2	491.7	581.8	689.5	1,085.3	1,232.7	949.2	924.4	515.9	437.4	435.8	8,227.3
From Soldier Canyon	2.2	0.0	0.0	44.7	94.3	324.4	347.9	241.9	258.0	22.7	16.9	13.0	1,365.9
To Soldier Canyon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
To FC-Lov/NWCWD	-16.5	-21.2	-32.5	-81.9	-147.8	-411.2	-462.0	-317.6	-314.8	-55.3	-32.3	-38.7	-1,931.8
For City	446.2	402.0	459.2	544.5	635.9	998.5	1,118.6	873.6	867.6	483.3	422.0	410.0	7,661.3
<b>Daily Deliveries to City (MG)</b>													
Max During Month	15.1	15.9	16.6	23.0	26.7	39.3	40.2	35.4	36.4	18.6	15.0	14.7	40.2
Min During Month	12.1	13.0	13.0	14.2	16.1	26.0	31.5	20.8	17.8	13.4	10.9	9.8	9.8
Avg During Month	14.3	14.4	14.8	18.2	20.5	33.3	36.1	28.2	28.9	15.6	14.1	13.2	21.0
<b>Monthly Deliveries (Ac-Ft)</b>													
Projected	1,410	1,307	1,431	1,658	2,319	2,966	3,285	3,310	2,674	1,764	1,350	1,367	24,841
Actual	1,369	1,234	1,409	1,671	1,951	3,064	3,433	2,681	2,663	1,483	1,295	1,258	23,512
Ratio	97%	94%	98%	101%	84%	103%	105%	81%	100%	84%	96%	92%	95%
<b>Year to Date Deliveries (Ac-Ft)</b>													
Projected	1,410	2,717	4,148	5,806	8,125	11,091	14,375	17,686	20,360	22,124	23,475	24,841	24,841
Actual	1,369	2,603	4,012	5,683	7,635	10,699	14,132	16,813	19,475	20,958	22,253	23,512	23,512
Ratio	97%	96%	97%	98%	94%	96%	98%	95%	96%	95%	95%	95%	95%
<b>Climatological Data</b>													
Precipitation (Inches)													
2017	0.89	0.52	0.73	2.12	4.43	0.14	0.95	2.38	2.09	1.67	0.59	0.29	16.80
1981-2010 Avg	0.39	0.40	1.60	2.05	2.41	2.17	1.71	1.59	1.33	1.15	0.76	0.50	16.06
Average Daily High Temp (Deg F)													
2017	42.8	54.4	63.2	63.2	70.5	83.7	89.3	82.4	76.3	63.8	57.3	47.1	66.2
1981-2010 Avg	44.2	46.5	54.7	62.2	71.0	80.4	86.6	84.0	75.9	63.9	51.4	42.8	63.6

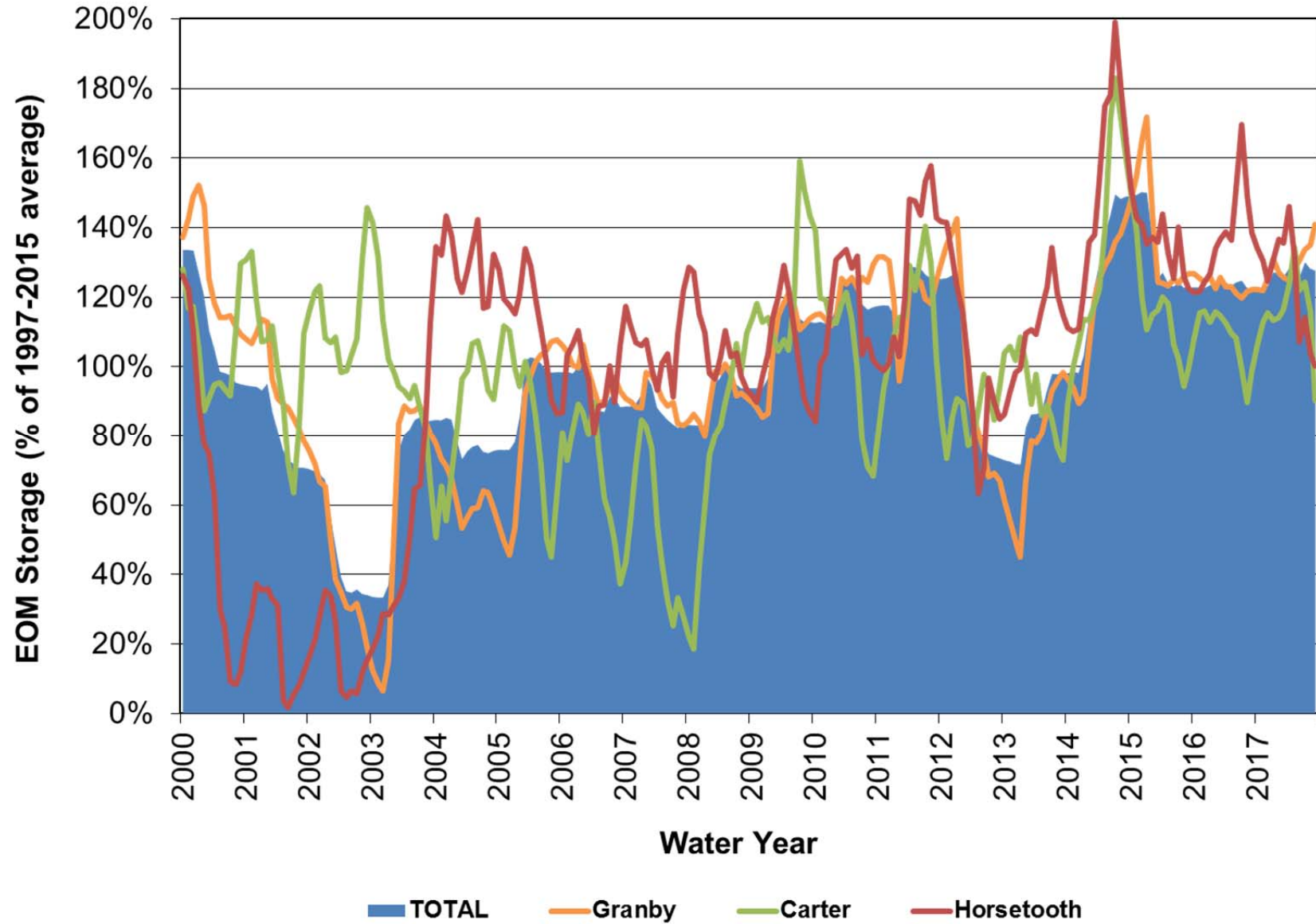
**City of Fort Collins Utilities  
Projected and Actual Treated Water Demand  
2017**



## CBT Project End of Month Active Storage Levels



## CBT Project End of Month Active Storage Levels

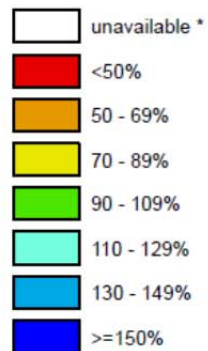




**Jan 09, 2018**

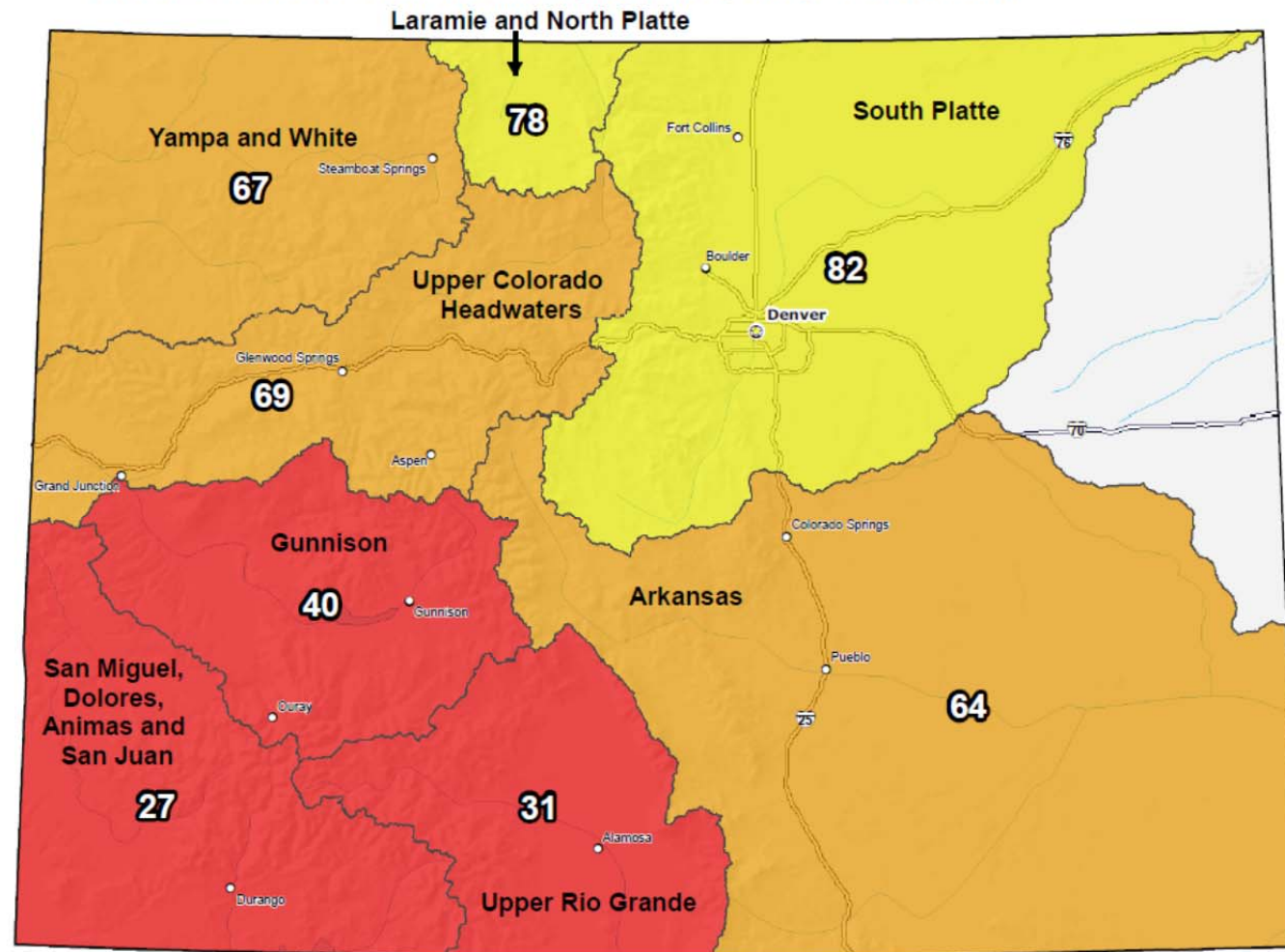
**Colorado  
SNOTEL Current Snow Water Equivalent (SWE) % of Normal**

**Current Snow Water  
Equivalent (SWE)  
Basin-wide Percent  
of 1981-2010 Median**



\* Data unavailable at time  
of posting or measurement  
is not representative at this  
time of year

*Provisional Data  
Subject to Revision*



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

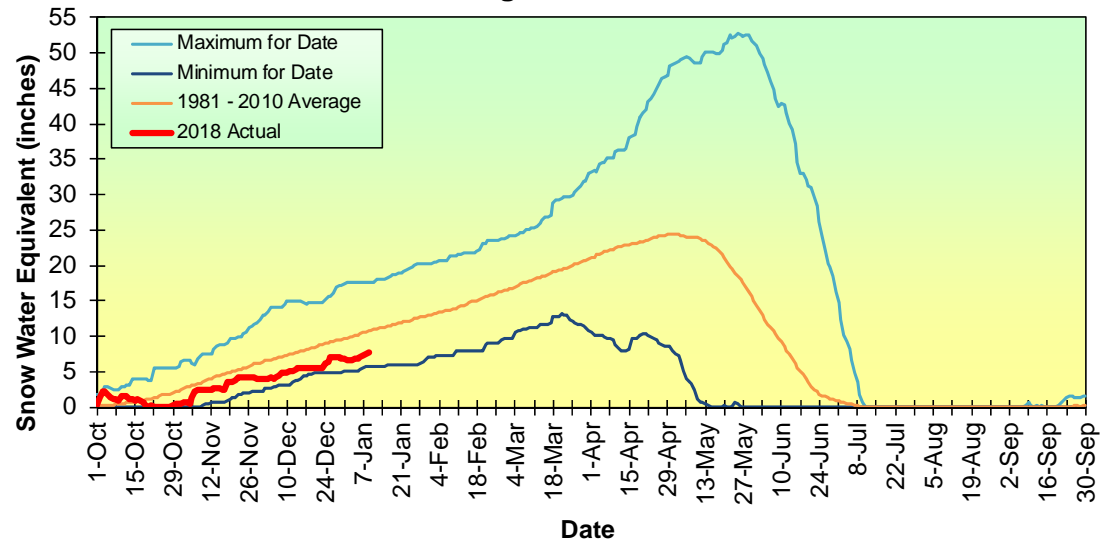
# Snotel Data Report

1/9/2018

(snow water equivalent, inches)

	Joe Wright	Deadman Hill	Basin Avg
1/2/2018	6.7	9.9	8.3
1/3/2018	6.6	9.8	8.2
1/4/2018	6.8	9.9	8.4
1/5/2018	6.9	9.9	8.4
1/6/2018	7.0	9.9	8.5
1/7/2018	7.4	10.0	8.7
1/8/2018	7.6	10.0	8.8
1/9/2018	7.7	10.1	8.9
Water Year	Joe Wright	Deadman Hill	Basin Avg
1986	15.8	14.1	15.0
1987	12.0	7.6	9.8
1988	10.1	7.8	9.0
1989	9.1	7.3	8.2
1990	11.6	5.5	8.6
1991	7.8	7.2	7.5
1992	8.8	6.8	7.8
1993	10.6	6.3	8.5
1994	12.2	10.0	11.1
1995	5.9	4.7	5.3
1996	14.4	13.4	13.9
1997	14.0	9.0	11.5
1998	9.9	7.6	8.8
1999	9.3	9.5	9.4
2000	7.6	3.7	5.7
2001	10.0	7.3	8.7
2002	6.2	4.0	5.1
2003	9.0	3.9	6.5
2004	8.2	6.3	7.3
2005	10.9	9.1	10.0
2006	13.8	9.2	11.5
2007	11.8	9.7	10.8
2008	11.2	8.8	10.0
2009	11.8	7.8	9.8
2010	9.5	6.1	7.8
2011	14.6	11.3	13.0
2012	7.6	9.7	8.7
2013	5.8	6.2	6.0
2014	8.6	10.4	9.5
2015	9.2	8.2	8.7
2016	6.8	9.3	8.1
2017	10.7	10.5	10.6
<b>2018</b>	<b>7.7</b>	<b>10.1</b>	<b>8.9</b>
<b>1981-2010 Avg</b>	<b>10.7</b>	<b>8.1</b>	<b>9.4</b>
<b>% of Avg</b>	<b>72%</b>	<b>125%</b>	<b>95%</b>

## Joe Wright Snotel Site



## Deadman Hill Snotel Site

