

# Colorado Climate Center – *WATF Climate Update*

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Becky Bolinger

Water Availability Task Force  
January 18, 2018



Colorado State University

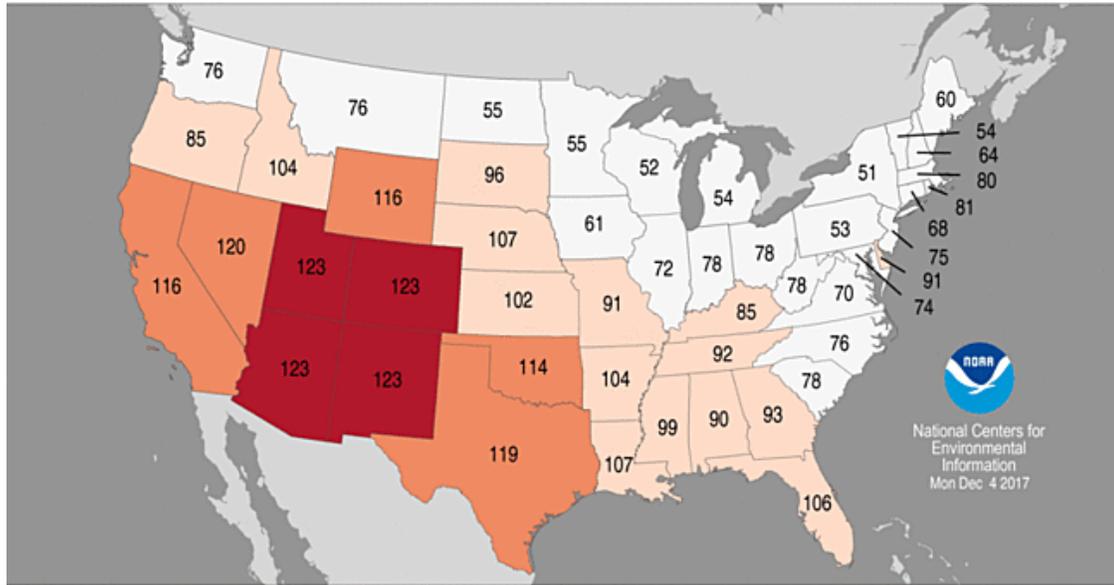
# Water Year 2018 – Temperature



## Statewide Average Temperature Ranks

November 2017

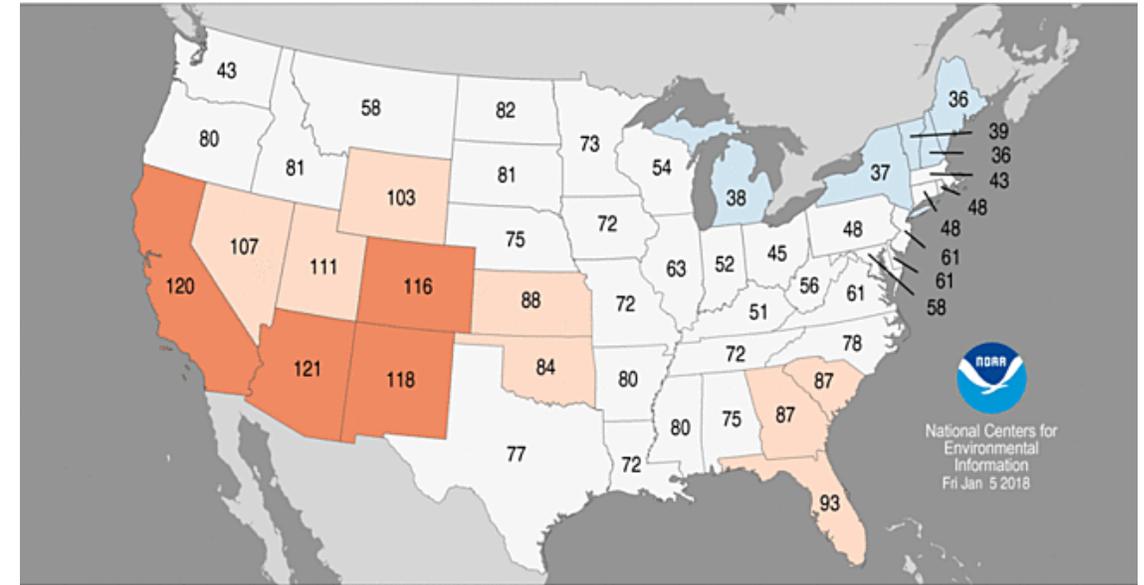
Period: 1895–2017



## Statewide Average Temperature Ranks

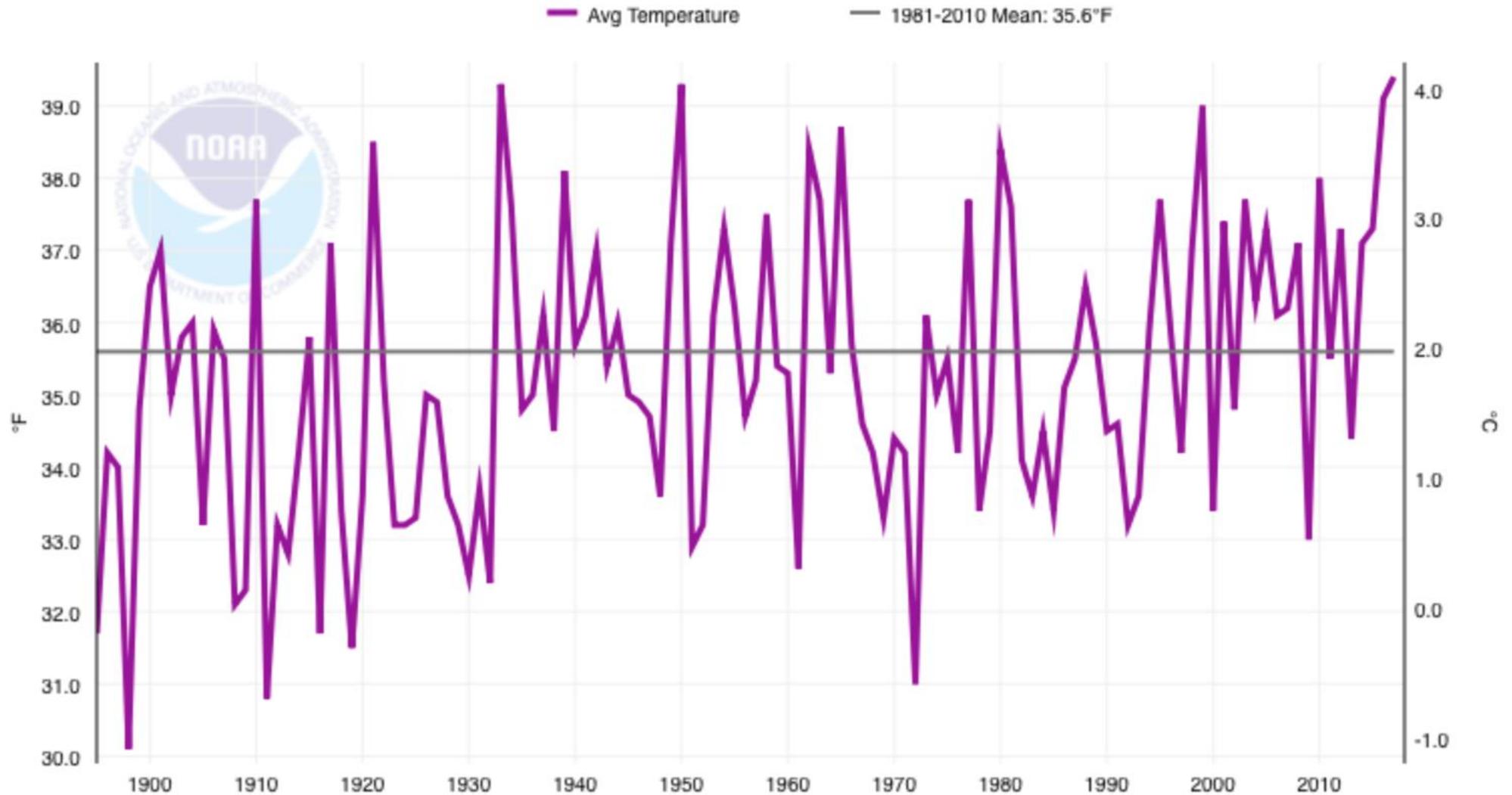
December 2017

Period: 1895–2017



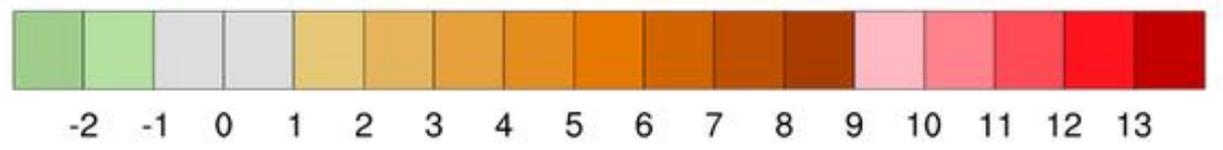
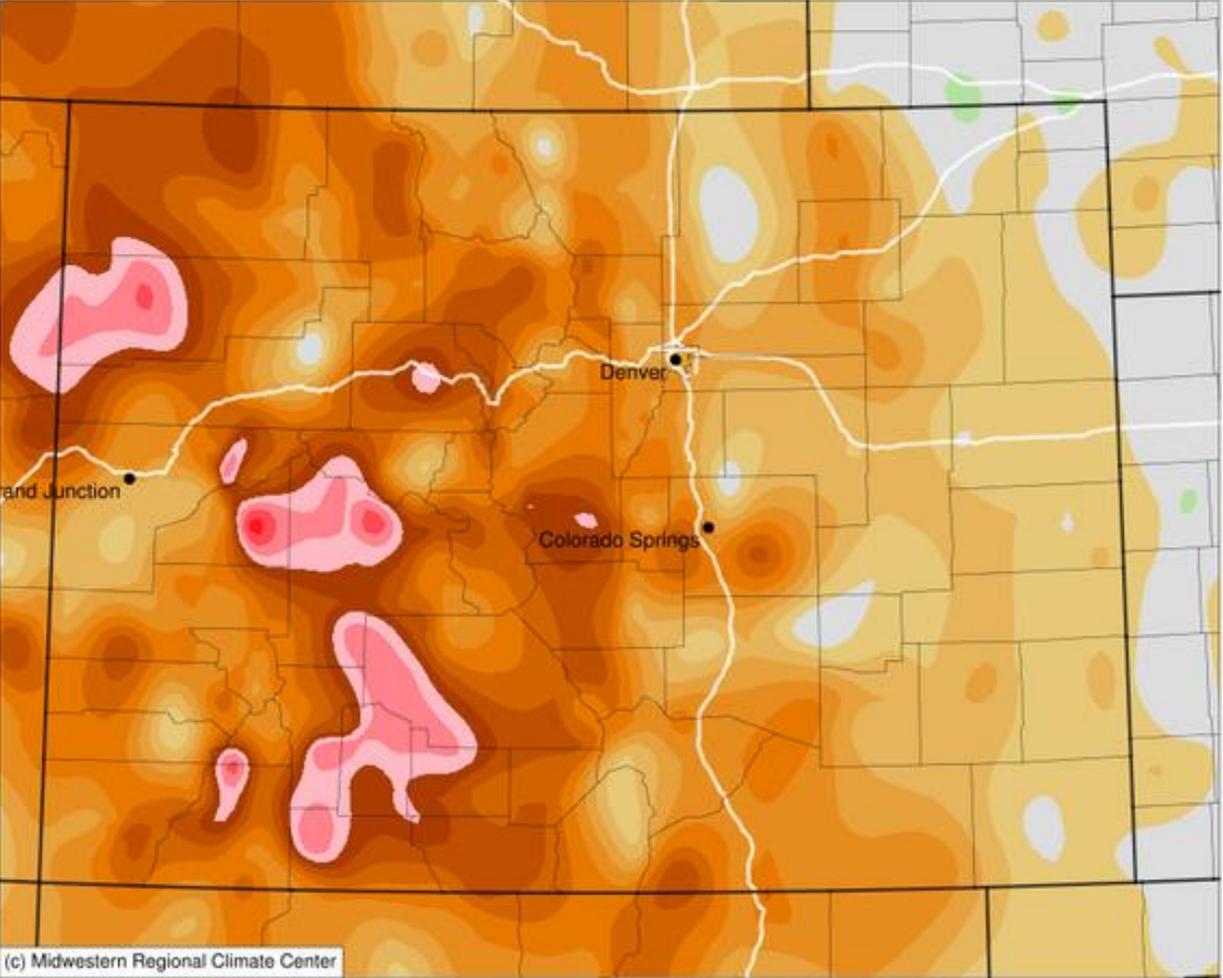
1<sup>st</sup> Warmest in 123-year record - +3.8°F above 35.6°F average

### Colorado, Average Temperature, October-December



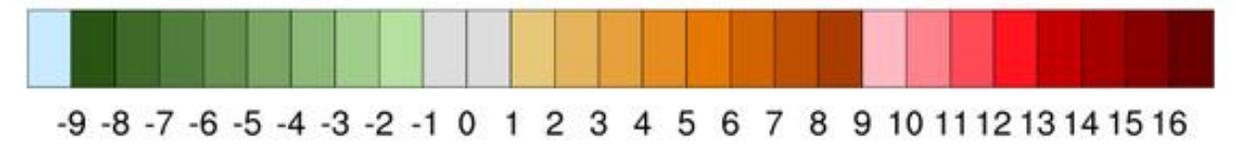
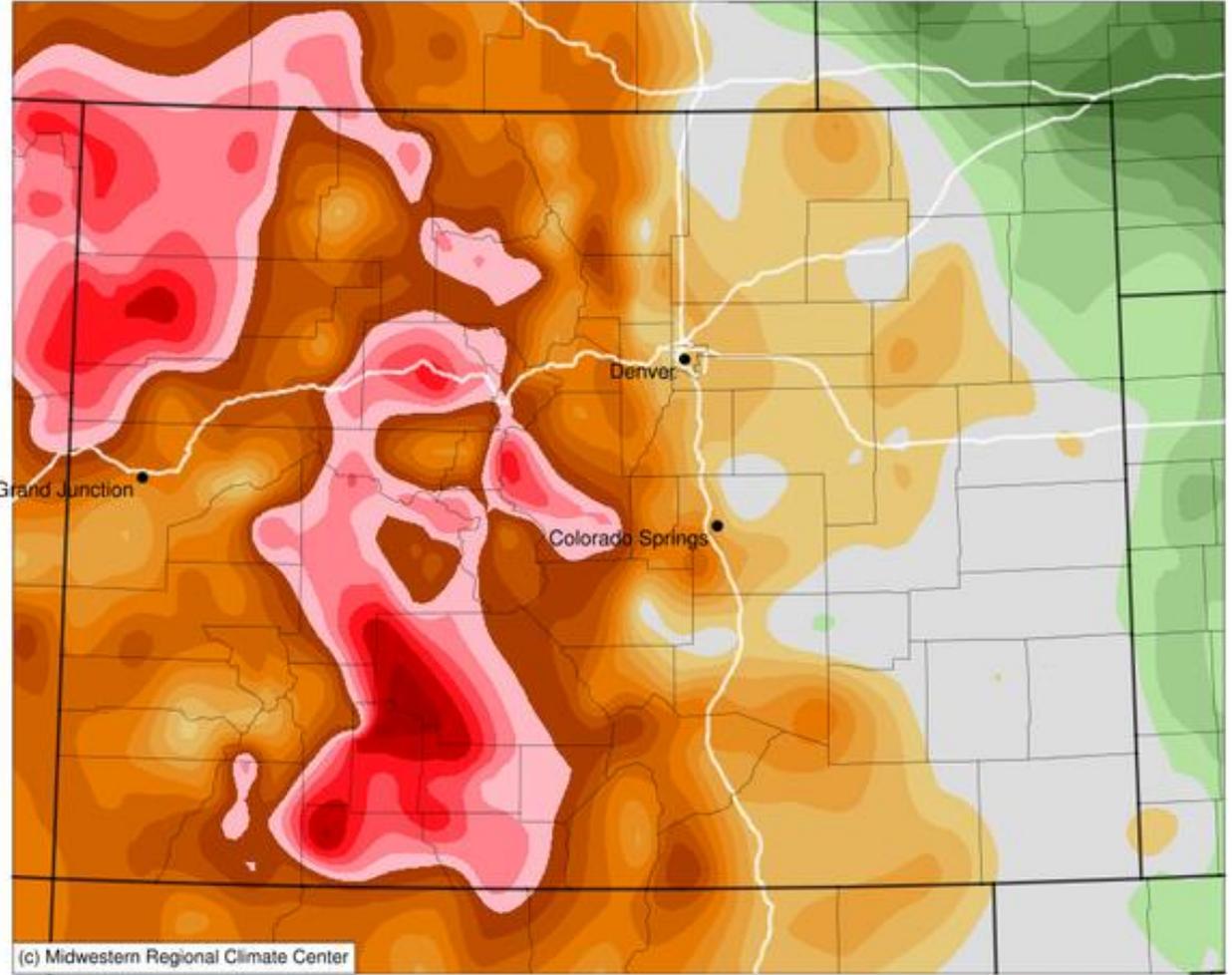
# Average Temperature (°F): Departure from 1981-2010 Normals

December 01, 2017 to December 31, 2017



# Average Temperature (°F): Departure from 1981-2010 Normals

January 01, 2018 to January 16, 2018

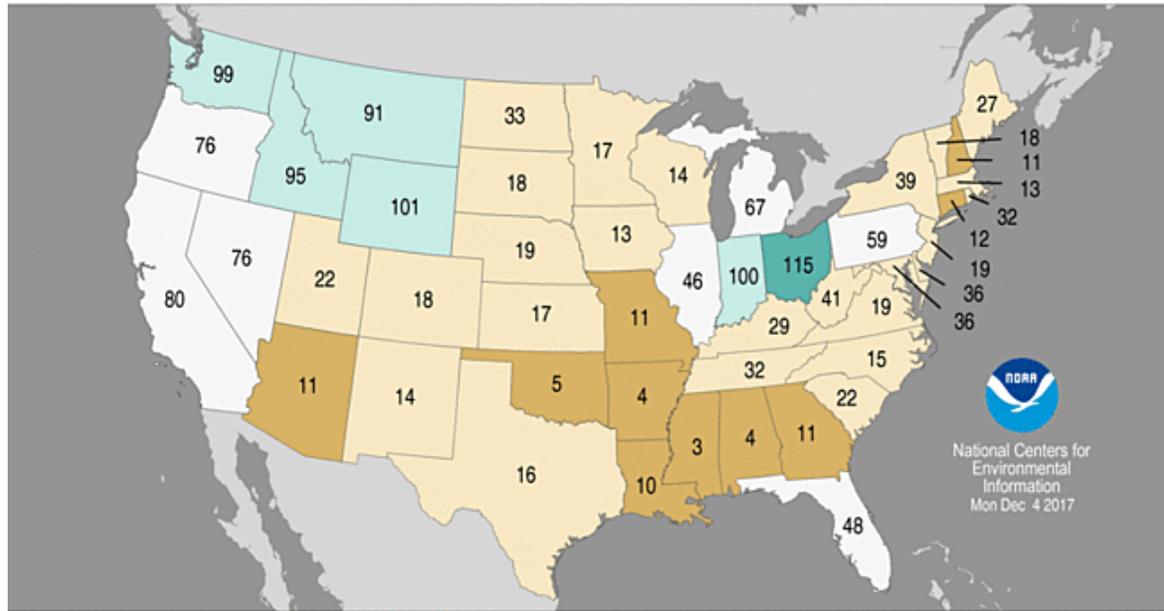




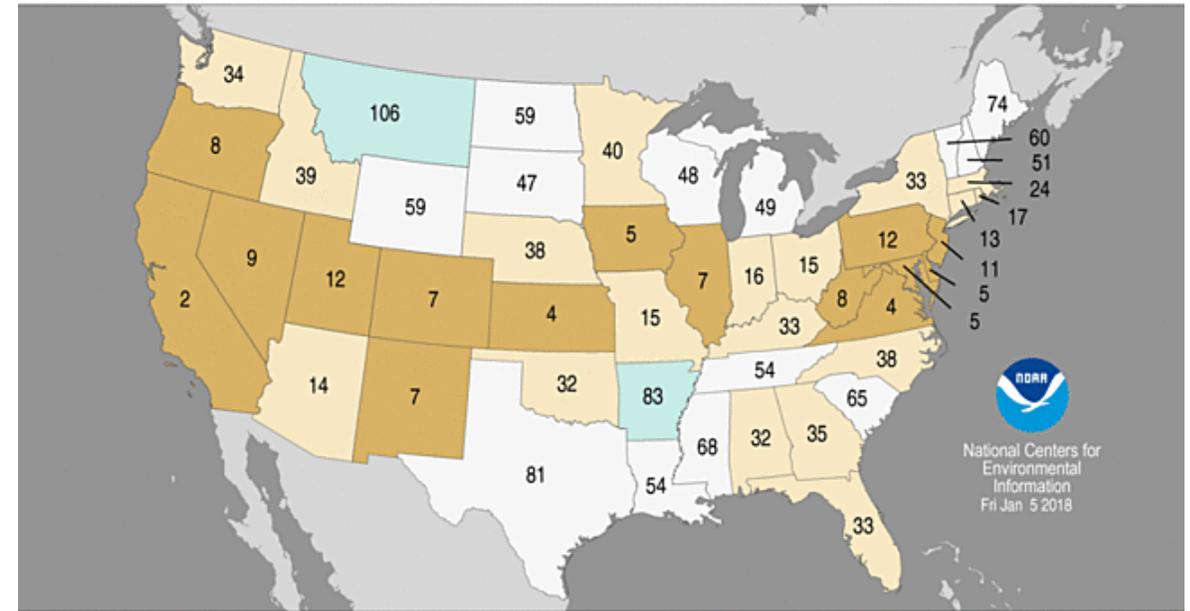
# Water Year 2018 – Precipitation



Statewide Precipitation Ranks  
November 2017  
Period: 1895–2017



Statewide Precipitation Ranks  
December 2017  
Period: 1895–2017



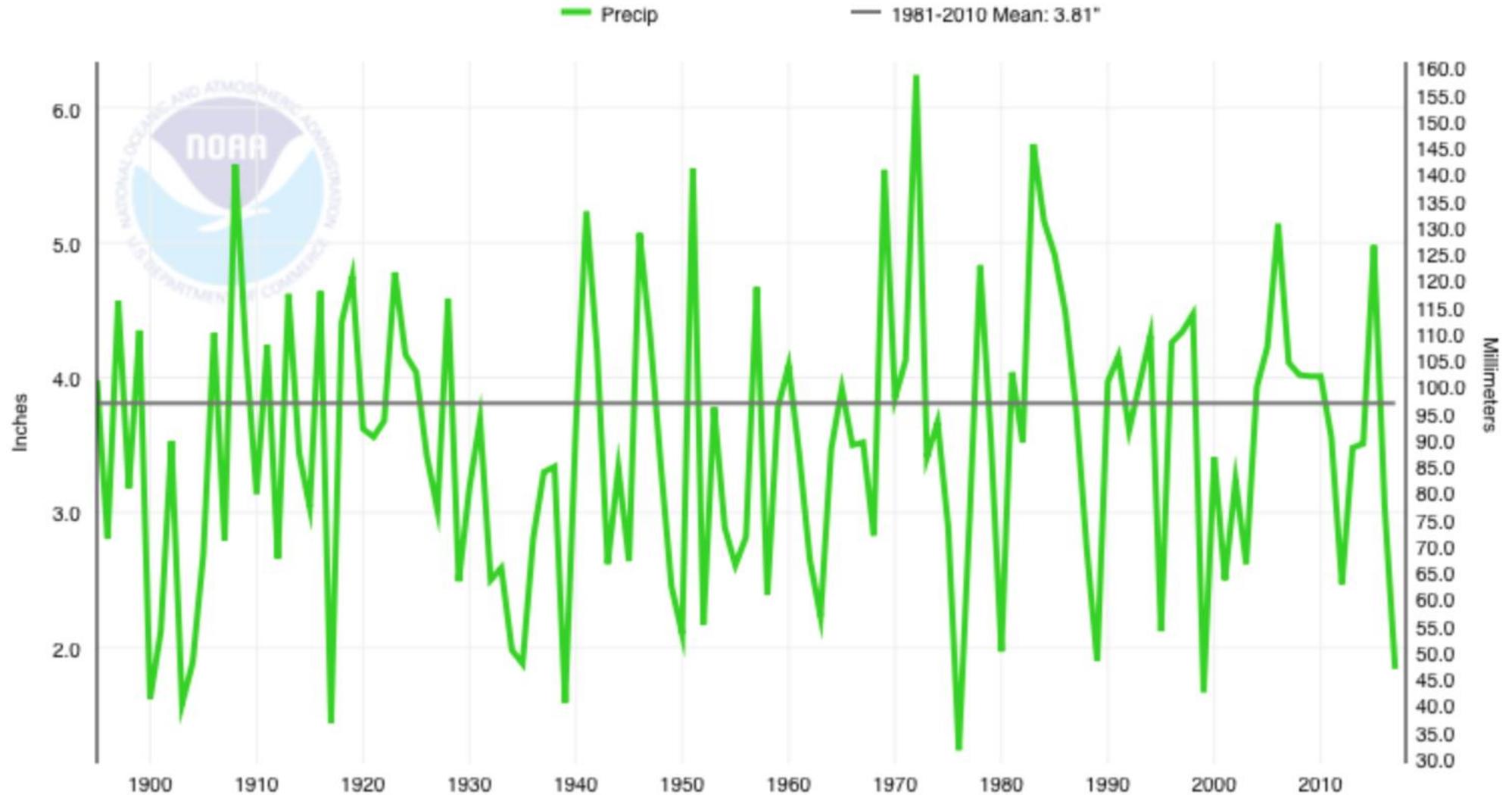
Record Driest (1)    Much Below Average    Below Average    Near Average    Above Average    Much Above Average    Record Wettest (123)

Record Driest (1)    Much Below Average    Below Average    Near Average    Above Average    Much Above Average    Record Wettest (123)

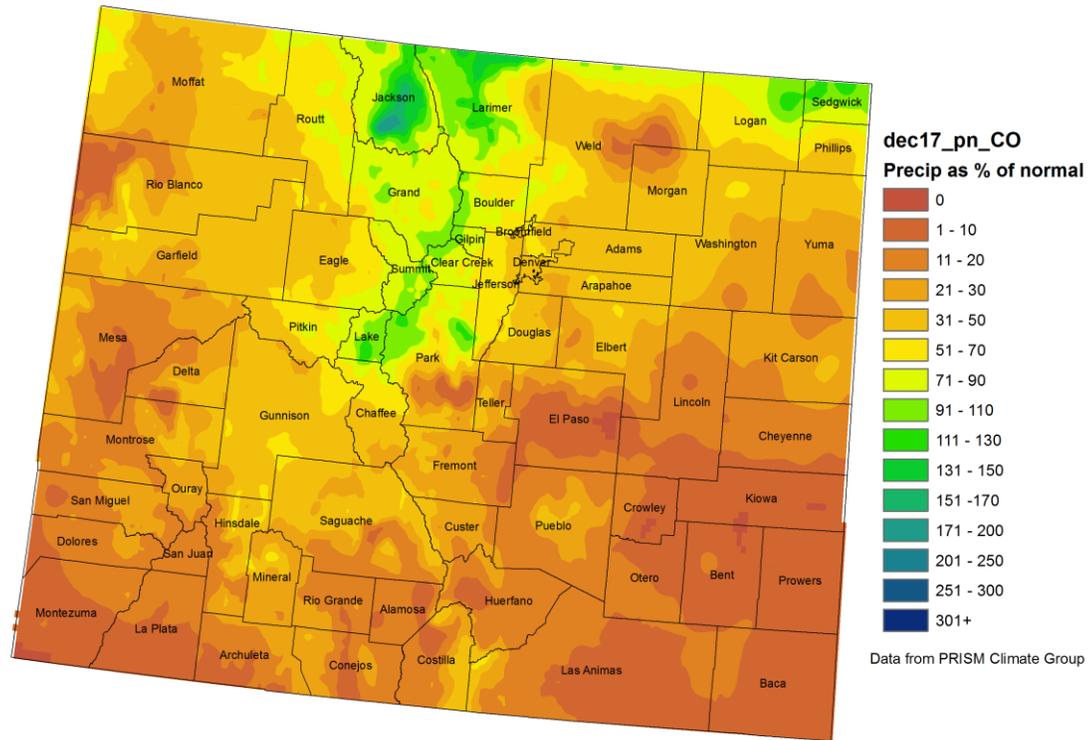


7<sup>th</sup> driest in 123-year record - -1.97" below 3.81" average

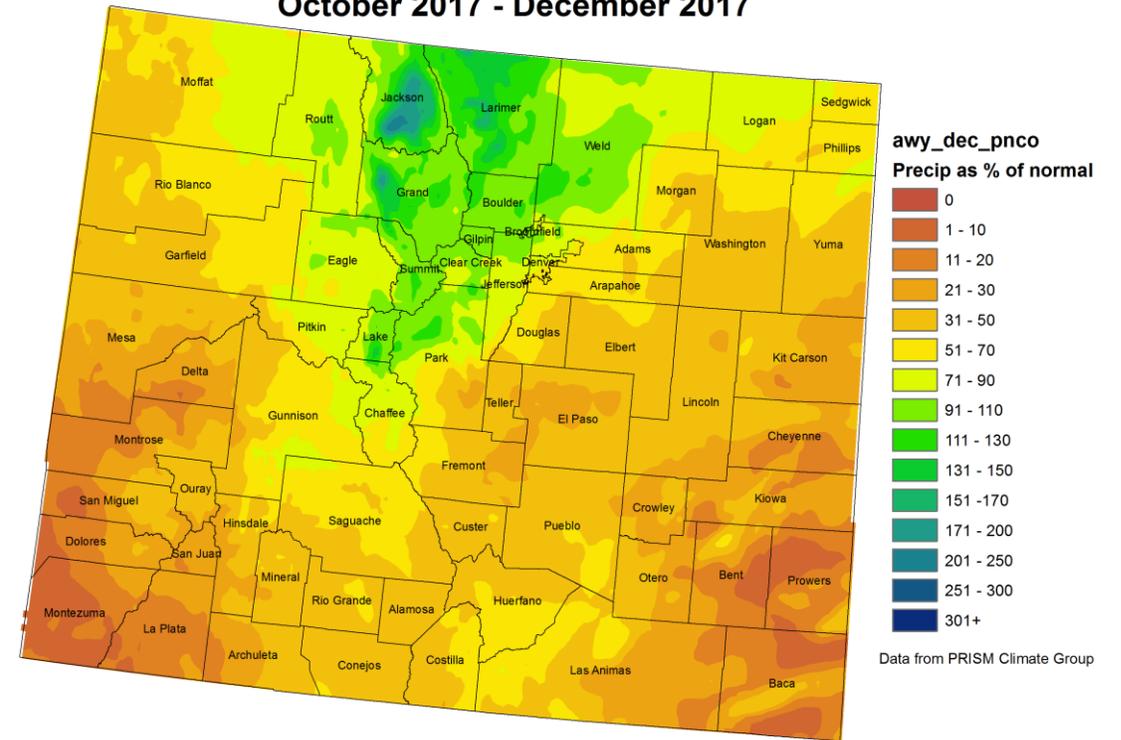
### Colorado, Precipitation, October-December



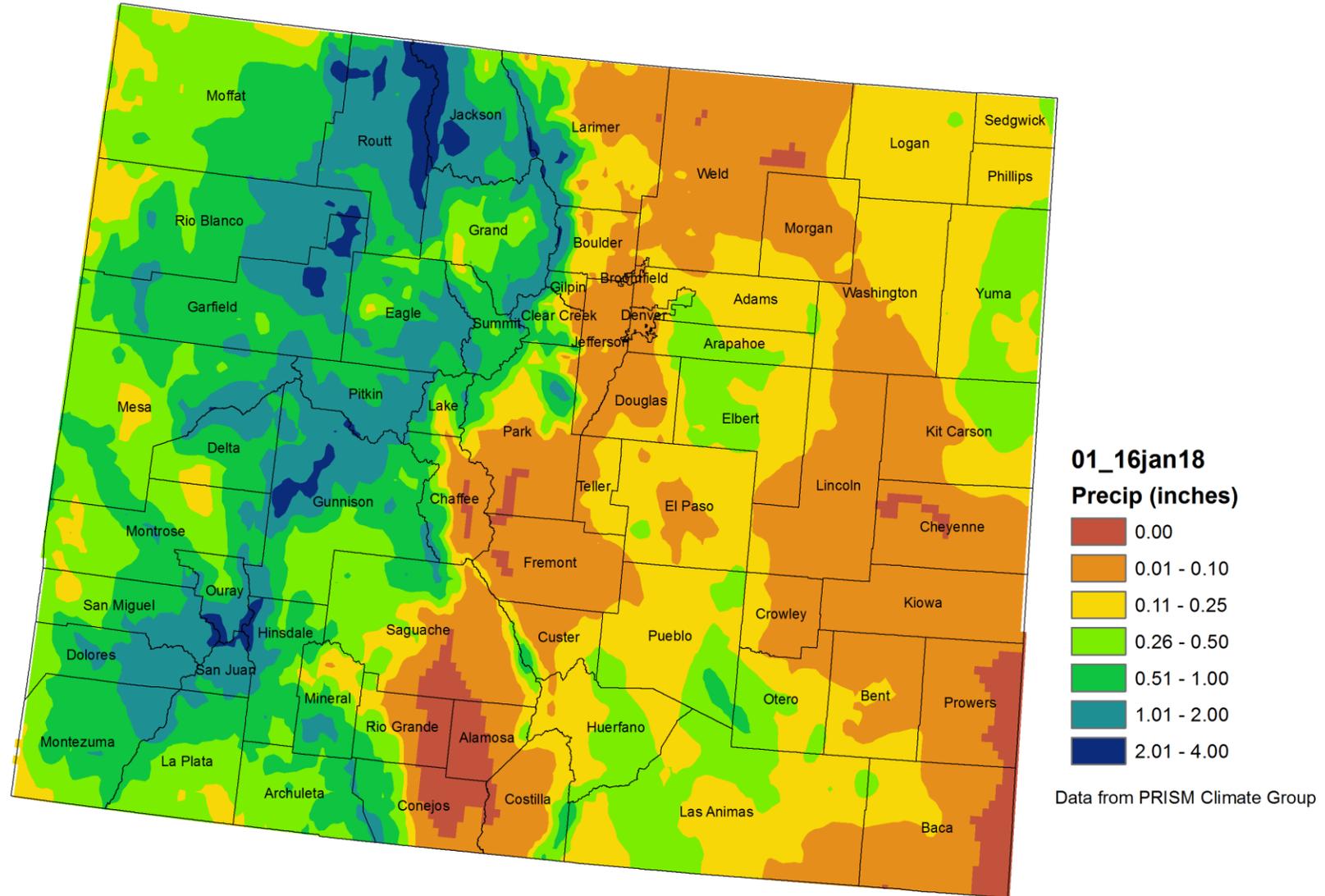
**Colorado December 2017 Precipitation  
as a Percentage of Normal**



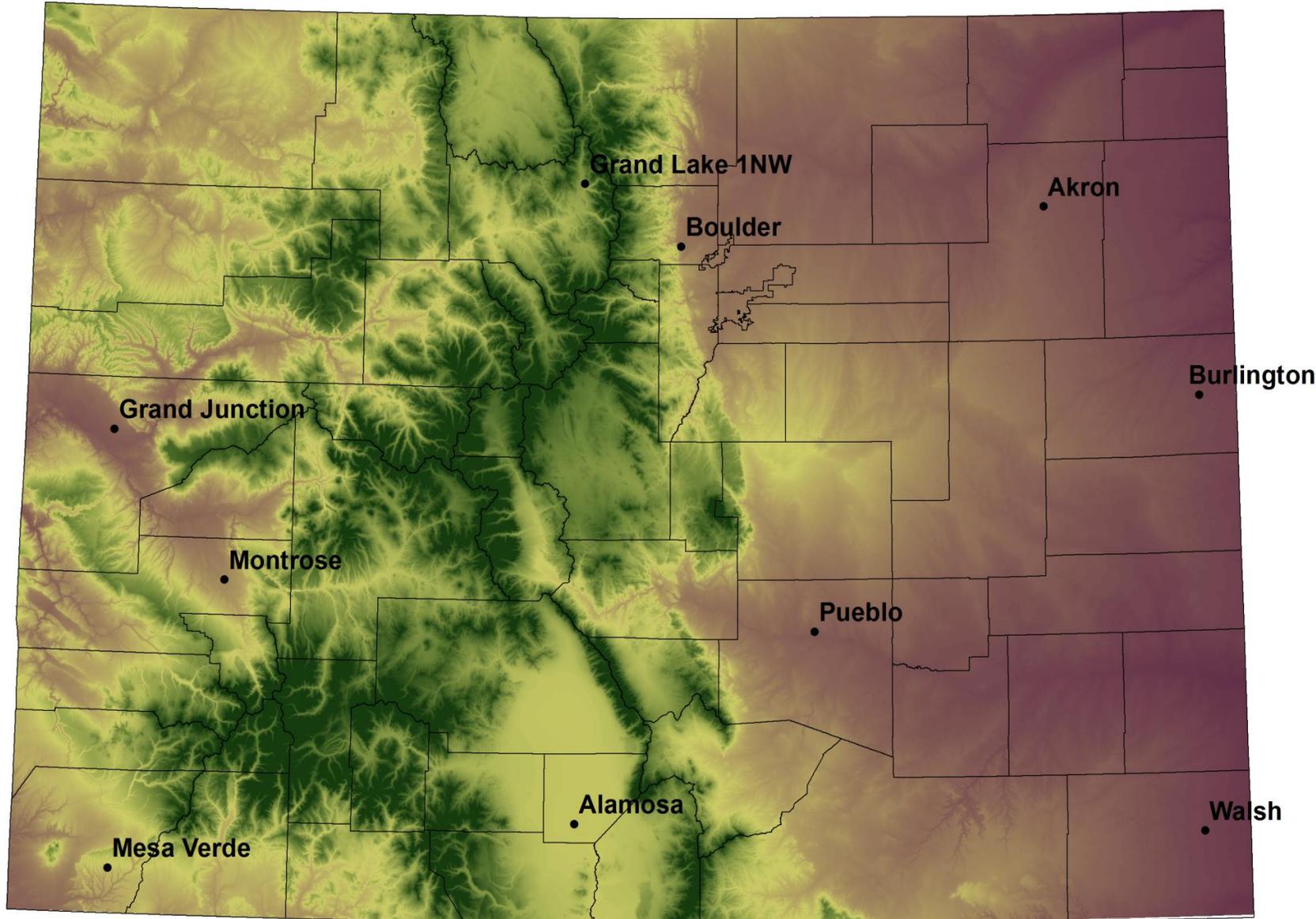
**Colorado Water Year 2018 Precipitation  
as a Percentage of Normal  
October 2017 - December 2017**



# Colorado Month to Date Precipitation 1 - 16 January 2018



# NWS Cooperative Stations for WATF

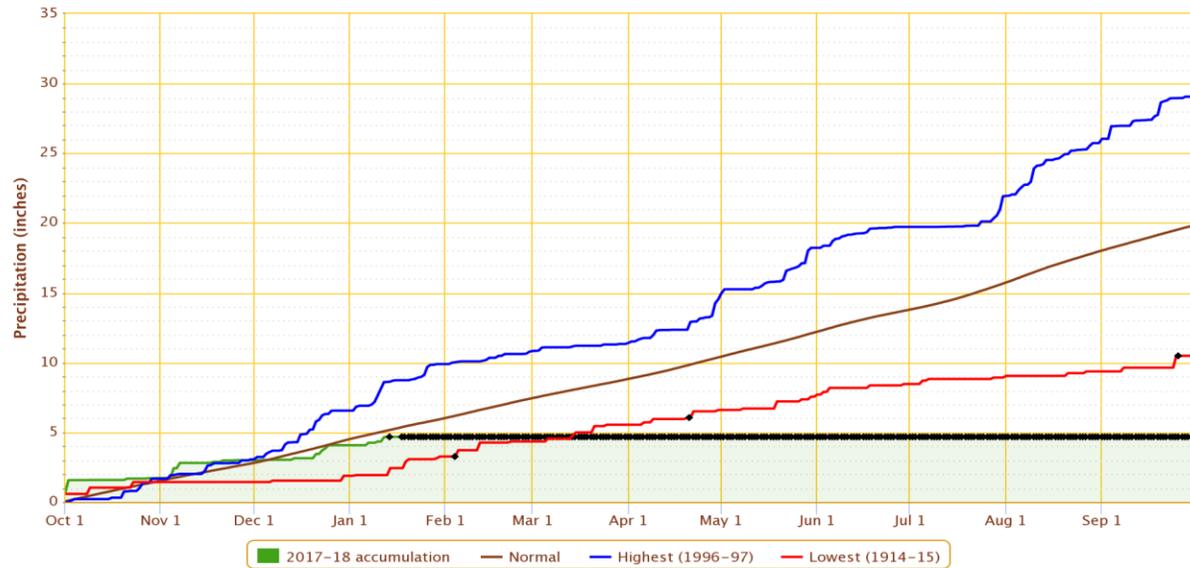


## Water Year 2018 – Station Updates



### Accumulated Precipitation – GRAND LAKE 1 NW, CO

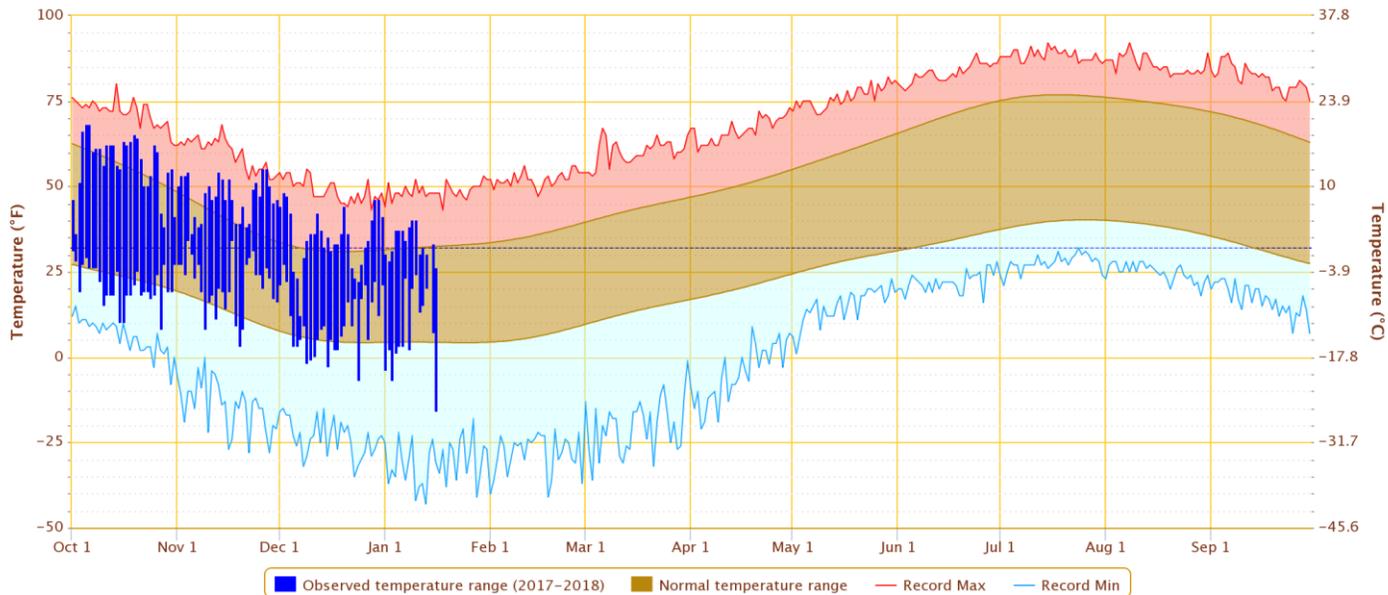
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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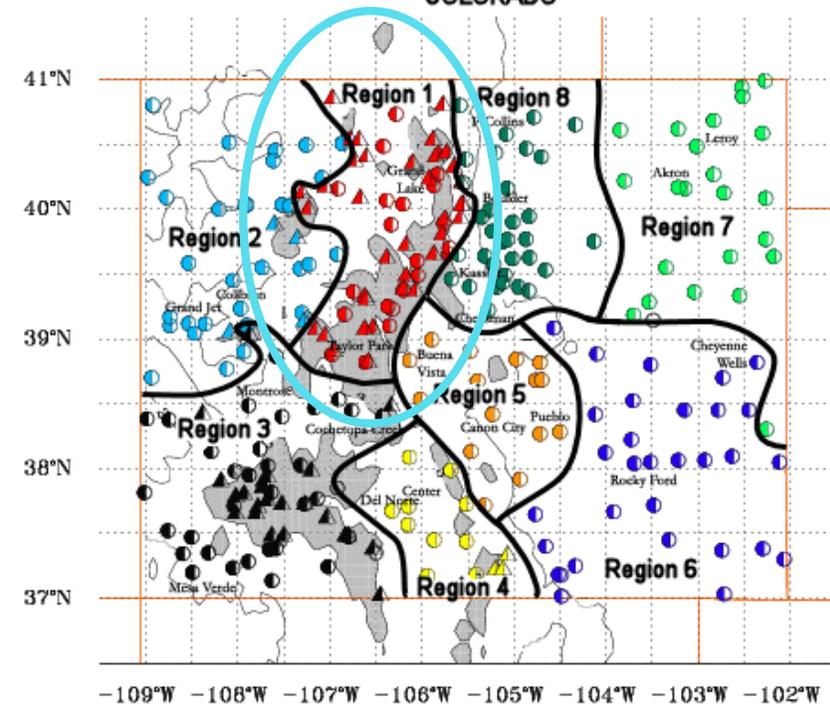
### Daily Temperature Data – GRAND LAKE 1 NW, CO

Period of Record – 1939-10-01 to 2018-01-16. Normals period: 1981-2010. Click and drag to zoom chart.



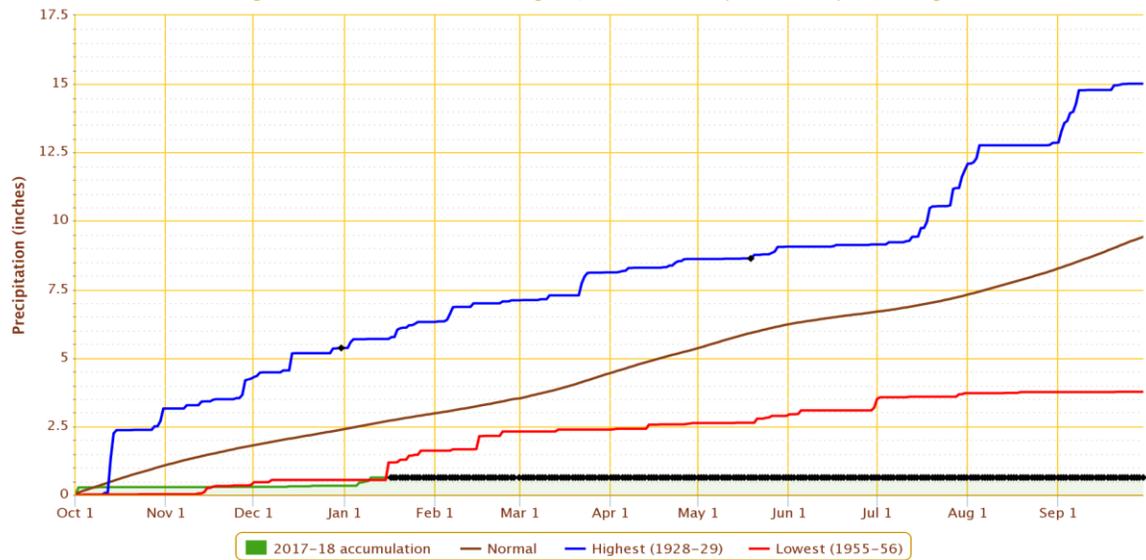
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### COLORADO



### Accumulated Precipitation – GRAND JUNCTION WALKER FIELD, CO

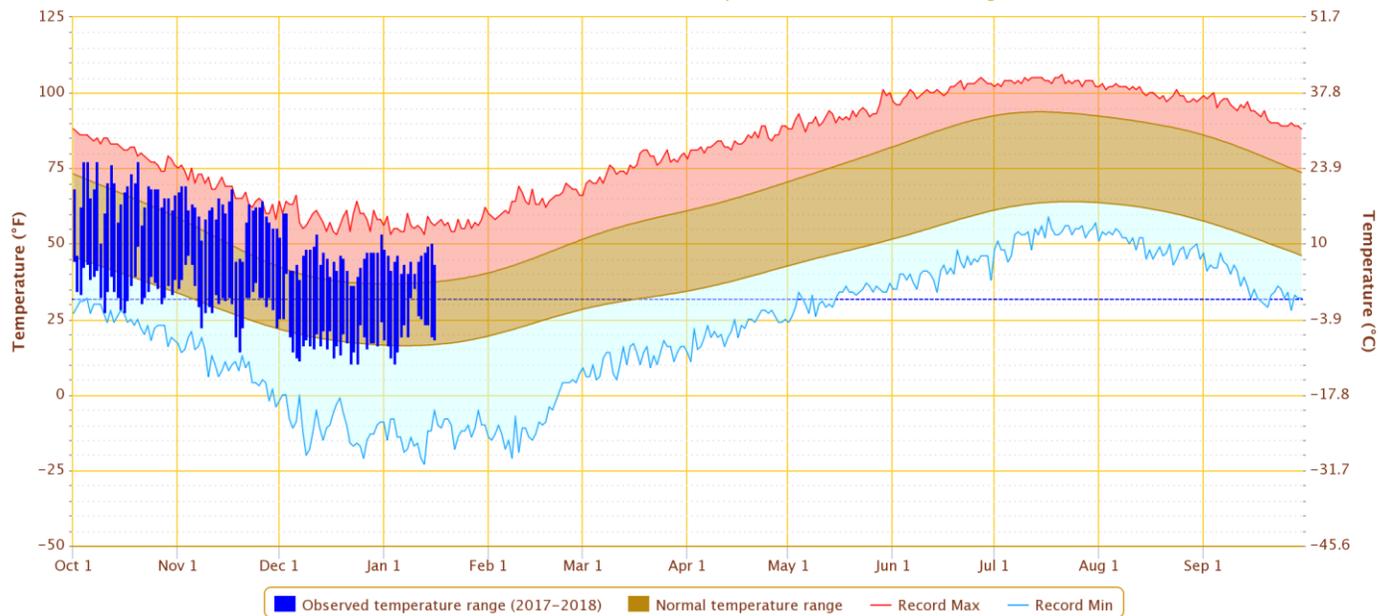
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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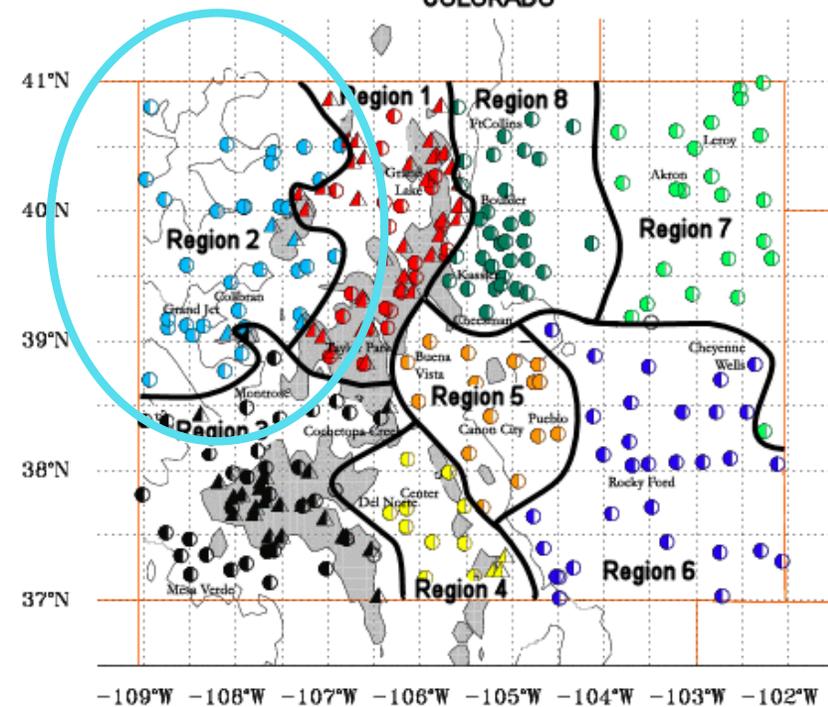
### Daily Temperature Data – GRAND JUNCTION WALKER FIELD, CO

Period of Record – 1900-01-01 to 2018-01-16. Normals period: 1981-2010. Click and drag to zoom chart.



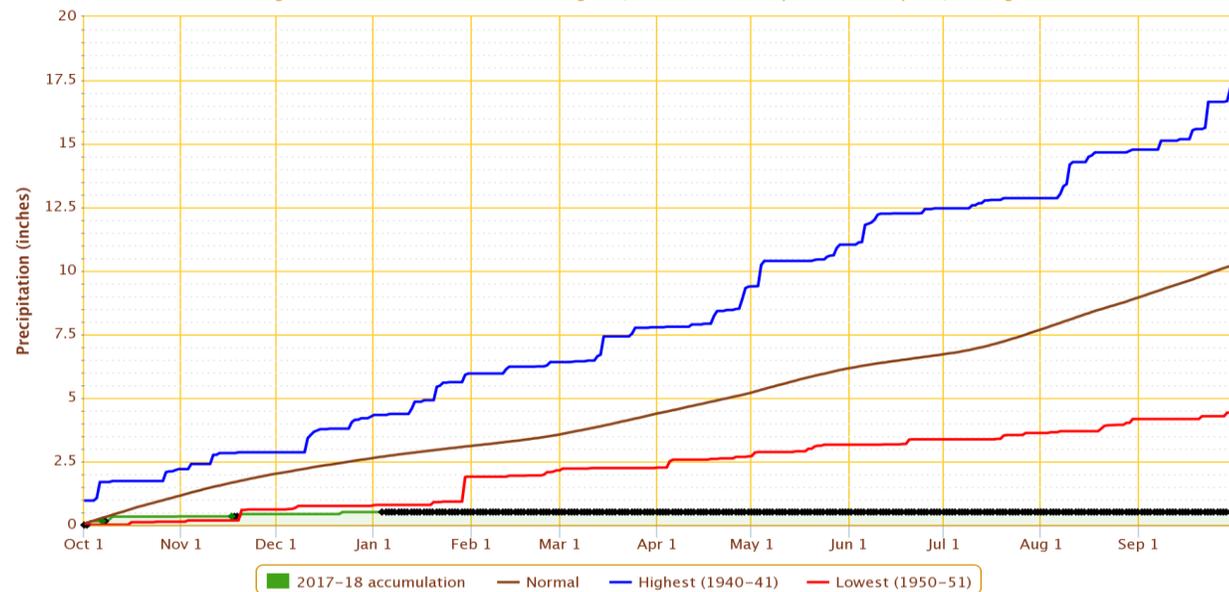
Powered by ACIS

### COLORADO



### Accumulated Precipitation – MONTROSE NO 2, CO

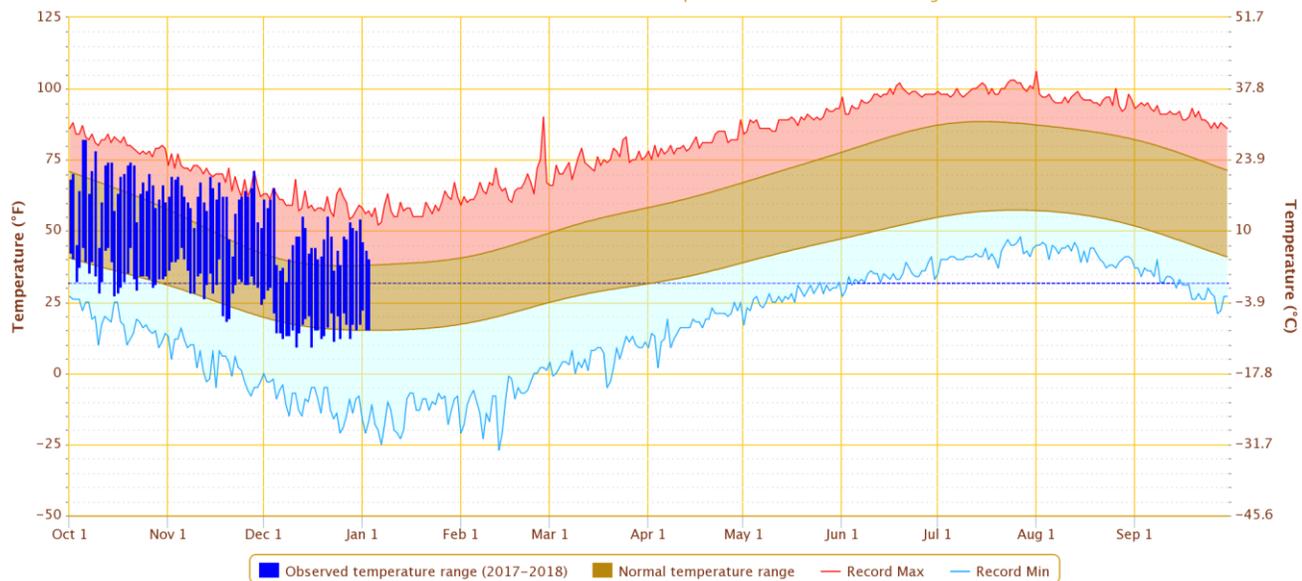
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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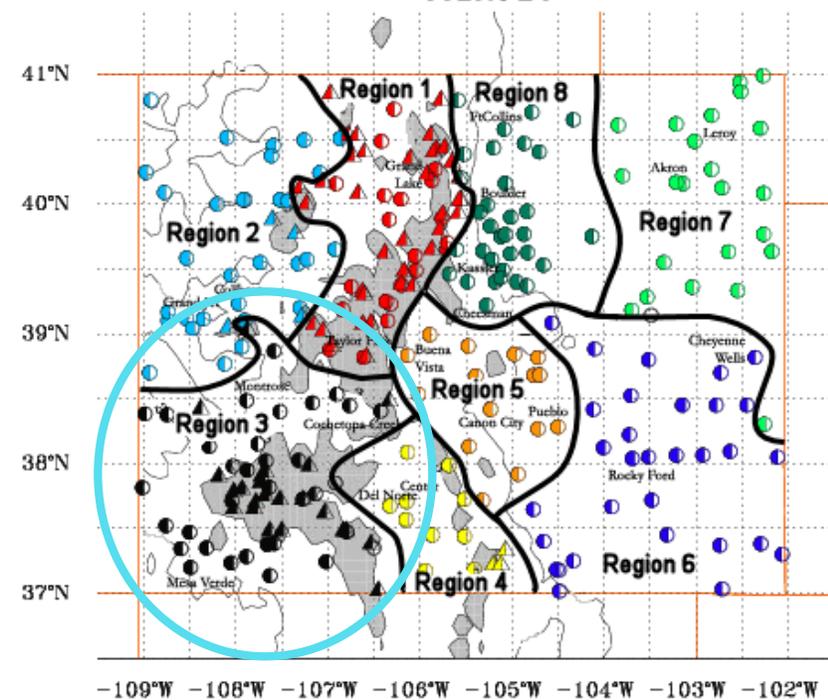
### Daily Temperature Data – MONTROSE NO 2, CO

Period of Record – 1895-10-01 to 2018-01-03. Normals period: 1981-2010. Click and drag to zoom chart.



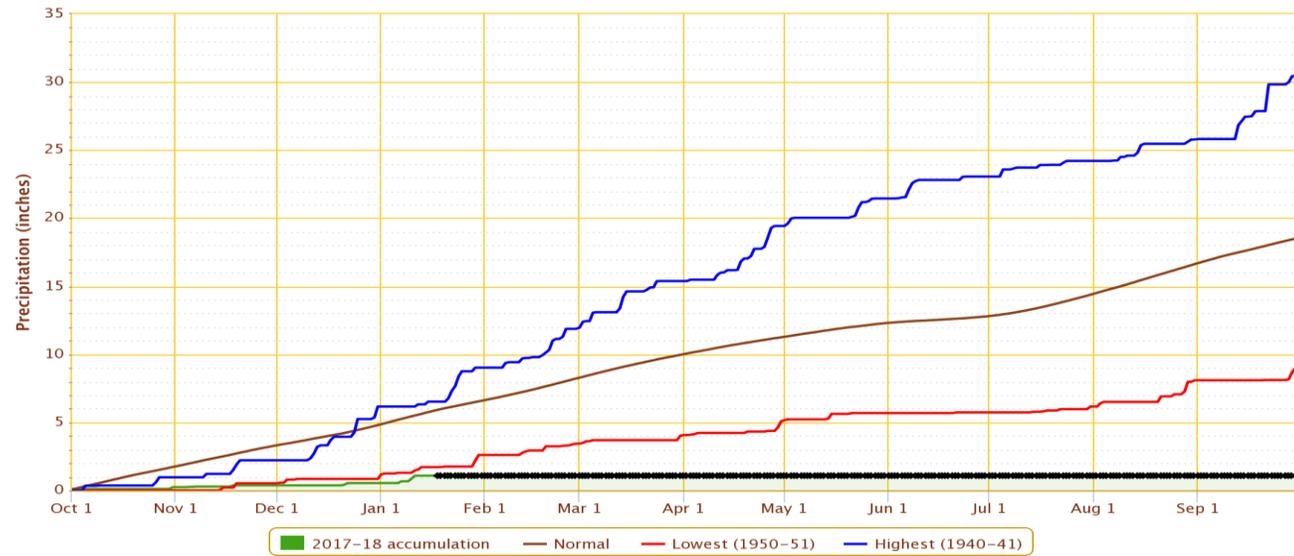
Powered by ACIS

### COLORADO



### Accumulated Precipitation – MESA VERDE NP, CO

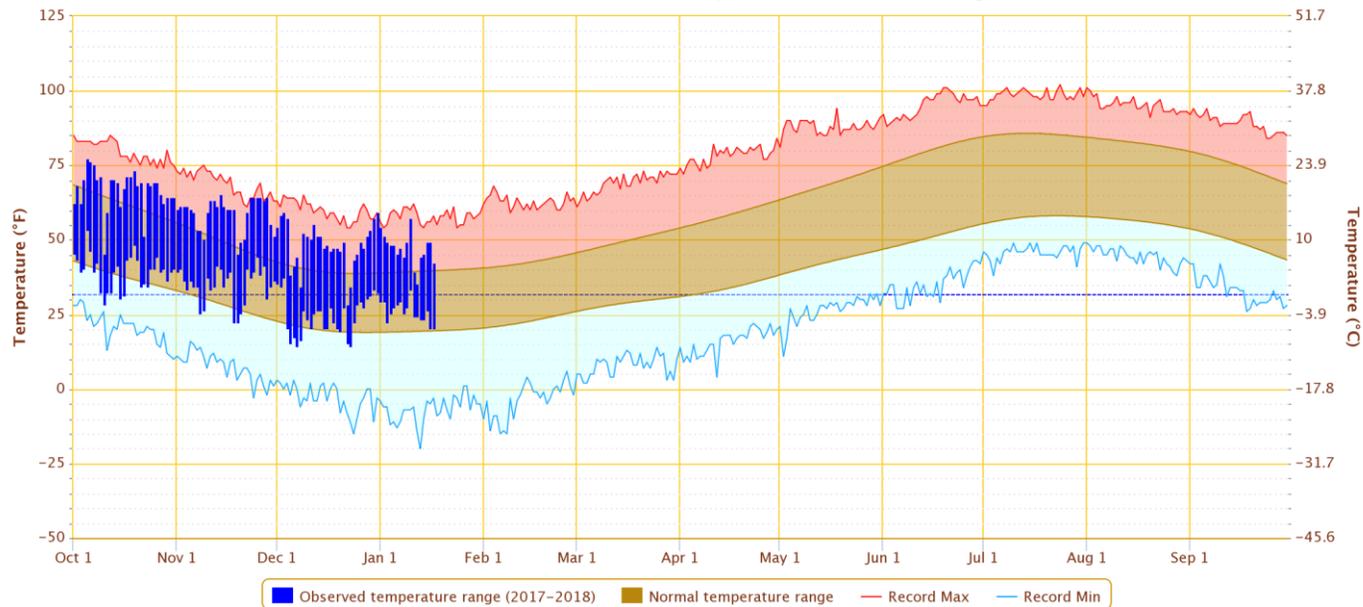
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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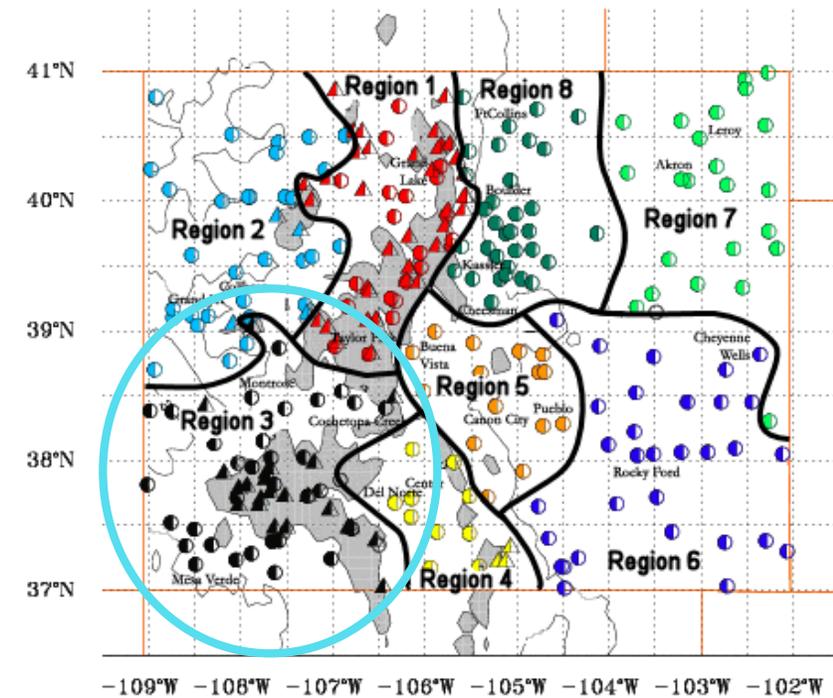
### Daily Temperature Data – MESA VERDE NP, CO

Period of Record – 1922-02-16 to 2018-01-17. Normals period: 1981-2010. Click and drag to zoom chart.



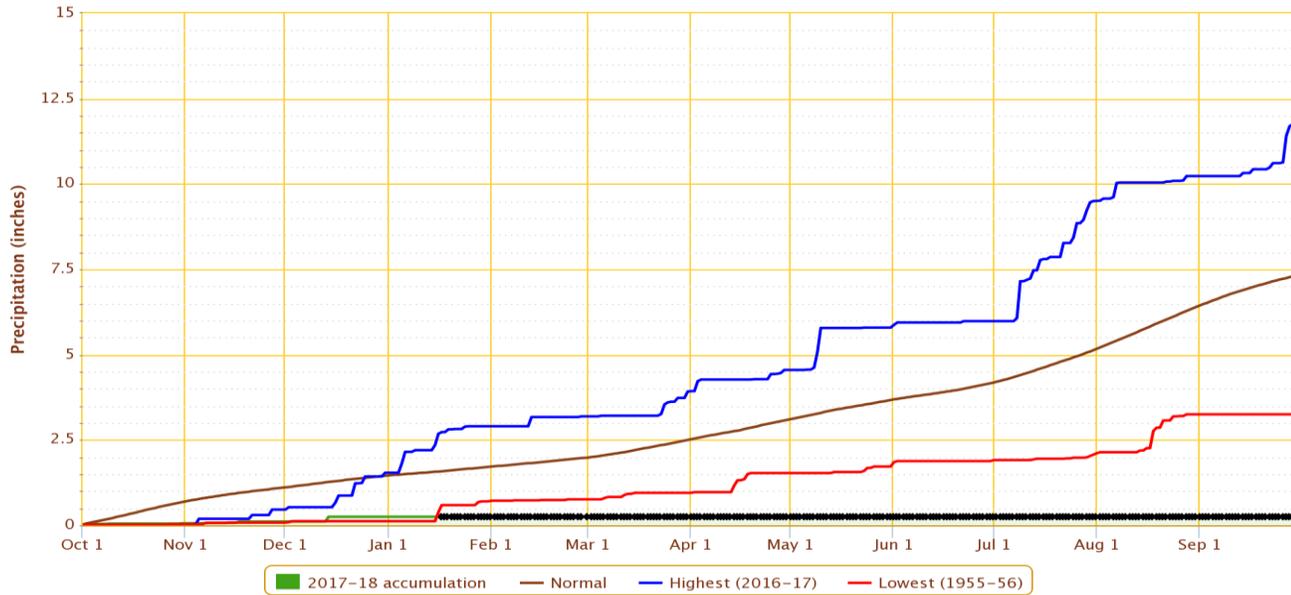
Powered by ACIS

### COLORADO



### Accumulated Precipitation – ALAMOSA SAN LUIS VALLEY REGIONAL AP, CO

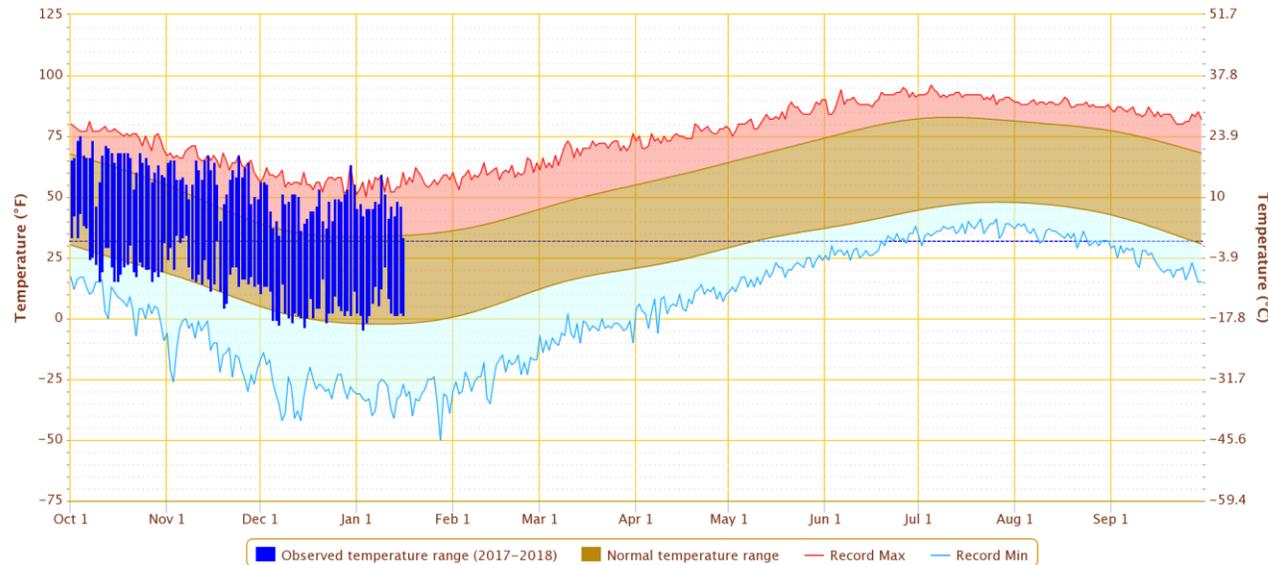
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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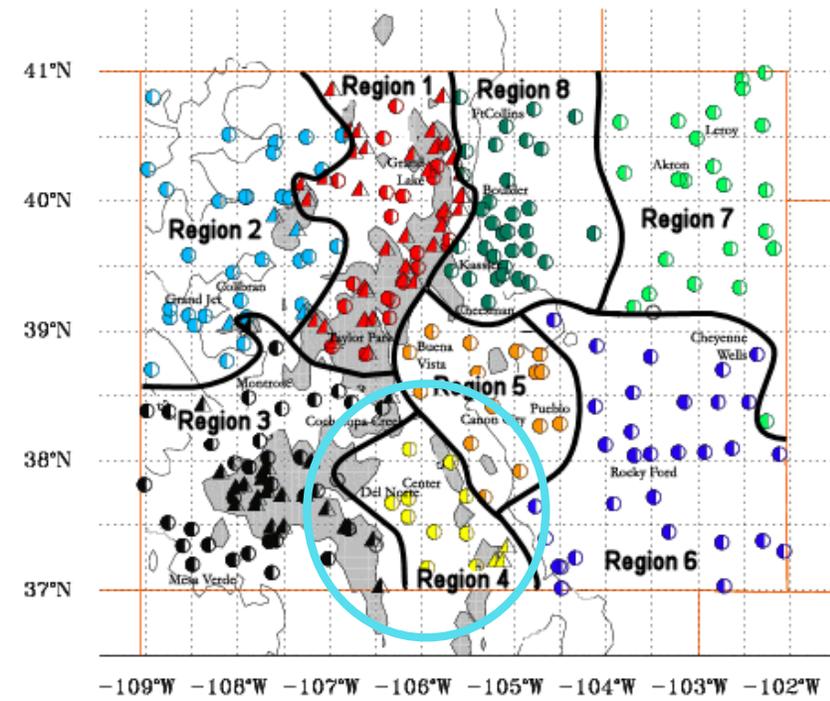
### Daily Temperature Data – ALAMOSA SAN LUIS VALLEY REGIONAL AP, CO

Period of Record – 1948-01-01 to 2018-01-16. Normals period: 1981-2010. Click and drag to zoom chart.



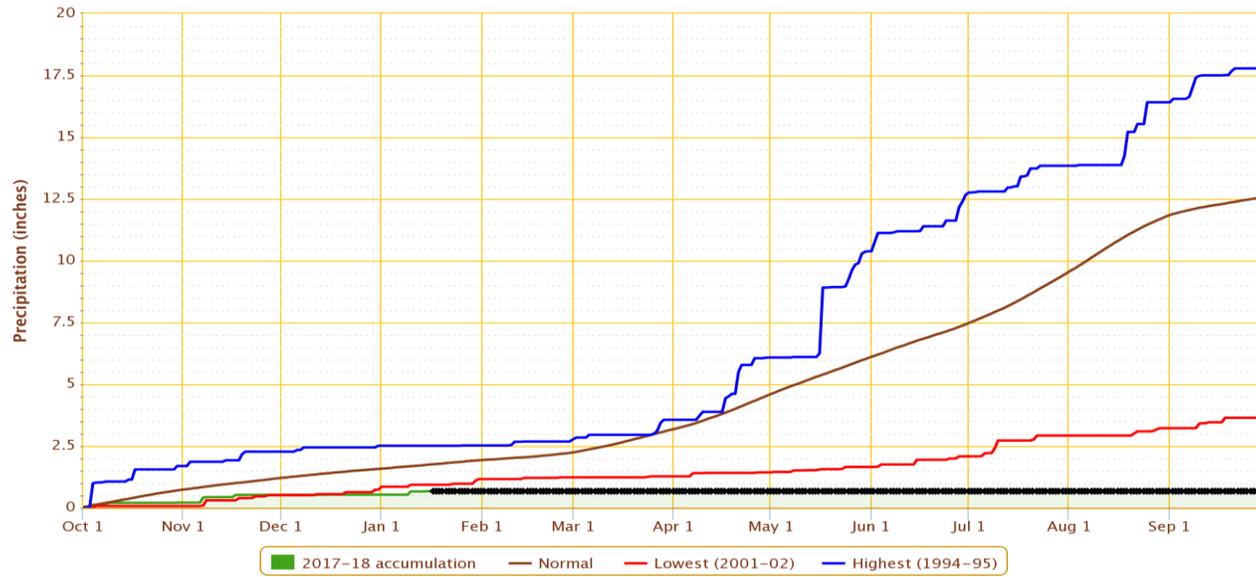
Powered by ACIS

### COLORADO



### Accumulated Precipitation – PUEBLO MEMORIAL AP, CO

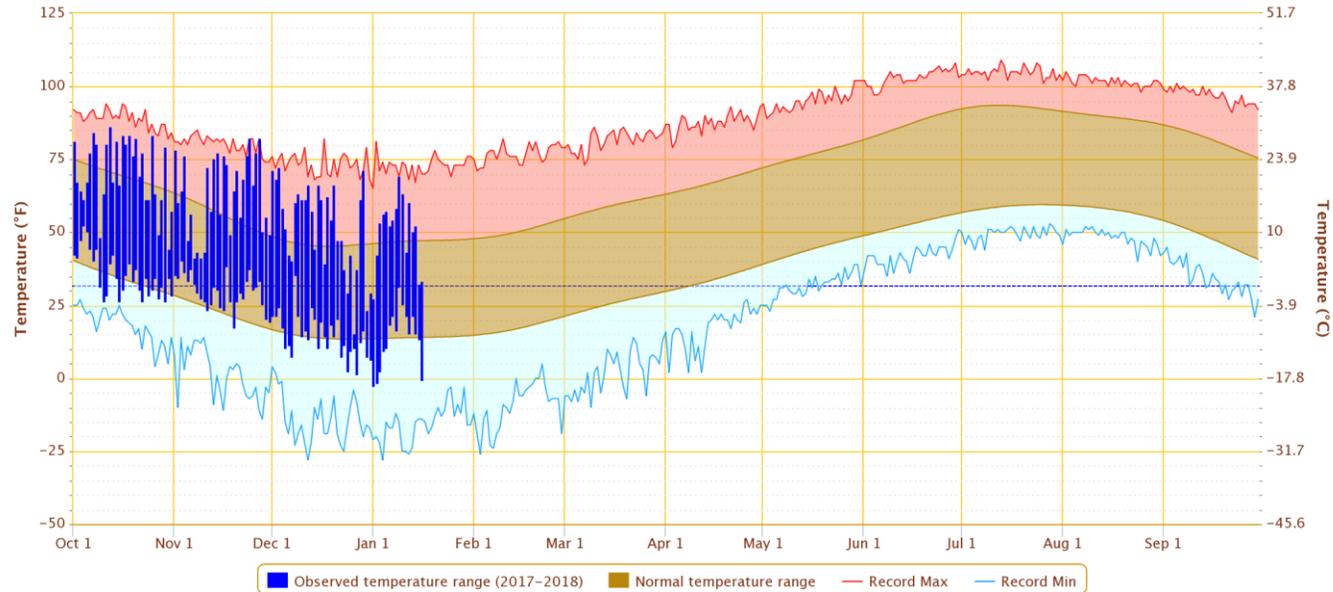
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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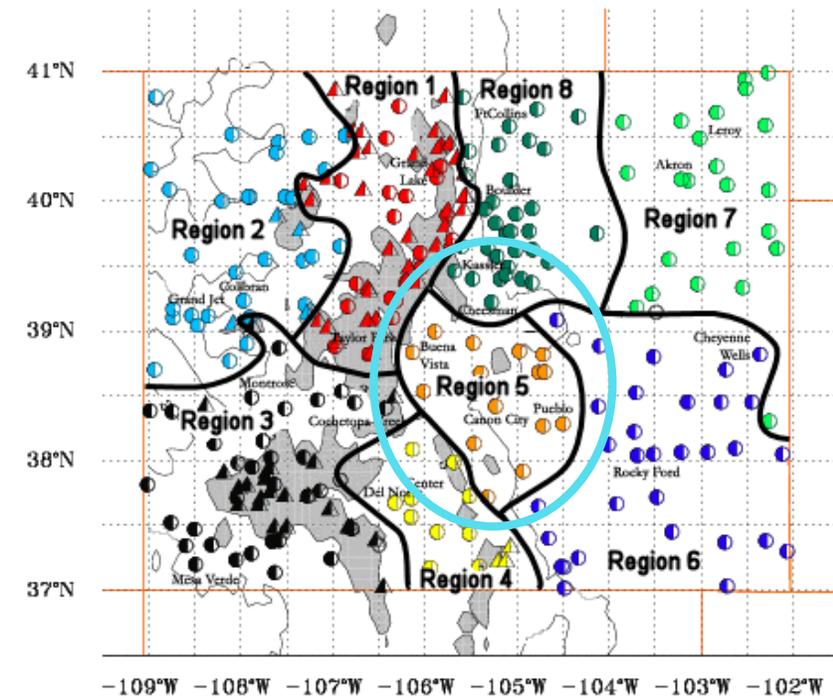
### Daily Temperature Data – PUEBLO MEMORIAL AP, CO

Period of Record – 1954-06-16 to 2018-01-16. Normals period: 1981-2010. Click and drag to zoom chart.



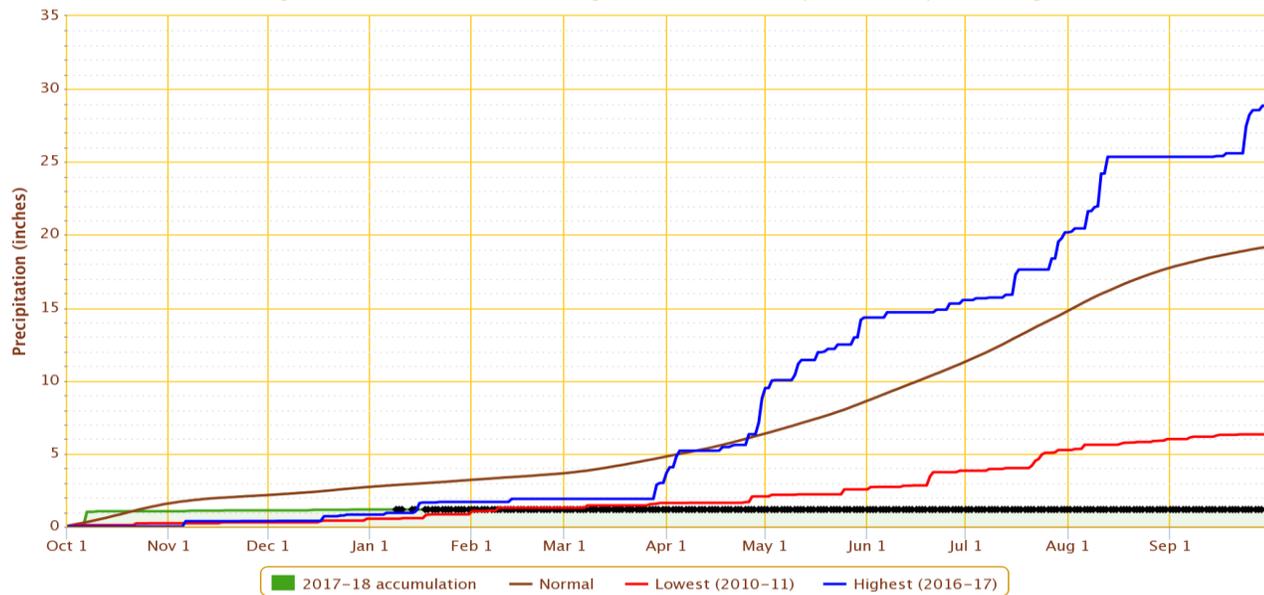
Powered by ACIS

### COLORADO



### Accumulated Precipitation – WALSH 1 W, CO

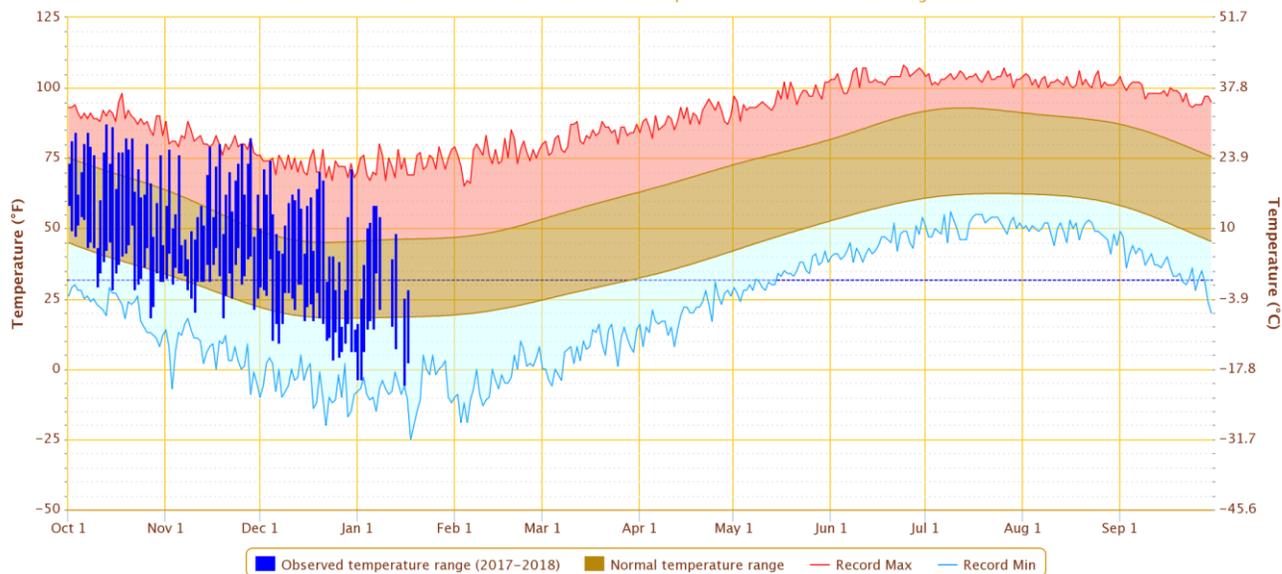
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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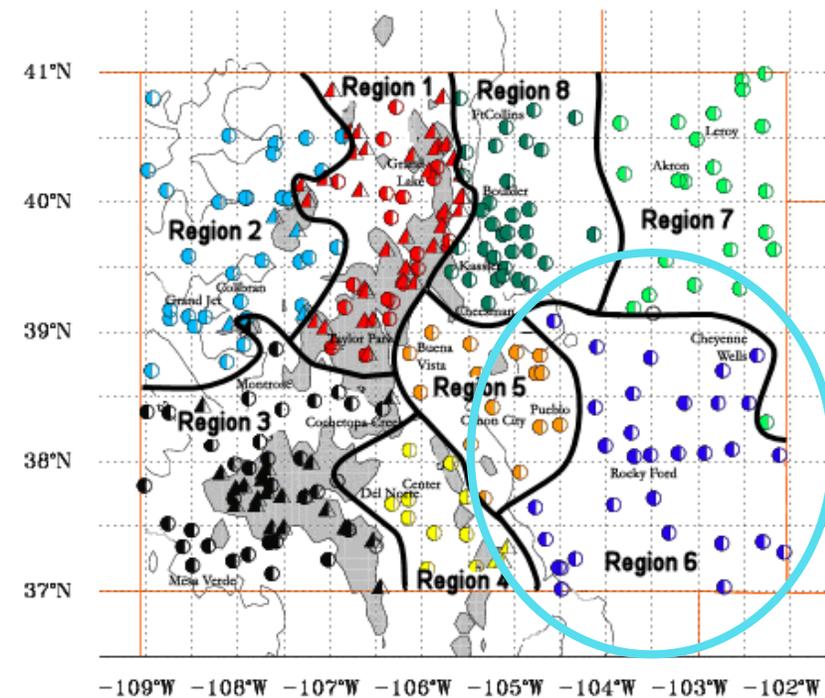
### Daily Temperature Data – WALSH 1 W, CO

Period of Record – 1967-09-01 to 2018-01-17. Normals period: 1981-2010. Click and drag to zoom chart.



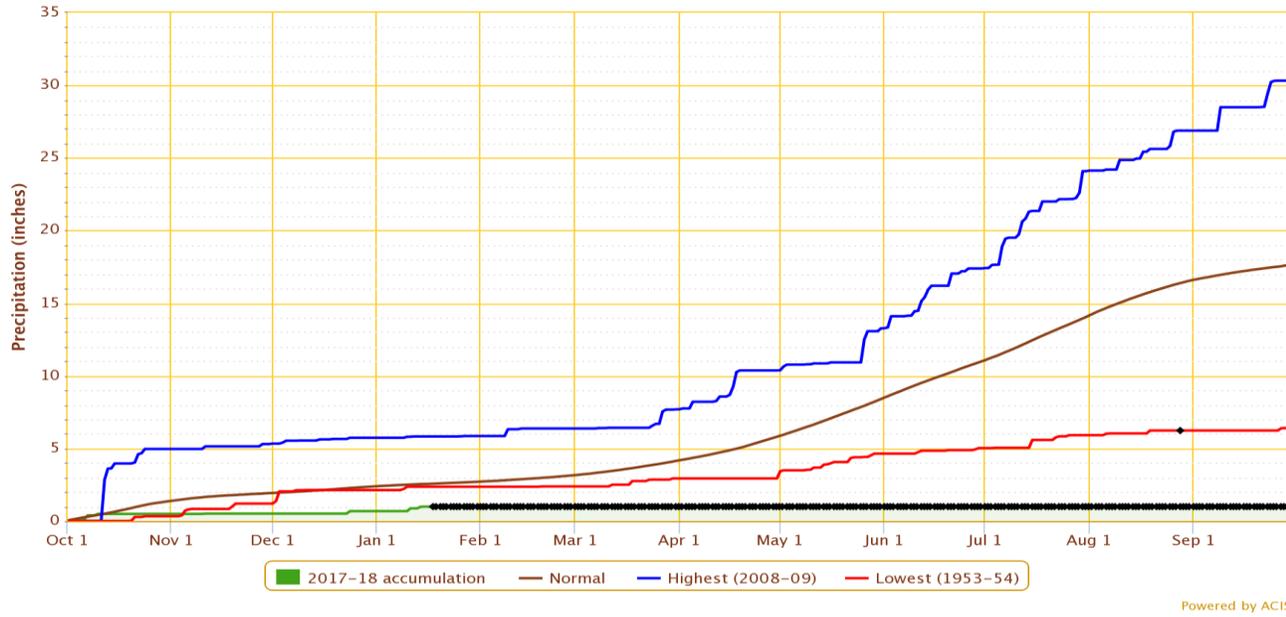
Powered by ACIS

### COLORADO



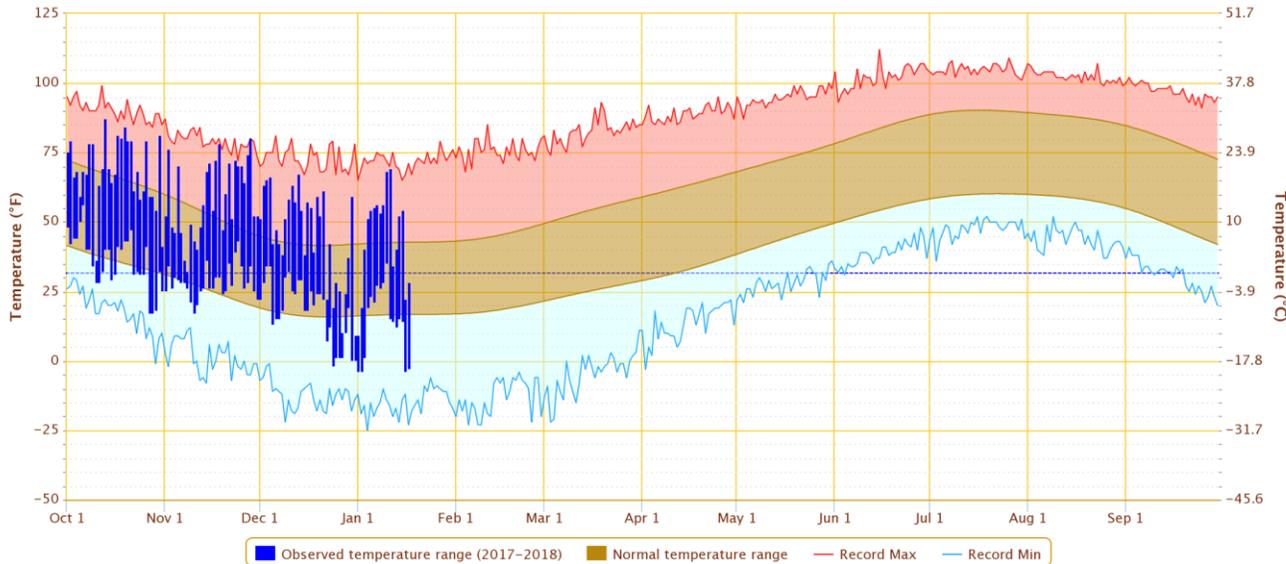
### Accumulated Precipitation – BURLINGTON, CO

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values

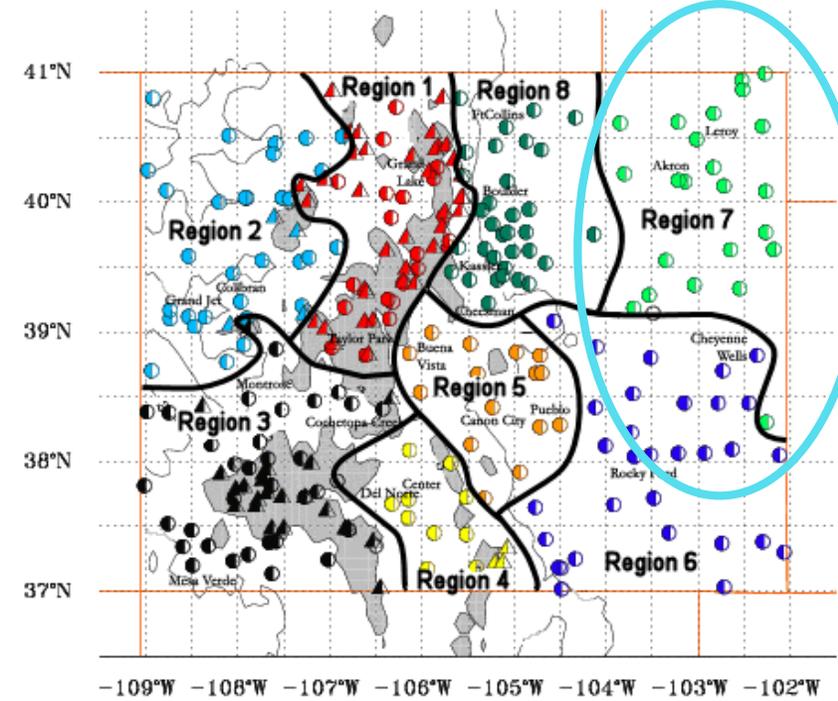


### Daily Temperature Data – BURLINGTON, CO

Period of Record - 1903-12-01 to 2018-01-17. Normals period: 1981-2010. Click and drag to zoom chart.

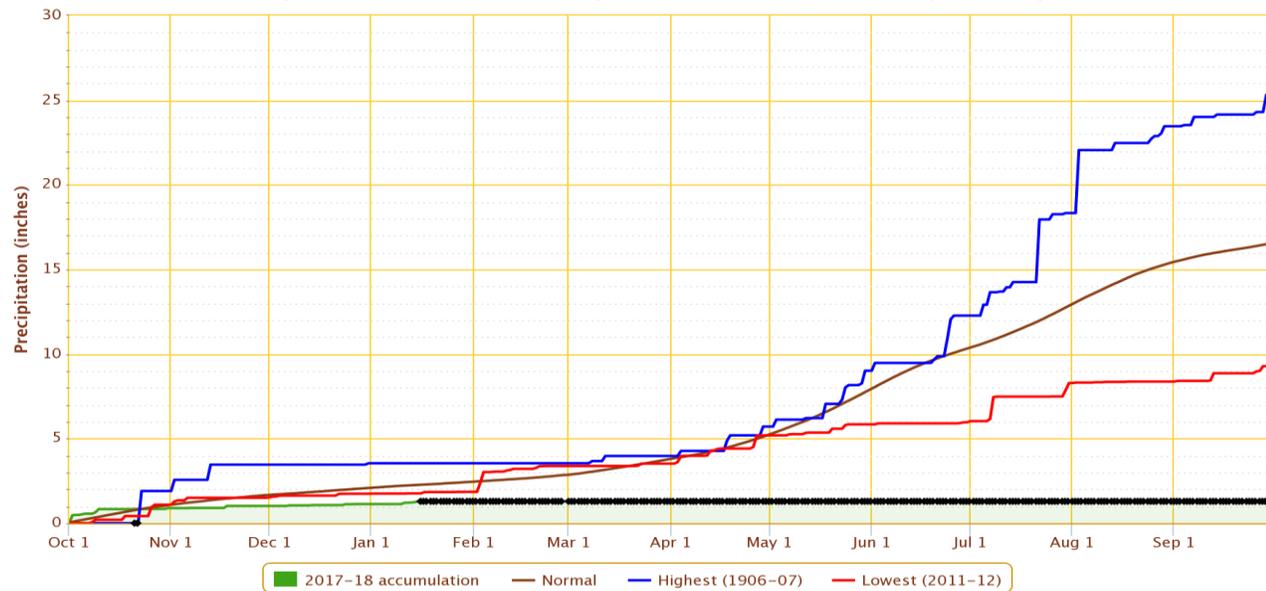


### COLORADO



### Accumulated Precipitation – AKRON 4 E, CO

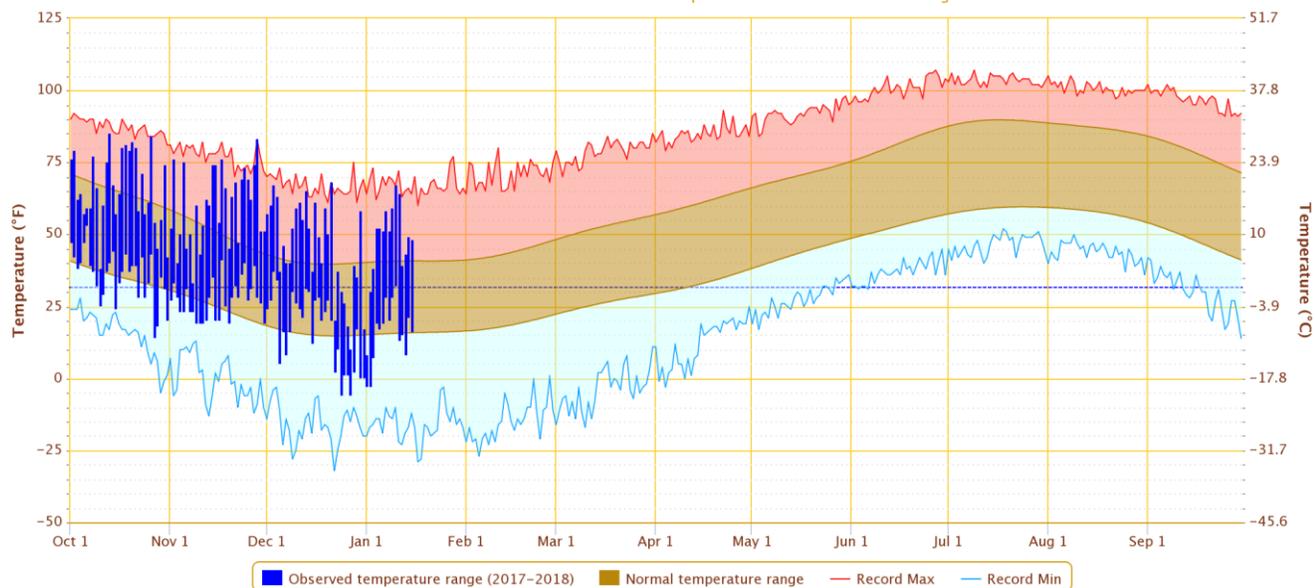
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



Powered by ACIS

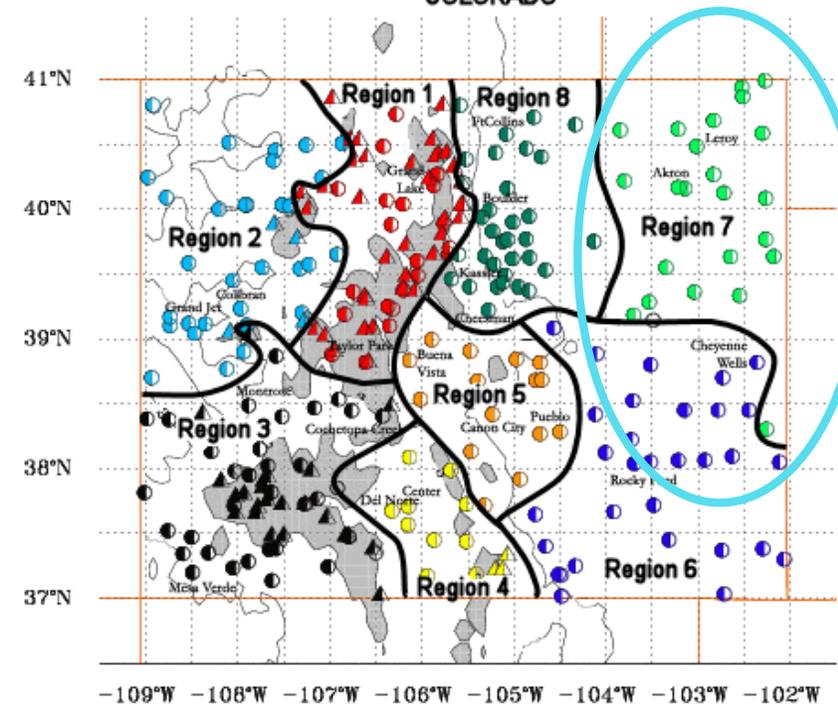
### Daily Temperature Data – AKRON 4 E, CO

Period of Record – 1893-06-01 to 2018-01-15. Normals period: 1981-2010. Click and drag to zoom chart.



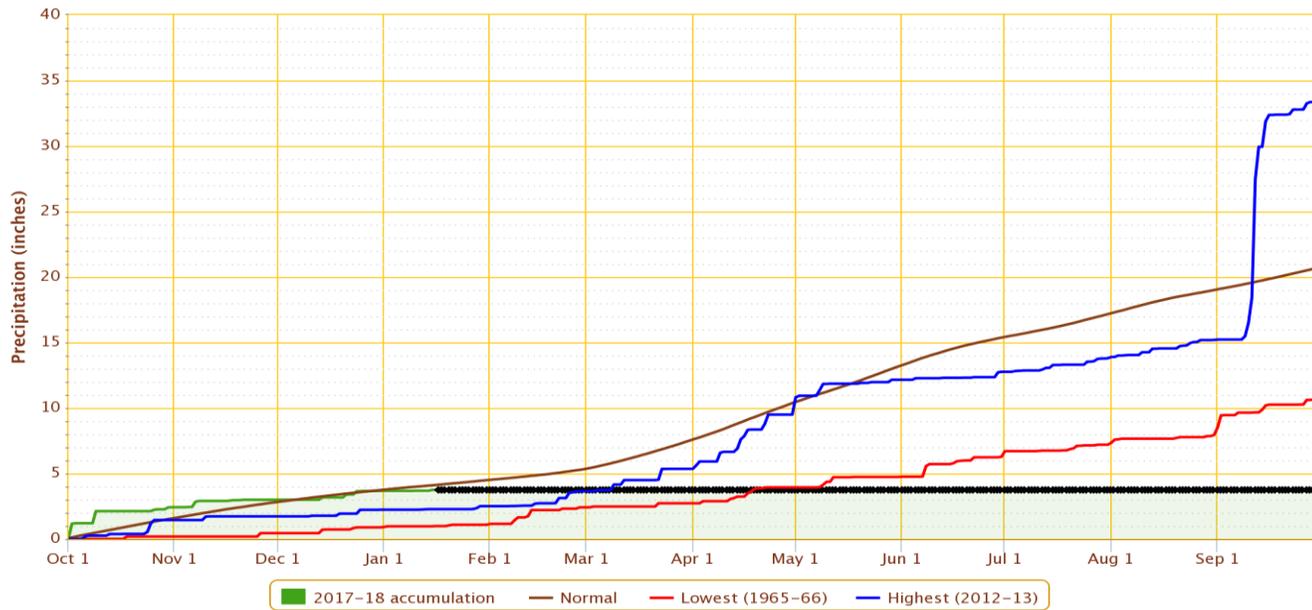
Powered by ACIS

### COLORADO



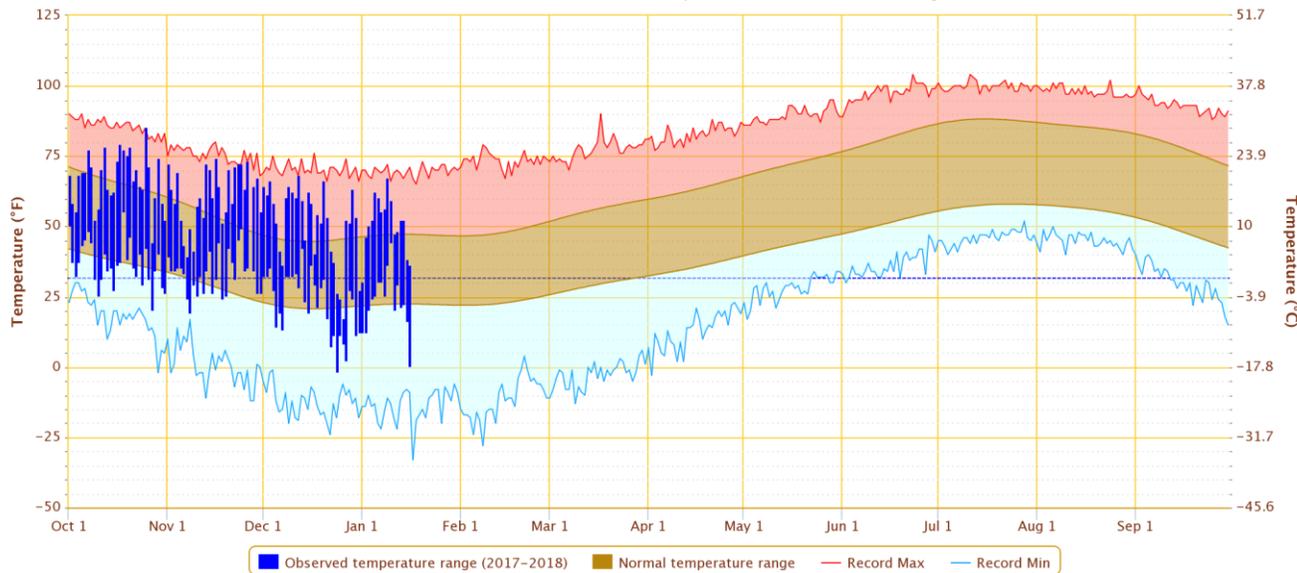
### Accumulated Precipitation – BOULDER, CO

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



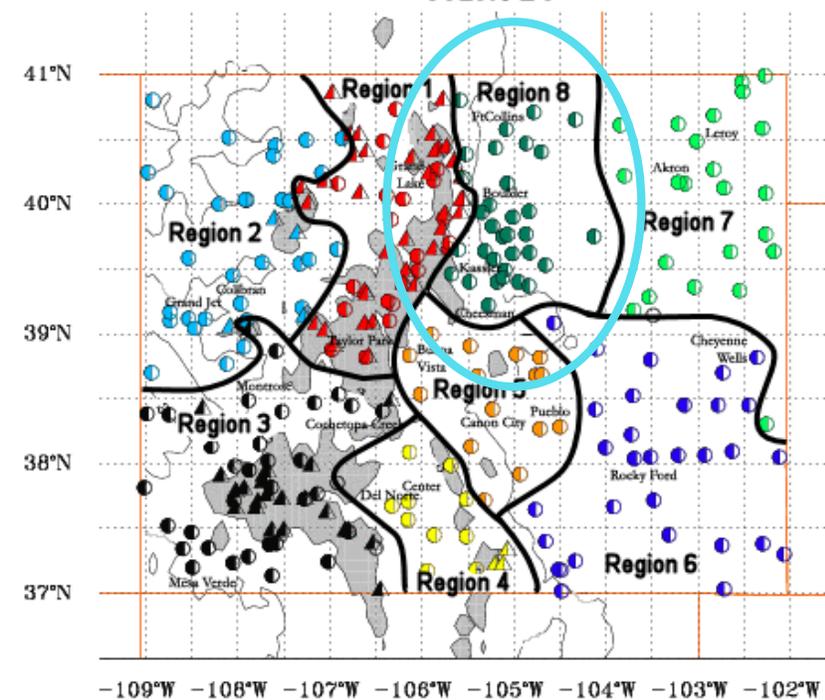
### Daily Temperature Data – BOULDER, CO

Period of Record – 1893-10-01 to 2018-01-16. Normals period: 1981-2010. Click and drag to zoom chart.



Powered by ACIS

### COLORADO

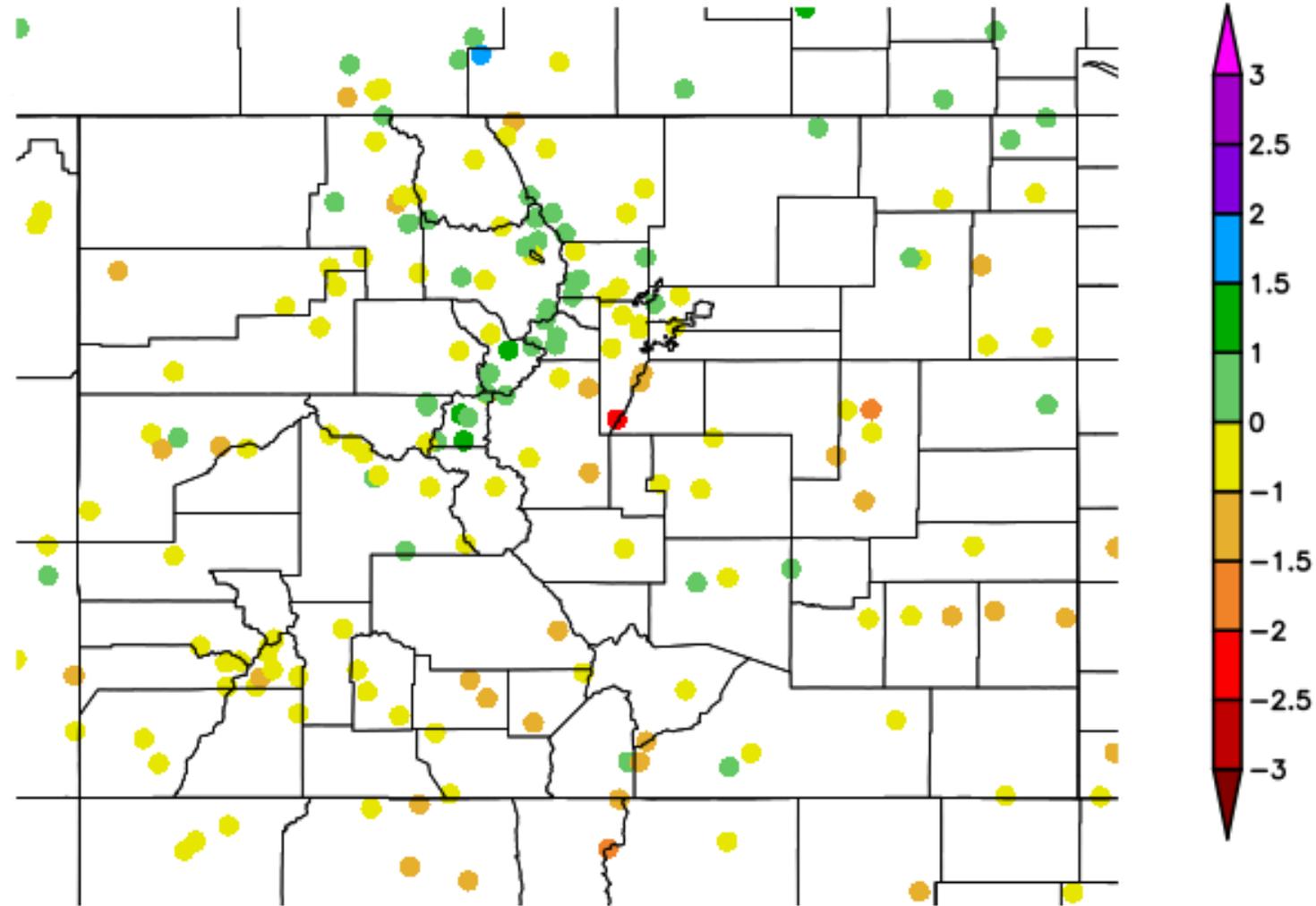




## Colorado Drought



# 30 Day SPI 12/18/2017 - 1/16/2018

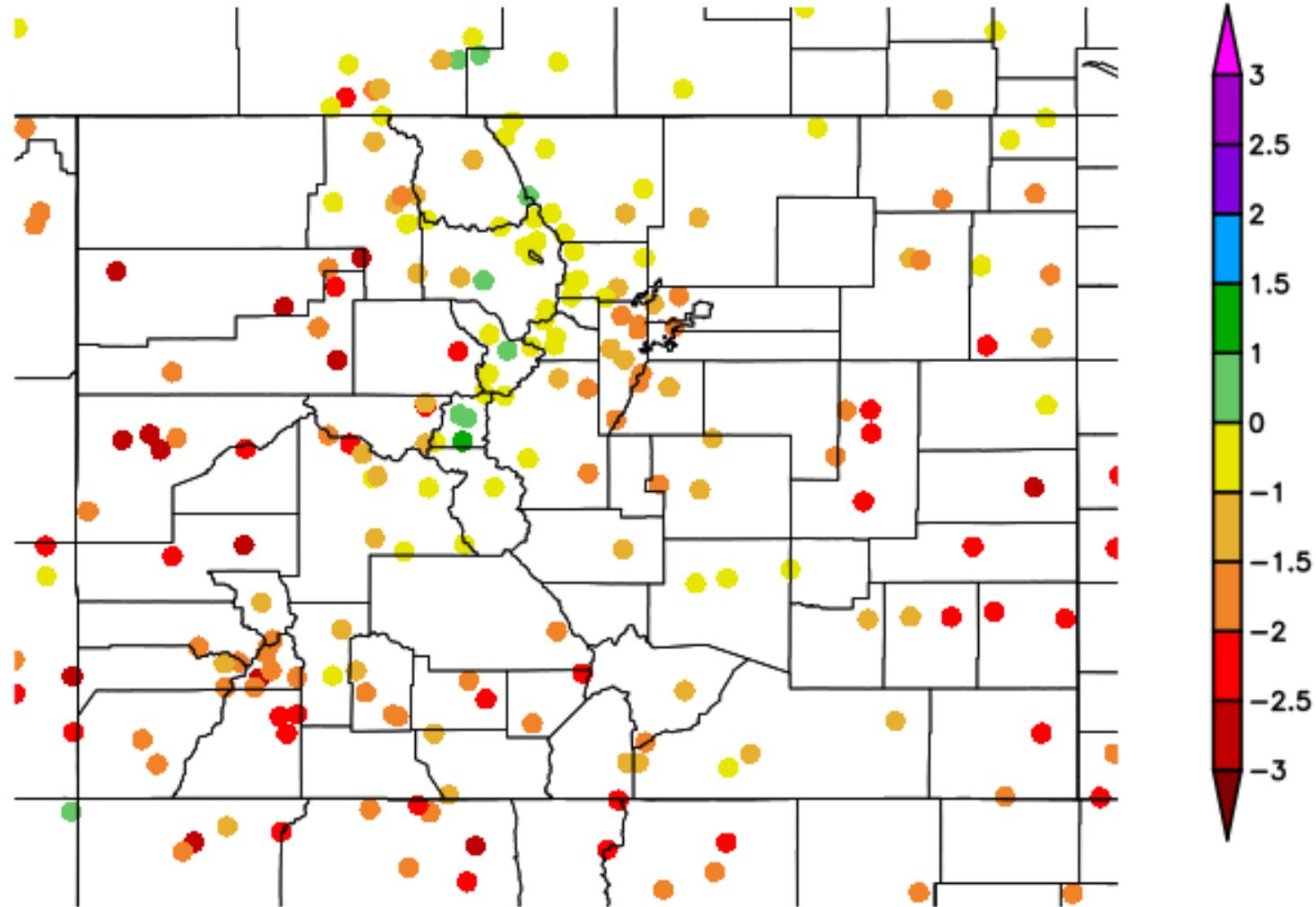


Generated 1/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers



# 90 Day SPI 10/19/2017 - 1/16/2018

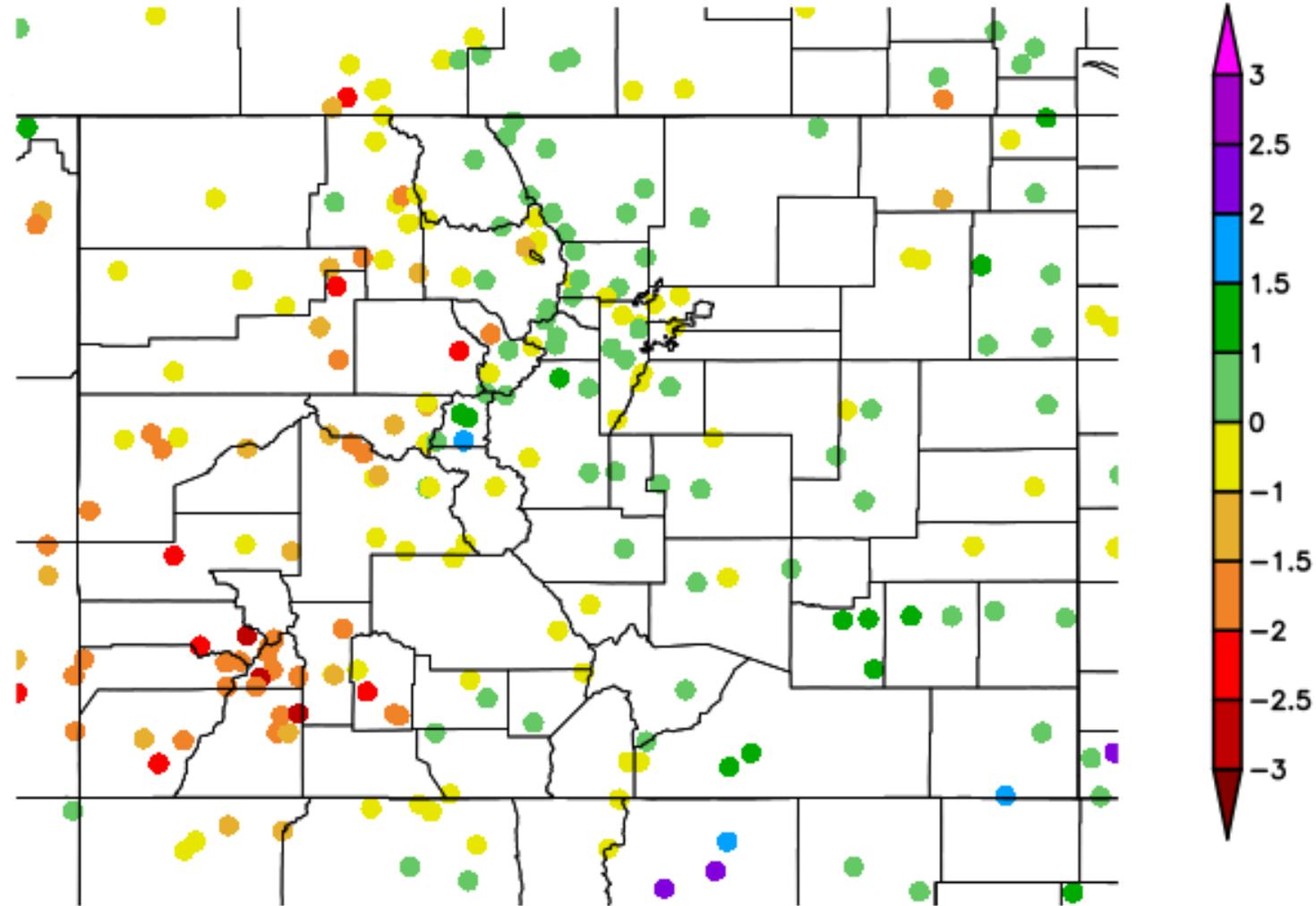


Generated 1/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers



# 6 Month SPI 7/17/2017 - 1/16/2018

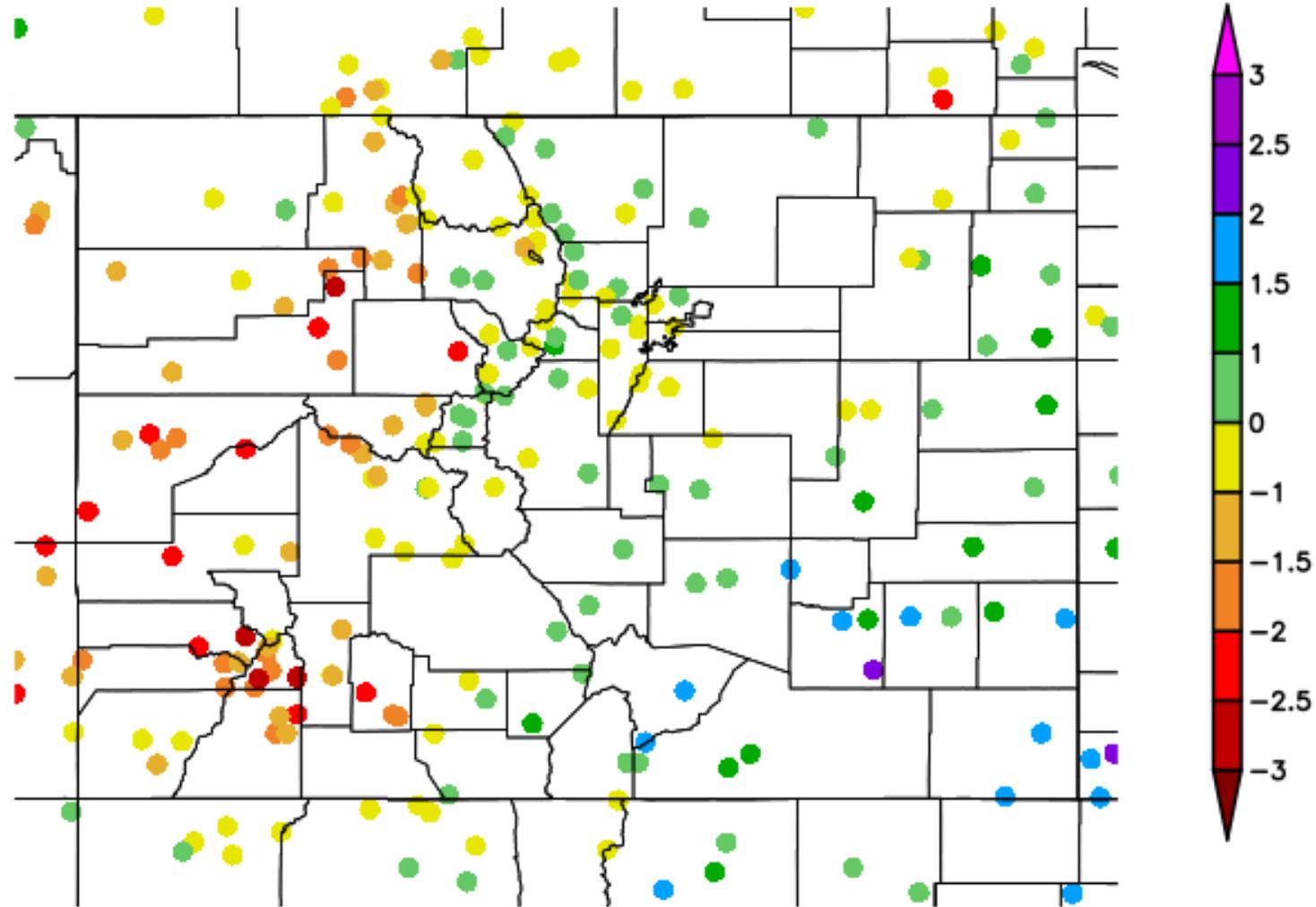


Generated 1/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers



# 12 Month SPI 1/17/2017 - 1/16/2018



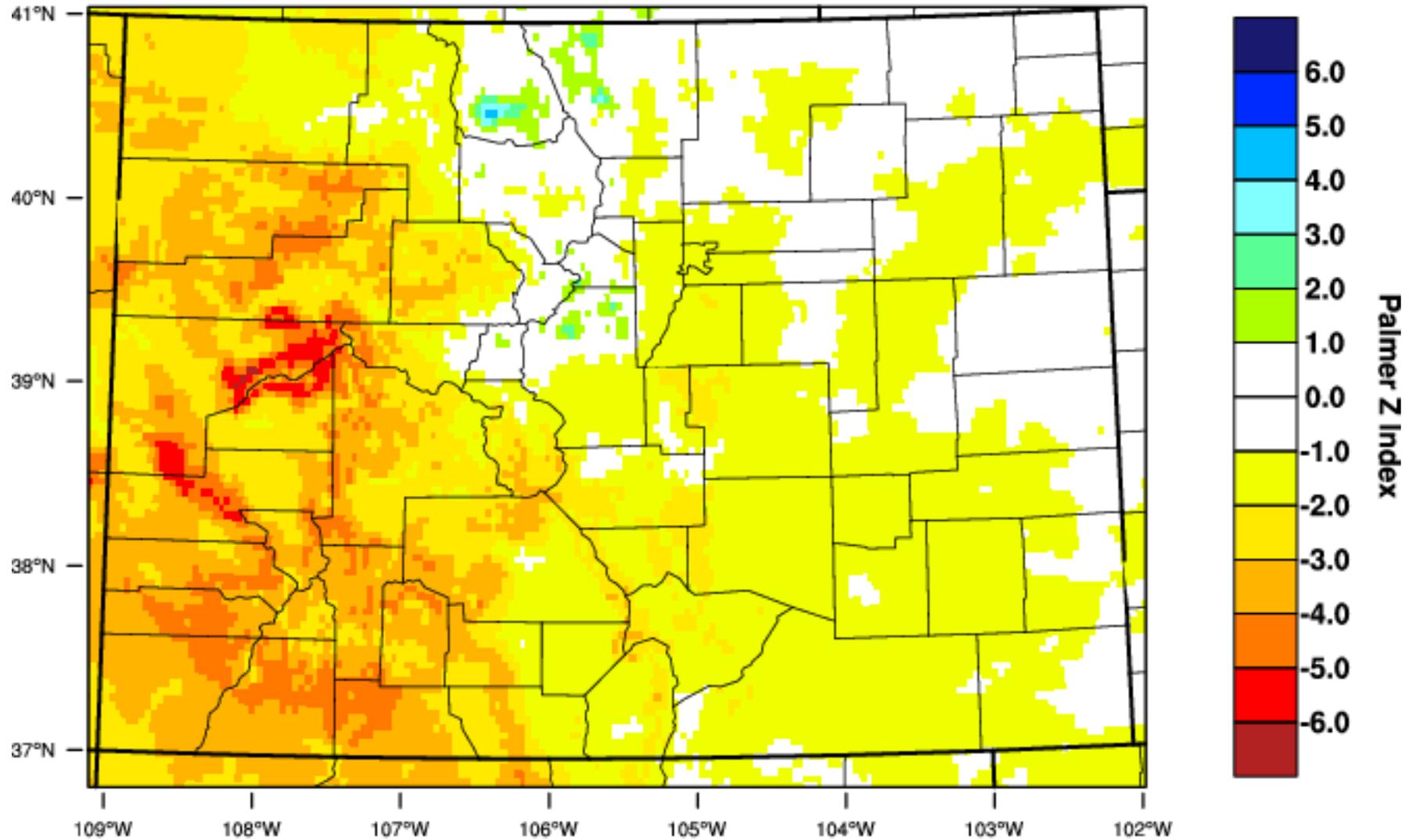
Generated 1/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers



# Colorado - Palmer Z-Index

December 2017

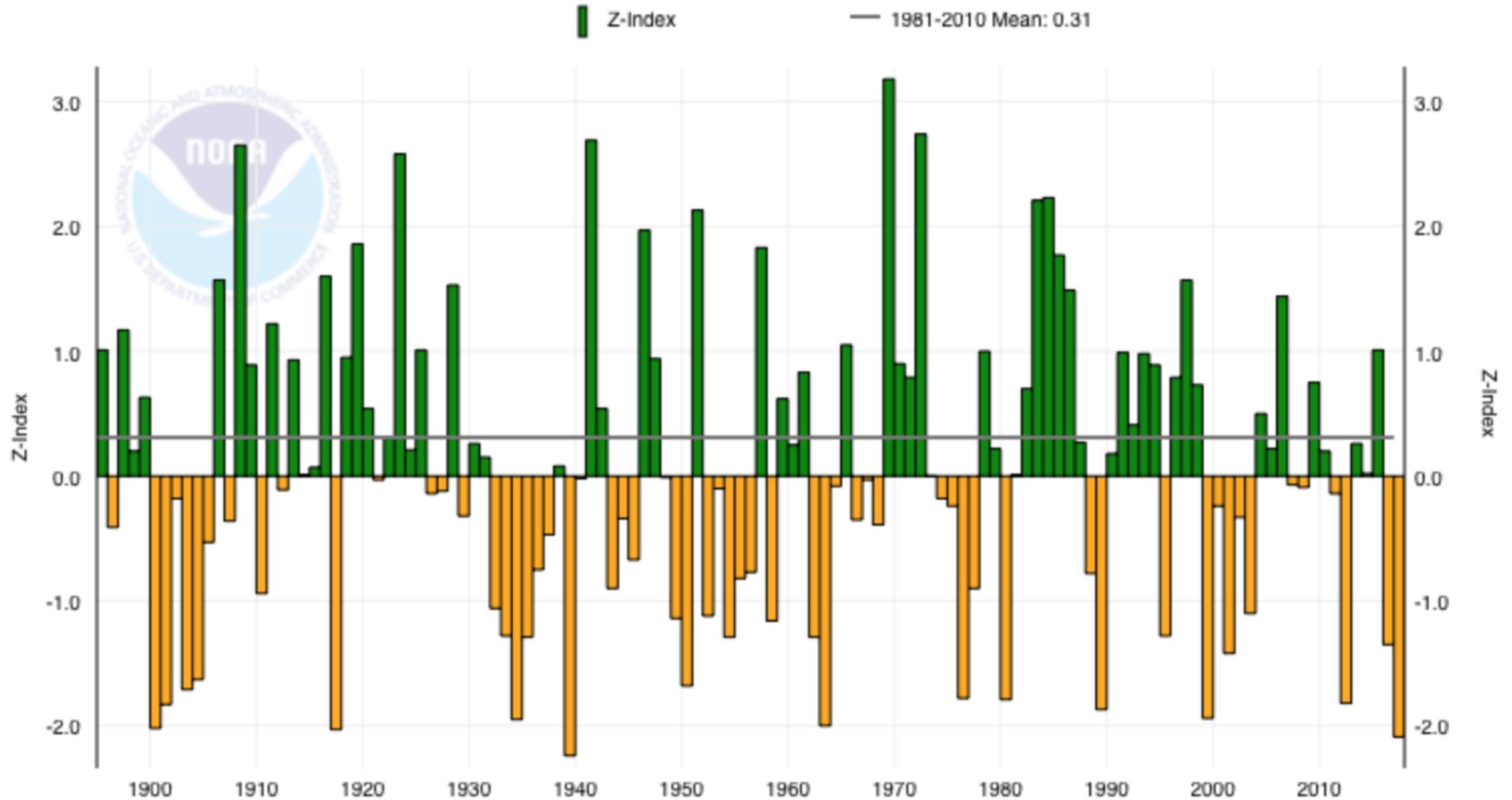


WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 2 JAN 2018



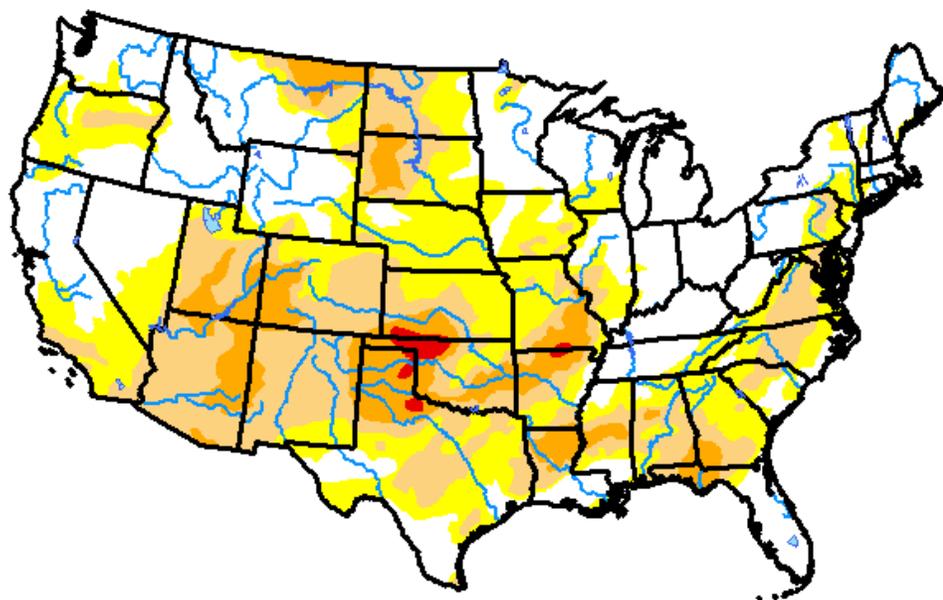
2<sup>nd</sup> lowest in 123-year record - -2.40 below 0.31 average

### Colorado, Palmer Z-Index, October-December



# U.S. Drought Monitor Continental U.S. (CONUS)

**January 16, 2018**  
(Released Thursday, Jan. 18, 2018)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	39.07	60.93	33.04	10.03	0.64	0.00
<b>Last Week</b> <i>01-09-2018</i>	42.20	57.80	32.07	8.70	0.46	0.00
<b>3 Months Ago</b> <i>10-17-2017</i>	62.25	37.75	12.48	2.98	0.82	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	44.46	55.54	27.70	7.46	0.83	0.00
<b>Start of Water Year</b> <i>09-26-2017</i>	63.07	36.93	13.81	4.99	2.36	0.87
<b>One Year Ago</b> <i>01-17-2017</i>	60.50	39.50	19.26	6.77	2.39	0.11

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.*

Author:

Brian Fuchs  
National Drought Mitigation Center

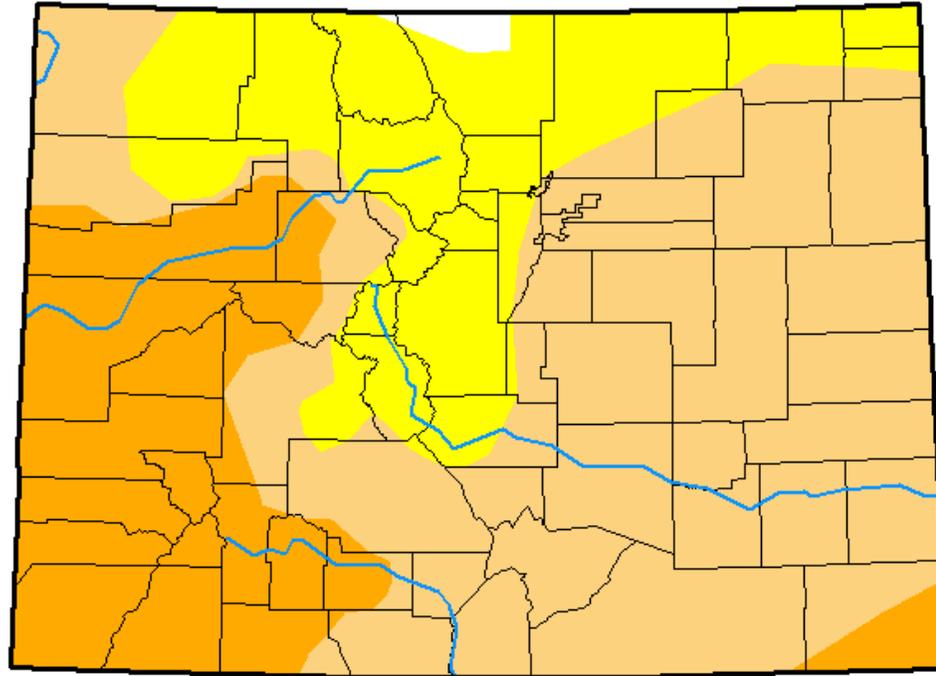


<http://droughtmonitor.unl.edu/>



# U.S. Drought Monitor Colorado

**January 16, 2018**  
(Released Thursday, Jan. 18, 2018)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.59	99.41	75.90	23.23	0.00	0.00
<b>Last Week</b> <i>01-09-2018</i>	0.59	99.41	75.90	22.02	0.00	0.00
<b>3 Months Ago</b> <i>10-17-2017</i>	71.71	28.29	1.12	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	6.57	93.43	33.53	7.27	0.00	0.00
<b>Start of Water Year</b> <i>09-26-2017</i>	67.63	32.37	3.72	0.00	0.00	0.00
<b>One Year Ago</b> <i>01-17-2017</i>	44.17	55.83	35.34	0.75	0.00	0.00

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.*

Author:

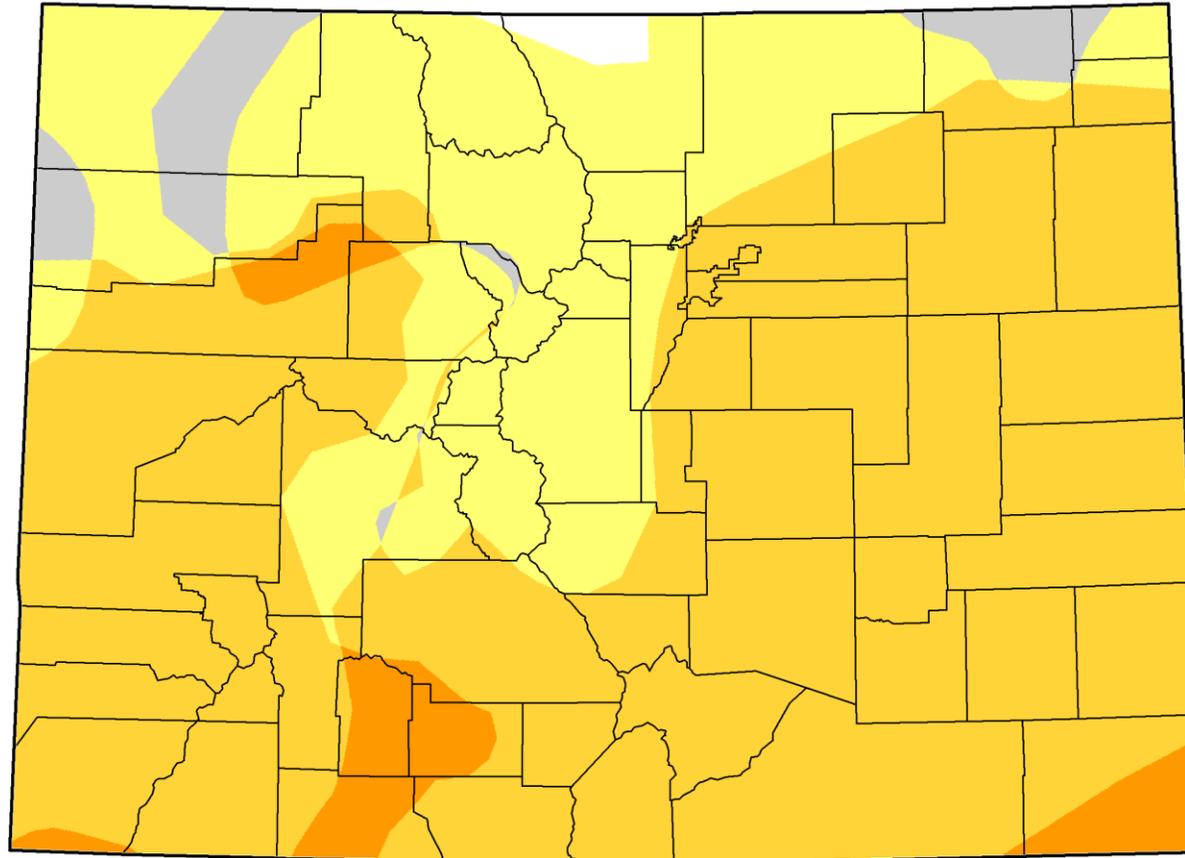
Brian Fuchs  
National Drought Mitigation Center



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



# U.S. Drought Monitor Class Change - Colorado 3 Months

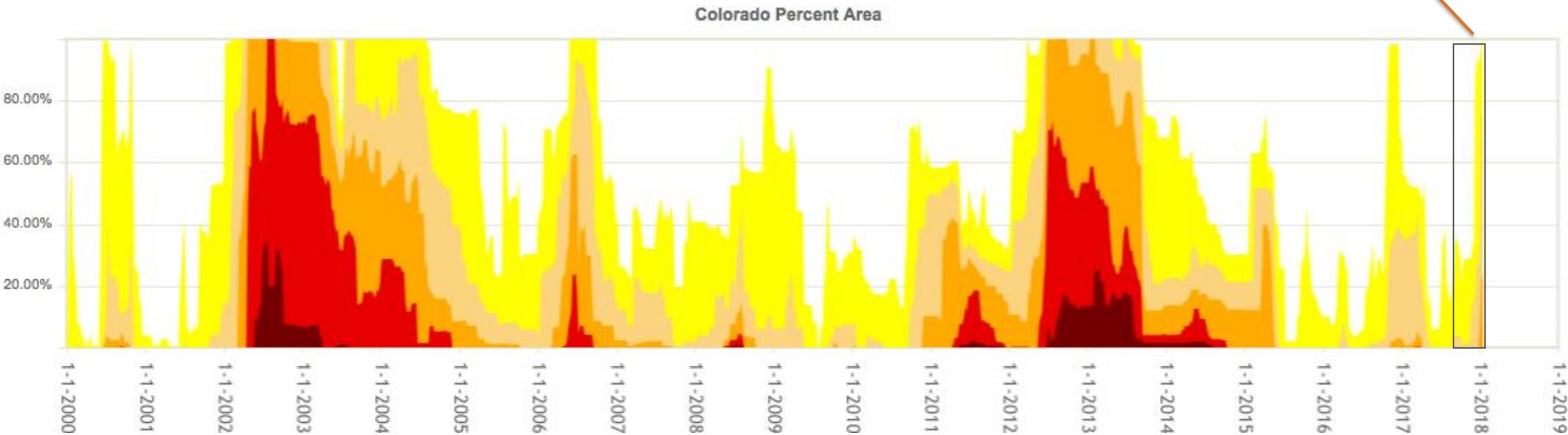
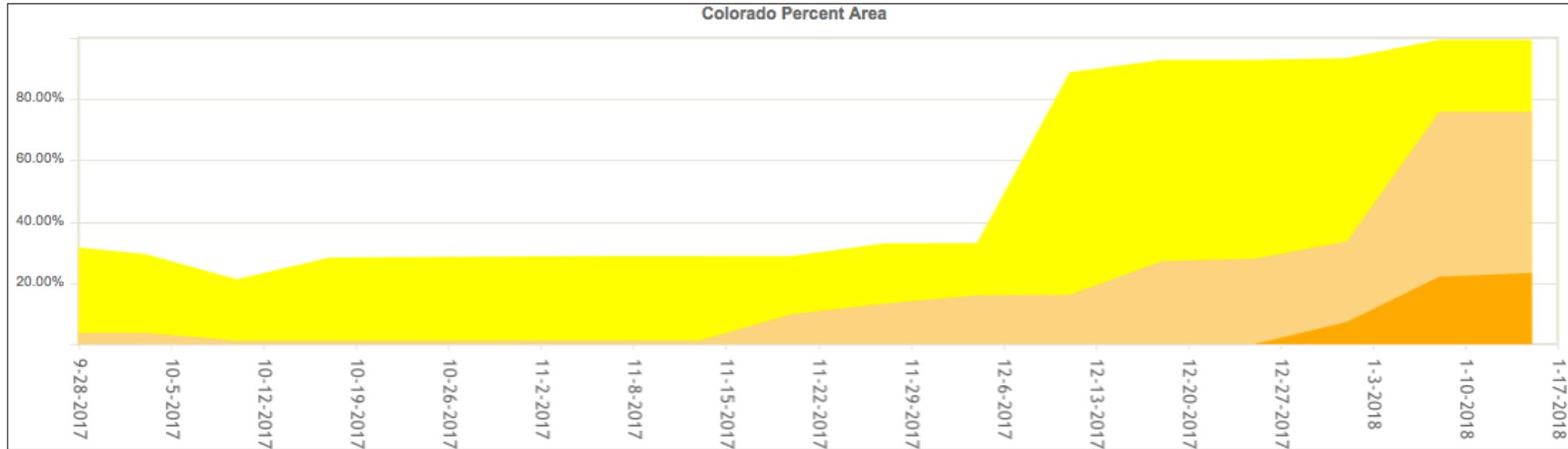


January 16, 2018  
compared to  
October 24, 2017

<http://droughtmonitor.unl.edu>

- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement





**Becky.Bolinger@colostate.edu**

**To view this and other presentations:  
[http://climate.colostate.edu/ccc\\_archive.html](http://climate.colostate.edu/ccc_archive.html)**

**Thank you**



**Colorado State University**