

# Colorado Climate Center – *WATF Climate Update*

---

Becky Bolinger

Water Availability Task Force  
July 24, 2018 – Durango, CO



Colorado State University

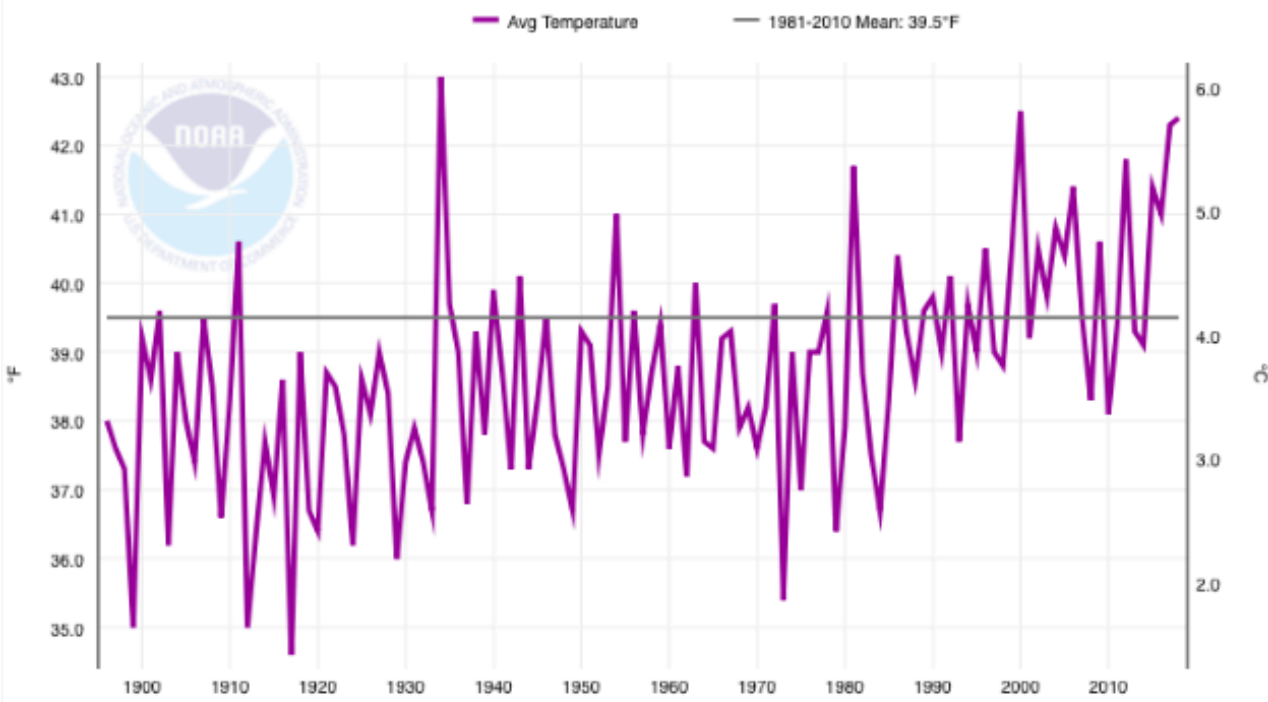


# Water Year 2018 – Temperature



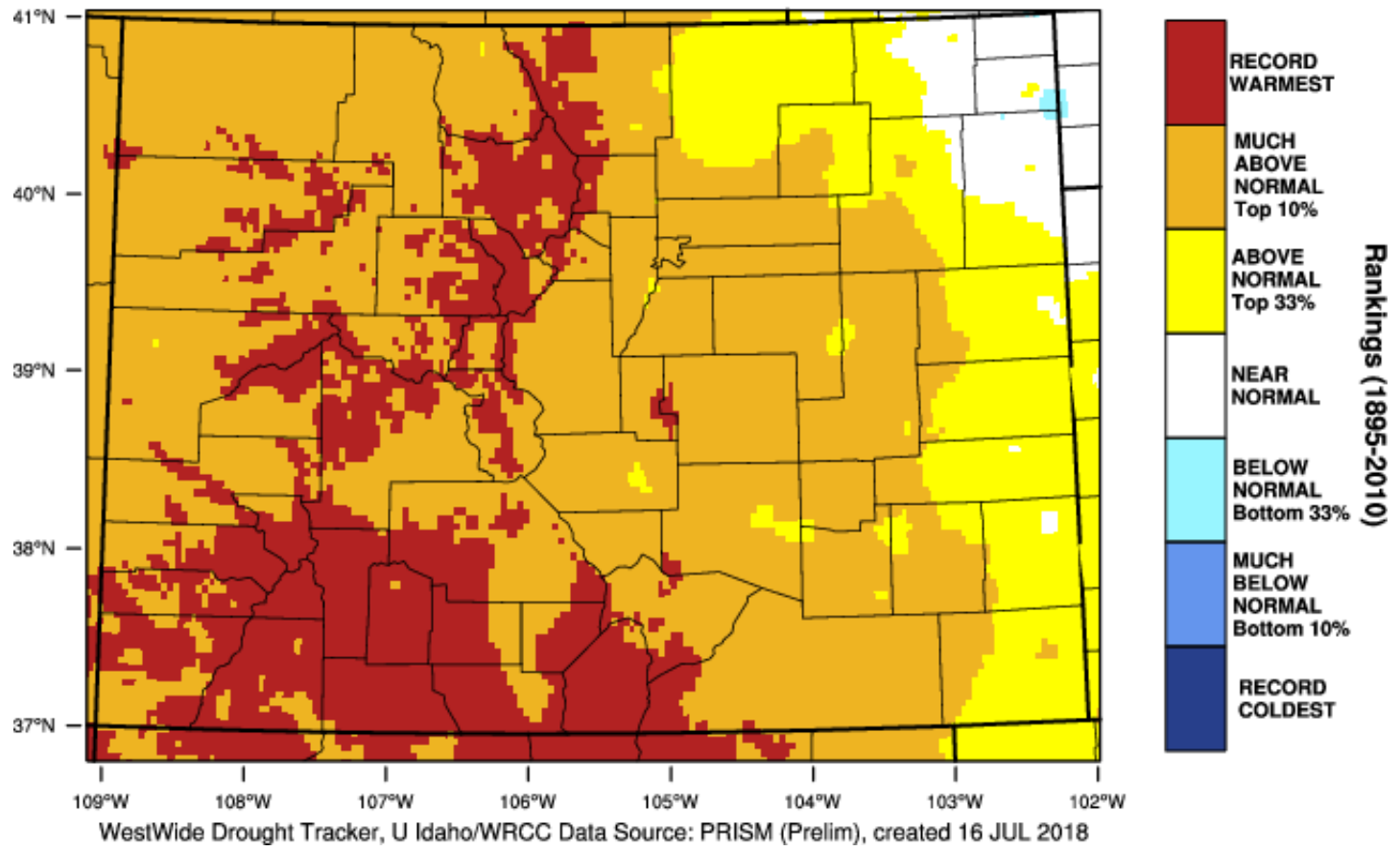
3<sup>rd</sup> Warmest in 123-year record  
 +2.9°F above 39.5°F average

Colorado, Average Temperature, October-June

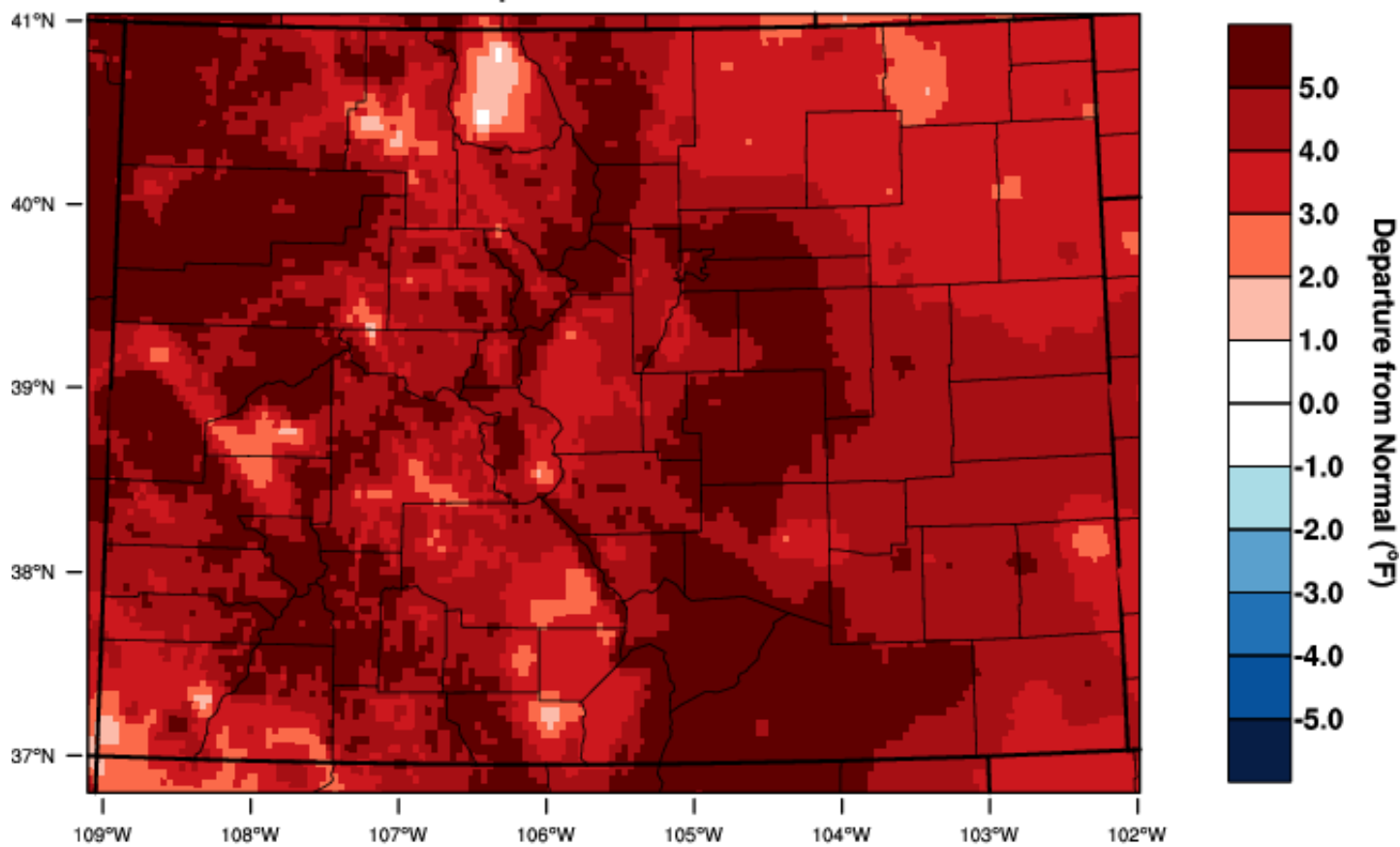


MONTH	RANK
Oct 2017	near average
Nov 2017	1 <sup>st</sup> warmest
Dec 2017	8 <sup>th</sup> warmest
Jan 2018	8 <sup>th</sup> warmest
Feb 2018	near average
Mar 2018	25 <sup>th</sup> warmest
Apr 2018	near average
May 2018	2 <sup>nd</sup> warmest
Jun 2018	3 <sup>rd</sup> warmest

### Colorado - Mean Temperature October-June 2018 Percentile



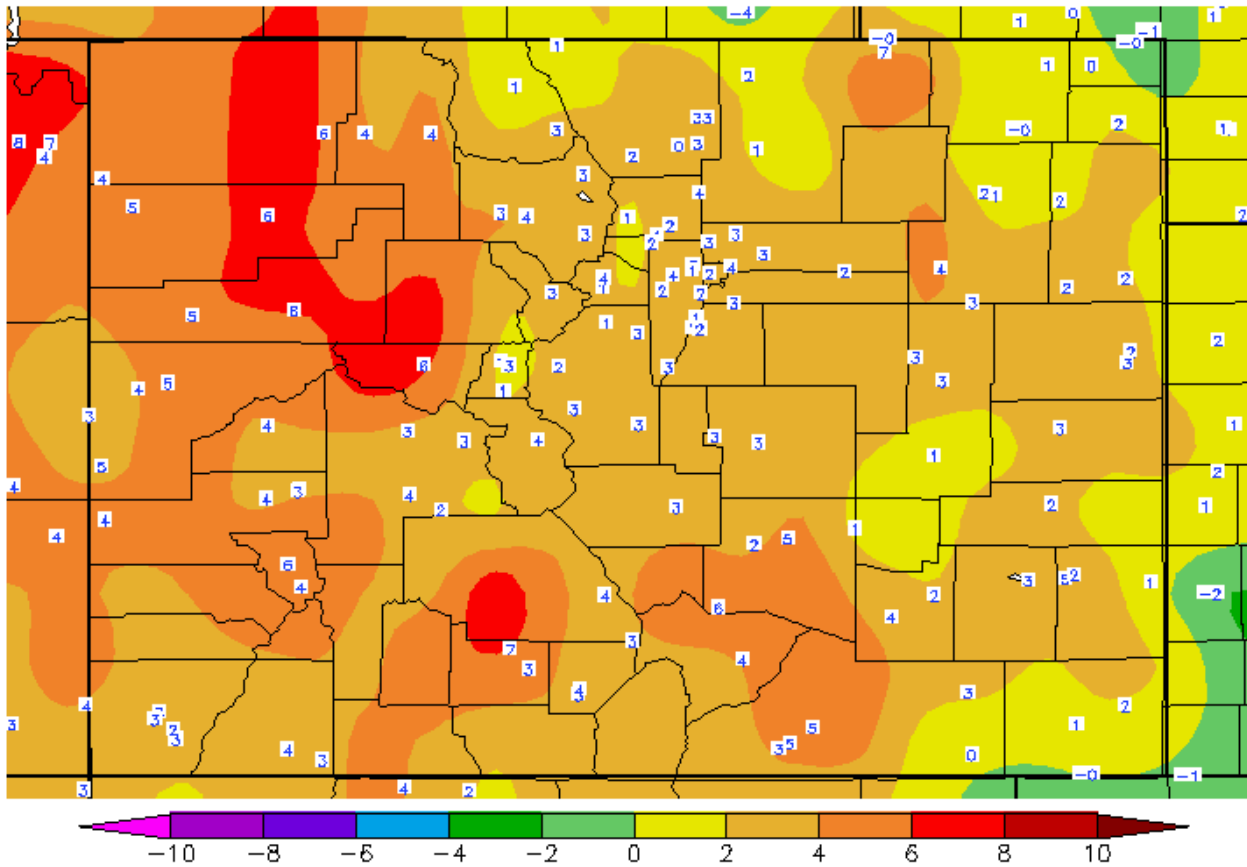
### Colorado - Mean Temperature June 2018 Departure from 1981-2010 Normal



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 16 JUL 2018



Ave. Temperature dep from Ave (deg F)  
7/1/2018 - 7/22/2018



Generated 7/23/2018 at WRCC using provisional data.  
NOAA Regional Climate Centers

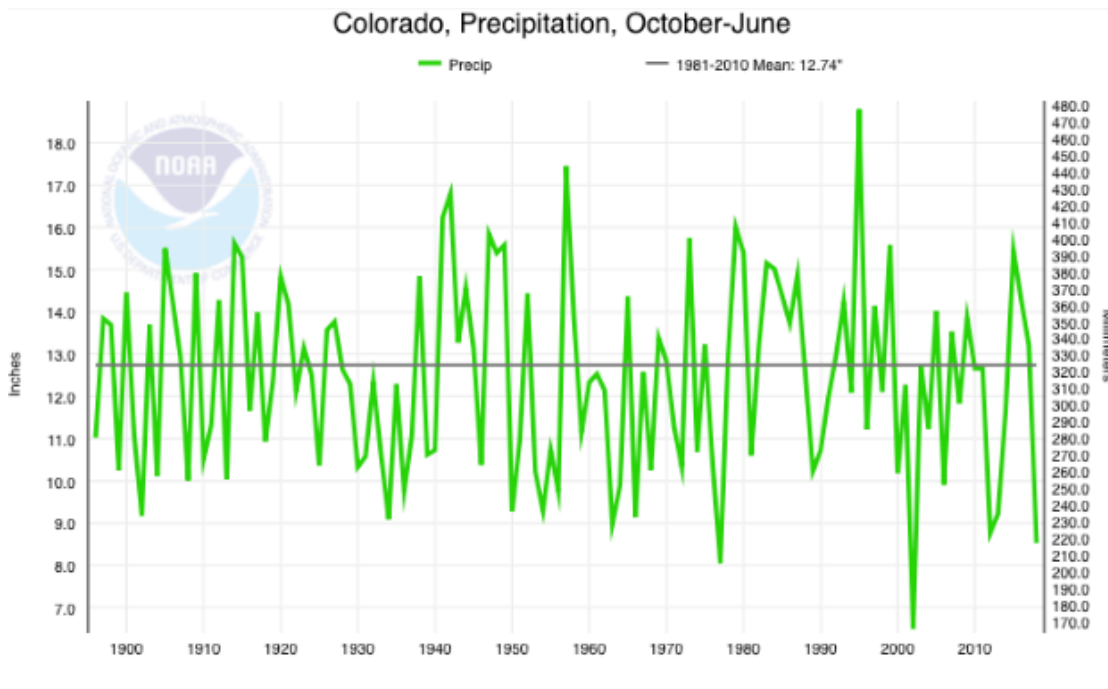




# Water Year 2018 – Precipitation



3<sup>rd</sup> driest in 123-year record  
 -4.21" below 12.74" average

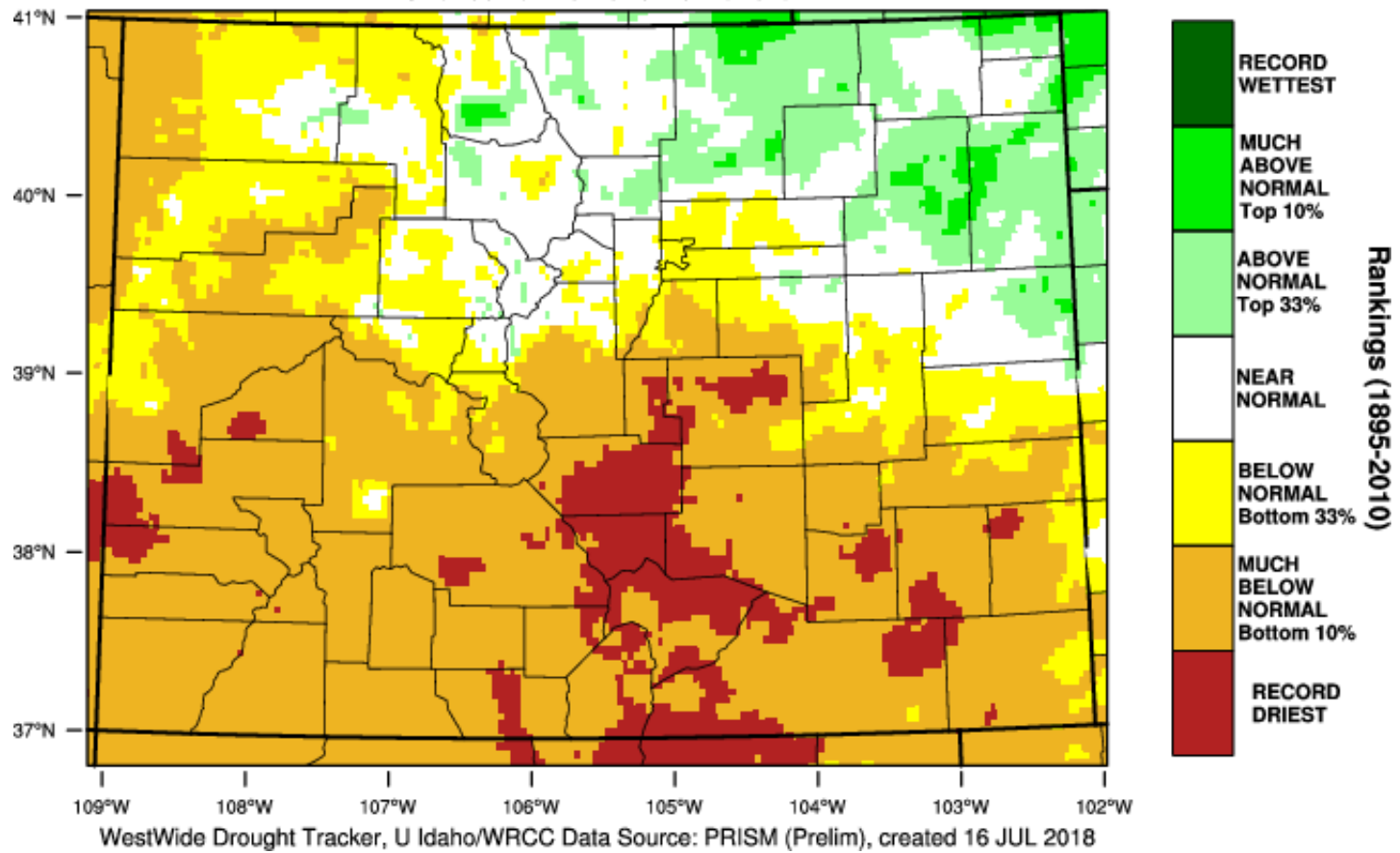


MONTH	RANK
Oct 2017	37 <sup>th</sup> driest
Nov 2017	18 <sup>th</sup> driest
Dec 2017	7 <sup>th</sup> driest
Jan 2018	37 <sup>th</sup> driest
Feb 2018	near average
Mar 2018	26 <sup>th</sup> driest
Apr 2018	34 <sup>th</sup> driest
May 2018	38 <sup>th</sup> driest
Jun 2018	26 <sup>th</sup> driest

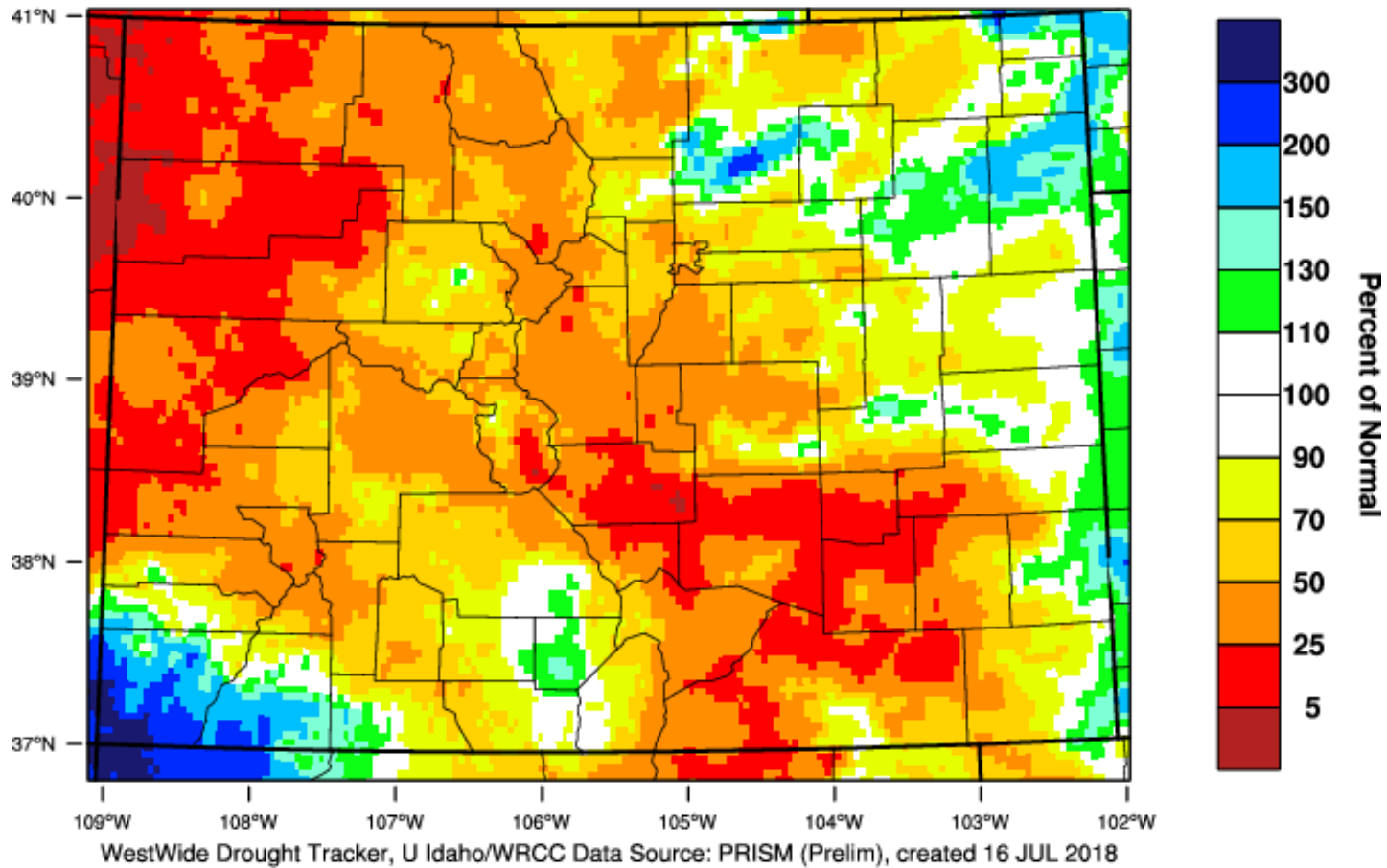




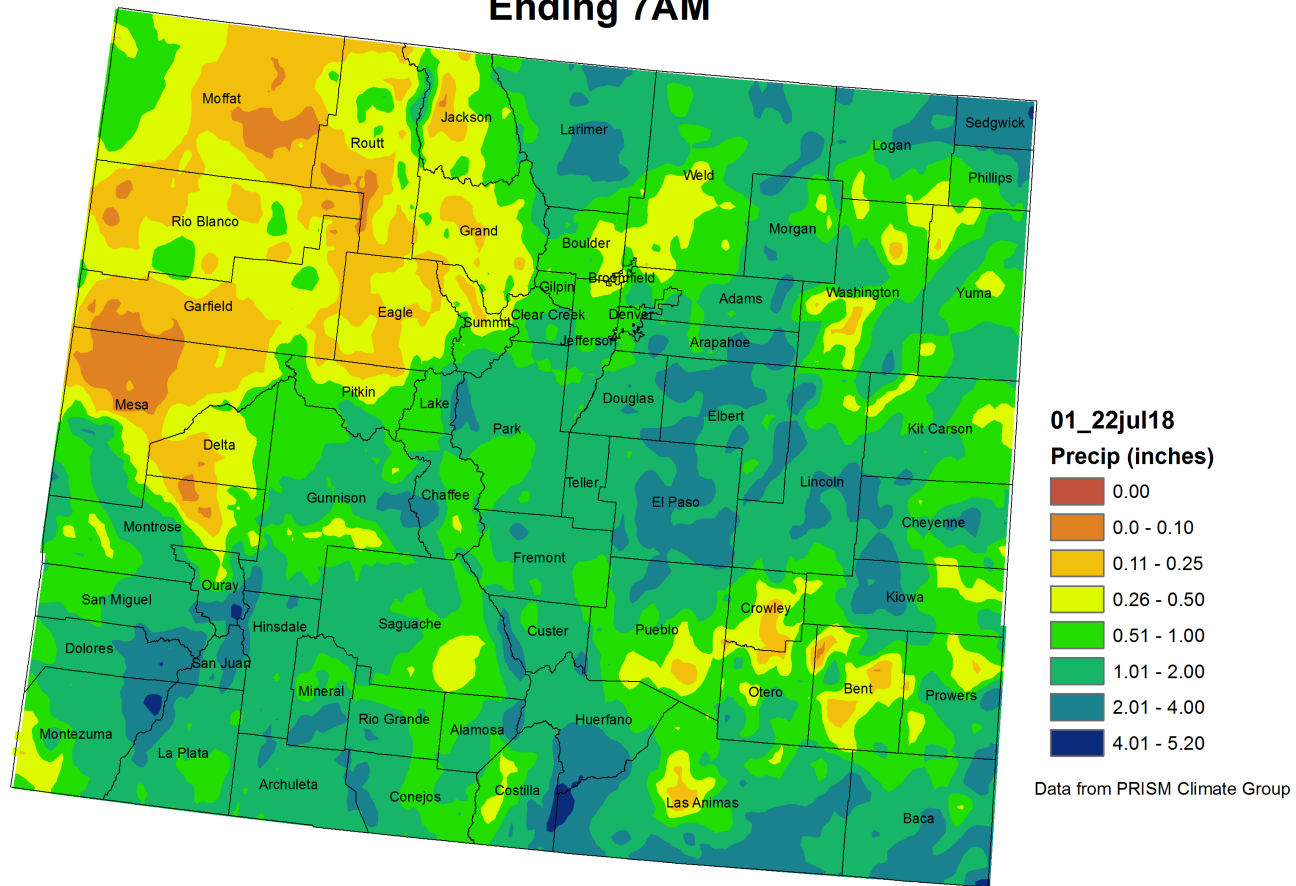
### Colorado - Precipitation October-June 2018 Percentile



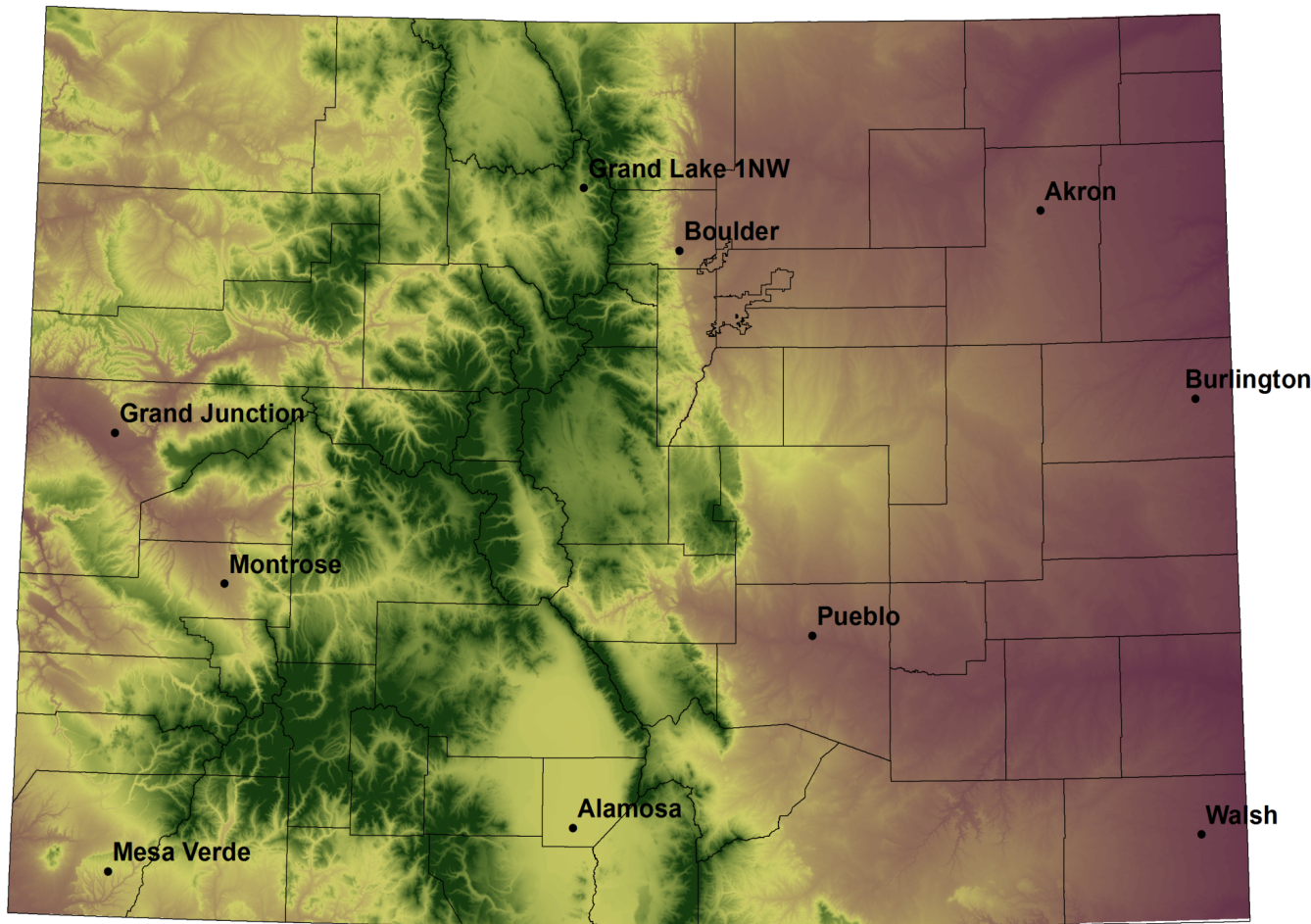
### Colorado - Precipitation June 2018 Percent of 1981-2010 Normal



# Colorado Month to Date Precipitation 1 - 22 July 2018 Ending 7AM



## NWS Cooperative Stations for WATF

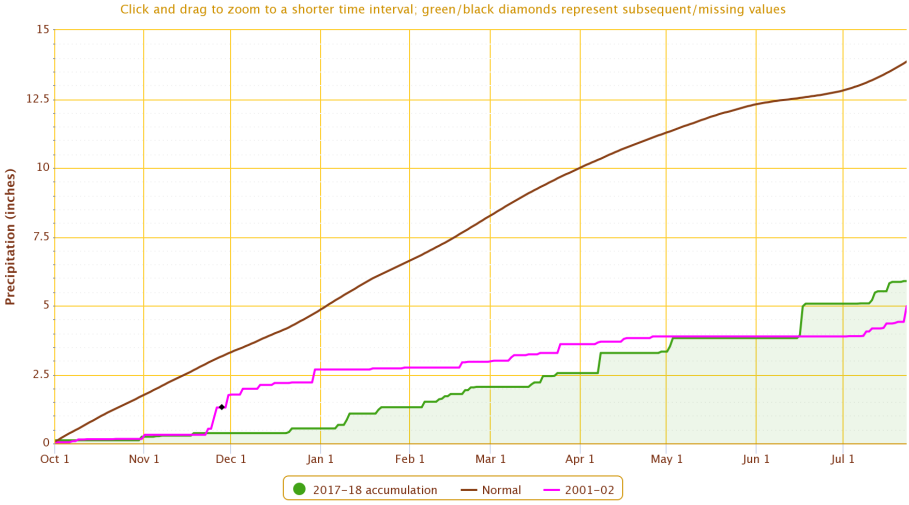


Water Year 2018 –  
Station Updates

SPECIAL EDITION:  
SOUTHWEST CO



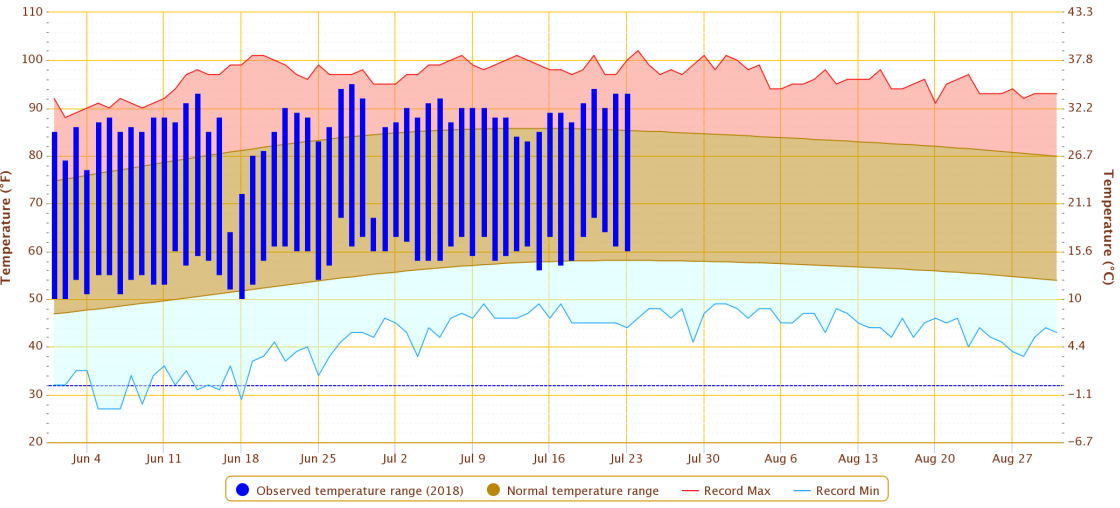
Accumulated Precipitation – MESA VERDE NP, CO



Powered by ACIS

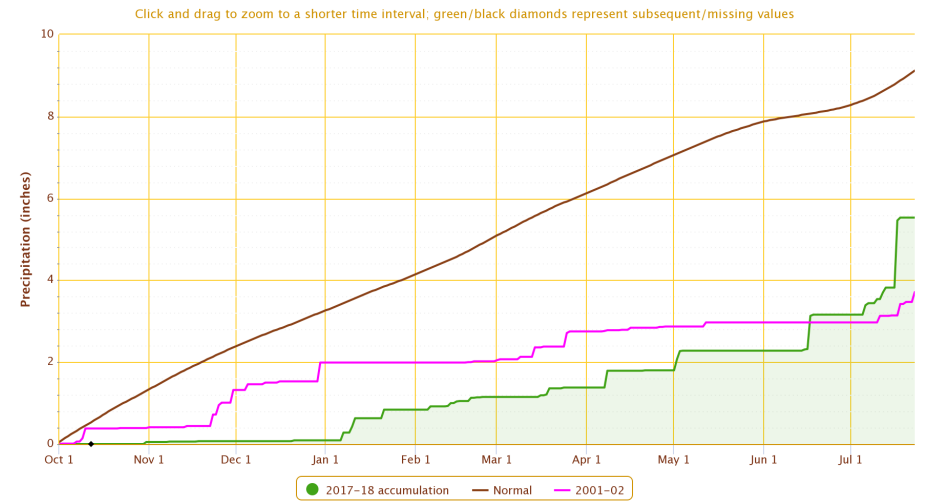
Daily Temperature Data – MESA VERDE NP, CO

Period of Record – 1922-02-16 to 2018-07-23. Normals period: 1981-2010. Click and drag to zoom chart.



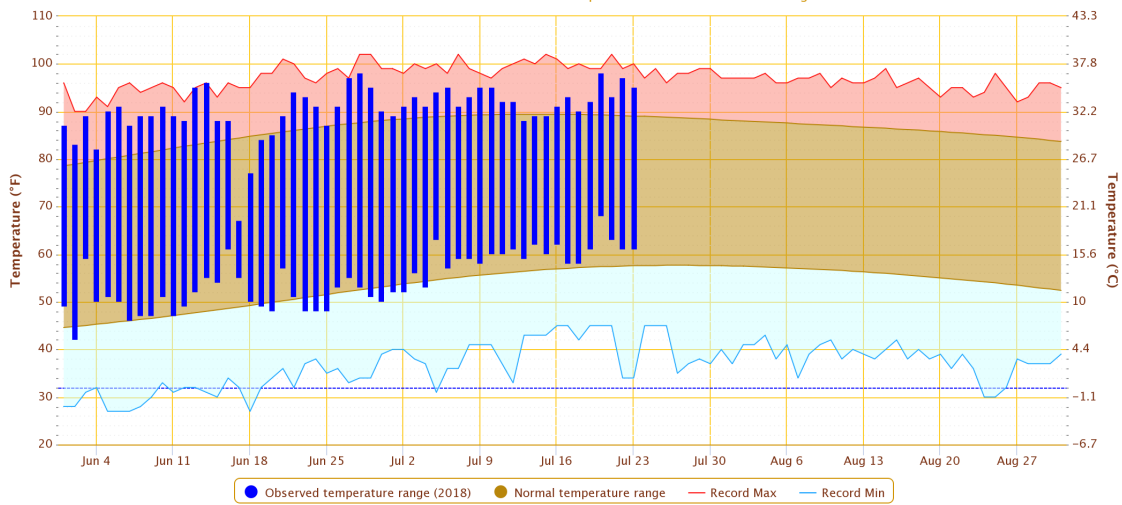
Powered by ACIS

### Accumulated Precipitation – CORTEZ, CO



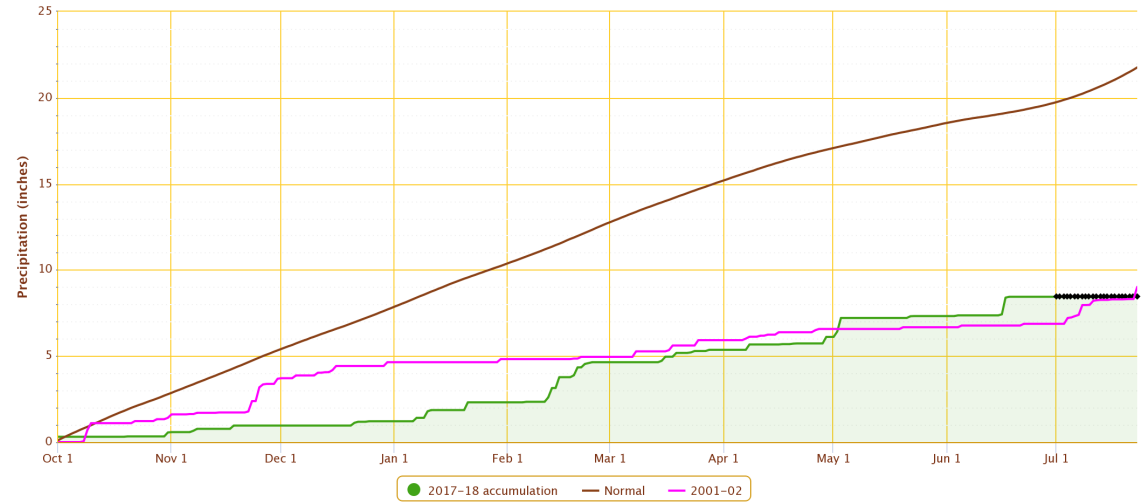
### Daily Temperature Data – CORTEZ, CO

Period of Record - 1911-04-01 to 2018-07-23. Normals period: 1981-2010. Click and drag to zoom chart.



### Accumulated Precipitation – LEMON DAM, CO

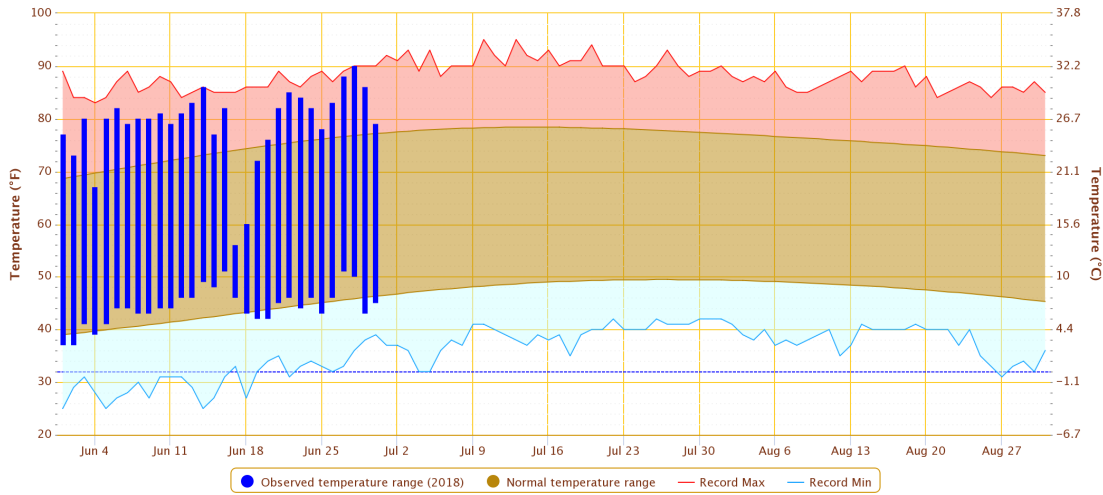
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



Powered by ACIS

### Daily Temperature Data – LEMON DAM, CO

Period of Record – 1982-04-01 to 2018-06-30. Normals period: 1981-2010. Click and drag to zoom chart.

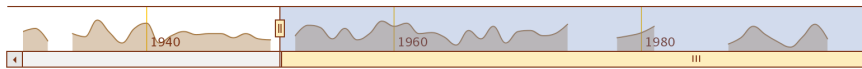
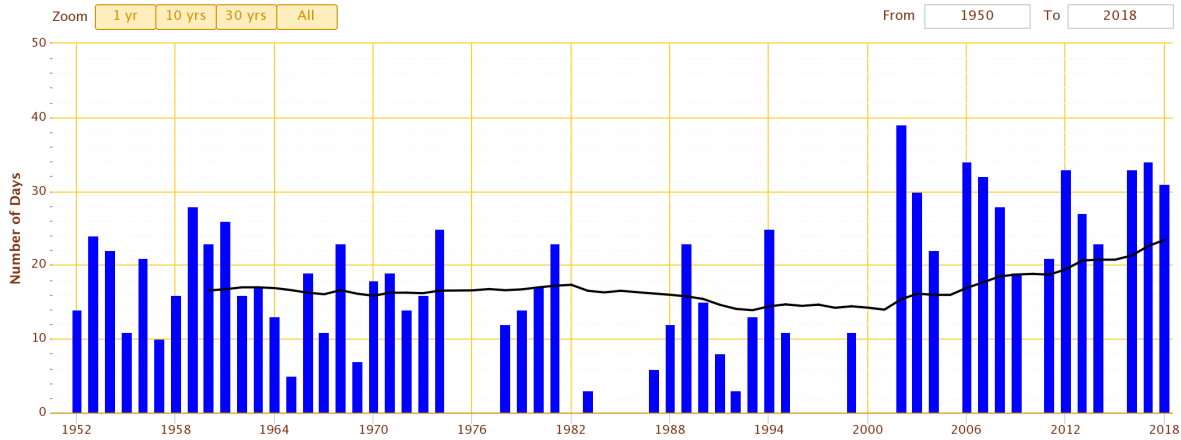


Powered by ACIS



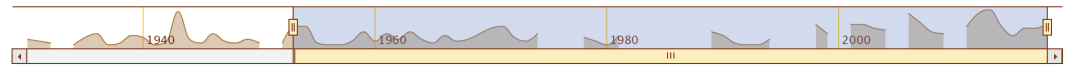
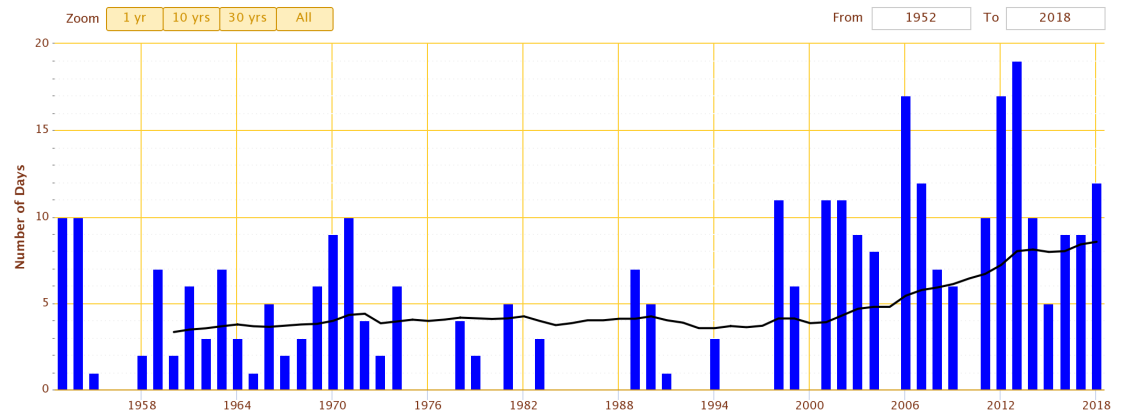
### Number of Days Max Temperature $\geq 90$ Jan 1 to Jul 22 - CORTEZ, CO

Use navigation tools above and below chart to change displayed range



### Number of Days Min Temperature $\geq 60$ Jan 1 to Jul 22 - CORTEZ, CO

Use navigation tools above and below chart to change displayed range



Powered by ACIS



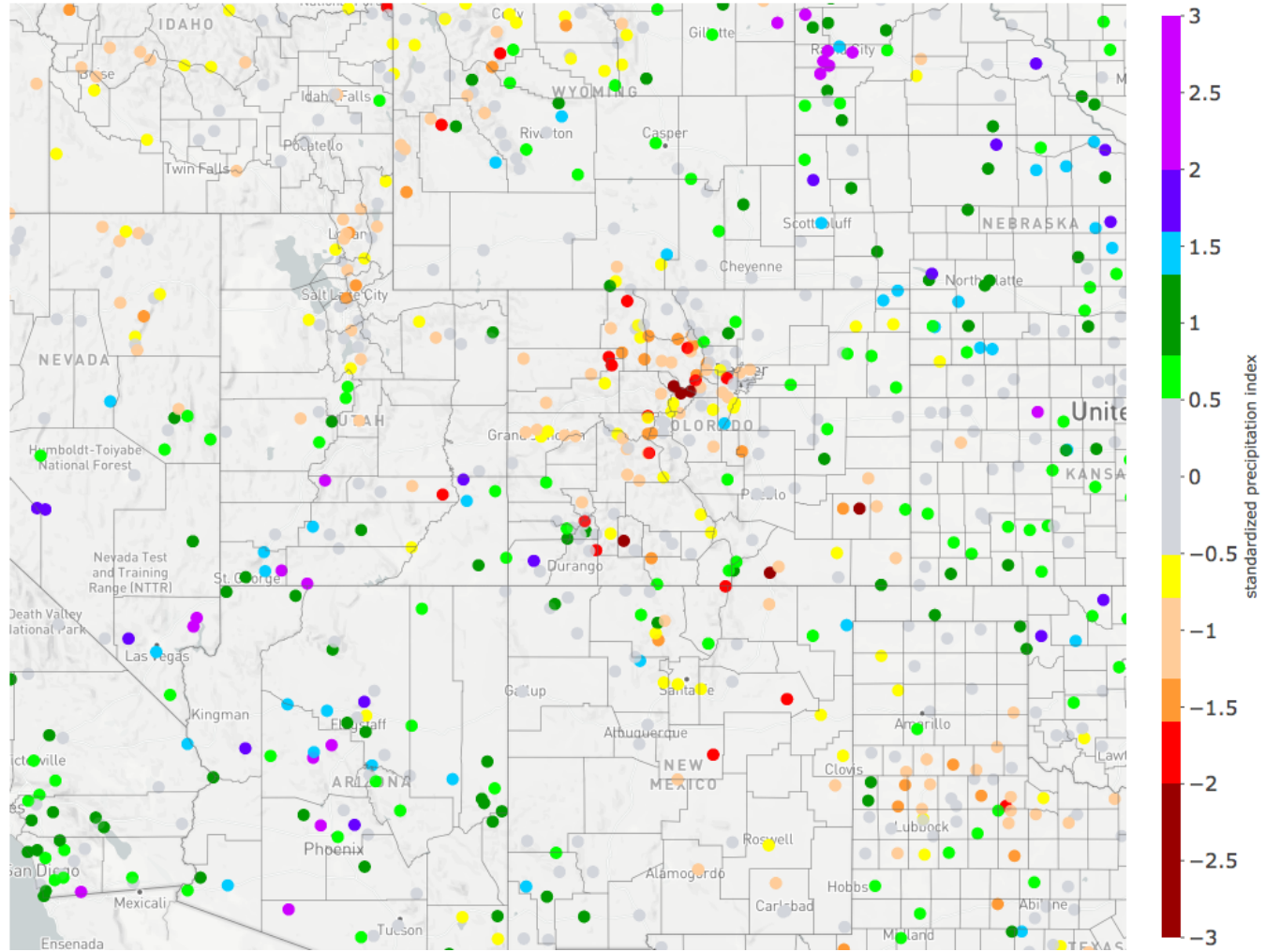




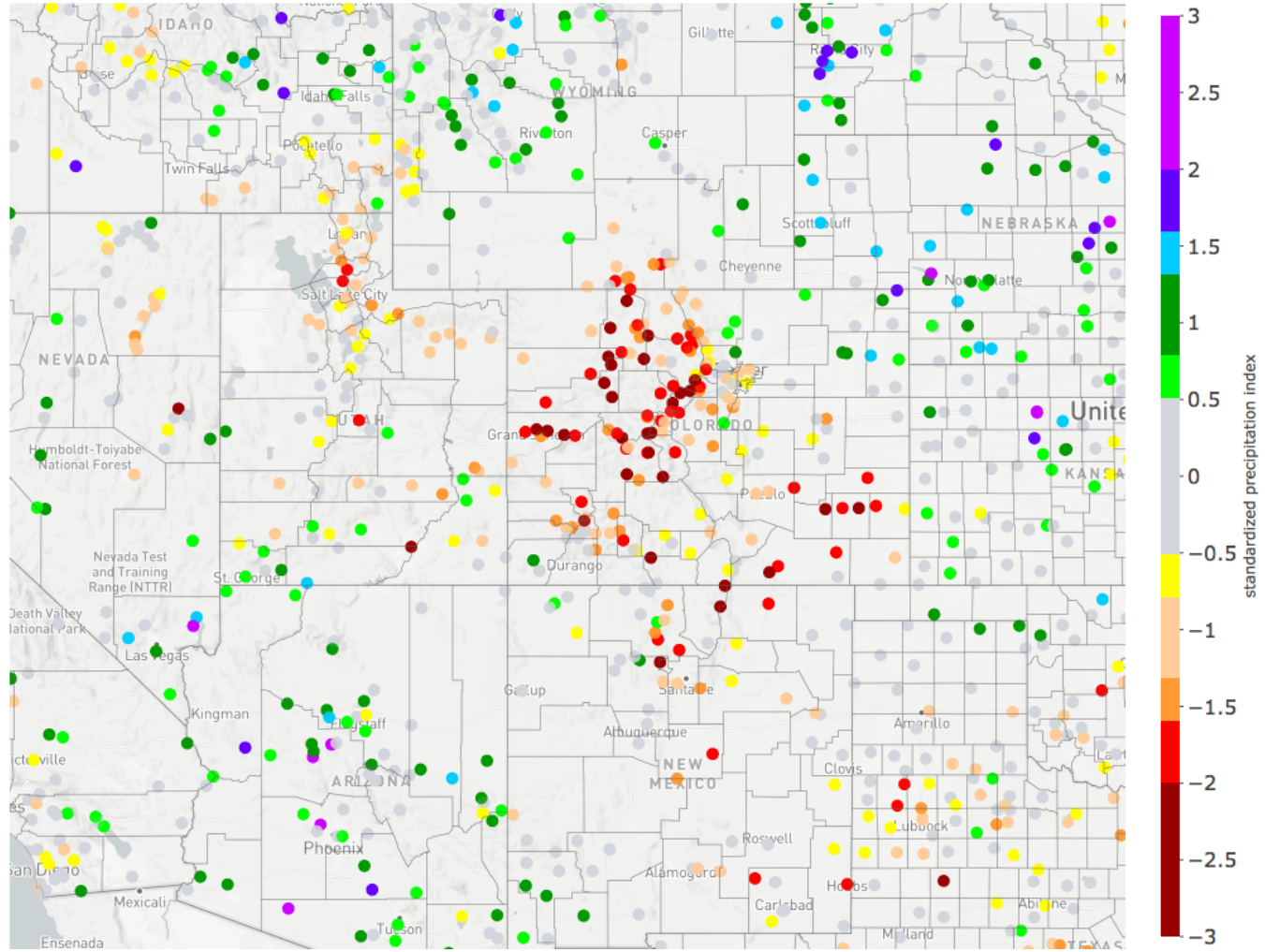
## Colorado Drought



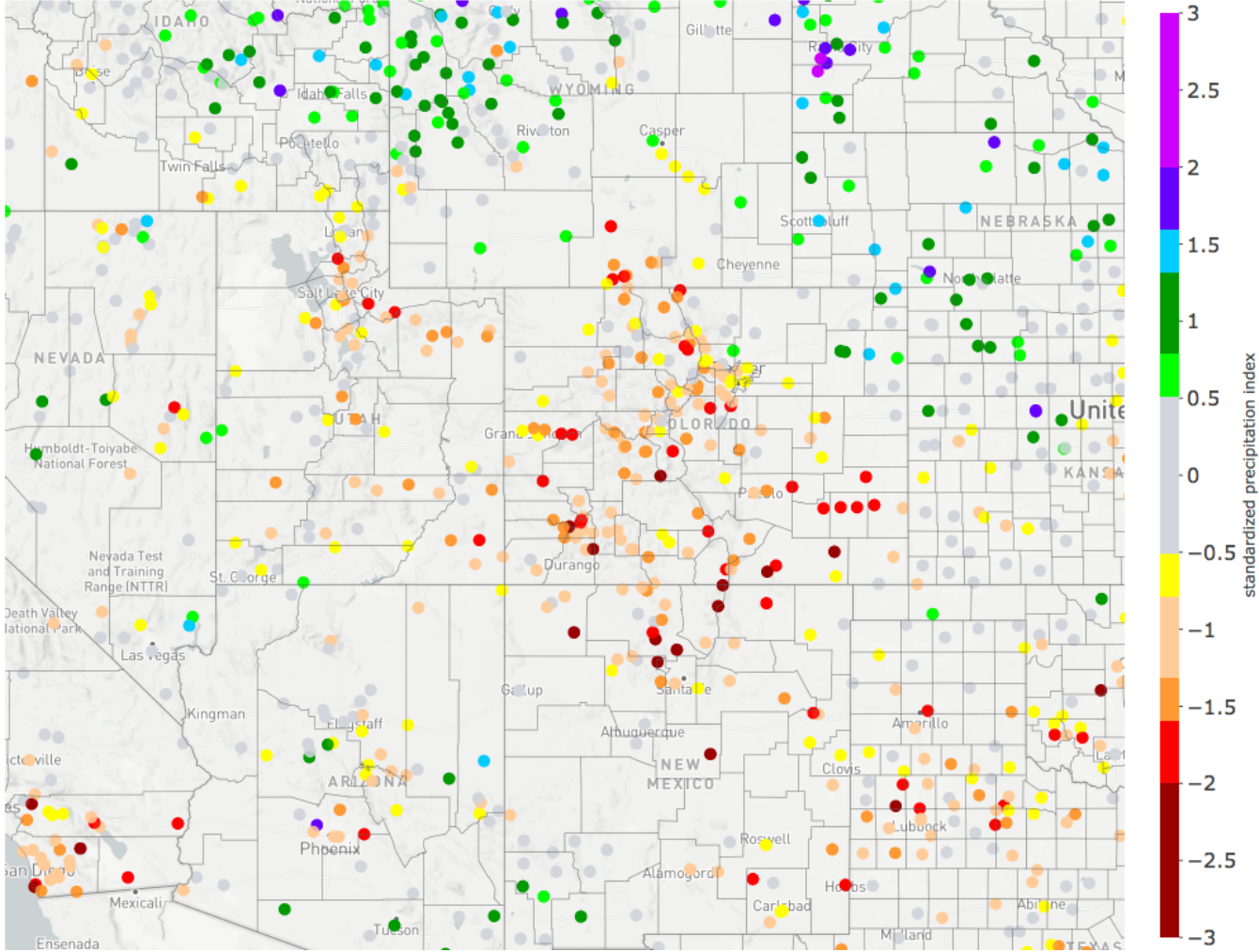
### 30-day Standardized Precipitation Index



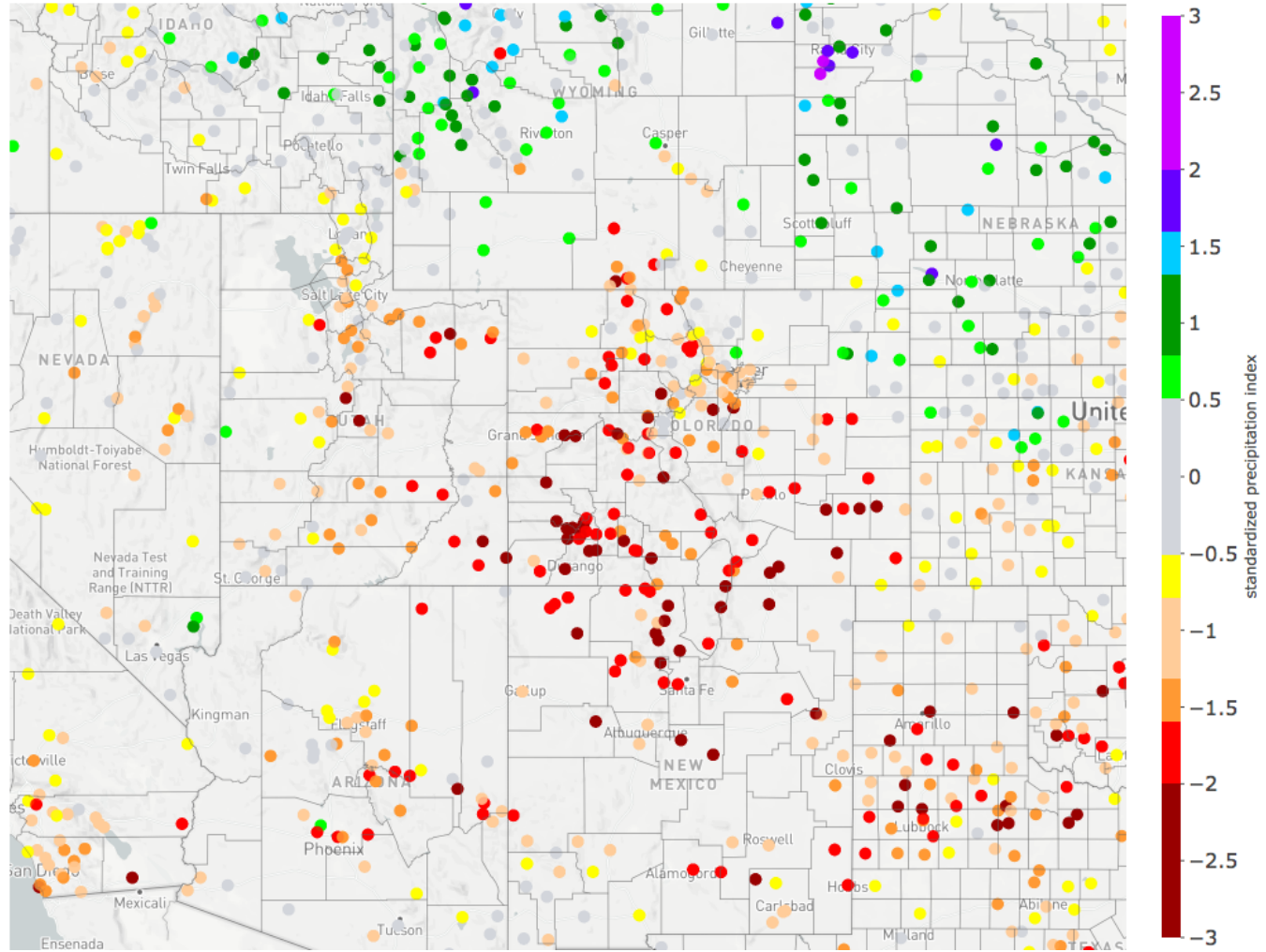
# 90-day Standardized Precipitation Index



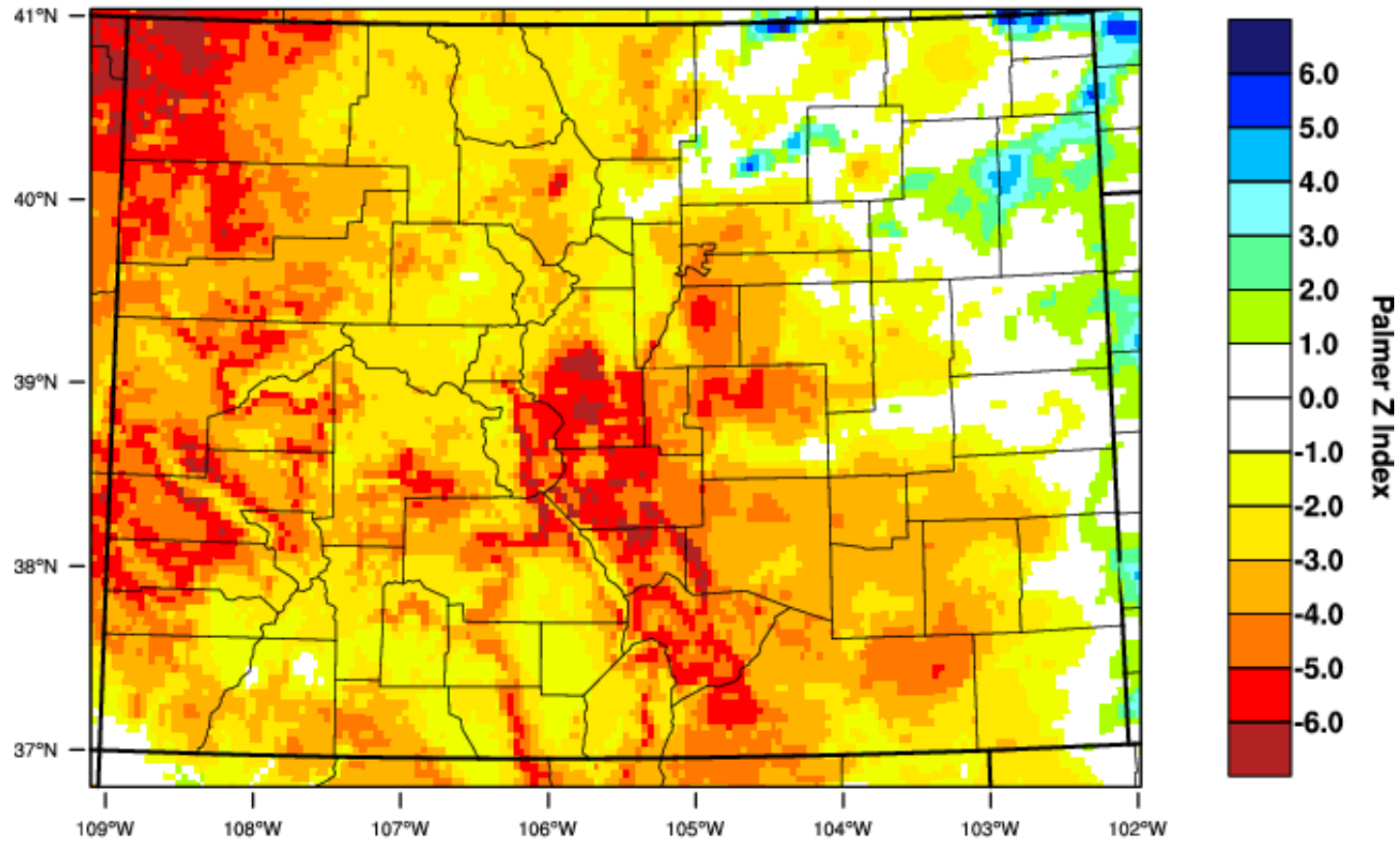
# 6-month Standardized Precipitation Index



# 9-month Standardized Precipitation Index

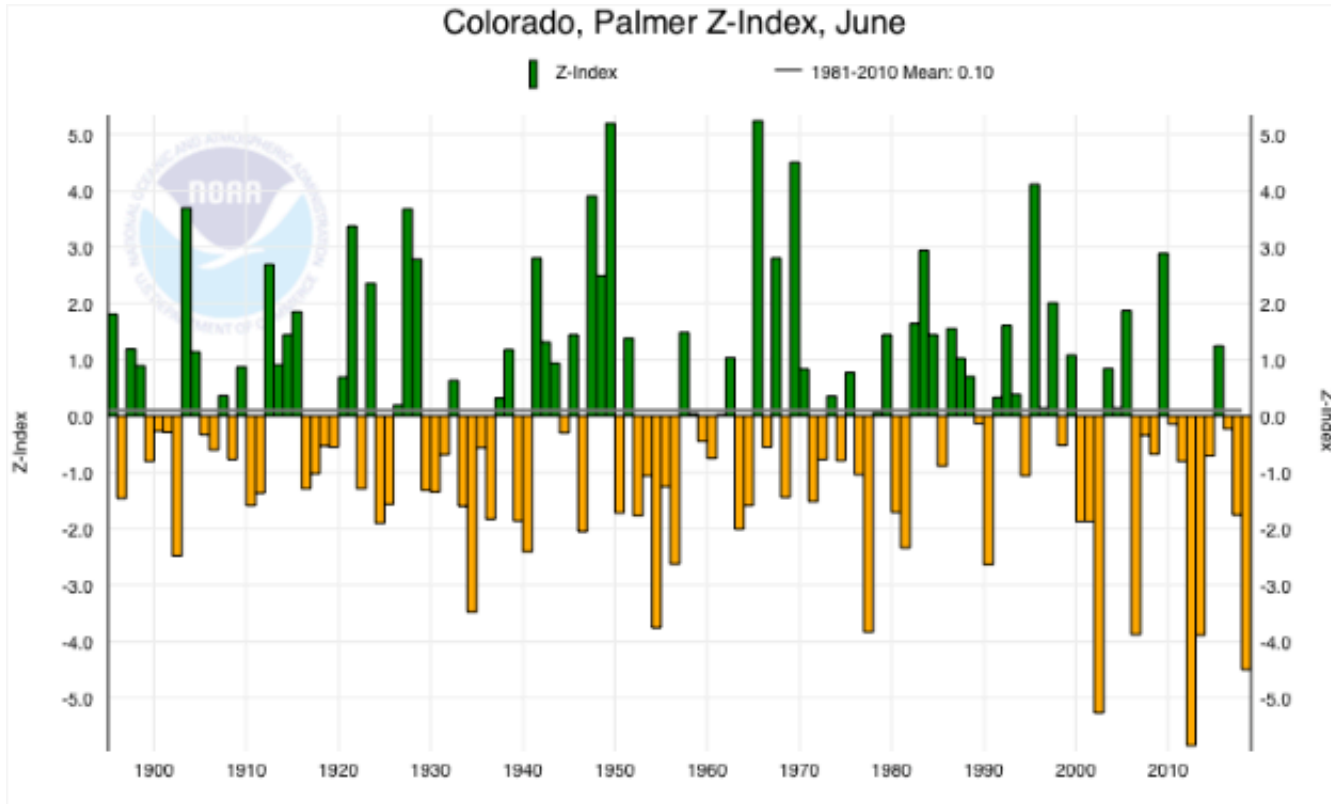


### Colorado - Palmer Z-Index June 2018



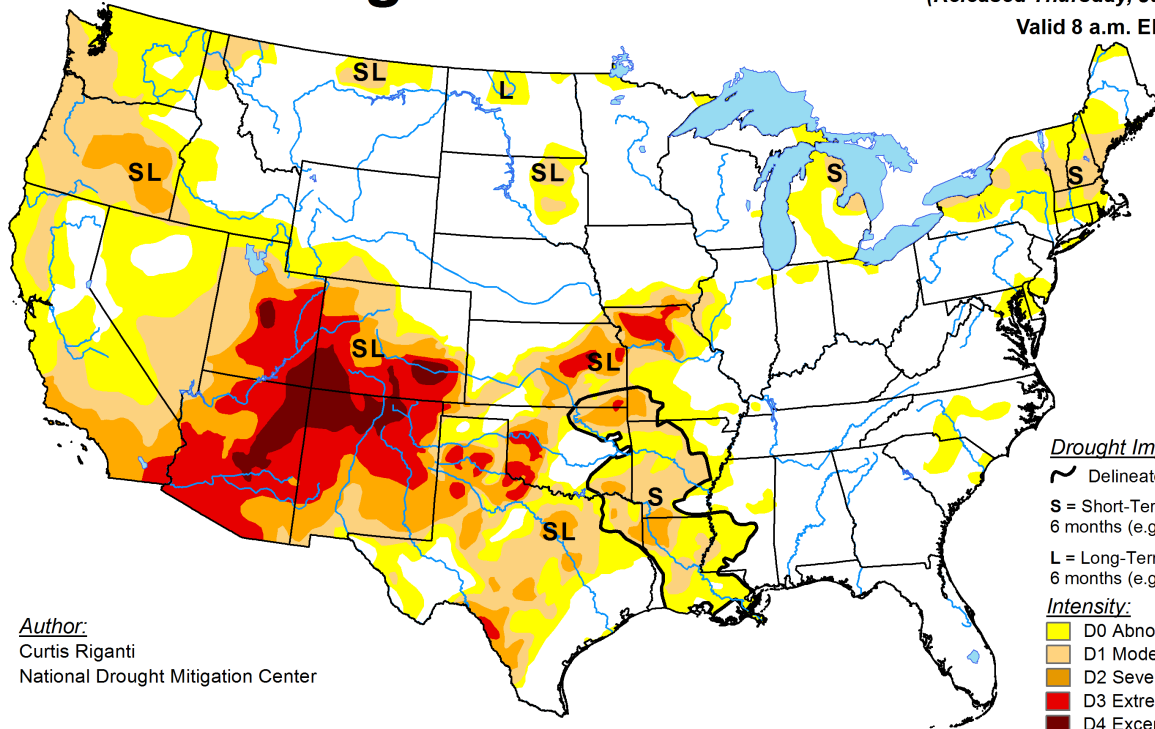
WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 16 JUL 2018





# U.S. Drought Monitor

July 17, 2018  
 (Released Thursday, Jul. 19, 2018)  
 Valid 8 a.m. EDT



*Author:*  
 Curtis Riganti  
 National Drought Mitigation Center

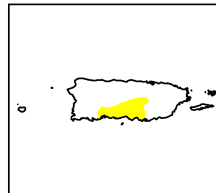
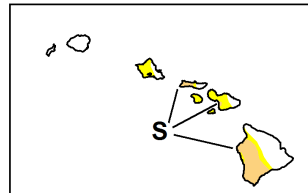
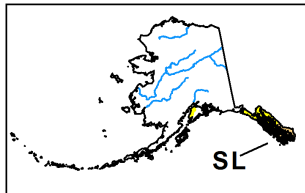
***Drought Impact Types:***

- ~ 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:***

- Yellow: D0 Abnormally Dry
- Light Orange: D1 Moderate Drought
- Orange: D2 Severe Drought
- Red: D3 Extreme Drought
- Dark Red: 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/>





# U.S. Drought Monitor Colorado

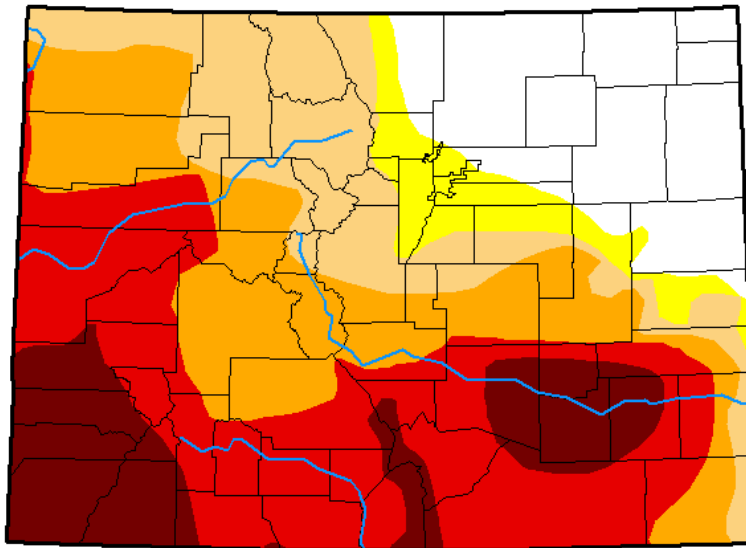
**July 17, 2018**

(Released Thursday, Jul. 19, 2018)

Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	17.50	82.50	76.96	60.62	40.08	13.32
<b>Last Week</b> <i>07-10-2018</i>	17.50	82.50	77.11	60.62	40.08	13.32
<b>3 Months Ago</b> <i>04-17-2018</i>	15.74	84.26	69.17	53.65	24.42	3.87
<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>07-18-2017</i>	64.47	35.53	0.00	0.00	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:

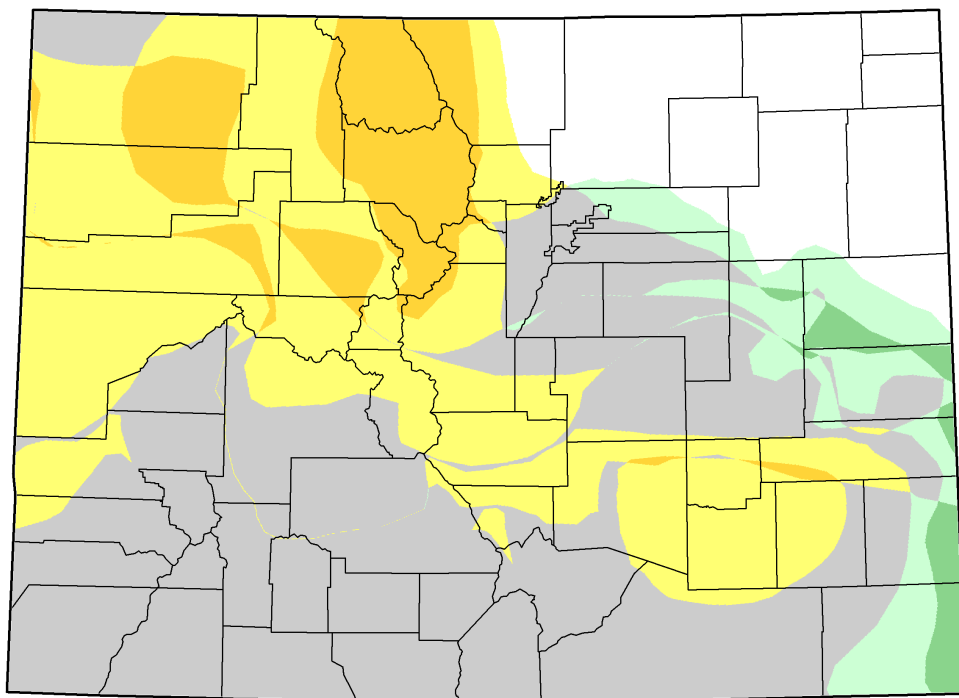
Curtis Riganti  
National Drought Mitigation Center



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



### U.S. Drought Monitor Class Change - Colorado 2 Months

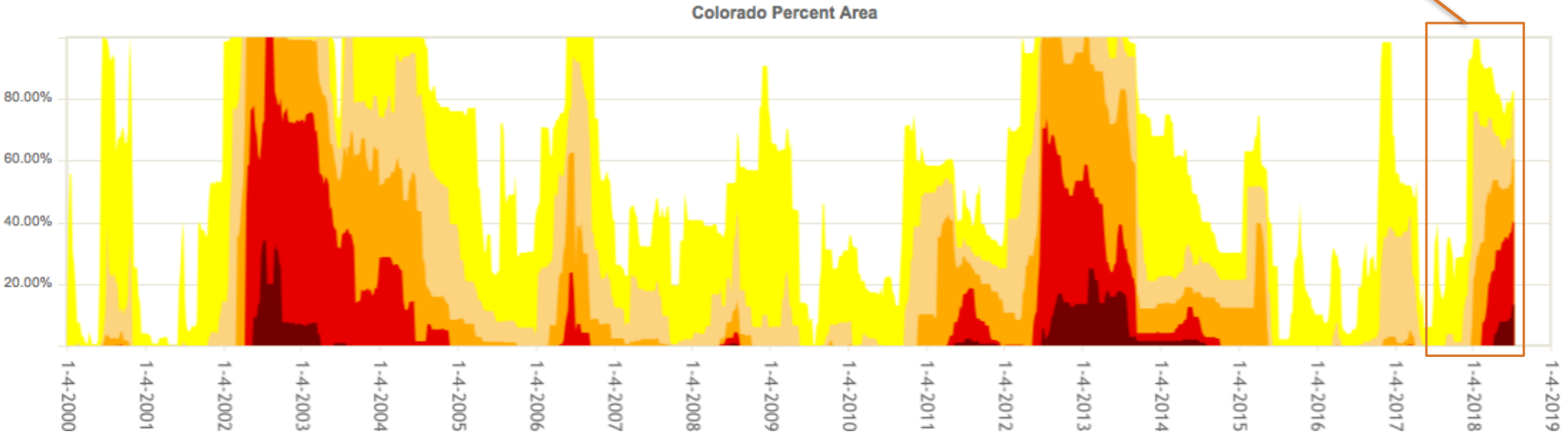
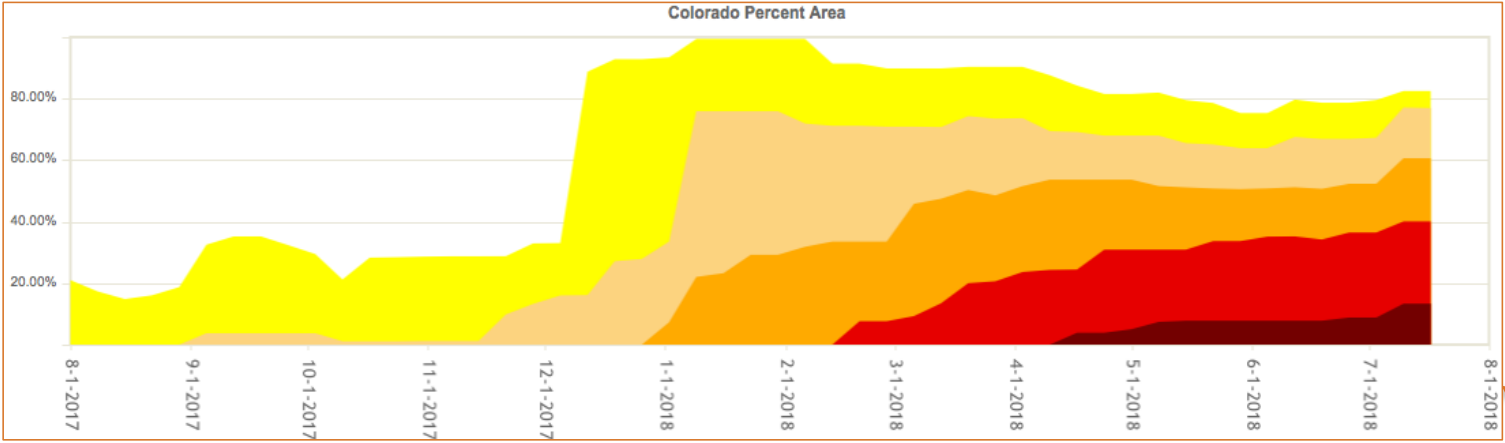


- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

July 17, 2018  
compared to  
May 22, 2018

<http://droughtmonitor.unl.edu>

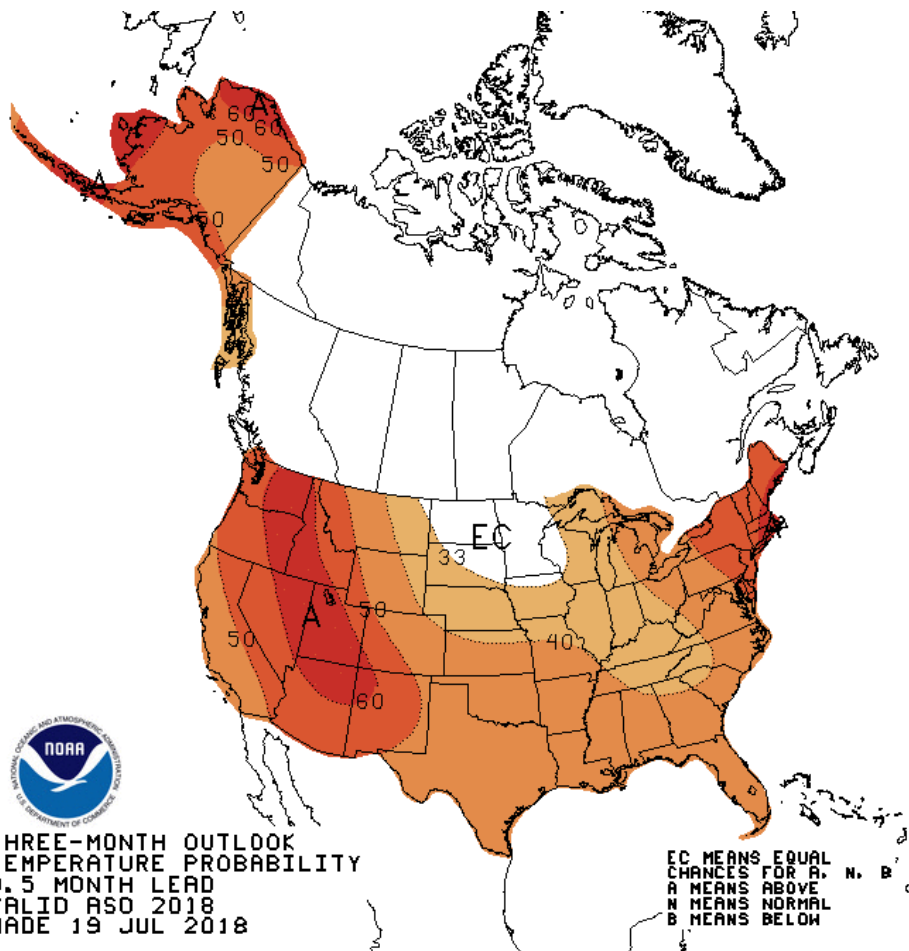






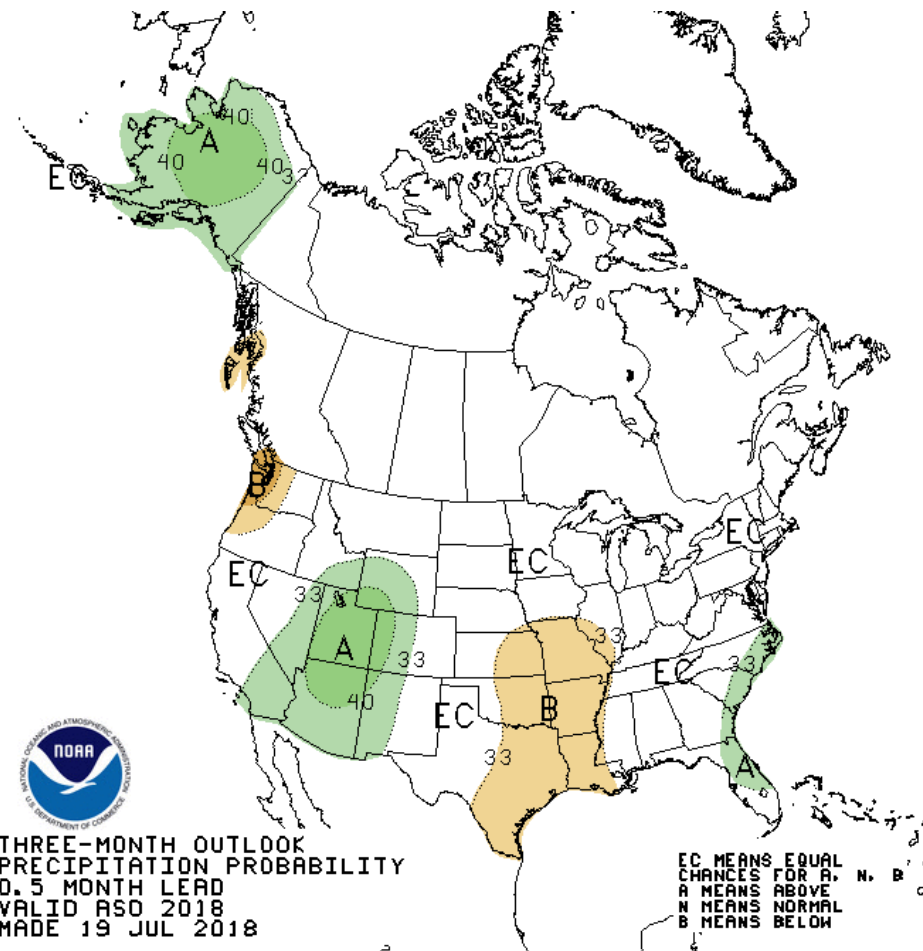
# Outlook





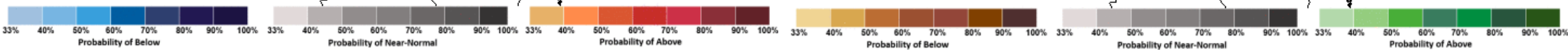
THREE-MONTH OUTLOOK  
 TEMPERATURE PROBABILITY  
 0.5 MONTH LEAD  
 VALID ASO 2018  
 MADE 19 JUL 2018

EC MEANS EQUAL  
 CHANCES FOR A, N, B  
 A MEANS ABOVE  
 N MEANS NORMAL  
 B MEANS BELOW

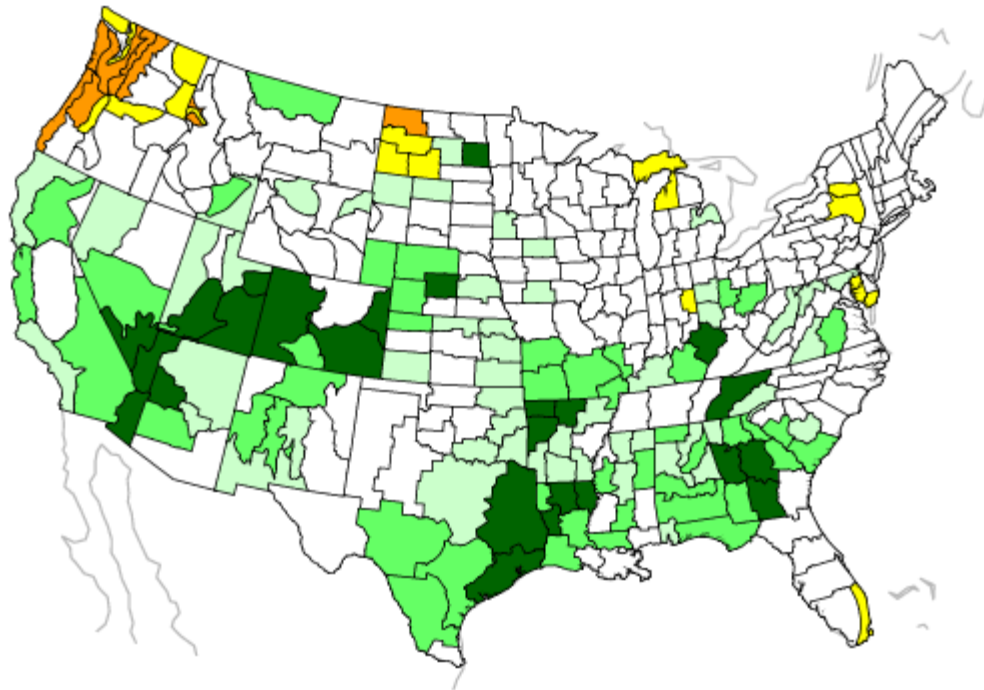


THREE-MONTH OUTLOOK  
 PRECIPITATION PROBABILITY  
 0.5 MONTH LEAD  
 VALID ASO 2018  
 MADE 19 JUL 2018

EC MEANS EQUAL  
 CHANCES FOR A, N, B  
 A MEANS ABOVE  
 N MEANS NORMAL  
 B MEANS BELOW



SON Precipitation During El Niño  
Increased Risk of Wet or Dry Extremes



Percent (%) Increase in Risk

NOAA/ESRL/PSD

*El Niño Watch Issued*

*What can El Niño mean for Colorado?*



**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