

# October 2014 Temperature and Precipitation Summary

<u>October 1<sup>st</sup> – 17<sup>th</sup></u>: October began with a week of clear skies, dry and warm conditions as westerly flow dominated the west. A strong low pressure system passed through Utah on the 1<sup>st</sup> and 2<sup>nd</sup>, and continued across the Rockies and into the Great Plains, but high pressure developed over the southwest. Maximum temperatures along the lower Colorado River were in the low 100s and upper 90s from the 3<sup>rd</sup> through the 6<sup>th</sup>. Nighttime temperatures dipped below freezing in the Flagstaff area on the 29<sup>th</sup> of September, and continued to fall below freezing through the 6<sup>th</sup>. By the 7<sup>th</sup>, an upper level low pressure system moved in to the southwest and combined with moisture from Hurricane Simon bringing widespread rainfall across the state from the 8<sup>th</sup> through the 11<sup>th</sup>. On the 8<sup>th</sup>, Davis Monthan reported 1.61<sup>m</sup>, Bisbee reported 1.46<sup>m</sup>, Eloy had 1.35<sup>m</sup>, Nogales had 1.12<sup>m</sup>, Coronado National Monument had 0.76<sup>m</sup>, Coronado National Monument had 0.75<sup>m</sup>, Safford had 0.51<sup>m</sup>. By the 13<sup>th</sup>, a high pressure system began developing behind a cold front, and kept skies clear until the 18<sup>th</sup>.

<u>October  $18^{th} - 31^{st}$ </u>: Another upper level low pressure system moved in on the  $18^{th}$ , bringing some rainfall to the southeast, with Safford receiving 1.14" on the  $19^{th}$ . Tucson received 0.30" and Cottonwood had 0.16". Light showers continued through the  $22^{nd}$ . On the  $23^{rd}$ , high pressure returned and temperatures went back up to the mid to upper 90s across the southwest deserts. High pressure remained in place through the end of the month, ensuring warm, dry conditions.

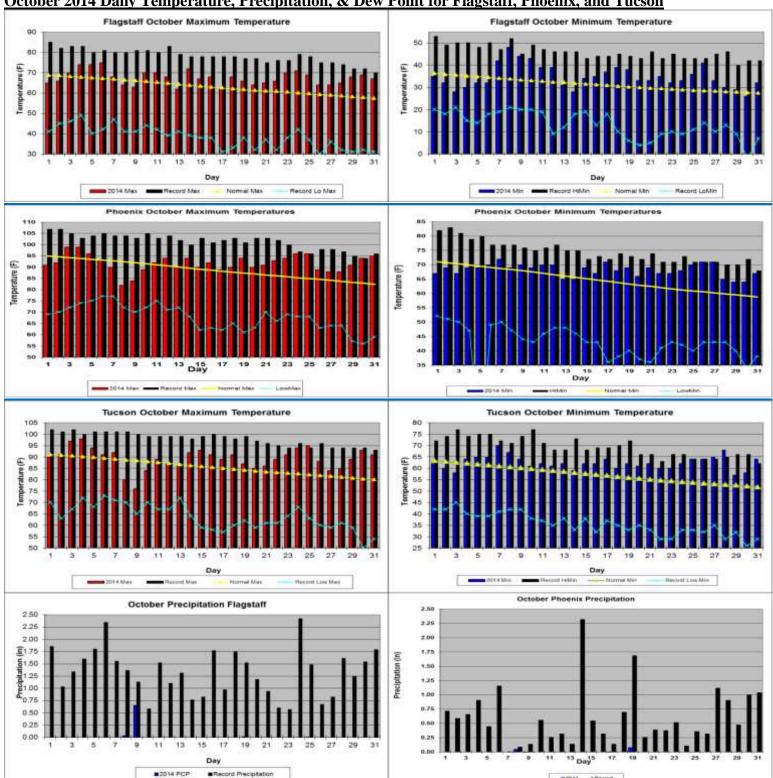
**In This Issue:** Overview of October, graphs of the October daily maximum and minimum temperatures, precipitation, mean daily dew points for Flagstaff, Phoenix, and Tucson; October climate statistics, maps of mean monthly maximum and minimum temperatures, precipitation, dew points, wind speeds for October; and graphs of the mean October temperature and precipitation for the period of record for Tucson, Phoenix, and Flagstaff, graphs of the cumulative precipitation for the calendar year for Flagstaff, Phoenix, and Tucson. Climate calendars for Flagstaff, Phoenix, Tucson, Prescott, Winslow and Yuma, including daily and monthly normals and extremes, for each month of the year, can be downloaded directly from the State Climate website. See p. 19 of this report for calendar abbreviations.

**Data are preliminary** and are from the National Weather Service Forecast Offices in Flagstaff, Phoenix and Tucson. \*\*<u>Note:</u> The discrepancy between the Statewide Temperature and Precipitation values for Phoenix, Flagstaff and Tucson and the daily values in their graphs are due to the reporting times. Statewide Temperature and Precipitation values are taken at 5pm, while official daily records at the airports are taken from Midnight to Midnight.



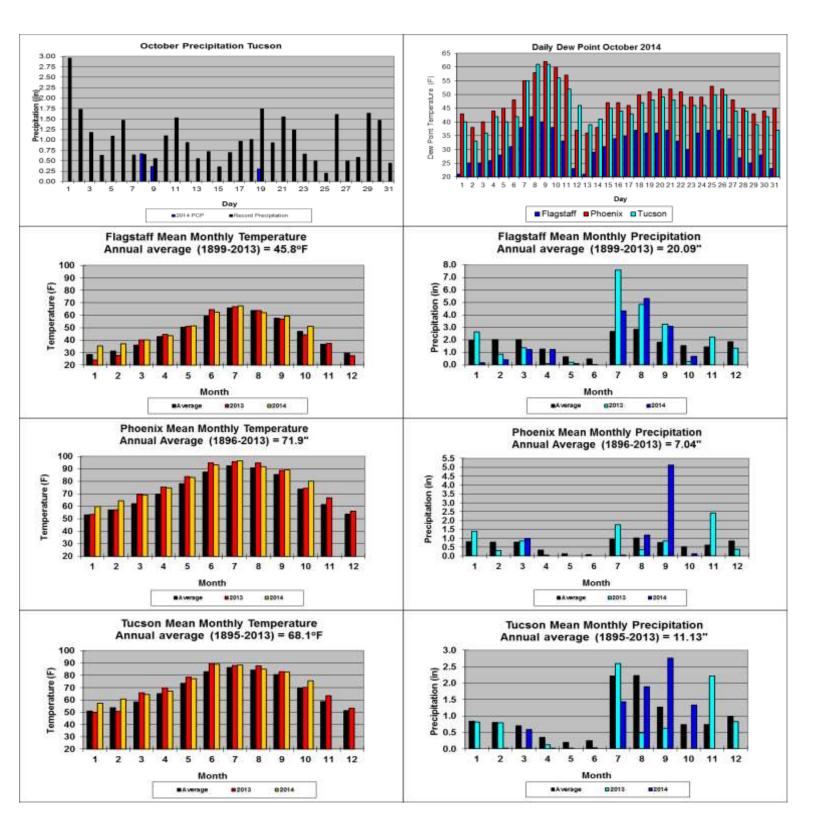






### October 2014 Daily Temperature, Precipitation, & Dew Point for Flagstaff, Phoenix, and Tucson

#2014 effected



# FLAGSTAFF CLIMATE STATISTICS October 2014

This October was the 5 <sup>th</sup> warmest and had no significant ranking for precipitation.	Maximum Temp $65^{\circ}$ F or lower 10				
	Heating Degree Days 419 Normal 566				
Avg Max Temp (F) 67.5 Normal 62.0	Cooling Degree Days 0 Normal 0				
Avg Min Temp (F) 34.8 Normal 31.5	Degree base 65°F				
Avg Mean Temp (F) 51.2 Normal 46.8					
Departure from Normal (F) +4.4	Total October Precipitation0.69"				
	Normal October Precipitation 1.66"				
Highest Monthly Avg Temp (F) 52.5 in 1988	Departure from normal -0.97"				
Lowest Monthly Avg Temp (F) 38.6 in 1971	Greatest 24-Hr Precipitation 0.68" on 10/08-09				
	Total Precipitation Year-to-Date 16.63"				
Highest Temp this month (F): $75 \text{ on } 6^{\text{th}}$	Departure from Normal -1.60"				
Lowest Temp this month (F): $26 \text{ on } 30^{\text{th}}$	-				
	Number of Days:				
Record High (F): 85 on 10/01/1980	Clear 26				
	Partly Cloudy 4				
Record Low (F): -2 on 10/30/1971	Cloudy 1				
No temperature or precipitation records this month:	Greatest October Precipitation 9.86" in 1972				
	Least October Precipitation 0 1917 1902 and 6				
Flagstaff Number of Days of:	other years				
Minimum Temp $40^{\circ}$ F or higher 5					
Minimum Temp 30°F or lower 6	Average Wind Speed 4.2 mph				
Maximum Temp $70^{\circ}$ F or higher 9	Highest Peak Gust $38 \text{ mph from } 260^{\circ} \text{ on } 12^{\text{th}}$				

## PHOENIX CLIMATE STATISTICS October 2014

This October was the 5 <sup>th</sup> warmest and had no significant ranking for precipitation.			Temperature or precipitation records this month: 25 <sup>th</sup> HiMax 96 tied, first set in 1990 26 <sup>th</sup> HiMin 71 tied, first set in 1983			
Avg Max Temp(F)	91.8 Normal	88.5	$27^{\text{th}}$ HiMin 71 tied, first set in 2001			
Avg Min Temp(F)	68.2 Normal	64.8	30 <sup>th</sup> HiMax 94 tied, first se			
Avg Mean Temp (F)	80.0 Normal	76.7				
Departure from Normal	(F) +3.3		Phoenix Number of Days of	<u>of:</u>		
-			Minimum Temp 65°F or lo	ower	5	
Highest Monthly Avg Temp (F) 82.7 in 2003			Minimum Temp $70^{\circ}$ F or higher 9			
Lowest Monthly Avg Temp (F) 66.1 in 1916		in 1916	Maximum Temp 89°F or lower			
			Maximum Temp $95^{\circ}$ F or higher 6			
Highest Temp this month (F): 99 on 3 <sup>rd</sup> & 4th			-	-		
Lowest Temp this month	h (F): 64 on 2	$29^{\text{th}} \& 30^{\text{th}}$				
-			Heating Degree Days	0 Nor	mal 6	
Record High (F): 107 on 10/01/1980, 10/02/1980			Cooling Degree Days	471 Nor	mal 367	
Record Low (F): 34 on 10/30/1971			Degree base 65°F			

Total October Precipitation	0.13"
Normal October Precipitation	0.58"
Departure from normal	-0.45"
Greatest 24-Hr Precipitation 0.08"	on 10/19
Total Precipitation Year-to-Date	7.46"
Departure from Normal	+0.96"

#### Number of Days:

Clear	19
Partly Cloudy	10
Cloudy	2

Greatest October Precipitation4.40" in 1972Least October Precipitation0.00" in 1973,1995, 1999 and 18 other years0.00" in 1973,

Average Wind Speed 4.9 mph Highest Peak Gust 33 mph from 120° on 19<sup>th</sup>

### TUCSON CLIMATE STATISTICS October 2014

This October was the 3<sup>rd</sup> warmest and 21<sup>st</sup> wettest since 1896.

Avg Max Temp(F)	89.3	Normal	84.8
Avg Min Temp(F)	62.1	Normal	57.3
Avg Mean Temp(F)	75.7	Normal	71.0
Departure from Norm	al (F)	+4.7	

Highest Monthly Avg Temp (F)	76.8 in 1950
Lowest Monthly Avg Temp (F)	63.1 in 1920

Highest Temp this month (F): $98 \text{ on } 4^{\text{th}}$ Lowest Temp this month (F): $57 \text{ on } 29^{\text{th}}$ 

Record High (F): 102 on 10/01/2010, 10/03/1993 Record Low (F): 57 on 10/30/1971

Temperature or precipitation records this month: 8<sup>th</sup> Precip 0.67" set, previous record 0." in 19 25<sup>th</sup> HiMax 95 set, previous record 94 in 1990 25<sup>th</sup> HiMin 64 tied, first set in 1998 26<sup>th</sup> HiMin 64 tied, first set in1983 27<sup>th</sup> HiMin 65 set, previous record 64 in 2004 28<sup>th</sup> HiMin 68 set, previous record 65 in 2008 31<sup>st</sup> HiMin 64 set, previous record 62 in 1987

Tucson Number of Days	of:	
Minimum Temp 60°F or	lower	9
Minimum Temp 70°F or	1	
Maximum Temp 84°F or	4	
Maximum Temp 90°F or	16	
Heating Degree Days	0 Normal	24
Cooling Degree Days	212	
Degree base 65°F		

Total October Precipitation	1.33"
Normal October Precipitation	0.89"
Departure from normal	+0.44"
Greatest 24-Hr Precipitation 0.92"	on 8 <sup>th</sup> -9th
Total Precipitation Year-to-Date	8.02"
Departure from Normal	-2.07"

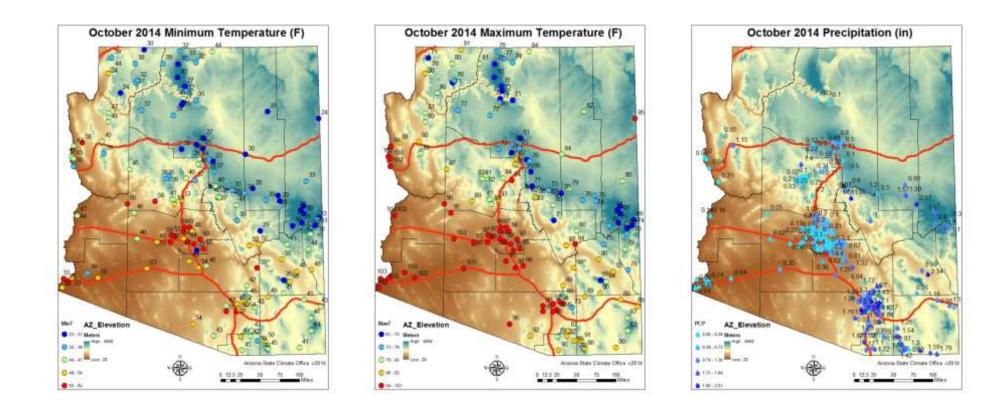
Greatest October Precipitation4.98" in 2000,1983Least October Precipitation0.00" in 2013, 1982and 17 other years0.00" in 2013, 1982

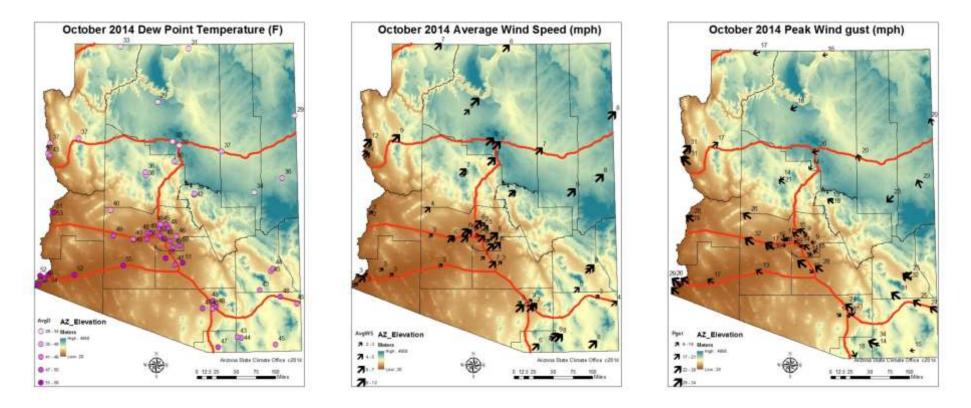
Number of Days:	
Clear	28
Partly Cloudy	1
Cloudy	1
•	

Average Wind Speed	6.5 mph
Highest Peak Gust	$30 \text{ mph from } 150^{\circ} \text{ on } 3^{\text{rd}}$

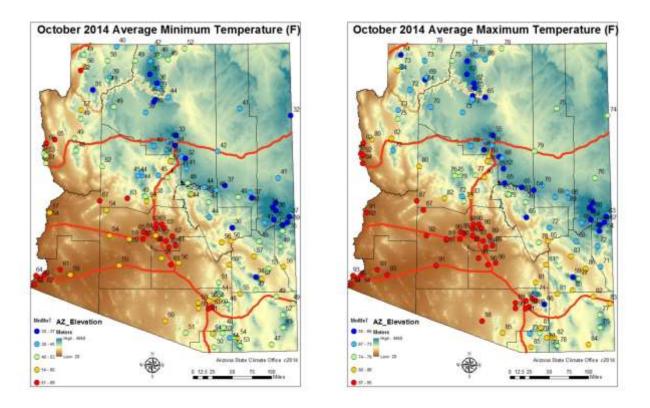
Data are from the National Weather Service and the National Climatic Data Center and are **preliminary**.

Wind Speeds: Dew Points for October:										
Day	Phoer	nix	Flags	taff	ff Tucson Daily Average Dew Po		Point (°F):			
<u>(mph)</u>		Max	Avg	Max	Avg	Max	Day	Phx	Tuc	Flg
1	5.2	16	4.2	22	6.8	20	1	43	40	21
2	5.6	23	6.1	26	5.9	15	2	38	33	25
3	5	20	3.7	19	6.8	30	3	40	36	25
4	4.4	15	3	21	8.2	21	4	44	42	26
5	5.4	14	2.4	17	6.5	18	5	45	40	28
6	5.1	14	2.3	18	4.3	14	6	48	42	31
7	6.2	16	3.1	18	7.3	21	7	55	55	38
8	7.3	21	5.5	23	6.2	24	8	58	61	42
9	5.8	18	5.2	25	5.8	20	9	62	61	40
10	6	14	4.1	21	5.3	17	10	60	56	38
11	4.9	13	4.9	21	6.2	16	11	57	52	33
12	7.9	24	7.8	38	6.9	25	12	37	46	23
13	5.6	22	9.1	30	4.8	15	13	36	39	21
14	5.3	17	2.2	17	7.7	26	14	38	41	29
15	4.2	17	4.9	29	7.6	22	15	47	45	31
16	3.8	15	4.3	21	4.6	15	16	47	44	34
17	5.3	24	1.6	16	6.4	17	17	46	43	35
18	3.9	14	2.1	17	6.7	18	18	50	47	37
19	5.2	33	3.5	36	7.3	24	19	51	48	36
20	4.1	16	2.1	20	8	23	20	52	49	36
21	4.9	15	3.9	23	6.4	24	21	52	48	37
22	3.3	13	3.1	22	6.3	15	22	51	46	33
23	3.4	12	2.3	17	6	15	23	49	46	30
24	3.9	15	2.9	16	5.8	18	24	49	46	36
25	5.8	15	6.2	30	7.1	22	25	53	50	37
26	4.3	16	9.5	30	6.1	22	26	52	50	37
27	4.6	14	4.2	21	5.5	16	27	48	44	34
28	3.8	18	1.9	16	5.7	17	28	45	44	27
29	3.6	13	2.3	14	6.6	15	29	43	39	25
30	3.4	14	2.8	16	6.7	17	30	44	42	28
31	5.5	21	7.7	32	9.9	28	31	45	37	23



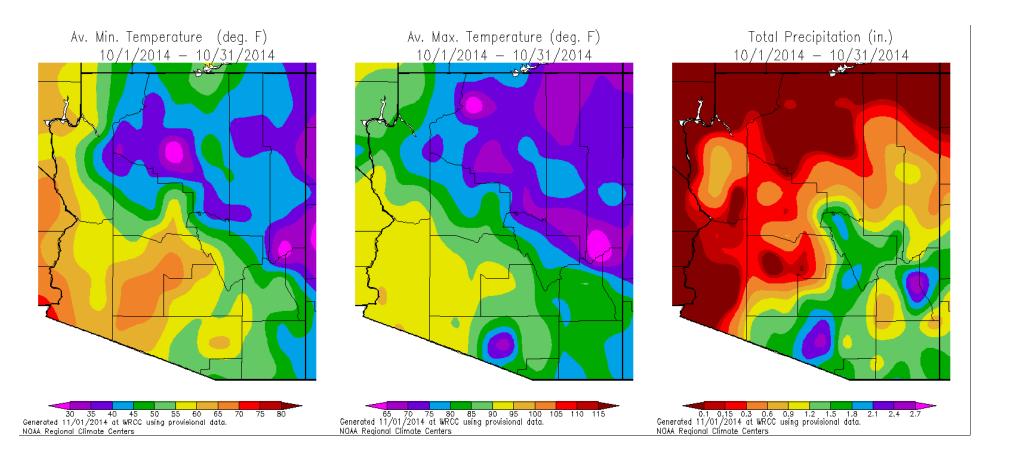


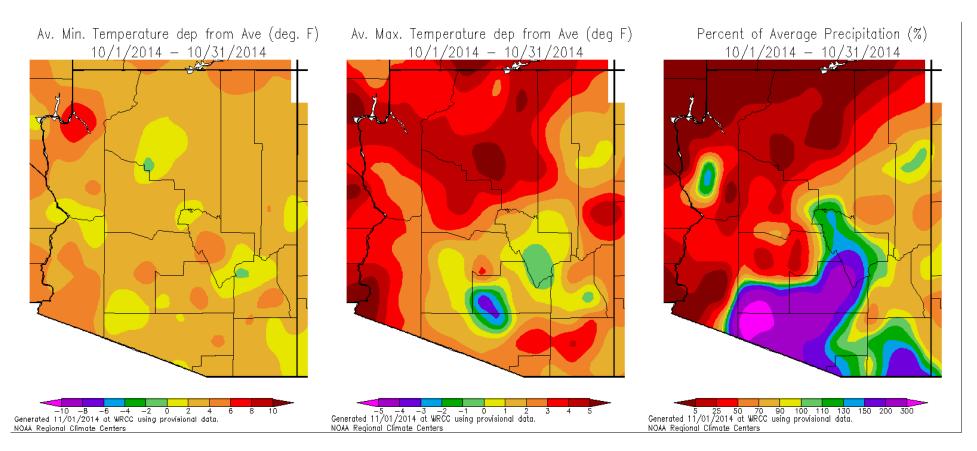
The lowest minimum temperature was 23°F at Greer, and the highest minimum was 64°F at Yuma. The lowest maximum temperature of 61°F was recorded at Snowslide Canyon, while the highest maximum temperature of 103°F was reported at Yuma. The lowest rainfall amount was 0.00" at several stations in Arizona and the highest was 2.51" at Tucson. The lowest dew point was 29°F at Grand Canyon Airport and the highest was 56°F at Yuma. The highest average wind speed was 12 mph at Laughlin. The highest peak wind gust was 34 mph at Pioneer Airport along the Colorado River.



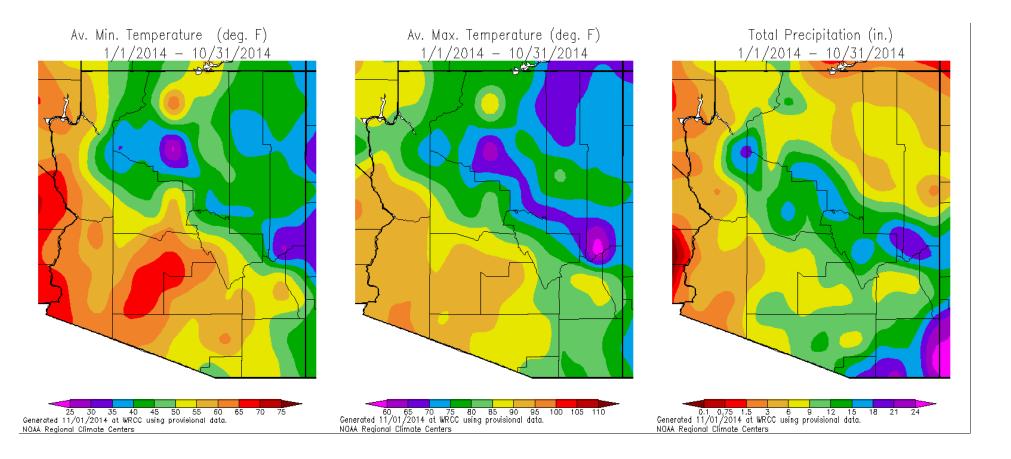


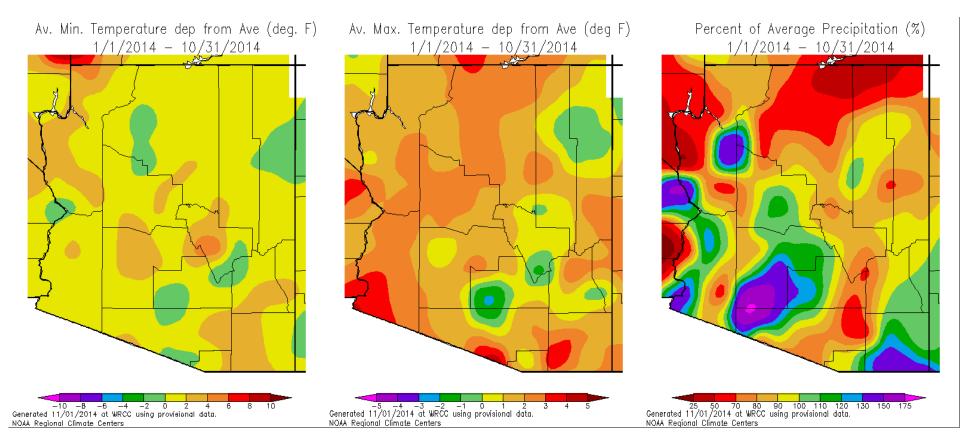
The highest average minimum temperature was 69°F at Yuma and the lowest average minimum temperature was 30°F at Grand Canyon Airport. The highest average maximum temperature was 95°F at Yuma and lowest average maximum temperature was 55°F at Snowslide Canyon.





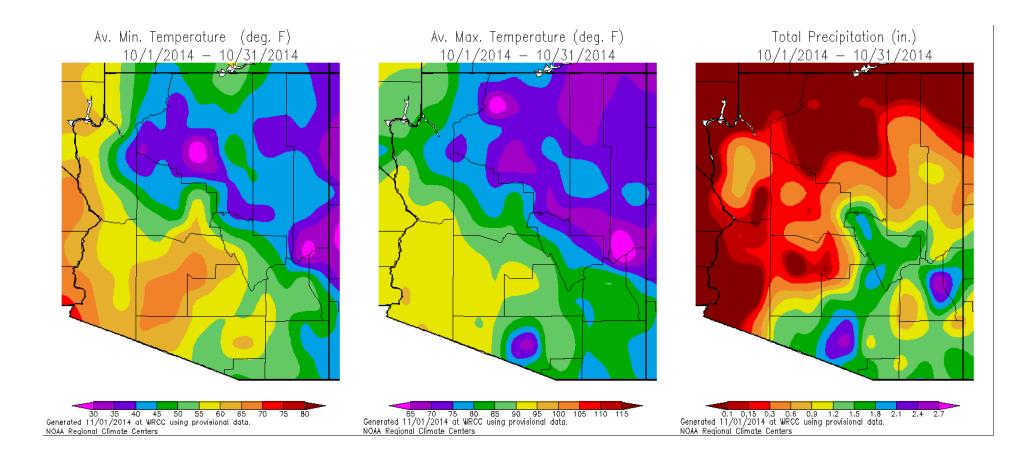
October minimum temperatures were 2-4°F warmer than normal statewide with central Mohave County even warmer at 6-8°F above average. Daytime temperatures were 1-6°F warmer than normal in northern Arizona, and 0-3°F warmer than normal in most of southeastern Arizona. Only southern Gila and western Pinal counties were cooler than normal. October precipitation was much higher than normal in Cochise, Pima, Pinal and southern Maricopa counties. The northwestern half of the state was less than 50% of normal, with extremely dry conditions across the northern border.

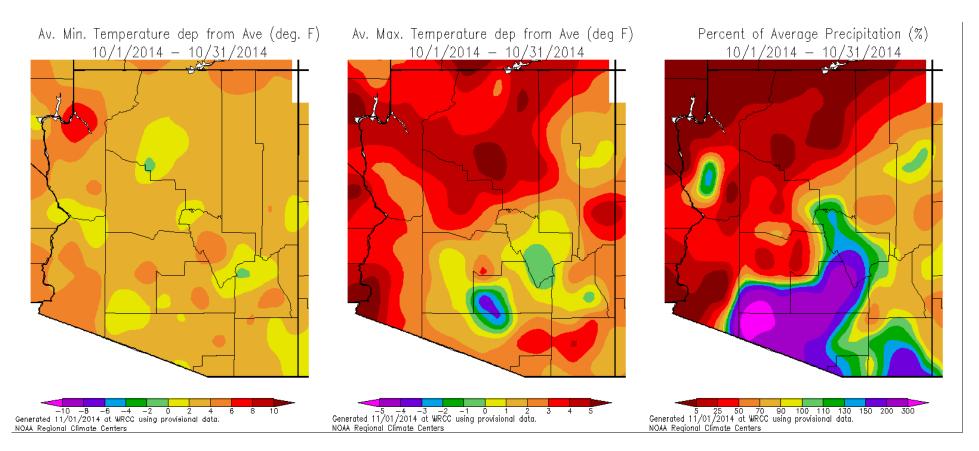




Calendar Year 2014

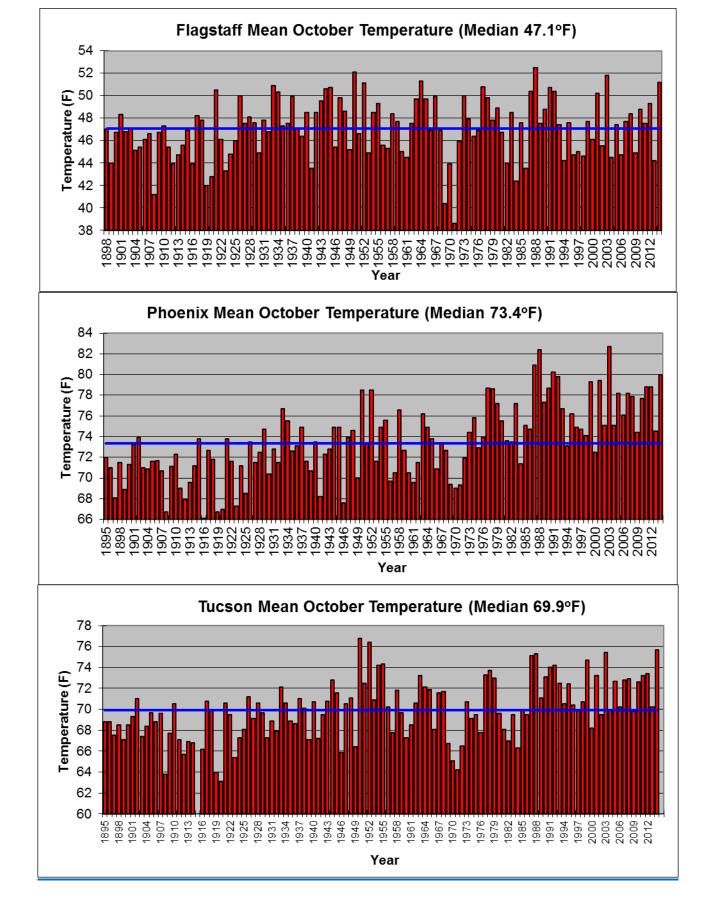
Calendar year minimum temperatures have been 0-2°F warmer than normal statewide with a few warmer and cooler pockets. Daytime highs have been 0 to 3°F warmer than normal statewide, though western Pinal, southern Gila and central Apache counties have been cooler than normal. Precipitation so far this year has been less than 90% of normal in much of eastern Arizona, and greater than 100% of normal in Cochise, eastern Graham, southern Greenlee, western Pina, Yuma, Pinal, and La Paz counties. Mohave County has seen both wetter than normal and drier than normal conditions.

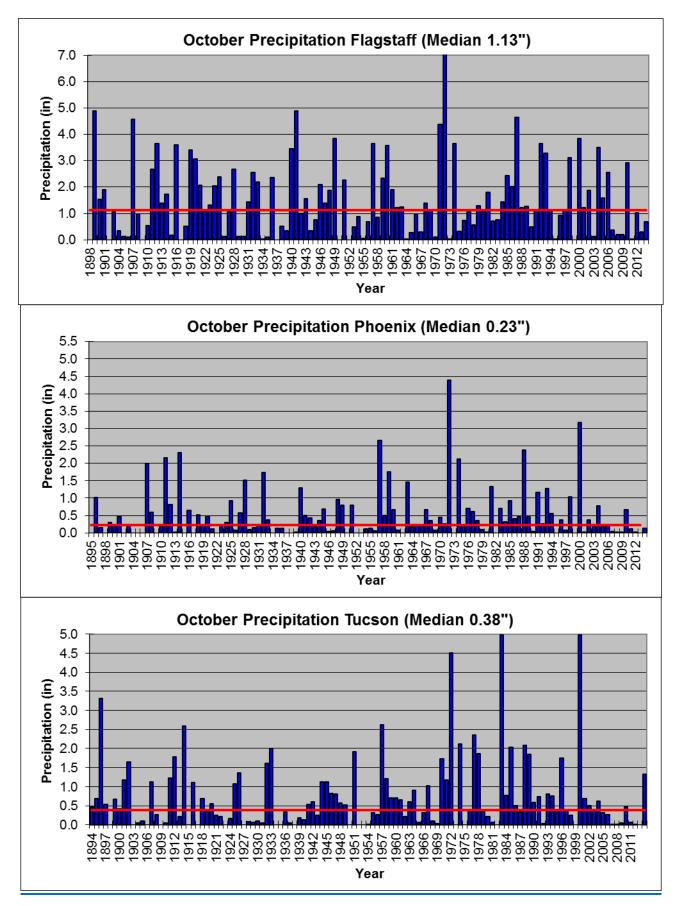




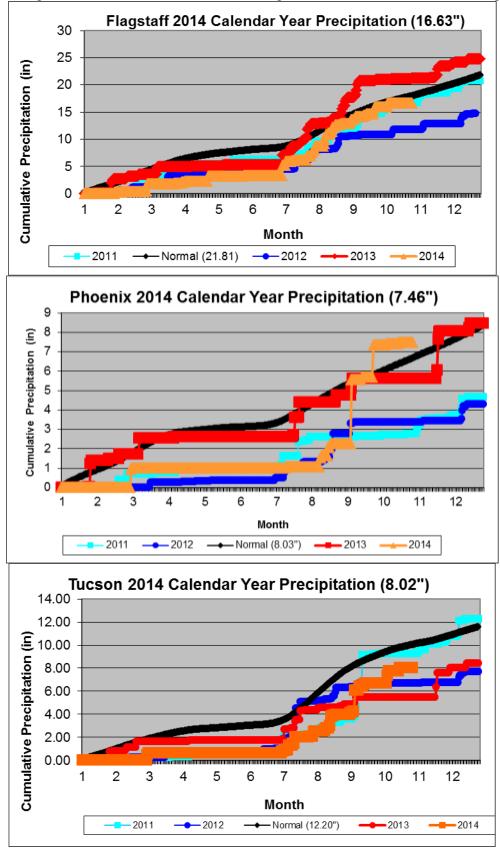
### 2015 Water Year

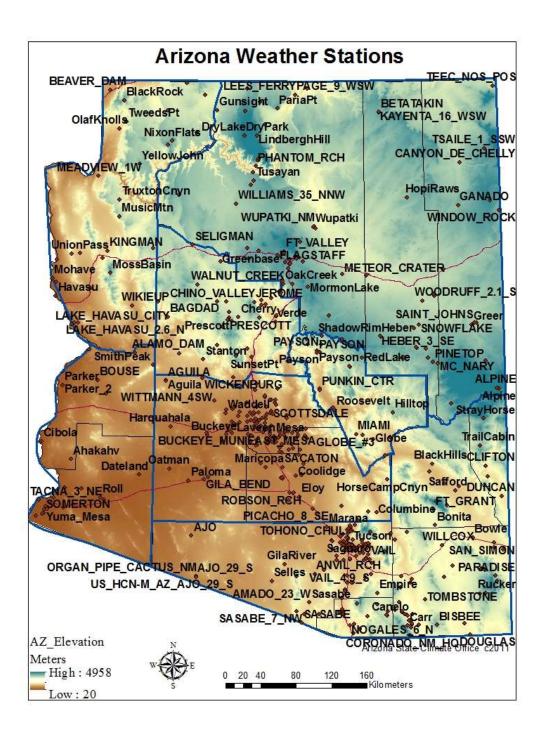
The new water year minimum temperatures were 2-4°F warmer than normal statewide with central Mohave County even warmer at 6-8°F above average. Daytime temperatures were 1-6°F warmer than normal in northern Arizona, and 0-3°F warmer than normal in most of southeastern Arizona. Only southern Gila and western Pinal counties were cooler than normal. Precipitation was much higher than normal in Cochise, Pima, Pinal and southern Maricopa counties. The northwestern half of the state was less than 50% of normal, with extremely dry conditions across the northern border.





<u>2014 Cumulative Precipitation Graphs – Flagstaff, Phoenix and Tucson:</u> Flagstaff is now near average while Phoenix is wetter than average and Tucson is still below average.





The downloadable normals and extremes calendars use the following abbreviations:

NORM = 30 year (1971-2000) average value (degrees Fahrenheit (F))

OBS = The temperature observation for that day this year

AVG = Average daily temperature

- HI MAX = Highest maximum temperature for that day (F)
- LO MAX = Lowest maximum temperature for that day (F)
- LO MIN = Lowest minimum temperature for that day (F)
- HI MIN = Highest minimum temperature for that day (F)
- Mx PCP = Maximum precipitation for that day (inches)

Mx SNO = Maximum snowfall for that day (inches)