



#### July 2014 Temperature and Precipitation Summary

**July 1<sup>st</sup> – 16<sup>th</sup>:** The monsoon activity began on July 1<sup>st</sup> with 0.12” of rain at Valle, near Flagstaff. On the 2<sup>nd</sup>, the north rim of the Grand Canyon received 0.26”, and Alpine in the White Mountains also had 0.15”. By the 3<sup>rd</sup>, the activity became more widespread with Coronado NM in southern Arizona, Tucson, Nogales, Elgin, Sonora Desert Museum and Prescott all receiving rain showers. Totals were 0.50” or less, but the moisture was spreading across the state as the high pressure settled in over the Four Corners, creating a strong southerly flow into the state. By the 4<sup>th</sup> the moisture across the state was sufficient to bring higher rain amounts, with Williams receiving 0.71”, Flagstaff had 0.59”, and Youngtown 0.86”. By the 5<sup>th</sup> daily totals passed one inch, with 1.31” at Flagstaff. On the 6<sup>th</sup>, Valle had 0.72”, and Sonora Desert Museum had 0.83”. On the 7<sup>th</sup> Nogales had 1.05” and Sonora Desert Museum had 1.00”. The first two days of July saw the highest temperatures at 115°F in Bullhead City, dropping to 110°F on the 3<sup>rd</sup>, then dropping below 110°F, until the 6<sup>th</sup>. However, most other locations in the state remained below 110°F for the first 11 days of the month. Rainfall totals over an inch again fell on the 9<sup>th</sup> as Eloy had 1.44”, Coronado NM had 1.15”, and on the 11<sup>th</sup>, Coronado NM had 1.25”. On the 13<sup>th</sup> through the 15<sup>th</sup>, heavy rainfall was reported at Coronado NM (1.11” on the 13<sup>th</sup>, 1.56” on the 15<sup>th</sup>), Davis Monthan AFB (1.20” on the 14<sup>th</sup>), Sonora Desert museum (1.81” on the 14<sup>th</sup>), Alpine (1.71” on the 14<sup>th</sup>), and Williams (0.82” on the 15<sup>th</sup>). From a statewide perspective, there were no breaks in the monsoon during the first half of the month. The high humidity kept daytime temperatures a little cooler than normal, but nighttime temperatures were warmer than normal.

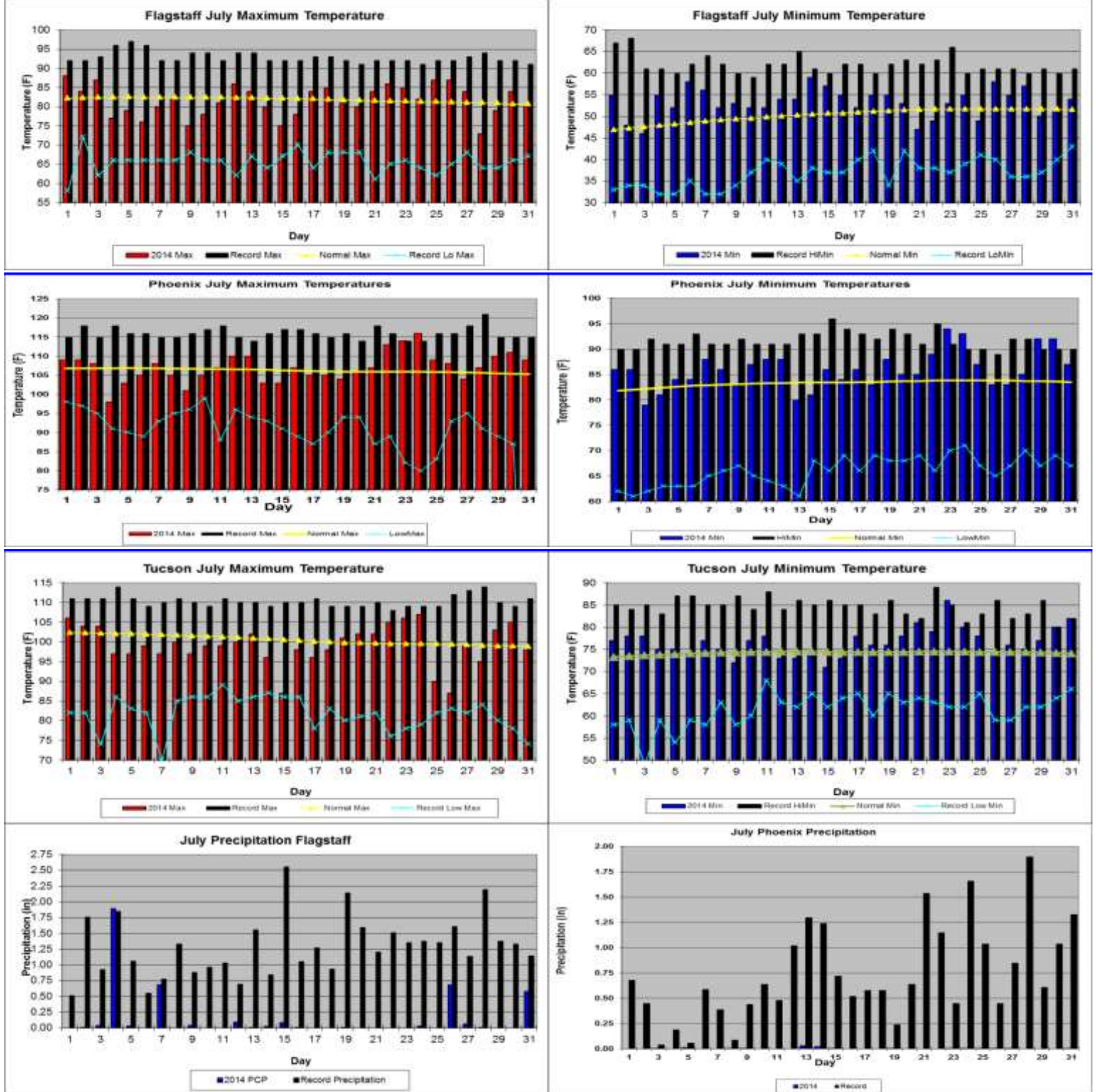
**July 17<sup>th</sup> – 31<sup>st</sup>:** The first break of the monsoon began on the 17<sup>th</sup> when Bisbee had 0.14” and only a few other stations reported any rain. There was no rain reported in the state the 18<sup>th</sup>, 20<sup>th</sup> or 21<sup>st</sup>. On the 19<sup>th</sup>, only 0.06” was reported at Springerville. The 22<sup>nd</sup> through the 23<sup>rd</sup>, only northern and eastern Arizona received any rainfall, but totals were 0.26” or less at Alpine, Winslow. By the 24<sup>th</sup>, a lot more moisture moved in and Prescott had 1.63”, 1.52” on the 26<sup>th</sup>, and 0.92” on the 27<sup>th</sup>. Lost Dutchman State Park at Apache Junction had 0.47” on the 26<sup>th</sup>. The 27<sup>th</sup> through 29<sup>th</sup> also had high rainfall totals with 0.92” at Prescott and 0.74” at Flagstaff on the 27<sup>th</sup>, 0.84” at Bellemont and 1.74” at Bisbee-Douglass on the 28<sup>th</sup>, 1.35” at Alpine and 0.95” at Douglas on the 29<sup>th</sup>. The second half of the month had a return of extremely high daytime temperatures, particularly along the lower Colorado River valley in western Arizona and in central Arizona. The highest was 118°F at East Mesa on the 24<sup>th</sup> and Bullhead City on the 25<sup>th</sup>. Phoenix reported sandstorm conditions on the 25<sup>th</sup>, 26<sup>th</sup>, and 27<sup>th</sup>, but only traces of rainfall were reported each day from the 23<sup>rd</sup> through the 27<sup>th</sup>. On the 25<sup>th</sup>, winds peaked at 46 mph in Phoenix due to the sandstorm. HiMin records were set in Phoenix and Tucson during this half of the month. On the 24<sup>th</sup>, Tucson set the new HiMin at 86 degrees, beating the previous record of 85 first set in 2006. For Phoenix, HiMin records were set on the 25<sup>th</sup>, 30<sup>th</sup>, and 31<sup>st</sup> of this month. However, daytime highs were cooler than average for Mohave, southern Navajo, and Pinal and Pima counties. Further record details can be found in the Climate Statistics section of this report starting on page 4.

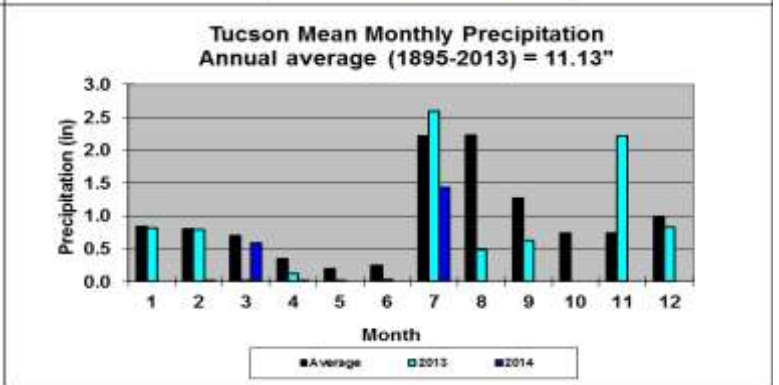
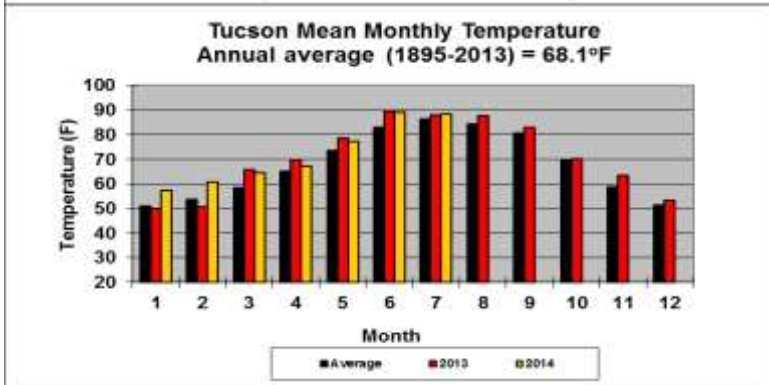
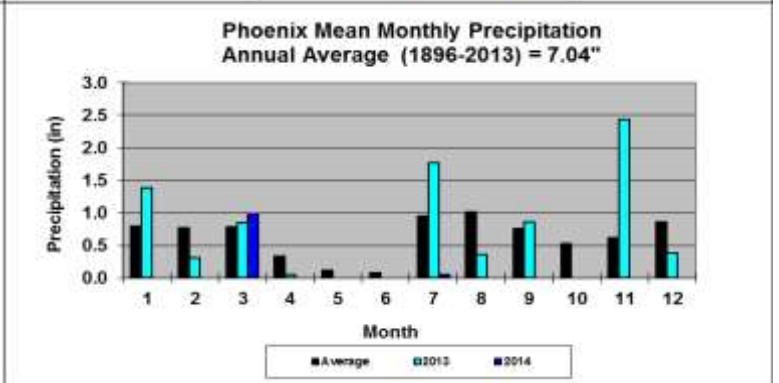
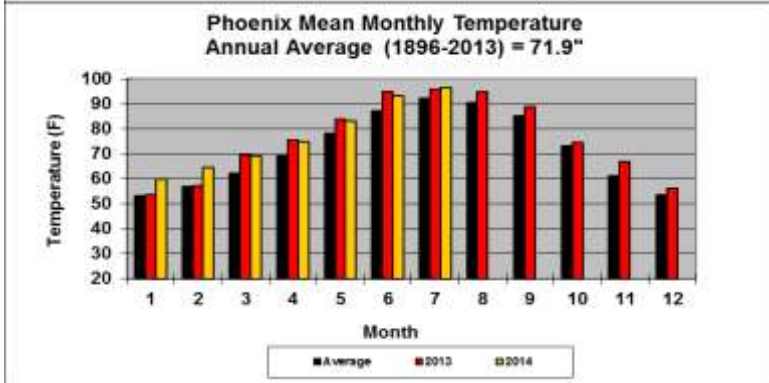
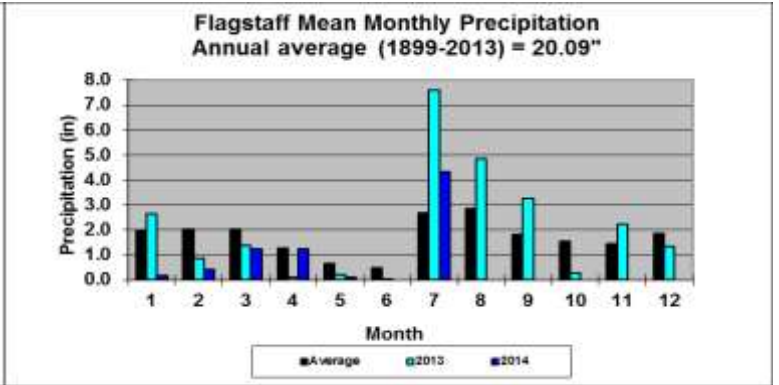
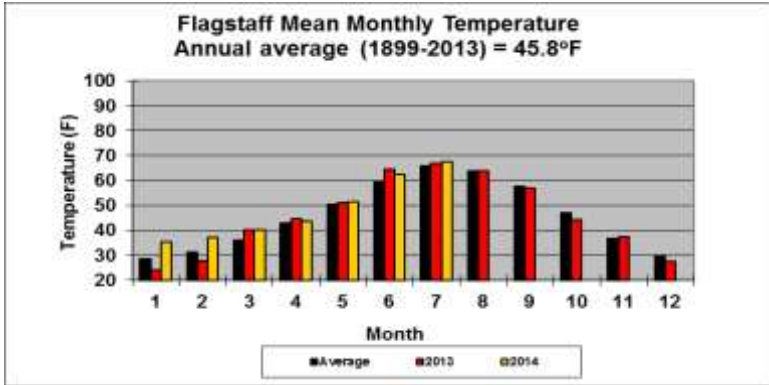
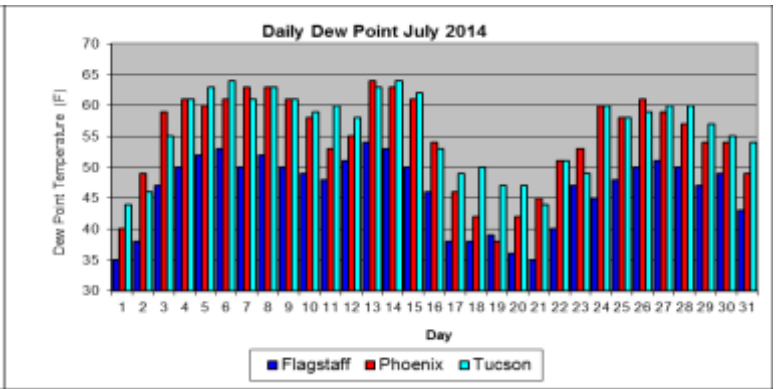
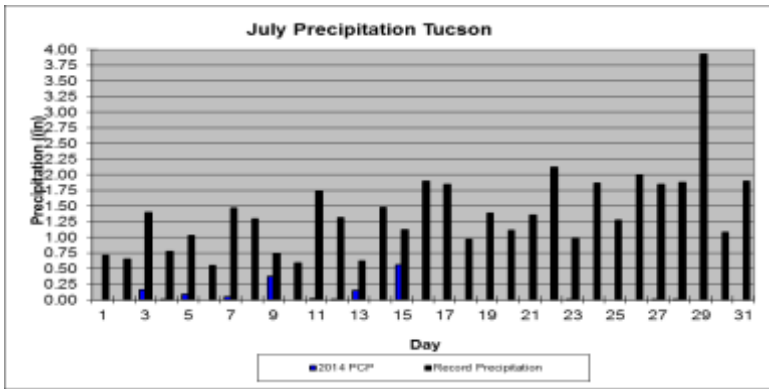
**In This Issue:** Overview of July, graphs of the July daily maximum and minimum temperatures, precipitation, mean daily dew points for Flagstaff, Phoenix, and Tucson; July climate statistics, maps of mean monthly maximum and minimum temperatures, precipitation, dew points, wind speeds for July; and graphs of the mean July 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.

**\*\*Note:** 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.

**July 2014 Daily Temperature, Precipitation, & Dew Point for Flagstaff, Phoenix, and Tucson**







## FLAGSTAFF CLIMATE STATISTICS

July 2014

This July was the 14<sup>th</sup> warmest on record, but had no significant ranking in precipitation.

Avg Max Temp (F)	81.7	Normal	81.2
Avg Min Temp (F)	53.3	Normal	50.9
Avg Mean Temp (F)	67.5	Normal	66.1
Departure from Normal (F)	1.4		

Highest Monthly Avg Temp (F)	70.0	in 2002
Lowest Monthly Avg Temp (F)	61.1	in 1912

Highest Temp this month (F): 88 on 1<sup>st</sup>  
 Lowest Temp this month (F): 46 on 3<sup>rd</sup>

Record High (F): 97 on 07/05/1973

Record Low (F): 32 on 07/08/1955  
 07/07/1955  
 07/05/1955

Temperature or precipitation records this month:  
 5<sup>th</sup> Precip of 1.89” set, previous record 1.85” in 1986  
 6<sup>th</sup> Precip of 0.53” set, previous record 0.48” in 1952

Flagstaff Number of Days of:  
 Minimum Temp 55°F or higher 13

Minimum Temp 50°F or lower	6
Maximum Temp 85°F or higher	8
Maximum Temp 75°F or lower	3

Heating Degree Days	1	Normal	32
Cooling Degree Days	84	Normal	64
Degree base 65°F			

Total July Precipitation	4.32”
Normal July Precipitation	2.61”
Departure from normal	1.71”
Greatest 24-Hr Precipitation	1.89” on 07/04-05
Total Precipitation Year-to-Date	7.53”
Departure from Normal	-3.55”

Number of Days:

Clear	20
Partly Cloudy	10
Cloudy	1

Greatest July Precipitation	7.58” in 1919
Least July Precipitation	0.00” in 1993

Average Wind Speed	5.2 mph
Highest Peak Gust	42 mph from 220° on 31 <sup>st</sup>

## PHOENIX CLIMATE STATISTICS

July 2014

This July was the 6<sup>th</sup> warmest on record and was ranked 4<sup>th</sup> driest on record.

Avg Max Temp(F)	107.1	Normal	106.1
Avg Min Temp(F)	85.9	Normal	83.5
Avg Mean Temp (F)	96.5	Normal	94.8
Departure from Normal (F)	1.7		

Highest Monthly Avg Temp (F)	98.3	in 2009
Lowest Monthly Avg Temp (F)	85.4	in 1912

Highest Temp this month (F): 116 on 24<sup>th</sup>  
 Lowest Temp this month (F): 79 on 3<sup>rd</sup>

Record High (F): 121 on 07/28/1995

Record Low (F): 63 on 07/05/1912  
 07/04/1912

Temperature or precipitation records this month:  
 25<sup>th</sup> HiMin set 93, previous record 90 in 2006  
 30<sup>th</sup> HiMin set 92, previous record 90 in 1980  
 31<sup>st</sup> HiMin set 92, previous record 90 in 1996

Phoenix Number of Days of:

Minimum Temp 80°F or lower	2
Minimum Temp 90°F or higher	4
Maximum Temp 100°F or lower	1
Maximum Temp 115°F or higher	1

Heating Degree Days	0	Normal	0
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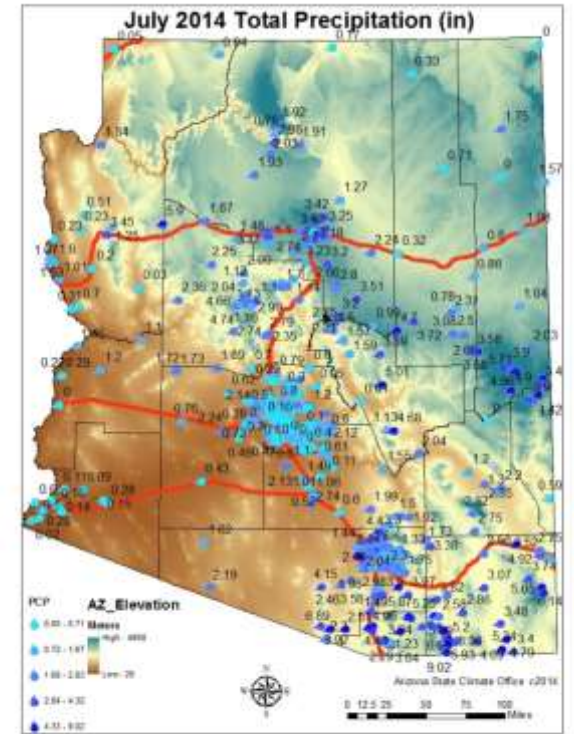
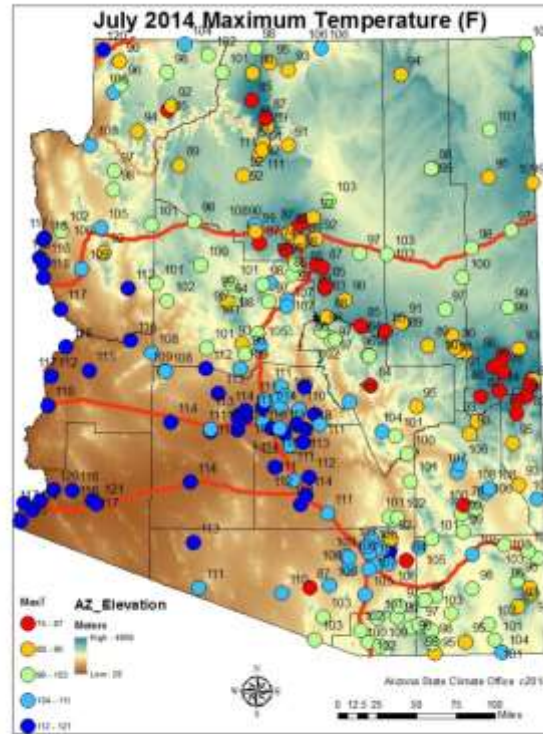
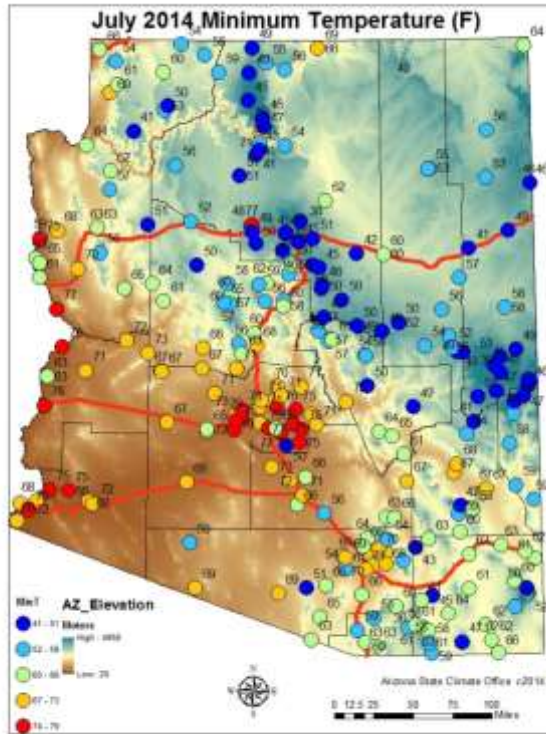


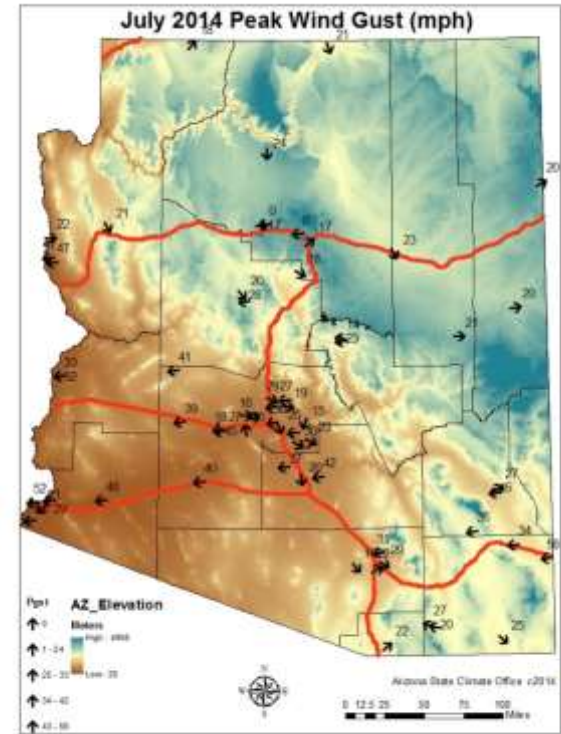
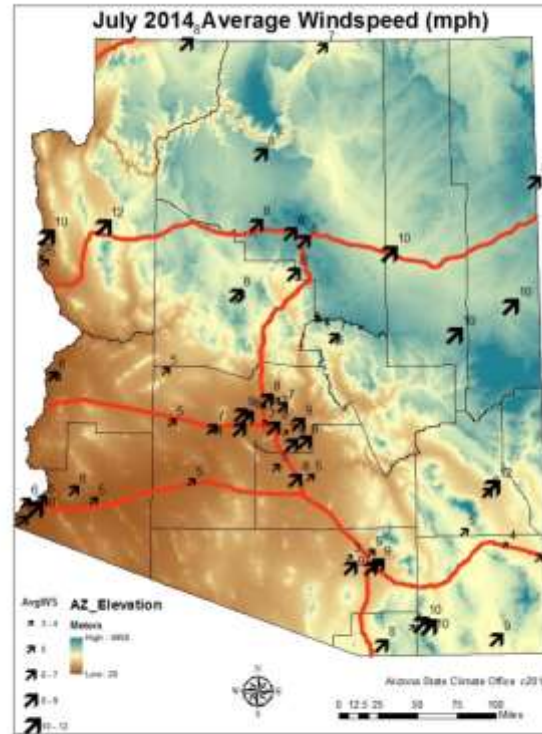
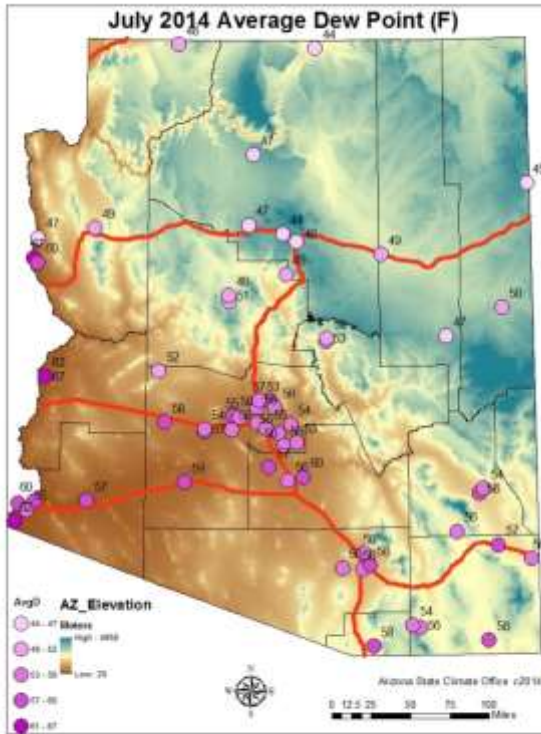
**Wind Speeds:**

Day	Phoenix		Flagstaff		Tucson	
	Avg	Max	Avg	Max	Avg	Max
1	6.3	22	6.2	35	7.1	30
2	6	29	8.5	30	9	29
3	8.3	56	6.6	30	8.5	34
4	5.5	18	4.5	35	8.3	24
5	7.8	38	3.5	19	6.9	26
6	6.9	29	4.2	18	5.1	30
7	7	30	3.2	38	9.7	36
8	8.4	33	5.6	29	7.2	33
9	6.7	22	3	17	8.5	31
10	8	27	4.9	32	7.6	27
11	7.7	25	5	19	9.4	37
12	8.3	24	5.8	27	7.2	31
13	10.8	56	4.7	25	10	49
14	7.3	34	6.3	26	7.5	27
15	6.7	30	4.6	25	7.5	26
16	7.3	29	5.8	27	7.3	23
17	6.9	22	8.1	29	5.7	18
18	6.3	21	6.5	26	7.1	22
19	6.5	20	5.8	21	4.9	20
20	6.1	19	6.7	26	5.7	23
21	5.7	22	6	27	7.2	21
22	6.6	23	3.5	22	5	22
23	7.4	28	4.1	22	12.7	40
24	9.5	26	3.2	22	10.8	30
25	10.6	46	5.6	26	7.8	48
26	9.6	38	5.1	29	8.4	26
27	10.7	32	5.7	24	11.2	40
28	6.8	21	2.9	19	7.6	31
29	7.9	24	6.8	27	4.5	19
30	5.4	20	5	25	7.4	38
31	8.3	34	4.5	42	8.1	25

**Dew Points for July:****Daily Average Dew Point (°F):**

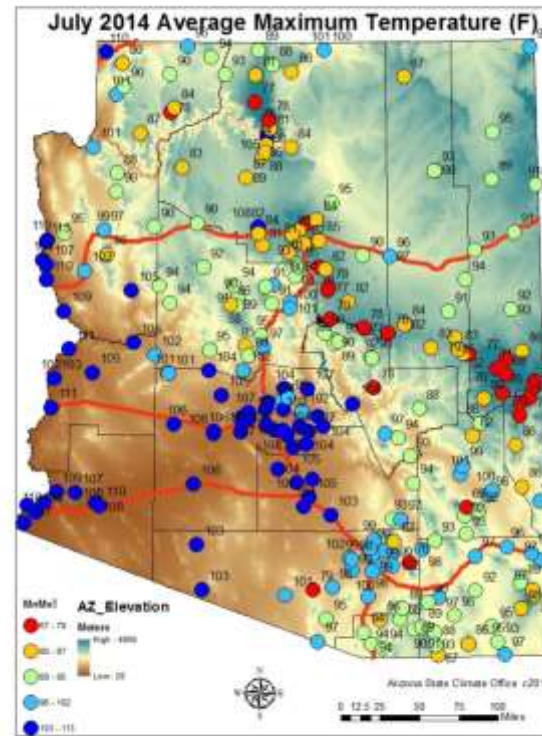
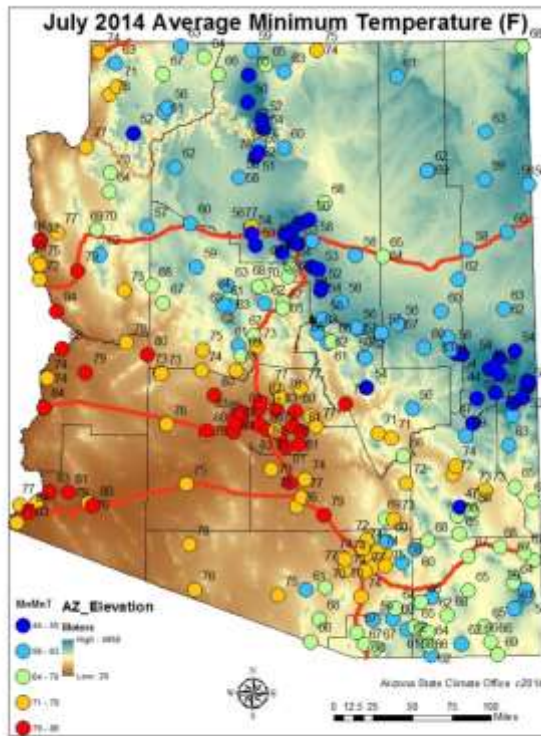
Day	Phx	Tuc	Flg
1	40	44	35
2	49	46	38
3	59	55	47
4	61	61	50
5	60	63	52
6	61	64	53
7	63	61	50
8	63	63	52
9	61	61	50
10	58	59	49
11	53	60	48
12	55	58	51
13	64	63	54
14	63	64	53
15	61	62	50
16	54	53	46
17	46	49	38
18	42	50	38
19	38	47	39
20	42	47	36
21	45	44	35
22	51	51	40
23	53	49	47
24	60	60	45
25	58	58	48
26	61	59	50
27	59	60	51
28	57	60	50
29	54	57	47
30	54	55	49
31	49	54	43





The lowest minimum temperature was 30°F at Sonoita, and the highest minimum was 79°F at Phoenix. The lowest maximum temperature of 74°F was recorded at Snowslide Canyon, while the highest maximum temperature of 121°F was reported at Tacna. The lowest rainfall amount was 0.00” at many stations in Arizona and the highest was 9.02” at Coronado National Monument. The lowest dew point was 44°F at Flagstaff and Page and the highest was 67°F at Mohave and Parker. The highest peak wind gust was 58 mph at San Simon.

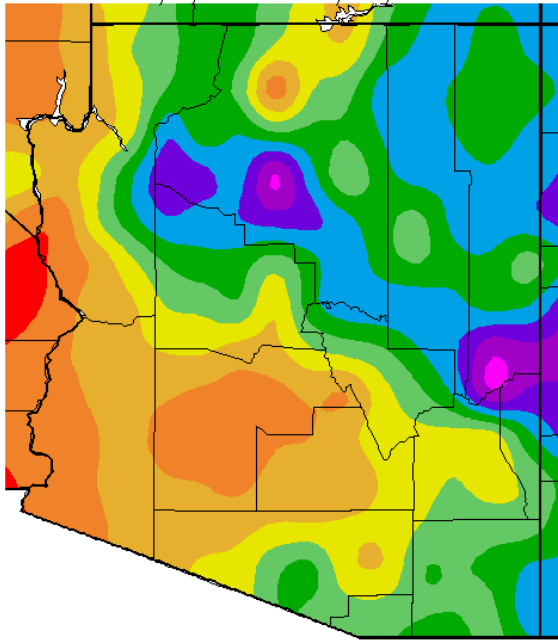




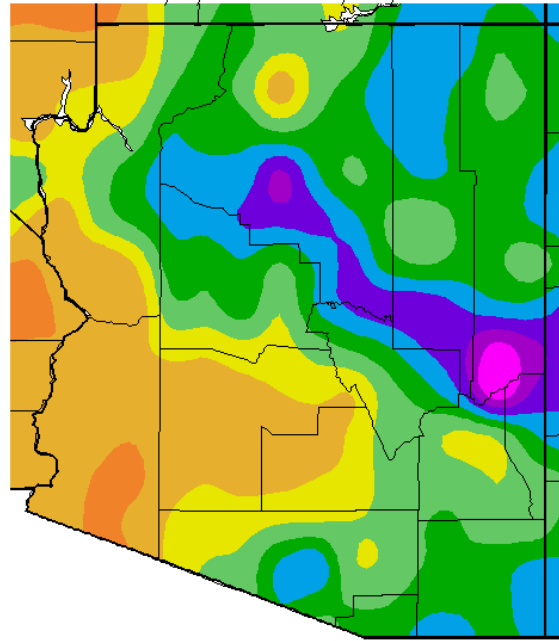
July 2014

The highest average minimum temperature was 86°F at Phoenix Sky Harbor AP and the lowest average minimum temperature was 44°F at Sunrise Mountain. The highest average maximum temperature was 113°F at Bullhead City and lowest average maximum temperature was 67°F at Snowslide Canyon.

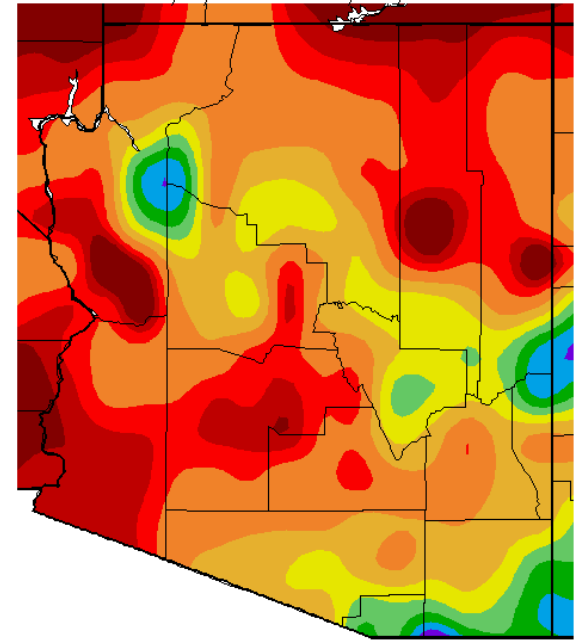
Av. Min. Temperature (deg. F)  
7/1/2014 - 7/31/2014



Av. Max. Temperature (deg. F)  
7/1/2014 - 7/31/2014



Total Precipitation (in.)  
7/1/2014 - 7/31/2014

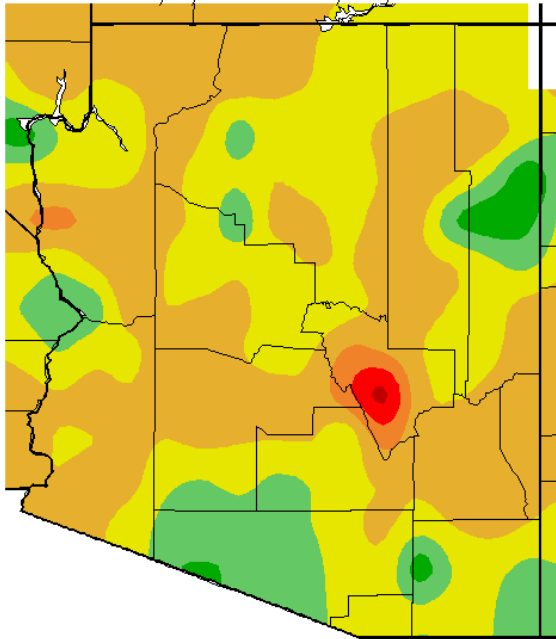


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NOAA Regional Climate Centers

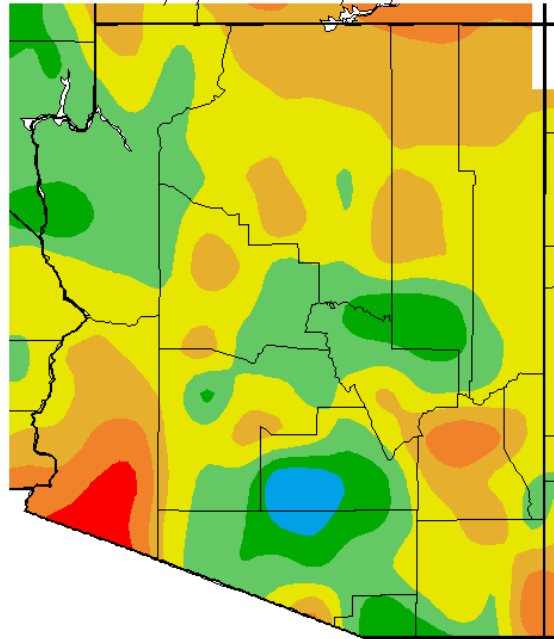
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Av. Min. Temperature dep from Ave (deg. F)  
7/1/2014 – 7/31/2014



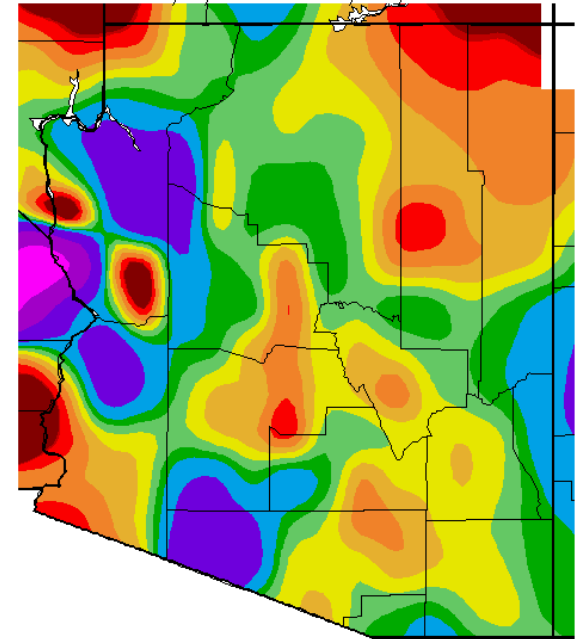
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Av. Max. Temperature dep from Ave (deg F)  
7/1/2014 – 7/31/2014



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NOAA Regional Climate Centers

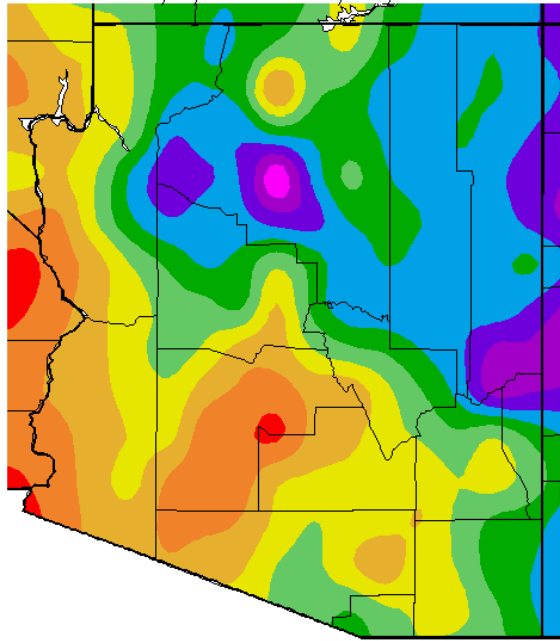
Percent of Average Precipitation (%)  
7/1/2014 – 7/31/2014



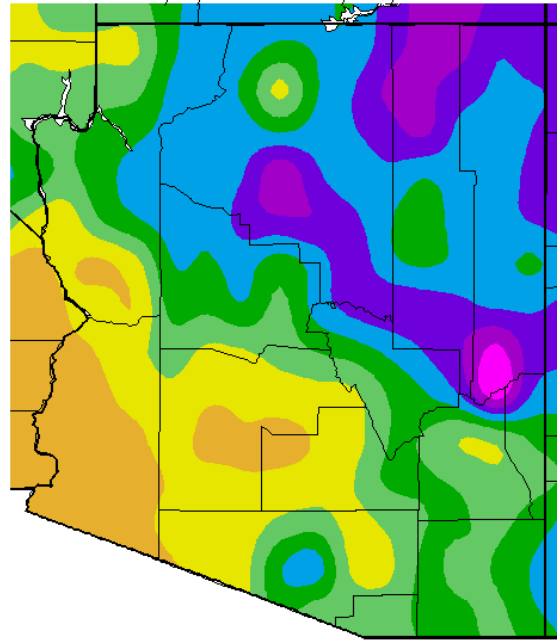
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July minimum temperatures were 2-4°F cooler than normal in central Apache County, but 0-4°F warmer than normal across most of the state. Daytime temperatures were 0-3°F cooler than normal in south central and central Arizona, but 0-2°F warmer than normal across much of the state. Yuma County was 2-4°F warmer than normal. July precipitation has been heavy in La Paz and Mohave and western Pima counties, near average along the Mogollon Rim, and drier than average on the Colorado Plateau.

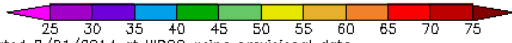
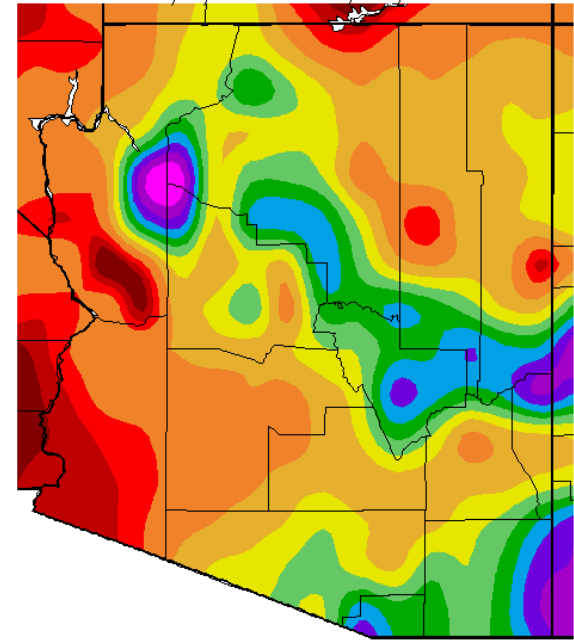
Av. Min. Temperature (deg. F)  
1/1/2014 – 7/31/2014



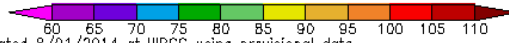
Av. Max. Temperature (deg. F)  
1/1/2014 – 7/31/2014



Total Precipitation (in.)  
1/1/2014 – 7/31/2014



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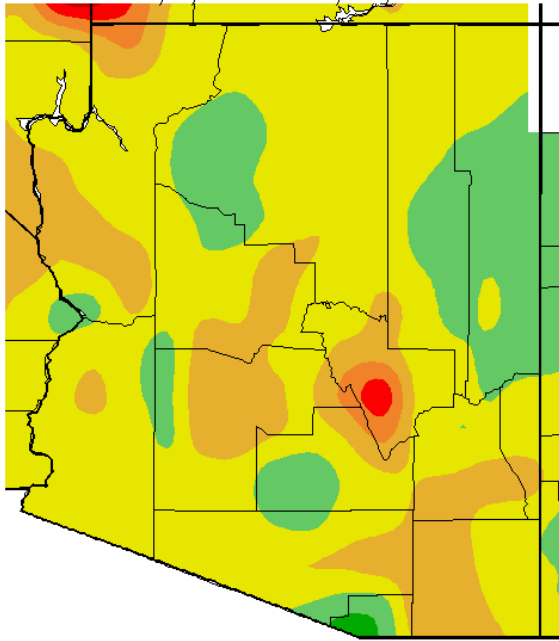
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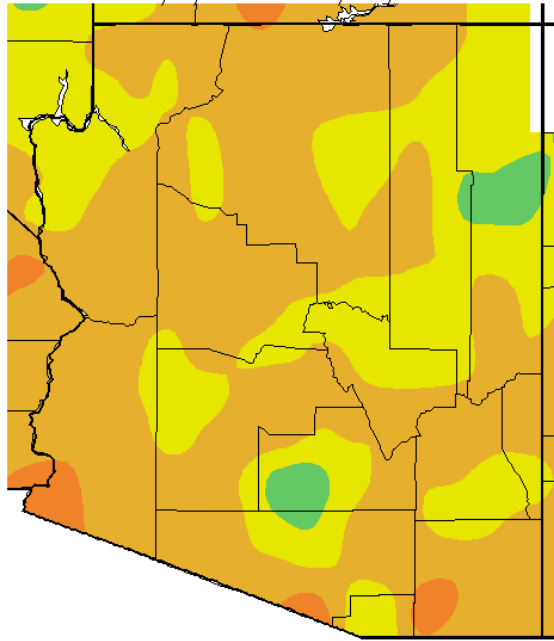


Av. Min. Temperature dep from Ave (deg. F)  
1/1/2014 – 7/31/2014



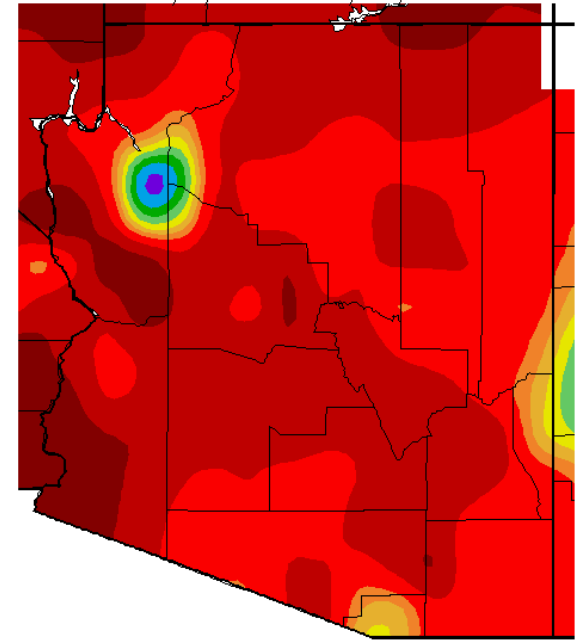
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Av. Max. Temperature dep from Ave (deg F)  
1/1/2014 – 7/31/2014



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Percent of Average Precipitation (%)  
1/1/2014 – 7/31/2014

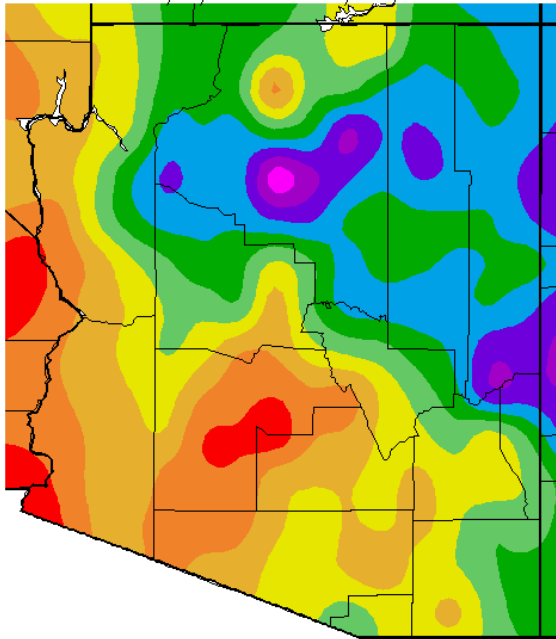


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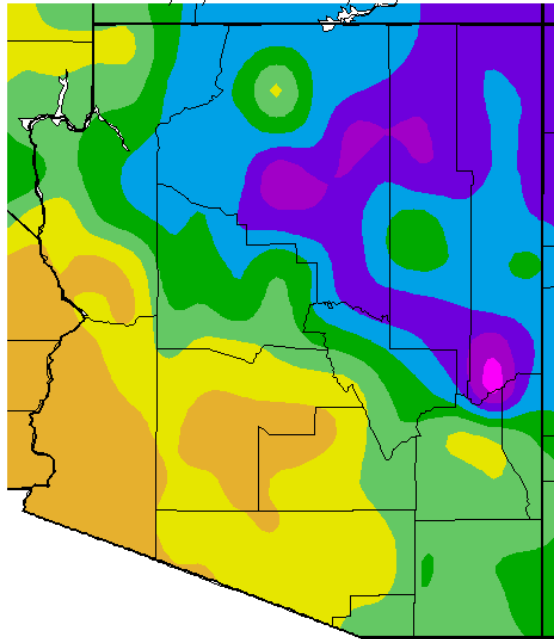
### Calendar Year 2014

Calendar year minimum temperatures ranged from 2°F cooler along the eastern border to 4 to 6°F warmer than average in Gila County. Daytime highs have been 0 to 4°F warmer than normal statewide. Precipitation so far this year has been less than 50% of normal statewide, with central Navajo and Apache counties at 70% of normal and the southwestern quarter of the state and the lower Colorado River Valley have received less than 50% of normal precipitation.

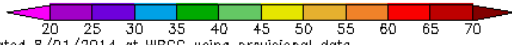
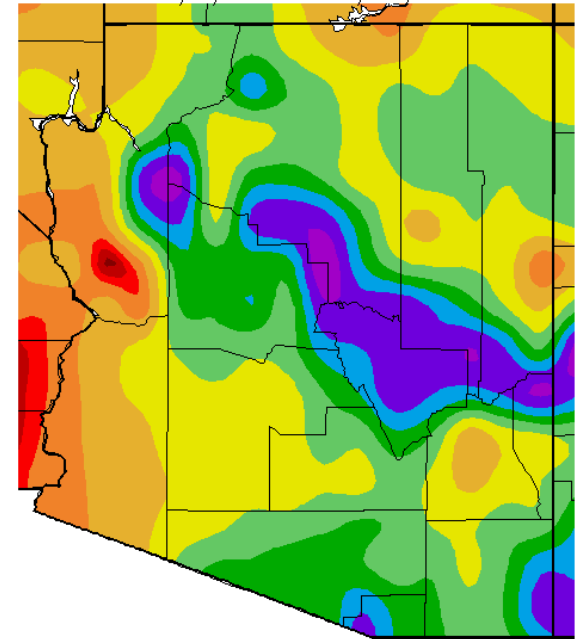
Av. Min. Temperature (deg. F)  
10/1/2013 – 7/31/2014



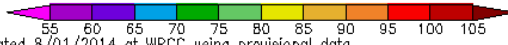
Av. Max. Temperature (deg. F)  
10/1/2013 – 7/31/2014



Total Precipitation (in.)  
10/1/2013 – 7/31/2014



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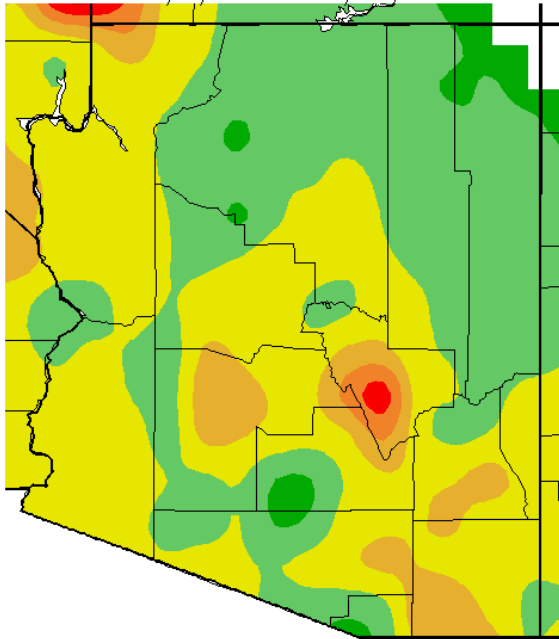


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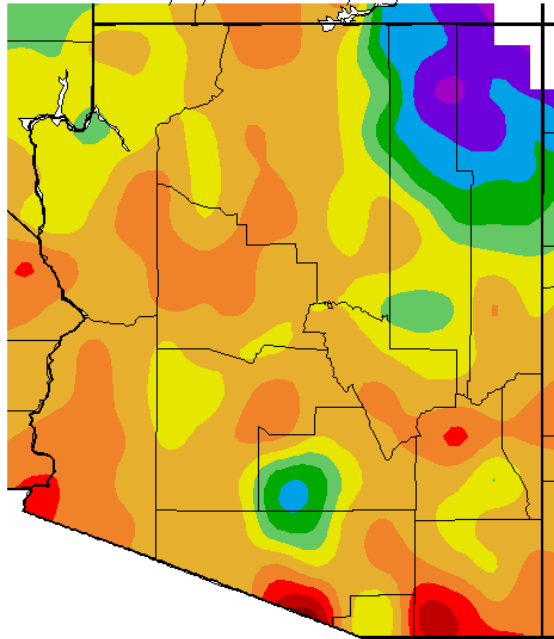
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Av. Min. Temperature dep from Ave (deg. F)  
10/1/2013 – 7/31/2014



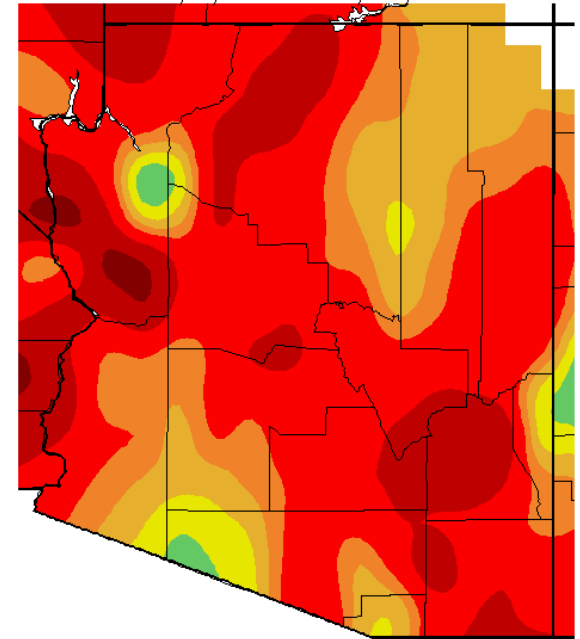
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Av. Max. Temperature dep from Ave (deg F)  
10/1/2013 – 7/31/2014



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Percent of Average Precipitation (%)  
10/1/2013 – 7/31/2014

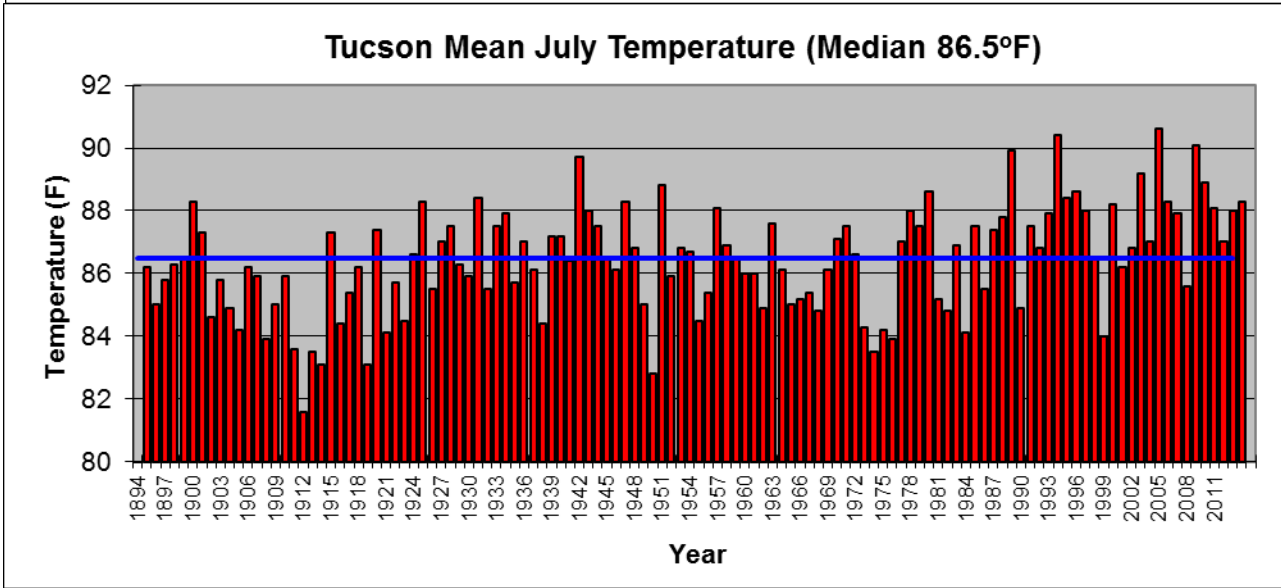
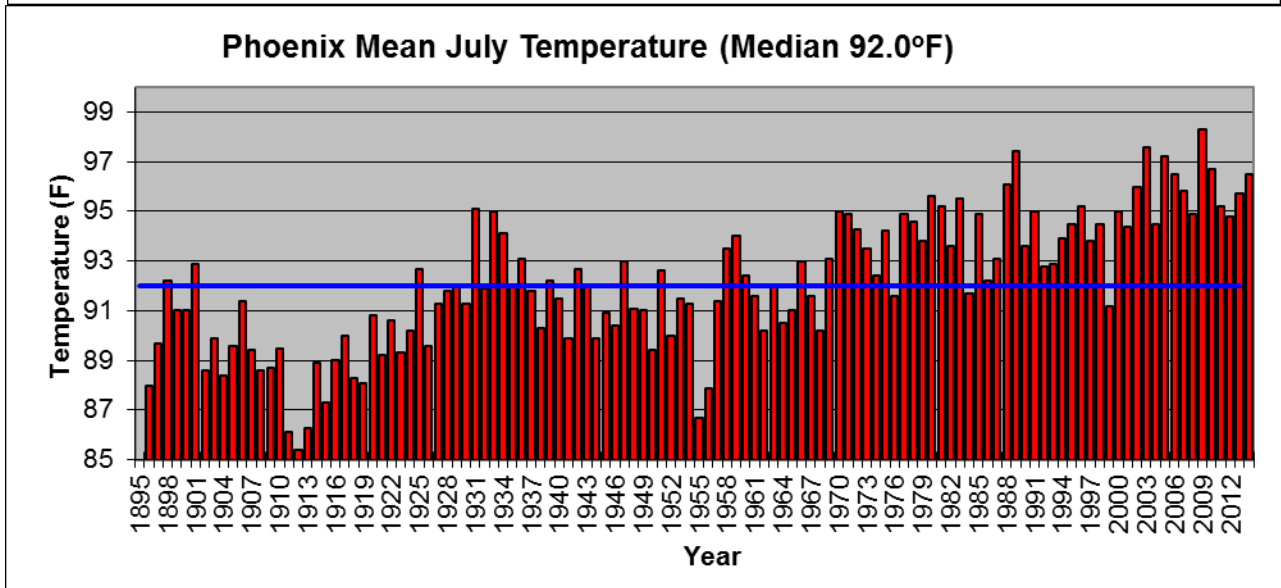
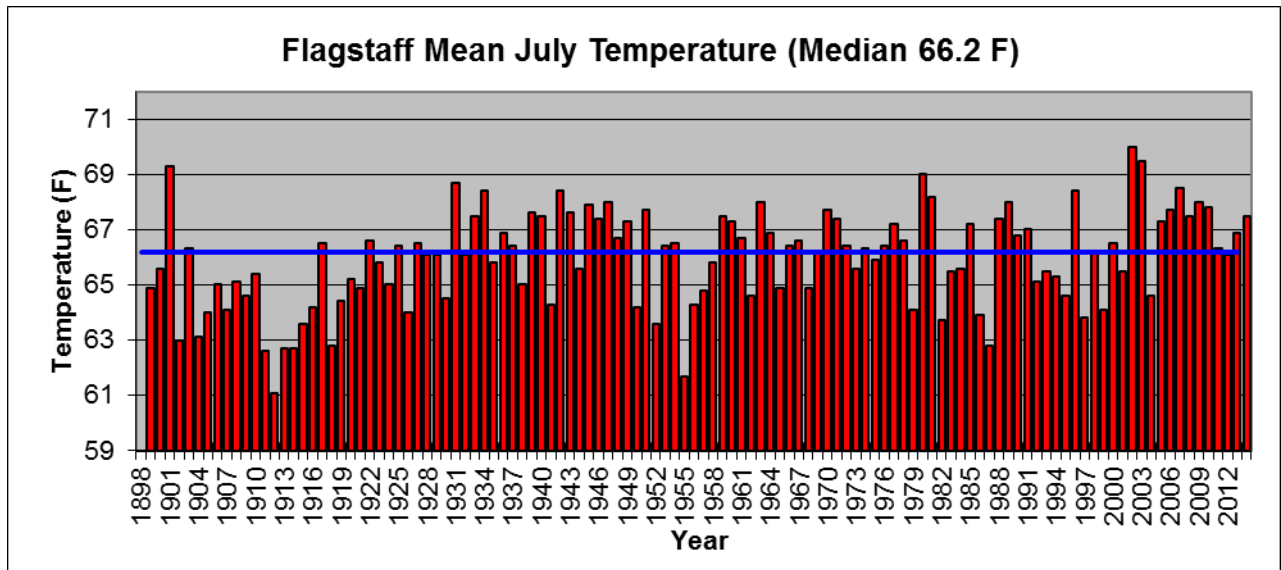


Generated 8/01/2014 at WRCC using provisional data.  
NOAA Regional Climate Centers

### 2014 Water Year

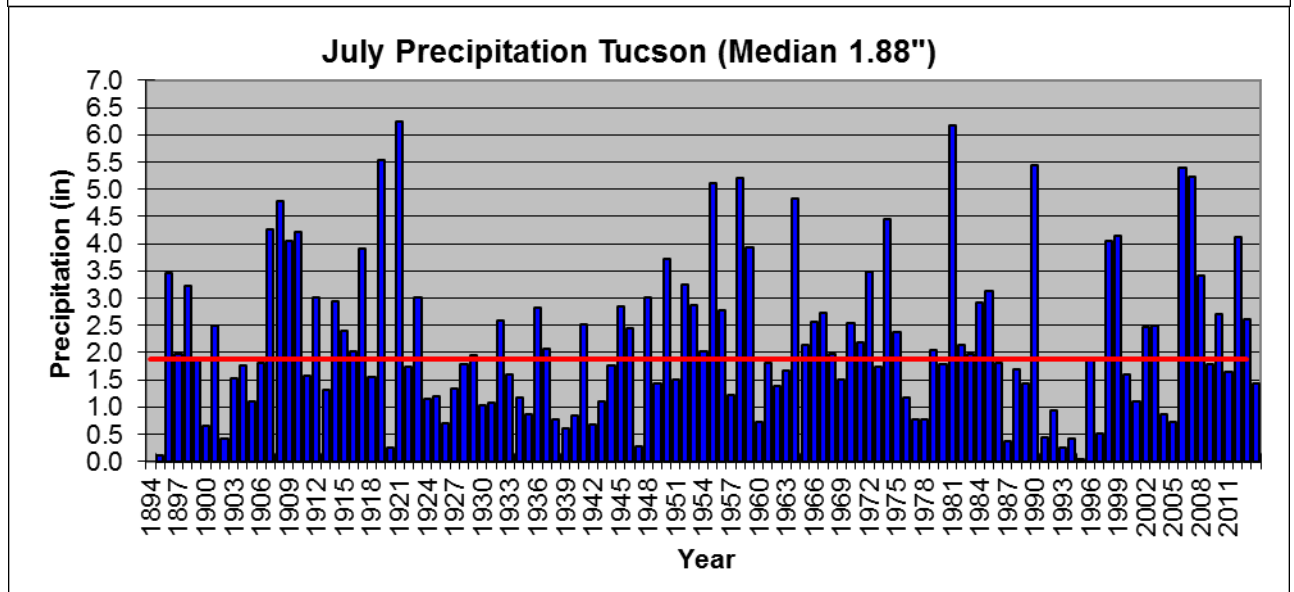
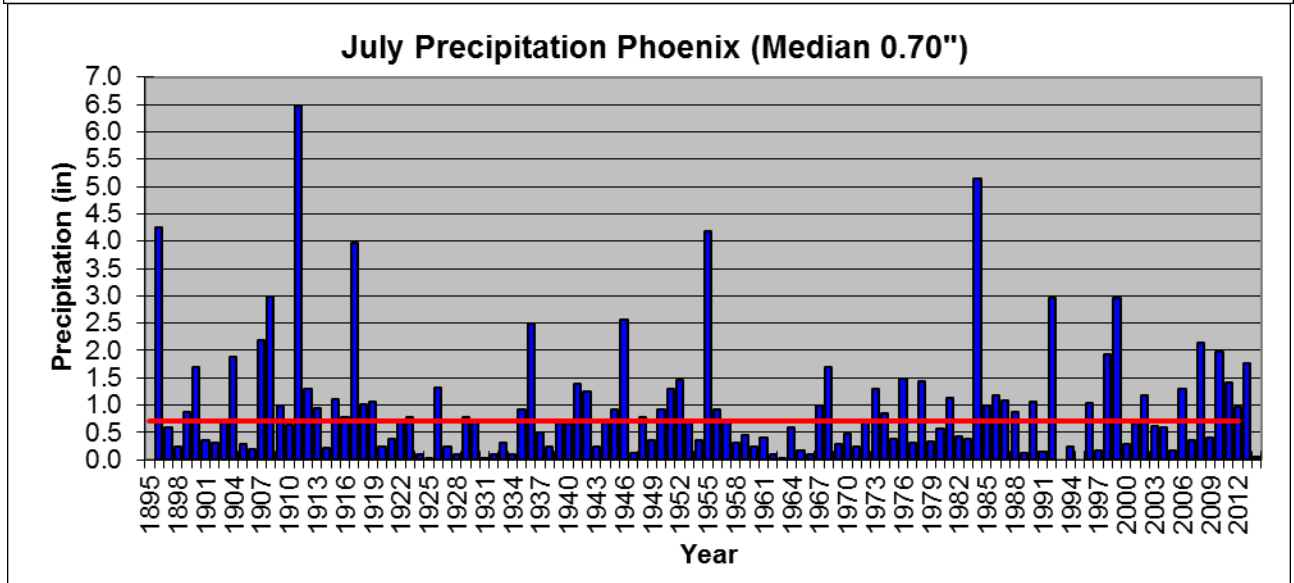
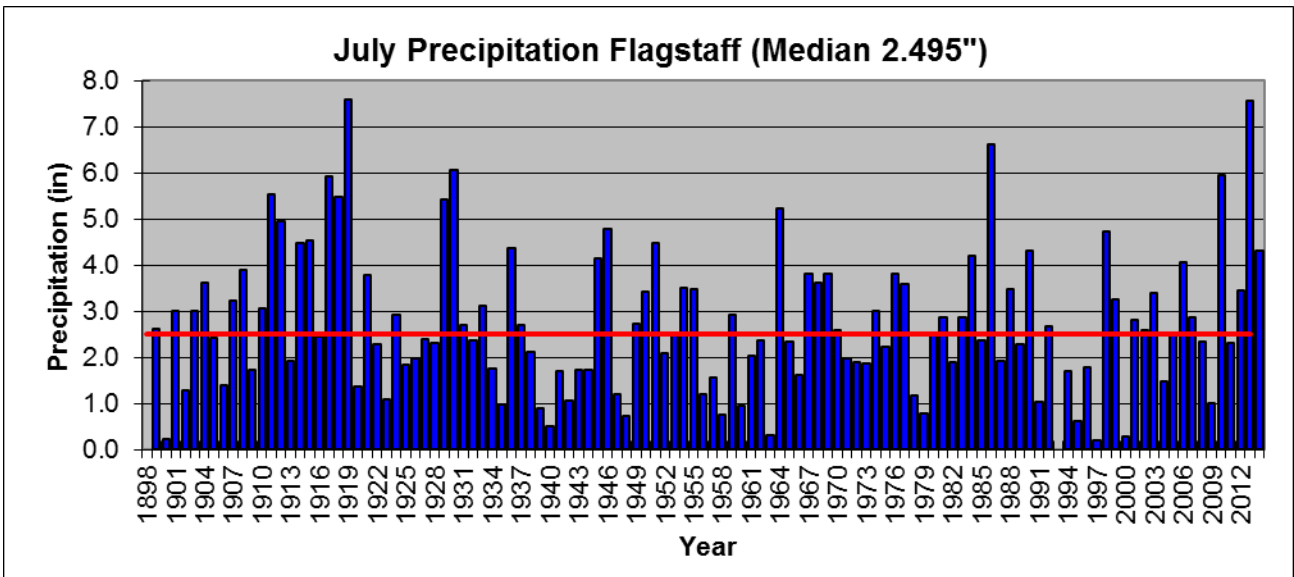
Minimum temperatures on the Colorado Plateau have been generally 2-4°F cooler than normal, while the southeast has been 0 to 4°F warmer than normal. Gila County has been 2 to 8°F warmer than normal. Daytime temperatures have been 1 to 3°F warmer than normal across most of the state, with the northeastern corner 0 to 5°F cooler than normal, and western Pinal County 1 to 3°F cooler than normal. The third consecutive dry water year continues to record below average precipitation statewide, except central Navajo County and western Pima County.

**July Mean Temperature Graphs – Flagstaff, Phoenix, and Tucson 1895-2014:**



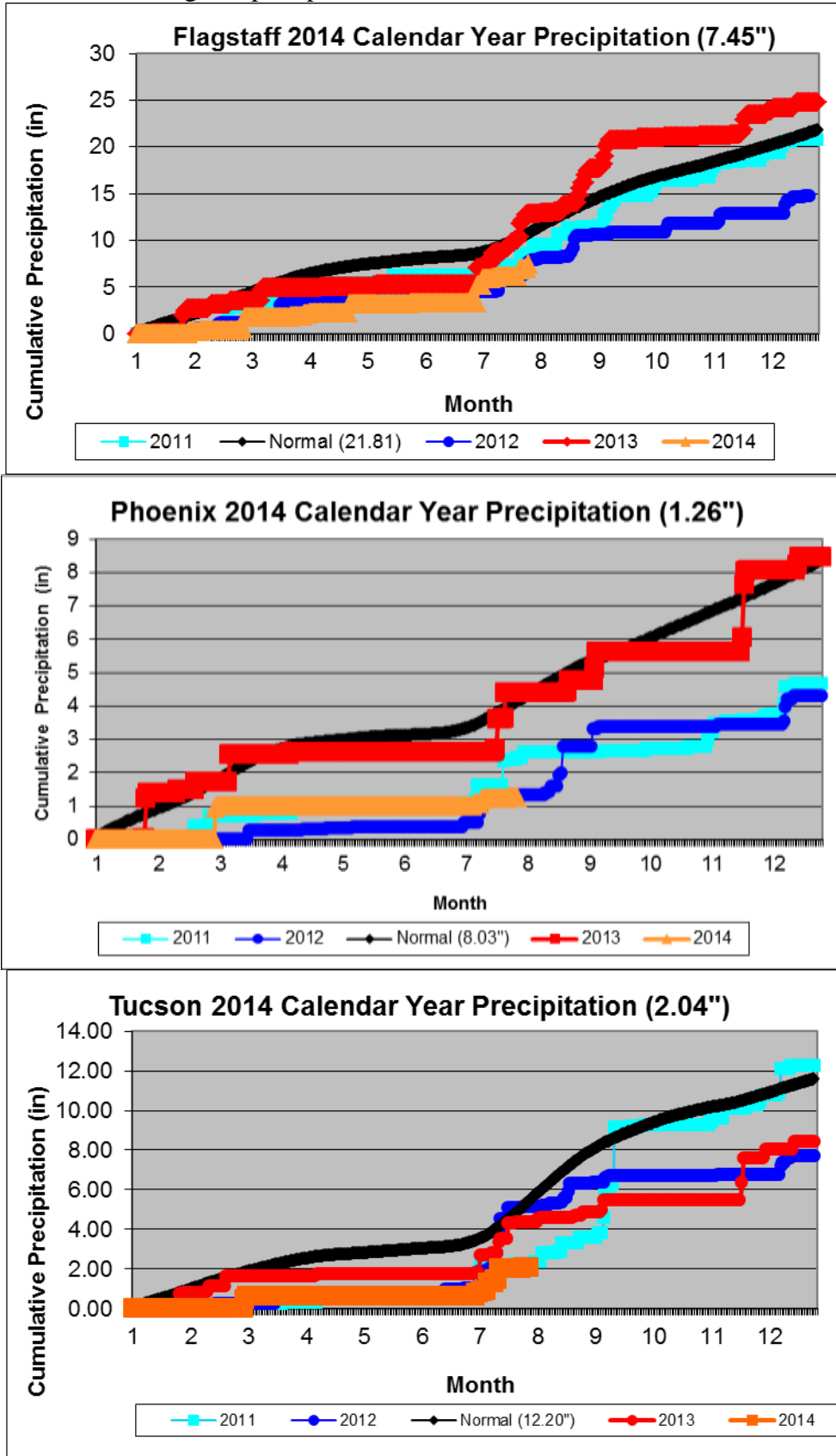


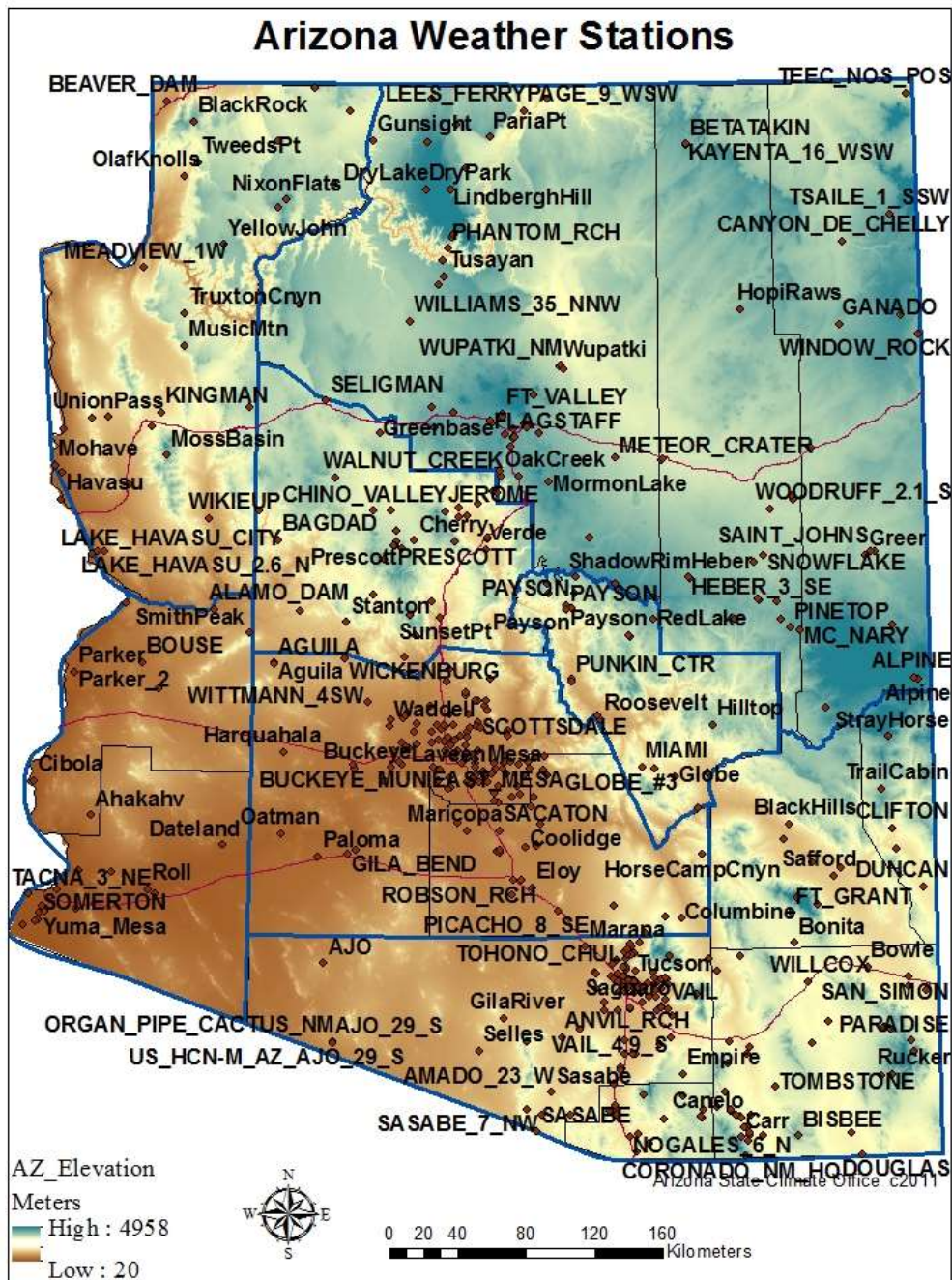
**July Mean Precipitation Graphs – Flagstaff, Phoenix, and Tucson 1895-2014:**



**2014 Cumulative Precipitation Graphs – Flagstaff, Phoenix and Tucson:**

All of Arizona is still well below average on precipitation, with southern Arizona the farthest behind.





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)