



Arizona Climate Summary

July 2013

Summary of conditions for June 2013

June 2013 Temperature and Precipitation Summary

June 1st – 16th: June began with high pressure over the southwest, with dry conditions and warmer than normal temperatures. The ridge of high pressure continued to build through the 8th, and temperatures rose well above normal, with the warmest temperatures between 115 and 118 along the lower Colorado River valley on the California border. A low pressure system moved down the California coast, but was unable to move onshore due to the strength of the high pressure. From the 8th through the 14th the ridge slowly weakened, and moved eastward and temperatures dropped back to near normal values as moisture increased with the southerly flow of air around the high. By the 15th, there was enough moisture and instability across northern and southern Arizona to generate thunderstorms as the upper level low moved in. Coronado National Monument had 0.23” of rain on the 15th while Elgin in southern Arizona had 0.38”, Bisbee had 0.10”, the north rim of the Grand Canyon had 0.02” and Canyon de Chelly had 0.15”. On the 16th, Window Rock reported 0.27” of rain.

June 17th – 30th: On the 17th, the high slowly started to build again in the southwest while a low pressure system stalled over the Pacific Northwest. The high pressure centered over southwestern Texas and northeastern Mexico brought dry westerly flow that continued through the 20th. Temperatures dropped back down to near normal values through the 27th. During the last week of the month an upper level low pushed onshore in the northwest and progressed eastward. Though most of the thunderstorm activity remained well to the north of Arizona, dew points began to rise as southwesterly and southerly flow brought moisture northward from Mexico. By the 26th the high pressure re-established itself over New Mexico, then the 4 corners, allowing much more moisture to move into the state, and temperatures also shot up to near record levels over the last 3 days of the month. Bullhead City reached 121°F on the 28th, and 123 °F on the 29th and 30th. Phoenix hit 116 °F, 119 °F, and 115 °F on the 28th, 29th, and 30th, respectively, while East Mesa was 116 °F, 117 °F, and 115 °F. The month ended with the monsoon activity finally reaching southern Arizona with 0.40” of rain in Nogales on the 30th.

In This Issue: Overview of June, graphs of the June daily maximum and minimum temperatures, precipitation, mean daily dew points for Flagstaff, Phoenix, and Tucson; June climate statistics, maps of mean monthly maximum and minimum temperatures, precipitation, dew points, wind speeds for June; and graphs of the mean June 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. 16 of this report for calendar abbreviations.

Data are preliminary and are from the National Weather Service Forecast Offices in Flagstaff, Phoenix and Tucson.

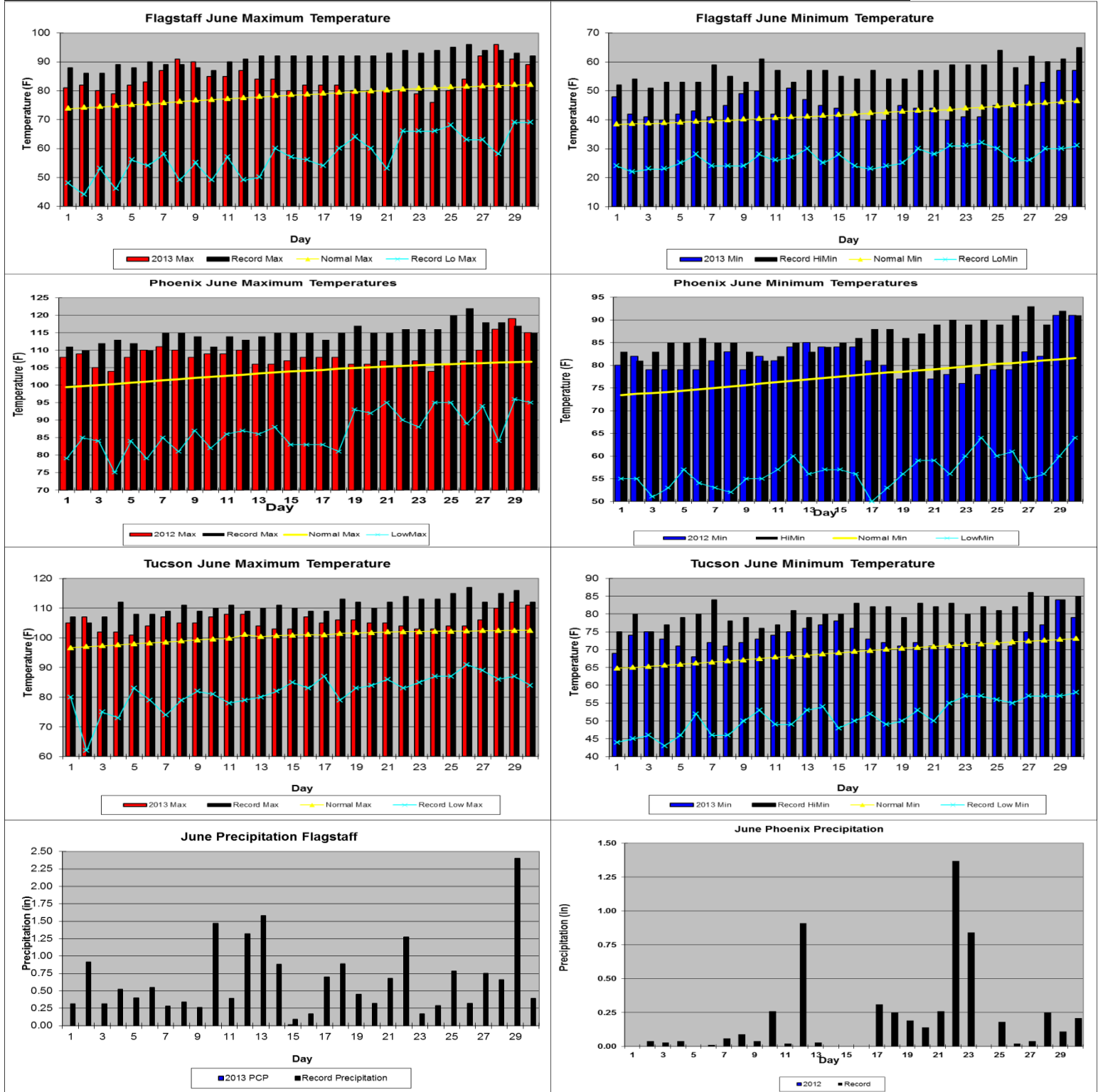
****Note:** The discrepancy between the Statewide Temperature and Precipitation values for Phoenix, Flagstaff and Tucson and the daily values in their graphs are due to the reporting times. Statewide Temperature and Precipitation values are taken at 5pm, while official daily records at the airports are taken from Midnight to Midnight.

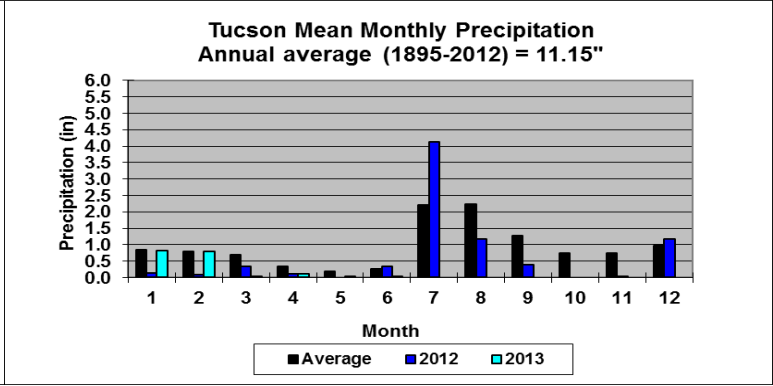
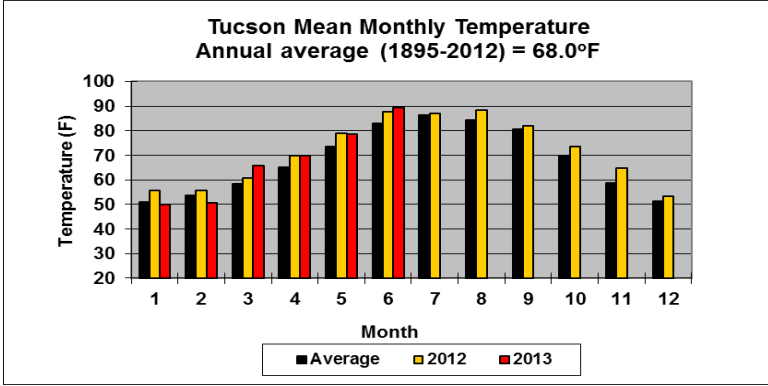
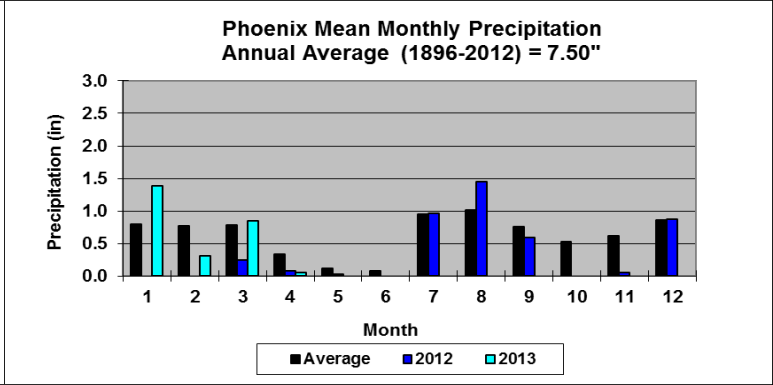
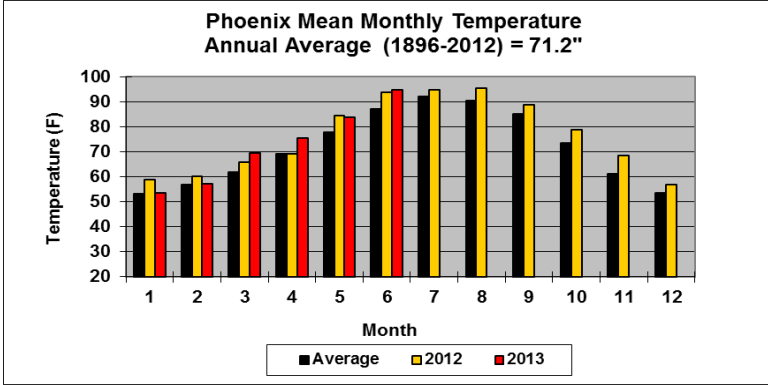
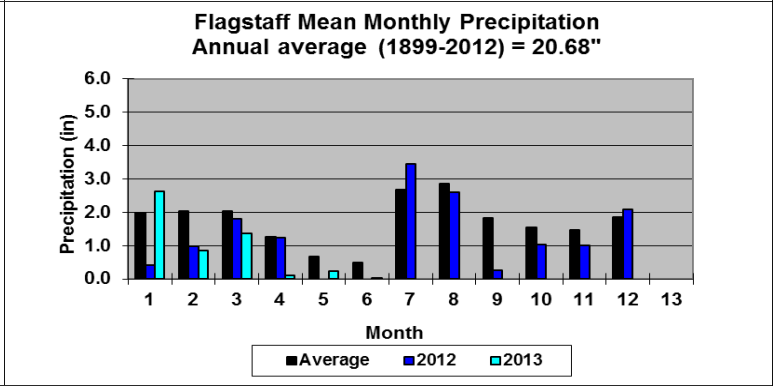
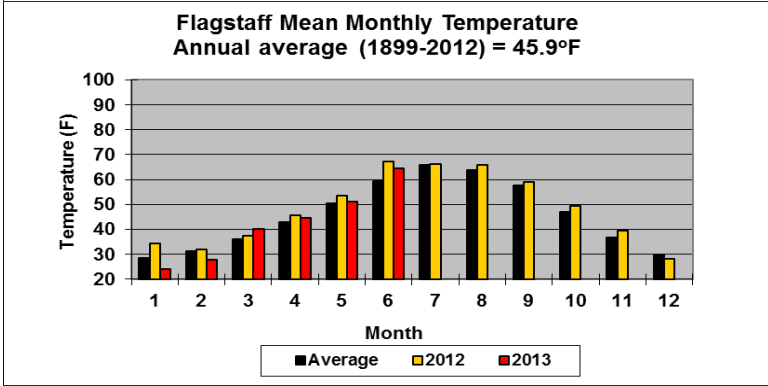
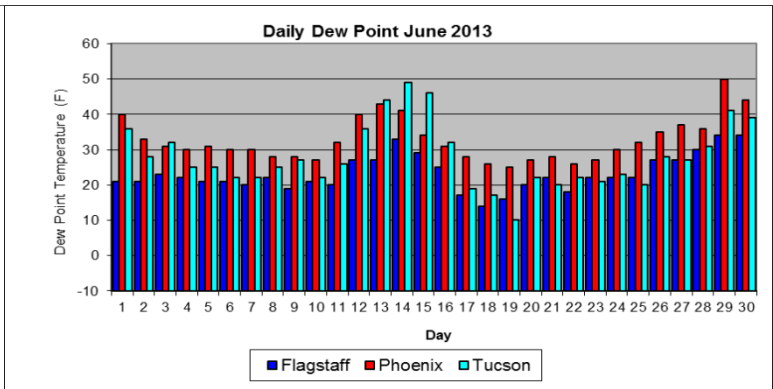
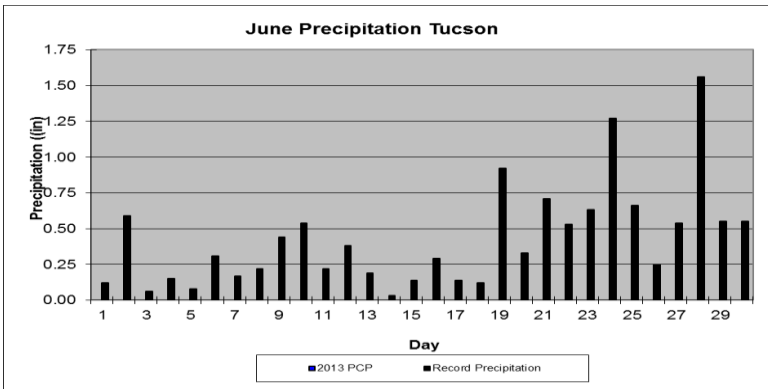
State Climate Office
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June 2013 Daily Temperature, Precipitation, & Dew Point for Flagstaff, Phoenix, and Tucson





FLAGSTAFF CLIMATE STATISTICS

June 2013

This June was the 4th warmest on record and had no significant ranking for precipitation.

Avg Max Temp (F) 83.8 Normal 77.9
 Avg Min Temp (F) 45.2 Normal 41.9
 Avg Mean Temp (F) 64.5 Normal 59.9
 Departure from Normal (F) +4.6

Highest Monthly Avg Temp (F) 66.5 in 1974
 Lowest Monthly Avg Temp (F) 53.0 in 1965

Highest Temp this month (F): 96 on 28th
 Lowest Temp this month (F): 40 on 22nd, 18th

Record High (F): 96 on 06/28/2013
 06/26/1970

Record Low (F): 22 on 06/02/1955
 06/02/1951

Temperature or precipitation records this month:

8th HiMax 91, previous record 89 in 1985
 9th HiMax 90, previous record 88 in 1902
 28th HiMax 96, previous record 94 in 1990

Flagstaff Number of Days of:

Minimum Temp 50°F or higher 6

Minimum Temp 40°F or lower 4
 Maximum Temp 90°F or higher 5
 Maximum Temp 80°F or lower 10

Heating Degree Days 59 Normal 170
 Cooling Degree Days 50 Normal 17
 Degree base 65°F

Total June Precipitation 0.03"
 Normal June Precipitation 0.36"
 Departure from normal -0.33"
 Greatest 24-Hr Precipitation 0.02" on 06/29-06/30
 Total Precipitation Year-to-Date 5.26"
 Departure from Normal -3.21"

Number of Days:

Clear 30
 Partly Cloudy 0
 Cloudy 0

Greatest June Precipitation 2.92" in 1955
 Least June Precipitation 0.00" in 2012 and 11 other years

Average Wind Speed 7.8 mph
 Highest Peak Gust 43 mph from 220° on 15th

PHOENIX CLIMATE STATISTICS

June 2013

This June was the warmest on record and had no significant ranking for precipitation.

Avg Max Temp(F) 108.4 Normal 103.9
 Avg Min Temp(F) 81.2 Normal 77.7
 Avg Mean Temp (F) 94.8 Normal 90.8
 Departure from Normal (F) +4.0

Highest Monthly Avg Temp (F) 94.8 in 2013
 Lowest Monthly Avg Temp (F) 79.0 in 1965

Highest Temp this month (F): 119.0 on 29th
 Lowest Temp this month (F): 76.0 on 23rd

Record High (F): 122 on 06/26/1990

Record Low (F): 49 on 06/04/1908

Temperature and precipitation records this month:

2nd HiMin 82 set, previous record 81 in 2003
 6th Hi 110 tied, previous record 110 in 2002
 10th HiMin 82 set, previous record 81 in 1985
 13th HiMin 85 set, previous record 83 in 1987
 14th HiMin 84 tied, first set in 2006
 29th HiMax 119 set, previous record 117 in 1994
 30th HiMax 115 set, previous record 115 in 1979

Phoenix Number of Days of:

Minimum Temp 80°F or lower 15
 Minimum Temp 90°F or higher 2
 Maximum Temp 105°F or lower 4

Maximum Temp 110°F or higher			8
Heating Degree Days	0	Normal	0
Cooling Degree Days	902	Normal	774
Degree base 65°F			

Number of Days:

Clear	21
Partly Cloudy	9
Cloudy	0

Greatest June Precipitation	1.70" in 1972
Least June Precipitation	0.00" in 2013 and 69 other years

Total June Precipitation	0.00"
Normal June Precipitation	0.02"
Departure from normal	-0.02"
Greatest 24-Hr Precipitation	0.00"
Total Precipitation Year-to-Date	2.61"
Departure from Normal	-0.62"

Average Wind Speed	7.2 mph
Highest Peak Gust	48 mph from 190° on 30 th

TUCSON CLIMATE STATISTICS June 2013

This June was the warmest on record and had no significant ranking for precipitation.

Maximum Temp 110°F or higher			3
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Avg Max Temp(F)	105.4	Normal	100.3
Avg Min Temp(F)	73.5	Normal	69.3
Avg Mean Temp(F)	89.4	Normal	84.8
Departure from Normal (F)	+4.6		

Heating Degree Days	0	Normal	0
Cooling Degree Days	741	Normal	594
Degree base 65°F			

Highest Monthly Avg Temp (F)	89.4 in 2013
Lowest Monthly Avg Temp (F)	77.6 in 1965

Total June Precipitation	0.03"
Normal June Precipitation	0.20"
Departure from normal	-0.17"
Greatest 24-Hr Precipitation	0.03" on 6/30-6/30

Highest Temp this month (F):	112 on 29 th
Lowest Temp this month (F):	68 on 6 th

Total Precipitation Year-to-Date	1.77"
Departure from Normal	-1.50"
Greatest June Precipitation	2.07" in 1938
Least June Precipitation	0.00" in 2002 and 29 other years

Record High (F): 117 on 06/26/1990

Record Low (F): 43 on 06/04/1908

Temperature or precipitation records this month:
 2nd HiMax 107 set, previous record 105 in 2004
 3rd HiMin 75 tied, first set in 1899
 29th HiMin 84 tied, first set in 1898

Number of Days:

Clear	27
Partly Cloudy	-
Cloudy	-

Average Wind Speed	7.5 mph
Highest Peak Gust	67 mph from 140° on 30 th

Tucson Number of Days of:

Minimum Temp 70°F or lower	3
Minimum Temp 80°F or higher	1
Maximum Temp 105°F or lower	18

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

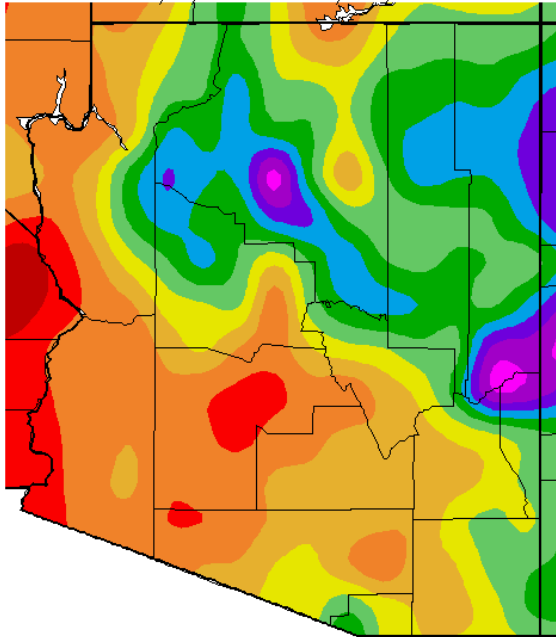
Winds for June:

Day	Phoenix		Flagstaff		Tucson	
	(mph)	Avg	Max	Avg	Max	Avg
1	4.9	20	8.1	29	5.5	19
2	7.7	28	8.9	38	6.3	28
3	9.1	23	7.8	32	8.4	30
4	7.3	25	8.1	33	8.1	26
5	5.2	18	4.4	21	6	24
6	7	26	2	30	6.5	23
7	7.4	25	4.9	25	6	25
8	10.4	31	7.6	33	7.7	27
9	5.8	23	8.1	33	6.1	23
10	7.3	22	10.4	41	6.7	21
11	6.1	26	10	41	8.3	24
12	7.1	26	6.4	32	9	27
13	8.6	26	8.4	39	8.1	33
14	6	21	M	35	6.9	22
15	6.9	26	7.6	43	6.4	27
16	7.5	25	7.4	38	7.2	32
17	5.4	22	6.8	30	5.6	20
18	6.6	19	9.8	36	7.1	25
19	7.3	25	13.6	37	8.5	27
20	5.9	19	11.5	36	6.9	27
21	6.7	22	9.5	37	9.9	30
22	6.2	21	7.9	31	9.1	32
23	8.7	25	9.9	37	11.1	32
24	7.7	22	12.9	40	10.5	33
25	6.7	26	8.1	30	5.8	20
26	6.5	18	7.1	31	5.8	21
27	7.2	25	5.2	25	8.4	27
28	5.8	20	5.6	25	5.6	20
29	10.6	29	6.2	28	7.5	34
30	9.7	48	3	26	11.1	67

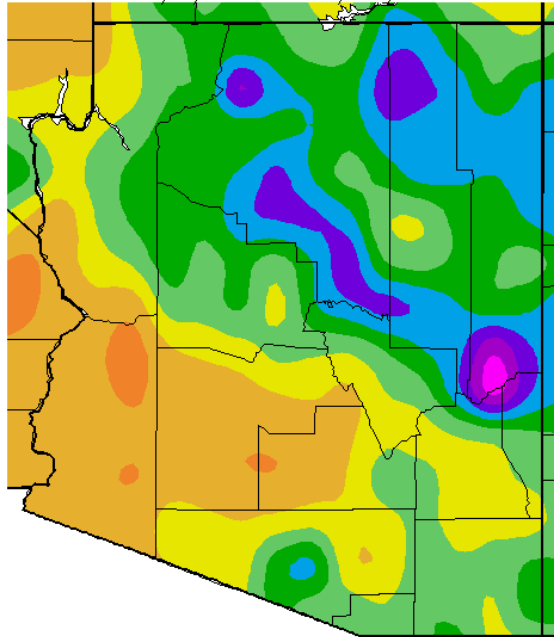
Dew Points for June:**Daily Average Dew Point (°F):**

Day	Phx	Tuc	Flg
1	40	36	21
2	33	28	21
3	31	32	23
4	30	25	22
5	31	25	21
6	30	22	21
7	30	22	20
8	28	25	22
9	28	27	19
10	27	22	21
11	32	26	20
12	40	36	27
13	43	44	27
14	41	49	33
15	34	46	29
16	31	32	25
17	28	19	17
18	26	17	14
19	25	10	16
20	27	22	20
21	28	20	22
22	26	22	18
23	27	21	22
24	30	23	22
25	32	20	22
26	35	28	27
27	37	27	27
28	36	31	30
29	50	41	34
30	44	39	34

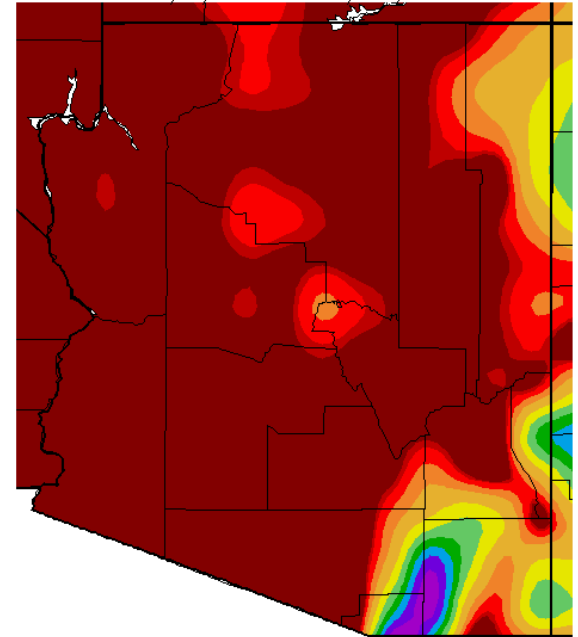
Av. Min. Temperature (deg. F)
6/1/2013 – 6/30/2013



Av. Max. Temperature (deg. F)
6/1/2013 – 6/30/2013



Total Precipitation (in.)
6/1/2013 – 6/30/2013

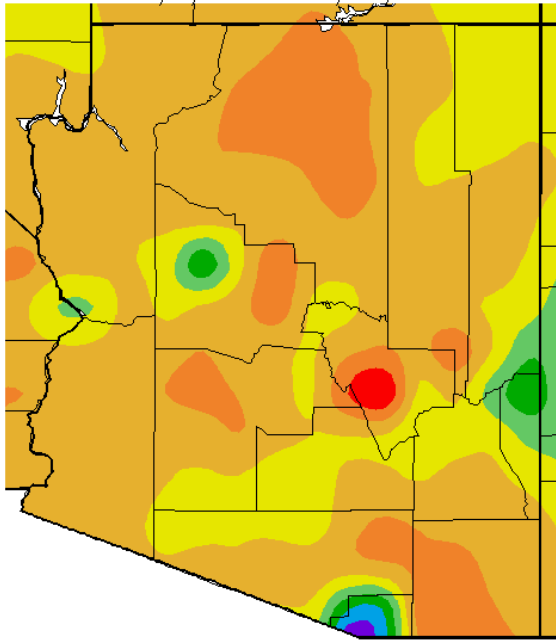


35 40 45 50 55 60 65 70 75 80 85
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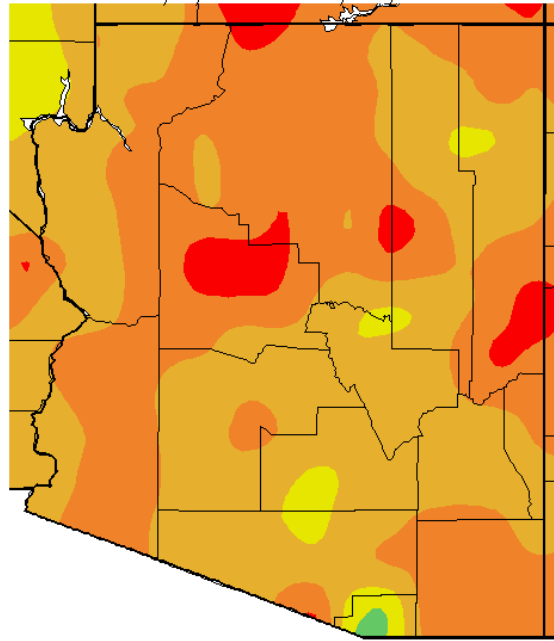
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Av. Min. Temperature dep from Ave (deg. F)
6/1/2013 – 6/30/2013



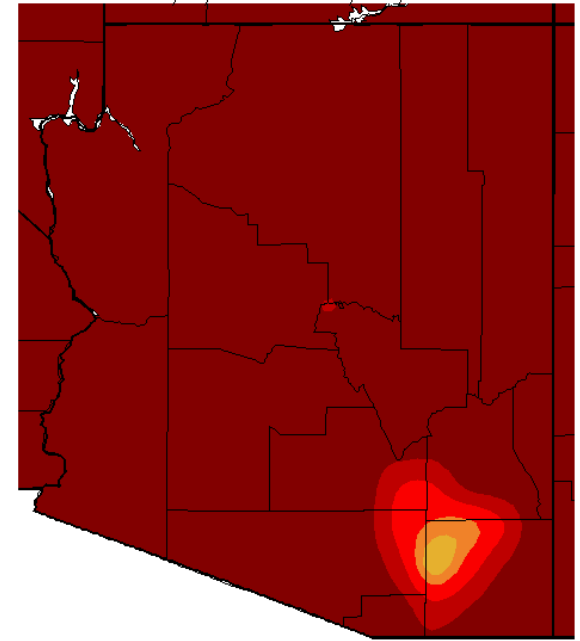
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Av. Max. Temperature dep from Ave (deg F)
6/1/2013 – 6/30/2013



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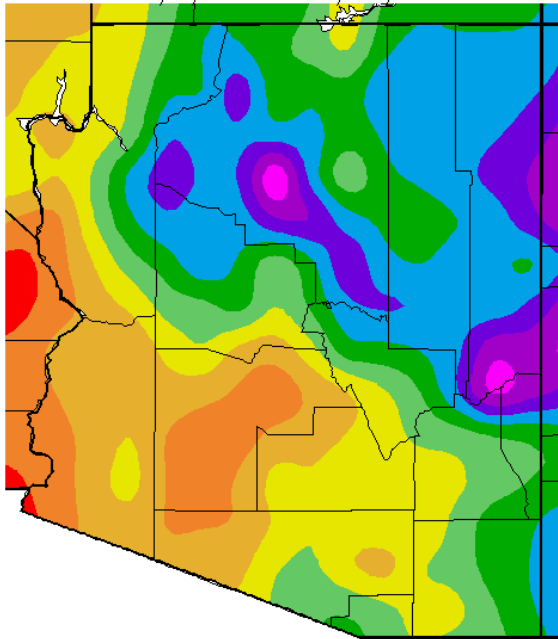
Percent of Average Precipitation (%)
6/1/2013 – 6/30/2013



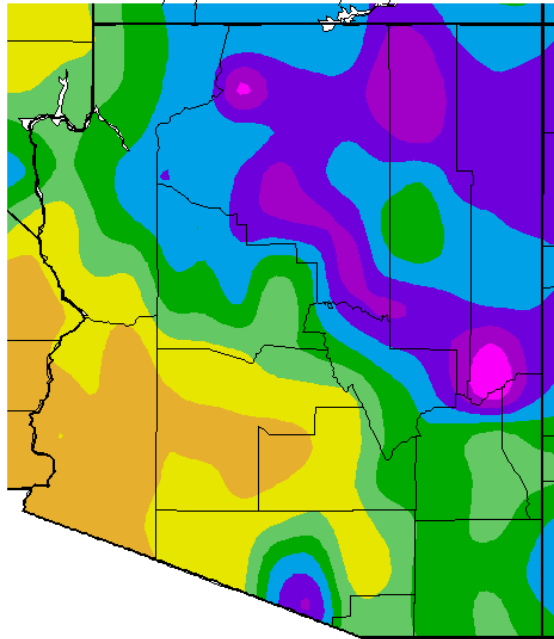
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June minimum temperatures were 4-8°F warmer than normal in most areas of the state with slightly cooler than normal conditions in Santa Cruz County, western Yavapai, southern Navajo and northern Greenlee counties. Daytime temperatures were also 2-8°F warmer than normal statewide, and only Santa Cruz County had cooler than normal temperatures. Precipitation was less than 25% of normal across most of the state, with only northwestern Cochise County having up to 90% of normal precipitation. This not unusual, since June is one of the two driest months of the year in the state. May is the other dry month.

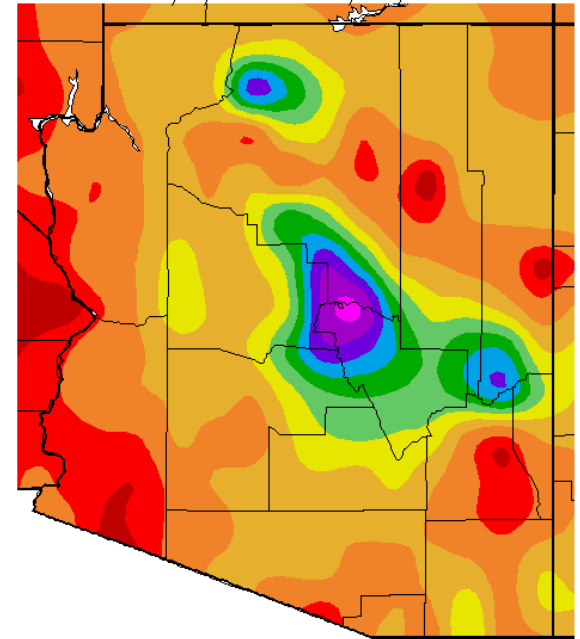
Av. Min. Temperature (deg. F)
1/1/2013 – 6/30/2013



Av. Max. Temperature (deg. F)
1/1/2013 – 6/30/2013



Total Precipitation (in.)
1/1/2013 – 6/30/2013

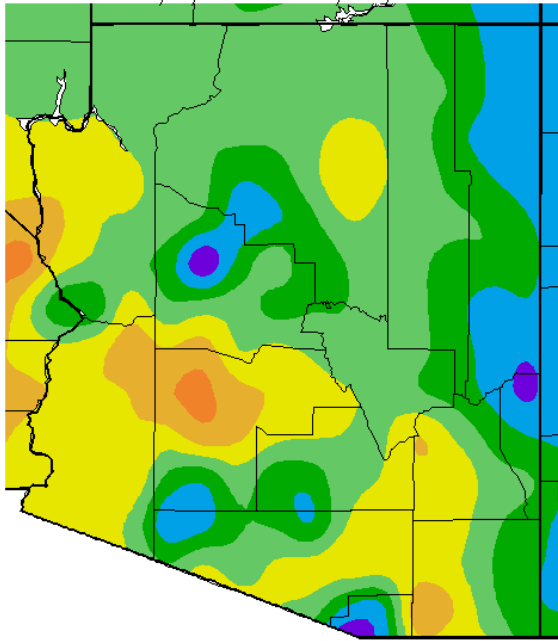


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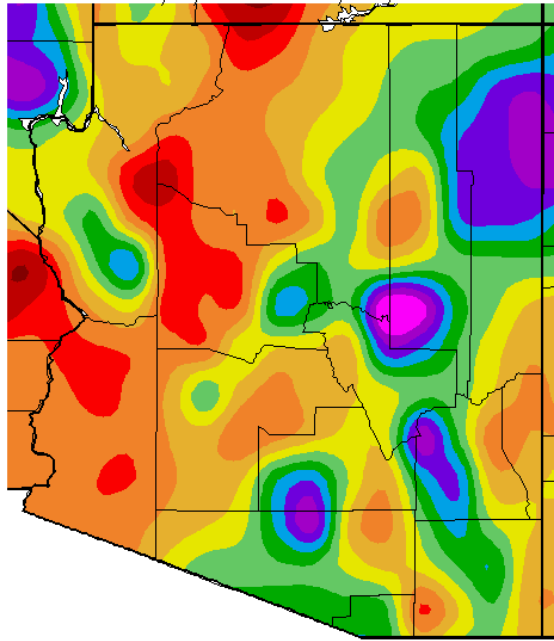
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Av. Min. Temperature dep from Ave (deg. F)
1/1/2013 – 6/30/2013



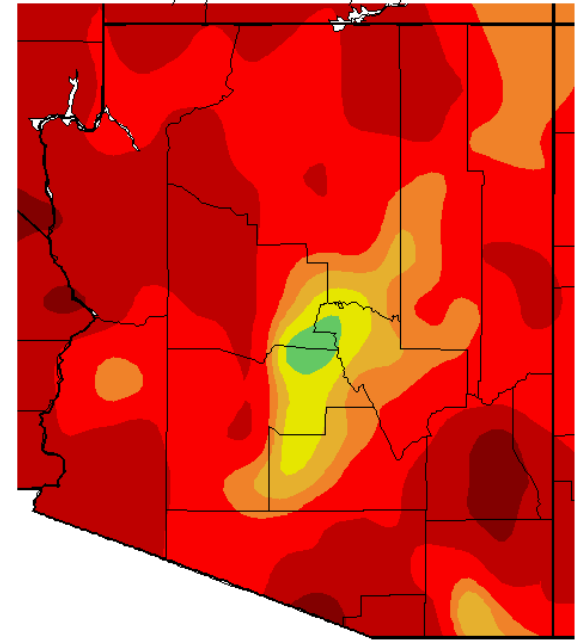
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Av. Max. Temperature dep from Ave (deg F)
1/1/2013 – 6/30/2013



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Percent of Average Precipitation (%)
1/1/2013 – 6/30/2013

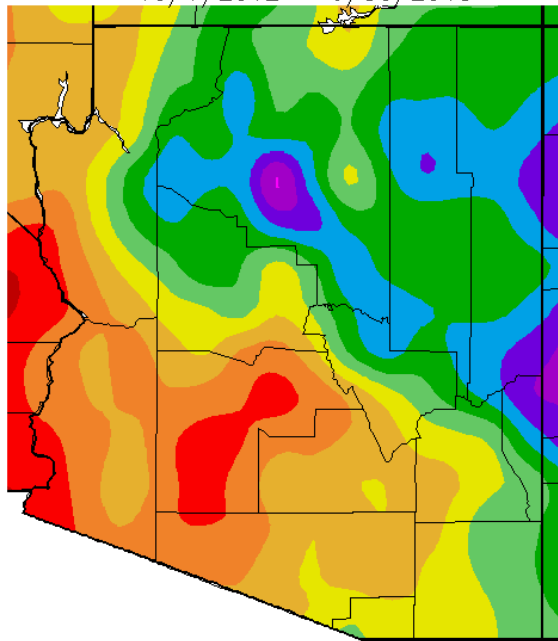


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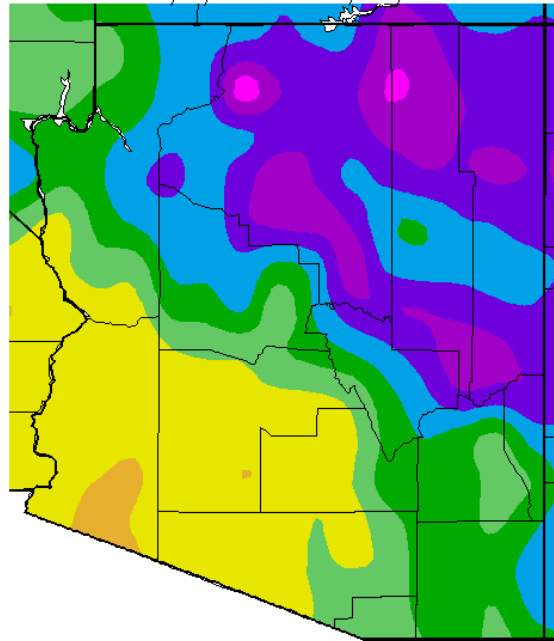
Calendar Year 2013

So far the calendar year has been colder than average for nighttime temperatures across the Colorado Plateau and eastern Arizona, as well as Pinal and western Pima counties. Daytime temperatures have been highly variable around the state. Yuma, La Paz, Yavapai and most of Coconino counties were 1-2°F warmer than normal while the rest of the state was near normal or 1-2.5°F cooler than normal. Precipitation has been less than 70% of normal statewide except eastern Maricopa, southeastern Yavapai and northwestern Gila counties. Much of Graham County has received less than 25% or normal precipitation so far this year.

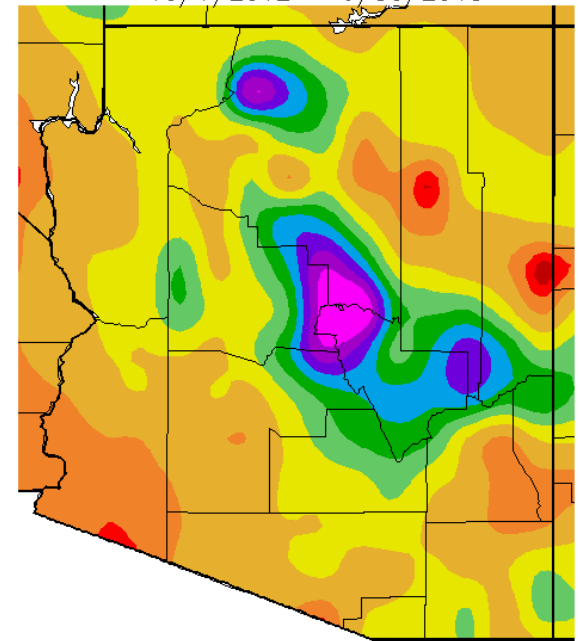
Av. Min. Temperature (deg. F)
10/1/2012 - 6/30/2013



Av. Max. Temperature (deg. F)
10/1/2012 - 6/30/2013



Total Precipitation (in.)
10/1/2012 - 6/30/2013

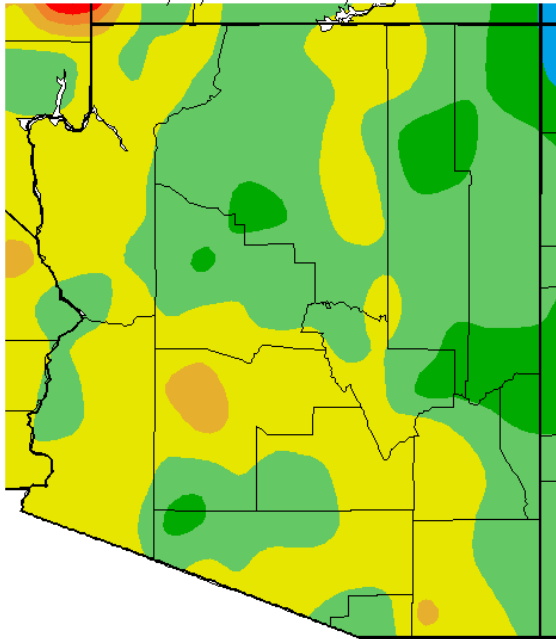


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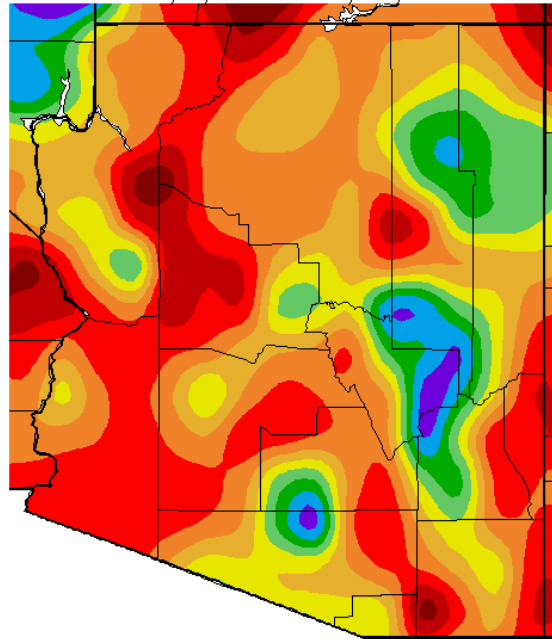
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Av. Min. Temperature dep from Ave (deg. F)
10/1/2012 – 6/30/2013



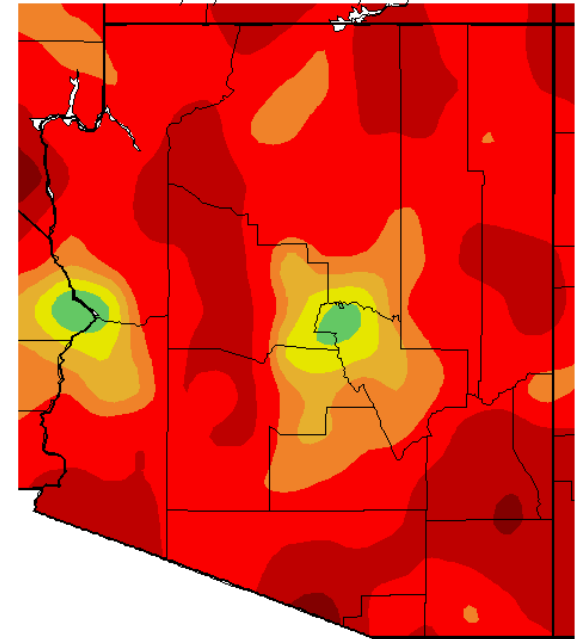
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Av. Max. Temperature dep from Ave (deg F)
10/1/2012 – 6/30/2013



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Percent of Average Precipitation (%)
10/1/2012 – 6/30/2013

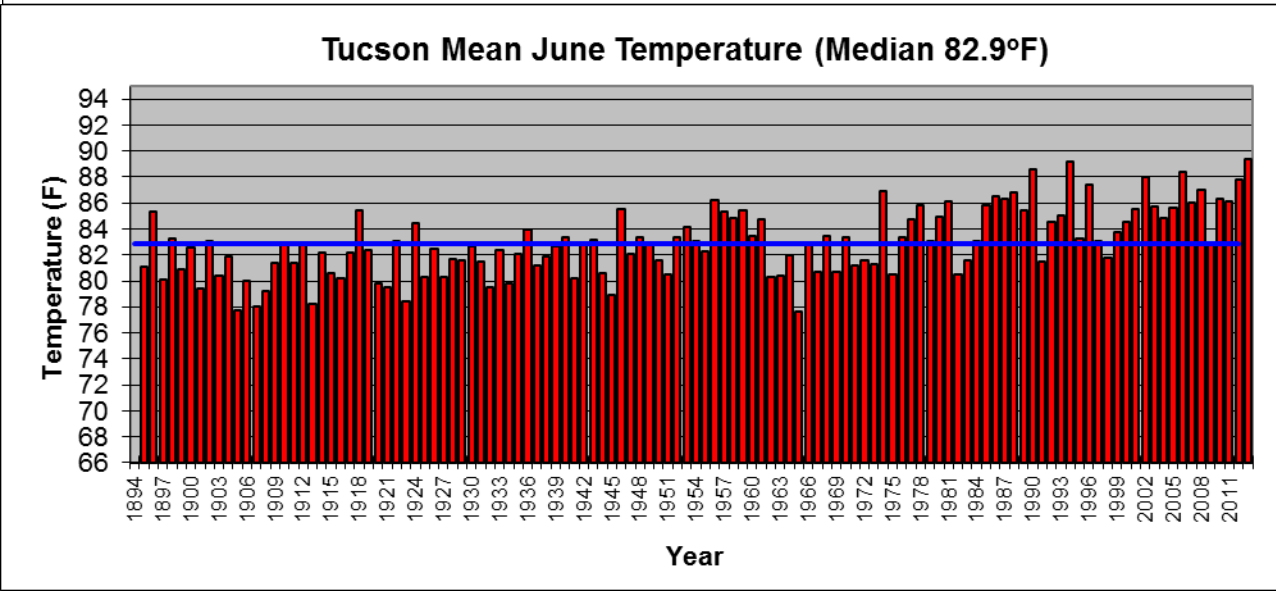
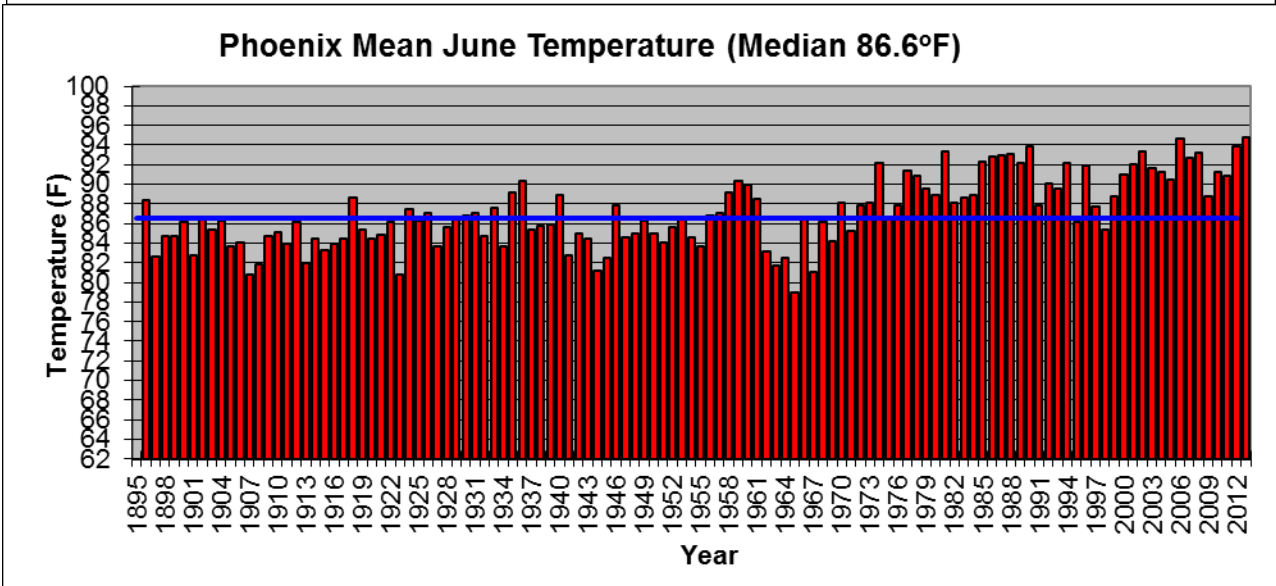
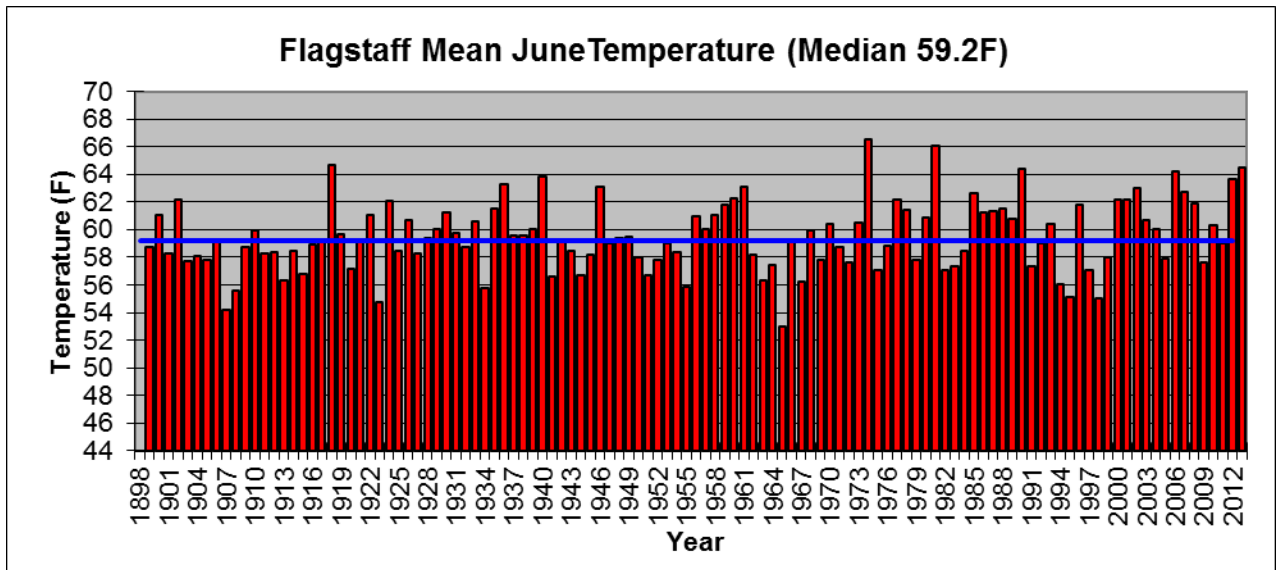


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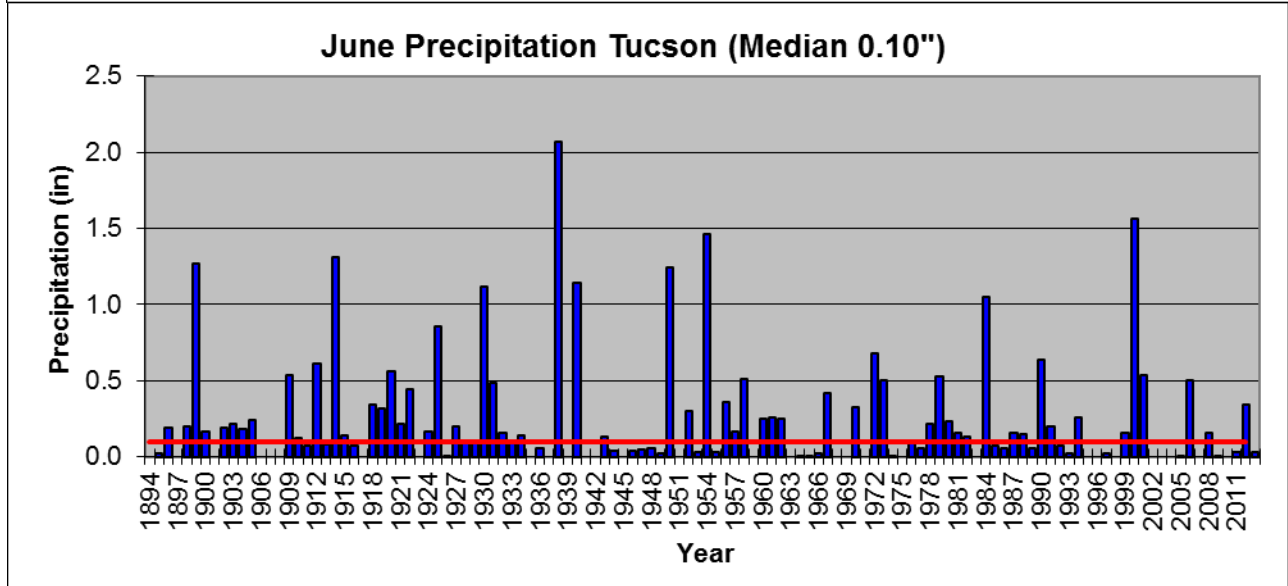
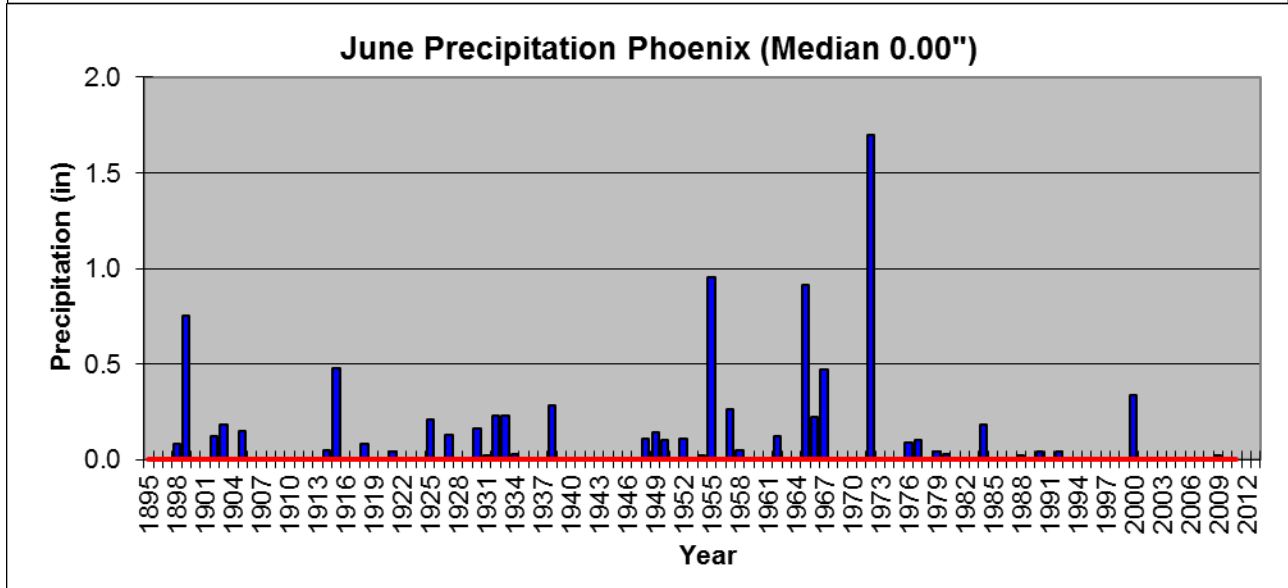
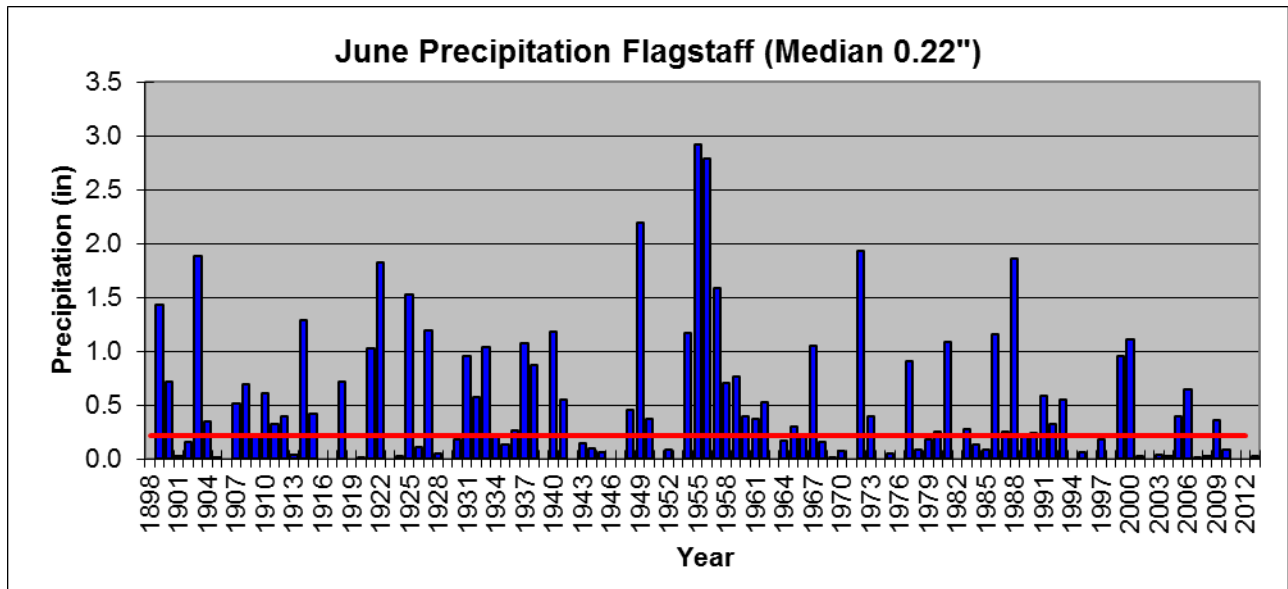
2013 Water Year

Minimum temperatures continue to be within 2°F of normal across the state, and slightly cooler than that in southern Apache and northern Greenlee counties. Maximum temperatures were generally between normal and 2oF warmer than normal statewide, with three exceptions. Central Navajo and Apache counties, southern Navajo, western Gila, and north central Pima counties have been 0-1.5°F cooler than normal. Through the end of June, the water year remains much drier than normal, generally less than 70% of average, with a few areas less than 50% of average. Northern Gila County continues to be near or slightly wetter than average, as do northern La Paz and southern Mohave counties.

June Mean Temperature Graphs – Flagstaff, Phoenix, and Tucson 1895-2013:

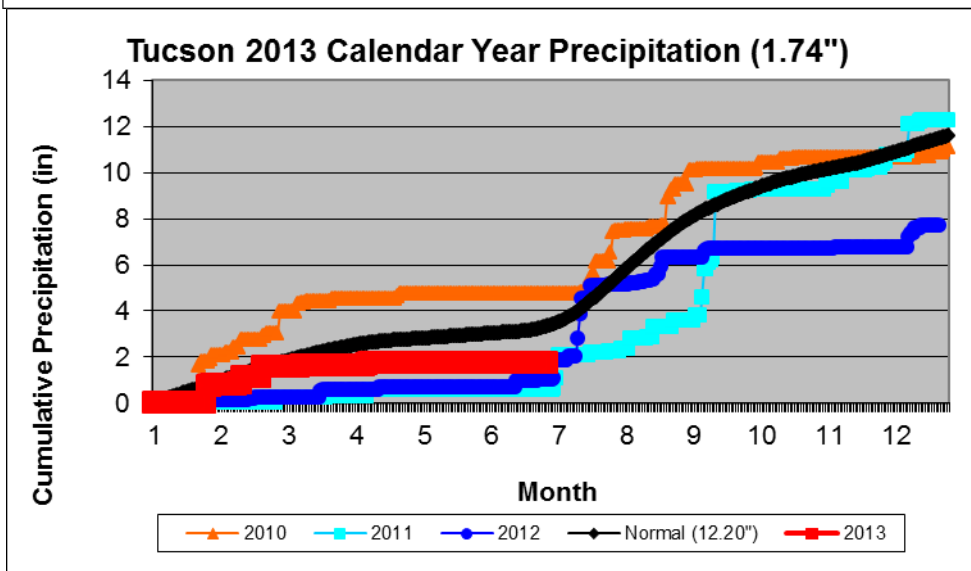
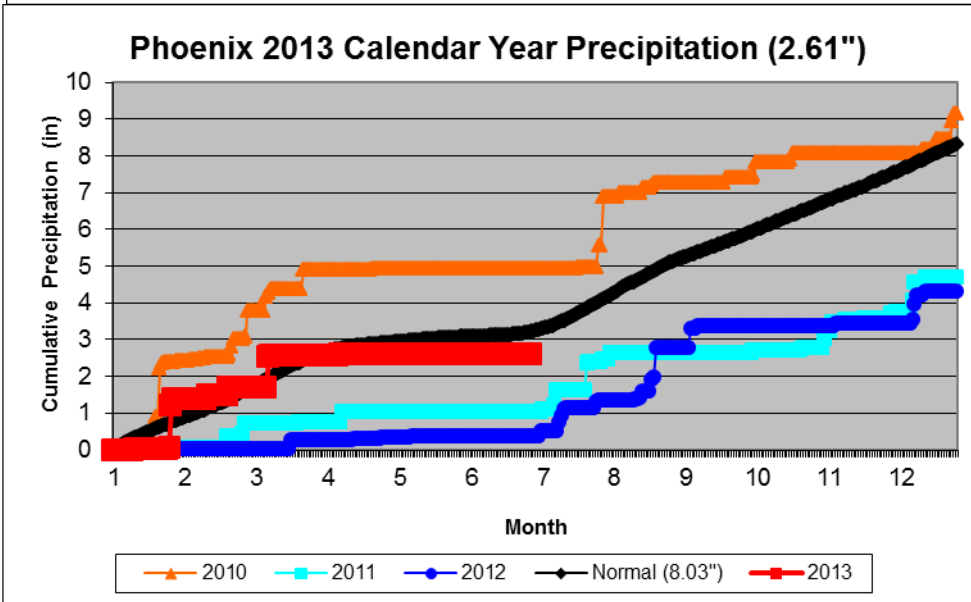
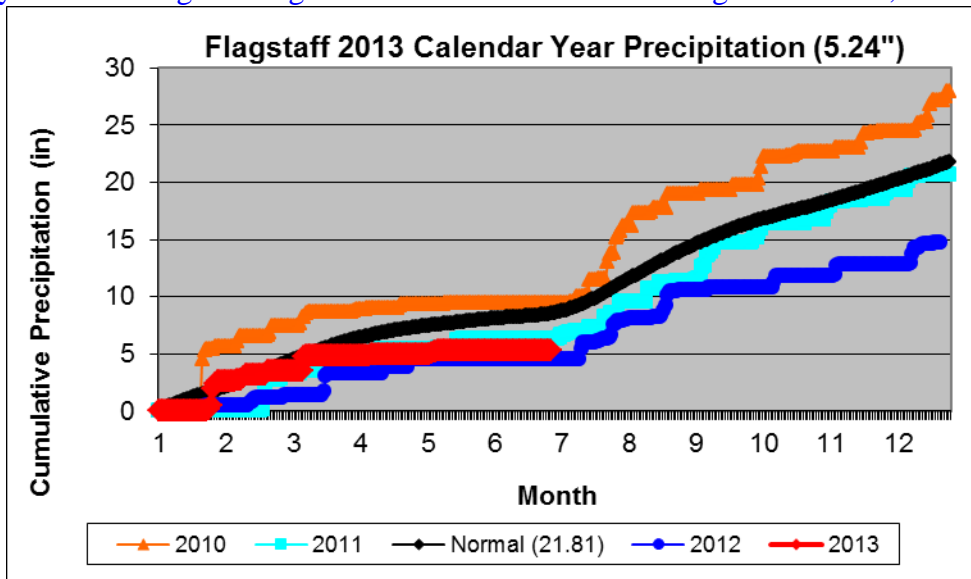


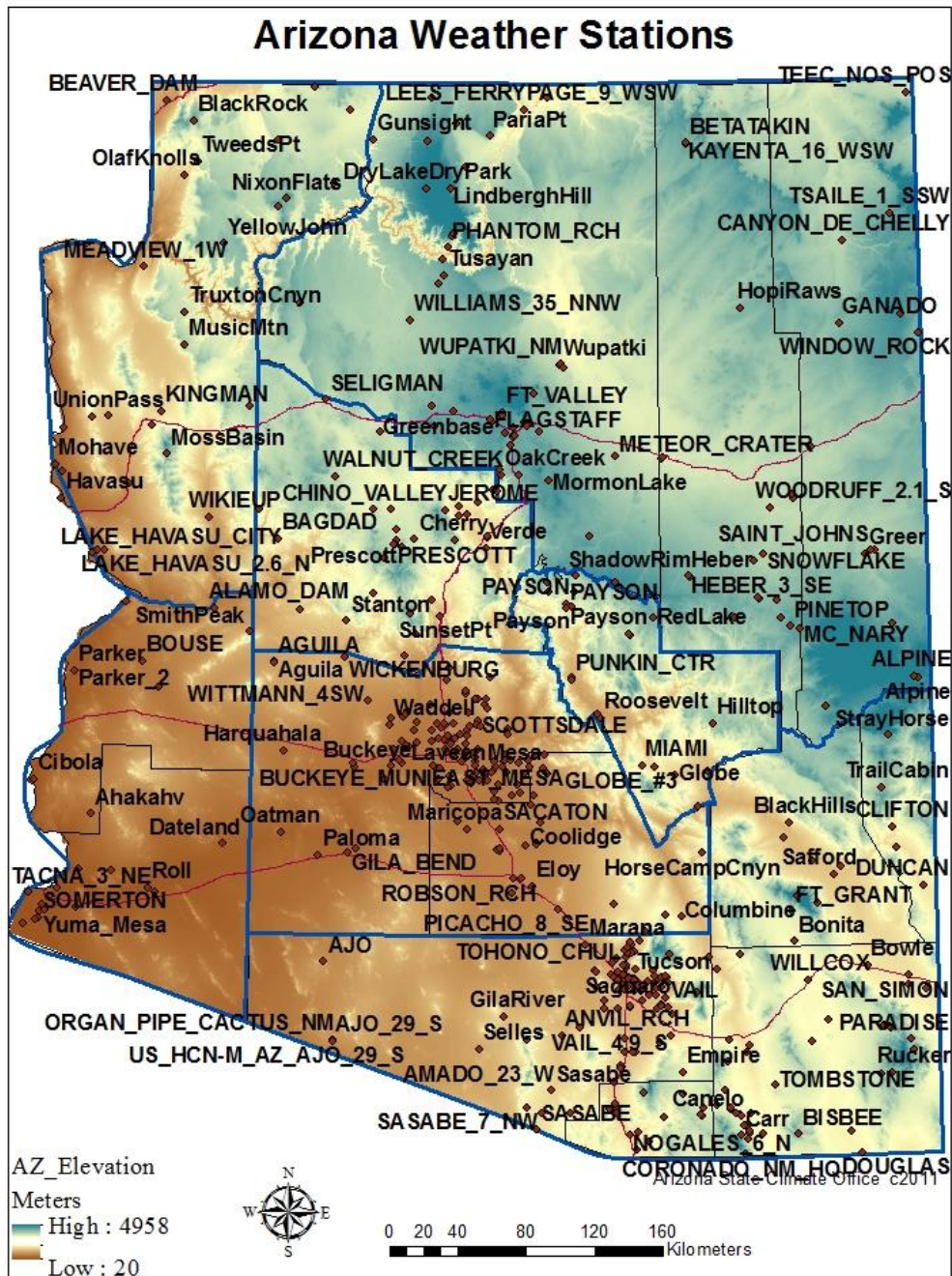
June Mean Precipitation Graphs – Flagstaff, Phoenix, and Tucson 1895-2013:



2013 Cumulative Precipitation Graphs – Flagstaff, Phoenix and Tucson:

Precipitation is slightly below average in Flagstaff and Tucson and near average in Phoenix, for the calendar year.





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)