



Arizona Climate Summary

November 2012

Summary of conditions for October 2012

October 2012 Temperature and Precipitation Summary

October 1st – 14th: The first half of the month included variability in daily average temperatures and a low pressure system which brought a 48hr period of precipitation to the state. The first week of October began with a ridge of high pressure over the western U.S. keeping temperatures above average at many locations in Arizona including Flagstaff, Phoenix, Tucson, and Yuma. Record high temperatures were set on the 3rd in Page (92°F), Winslow (92°F), and Douglas (95°F). The above average temperatures lasted until a trough swept through the region on the 11th dropping temperatures well below normal and bringing precipitation to the state. Locations that received precipitation on the 11th included: Kingman (0.28”), Prescott (0.07”), and Bullhead City (1.15”). The low pressure system lingered over the state into the 12th. Precipitation totals on the 12th included 0.23” at the Grand Canyon AP, 0.62” in Page, 0.25” in Sedona, 0.88” at Bellemont WFO, and 0.23” in Show Low. High temperatures on the 12th topped out at a pleasant 72 °F in Phoenix, 78 °F in Blythe, and 79 °F in Yuma. However the cool down did not last long as a ridge of high pressure swiftly returned to the state on the 13-14th and temperatures once again climbed back to around normal.

October 15th – 30th: The second half of October was predominately warmer than average and no precipitation was recorded at any station within Arizona. From the 15th-22nd high pressure remained fixed over the western U.S. keeping daily average temperatures above normal at many locations. During this stretch of days, average daily temperatures peaked at 4-5 °F above normal in the lower desert areas of Yuma, Phoenix, Blythe, and Tucson and 6-8 °F above average in Flagstaff. A weak cut-off low moved through the state on the 21st, having little effect on temperature and bringing no precipitation. From the 23rd-27th an upper level trough moved into the western U.S allowing a surface cold front to move southward into Arizona bringing cooler temperatures. Average daily temperatures from the 23rd-27th were below normal at most locations and overnight temperatures dropped significantly. Overnight lows on the 26th included a chilly 44 °F in Tucson and 54°F at Gila Bend AP and overnight lows on the 27th were a cold 19 °F in Flagstaff and 21 °F in St. Johns. High pressure returned over northern Arizona for the final three days of the month (28th-30th) keeping temperatures at or above average statewide.

In This Issue: Overview of October and the monsoon, 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. 17 of this report for calendar abbreviations.

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

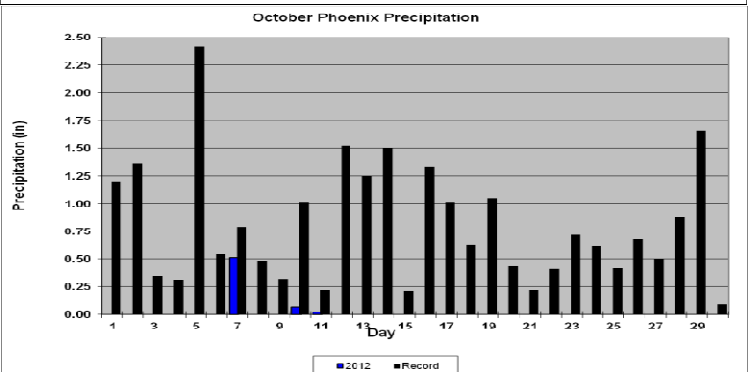
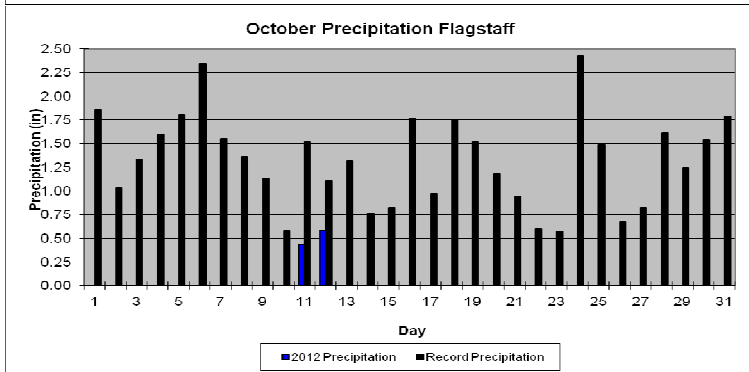
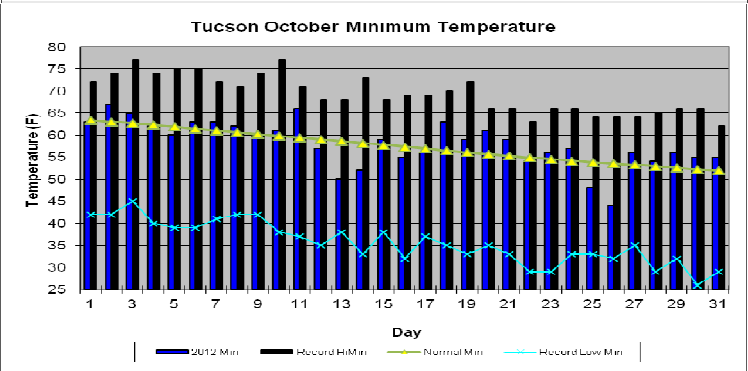
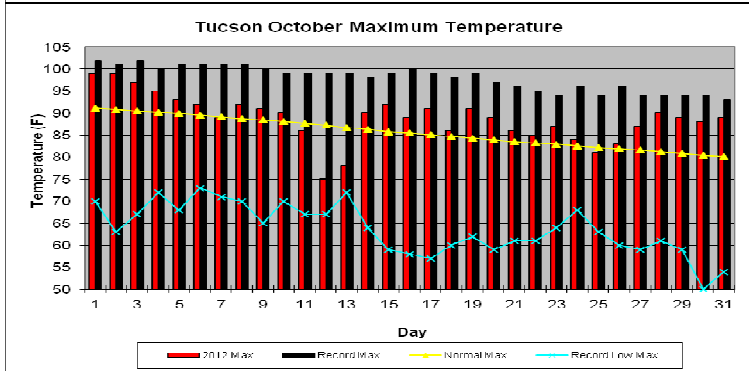
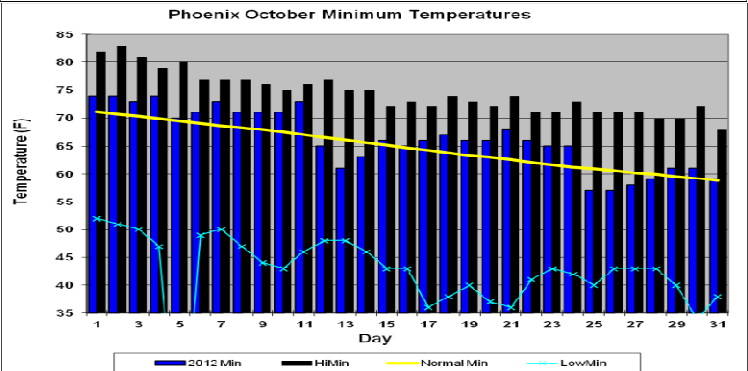
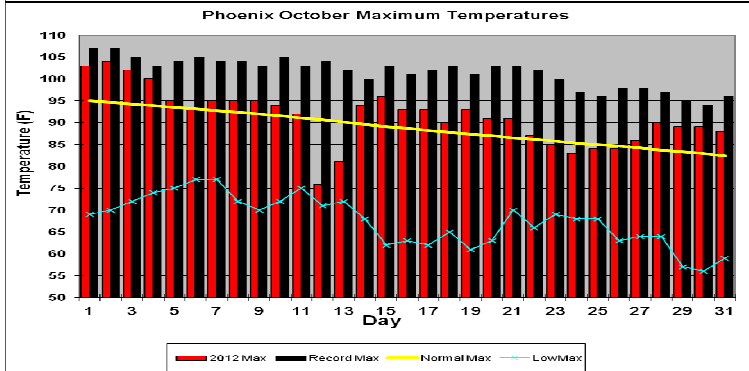
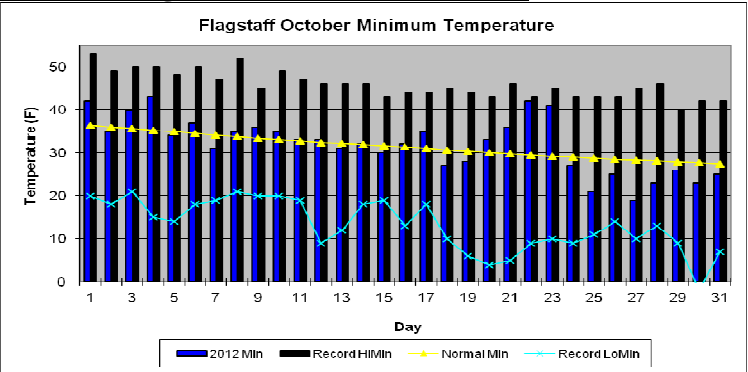
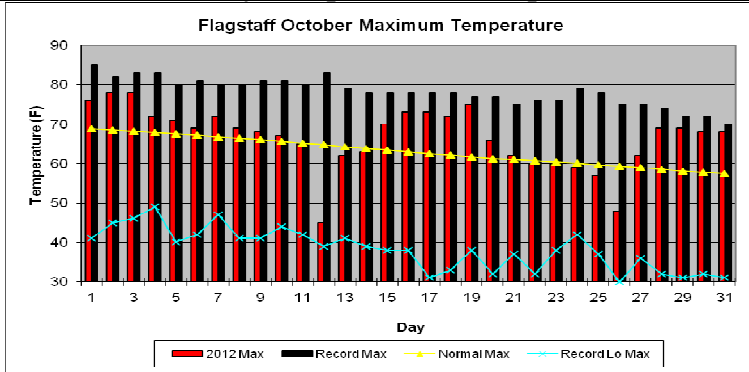
****Note:** The discrepancy between the Statewide Temperature and Precipitation values for Phoenix, Flagstaff and Tucson and the daily values in their graphs are due to the reporting times. Statewide Temperature and Precipitation values are taken at 5pm, while official daily records at the airports are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

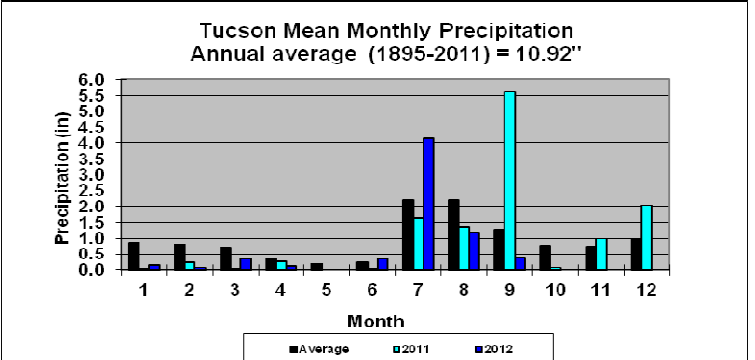
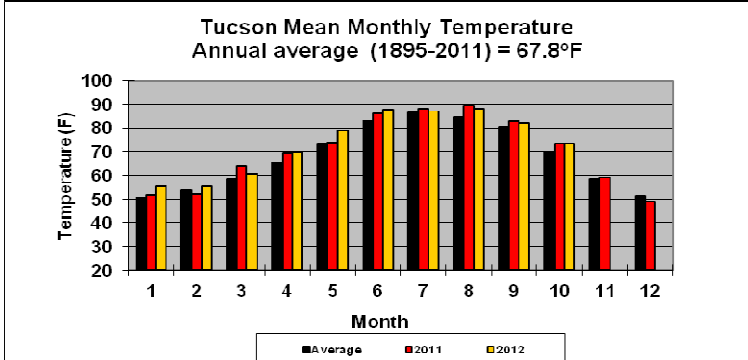
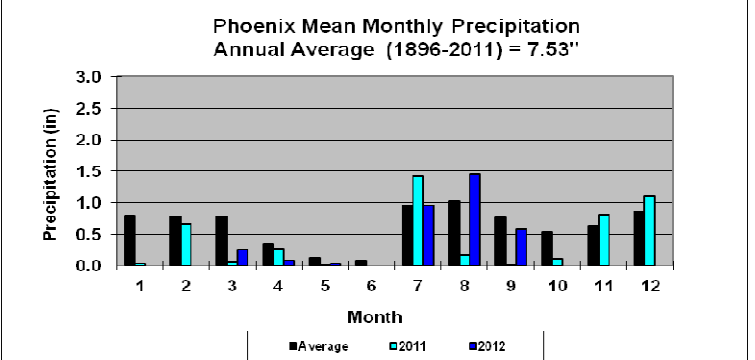
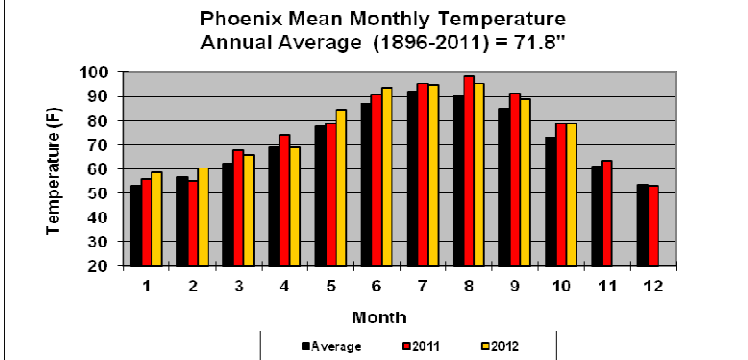
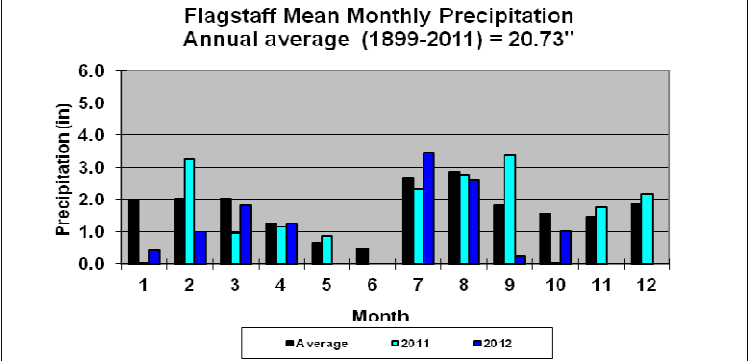
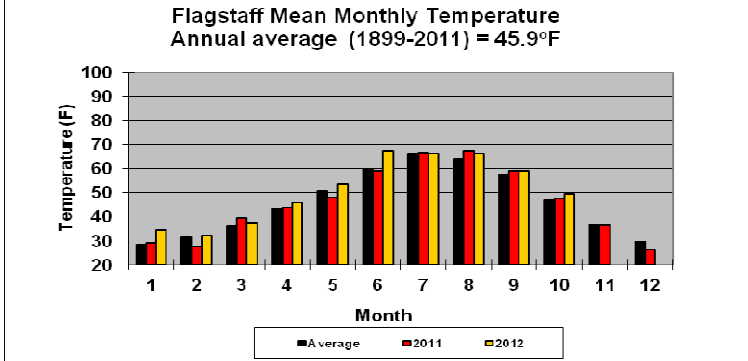
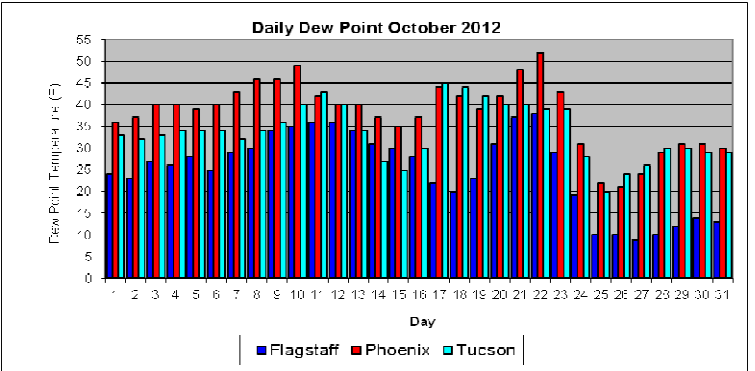
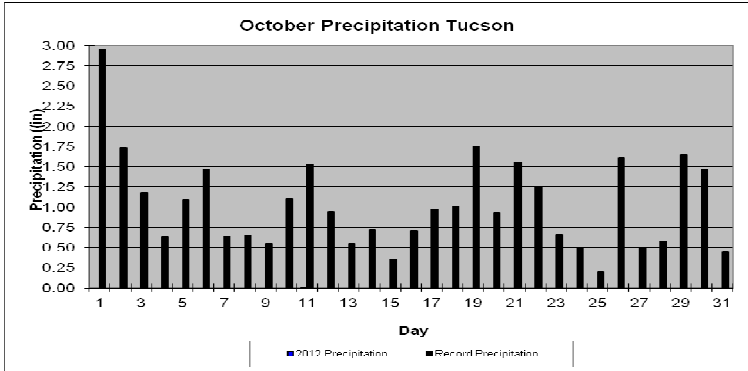
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October 2012 Daily Temperature, Precipitation, & Dew Point for Flagstaff, Phoenix, and Tucson





Number of Days:
 Clear 22
 Partly Cloudy 9
 Cloudy 0

1934, 1937, 1938, 1950, 1952, 1953, 1962, 1973,
 1982, 1995, 1999

Average Wind Speed 5.0 mph
 Highest Peak Gust 31 mph from 190° on 11th

Greatest October Precipitation 4.40" in 1972
 Least October Precipitation 0.00" in 1898,
 1902, 1904, 1905, 1906, 1909, 1915, 1917, 1922,

TUCSON CLIMATE STATISTICS

October 2012

This October was the 12th warmest and tied for 19th
 driest on record

Cooling Degree Days 271 Normal 212
 Degree base 65°F

Avg Max Temp(F) 88.8 Normal 84.8
 Avg Min Temp(F) 58.0 Normal 57.3
 Avg Mean Temp(F) 73.4 Normal 71.0
 Departure from Normal (F) +2.4

Total October Precipitation 0.001"
 Normal October Precipitation 0.89"
 Departure from normal -0.89"
 Greatest 24-Hr Precipitation 0.001" on 10/11
 Total Precipitation Year-to-Date 6.70"
 Departure from Normal -3.39"

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

Greatest October Precipitation 4.98" in 1983
 Least October Precipitation 0.00" in 1898,
 1903, 1906, 1909, 1915, 1917, 1923, 1927, 1934,
 1935, 1938, 1950, 1952, 1953, 1973, 1975, 1982,
 1999

Highest Temp this month (F): 99 on 1st, 2nd
 Lowest Temp this month (F): 44 on 26th

Record High (F): 102 on 10/01/2010
 10/03/1993

Record Low (F): 26 on 10/30/1971

Number of Days:

Clear 23
 Partly Cloudy 1
 Cloudy 7

No Temperature or precipitation records this month:

Tucson Number of Days of:

Minimum Temp 50° or lower 3
 Minimum Temp 60° or higher 13
 Maximum Temp 80° or lower 2
 Maximum Temp 90° or higher 14

Average Wind Speed 5.7 mph
 Highest Peak Gust 29 mph from 130° on 27th

Heating Degree Days 2 Normal 24

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

Winds for October:

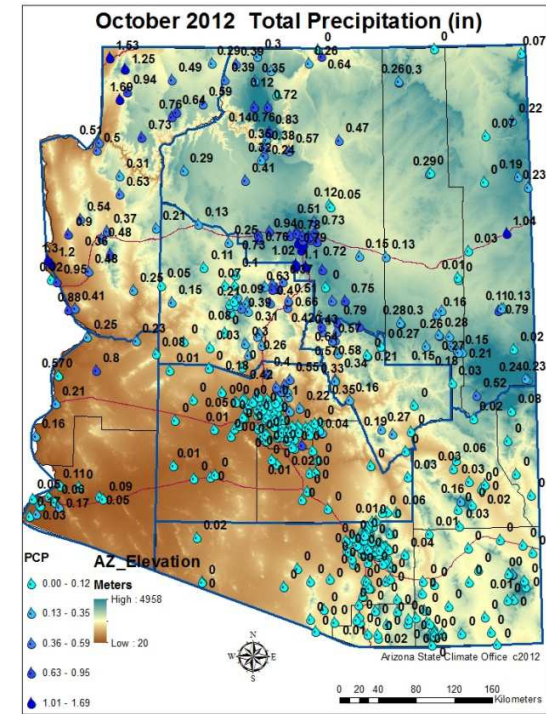
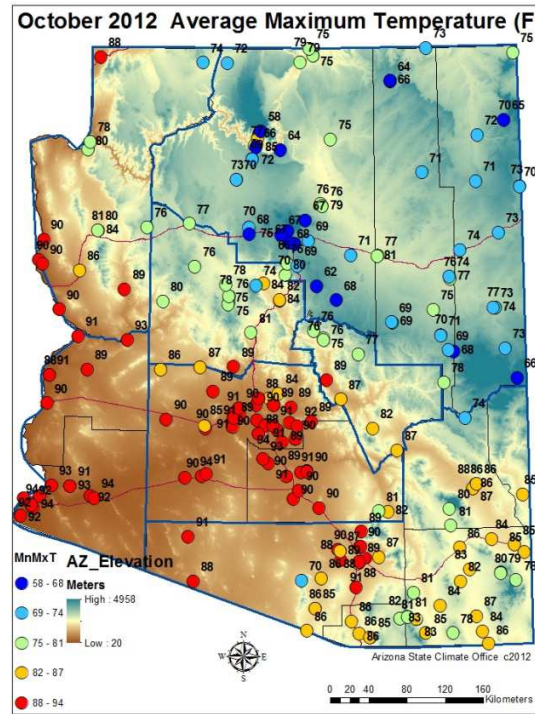
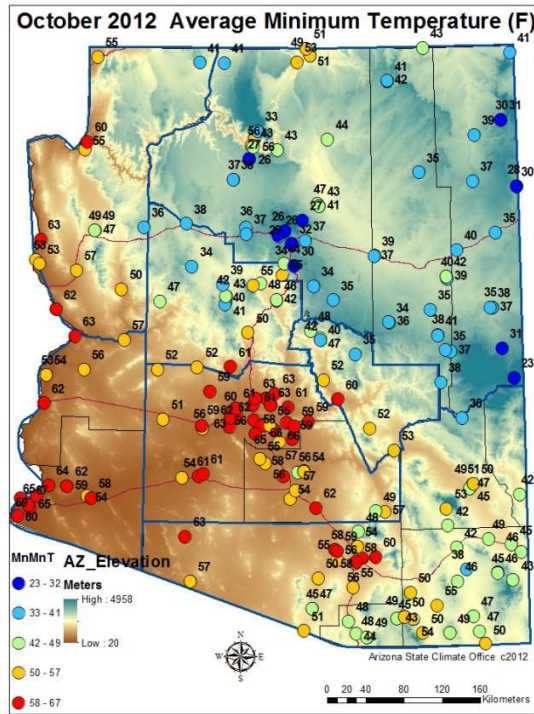
Day	Phoenix		Flagstaff		Tucson	
	Avg	Max	Avg	Max	Avg	Max
1	2.7	22	6.5	32	4.7	20
2	4.3	14	4.3	26	8.8	29
3	6.4	16	6.9	31	5.7	20
4	5.7	22	10.6	38	5.9	23
5	5.1	15	5.6	25	4.9	18
6	4.2	17	5.9	29	5.7	20
7	5.5	15	2.7	21	4.8	22
8	6.6	18	7.3	29	6.1	21
9	4.8	16	4.9	29	4.1	23
10	6.7	20	4.5	28	M	M
11	9.9	31	4.2	30	6.5	28
12	7.9	24	9	37	7.8	22
13	3	18	3.5	20	4.2	17
14	2.4	20	5.2	24	7.9	25
15	3.2	15	1.7	17	6.4	22
16	4.6	15	5.4	23	5.1	18
17	5.8	18	3.7	20	5.2	18
18	5	18	1.4	15	5	23
19	4.6	20	2.1	17	4	17
20	5	17	6.5	32	5.1	18
21	9.2	26	9.4	33	6.4	23
22	4.7	18	12.8	33	4.3	16
23	4.5	15	13.7	36	3.9	15
24	6.1	23	11.5	41	7.6	26
25	4.4	16	3.3	24	4.1	16
26	5	23	11.5	35	5.7	16
27	4.5	26	2.8	16	9.4	29
28	2.1	16	1.6	17	5.3	20
29	3.8	14	3.1	20	6	18
30	4.3	13	1.7	18	5.8	18
31	4	17	1.7	16	5.7	16

Dew Points for October:

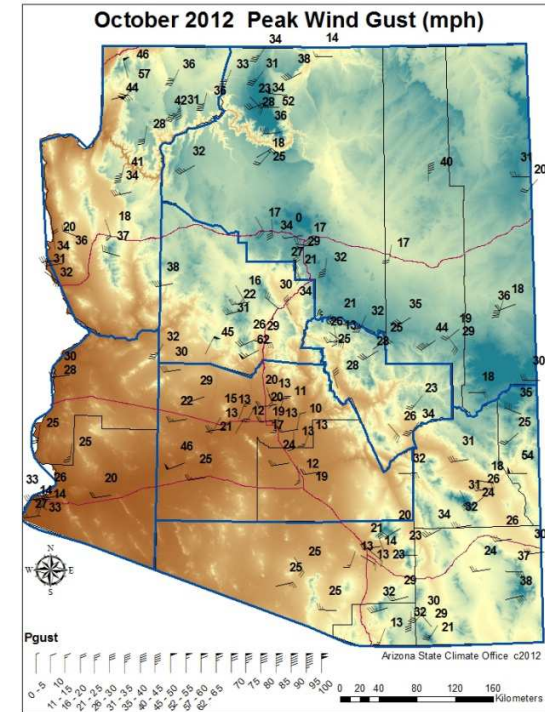
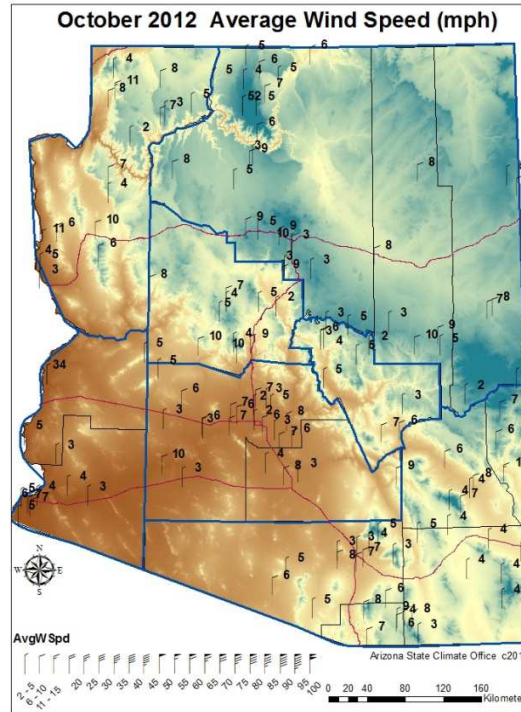
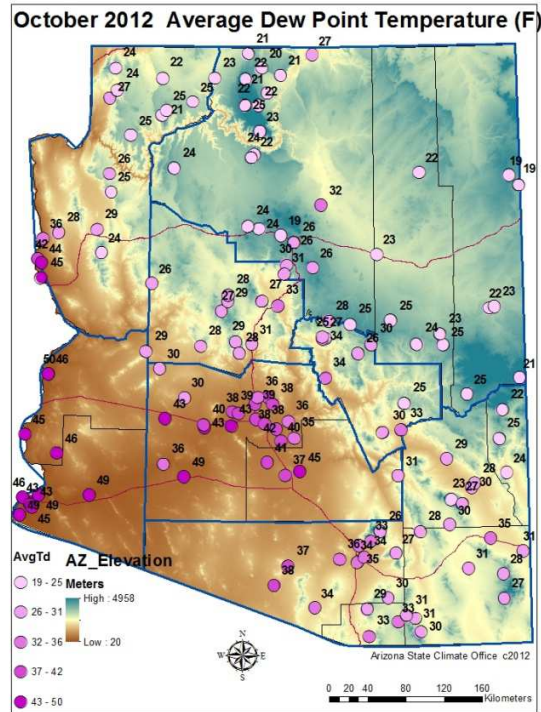
Daily Average Dew Point (°F):

Day	Phx	Tuc	Flg
1	36	33	24
2	37	32	23
3	40	33	27
4	40	34	26
5	39	34	28
6	40	34	25
7	43	32	29
8	46	34	30
9	46	36	34
10	49	40	35
11	42	43	36
12	40	40	36
13	40	34	34
14	37	27	31
15	35	25	30
16	37	30	28
17	44	45	22
18	42	44	20
19	39	42	23
20	42	40	31
21	48	40	37
22	52	39	38
23	43	39	29
24	31	28	19
25	22	20	10
26	21	24	10
27	24	26	9
28	29	30	10
29	31	30	12
30	31	29	14
31	30	29	13

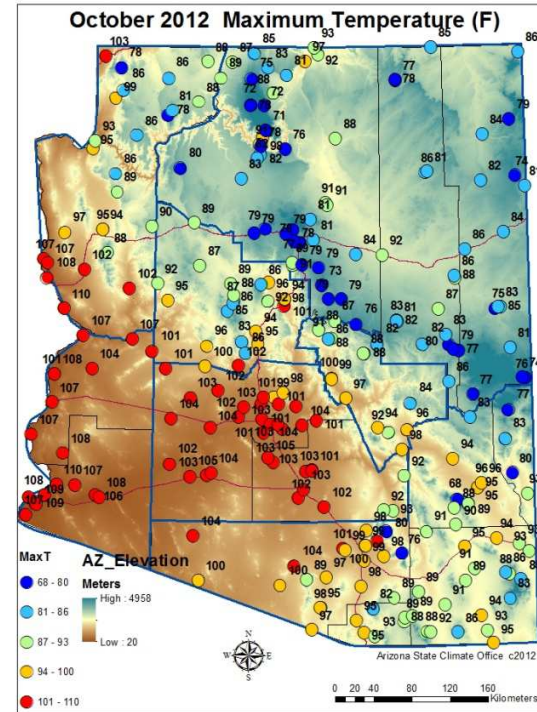
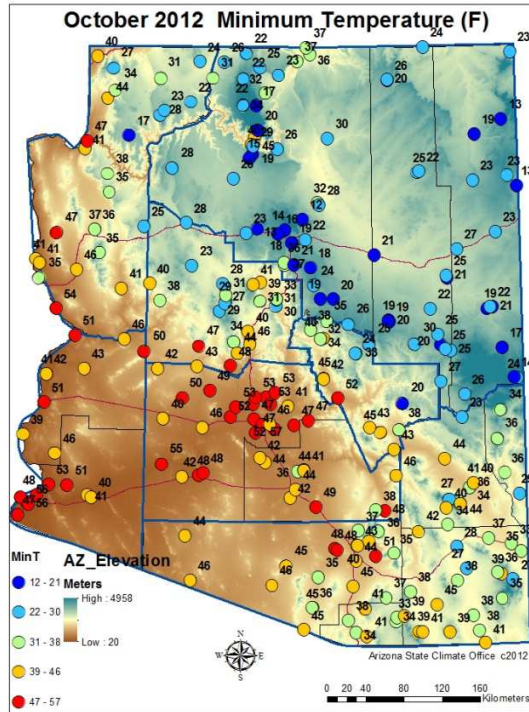
October 2012 Temperature, Dew Point, Wind Speed, and Precipitation Maps are based on **preliminary data** from the National Weather Service, the Arizona Meteorological Network (AZMet), operated by the University of Arizona College of Agriculture Cooperative Extension and the RAWS (Remote Automated Weather Station) network operated by the Bureau of Land Management and Forest Service, and the CoCoRaHS (Community Collaborative Rain, Hail and Snow) Network.



Average nighttime temperatures ranged from 23°F at Alpine, to 67°F at Yuma. Average daytime temperatures ranged from 58°F at Bright Angel at the bottom of the Grand Canyon, to 94°F at Yuma. Precipitation values ranged from 0.02” at Lake Havasu in western Arizona to 1.69” at Olaff Knolls in northwestern Mohave County.

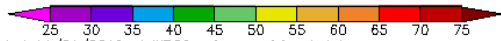
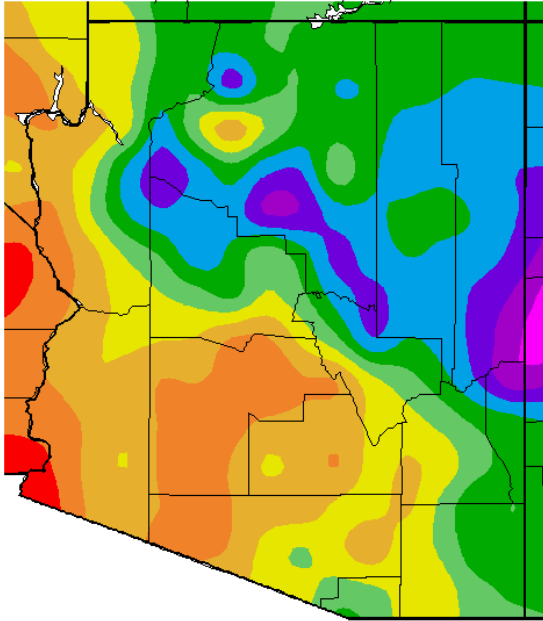


Average monthly dew points ranged from 19°F at Flagstaff and Piney Hill in northeastern Arizona, to 50°F at Parker. As in most months, average winds were light, with 11.8 mph as the highest average at Guthrie. The highest peak wind gust was 62 mph at Humbug Creek in southern Yavapai County. Peak wind gusts blew in all different directions, which is typical as the high winds are generally attributed to thunderstorm outflows, which have no dominant direction. The arrows point to the direction the winds blow from. Most of the high wind gusts came from the southwest.



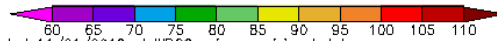
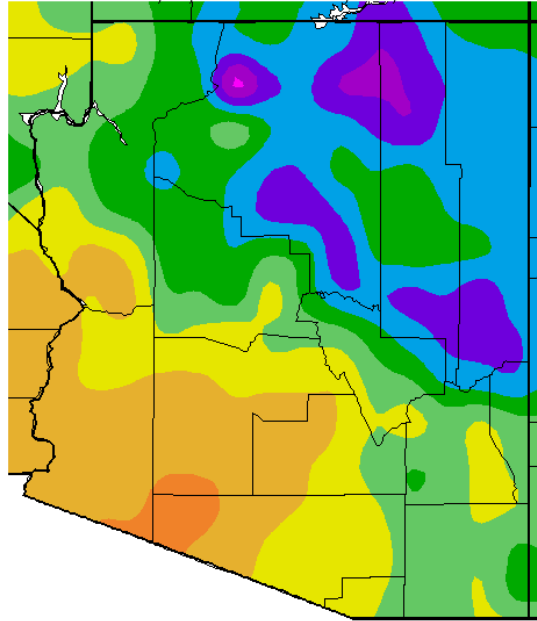
Lowest temperature in October was 12^oF recorded at Sunset Crater. The highest daytime temperature of the month was 110^oF recorded at Lake Havasu City.

Av. Min. Temperature (deg. F)
10/1/2012 – 10/31/2012



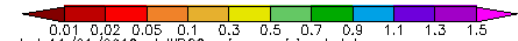
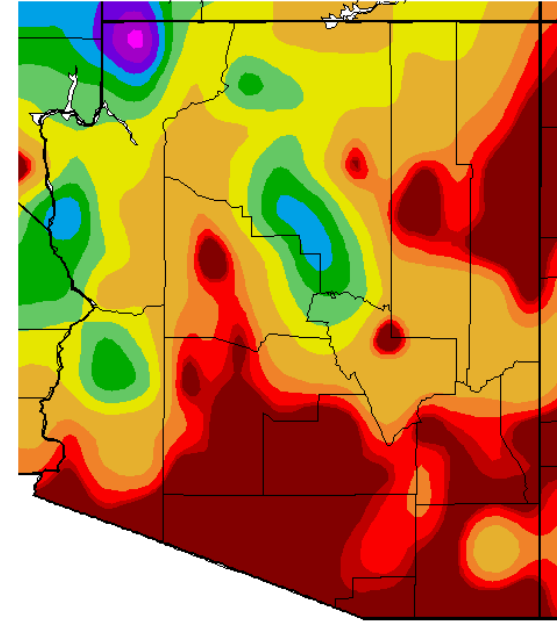
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NOAA Regional Climate Centers

Av. Max. Temperature (deg. F)
10/1/2012 – 10/31/2012



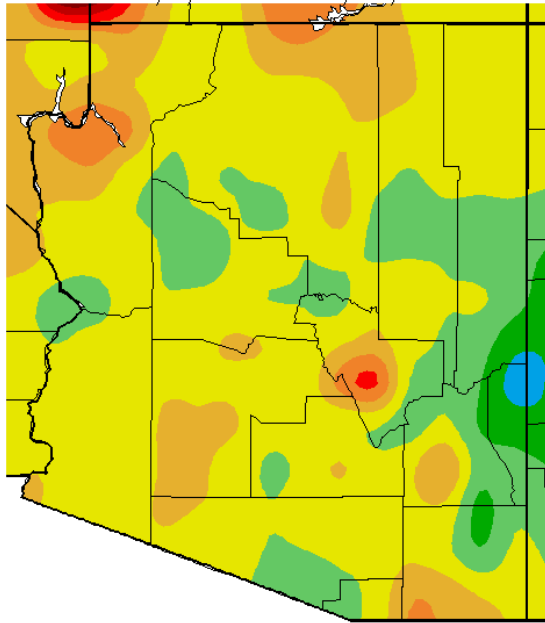
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Total Precipitation (in.)
10/1/2012 – 10/31/2012



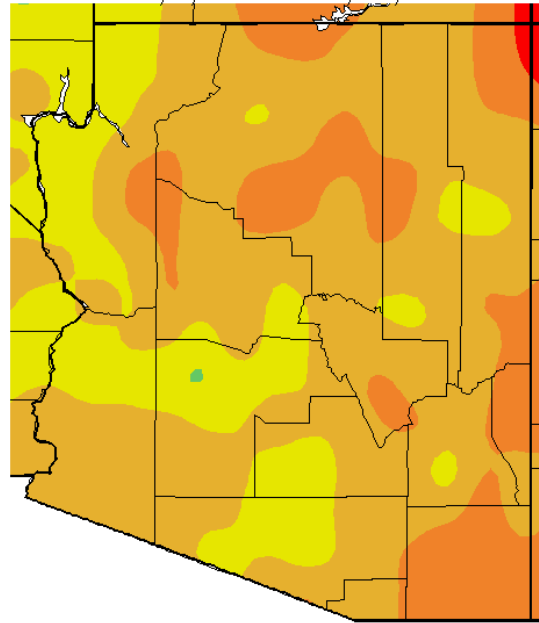
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Av. Min. Temperature dep from Ave (deg. F)
10/1/2012 – 10/31/2012



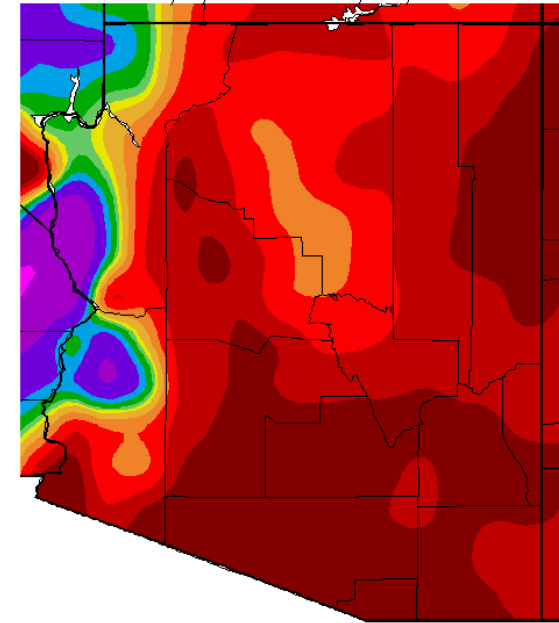
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Av. Max. Temperature dep from Ave (deg F)
10/1/2012 – 10/31/2012



Generated 11/01/2012 at WRCC using provisional data.
NOAA Regional Climate Centers

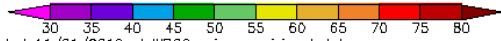
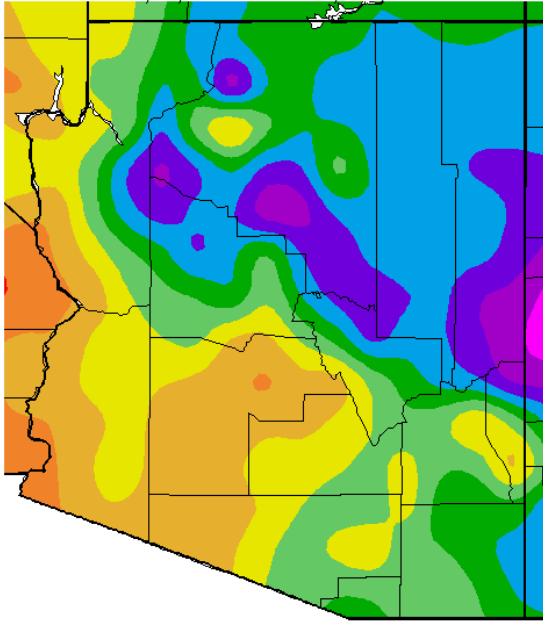
Percent of Average Precipitation (%)
10/1/2012 – 10/31/2012



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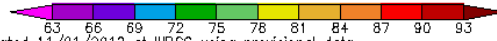
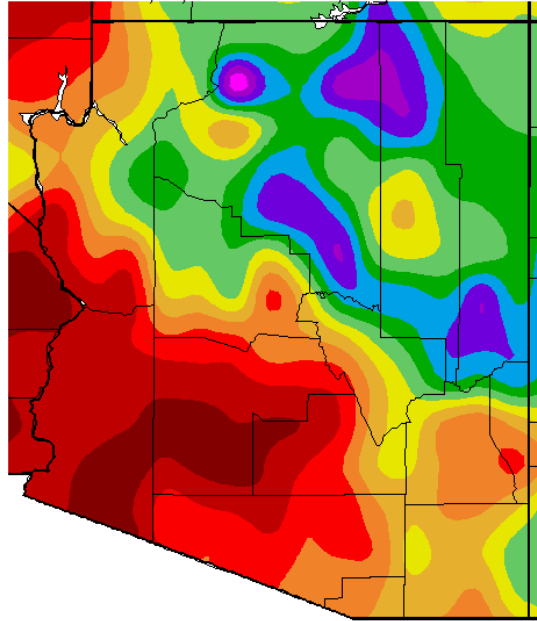
October minimum temperatures were as much as 6°F warmer than normal in Mohave and Gila Counties, with temperatures up to 6 degrees colder than normal in the east central counties. Daytime temperatures were 2-6°F warmer than normal across most of the state, particularly in the eastern half of the state. Rainfall was scarce in October. The southeastern half of the state had less than 25% of normal rainfall for October, and Pima, Santa Cruz, Pinal and half of Maricopa and Apache counties had less than 5% of normal precipitation. By contrast, southern Mohave and all of La Paz counties were very wet receiving more than 150% of normal precipitation.

Av. Min. Temperature (deg. F)
1/1/2012 - 10/31/2012



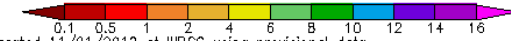
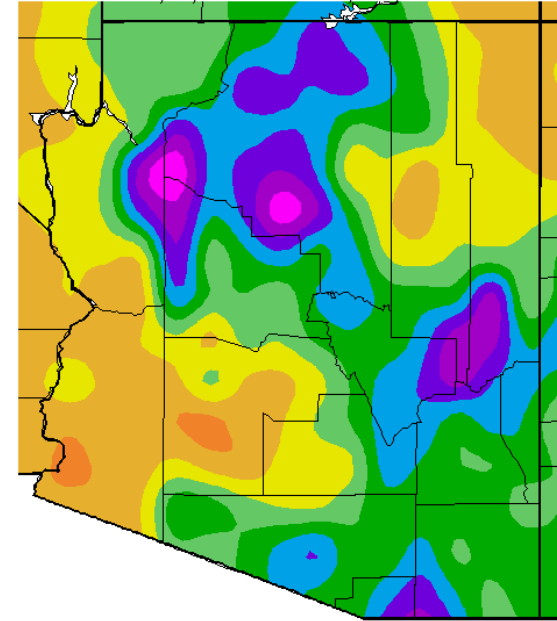
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Av. Max. Temperature (deg. F)
1/1/2012 - 10/31/2012



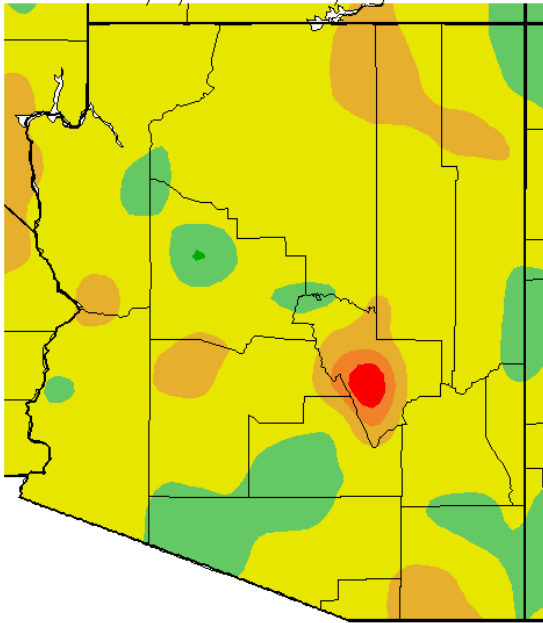
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Total Precipitation (in.)
1/1/2012 - 10/31/2012



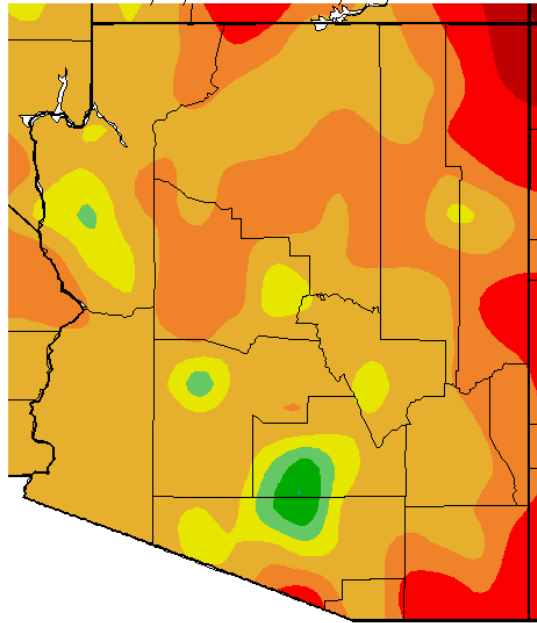
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Av. Min. Temperature dep from Ave (deg. F)
1/1/2012 - 10/31/2012



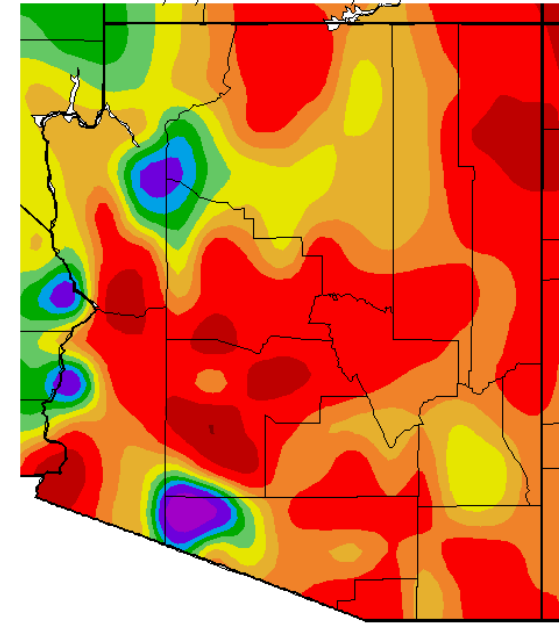
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Av. Max. Temperature dep from Ave (deg F)
1/1/2012 - 10/31/2012



Generated 11/01/2012 at WRCC using provisional data.
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Percent of Average Precipitation (%)
1/1/2012 - 10/31/2012

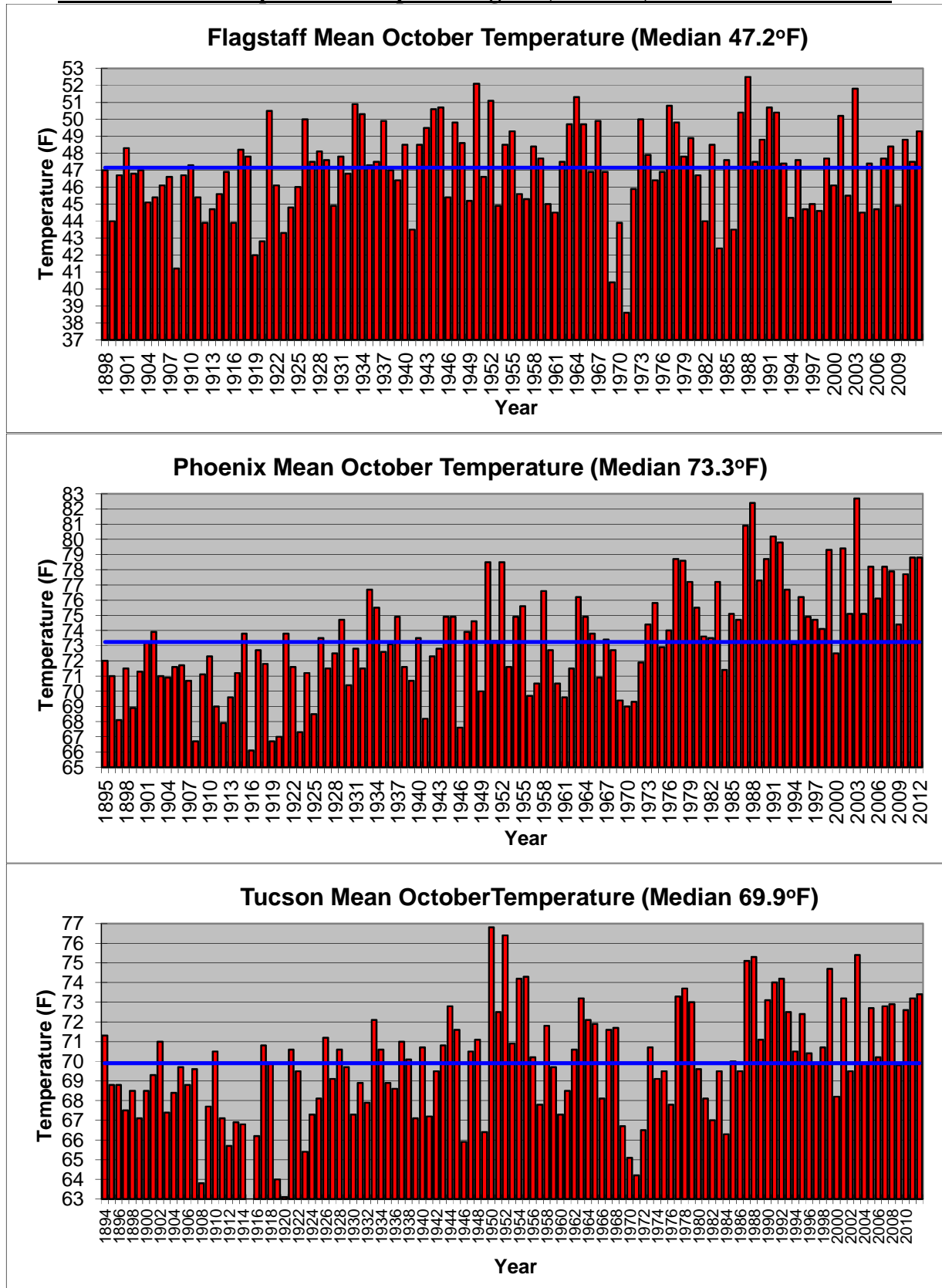


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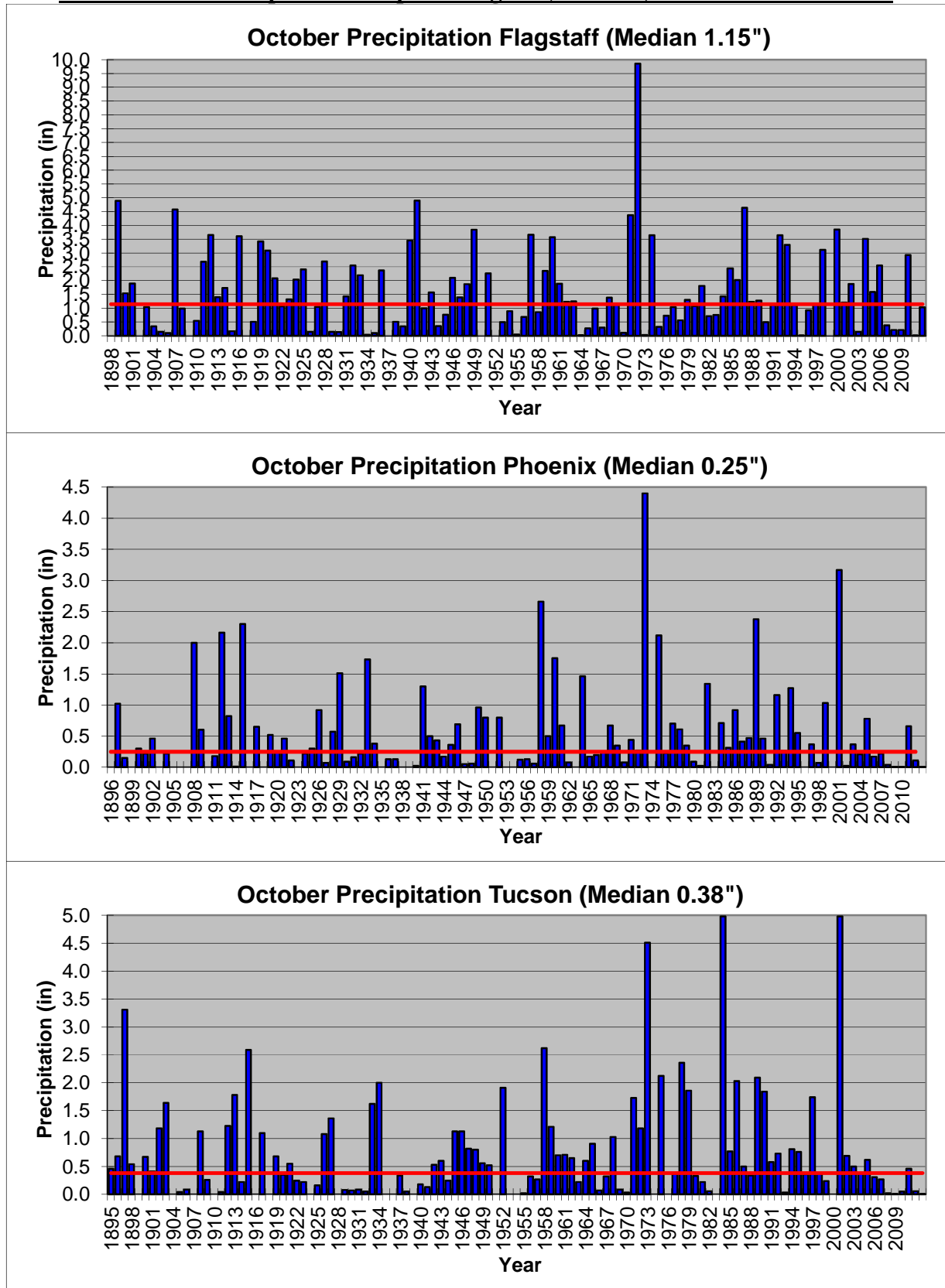
Calendar Year 2012

Since January 1st, nighttime temperatures have been within 2°F of normal statewide, with most places on the warmer side. Only Gila County has had significantly warmer temperatures, at 4-6°F above normal. Western Pima and western Pinal counties were slightly cooler than normal. Daytime temperatures have been 1-2°F warmer than normal statewide, and 2-4°F warmer along the eastern border and into Yavapai County. Southern Pinal and north central Pima counties were 0-2°F cooler than normal. Precipitation for the calendar year is less than 70% of average in central, northeastern and southwestern Arizona. Only a small area of central Mohave County and the western quarter of Pima County have received above average precipitation. The dryness is the result of a very dry winter followed by a very dry summer. The storms that did move through the state were weak, lacked moisture and were infrequent.

October Mean Temperature Graphs – Flagstaff, Phoenix, and Tucson 1895-2012:

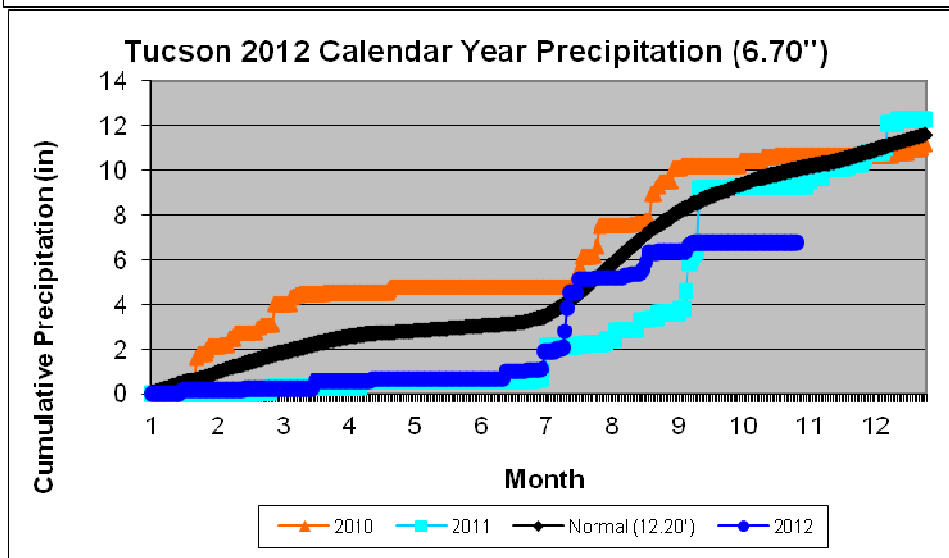
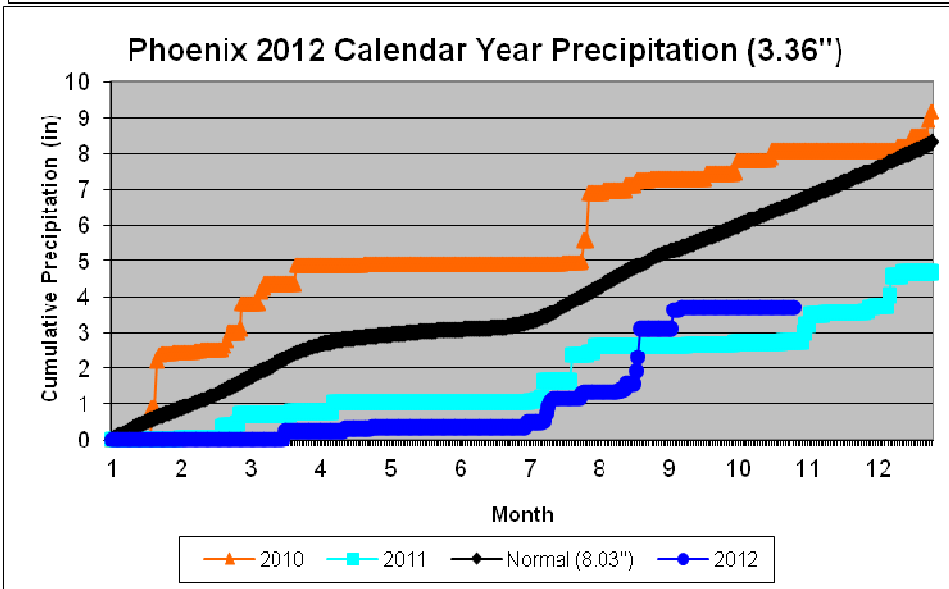
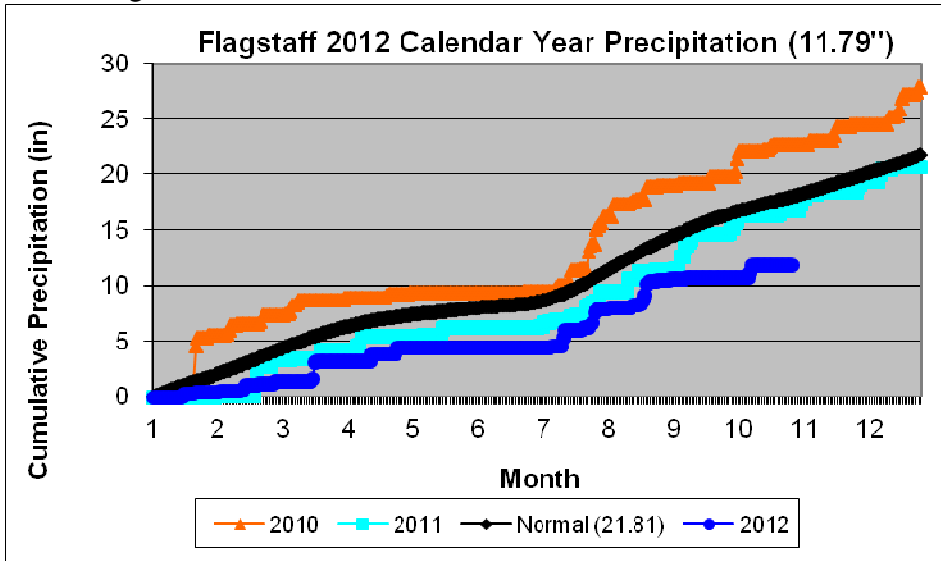


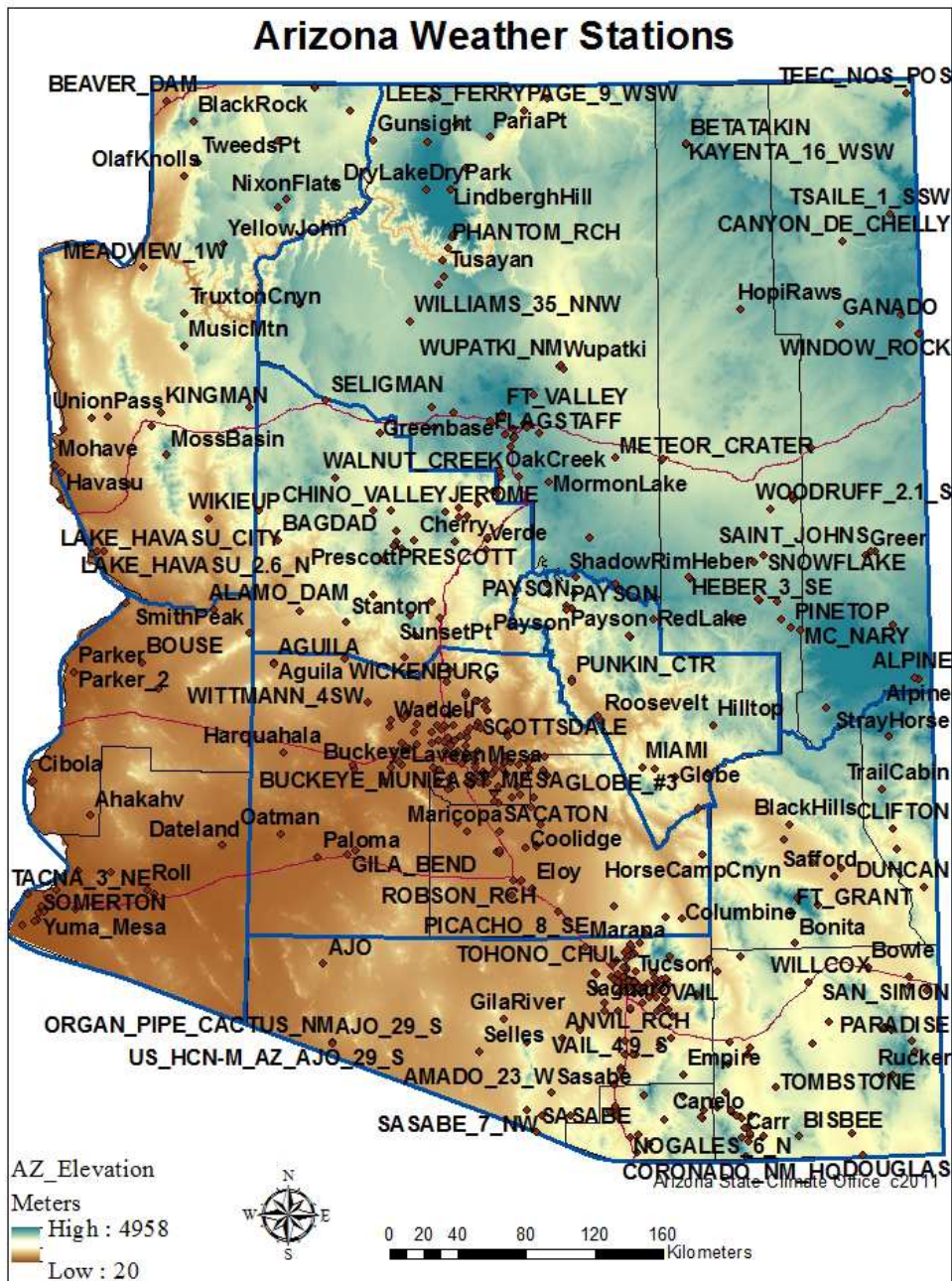
October Mean Precipitation Graphs – Flagstaff, Phoenix, and Tucson 1895-2012:



2012 Cumulative Precipitation Graphs – Flagstaff, Phoenix and Tucson:

Precipitation is well below average in all three cities.





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)