



Arizona Climate Summary

February 2012

Summary of conditions for January 2012

January 2012 Temperature and Precipitation Summary

January 1st – 20th: The New Year has started on a very dry note. The La Niña circulation pattern has established itself with persistent high pressure over the Southwest storms. This is bringing Arizona clear skies and warm temperatures while forcing winter storms well north of us. In fact January has been quite dry across the entire western United States, with the Sierra Nevada, Wasatch, Uinta, and Colorado Rocky Mountains without significant snowfall until February. By mid December, the only states with a snowpack were Alaska and Arizona. It is quite unusual to have similar weather conditions in Arizona and Alaska. Fortunately for us, our temperatures were not similar. Alaska has been setting new cold temperature records in January, while Arizona near- or slightly warmer than average. The first week of the month had warmer than average temperatures across the state under clear skies. No precipitation fell anywhere in the state as high pressure dominated the southwest. By the 8th, a low pressure system moved across Utah and into New Mexico, brushing past northern Arizona, but only Show Low reported any rainfall, 0.30". Behind the cold front, cooler air caused our temperatures to drop to near normal values statewide. Highs in the warmest locations along the lower Colorado River and the southwest deserts remained in the upper 60s and lower 70s until the 18th. A second, stronger low pressure system, moved through on the 15th and 16th, and tapped into sub-tropical moisture. This system brought more widespread rainfall statewide, with many locations in southern Arizona reporting over 0.25". Show Low had 1.90", and Flagstaff had -.33". On the 18th and 19th, temperatures warmed a bit into the mid 70s in the warmest locations, and the cloudiness from the warm storm kept nighttime temperatures higher than normal.

January 21st - 31st: On the 21st, a series of winter storms moved down the California coast and across the western states, with significant rain and snowfall in California, Nevada, Utah and Colorado. Most of the storm energy stayed north of Arizona, but we were fortunate enough to pick up some rain and snowfall across the northern third of the state. Snowfall totals included 2.9" at Bellemont, 7.7" at Navajo National Monument, 9.0" at the north rim of the Grand Canyon, 1.0" at Seligman, and 0.3" at Canyon de Chelly. Cottonwood had 0.06" of rain, and Page had 0.31". Once this system cleared out on the 25th, high pressure once again set up off the southern California coast, and clear skies and warmer temperatures returned. Daytime highs were in the upper 70s in the warmer locations, and nighttime lows were between 4 and 8 degrees at the coldest locations.

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

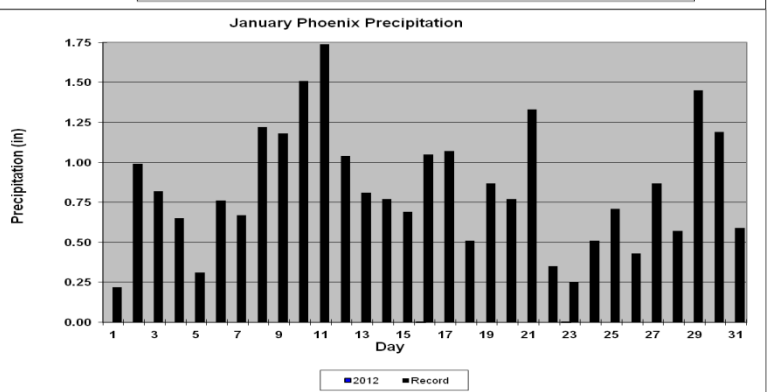
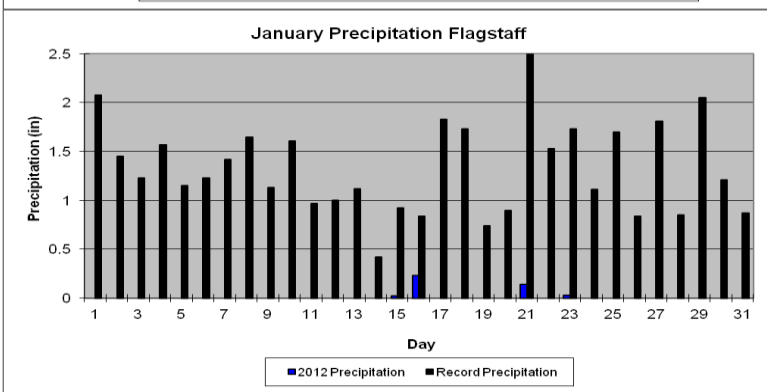
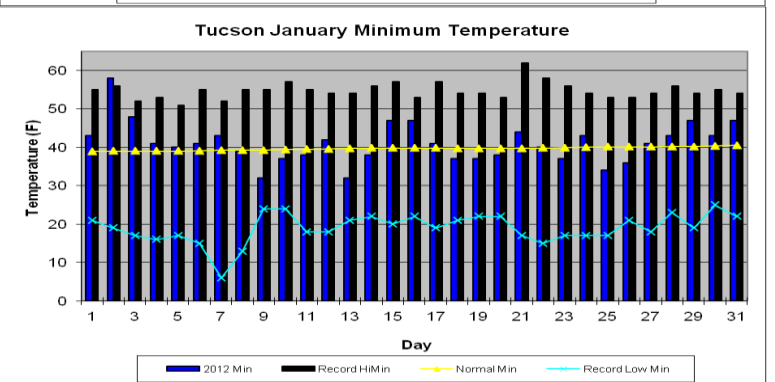
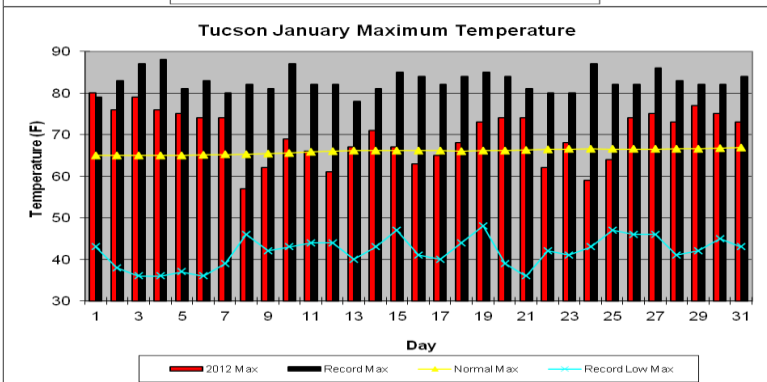
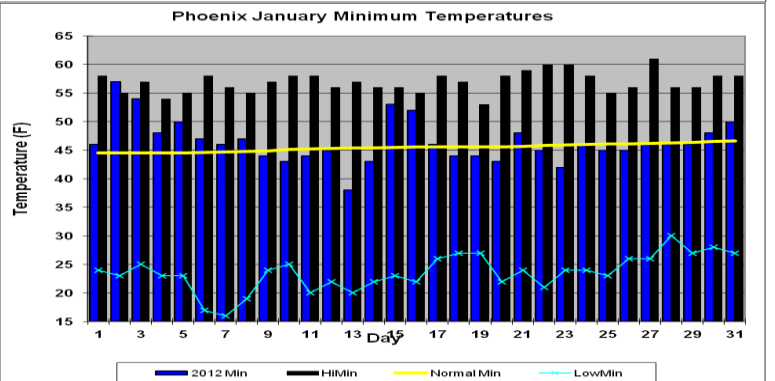
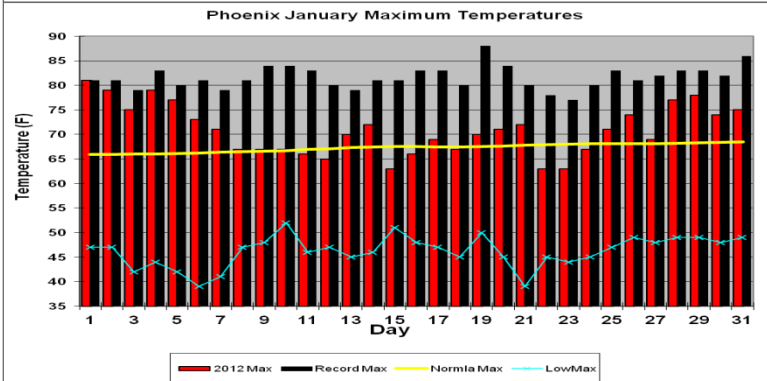
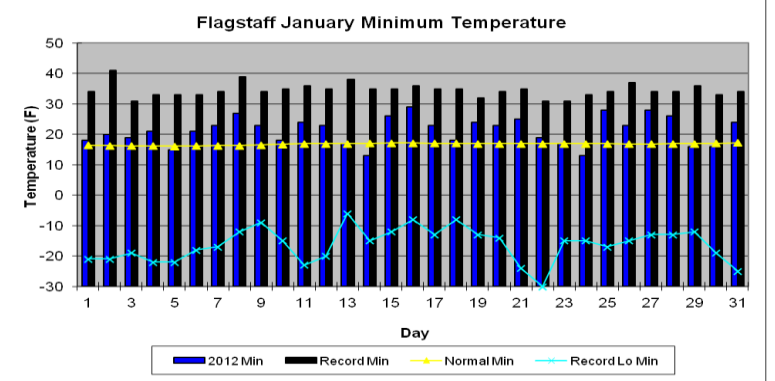
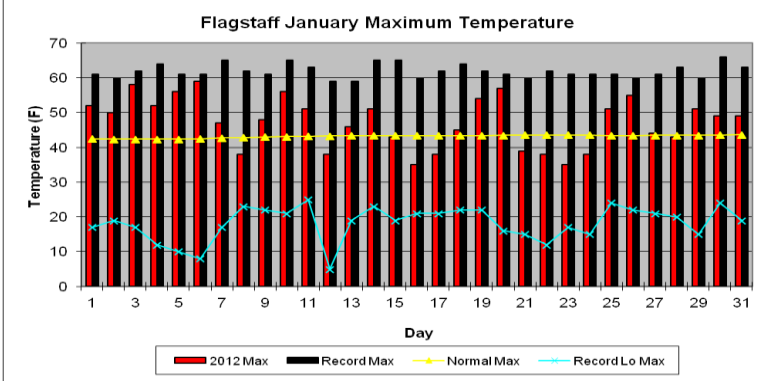
****Note:** The discrepancy between the Statewide Temperature and Precipitation values for Phoenix, Flagstaff and Tucson and the daily values in their graphs are due to the reporting times. Statewide Temperature and Precipitation values are taken at 5pm, while official daily records at the airports are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

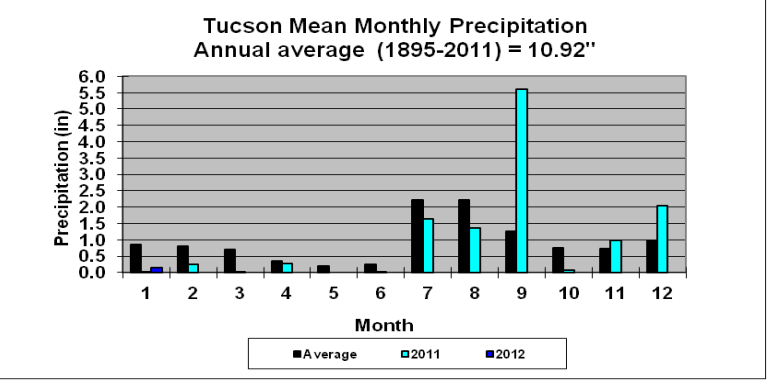
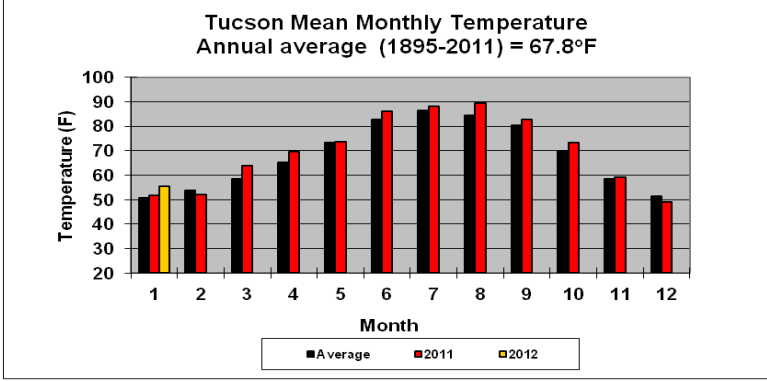
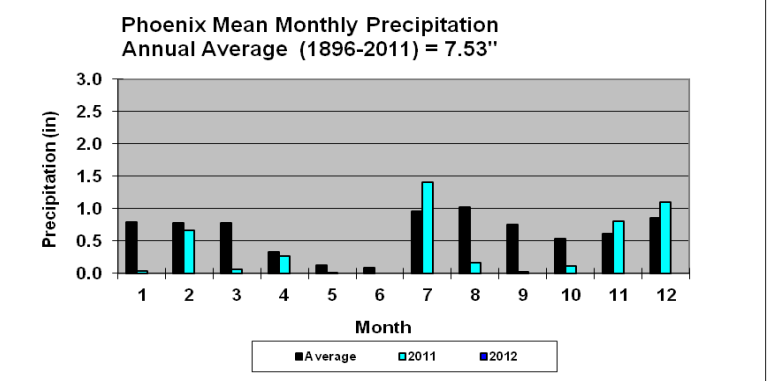
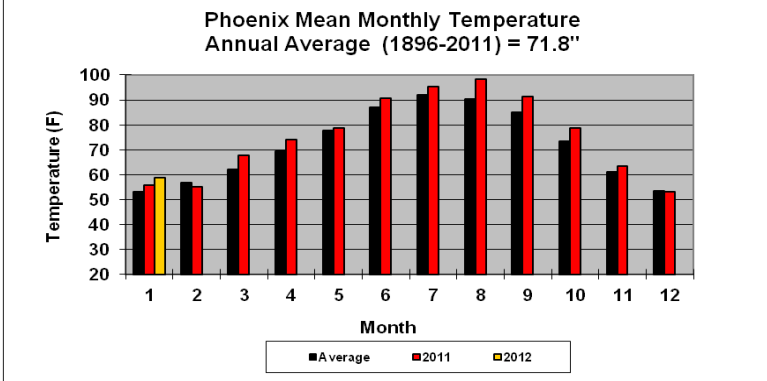
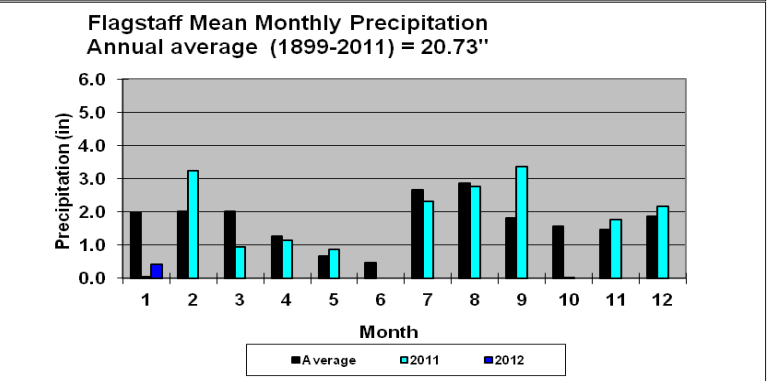
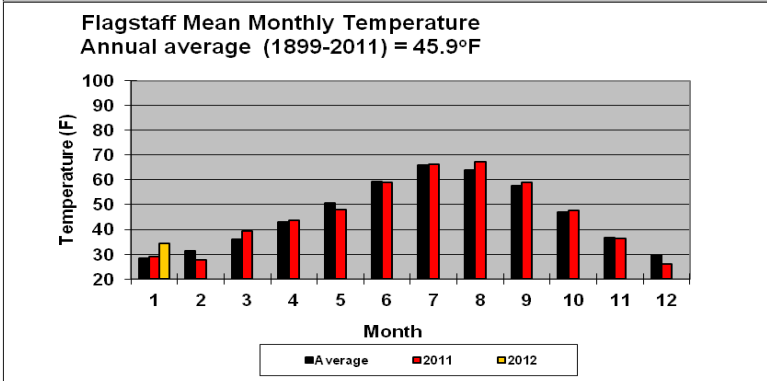
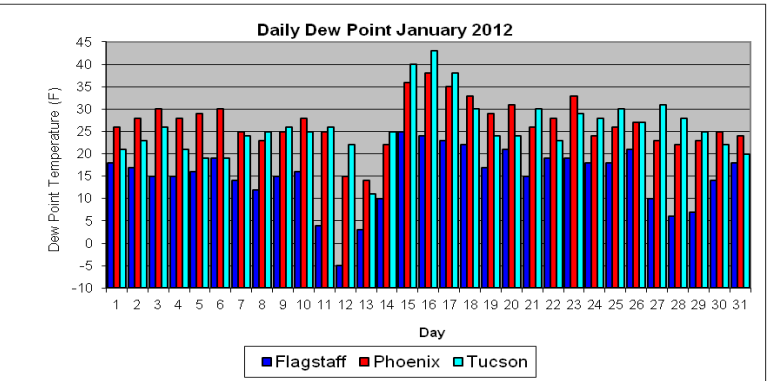
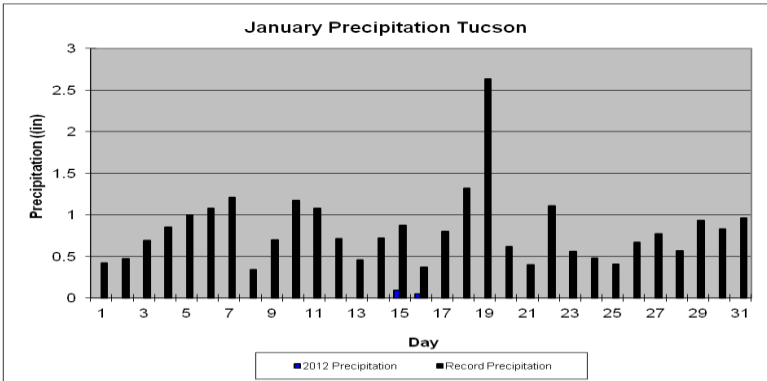
State Climate Office
Dr. Nancy J. Selover, State Climatologist
<http://azclimate.asu.edu> Tel: 480-965-6265
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School of Geographical Sciences & Urban Planning
Arizona State University
Tempe, AZ 85287-1508
Edited by Nancy J. Selover & Matt Salerno

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





FLAGSTAFF CLIMATE STATISTICS

January 2012

This January was the 6th warmest and 20th driest on record.

Avg Max Temp (F)	47.3	Normal	47.3
Avg Min Temp (F)	21.3	Normal	17.3
Avg Mean Temp (F)	34.3	Normal	29.9
Departure from Normal (F)	+4.4		

Highest Monthly Avg Temp (F)	37.1	in	2003
Lowest Monthly Avg Temp (F)	12.7	in	1937

Highest Temp this month (F):	59	on	6 th
Lowest Temp this month (F):	13	on	24 th and 14 th

Record High (F):	66	on	1/30/1971
Record Low (F):	-30	on	1/22/1937

No daily temperature or precipitation records this month:

Flagstaff Number of Days of:

Minimum Temp 10° or lower	0
Minimum Temp 20° or higher	19
Maximum Temp 40° or lower	8
Maximum Temp 50° or higher	13

Heating Degree Days	943	Normal	1088
Cooling Degree Days	0	Normal	0
Degree base 65°F			

Total January Precipitation	0.42"
Normal January Precipitation	2.05"
Departure from normal	-1.63"
Greatest 24-Hr Precipitation	0.25 on 1/15-16
Total Precipitation Year-to-Date	0.42"
Departure from Normal	-1.63"

Number of Days:

Clear	26
Partly Cloudy	5
Cloudy	0

Greatest January Precipitation	9.55" in 1993
Least January Precipitation	0.00" in 1972

Average Wind Speed	7.4 mph
Highest Peak Gust	51 mph from 230° on 21 st

PHOENIX CLIMATE STATISTICS

January 2012

This January tied for 5th warmest for temperature and tied for the driest on record with 9 other years.

Avg Max Temp(F)	70.9	Normal	67.2
Avg Min Temp(F)	46.5	Normal	45.6
Avg Mean Temp (F)	58.7	Normal	56.4
Departure from Normal (F)	2.3		

Highest Monthly Avg Temp (F)	62.0	in	2003
Lowest Monthly Avg Temp (F)	43.1	in	1937

Highest Temp this month (F):	81	on	1 st
Lowest Temp this month (F):	38	on	13 th

Record High (F):	88	on	1/19/1971
Record Low (F):	16	on	1/07/1913

Temperature records set this month:
 1st – HiMax 81 tied, first set in 1981
 2nd – HiMin 57 set, previous record 55 in 1998.

Phoenix Number of Days of:

Minimum Temp 40° or lower	1
Minimum Temp 50° or higher	6
Maximum Temp 70° or lower	15
Maximum Temp 80° or higher	1

Heating Degree Days	191	Normal	269
Cooling Degree Days	3	Normal	2
Degree base 65°F			

Total January Precipitation	0.00"
Normal January Precipitation	0.91"

Departure from normal -0.91"
 Greatest 24-Hr Precipitation 0.00" every day.
 Total Precipitation Year-to-Date 0.00"
 Departure from Normal -0.91"

Greatest January Precipitation 5.22" in 1993
 Least January Precipitation 0.00" in 1903,
 2006, and 7 other years

Number of Days:
 Clear 13
 Partly Cloudy 17
 Cloudy 4

Average Wind Speed 4.6 mph
 Highest Peak Gust 40 mph from 280° on 21st

TUCSON CLIMATE STATISTICS
 January 2012

This January was the 4th warmest and tied for 24th
 driest on record.

Heating Degree Days 289 Normal 383
 Cooling Degree Days 0 Normal 0
 Degree base 65°F

Avg Max Temp(F) 70.0 Normal 65.5
 Avg Min Temp(F) 41.1 Normal 39.8
 Avg Mean Temp(F) 55.6 Normal 52.6
 Departure from Normal (F) +3.0

Total January Precipitation 0.14"
 Normal January Precipitation 0.94"
 Departure from normal -0.80"
 Greatest 24-Hr Precipitation 0.14" on 1/15-16
 Total Precipitation Year-to-Date 0.14"
 Departure from Normal -0.80"

Highest Monthly Avg Temp (F) 58.6 in 1986
 Lowest Monthly Avg Temp (F) 41.2 in 1931

Greatest January Precipitation 4.81" in 1993
 Least January Precipitation 0.00" in 1972,
 1928, 1924, and 6 other years.

Highest Temp this month (F): 80 on 1st
 Lowest Temp this month (F): 32 on 13th & 9th

Record High (F): 88 on 1/04/1927
 Record Low (F): 6 on 1/07/1913

Number of Days:
 Clear 24
 Partly Cloudy 2
 Cloudy 0

Temperature or precipitation records this month:
 1st HiMax 80 set, previous record 79 set in 1981
 2nd HiMin 58 set, previous record 56 set in 1922

Tucson Number of Days of:
 Minimum Temp 40° or lower 13
 Minimum Temp 50° or higher 1
 Maximum Temp 50° or lower 2
 Maximum Temp 80° or higher 1

Average Wind Speed 6.0 mph
 Highest Peak Gust 40 mph from 330° on 9th

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

Winds for January:

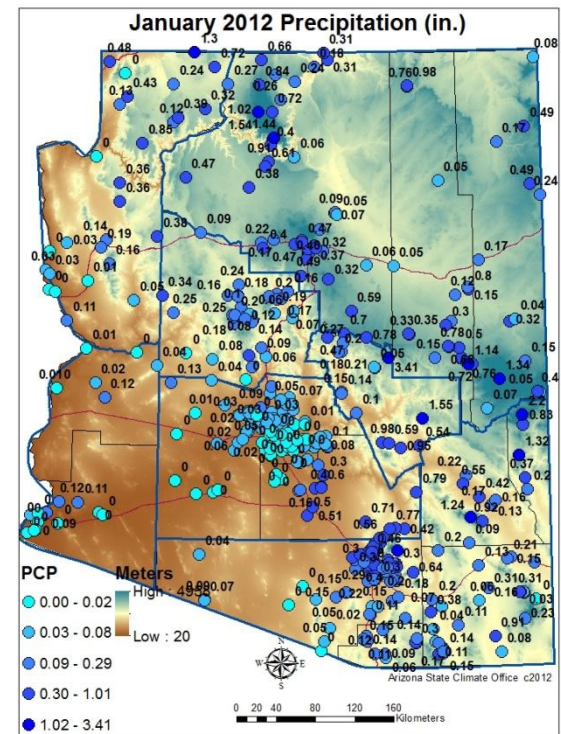
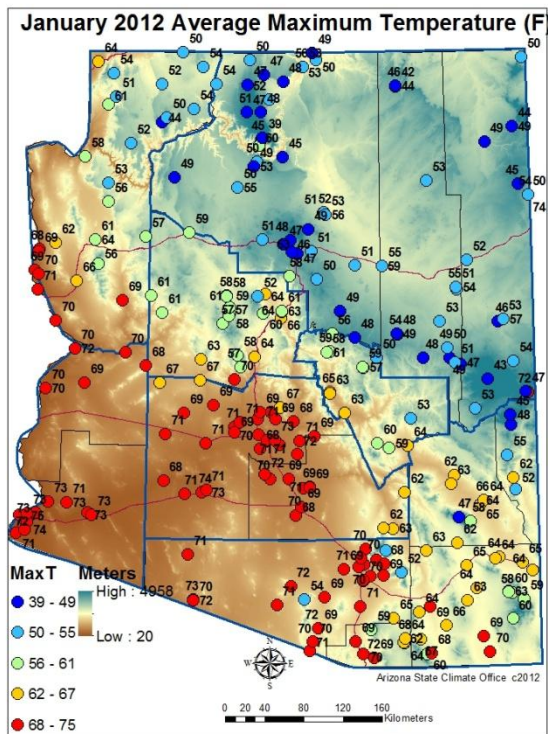
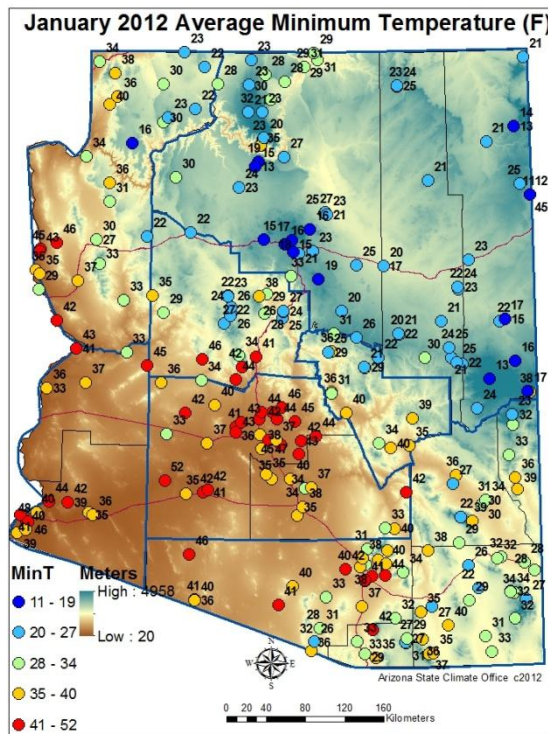
Day	Phoenix		Flagstaff		Tucson	
	Avg	Max	Avg	Max	Avg	Max
1	7	26	5.1	22	8.9	40
2	4.3	16	3	15	3.1	20
3	7	21	5.2	30	6.6	20
4	4.5	15	2.8	15	2	21
5	4.5	18	11.4	29	5	20
6	4.2	16	2.8	18	3.2	14
7	2	16	2.6	13	6	21
8	2.4	10	2.3	15	3.6	16
9	3.1	14	2.3	18	4.4	16
10	3.8	20	2.3	14	9.2	33
11	3.6	15	3.7	28	5.4	20
12	8.8	26	5.1	21	5.3	26
13	8.4	23	3.6	13	5.6	18
14	4.3	15	5.2	16	3.5	17
15	2.8	15	4.9	18	2.4	18
16	11.6	25	16.9	33	17.5	41
17	7.6	18	12.7	28	15.1	45
18	7.6	26	2.9	14	3.4	24
19	3.9	18	7.9	20	2	20
20	3.6	13	1.8	16	2.7	18
21	2.8	18	5.5	20	4.4	18
22	6.1	23	10.3	31	6.1	25
23	5.1	21	16.9	39	4.5	20
24	1.8	13	13.3	35	4.6	21
25	3.4	13	4.2	20	6	22
26	3	10	4	18	5.3	21
27	2.4	8	2.9	18	5.1	18
28	3.4	12	0.7	10	4.9	16
29	3.4	15	2.4	18	5.2	17
30	3.3	13	4.4	23	5.8	26
31	3.5	13	3.5	20	4.1	18

Dew Points for January:

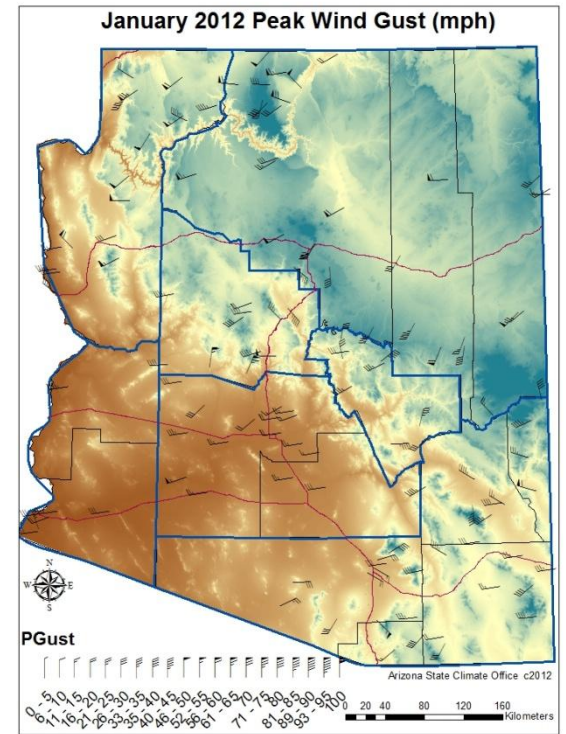
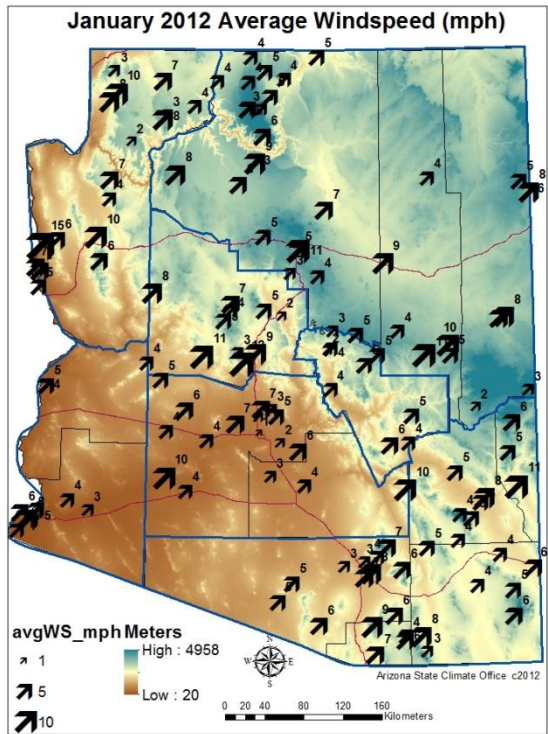
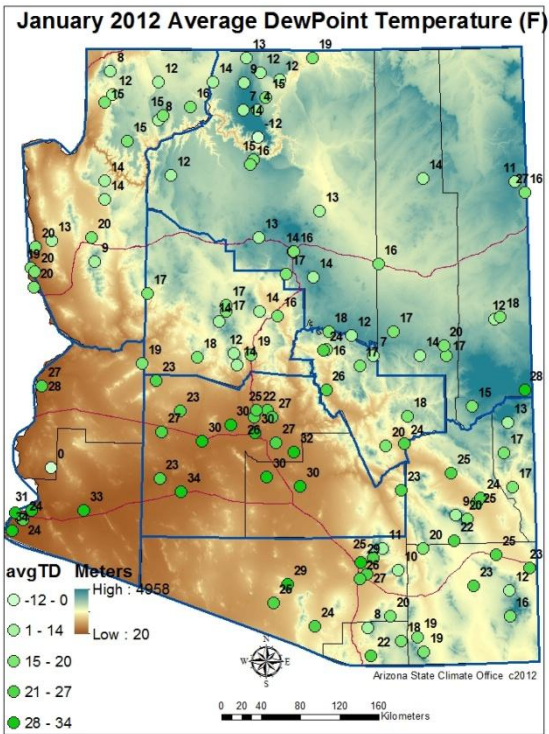
Daily Average Dew Point (°F):

Day	Phx	Tuc	Flg
1	26	21	18
2	28	23	17
3	30	26	15
4	28	21	15
5	29	19	16
6	30	19	19
7	25	24	14
8	23	25	12
9	25	26	15
10	28	25	16
11	25	26	4
12	15	22	-5
13	14	11	3
14	22	25	10
15	36	40	25
16	38	43	24
17	35	38	23
18	33	30	22
19	29	24	17
20	31	24	21
21	26	30	15
22	28	23	19
23	33	29	19
24	24	28	18
25	26	30	18
26	27	27	21
27	23	31	10
28	22	28	6
29	23	25	7
30	25	22	14
31	24	20	18

January 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.

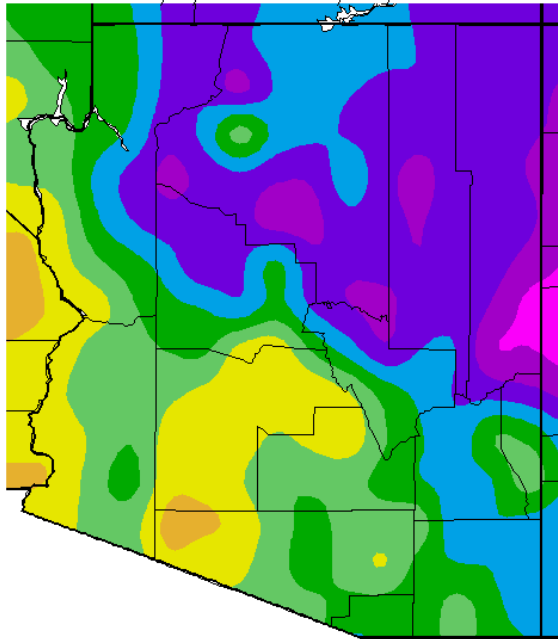


Average nighttime temperatures ranged from 11°F at Window Rock on the Navajo Nation to 52°F at Oatman in west central Arizona. Average daytime temperatures ranged from 39°F at Bright Angel Ranger Station at the Grand Canyon, to 75°F at Somerton in southwestern Arizona. Precipitation values ranged from 0” in many places in the southwest deserts and along the lower Colorado River to 3.41” at Red Lake in east central Arizona and 2.20” at Alpine. Most of the precipitation fell on the 15th and 16th or the 21st through 23rd, when our two winter storms through.

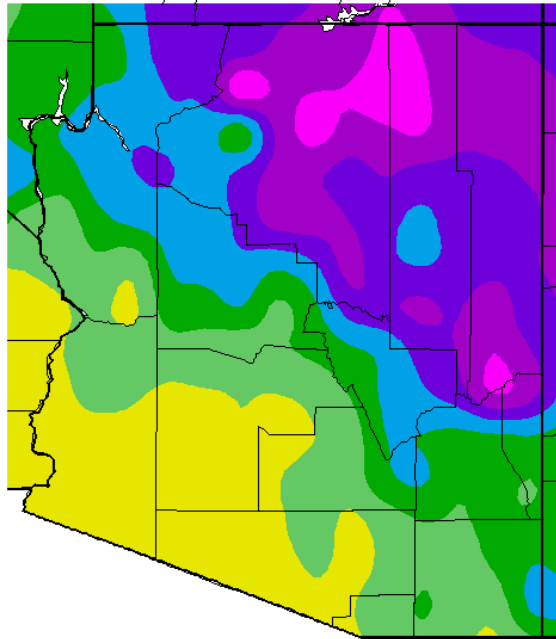


Average monthly dew points ranged from -12°F at Bright Angel in the Grand Canyon, to 34°F at Yuma South. Average winds were light, with 15 mph as the highest average at Laughlin-Bullhead City, just like last month. The highest peak wind gust was 71 mph at Tweed’s Point in northwestern Arizona. This month we have wind barbs to represent the peak winds. The barbs are like arrows with feathers at the end to show the wind speed. The end with the feathers is pointing in the direction the winds blow from, as they blow into the station. One half barb is 5 mph, a full barb is 10 mph, and a pennant is 50 mph. So Tweed’s Point will have one pennant and two full barbs.

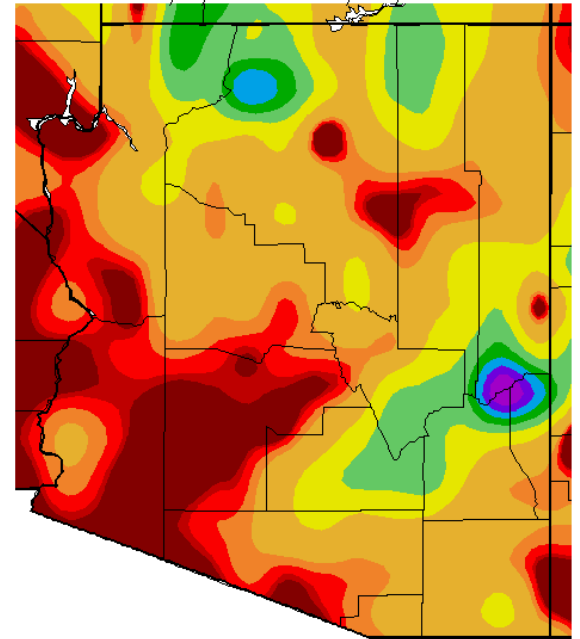
Av. Min. Temperature (deg. F)
1/1/2012 - 1/31/2012



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



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

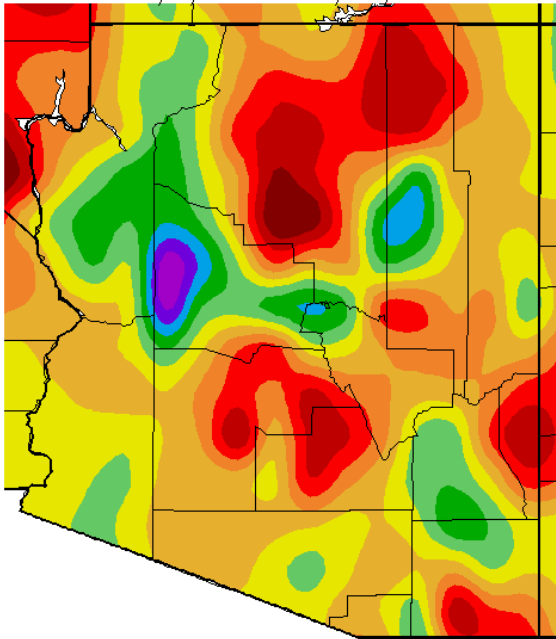


15 20 25 30 35 40 45 50 55 60 65
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45 50 55 60 65 70 75 80 85 90 95
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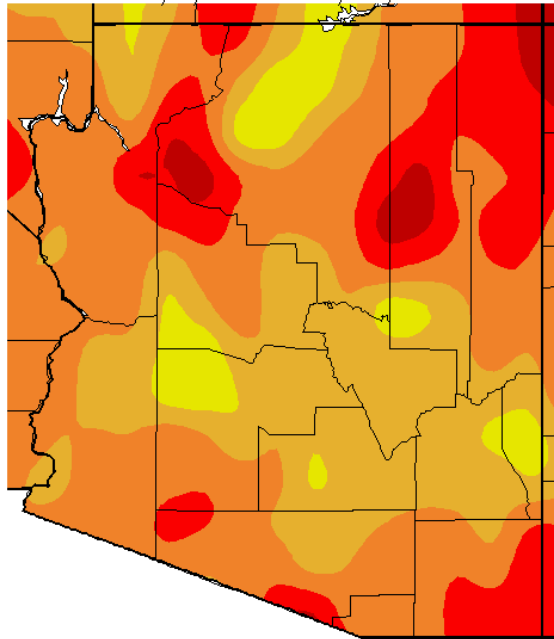
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Av. Min. Temperature dep from Ave (deg. F)
1/1/2012 – 1/31/2012



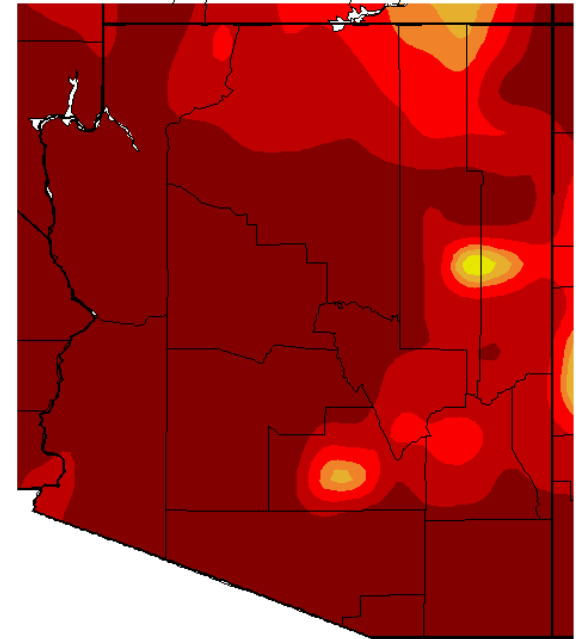
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Av. Max. Temperature dep from Ave (deg F)
1/1/2012 – 1/31/2012



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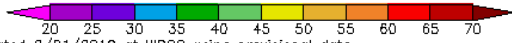
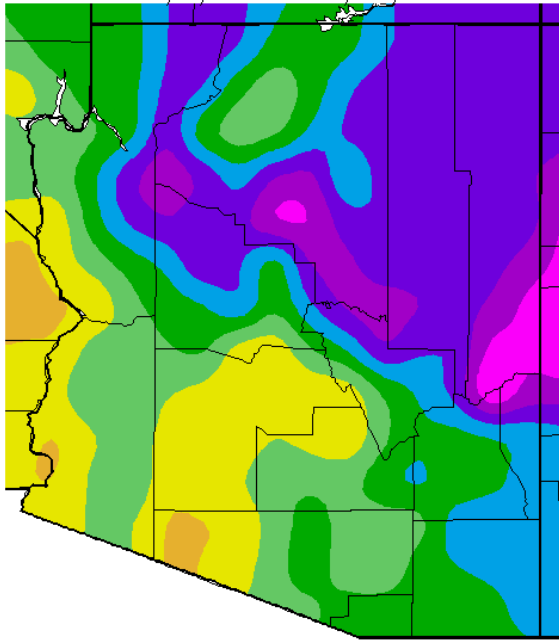
Percent of Average Precipitation (%)
1/1/2012 – 1/31/2012



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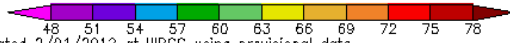
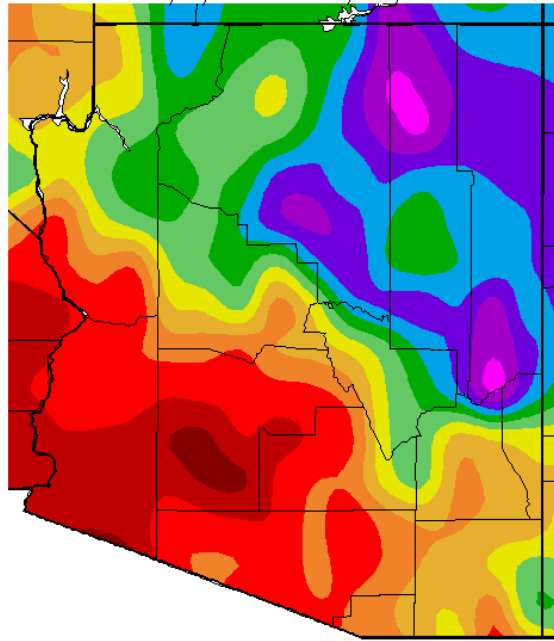
January minimum temperatures were 0-4°F warmer than average across eastern Maricopa, northern Navajo southern Cochise, and most of Pinal, Greenlee and Coconino counties. Mohave, Graham, and southern Yuma counties were within 2°F of average, and western Yavapai and central Navajo counties were 1-5°F colder than average. Daytime temperatures were much all warmer than average across the state, averaging about 2-4°F above average in central Arizona and 4-8°F warmer than average on the Colorado Plateau and along the southern border. Precipitation in January was again quite localized with most areas of the state receiving less than 25% of average, while a few locations had 70 to 100% of average.

Av. Min. Temperature (deg. F)
10/1/2011 - 1/31/2012



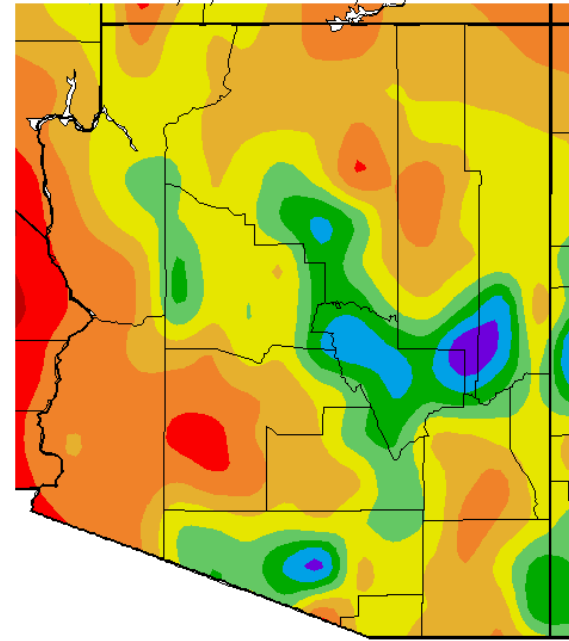
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Av. Max. Temperature (deg. F)
10/1/2011 - 1/31/2012



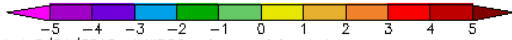
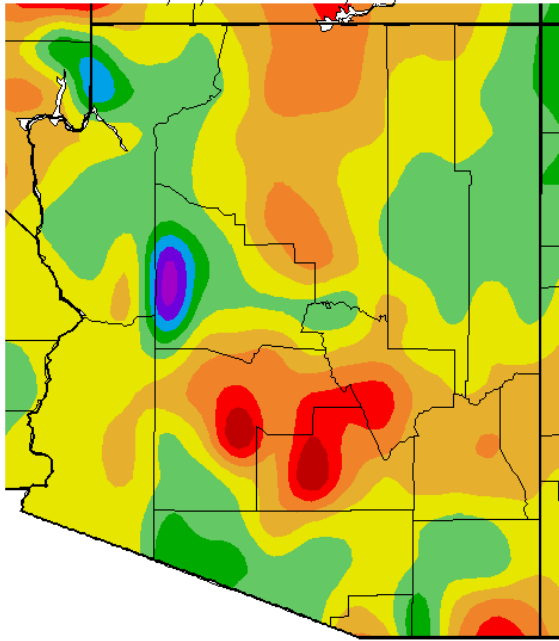
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Total Precipitation (in.)
10/1/2011 - 1/31/2012



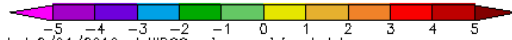
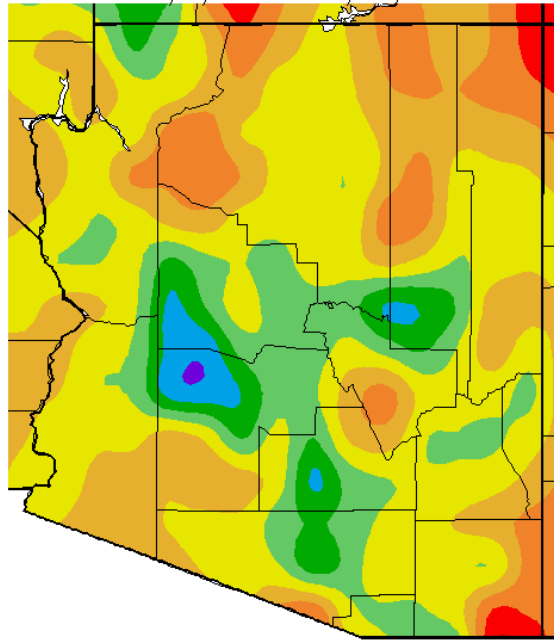
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Av. Min. Temperature dep from Ave (deg. F)
10/1/2011 – 1/31/2012



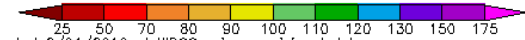
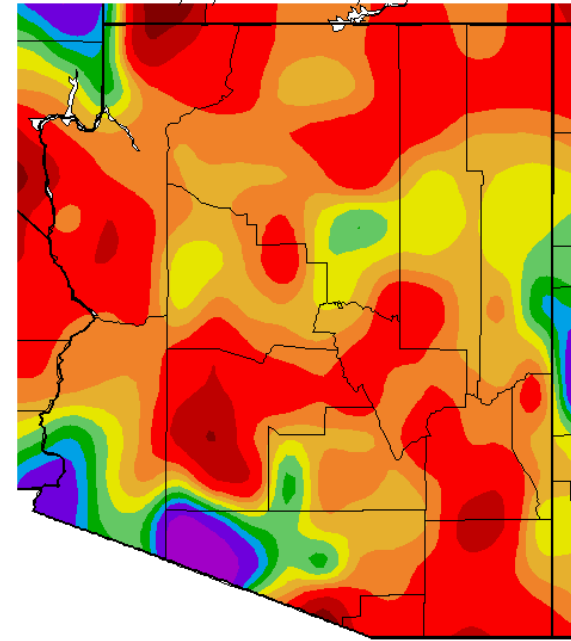
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Av. Max. Temperature dep from Ave (deg F)
10/1/2011 – 1/31/2012



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Percent of Average Precipitation (%)
10/1/2011 – 1/31/2012

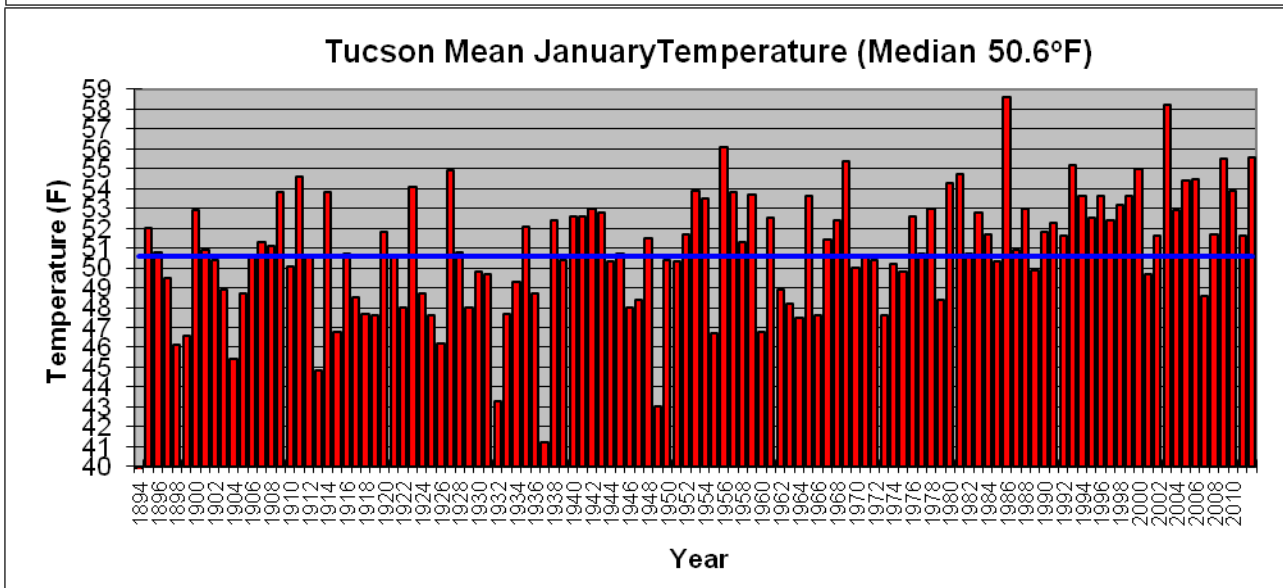
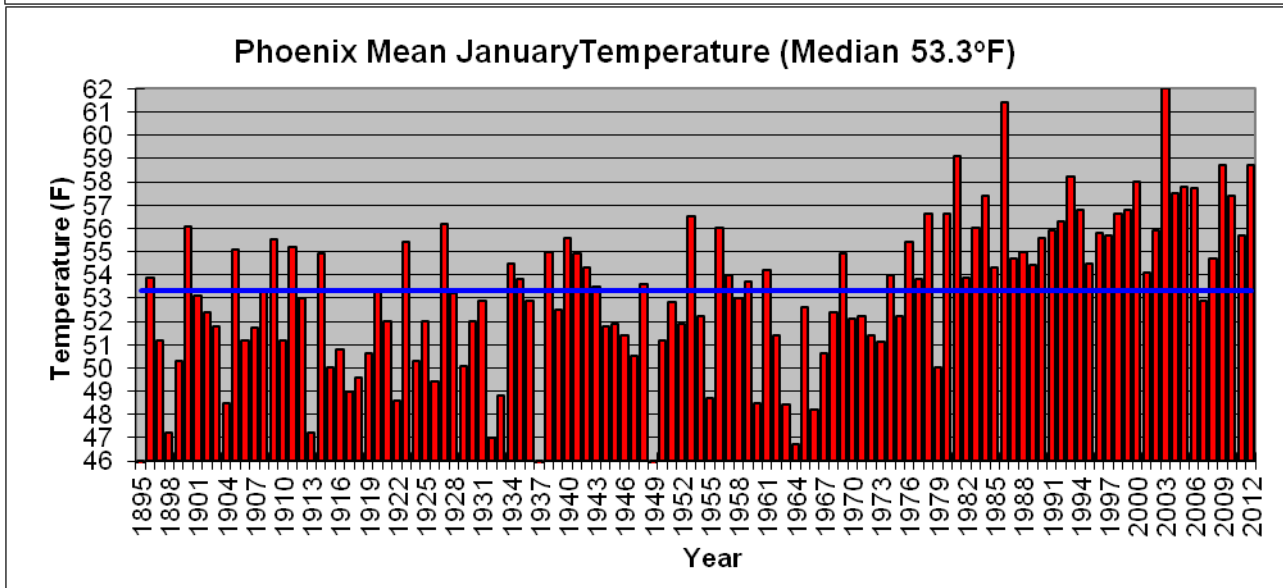
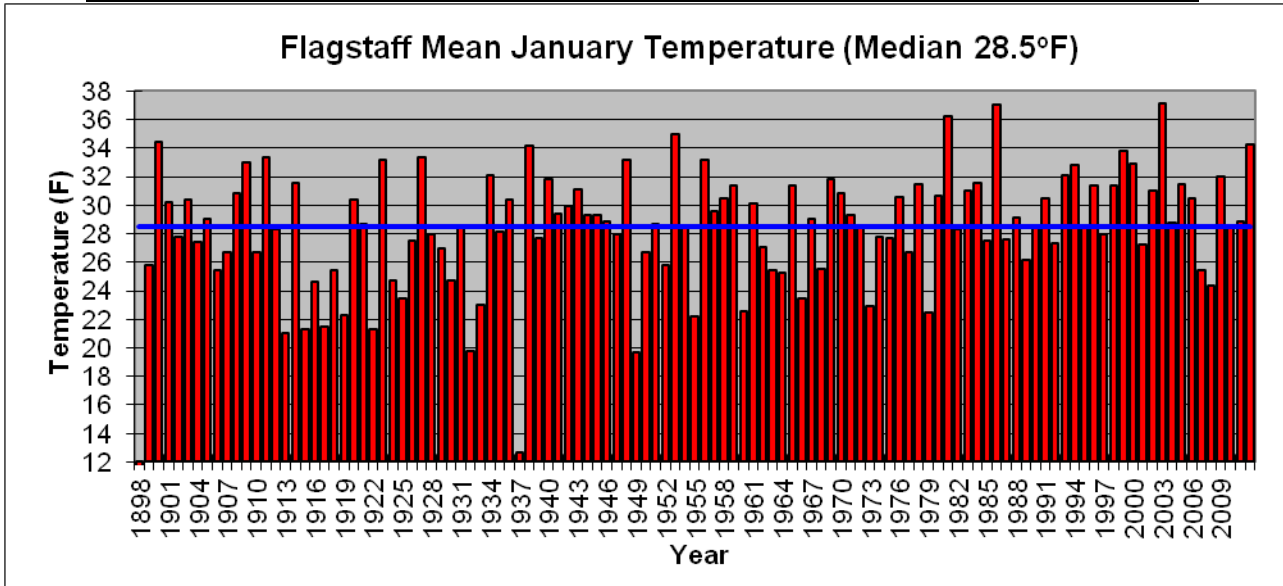


Generated 2/01/2012 at WRCC using provisional data.
NOAA Regional Climate Centers

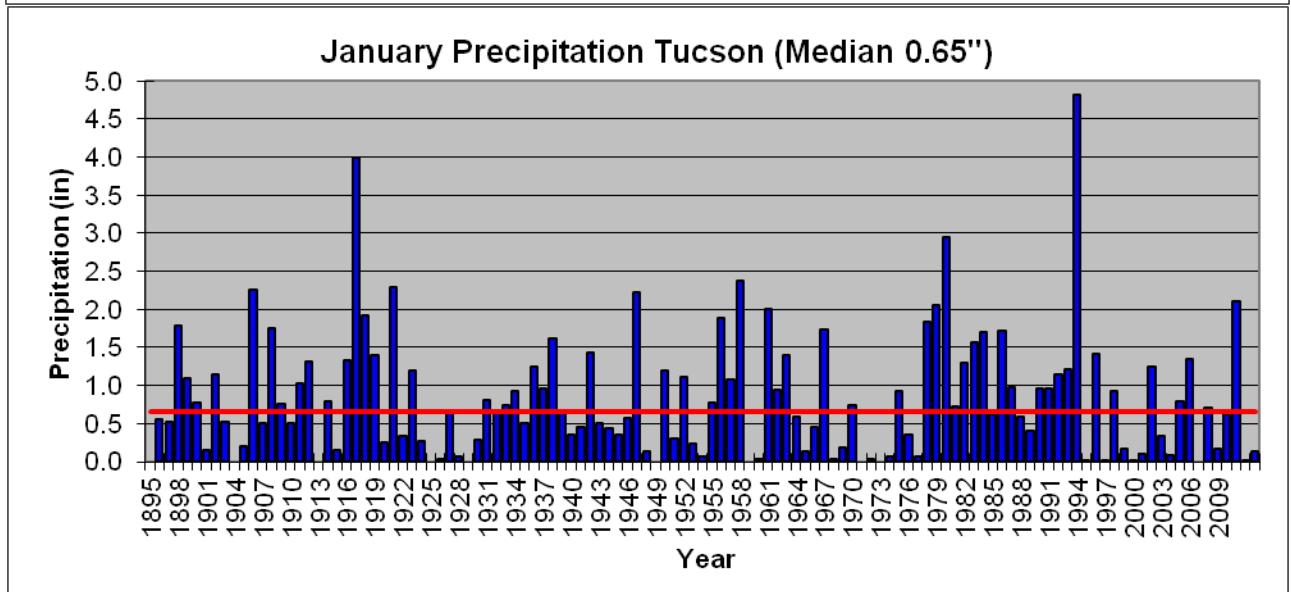
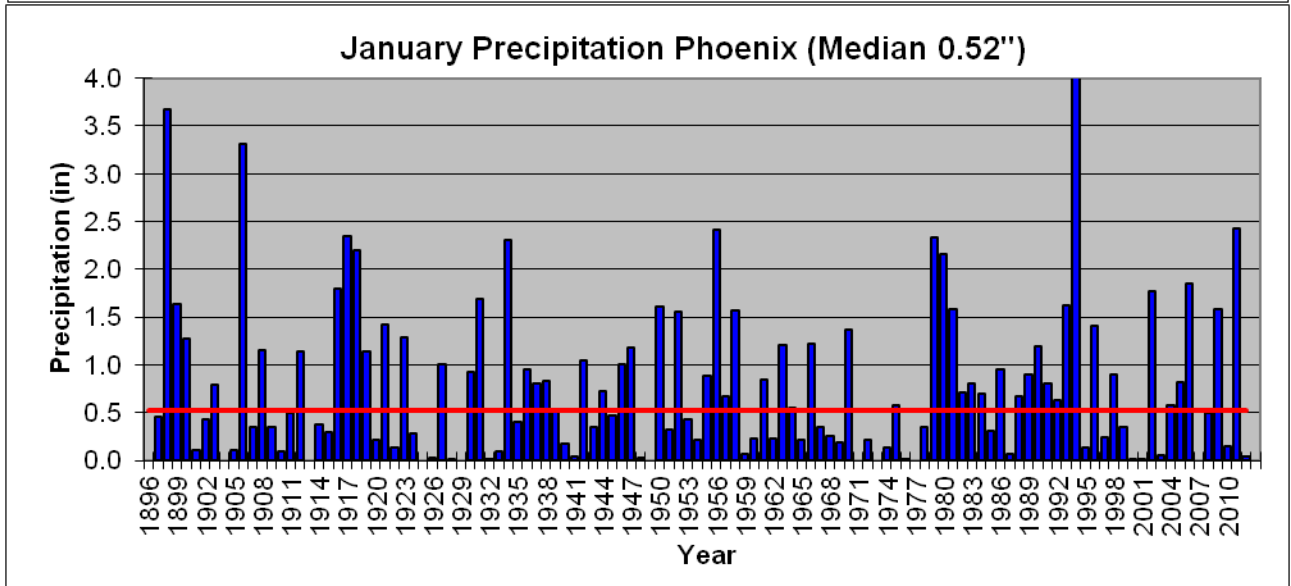
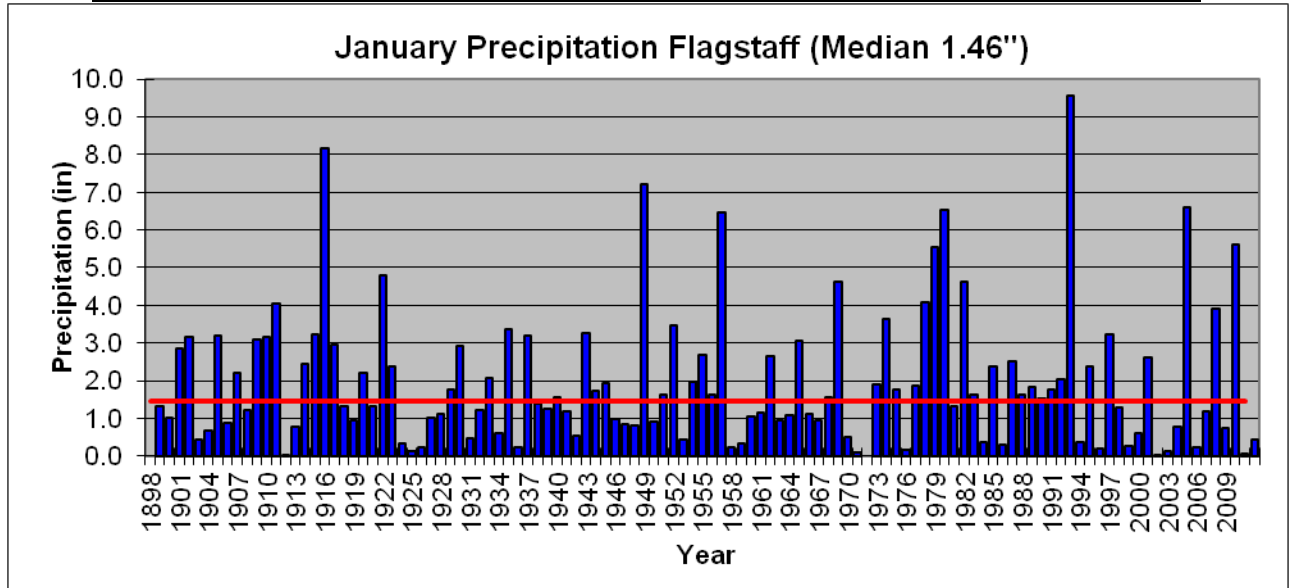
Water Year 2012 (Oct 1 2011 – Sep 30 2012)

The new water year, 2012, which began October 1st, combines the cold, wet conditions of November and December with the warm and dry conditions of January. The nighttime lows have been within 1°F of average across most areas of the state, with warmer conditions in Maricopa, Pinal, Graham and Greenlee counties, as well as in most of Coconino County. Northwestern Mohave and western Yavapai counties have had colder than normal conditions. Daytime high temperatures have been 0-3°F warmer than average across most of northern, southeastern and southwestern Arizona, but central Arizona has been 0-3°F colder than average. Precipitation this year is well below average in all parts of the state except around Yuma and western Pima County. The eastern border with New Mexico has also received near average precipitation this winter. Like the 2011 water year, this one started out wet, but had dried out rapidly. The winter storm systems have been passing either to our north or to our south. The typical La Niña circulation has storms staying north of Arizona, but this year has not been a typical La Niña, since even the northern tier of states has been unusually dry this winter.

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

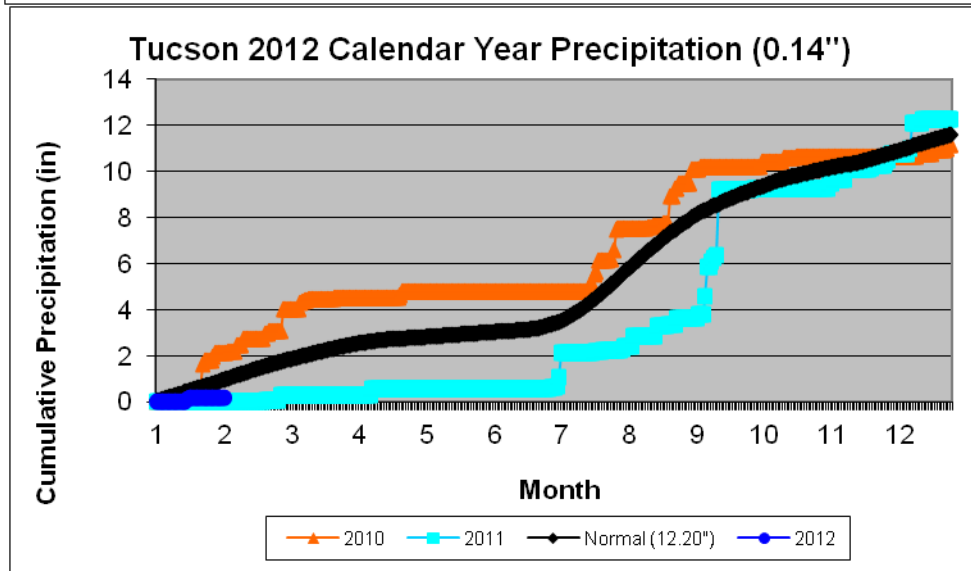
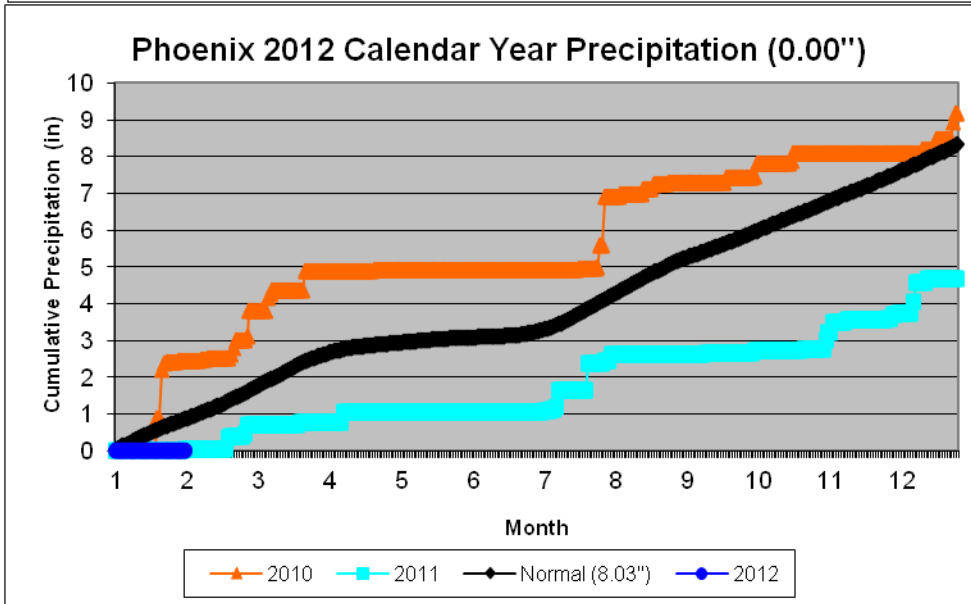
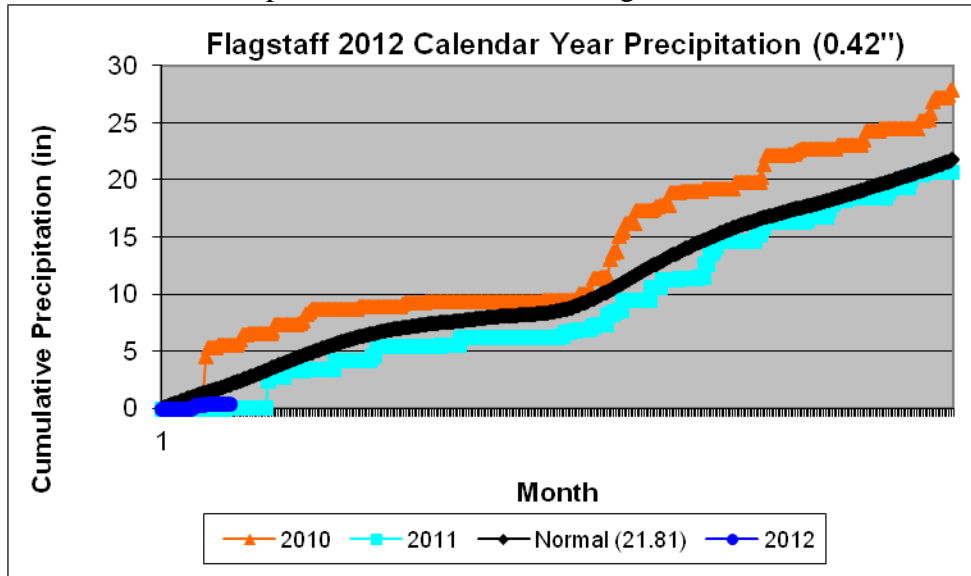


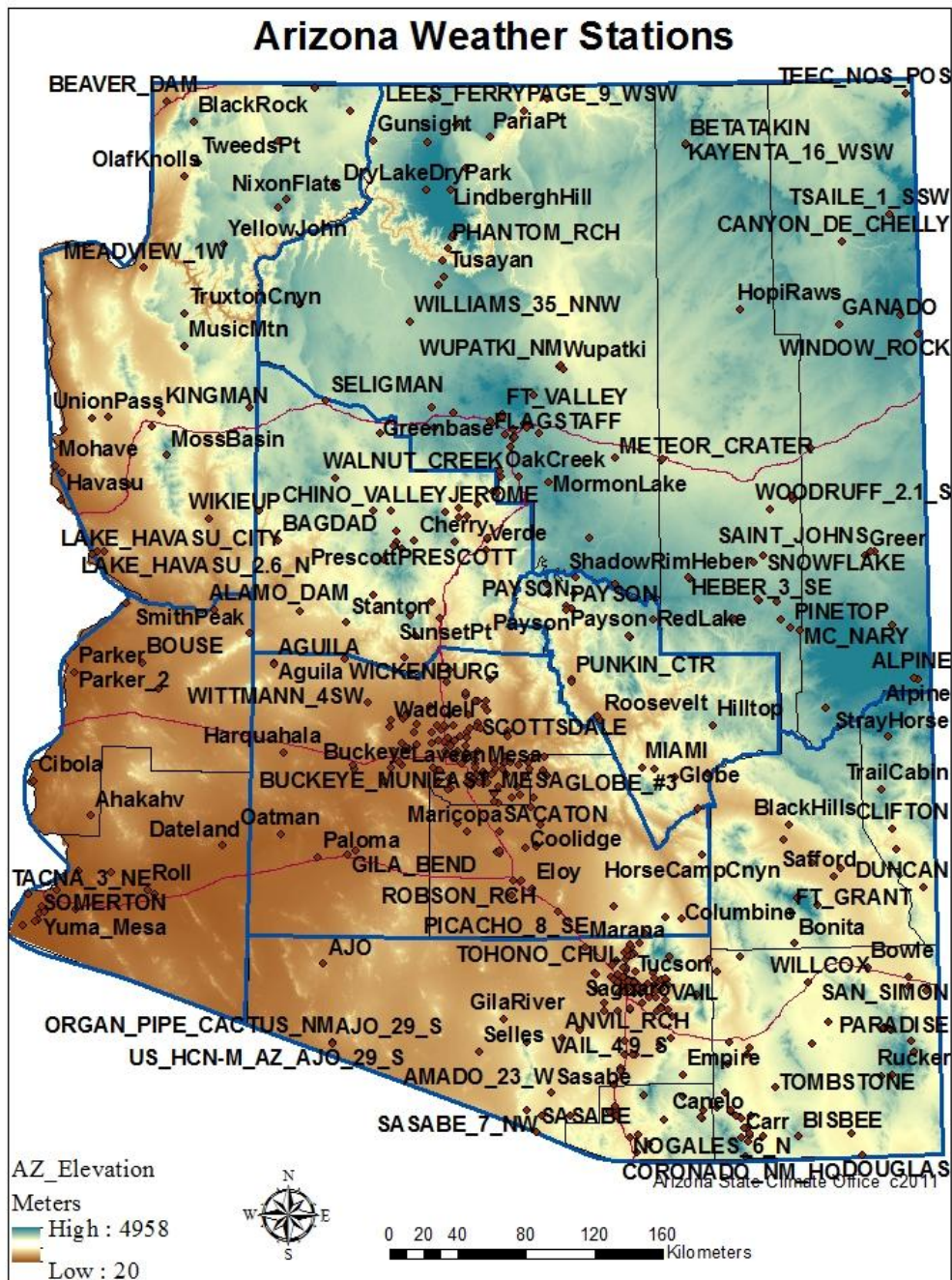
January Mean Precipitation Graphs – Flagstaff, Phoenix, and Tucson 1895-2012:



2012 Cumulative Precipitation Graphs – Flagstaff, Phoenix and Tucson:

Precipitation is well below average statewide.





The downloadable normals and extremes calendars use the following abbreviations:

- NORM = 30 year (1981-2010) 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)