



# Arizona Climate Summary

March 2012

## Summary of conditions for February 2012

### **February 2012 Temperature and Precipitation Summary**

**February 1<sup>st</sup> – 17<sup>th</sup>:** February continued where January left off with a high pressure system over the state, and another low pressure system along the Oregon, northern California coast. On the 2<sup>nd</sup>, the low pressure system moved across northern Utah, dropping some rain and snow in Utah as well as northern Arizona on the 2<sup>nd</sup> and 3<sup>rd</sup>. Snow totals were small with 1.2” at Bellemont, 1.0” at the north rim of the Grand Canyon, 1.2” at Canyon de Chelly and 1” at Show Low. Elsewhere in the state temperatures remained near normal. From the 4<sup>th</sup> through the 6<sup>th</sup> the system was cut-off, over the central plains, and Navajo National Monument got another 1.5” of snow. By the 7<sup>th</sup>, high pressure started to build again, but was short-lived as another low pressure system moved inland across northern Mexico. This brought a small pulse of moisture into the southern part of the state, but only Sierra Vista reported rainfall, and they only had 0.03”, on the 8<sup>th</sup>. Clear skies did prevail from the 9<sup>th</sup> through the 11<sup>th</sup> as temperatures rose to 5-10 degrees warmer than normal ahead of another low pressure system that moved slowly across the southwest on the 12<sup>th</sup> through the 17<sup>th</sup>. That system brought widespread rain and snow to the state, though central Arizona missed out on most of it. Safford had 0.87” total, Kingman had 0.52”, Casa Grande had 0.36”, Bowie had 0.42”, Gila Bend had 0.33”, Phoenix had zero, Tucson had 0.08”, north rim of the Grand Canyon had 7” of snow, Alpine had 2”, Heber had 4.5”, Flagstaff had 5”, and Navajo National Monument had 5.6”. All the totals were well below normal for February precipitation. The system kept temperatures down a few degrees below normal.

**February 18<sup>th</sup> – 29<sup>th</sup>** On the 18<sup>th</sup>, high pressure started to build over the southwest, but yet another storm system started moving down through Nevada and Utah, with the southern end sweeping across northern Arizona, dropping another 3” of snow in Flagstaff and 5” at the north rim of the Grand Canyon. By the 20<sup>th</sup>, the southern end of that system became cut-off off the Baja Coast and ran out of moisture. Clear skies and dry conditions returned as that cut-off low spun out across Mexico, with all precipitation staying well south of Arizona. Over the next five days temperature climbed back to 5-8 degrees above normal statewide. The month finally ended when another strong low pressure system swung through the Pacific Northwest and northern California, across Nevada into Utah and finally across Arizona. This system brought widespread precipitation, but small amounts in most places. Again Phoenix remained dry, though some outlying cities had small amounts of rain. Pinnacle Peak, Picacho Peak, Maricopa, and Payson had 0.01”, while Carefree had 0.02”. The north rim of the Grand Canyon had 14” of snow, while Flagstaff had 4.6” and Alpine had 1.5”. The storm also brought high winds to all parts of the state. Even though numerous storm systems passed over Arizona, very little precipitation fell except across the northern counties.

**In This Issue:** Overview of February, graphs of the February daily maximum and minimum temperatures, precipitation, mean daily dew points for Flagstaff, Phoenix, and Tucson; February climate statistics, maps of mean monthly maximum and minimum temperatures, precipitation, dew points, wind speeds for February; and graphs of the mean February 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. 18 of this report for calendar abbreviations.

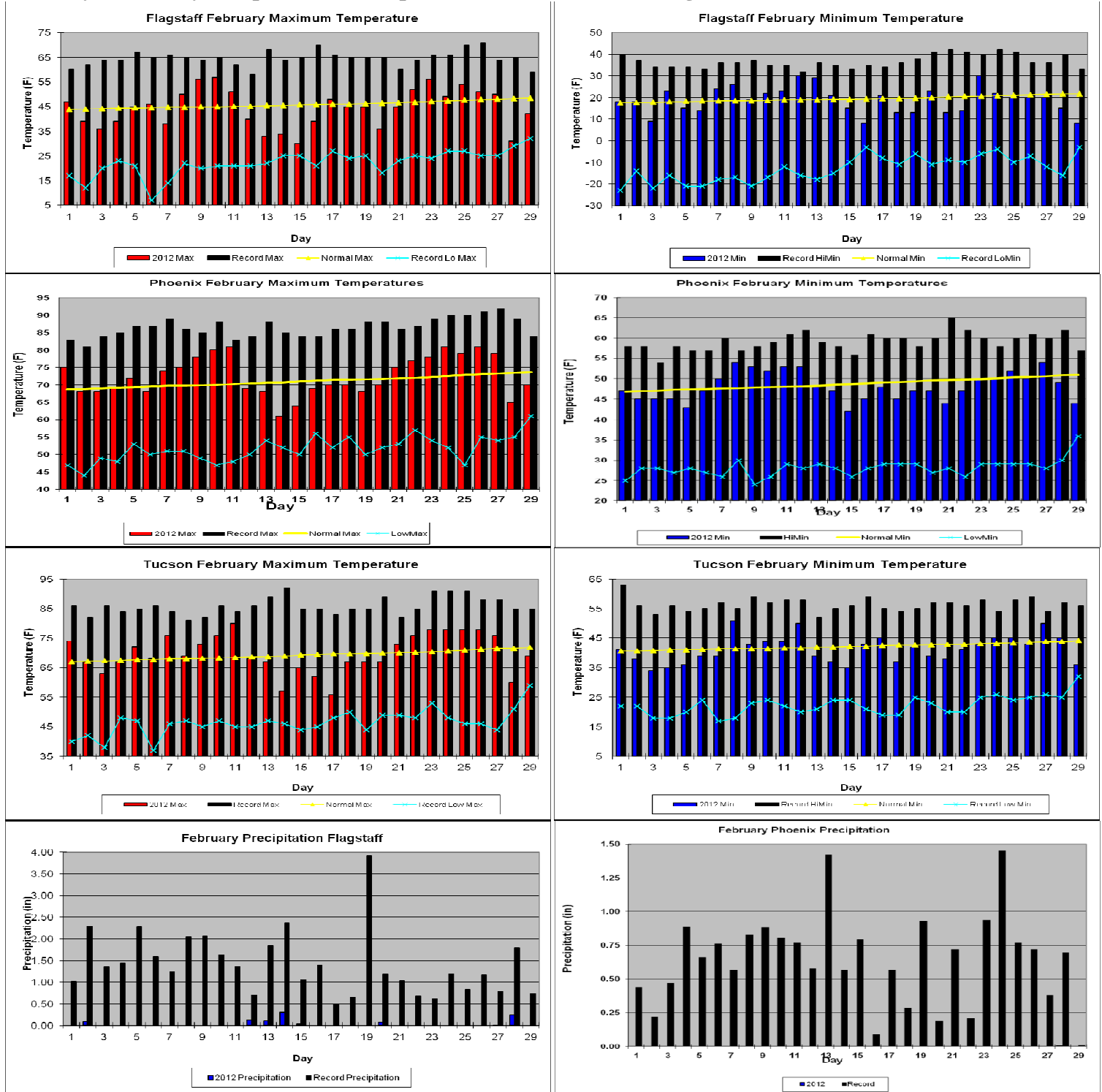
State Climate Office  
**Dr. Nancy J. Selover, State Climatologist**  
<http://azclimate.asu.edu> Tel: 480-965-6265  
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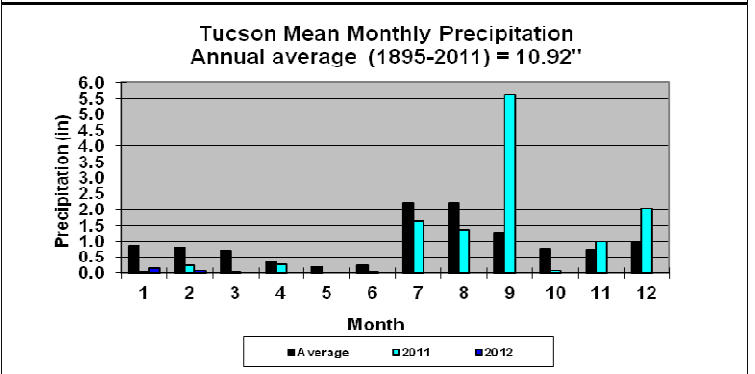
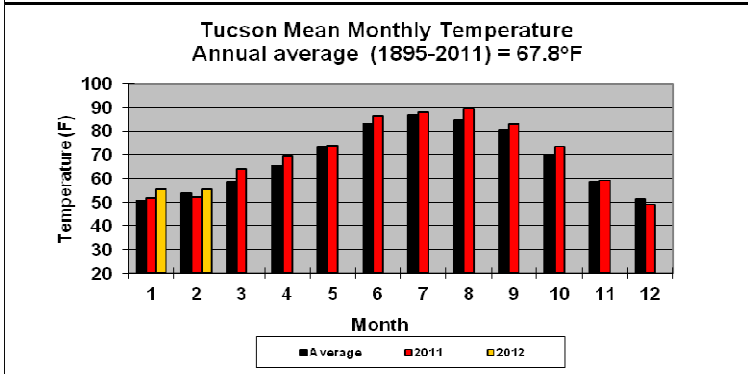
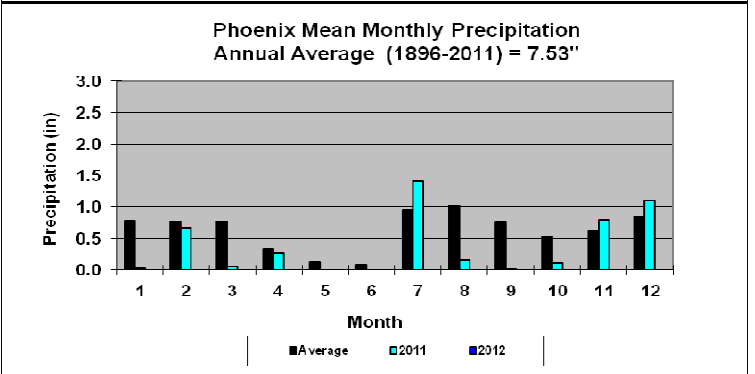
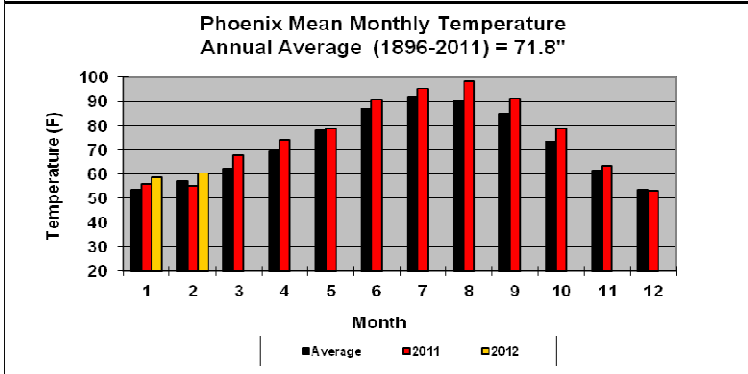
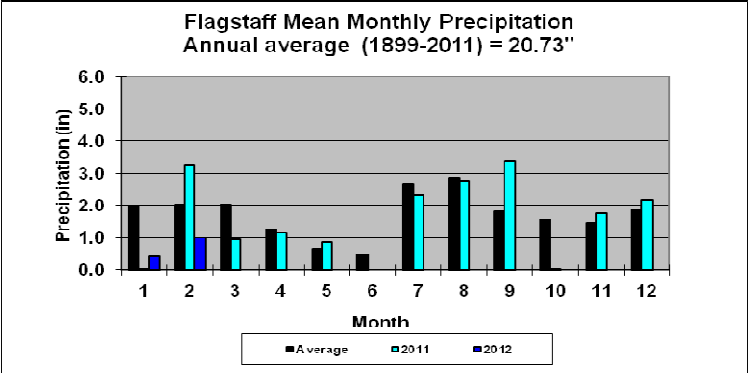
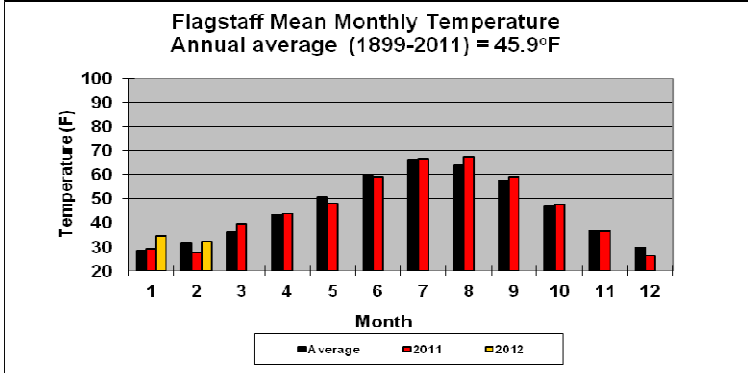
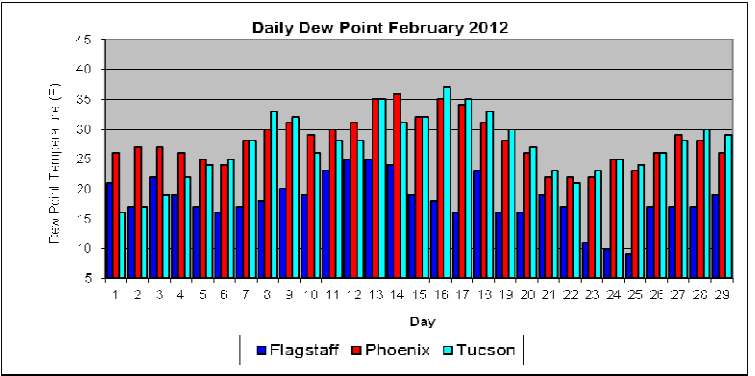
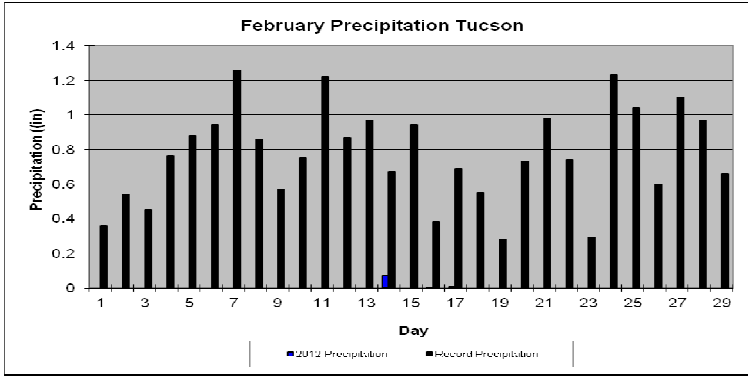


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**Data are preliminary** and are from the National Weather Service Forecast Offices in Flagstaff, Phoenix and Tucson.  
**\*\*Note:** The discrepancy between the Statewide Temperature and Precipitation values for Phoenix, Flagstaff and Tucson and the 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.

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





FLAGSTAFF CLIMATE STATISTICS  
February 2012

February had no significant ranking for temperature and was the 29<sup>th</sup> driest on record.

Avg Max Temp (F)	44.7	Normal	44.8
Avg Min Temp (F)	19.1	Normal	19.3
Avg Mean Temp (F)	31.9	Normal	32.1
Departure from Normal (F)	-0.2		

Highest Monthly Avg Temp (F) 38.2 in 1947  
Lowest Monthly Avg Temp (F) 19.5 in 1939

Highest Temp this month (F): 57 on 10<sup>th</sup>, 22<sup>nd</sup>  
Lowest Temp this month (F): 8 on 16<sup>th</sup>, 29<sup>th</sup>

Record High (F): 71 on 2/26/1986  
Record Low (F): -23 on 2/01/1985

No daily temperature or precipitation records this month:

Flagstaff Number of Days of:

Minimum Temp 10° or lower	3
Minimum Temp 30° or higher	2
Maximum Temp 40° or lower	11
Maximum Temp 50° or higher	10

Heating Degree Days	954	Normal	923
Cooling Degree Days	0	Normal	0
Degree base 65°F			

Total February Precipitation	0.99"
Normal February Precipitation	2.16"
Departure from normal	-1.17"
Greatest 24-Hr Precipitation	0.42 on 2/13-14
Total Precipitation Year-to-Date	1.41"
Departure from Normal	-2.80"

Number of Days:

Clear	19
Partly Cloudy	5
Cloudy	5

Greatest February Precipitation	10.05" in 1993
Least February Precipitation	0.001" in 1967

Average Wind Speed	7.0 mph
Highest Peak Gust	55 mph from 220° on 27 <sup>th</sup>

PHOENIX CLIMATE STATISTICS  
February 2012

February was tied for 20<sup>th</sup> warmest and was the 12<sup>th</sup> driest on record

Avg Max Temp(F)	72.5	Normal	70.7
Avg Min Temp(F)	48.1	Normal	48.7
Avg Mean Temp (F)	60.3	Normal	59.7
Departure from Normal (F)	+0.6		

Highest Monthly Avg Temp (F) 66.0 in 1991  
Lowest Monthly Avg Temp (F) 48.5 in 1939

Highest Temp this month (F): 81 on 11<sup>th</sup>, 24<sup>th</sup>, 26<sup>th</sup>  
Lowest Temp this month (F): 42 on 15<sup>th</sup>

Record High (F): 92 on 2/27/1986  
2/25/1921  
Record Low (F): 24 on 2/08/1933  
2/07/1899

No temperature or precipitation records set this month:

Phoenix Number of Days of:

Minimum Temp 40° or lower	0
Minimum Temp 50° or higher	11
Maximum Temp 70° or lower	15
Maximum Temp 80° or higher	4

Heating Degree Days	138	Normal	163
Cooling Degree Days	9	Normal	15
Degree base 65°F			

Total February Precipitation	0.001"
Normal February Precipitation	0.92"
Departure from normal	-0.92"
Greatest 24-Hr Precipitation	0.001" on 2/27-28

Total Precipitation Year-to-Date 0.001"  
Departure from Normal -1.83"

Least February Precipitation 0.00" in 1902,  
1910, 1912, 1924, 1967, 1972, 1984, 1989, 2000,  
2002, and 2006

Number of Days:

Clear 14  
Partly Cloudy 15  
Cloudy 4

Average Wind Speed 5.2 mph  
Highest Peak Gust 38 mph from 250° on 28<sup>th</sup>

Greatest February Precipitation 4.64" in 1962

TUCSON CLIMATE STATISTICS

February 2012

February had no significant ranking for temperature  
and was tied for the 17<sup>th</sup> driest on record

Heating Degree Days 265 Normal 273  
Cooling Degree Days 0 Normal 0  
Degree base 65°F

Avg Max Temp(F) 69.9 Normal 68.5  
Avg Min Temp(F) 41.3 Normal 42.2  
Avg Mean Temp(F) 55.6 Normal 55.3  
Departure from Normal (F) +0.3

Total February Precipitation 0.08"  
Normal February Precipitation 0.86"  
Departure from normal -0.78"  
Greatest 24-Hr Precipitation 0.07" on 2/13-14  
Total Precipitation Year-to-Date 0.22"  
Departure from Normal -1.58"

Highest Monthly Avg Temp (F) 61.1 in 1957  
Lowest Monthly Avg Temp (F) 45.3 in 1903

Greatest February Precipitation 4.15" in 1905  
Least February Precipitation 0.00" in 1895,  
1902, 1903, 1910, 1924, 1935, 1972, 1974, 1984,  
2006

Highest Temp this month (F): 80 on 11<sup>th</sup>  
Lowest Temp this month (F): 34 on 3<sup>rd</sup>

Record High (F): 92 on 2/14/1957

Record Low (F): 17 on 2/07/1899

Number of Days:

Clear 25  
Partly Cloudy 2  
Cloudy 2

No temperature or precipitation records set this  
month:

Tucson Number of Days of:

Minimum Temp 40° or lower 13  
Minimum Temp 50° or higher 3  
Maximum Temp 60° or lower 3  
Maximum Temp 80° or higher 1

Average Wind Speed 6.5 mph  
Highest Peak Gust 39 mph from 190° on 27<sup>th</sup>

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

**Winds for February:**

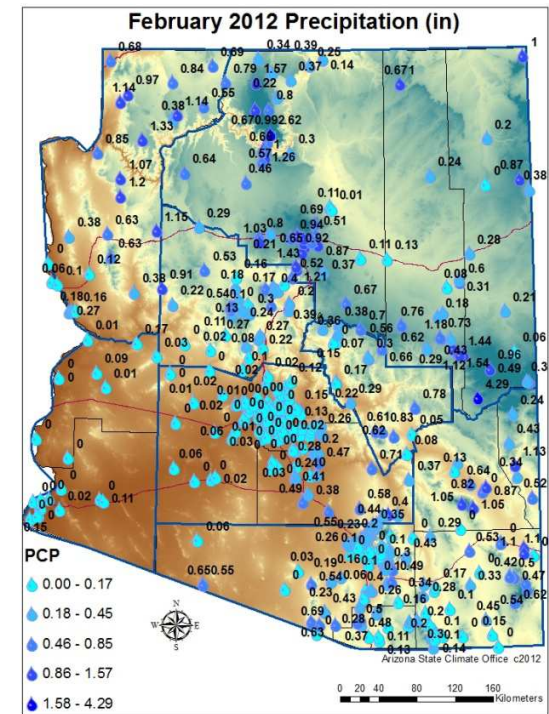
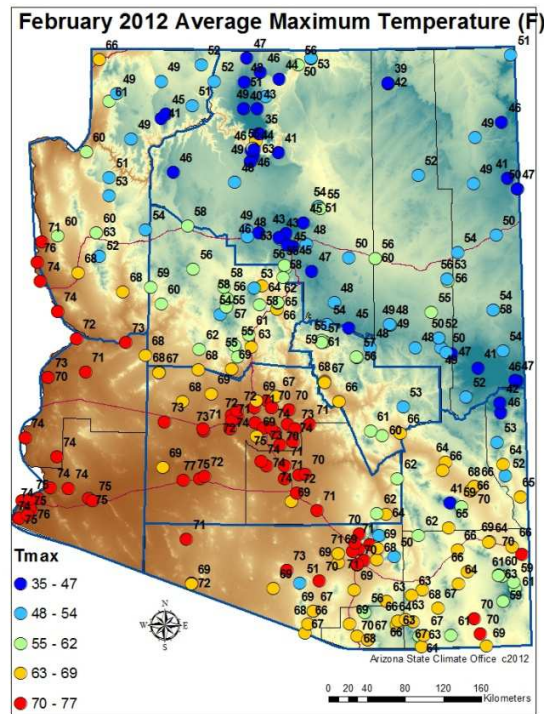
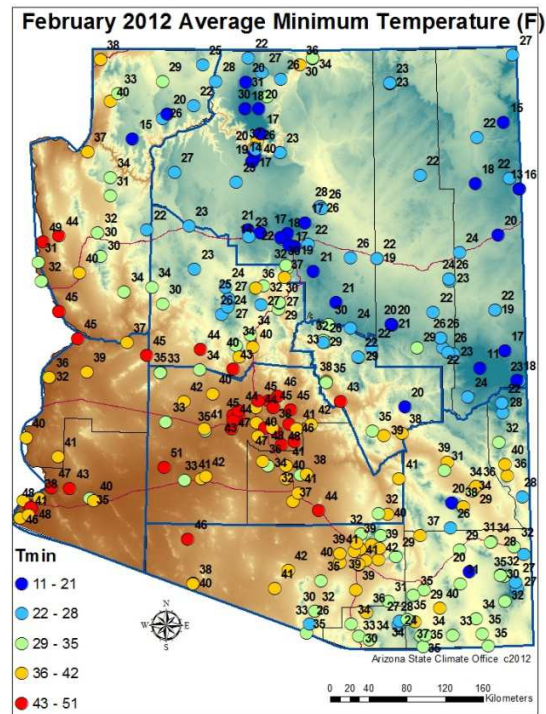
Day	Phoenix		Flagstaff		Tucson	
	Avg	Max	Avg	Max	Avg	Max
1	4	13	3.2	20	6.1	22
2	8.7	26	2.8	17	6.6	31
3	3.6	14	4.8	20	5.5	23
4	2.3	12	8.4	28	3	20
5	4.1	16	3.9	22	5.8	23
6	3.9	12	3.6	20	5.6	20
7	6.8	22	7.6	22	4.3	17
8	2.9	15	1.7	14	7.9	33
9	3.9	17	2.4	17	6.1	29
10	4.3	13	3	20	5.9	20
11	5.5	13	8.5	36	9.8	24
12	6.1	23	12.4	33	8.6	28
13	5.6	23	13.3	35	6.9	24
14	7.3	25	9	37	8.3	32
15	6.6	18	6.7	18	5.8	21
16	5.5	20	10.6	30	4.6	23
17	5	18	6.6	22	5.8	28
18	5	23	6.3	24	4.2	18
19	6.5	22	9.9	31	9.5	28
20	3.1	58	4.1	20	4.2	23
21	3.9	21	3.9	21	5.1	18
22	3.4	12	3.7	23	6.1	18
23	5.6	16	6.9	26	6.8	23
24	2.3	12	8.2	24	5.5	18
25	5.6	16	9.9	37	6.1	23
26	4.9	15	2.8	23	6.4	26
27	14.2	37	15.7	55	14.3	39
28	6.8	38	14.2	46	7.8	37
29	2.9	18	8.7	35	5.5	28

**Dew Points for February:**

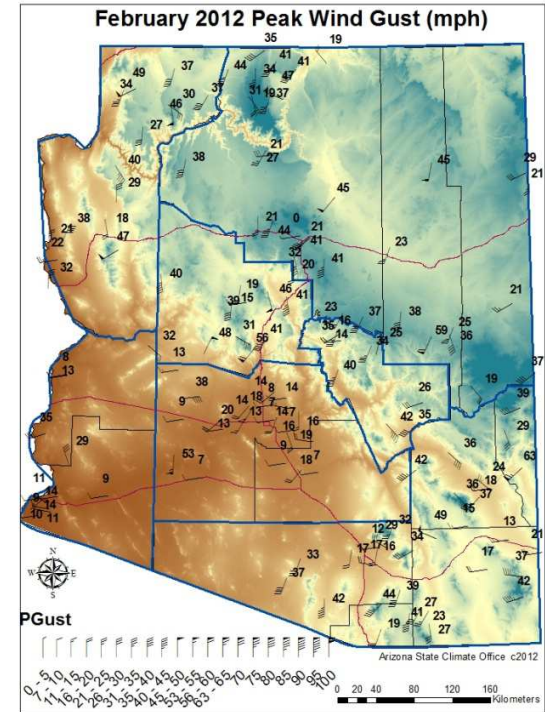
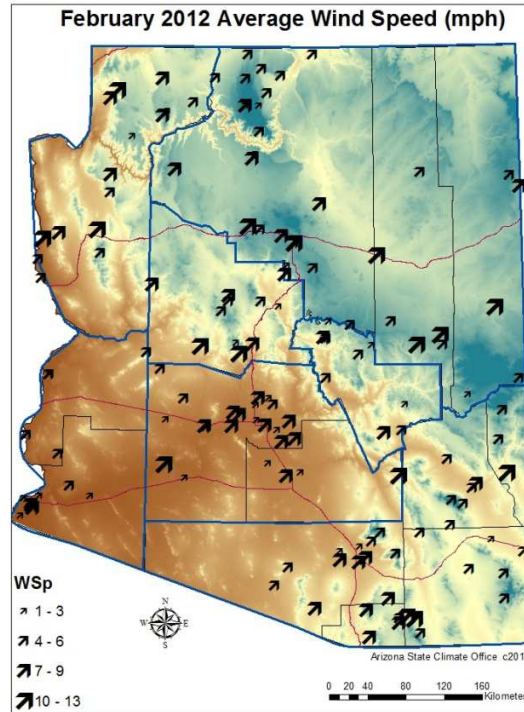
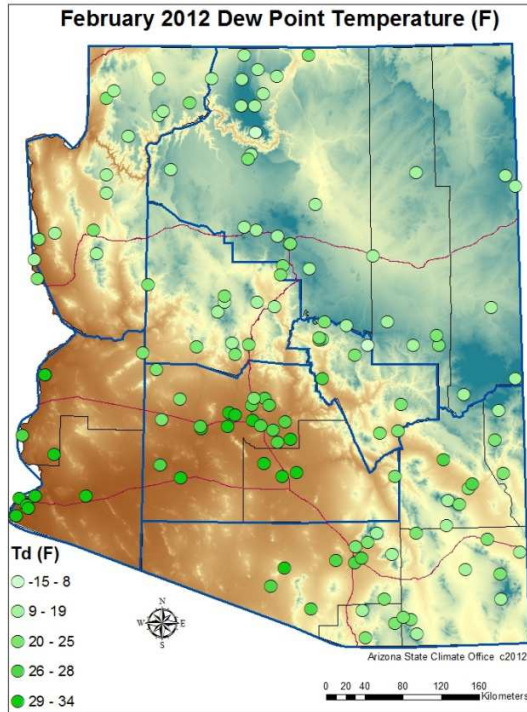
**Daily Average Dew Point (°F):**

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

February 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.



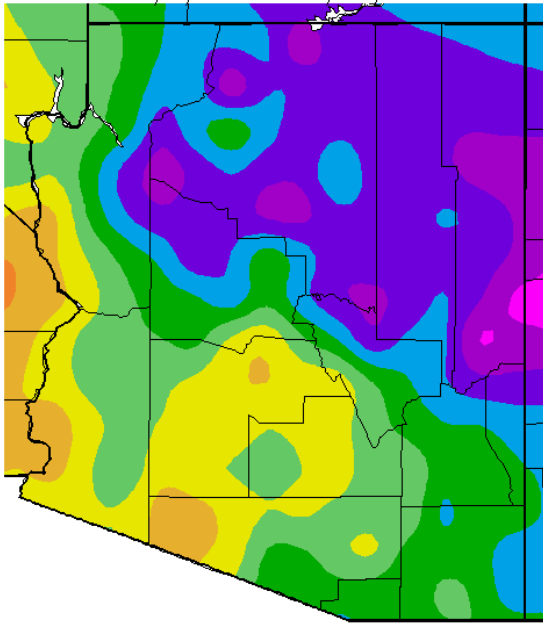
Average nighttime temperatures ranged from 11°F at Sunrise Mountain in east central Arizona to 51°F at Oatman in west central Arizona. Average daytime temperatures ranged from 35°F at Bright Angel Ranger Station at bottom of the Grand Canyon, to 77°F at Paloma in the southwest desert. Precipitation values ranged from 0" in many places in the southwest deserts and along the lower Colorado River to 4.29" at Mountain Lion in the White mountains of southern Apache County and 2.62" at Bright Angel. Most of the precipitation fell between the 12<sup>th</sup> and 14<sup>th</sup> when our major winter storm passed through.



Average monthly dew points ranged from  $-15^{\circ}\text{F}$  at Bright Angel in the Grand Canyon, to  $34^{\circ}\text{F}$  at Paloma. Average winds were light, with 13 mph as the highest average at Laughlin-Bullhead City. The highest peak wind gust was 63 mph at Guthrie near the eastern border. 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 Guthrie will have one pennant and one full and one half barbs.

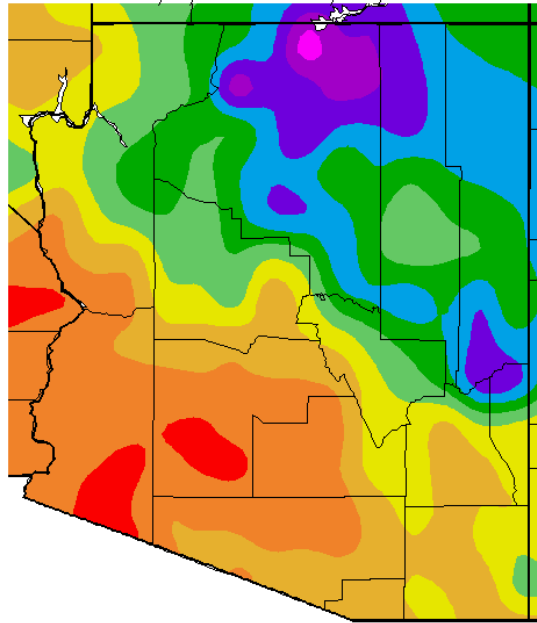


Av. Min. Temperature (deg. F)  
2/1/2012 - 2/29/2012



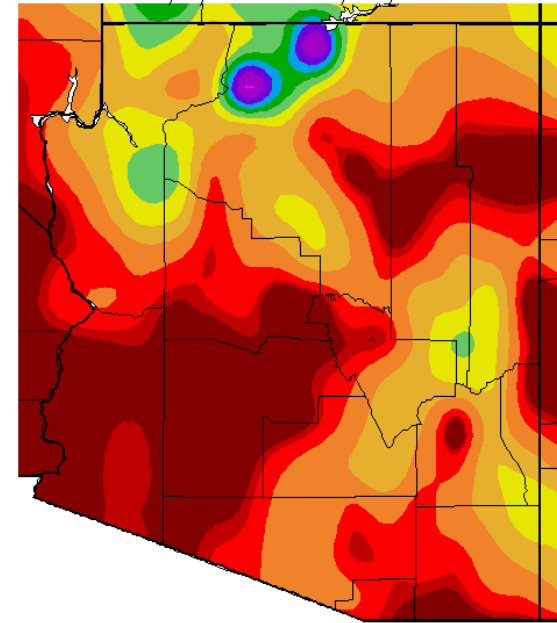
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Av. Max. Temperature (deg. F)  
2/1/2012 - 2/29/2012



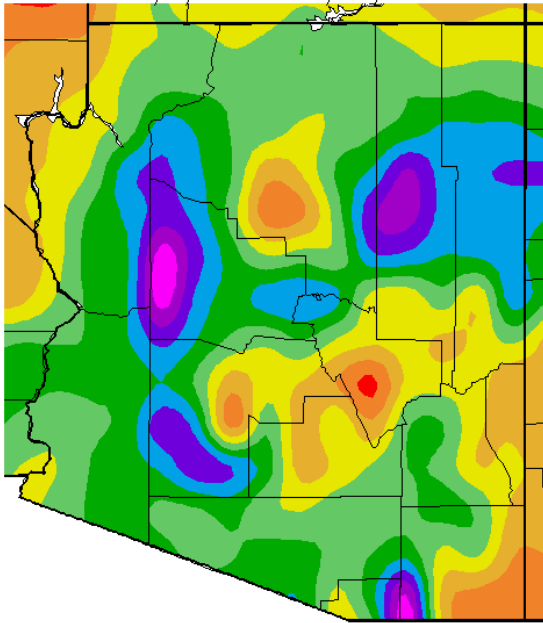
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Total Precipitation (in.)  
2/1/2012 - 2/29/2012



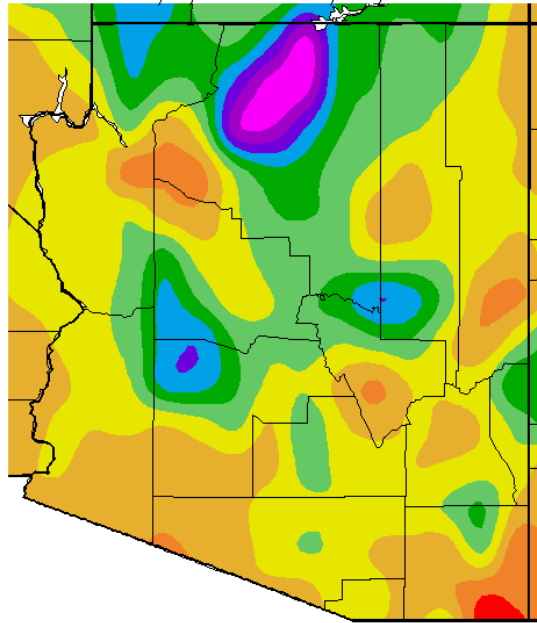
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Av. Min. Temperature dep from Ave (deg. F)  
2/1/2012 – 2/29/2012



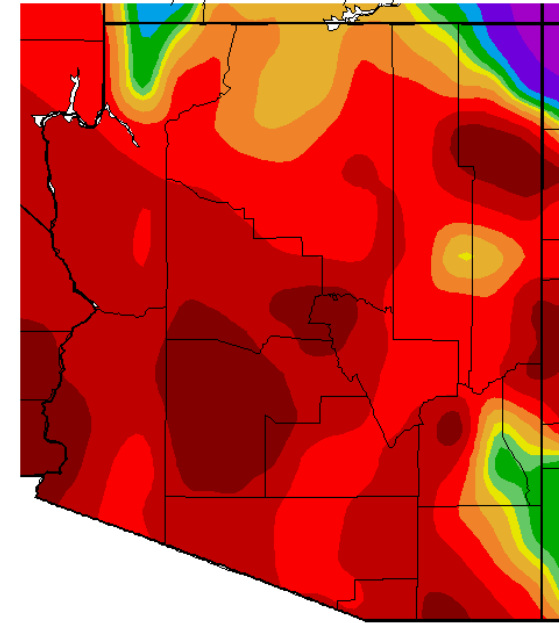
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Av. Max. Temperature dep from Ave (deg F)  
2/1/2012 – 2/29/2012



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NOAA Regional Climate Centers

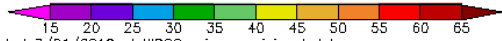
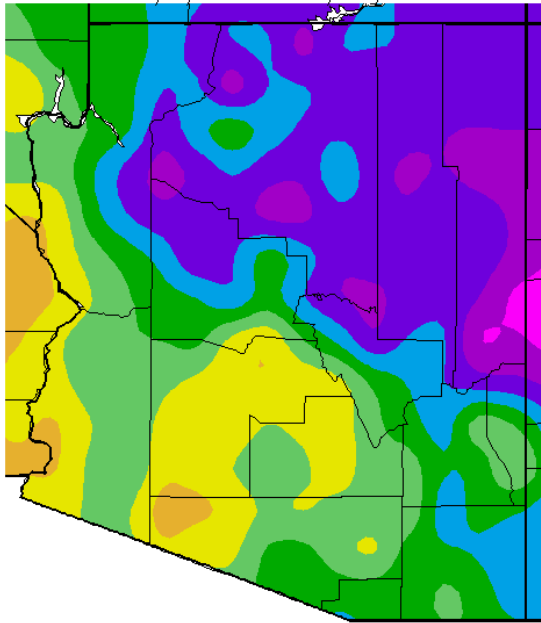
Percent of Average Precipitation (%)  
2/1/2012 – 2/29/2012



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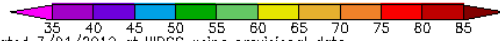
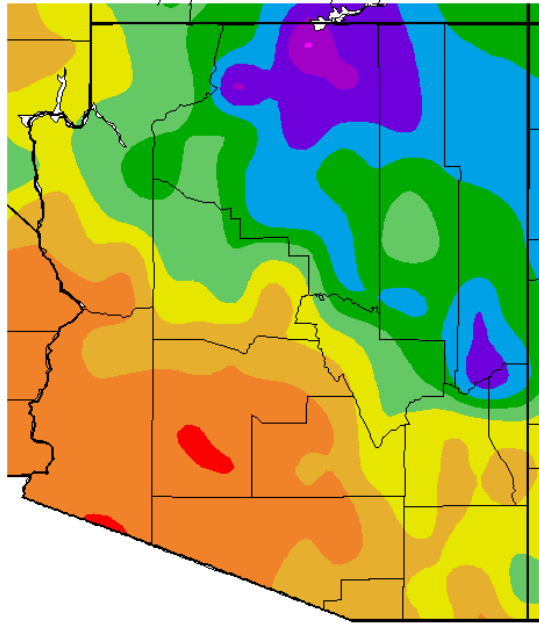
February minimum temperatures were 0-4°F warmer than average across much of western and northern Arizona, as well as Pima, Santa Cruz, and western Cochise and Graham counties. Gila, Pinal and eastern Maricopa counties were 0 to 2 degrees warmer than average, as were the White Mountains, western Cochise County and the Flagstaff area. Daytime temperatures were 0 to 2 degrees warmer than average across southern Arizona, as well as the eastern counties and Yuma, La Paz and southern Mohave County. Pockets of colder than normal daytime temperatures covered Coconino County, and southern Yavapai and northwestern Maricopa, and southern Navajo County. Precipitation in February continued to be well below average statewide, with wet exceptions along the northern border and along the southern New Mexico border where precipitation actually reached over 100% of average.

Av. Min. Temperature (deg. F)  
1/1/2012 - 2/29/2012



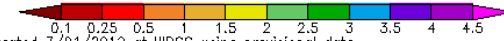
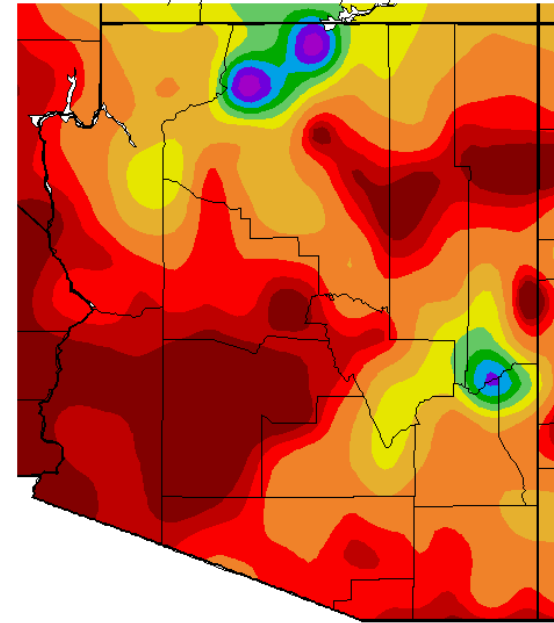
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Av. Max. Temperature (deg. F)  
1/1/2012 - 2/29/2012



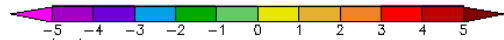
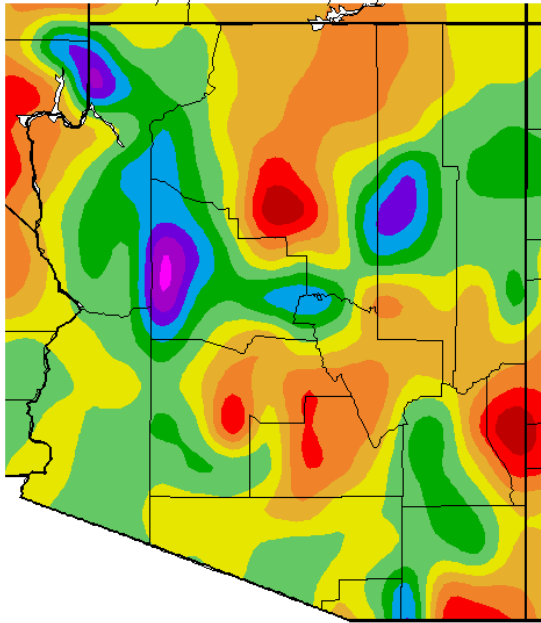
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Total Precipitation (in.)  
1/1/2012 - 2/29/2012



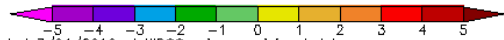
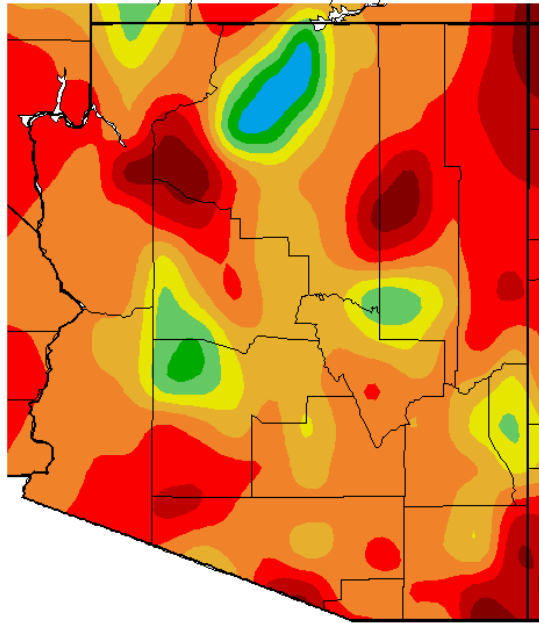
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Av. Min. Temperature dep from Ave (deg. F)  
1/1/2012 – 2/29/2012



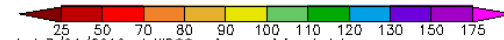
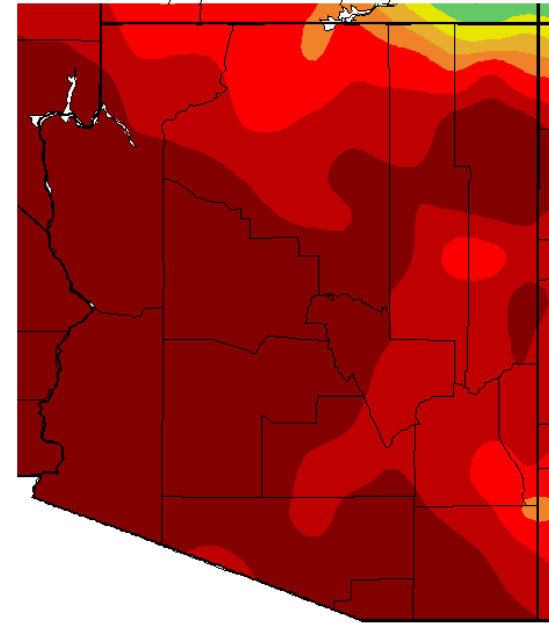
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Av. Max. Temperature dep from Ave (deg F)  
1/1/2012 – 2/29/2012



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Percent of Average Precipitation (%)  
1/1/2012 – 2/29/2012

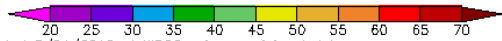
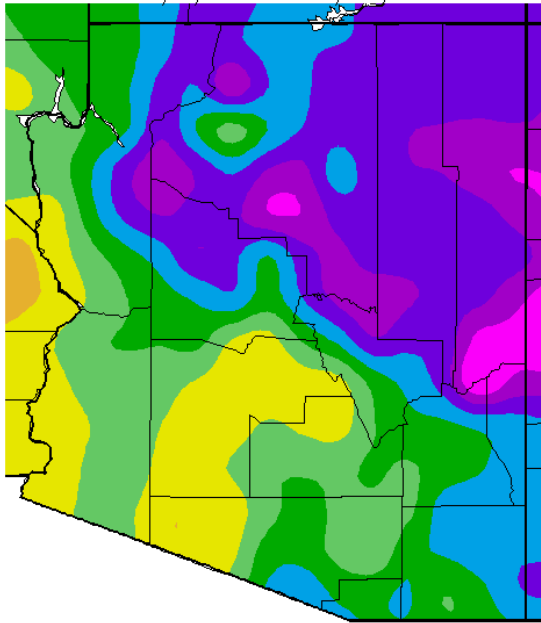


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### Calendar Year 2012

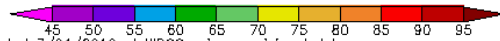
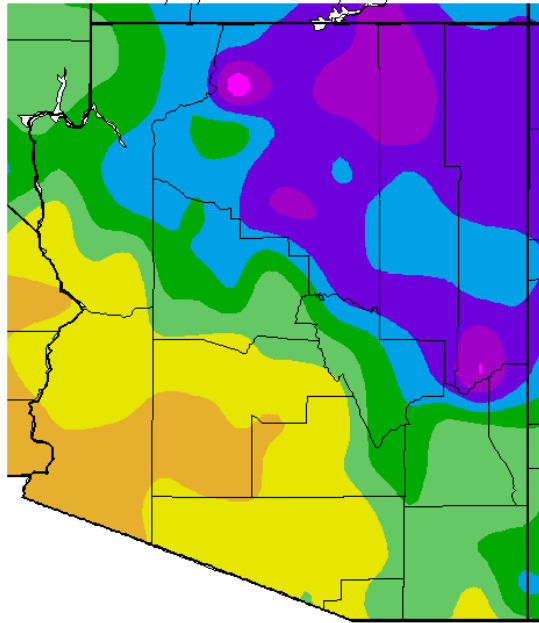
Nighttime temperatures were quite variable around the state with cooler than normal conditions in Yavapai, Mohave, central Navajo and Apache counties, and warmer than normal temperatures in eastern Maricopa, Pinal, Coconino, and Greenlee counties. Daytime temperatures have been warmer than average everywhere except northwestern Maricopa County, northern Coconino County, Greenlee County, and southern Navajo County. Precipitation for the calendar year has been non-existent (less than 25% of average) for most of Arizona, with only the northeast corner of the state receiving more than 70% of average.

Av. Min. Temperature (deg. F)  
10/1/2011 - 2/29/2012



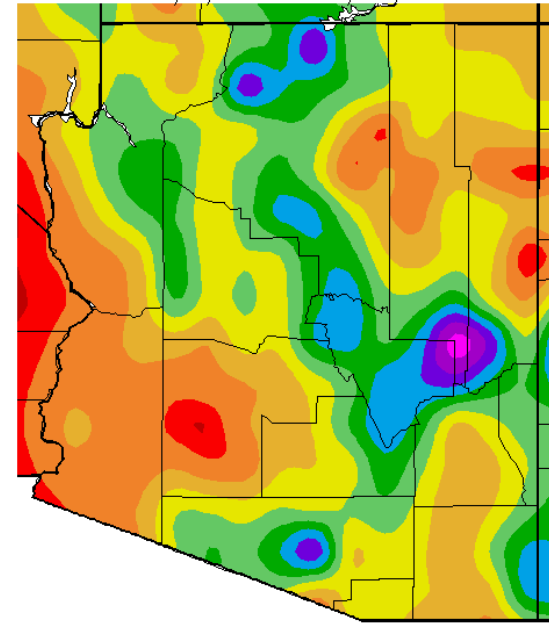
Generated 3/01/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

Av. Max. Temperature (deg. F)  
10/1/2011 - 2/29/2012



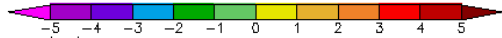
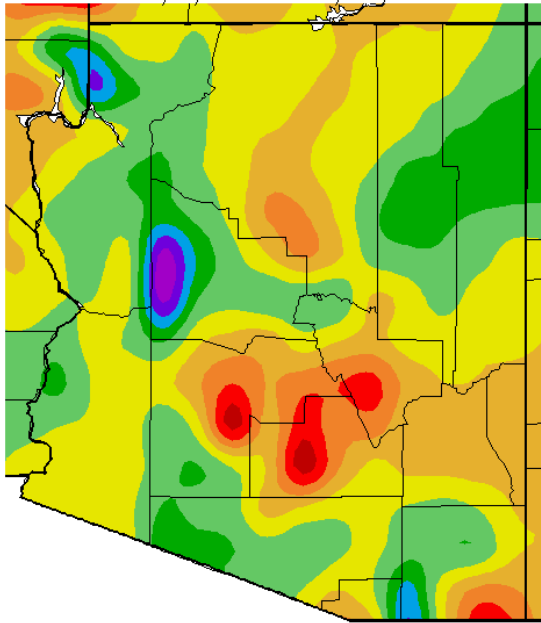
Generated 3/01/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

Total Precipitation (in.)  
10/1/2011 - 2/29/2012



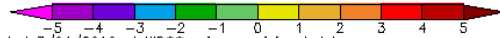
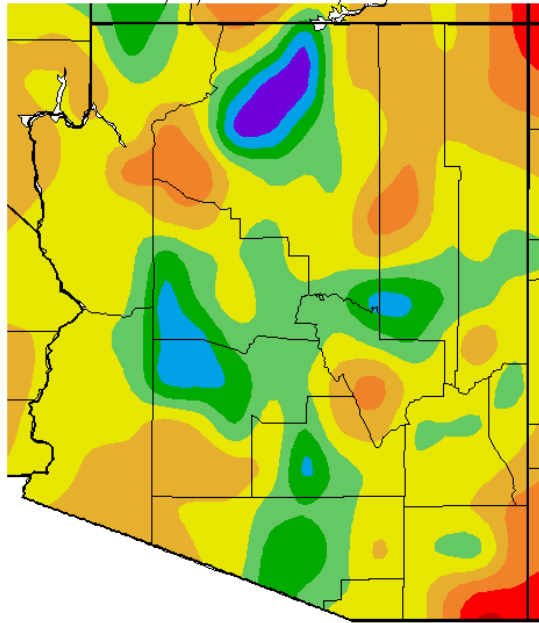
Generated 3/01/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

Av. Min. Temperature dep from Ave (deg. F)  
10/1/2011 – 2/29/2012



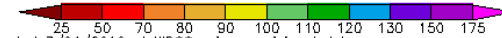
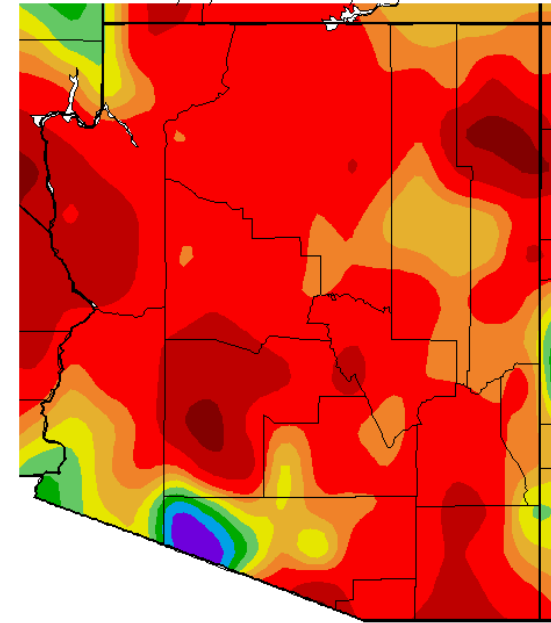
Generated 3/01/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

Av. Max. Temperature dep from Ave (deg F)  
10/1/2011 – 2/29/2012



Generated 3/01/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

Percent of Average Precipitation (%)  
10/1/2011 – 2/29/2012

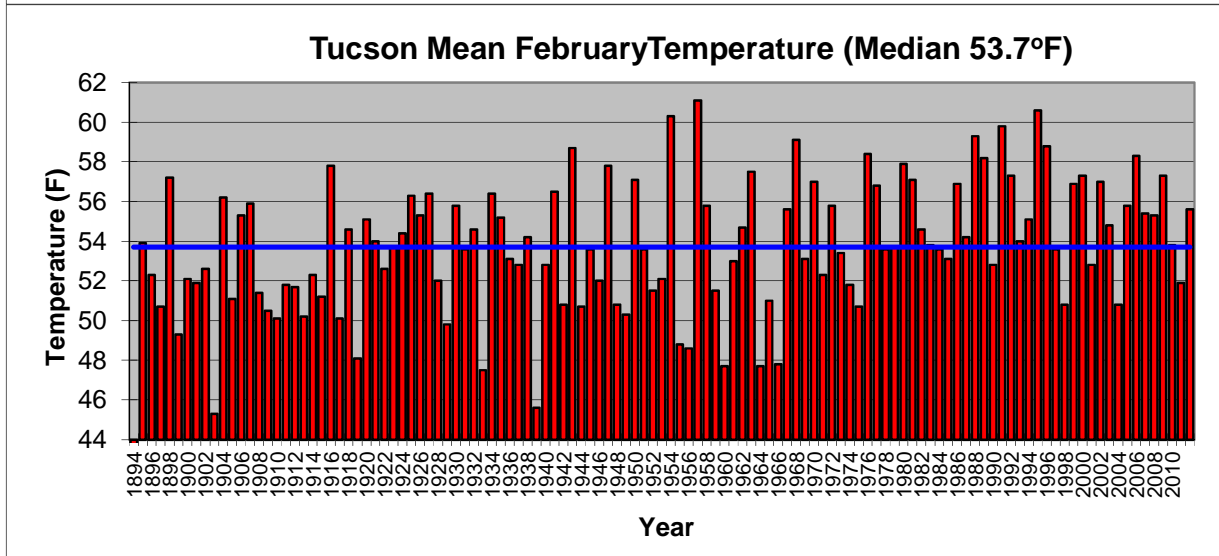
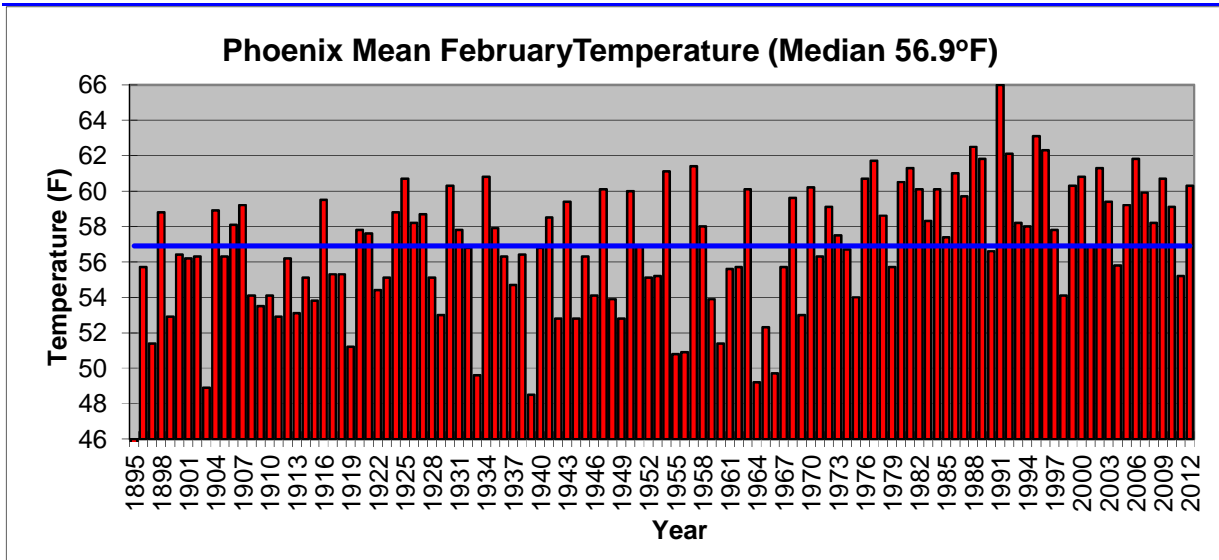
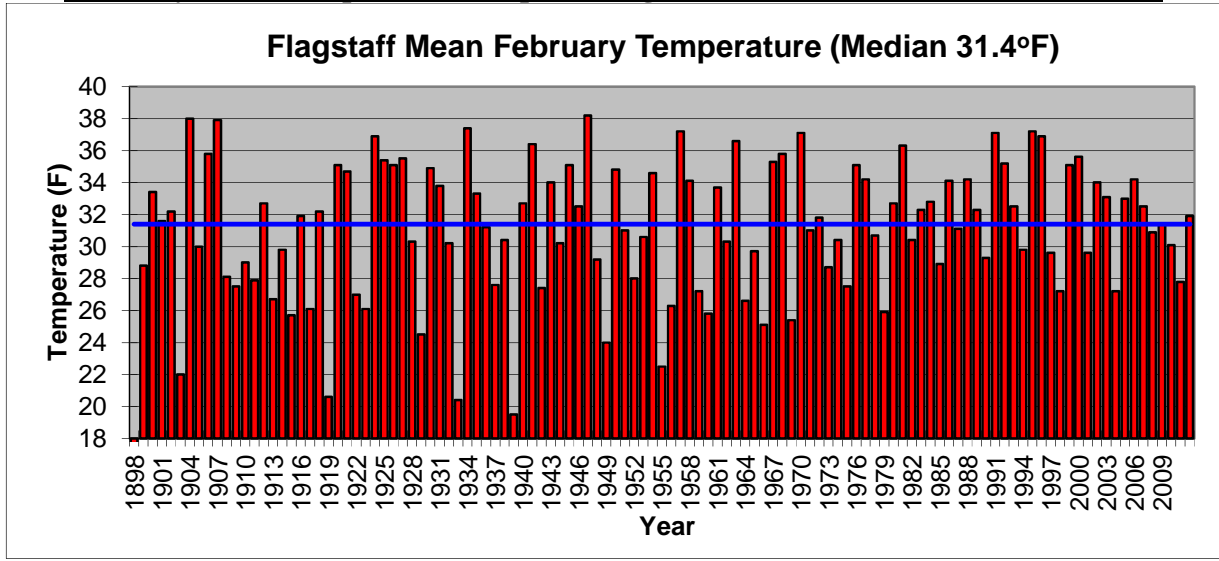


Generated 3/01/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

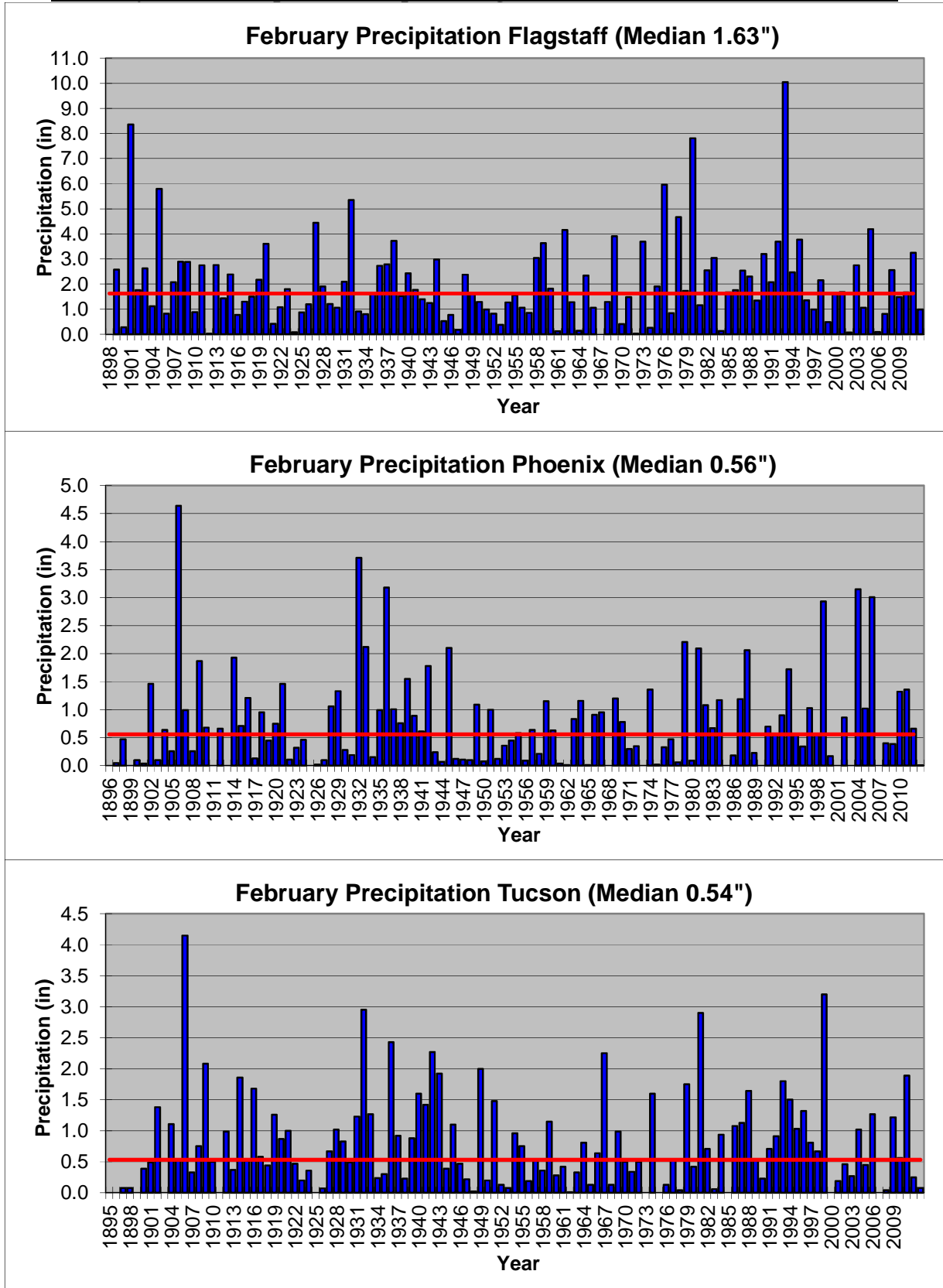
### Water Year 2012 (Oct 1 2011 – Sep 30 2012)

The new water year, 2012, which began October 1<sup>st</sup>, combines the cold, wet conditions of November and December with the warm and dry conditions of January and February. The nighttime lows have been within 2°F of average across most areas of the state, with much warmer conditions in Maricopa, Pinal, and Gila counties, and moderately warmer in most of Coconino County. Northwestern Mohave and western Yavapai counties have been much colder than normal at night. Daytime high temperatures have been within 2°F of average, with colder conditions in northwestern Maricopa, southwestern Yavapai, and northern Coconino counties, and warmer conditions in the northeastern and southeastern corners of Arizona. Precipitation for the water year has fallen well below average everywhere except western Pima County and the Yuma area. Most of the state has received less than 70% of average precipitation and northern Apache and western Maricopa counties are below 50% of average. The wet conditions of November and December have given way to very dry conditions since the first of the calendar year. La Niña is weakening and dissipating, so the outlook is for above average temperatures over the next 3 months, but there is no strong indication as to whether precipitation will be below average, average, or above average.

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



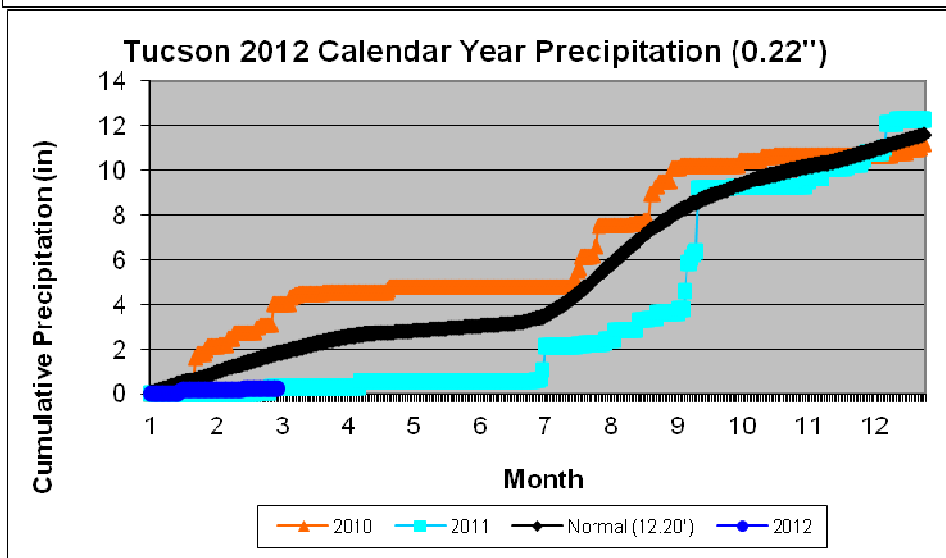
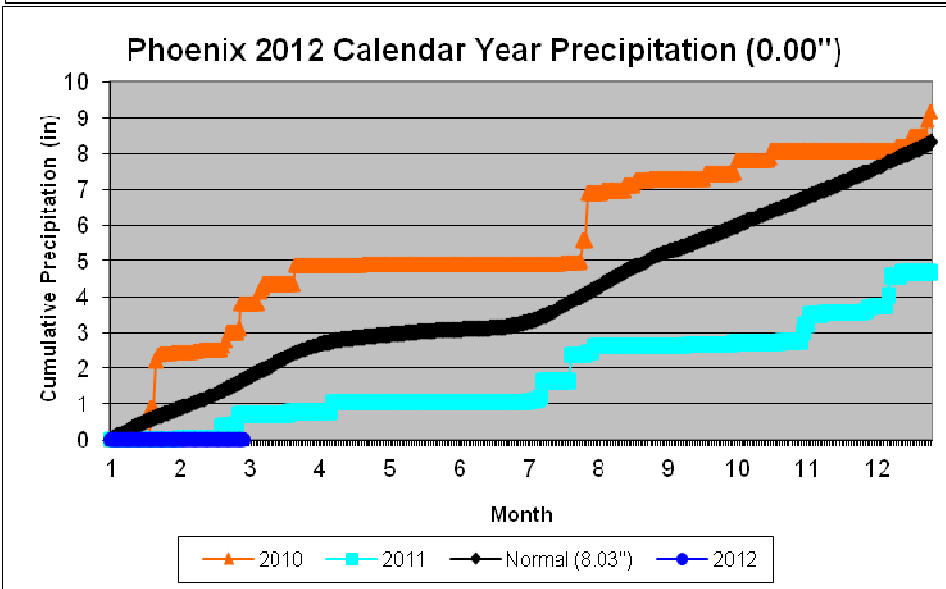
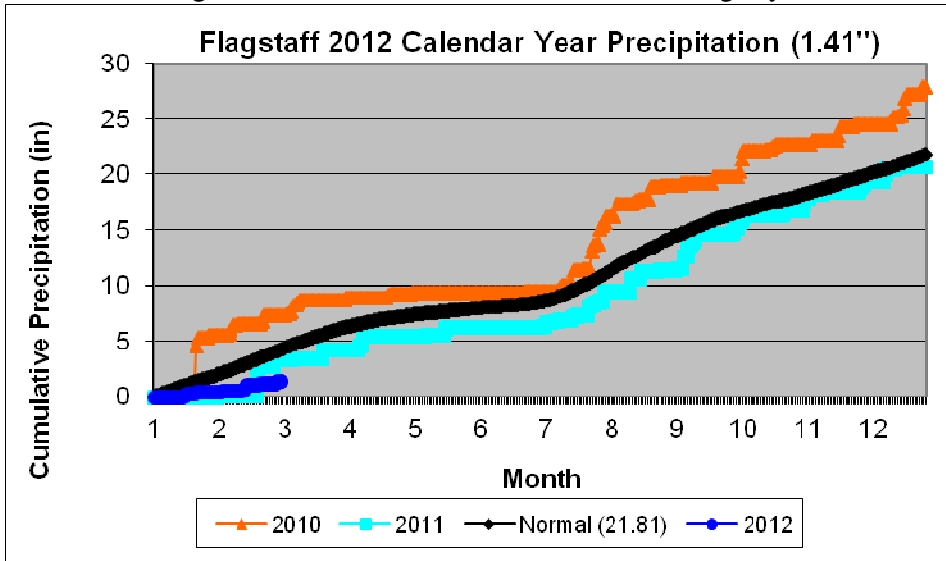
**February Mean Precipitation Graphs – Flagstaff, Phoenix, and Tucson 1895-2012:**

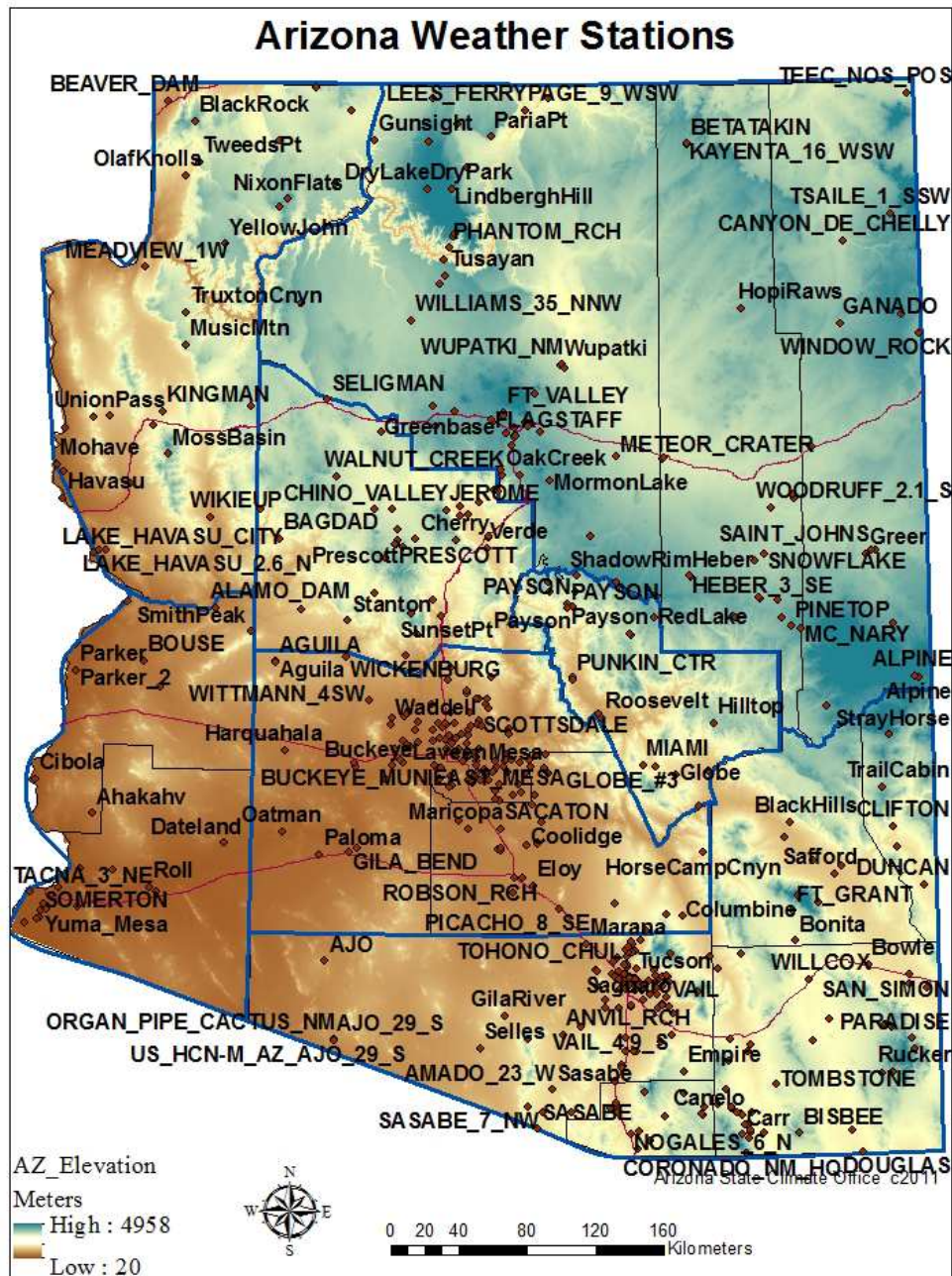




**2012 Cumulative Precipitation Graphs – Flagstaff, Phoenix and Tucson:**

Precipitation is well below average in central and southern Arizona, and slightly drier than average in Flagstaff.





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)