June 2019 Temperature and Precipitation Summary

**June 1st – 14th:** June was a relatively dry month across the state, very typical for June. However, a number of weak low-pressure systems did affect the southwest as the winter weather pattern continued. Only a few brought rainfall to Arizona, and most of that was across the northern part of the state. Temperatures were also near or slightly below average until the last week of the month when warmer than normal conditions set in. The high temperatures for the month included 117°F at Yuma on the 12th and 113°F at Eloy on the 28th. The month started with a weak low-pressure system stalled over Nevada and southern California. The system finally moved across Arizona on the 4th and 5th, bringing light rainfall to northern Arizona, where the north rim of the Grand Canyon received 0.16”, Prescott had 0.11”, Bellemont had 0.02”, and Window Rock had 0.03”. The next four days were clear and dry with near normal temperatures, in the low 100s in the southwest deserts and low 70s at the higher elevations. On the 10th and 11th an easterly wave brought some rainfall into the eastern part of state from New Mexico. Springerville had 0.98”, Coronado National Monument had 0.01”, Alpine had 0.30”, Sonora Desert Museum had 0.04”, St. Johns had 0.47” and Bisbee-Douglas had 0.01”. While this occurred the western half of the state baked as temperatures jumped up above 110°F as high pressure moved in briefly from the west.

**June 15th – 30th:** On the 16th and 17th a weak shortwave moved across the southwest bringing some rain to the northern part of the state. Williams received 0.30”, Navajo National Monument had 0.12”, Grand Canyon north rim had 0.02”, Valle had 0.01”. Temperature remained near average (low 100s in the southwest deserts and low 70s at the higher elevations) for the next four days as the low-pressure systems remained further north across the Pacific Northwest. The state remained dry until the end of the month as temperatures finally climbed up above normal the last week of June as high pressure dominated the pattern over the southwest. On the 29th and 30th, high base thunderstorms developed over eastern Arizona dropping scattered rain. Show Low had 0.04”, Petrified Forest had 0.05”, Winslow had 0.01”, Window Rock had 0.77”, Pioneer Airfield had 0.06”, Nogales had 0.07”, Elgin had 0.11”.

**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; short-term drought maps for the beginning and end of June 2019; Long-term Drought Map through 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. 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.
June 2019 Daily Temperature, Precipitation, & Dew Point for Flagstaff, Phoenix, and Tucson
FLAGSTAFF CLIMATE STATISTICS
June 2019

This June had no significant ranking for temperature and tied for driest June with 24 other years.

Avg Max Temp(F)  76.7  Normal  77.9
Avg Min Temp(F)  41.0  Normal  41.9
Avg Mean Temp(F)  58.9  Normal  59.9
Departure from Normal (F)  -1.0

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

Highest Temp this month (F):  86 on 29th
Lowest Temp this month (F):  32 on 1st

Record High (F):  96 on 6/28/2013, 6/26/1970
Record Low (F):  22 on 6/2/1951, 6/2/1955

No temperature or precipitation records this month.

Flagstaff Number of Days of:
Minimum Temp  45°F or higher  5
Minimum Temp  40°F or lower  12
Maximum Temp  80°F or higher  6
Maximum Temp  70°F or lower  3

Heating Degree Days  180  Normal  170
Cooling Degree Days  3  Normal  17
Degree base 65°F

Total June Precipitation  Trace
Normal June Precipitation  0.36”
Departure from normal  -0.36”
Greatest 24-Hr Precipitation  Trace on 5th

Total Precipitation Year-to-Date  15.17”
Departure from Normal  +6.70”
Total June Snowfall  0.0”  Normal  0.0”
Record June Snowfall  0.5” in 1907

Number of Days:
Clear  30
Partly Cloudy  0
Cloudy  0

Greatest June Precipitation  2.92” in 1955
Least June Precipitation:  0.00” in 2014, 2012, 2011, and 21 other years.

Average Wind Speed  7.0 mph
Highest Peak Gust  43 mph from 190° on 21st

PHOENIX CLIMATE STATISTICS
June 2019

This June had no significant ranking for temperature and tied for driest with 71 other years.

Avg Max Temp(F)  104.0  Normal  103.9
Avg Min Temp(F)  78.1  Normal  77.7
Avg Mean Temp (F)  91.1  Normal  90.8
Departure from Normal (F)  +0.3

Highest Monthly Avg Temp (F)  94.8 in 2013, 2016
Lowest Monthly Avg Temp (F)  79.0 in 1965

Highest Temp this month (F)  112 on 12th
Lowest Temp this month (F):  72 on 1st

Record High (F):  122 on 6/26/1990
Record Low (F):  49 on 6/04/1908

No temperature or precipitation records this month.

Phoenix Number of Days of:
Minimum Temp  70°F or lower  0
Minimum Temp  80°F or higher  9
Maximum Temp  100°F or lower  7
Maximum Temp  110°F or higher  4

Heating Degree Days  0  Normal  0
Cooling Degree Days  787  Normal  774
Degree base 65°F

Total June Precipitation  0.00”
Normal June Precipitation  0.02”
Departure from normal  -0.02”
Greatest 24-Hr Precipitation  0.00”
Greatest June Precipitation 1.70” in 1972
Least June Precipitation 0.00” in 2017, 2014, 2013 and 68 other years.
Precipitation since January 1st 3.02”
Departure from Normal -0.21”

Number of Days:
Clear 17
Partly Cloudy 13
Cloudy 0

Average Wind Speed 7.8 mph
Highest Peak Gust 34 mph from 260° on 30th

TUCSON CLIMATE STATISTICS
June 2019

This June had no significant ranking for temperature and tied for driest with 31 other years.

Avg Max Temp(F) 100.8 Normal 100.3
Avg Min Temp(F) 69.6 Normal 69.3
Avg Mean Temp(F) 85.2 Normal 84.8
Departure from Normal (F) +0.4

Highest Monthly Avg Temp (F) 89.7 in 2017
Lowest Monthly Avg Temp (F) 77.6 in 1894,1965

Highest Temp this month (F): 109 on 29th
Lowest Temp this month (F): 62 on 1st

Record High (F): 117 on 6/26/1990
Record Low (F): 32 on 6/04/1908

Temperature or precipitation records this month:
10th HiMin 79 set, previous record 76 in 1973

Tucson Number of Days of:
Minimum Temp 65°F or lower 6
Minimum Temp 75°F or higher 5
Maximum Temp 95°F or lower 2
Maximum Temp 105°F or higher 6

Heating Degree Days 0 Normal 0
Cooling Degree Days 613 Normal 594
Degree base 65°F

Total June Precipitation Trace
Normal June Precipitation 0.20”
Departure from normal -0.20”
Greatest 24-Hr Precipitation Trace on 10th and 29th

Total Precipitation Year-to-Date 5.03”
Departure from Normal +1.76”
Greatest June Precipitation 2.07” in 1938
Least June Precipitation 0.00” in 2014, 2010, 2002 and 29 other years.

Number of Days:
Clear M
Partly Cloudy M
Cloudy M

Average Wind Speed 7.5 mph
Highest Peak Gust 40 mph from 230 on 14th

Data are from the National Weather Service and the National Climatic Data Center and are preliminary.
### Wind Speeds for June:

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### Dew Points for June:

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June 2019

The minimum temperatures ranged from 24°F at Sunrise Mountain to 72°F at Phoenix. The lowest maximum temperature of 71°F was recorded at Snowslide Canyon and the highest was 117°F at Yuma. The highest rainfall total was 1.31” at Springerville. The lowest average dew point was 26°F at Flagstaff and the highest was 53°F at Parker. The highest peak wind gust was 36 mph at Mohave. Average wind speeds ranged from 3 mph at many places across the state to 12 mph at Kingman, Laughlin-Bullhead City, and Show Low Airport.
June 2019

The lowest average minimum temperature was 33°F at Sunrise Mountain and the highest was 79°F at Glendale and Laughlin-Bullhead City. The highest average maximum temperature was 107°F at Havasu and the lowest average maximum temperature was 64°F at Snowslide Canyon.
Short-term Drought

As a result of the rain (and snow at the highest elevations) at the end of May and some scattered rain showers in northern and eastern Arizona in June, Moderate Drought (D2) was removed from northeastern Arizona and the Abnormally Dry (D0) conditions were pulled back from Coconino and Navajo counties and from Yuma County. May and June are typically our driest months, but this year rain was reported both months at many places around the state. This was a continuation of the wet winter pattern we have enjoyed through the past 9 months. Currently only 4.69% of the state is abnormally dry, while the rest of the state is drought free for short term drought. This means that sufficient rainfall has occurred to fill stock ponds and grow grass and forage on the rangeland, and many streams are flowing above ground. Our water resources depend on long-term drought conditions which are still significant as we have endured many years of below average rain and snowfall, which has depleted our reservoirs and aquifers.
The long-term drought map for June shows hydrologic drought, based on precipitation and evaporation using the Standardized Precipitation Evaporative Index (SPEI) and the Standardized Precipitation Index (SPI) over the past 24-, 36-, and 48-months. This depiction is for water resources, not short-term drought (rangeland conditions). May and June rainfall, as well as snowmelt led to some further reduction of long-term drought across the state. Groundwater levels have come up in some fast response basins, particularly in central and southern Cochise County, while other basins are slow to recharge and continue to be low. Salt-Verde reservoir levels have risen significantly this year, as run-off made its way downstream a little later than previous years. Once the monsoon activity begins there may be some additional run-off into the reservoirs, depending on the nature of the storms. While this winter was significantly wetter than last winter, it will take several consecutive years of above average precipitation to overcome the deficits of the long-term drought. The reservoirs on the Colorado River are seeing significant inflows.
Av. Min. Temperature (deg. F)  
6/1/2019 – 6/29/2019

Av. Max. Temperature (deg. F)  
6/1/2019 – 6/29/2019

Total Precipitation (in.)  
6/1/2019 – 6/29/2019

Generated 6/30/2019 at NEXRAD using provisional data.
NOAA Regional Climate Centers

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NOAA Regional Climate Centers
Minimum temperatures were generally 0-2°F colder than average across the state. A few spots were slightly warmer than average and the southeast had some locations 2-6°F cooler than normal, primarily due to some rainfall. Maximum temperatures were highly variable across the state, from 2°F warmer to 3°F cooler than the average. The June precipitation map indicates much of the state was below average, but the average is less than 0.02” for most areas in the southwest, so the map looks worse than the actual conditions. Central and southern Apache County had well above average precipitation mostly due to the storms that dropped 1.31” of rain on Springerville.
Minimum temperatures were $0-2^\circ F$ cooler than average across most of the state with even cooler conditions in southern Maricopa and western Pima counties. Eastern Coconino and Navajo counties saw warmer than average minimum temperatures. Daytime temperatures were 1 to $3^\circ F$ colder than average statewide with a few pockets even cooler. Precipitation has been 100-300% of average across most of the state since January 1\textsuperscript{st}. Exceptions are Yuma, southern La Paz, Graham and Greenlee counties which have received 50-90% of average through the end of June.
Nighttime temperatures have been within 1°F of average throughout the state with colder than average areas in southern Maricopa and western Pima counties and warmer than average areas in eastern Coconino and central Navajo counties. Daytime temperatures have been 1-3°F cooler than average across the entire state with the coolest conditions in southern Navajo and Apache counties and western Maricopa County. Precipitation has been well above average across the state with the exception of Graham and Greenlee counties. That dry condition is likely to change when the monsoon activities begins in July.
June Mean Temperature Graphs – Flagstaff, Phoenix, and Tucson 1895-2019:

**Flagstaff Mean June Temperature (Median 59.20°F)**

**Phoenix Mean June Temperature (Median 86.8°F)**

**Tucson Mean June Temperature (Median 83.0°F)**
2019 Cumulative Precipitation Graphs – Flagstaff, Phoenix and Tucson:
Flagstaff was 6.70” above normal, Phoenix is 0.21” below normal, and Tucson was 1.76” above normal.
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)