MARCH 2016 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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This month began warm and dry across the region, similar to most of the previous month. High pressure continued to persist until the 3rd. The first three days were generally much warmer than average in terms of daily maximum temperatures.

By the 4th, a series of low pressure systems began to impact the region with abundant precipitation. Daytime high temperatures began to fall on this day due to the increased cloud cover and approaching showers. By the early evening, some locations, including Fresno and nearby communities, reported thunder with brief heavy rain. There were also some heavy showers reported in Merced County causing nuisance ponding on roadways, so forecasters issued a Flood Advisory.

Shower activity continued for much of the day during the 5th, and there were more heavy rain showers during the following night and into the morning of the 6th. Some San Joaquin Valley locations reported around 0.50 inch to around an inch, mainly north of Kern County. Locations in the Sierra Nevada received three to four inches in only a 24 hour period, including in Yosemite National Park and at Bass Lake. This system was generally warm as heavy rain was falling at elevations of 7,000 feet and above. By the daytime of the 6th, colder air began flowing into the region as the primary trough of low pressure moved inland from the Pacific Ocean.

During the early morning hours of the 7th, another round of heavy rain moved over the region. In fact, Fresno reported just above an inch for the 7th; another Flood Advisory was issued for the east side of the San Joaquin Valley for Fresno County and northward. Also during this morning, local television media reported minor flooding in Merced along Bear Creek, including near the river gauge at McKee Road. This time, the storm system with its associated cold air trough moved further south, including into Kern County. Temperatures were much colder this day, as many locations in the San Joaquin Valley struggled to rise into the 50s. Some heavier showers and isolated thunderstorms developed during the afternoon of the 7th over the southern portion of the San Joaquin Valley, including southwestern Fresno County and southward to western Kern County. Snow fell at around an elevation of 3,500 feet, including in Tehachapi. By the evening of the 7th, the atmosphere began to stabilize so that mainly low clouds and colder temperatures remained.

In summary, storm total precipitation during the 4th-7th reached one to two inches in quite a few locations in the San Joaquin Valley. Just above two inches was reported in Fresno. Precipitation in the Sierra Nevada and adjacent foothills for this period was around two to five inches, including from Fresno County and northward, with around one to three inches in Tulare County. As much as one to two inches of precipitation were reported in the Kern County mountain areas. The highest elevations of the Sierra Nevada during these four days received over two feet of snow, including a reports that totaled 35 inches at Tuolumne Meadows in Yosemite National Park (elevation around 8,600 feet) and several inches to around a foot in Sequoia National Park at the Grant Grove and Lodgepole stations (elevation for both locations around 6,700 feet).

A brief dry period with weak high pressure occurred during the 8th and into the 10th, except for a weak system that brought a few showers on the late afternoon of the 8th into the morning of the 9th.

Another series of low pressure systems arrived on the 11th and continued until the 14th. The system that arrived on the 11th was fairly strong and produced afternoon thunderstorms, gusty winds, and brief heavy rainfall in the San Joaquin Valley. On the afternoon of the 11th, there was a brief period of gusty winds even in the San Joaquin Valley (e.g., Bakersfield Airport recorded a gusty of 45 miles per hour) as a fairly strong cold front passed over the region. Rainfall amounts were around 0.5 to 0.75 inch in the San Joaquin Valley, and around one to two inches in the Sierra Nevada and into the foothills. Several inches of snow to around a foot fell over the Sierra Nevada, mainly in Yosemite National Park and southward to Sequoia National Park at an elevation of 5,500 feet and above during the 11th and into the morning of the 12th. The next system occurred on the 13th and into the morning of the 14th. This system was weak for the San Joaquin Valley as it produced around a tenth to a quarter inch of rain; however, heavier amounts, mainly around 0.5 to 1.0 inch while locally higher, fell in the Sierra Nevada and adjacent foothills. Snow in the Sierra Nevada fell mainly above 6,500 feet, although several inches fell in Yosemite National Park, including at Tuolumne Meadows where nine inches were reported. During these four days, there were periods of strong and gusty winds in the Kern County mountain and desert areas, as well as the crest of the Sierra Nevada, where gusts as high as 60 to 70 mph occurred, although winds in the more heavily traveled passes and canyons peaked around 50 mph.

High pressure returned on the 15th and continued into the 20th, and slightly warmer than average temperatures with dry conditions prevailed before another low pressure system arrived in northern California.

On the 21st, temperatures lowered considerably, and gusty winds occurred in the favored passes and canyons in eastern Kern County, as well as some of the peaks near the Sierra Nevada crest. There were some isolated gusts above 70 mph in these areas. Very little precipitation, including

less than a tenth of an inch in the San Joaquin Valley and a little above a third of an inch in Yosemite National Park, occurred with this low pressure system. Up to around five inches of snow fell in the higher elevations of the Sierra Nevada, including in Yosemite. On the following day, as cool air continued to flow into interior central California, breezy conditions prevailed throughout much of this region. There were a few locations that observed gusts around 30 mph in the San Joaquin Valley, including at Lemoore and Hanford and along the west side, including the Interstate 5 corridor.

During the next several days, high pressure returned to the region, and temperatures gradually warmed back up to around 5-10 degrees above average by the 25th. Temperatures remained steady or slightly warmer until the 27th (Easter Sunday).

A low pressure system arrived by the 28th and brought impacts to the region until the 30th, mainly in the form of light showers and gusty winds. On the 28th, the strongest winds occurred; western portions of the San Joaquin Valley experienced wind gusts around 30-35 mph with localized blowing dust along Interstate 5 in western Kern County and also in Bakersfield. The Kern County mountain and desert areas reported gusts around 50 mph and locally stronger near the passes and canyons, as well as on exposed ridgetops in the southern Sierra Nevada (the highest gust reported was 73 mph on Bear Peak in the Sierra Nevada in Sequoia National Forest). Also on the 28th, precipitation amounts were around a quarter inch to just below four tenths of an inch in parts of the Sierra Nevada, and up to only a few hundredths of an inch in the San Joaquin Valley, mainly along the west side.

Overall, this month was warmer than average (see Figure 1) with below average precipitation in the southern and western portions of our forecast area (including parts of Fresno County, as well as much of Kern, Kings, and Tulare Counties; see Figure 2) and above average from Fresno County (except for the western half) and northward.

Table 1 - Mar 2016 Summary Statistics for ASOS locations

Location	Monthly Avg Temp	Departure From Normal	Total Monthly Precipitation	Departure From Normal
Bakersfield	60.5	2.9	0.45	-0.76
Fresno	58.7	2.1	2.93	0.90
Hanford	57.6	2.2	2.00	0.37
Madera	57.0	2.8	3.12	1.32
Merced	56.4	2.8	2.35	0.28

Fig 1 - Percent of normal precipitation for March 2016:

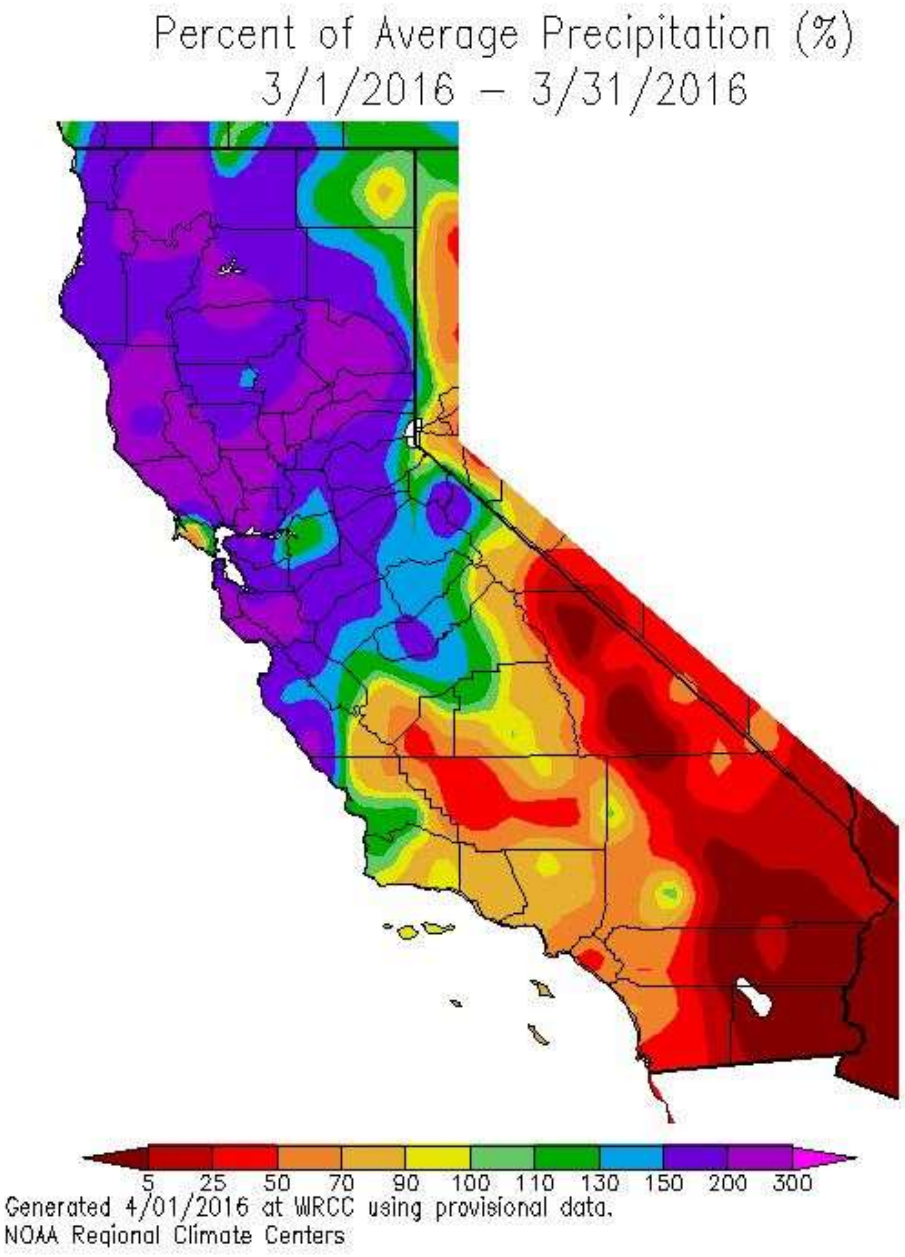

Fig 2 - Departure from average temperature for March 2016: