JUNE 2010 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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The high pressure that was over California on the last day of May gave way to an upper-level low-pressure trough that moved across California on June 1st. The high temperature at Fresno on the 1st was 84 degrees, down 8 degrees from the previous day; Bakersfield experienced a similar drop. As the trough moved out of California on the 2nd, an upper-level high-pressure ridge built back into the southern half of the state. However, a series of weak short-waves moving through the Pacific Northwest kept the ridge from strengthening.

Temperatures in the central and southern San Joaquin Valley warmed into the 90s by June 5th and 6th. Although Coalinga had a high of 99 on the 5th, no reporting station hit triple digits. In addition to keeping the ridge in check—and temperatures under 100—the short-waves passing to the north did bring periods of breezy to gusty winds to the region. The strongest winds were over the Kern County Mountains and deserts, where gusts of 45-55 mph were a nightly occurrence in the area immediately below the southeast-facing passes and canyons of the Tehachapi Mountains. The winds were most prevalent from the night of June 3rd through the morning of the 7th.

The ridge also brought warming to the higher elevations of the Southern Sierra Nevada, resulting in the erosion of the snowpack. As the snow melted, runoff filled the rivers and streams. The Merced River rose to its flood stage at Pohono Bridge during the night of June 5th-6th, receded during the day, and rose above flood stage again that night. Elsewhere in the mountains and foothills, the cold, fast-moving water was a risk to boaters, swimmers and rafters. The National Weather Service forecast offices in Hanford and Sacramento issued Special Weather Statements cautioning visitors to the mountains on the dangers of hypothermia and other water hazards. The Weather Service Office in Reno incorporated water safety tips in its hydrologic outlook that included the east slopes of the Sierra Nevada.

The snowmelt also triggered the formation of afternoon cumulus clouds over the Southern Sierra Nevada. Evaporating water from the snowmelt formed a cold, moist airmass that descended down the slopes of the Sierra Nevada. As the cold air descended, adiabatic warming lifted the moist air to the condensation point, resulting in cloud formation.

The weather pattern changed on June 7th as an upper-level low-pressure trough moved into northern California. This trough increased the marine layer along the central California coast to a depth of around 1700 feet. Marine air spilled through the Sacramento Delta into the San Joaquin Valley, bringing 7 degrees cooling to Los Banos, and 4 degrees cooling to Fresno and the Merced Municipal Airport. Central and southern San Joaquin Valley high temperatures on the 7th were mostly in the upper 80s to mid 90s, with little change the next day. The slightly cooler weather also helped reduce the rate of snowmelt run-off from the Southern Sierra Nevada snowpack. After a third night of peaking above flood stage at Pohono Bridge, the Merced River

finally receded below flood stage during the morning of June 8th.

Another upper-level trough approached California during the night of June 8th-9th, bringing wind gusts to around 60 mph to the Kern County desert near Mojave. Gusts from 50 to 60 mph continued in the area below the Tehachapi Pass through the day, then diminished during the night of the 9th-10th. In addition, the trough brought a push of marine air into the central and southern San Joaquin Valley. Winds gusted to 35 mph through the Pacheco Pass, and central and south Valley highs on the 9th were down as much as 7 degrees from June 8th.

Cooler than normal temperatures continued through June 11th, as low pressure troughs reinforced the cool air already in place; the high in Fresno only reached 80 degrees on the 10th. One shortwave trough brought sufficient instability for some showers and isolated thunderstorms during the afternoon and evening of the 11th over the Southern Sierra Nevada even as far south as Kern County; however, only light amounts of rain fell.

Each trough brought breezy conditions to the west side of the San Joaquin Valley, with gusts of 25-30 mph. Gusts to 35-40 mph developed in the Kern County deserts, especially in the area from the Tehachapi Pass to Mojave and Rosamond..

High pressure moved into California on June 12th, bringing significant warming to the region. Temperatures warmed to near normal on the 12th, and continued warming the next two days. On June 14th, Fresno hit 100 for the first time in the year 2010; this was only a week later than the 50-year average for the first 100-degree day: June 6th. Bakersfield reached 99 degrees on the 14th.

The ridge collapsed rapidly as an upper-level trough pushed into California the next day. Marine air began spilling through the Pacheco Pass during the morning of the 15th, as the coastal marine layer deepened to 2500 feet, and by noon, parts of Merced County were as much as 15 degrees cooler than noon on the previous day. The push of marine air continued into the central California interior during the afternoon of the 15th. Temperatures cooled through the 15th and 16th, with central and southern San Joaquin Valley locations falling back to near normal (upper 80s to mid 90s) on the 15th, and only into the mid 80s on the 16th.

A brief warm-up in temperatures occurred on the 17th before another, but stronger, intrusion of marine air moved through the Pacheco Pass during the afternoon of the 18th. An upper-level trough prevailed over much of the West Coast, and a short-wave moved around the base of the trough and over the central California interior. On the 18th, a cold airmass spilled through the Pacheco Pass. A weather station at 1500 feet only reached a high of 59 degrees that day, with strong northwest winds that reached up to 44 mph at the Pacheco Pass during the late afternoon, and the Los Banos RAWS only reached 69 degrees. The Los Banos cooperative station only reached a high of 74 degrees (which was a 17 degree drop in maximum temperature from the previous day), while most valley locations from Fresno southward were still in the lower 90s. Most locations in the central and southern San Joaquin Valley did not reach much above the lower 80s the next day, once the marine air had spread and settled into the region.

Another series of troughs moving across the state kept temperatures across the central California interior below normal through the first day of summer (June 21st). The last of these troughs

brought wind gusts of 40 to 50 mph to the Mojave-Rosamond area during the evening of the 21st. While the troughs triggered isolated afternoon thunderstorms along the Southern Sierra Nevada crest, otherwise they were dry. As a result, Fresno continued its dry streak of never having seen rain on June 21st at an official measuring site since records began in 1878; the string is now 133 years long. June 21st is the only day that this is true for Fresno.

High pressure briefly returned to central California on June 22nd, with temperatures again climbing to near normal on the 22nd, and to above normal on the 23rd. The ridge then gave way to the next low-pressure trough to reach California. Marine air spilled through the Sacramento River Delta on June 24th, pushing into the central San Joaquin Valley. Temperatures in the central Valley fell back to a few degrees below normal—falling as much as 6 degrees from the highs of the 23rd—while the San Joaquin Valley from Fresno south saw temperatures remain slightly above normal.

The trough brought a few light showers to parts of the central San Joaquin Valley and Southern Sierra Nevada during the morning of June 25th. Los Banos recorded 0.04 inch of rain, while a trace fell at the Merced Municipal Airport. Cold air continued to push into the San Joaquin Valley, and Los Banos had a high of only 84 degrees, with the Merced Municipal Airport just a degree warmer. Further south in the Valley, temperatures topped out in the upper 80s to lower 90s; normal highs for June 25th are in the mid 90s.

The upper-level trough moved east of the region on June 26th, allowing a ridge of high pressure to build into California. This brought a sharp warming trend to interior central California. Bakersfield finally had its first triple-digit day of the year on June 27th, with a high of 101 degrees. This tied for Bakersfield's sixth latest first 100-degree day on record. Fresno also hit 101 degrees on the 27th, for its second triple-digit day of the month. The high at Meadows Field hit 106 degrees the next day, while Fresno had a record-tying high of 108 degrees on the 28th. The record for Fresno was only a year old.

Temperatures cooled several degrees on June 29th as an upper-level trough approached California, but remained well above normal. Temperatures cooled a couple more degrees on the 30th, but the central and southern San Joaquin Valley closed out the month a few degrees above normal.

For the month of June, Bakersfield's average temperature of 77.7 degrees was exactly the normal average temperature for the month. The average temperature for Fresno was virtually identical at 77.6 degrees; this was 1.5 degrees above normal. Rainfall statistics for June are listed below:

SELECTED VALLEY RAINFALL REPORTS FOR THE 2009-2010 RAIN SEASON

BELOW ARE LISTED RAINFALL REPORTS FROM THE OFFICIAL NATIONAL WEATHER SERVICE CLIMATOLOGICAL STATIONS. ALSO LISTED ARE THE MUNICIPAL AIRPORTS AT HANFORD, MADERA AND MERCED. AMOUNTS LISTED ARE IN INCHES.

NOTE: COOPERATIVE CLIMATE STATION DATA THROUGH 8 AM PDT JUNE 30TH.
AIRPORT DATA THROUGH MIDNIGHT PDT JUNE 30TH.
DATA ARE PRELIMINARY AND SUBJECT TO REVISION BY THE NATIONAL CLIMATIC DATA CENTER.

STATION	RNFL SINCE JULY 1	NORMAL SEASON	DEPARTURE FM NORMAL	PERCENT NORMAL
CLIMATE STATIONS				
MERCED	16.36	12.50	3.86	130.9
LEMON COVE	16.33	14.56	1.77	112.2
LINDSAY	13.49	12.57	0.92	107.3
FRESNO	12.36	11.23	1.13	110.1
LOS BANOS	11.44	9.95	1.49	115.0
VISALIA	11.08	11.03	0.05	100.5
HANFORD	9.91	8.58	1.33	115.5
BAKERSFIELD	7.10	6.49	0.61	109.4
MUNICIPAL AIRPORTS (THERE ARE NO NORMALS FOR THESE AIRPORTS)				
MERCED	15.17			
MADERA	10.92			
HANFORD	9.50			