JUNE 2011 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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June began with a dry cold front moving into central California. This cold front brought a push of cold air into the San Joaquin Valley, with most highs on the first day of the month down 7-9 degrees from those of May 31st. As the cold front continued to move south across the region, winds increased in strength. Gusty winds developed over the Kern County mountains and deserts during the afternoon of the 1st, with most gusts between 45 and 55 mph. One gust did reach 71 mph in the Mojave Desert east of Edwards Air Force Base.

As mentioned above, the cold front had limited moisture with its southern extent. The only precipitation reported from the frontal passage was a mere 0.05 inch at Yosemite Valley.

Another upper-level trough moved through California on June 2nd, keeping temperatures well below normal. The southern end of this system also was dry.

A weak upper-level high-pressure ridge brought a short-lived warming trend to the central California interior on June 3rd, and then it collapsed as the weather pattern underwent a major change.

A developing Pacific storm approached California on June 4th. Cold air pushed into the San Joaquin Valley, plunging temperatures to well below normal. The high at Fresno on the 4th was only 66 degrees, six degrees colder than the previous record low maximum temperature for the date of 72 degrees, set in 1954. As the push of cold air funneled through the passes of the Kern County mountains.

The upper-level trough reached the California coast during the evening of June 4th, with the associated low dropping to west of Monterey Bay overnight. Ahead of the low, the warm front moved into the central California interior, bringing mostly light rain. Because the airmass was warm, snow levels were high, around 9000 feet. Also ahead of the front, downsloping winds developed over the Tehachapi Mountains, as well as in the Kern River Canyon. Gusts to around 50 mph were recorded at the base of the Grapevine during the morning of the 4th, but then subsided as the front arrived before increasing again the next day. The downsloping winds also brought several degrees of warming to the south end of the San Joaquin Valley. Bakersfield had a high of 83 degrees on June 5th, with the Porterville Municipal Airport only 2 degrees cooler. The California Highway Patrol weigh station at the base of the Grapevine had a high of 78 degrees on the 5th, 6 degrees warmer than the previous day.

A pronounced dry slot developed behind the warm front, and much of the central and southern San Joaquin Valley saw dry weather for the morning of June 5th.

An upper-level disturbance rotating around the low moved over the San Joaquin Valley during the afternoon of June 5th. This disturbance triggered showers and thunderstorms that produced heavy rain and lightning, but little hail. Fresno recorded 1.16 inch of rain on the 5th, all but 0.06 inch falling after 5 PM. Rain continued in to the morning hours of June 6th, bringing the 48-hour total to 1.64 inch at Fresno-Yosemite International Airport. This made June 2011 the third wettest June on record, and only 0.02 inch behind the second place amount of 1.66 inch (June 1939). The wettest June on record for Fresno was June 1998, with 1.93 inch.

There were some reports of road flooding from the heavy rains, as well as a few trees that were toppled as the soil became saturated. In the Southern Sierra Nevada, the snow level began falling as the cold front arrived, with late-season accumulating snow prompting a (rare for June) Winter Storm Warning. Up to 9 inches of new snow fell on the high country of the Southern Sierra Nevada on June 5th-6th.

As the upper-level low came onshore over southern Monterey/northern San Luis Obispo Counties, a strong vorticity maximum was rotating around the low center. This vorticity dropped south off the coast, then deepened into an upper-level low and swung in land over the San Joaquin Valley, triggering thunderstorms over the Southern Sierra Nevada during the evening of June 7th. As the low moved into southern Nevada, a northeasterly flow developed over the Southern Sierra Nevada. This flow pushed debris clouds from the thunderstorms over the east side of the San Joaquin Valley, resulting in a few sprinkles falling as far west as Dinuba, Fresno and Visalia. This flow also caused clouds to pool over the south end of the San Joaquin Valley during the early morning of June 8th, but these clouds dissipated shortly after sunrise.

An upper-level ridge began building into California on June 9th. Bakersfield reached a high of 90 degrees, for the first time since May 6th. Elsewhere in the central and southern San Joaquin Valley, highs were in the upper 80s to lower 90s as temperatures returned to near normal. Both Bakersfield's high of 90 and Fresno's high of 89 matched the normal highs at those cities for June 9th. Fresno did hit a high of 91 on the 10th, for its first 90-degree day since May 6th.

Another upper-level trough moved into California on June 11th, bringing a push of cold air into the central California interior. The high temperature at Fresno on the 11th was only 82 degrees, down 9 degrees from the previous day. Bakersfield's high of 86 degrees was down 6 degrees, and the high at the Madera Municipal Airport only reached 79 degrees, down 10 degrees from the 10th.

Although cumulus clouds developed over the Southern Sierra Nevada on June 12th, no precipitation was reported. The trough rapidly moved eastward as an upper-level ridge began building into the state. Temperatures warmed to around 90 on June 13th, and into the mid to upper 90s the next two days. The central and southern San Joaquin Valley saw

their first 100-degree temperatures on June 15th as Coalinga, N.A.S. Lemoore and Wasco reached triple digits. Bakersfield had a high of 99 on the 15th, and Fresno reached 98 degrees. This warming was, in part, due to amplification of the ridge over California ahead of the next upper-level trough.

The aforementioned trough began moving into California on June 16th. The surge of cooler air brought some gusts of 15-25 mph to the west side of the San Joaquin Valley. The high at Los Banos was only 87 degrees, down 9 degrees from the previous day's high of 96. The airports at Madera and Merced saw their highs down 7 degrees from the 15th, and many Valley sites were down 4-6 degrees.

Relatively cool air persisted over the central California interior through June 19th, with temperatures remaining near or just below normal. The trough began moving eastward on the 20th as an upper-level ridge of high pressure began building into the state. Central and southern San Joaquin Valley high temperatures warmed into the mid 90s to around 100, and Bakersfield had its first 100-degree day of the year. Fresno reached triple digits the next day, and warming continued on June 22nd as both Bakersfield and Fresno had highs of 107 degrees, for the warmest day of June 2011.

Again, temperatures began to cool on June 23rd, as an upper-level trough dropped out of the Gulf of Alaska and reached the northern California coast. The marine layer along the coast deepened during the night of June 22nd-23rd, with some marine air spilling through the Sacramento Delta into the northern half of the San Joaquin Valley.

The trough weakened the ridge, and allowed temperatures to cool several degrees from the previous day. Some San Joaquin Valley sites, especially in Merced County and along the far west side of the Valley, did not get out of the 90s. In the southern half of the San Joaquin Valley, highs generally were around 100 degrees. Temperatures continued to cool the next day, with San Joaquin Valley highs mostly in the lower to mid 90s.

There was little change in temperatures across the central California interior from June 24th through the 26th. A strong Pacific storm began dropping out of the Gulf of Alaska, and warming ahead of this storm raised temperatures a few degrees by the 27th; Bakersfield reached a high of 100 degrees, and Fresno had a high of 98. Significant cooling began in locations around Madera and northward throughout the Hanford county warning/forecast area on the 28th due to this strong storm; as high temperatures were significantly cooler in these areas.

The Pacific storm brought strong cooling to the region, as well as moderate rainfalls. Fresno had a high of only 76 degrees on June 29th, setting a record low maximum temperature for the date (old record was 77 in 1982), as well as recording a record rainfall of 0.27 inch. The old record for June 29th was 0.12 inch, set in 1982. The rainfall at Fresno boosted the monthly total for June to 1.91 inch, making June 2011 the second wettest June on record and only 0.02 inch behind June 1998. The normal rainfall for June at Fresno is 0.23 inch.

Despite the cold air at the lower elevations, the snow level was high, approaching 10,000 feet, and a dusting of snow was reported over the high country of the Southern Sierra Nevada, including Tioga Pass and Tuolumne Meadows in Yosemite National Park. Around a couple of inches of snow fell above the Pass and Meadow in this area, but melted shortly thereafter.

However, rainfall amounts in the Southern Sierra Nevada did approach 2 inches in the wettest locations near Yosemite National Park. Rainfall amounts decreased sharply southward with sparse measurable rainfall reported in Kings and Tulare Counties.

The storm moved east of California and into the Great Basin during the night of June 29th-30th. Temperatures began recovering on the last day of June, although both highs and lows remained several degrees below normal.