NWS FORM E-5 U.S. DEPARTMENT OF COMMERCE HYDROLOGIC SERVICE AREA:
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE **SAN JOAQUIN VALLEY - HANFORD , CA**

REPORT FOR:

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

MONTH: **JULY** YEAR: **2014**

TO: Hydrometeorological Information Center, W/OH12x1
National Weather Service/Office of Hydrology
1325 East-West Highway #7116
Silver Spring, MD 20910

SIGNATURE:

Kevin Durfee
(In Charge of Hydrologic Service Area)

DATE: August 6, 2014

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (WSOM E-41).

X	An **X** inside this box indicates that no flooding occurred for the month within this hydrologic service area.

Several influxes of monsoonal moisture during the month brought some hydrological relief to the mountains, but it was hardly enough to make a dent in the long term drought. An upper level ridge of high pressure that resided over the Four Corners region for much of the month brought several days of well above normal temperatures to the HSA, so it should come as no surprise that July, 2014 averaged much warmer than normal. In Fresno, it was the 5th warmest July ever with records dating back to the late 1800's. July, 2014 ranked number 9 in the top warmest Julys on record in Bakersfield. Fresno and Bakersfield had 17 and 18 days, respectively, with maximum temperatures of at least 100 degrees. Minimum temperatures at or above 80 degrees occurred at least twice in Fresno. Bakersfield recorded 5 nights of 80+ degree temperatures during the month. The very hottest days occurred when the Four Corners ridge built westward into California. But while the ridge was centered farther east, tropical moisture had easy access into the Golden State thanks to prevailing southeast winds aloft.

The first northward surge of monsoonal moisture lasted a few days. Its arrival on the 7th spawned showers and isolated thunderstorms in the foothills and higher elevations of the Sierra. A thick cloud cover kept high temperatures below the century mark in the northern half of the San Joaquin Valley on the 7th and broke the long string of triple digit heat that began on the 29th of June. Isolated showers and thunderstorms became a daily occurrence over the higher elevations of the Sierra until a drier southwesterly flow aloft pushed monsoonal moisture eastward during the evening of the 10th. By the 15th, winds backed to southeasterly again and brought a return of monsoonal moisture and isolated thunderstorms to the Sierra. One particularly strong thunderstorm on the afternoon of the 15th dumped over an inch of rain near Tuolumne Meadows and temporarily closed Highway 120 through Tioga Pass in Yosemite National Park. On the following afternoon, a few thunderstorms with briefly torrential downpours produced debris flows over the eastern edge of the Rim Fire burn scar in Yosemite National Park. By the evening of the 17th, a drier and more stable air mass moved into the central California interior and brought an end to thunderstorm development over the Sierra. However, thunderstorm activity increased again on the 19th and also included the east side and south end of the San Joaquin Valley, adjacent foothills and the Kern county mountains and desert as an influx of deeper tropical moisture took place. A few locations of the San Joaquin Valley received measurable rain during the third weekend of July as showers and isolated thunderstorms rolled out of the Sierra foothills. During the height of this particular monsoon event, heavy rain from thunderstorms produced localized flooding and power outages within Yosemite National Park on the 20th and 21st. Nearly 1.5 inches of rain had fallen over the Rim Fire burn scar. Fortunately, impacts were minimal with scouring and sediment accumulation observed in the stream channels within the burn scar area.

Three additional monsoonal surges occurred before July came to a close. Each of them were short-lived but not more than a few days apart from each other. Of noteworthiness, the influx on the 24th produced thunderstorms that sparked 4 new wildfires over the highest elevations of the Sierra in Sequoia and Kings Canyon National Parks. The next monsoonal surge occurred during the final weekend of July and continued into the 28th. Thick clouds accompanied by spotty light rain and sprinkles spread into the San Joaquin Valley on the 28th. Heavier showers and isolated thunderstorms developed over the Sierra during this period. A southwesterly flow aloft pushed the thunderstorm threat eastward to the Sierra crest on the 29th . Although a southwesterly flow aloft continued over the HSA on the 30th, tropical moisture became entrained in this flow from the remnants of what was once Hurricane Hernan to the southwest of the Baja peninsula. Its presence fueled isolated light showers and

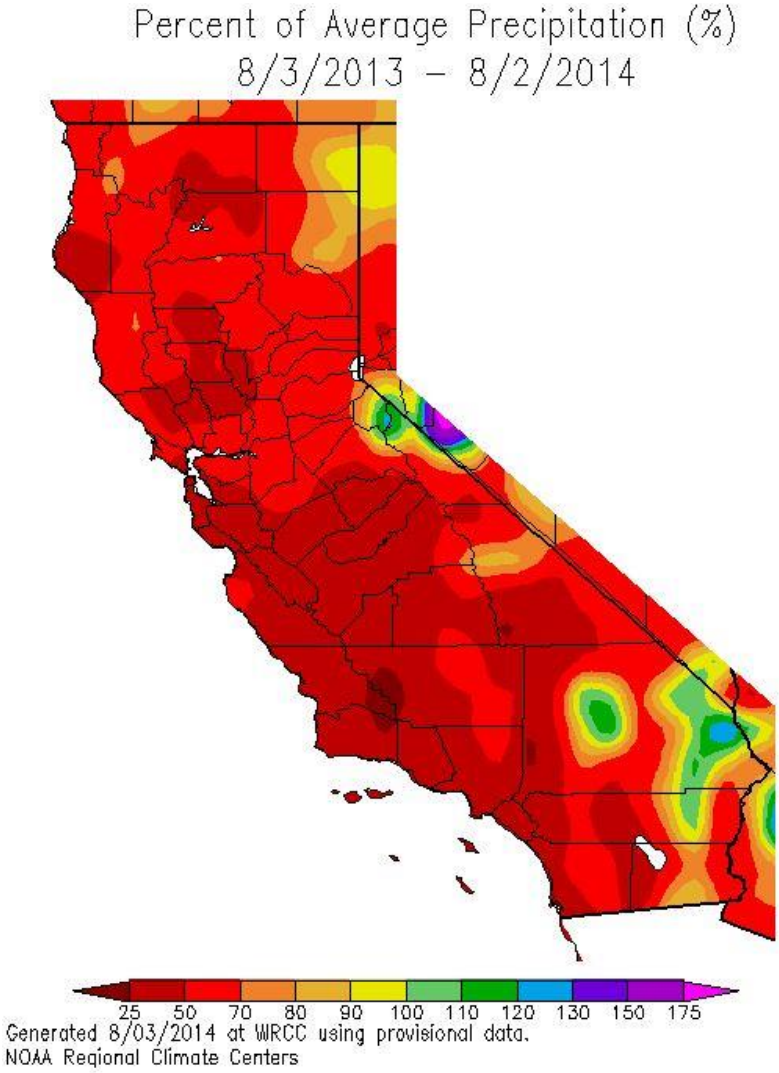
thunderstorms in the San Joaquin Valley and the foothills and higher elevations of the Sierra on the 30th. Northeast winds between 5,000 feet and 10,000 feet also carried smoke from the French and El Portal wildfires into the eastern third of the San Joaquin Valley during the last few days of July. In summary, a total of 6 monsoonal influxes occurred during the month. This is about twice as many as a normal July.

In spite of the added moisture, humidity and precipitation, very low flows persisted on many rivers and water levels at the reservoirs remained historically low. On the average, reservoirs within the HSA were at 17 percent of their normal capacity and ranged from just 6 percent of capacity at Hidden Dam to 51 percent of capacity at Friant Dam.

HYDROLOGIC PRODUCTS ISSUED THIS MONTH

Flash Flood Watch for the Rim Fire Burn Scar	1910Z	20-JUL
Flash Flood Warning for the Rim Fire Burn Scar	2009Z	20-JUL

The map below, courtesy of the Western Region Climate Center, shows the percentage of normal precipitation throughout California for a 12 month period beginning August 3, 2013. As you can see, much of the central California interior has only had between 25 percent and at most 50 percent of its normal precipitation during the past year.



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W/OH12x1
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