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: **NOVEMBER** YEAR: **2015**

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: December 3, 2015

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).

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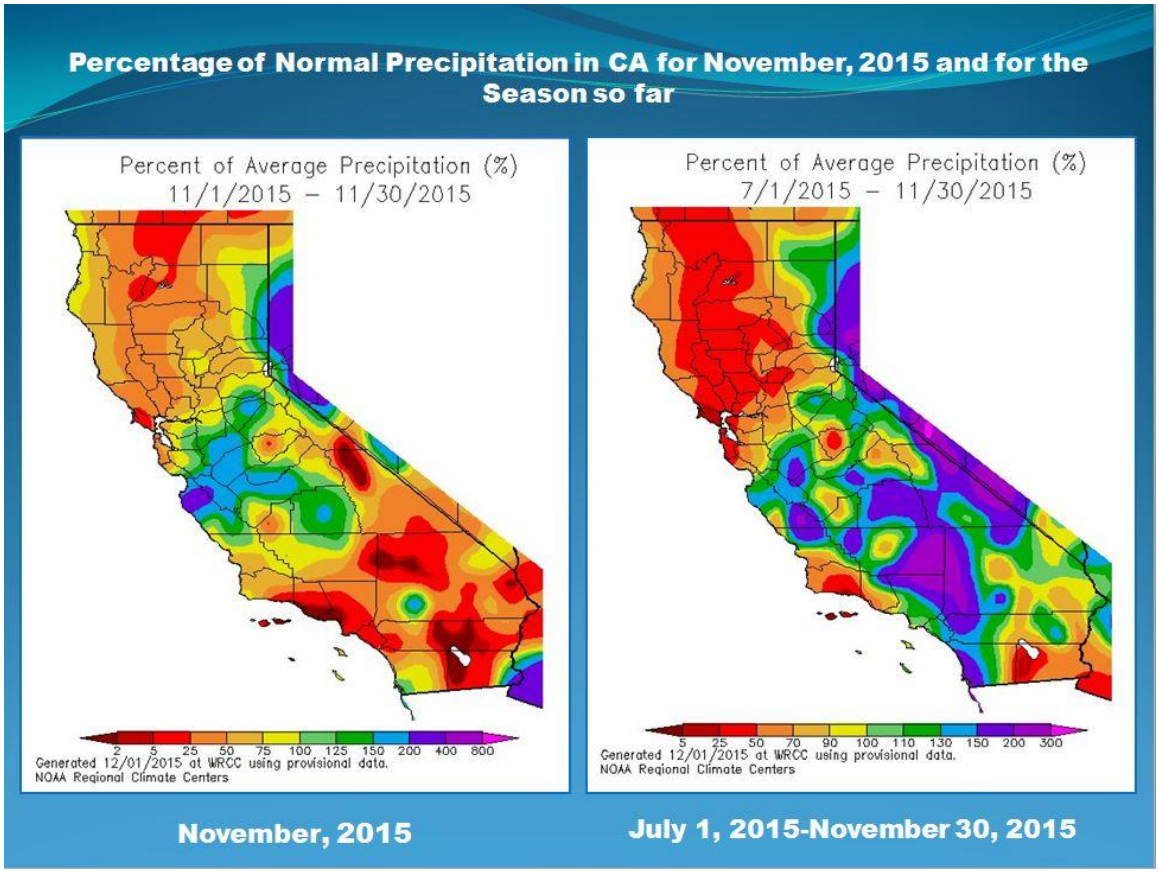
¦ X ¦ An **X** inside this box indicates that no flooding occurred for the month
+---+ within this hydrologic service area.

The first hydrologically significant storm of the season rolled into the Golden State on the 2nd. With its approach, gusty winds kicked up a considerable amount of dust in the southern San Joaquin Valley, reduced visibility to near zero in places and brought traffic to a standstill near the I-5-Highway 99 interchange. Up to 18 vehicles were involved in crashes between Bear Mountain Boulevard and Houghton Road on Highway 99 during the early afternoon hours of the 2nd as a result. The dust was quickly settled by a wetting rain later that afternoon as the storm moved inland. The cold front associated with this storm dragged its feet southward across the central California interior on the 2nd and was front end loaded with subtropical moisture. In the wake of this cold front, however, the storm dumped a foot or more of snow in the Sierra above 7,000 feet. Copious rain fell in the lower elevations with totals of 1 to 3 inches in the foothills. Rain amounts in the San Joaquin Valley ranged from just under a tenth of an inch at the south end to 1.5 inches in Merced County. Wet weather bypassed much of the Kern County desert which was rain-shadowed by gusty westerly winds. Exactly one week later, another storm, this one originating in the Gulf of Alaska, tracked through central California. The storm was preceded by a cold frontal passage during the evening and night hours of the 8th. By the time this storm exited into the Great Basin on the 10th, it left up to a foot and a half of new snow over the higher elevations of the Sierra with generous rainfall in the lower elevations. Unlike its predecessor, the storm's cold frontal precipitation fizzled on its way southward into Kern County during the morning of the 9th. Post frontal showers became rather numerous during the afternoon and evening of the 9th, especially over the mountains. In the San Joaquin Valley, isolated thunderstorms with small hail developed in the colder, unstable environment that afternoon. Rainfall from this storm system in the San Joaquin Valley ranged from just a few hundredths at the south end to around a half inch north of Fresno County. The west slopes of the Sierra, including the lower foothills, received a half inch to 1.25 inches of rain. The Kern County Desert received little or no measurable rain from this storm. However, much of the desert succumbed to a freeze, the first of the season, by the morning of the 12th. A colder and wetter storm system arrived during the 2nd weekend of November. Its precursor was a cold frontal passage during the morning of the 15th which was accompanied by precipitation, even in the Kern County desert. The front was followed by instability showers and isolated thunderstorms during the afternoon and evening hours of the 15th. The air was cold enough to lower snow levels to pass level in the Kern County mountains during the early morning hours of the 16th where a small, slushy accumulation of snow fell over the Grapevine. In the Sierra, a good 8 to 12 inches of snow accumulated above 5,000 feet. An Arctic air mass blasted into central California behind this storm and set the stage for the first frost of the season in the San Joaquin Valley on the morning of the 17th. Minimum temperatures that morning fell just below freezing in many valley locations. A recurrence of frost occurred on the following two mornings throughout much of the San Joaquin Valley with temperatures bottoming out just below 32 degrees in the coldest locations.

Temperatures rebounded to unseasonably warm levels by the weekend of the 21st as a strong upper level ridge of high pressure moved inland and produced a dry offshore flow across central and southern California. The warming trend peaked on the 23rd with some southern San Joaquin Valley locations topping the 80-degree mark. The high temperature of 82 degrees at Bakersfield's Meadows Field airport on the 23rd

established a new record high for the date and broke the previous record of 81 degrees last established in 1907. But it would be less than 24 hours before another Gulf of Alaska storm ushered in another unseasonably cold air mass. On the evening of the 24th, a cold front barreled southward across the HSA with relatively light precipitation. Snow levels fell rapidly behind it to between 2000 feet and 3000 feet. By midday, November 25th, snow amounts ranged from a dusting to a few inches at about 2000 feet with as much as 7 inches over the higher elevations of the Sierra. Rain in the lower elevations ranged from a few hundredths to a few tenths of an inch in the San Joaquin Valley and in the foothills below 2000 feet. The Kern County desert remained dry; however, blustery westerly winds gusted to around 50 mph right below the passes. Although the cold front whisked through the HSA, the associated upper level storm was a slow crawler and spent the remainder of the week nearly stalled over the Great Basin. Backwash clouds associated with this storm system kept minimum temperatures above 32 degrees throughout much of the San Joaquin Valley on the morning of the 28th. The following two mornings were considerably colder and ended up as the coldest ones of the month with minimum temperatures ranging from the mid to upper teens in the Kern County Desert to the mid to upper 20s in the San Joaquin Valley. In addition to frosty minimum temperatures, the entire Thanksgiving weekend brought cooler than normal afternoons. Dry and slightly cooler than normal weather finished out the month.

In summary, November, 2015 averaged slightly cooler than normal throughout the HSA. Precipitation for the month was varied and ended up below normal for the month across much of Kern County and Kings County in addition to the higher elevations of the Sierra from Fresno County northward. The remainder of the HSA averaged slightly wetter than normal. A comparison of percentage of normal precipitation in California for this month versus the season beginning July 1st is depicted in the maps below. One must keep in mind that even in the areas that have received above normal precipitation since July, there has been no change to the long term drought status over the central California interior which is classified as exceptional for much of the HSA. Additionally, water levels remained historically low at all of the major reservoirs with an average water capacity of only 11 percent of normal by month's end. The snowpack over the southern Sierra was more respectable this November compared to the past few Novembers and averaged about 78 percent of normal as of December 1st.



HYDROLOGIC PRODUCTS ISSUED THIS MONTH

Urban/Small Stream Flood Advisory…Kern County mountains	0513Z	3-NOV
Flash Flood Warning…Rough Wildfire Burn Scar	0651Z	3-NOV
Urban/Small Stream Flood Advisory…Sierra foothills (Madera/Fresno County)	0031Z	4-NOV

cc:

W/OH12x1
W/WR2
CNRFC
WFO HNX
WFO STO