



PETROLEUM WATCH

California Energy Commission

August 2018

Recent Petroleum News

Prices

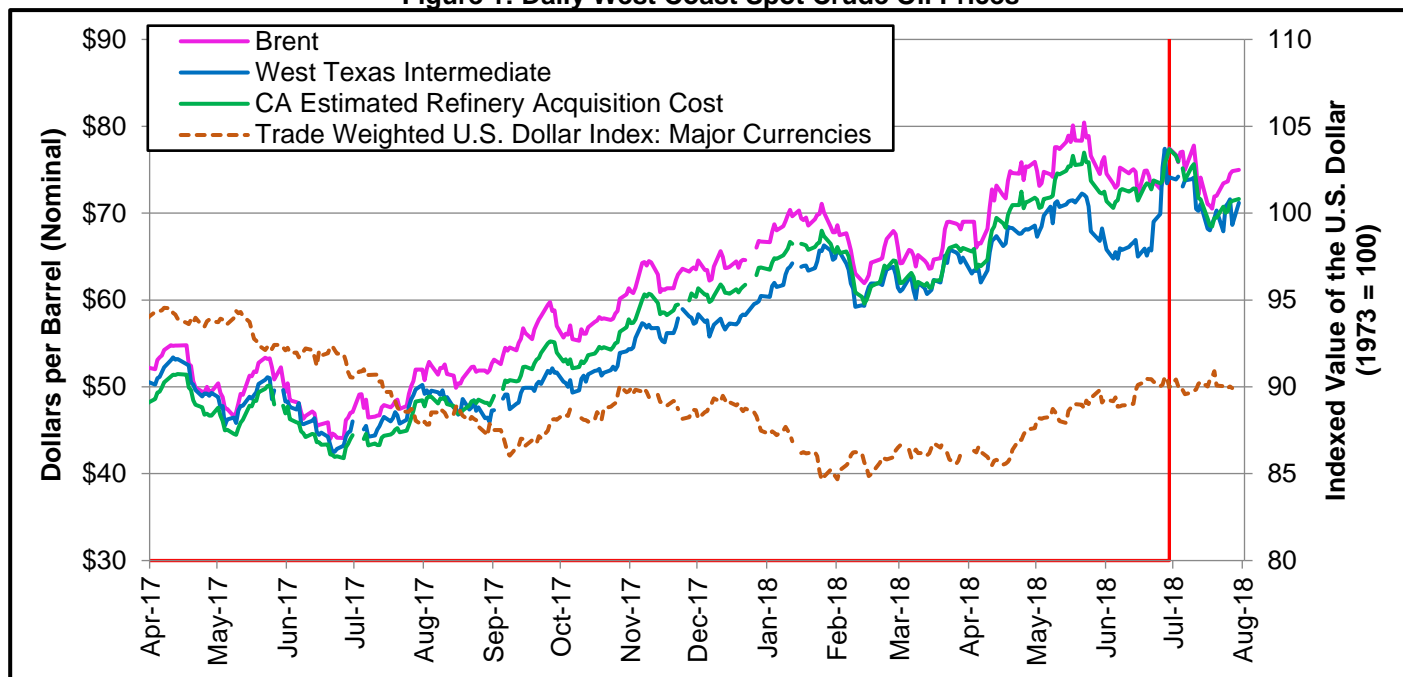
- **Crude Oil Prices:** Brent and West Texas Intermediate (WTI) crude prices closed at \$74.99 and \$71.19, respectively, on July 30 (**page 2**).
- **California Retail Gasoline Prices:** On July 30, prices reached \$3.51, a decrease of \$0.05 since the end of June. Through July, California prices averaged \$0.68 higher than the national average (**page 4**).
- **California Retail Diesel Prices:** On July 30, prices reached \$3.95, a decrease of \$0.01 from the end of June. Through July, California prices averaged \$0.73 higher than the national average (**page 5**).

Refining News

- **PBF Torrance Refining LLC:** On July 7, the refinery shut down a hydrocracker and hydrogen unit for unplanned maintenance. The refinery restarted the units on July 13.
- **Andeavor Golden Eagle:** On July 19, the refinery shut down a hydrotreater. The hydrotreater was restarted on July 29.
- **Chevron El Segundo:** On July 24, the refinery shut down of a continuous catalytic reformer for unplanned maintenance. This work was completed on July 29.
- **Chevron Richmond:** On July 26, the refinery underwent unplanned maintenance on a catalytic cracking unit (FCCU). This work was completed on July 28.

Crude Oil Prices

Figure 1: Daily West Coast Spot Crude Oil Prices



Source: U.S. Energy Information Administration (EIA), Oil Price Information Service (OPIS), and Federal Reserve Bank of St. Louis.
 Note: Red lines on all graphs indicate end of previous *Petroleum Watch* data. Areas to the right indicate new data since last month.

July crude oil spot prices settled lower than those in June. This was despite swings in prices caused by uncertainty in the supply-demand balance for the remainder of 2018 (Figure 1).¹ Brent crude oil reached a monthly high of \$77.09 on July 5. It then decreased to a monthly low of \$70.52 on July 18 before increasing to \$74.99 on July 30. The West Texas Intermediate (WTI) price peaked at monthly high of \$74.19 on July 3. The price then declined to \$68.03 on July 17 before rising to \$71.19 on July 30. The California Estimated Refiner Acquisition Cost (CA-RAC) index drove higher due to an elevated Alaskan crude price from the outset.² The CA-RAC price began at a monthly high of \$76.60 on July 2. The price fell to a monthly low of \$68.57 on July 17, rising to \$71.64 on July 30.

The WTI and Brent difference remains narrow after the crude oil inventory squeeze in the United States of late June 2018 (page 3). The Brent-minus-WTI differential averaged \$3.09 throughout July, narrower than the recent trend. From October 2017 through May 2018, the Brent-minus-WTI difference averaged \$5.35. Early reports led markets to believe that United States demand was weak compared to the rest of the world. New data show that demand in the United States is growing. News of shrinking supplies is keeping Brent low while boosting WTI prices, narrowing the difference between the two grades.

Crude Oil Prices	
July 2018 vs 2017 (Percent Change)	
Brent	53% higher
WTI	52% higher
CA-RAC	59% higher
July 2018 Averages	
Brent	\$74.26
WTI	\$71.04
CA-RAC	\$71.50
July 30, 2018	
Brent	\$74.99
WTI	\$71.19
CA-RAC	\$70.95

1 "U.S. oil boom delivers surprise for traders - and it's costly," Reuters, accessed August 2: <https://www.reuters.com/article/us-oil-traders-wti-brent/u-s-oil-boom-delivers-surprise-for-traders-and-its-costly-idUSKBN1K507S>.

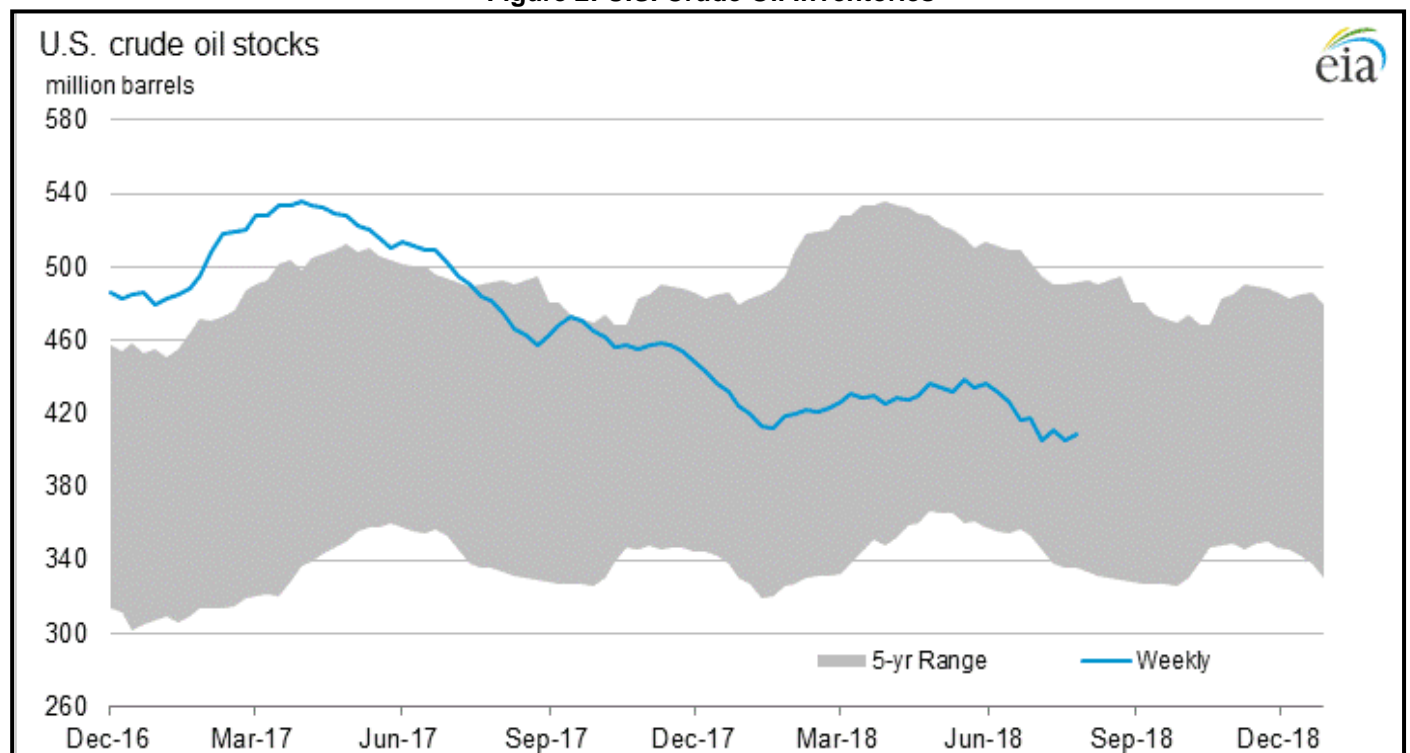
2 CA-RAC is a weighted average of the prices of California (San Joaquin Valley) crude, Alaskan crude, and foreign crude.

Crude Oil Production and Storage

Monthly crude oil production increased. Crude imports, refinery input levels, and crude inventories have also increased since the March issue of *Petroleum Watch* (Figure 2).

- U.S. crude oil production for July averaged 10.95 million barrels per day (bpd). This is 50,000 bpd higher than June's average of 10.9 million bpd. This is a 1.53 million bpd increase from a year ago, when production was 9.41 million bpd.
- Crude oil imports decreased from June by 434,000 bpd to 8.00 million bpd in July. Compared to import levels from July 2017, this is an increase of 280,000 bpd.
- U.S. crude oil refinery inputs decreased by 173,000 bpd since June, finishing July at a four-week average of 17.5 million bpd. Refinery inputs are 150,000 bpd higher than a year ago.
- Crude oil inventories in the United States decreased by 7.9 million barrels during July to 408.7 million barrels. Current inventories are 73.2 million barrels lower than one year ago.

Figure 2: U.S. Crude Oil Inventories



Source: U.S. Energy Information Administration

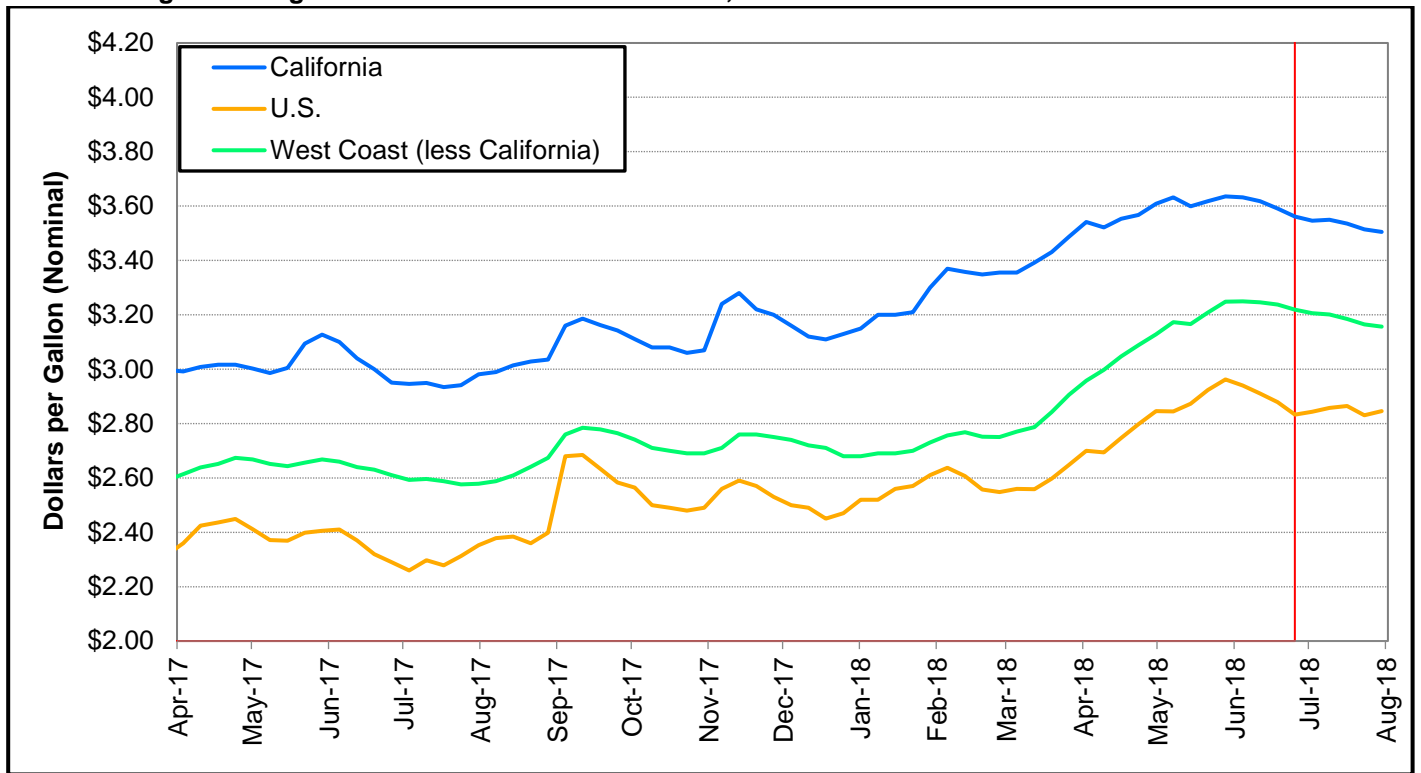
National demand for petroleum continues to increase this summer. Crude oil inventories are shrinking, while crude oil production expands, indicating strong demand. Despite a decrease in July's crude oil imports and refinery inputs, crude oil production, imports, and refinery inputs have outpaced 2017 rates.

According to the Organization of Petroleum Exporting Countries' (OPEC) July *Monthly Oil Market Report*, total June OPEC production increased by 173,400 bpd to 32.3 million bpd. OPEC's crude oil demand growth forecast for the rest of 2018 is at 1.65 million bpd, with total oil demand at 98.85 million bpd.³

3 OPEC July Monthly Oil Monthly Report, page iii, page 61: http://www.opec.org/opec_web/en/publications/338.htm.

Gasoline and Diesel Retail Prices

Figure 3: Regular Grade Gasoline Retail Prices, California vs. West Coast vs. United States



Source: U.S. Energy Information Administration

California and West Coast retail gasoline prices continued to fall in July, staying with the downward trend that started in June (Figure 3). While prices in the West fell, the national average remained roughly flat, with a small midmonth increase of \$0.04 that was lost the following week. This loss led to the California to U.S. retail gasoline price margin shrinking to \$0.66 in the final week of July. This was a drop of \$0.18 from the 2018 high of \$0.84 in the last week of March. The California-to-West Coast (minus California) retail gasoline price margin has remained flat at \$0.35 for seven weeks. This margin is \$0.27 less than the 2018 high during the week of March 12. As of the last week in July, the nation's summer retail gasoline price peaked during the last week of May. All displayed regional prices fell a least \$0.09 from that peak.

Summer gasoline price increases are fairly typical. The 2018 increases were more pronounced than 2017, due mainly to rising crude oil prices that had remained flat in 2017. August signals the beginning of a new school year for much of the nation. Reduced gasoline demand is expected to put downward pressure on retail prices, as long distance summer vacations are replaced with shorter school commutes.

Gasoline Prices

July 2018 vs 2017 (Percent Change)

California	20% higher
U.S.	24% higher
West Coast	23% higher

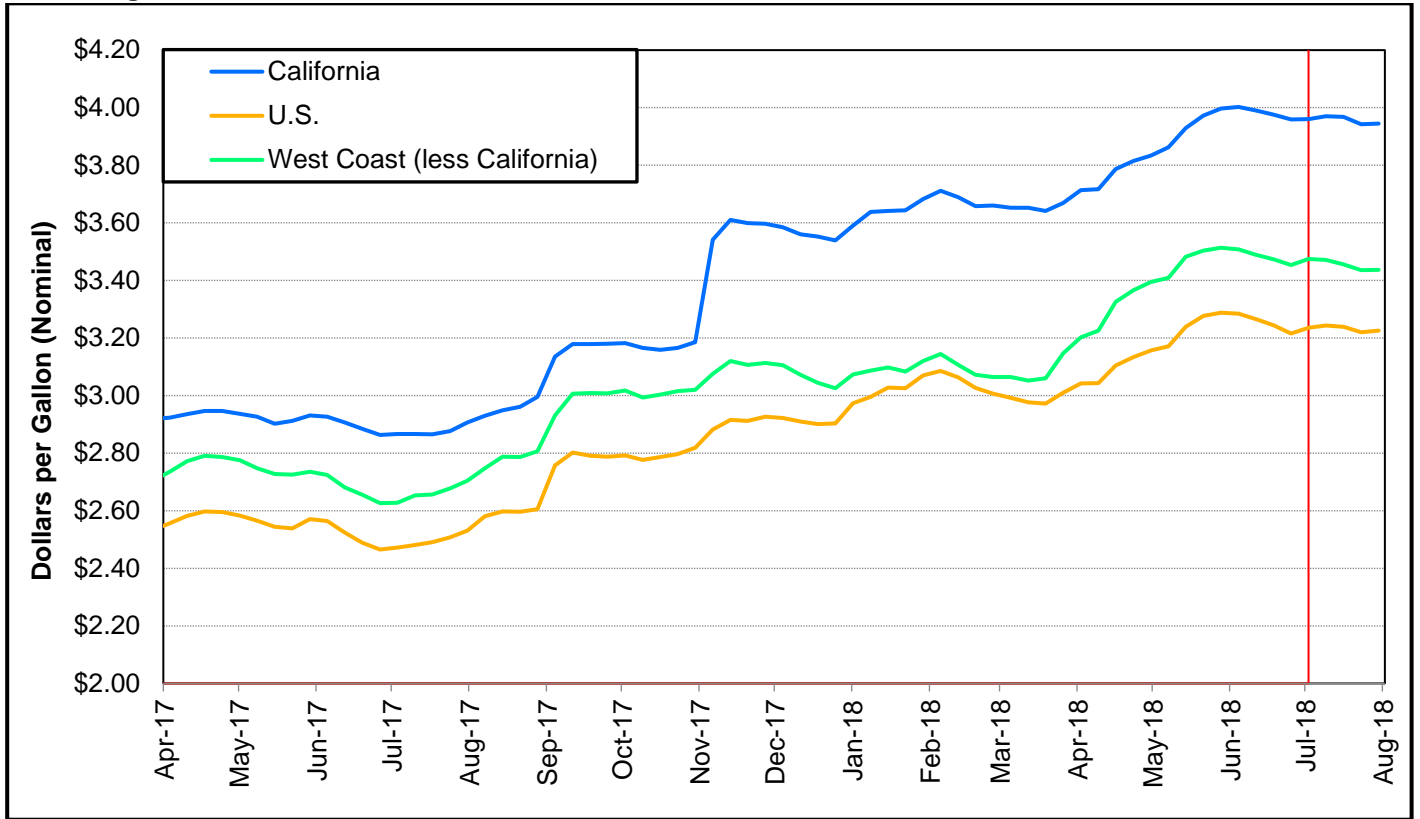
July 2018 Averages

California	\$3.53
U.S.	\$2.85
West Coast	\$3.18

Week of July 30, 2018

California	\$3.51
U.S.	\$2.85
West Coast	\$3.16

Figure 4: No. 2 Diesel Ultra-Low-Sulfur Retail Prices, California vs. West Coast vs. United States



Source: U.S. Energy Information Administration

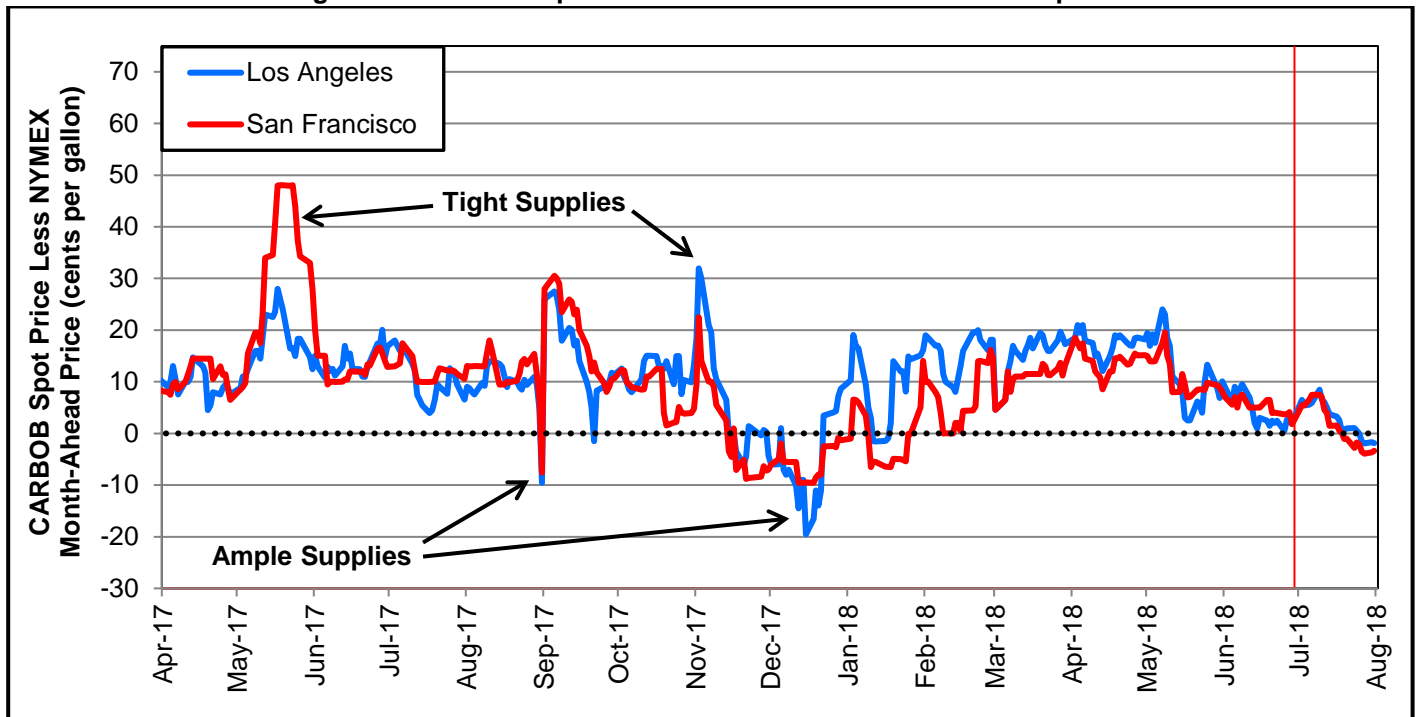
Retail diesel prices peaked at \$4.00 per gallon in California in the first week of June. The price decreased \$0.05 by the last week of July (Figure 4). The California-to-U.S. retail diesel price difference stands at \$0.72 as of July 30. This difference is a slight decrease from the 2018 high of \$0.74 during the last week of June. Since the November 2017 diesel road tax increase, the California-to-U.S. retail diesel price difference has ranged from \$0.61 to \$0.74, with end-of-July amount representing a \$0.08 increase from the first week in November 2017 amount of \$0.66. Before the tax increase, the California-to-U.S. retail diesel price difference had averaged \$0.37 from January 2017 to October 2017.

Retail diesel prices are at the highest in California since September 2014. A combination of steadily increasing crude oil prices (Figure 1) since the start of 2017 and a strong U.S. economy, posting a 4 percent unemployment rate nationally for June (4.2 percent for California), has kept diesel prices higher in 2018. In July, California retail diesel prices fell slower than retail gasoline prices. This led to an increase in the California retail diesel-to-gasoline difference of \$0.44 by the end of July. This is a \$0.32 increase since the 2018 low of \$0.12 that occurred in the first week of March. This increase is only \$0.01 below the 2018 high of \$0.45.

<u>Diesel Prices</u>	
<u>July 2018 vs 2017</u>	
<u>(Percent Change)</u>	
California	38% higher
U.S.	29% higher
West Coast	30% higher
July 2018 Averages	
California	\$3.96
U.S.	\$3.23
West Coast	\$3.46
Week of July 30, 2018	
California	\$3.95
U.S.	\$3.23
West Coast	\$3.44

Gasoline and Diesel Spot Markets

Figure 5: California Spot Gasoline to NYMEX Futures Price Spread



Source: U.S. Energy Information Administration and OPIS

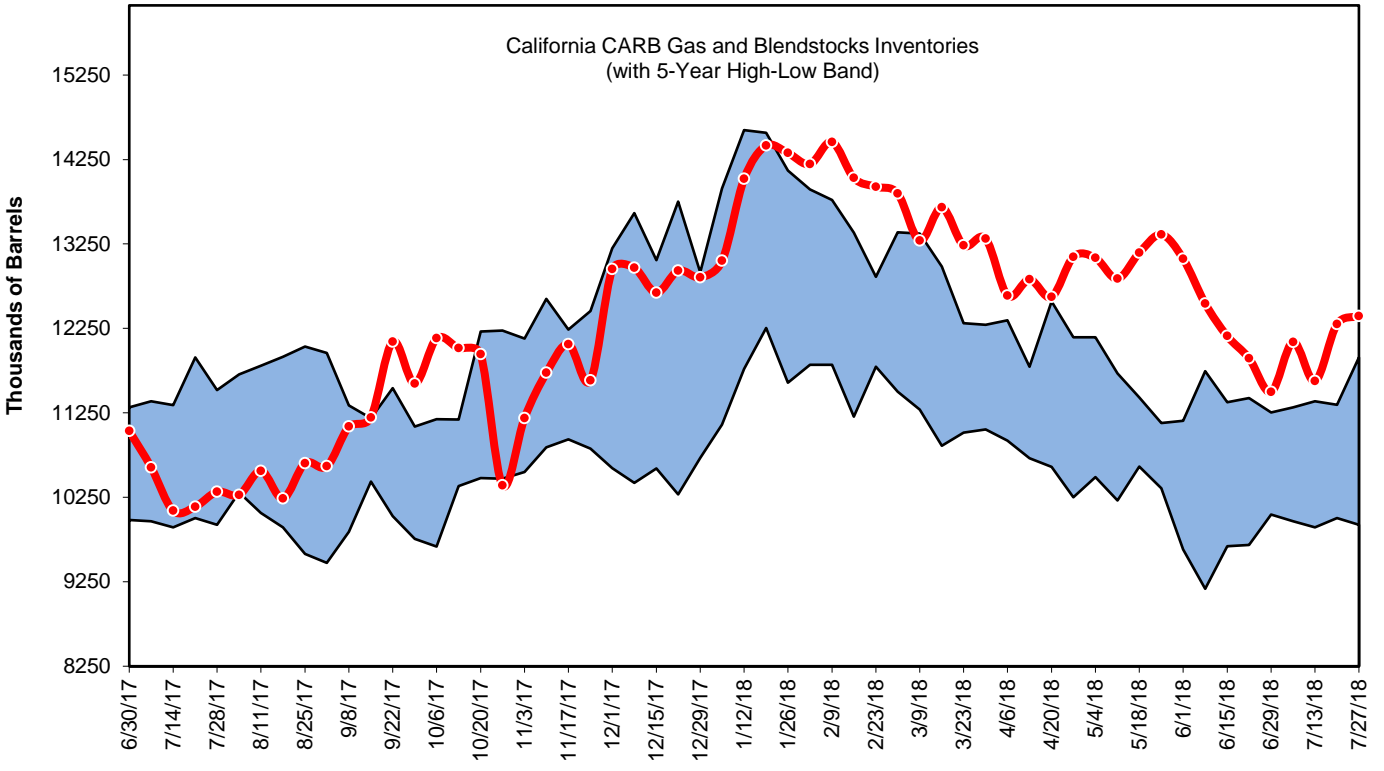
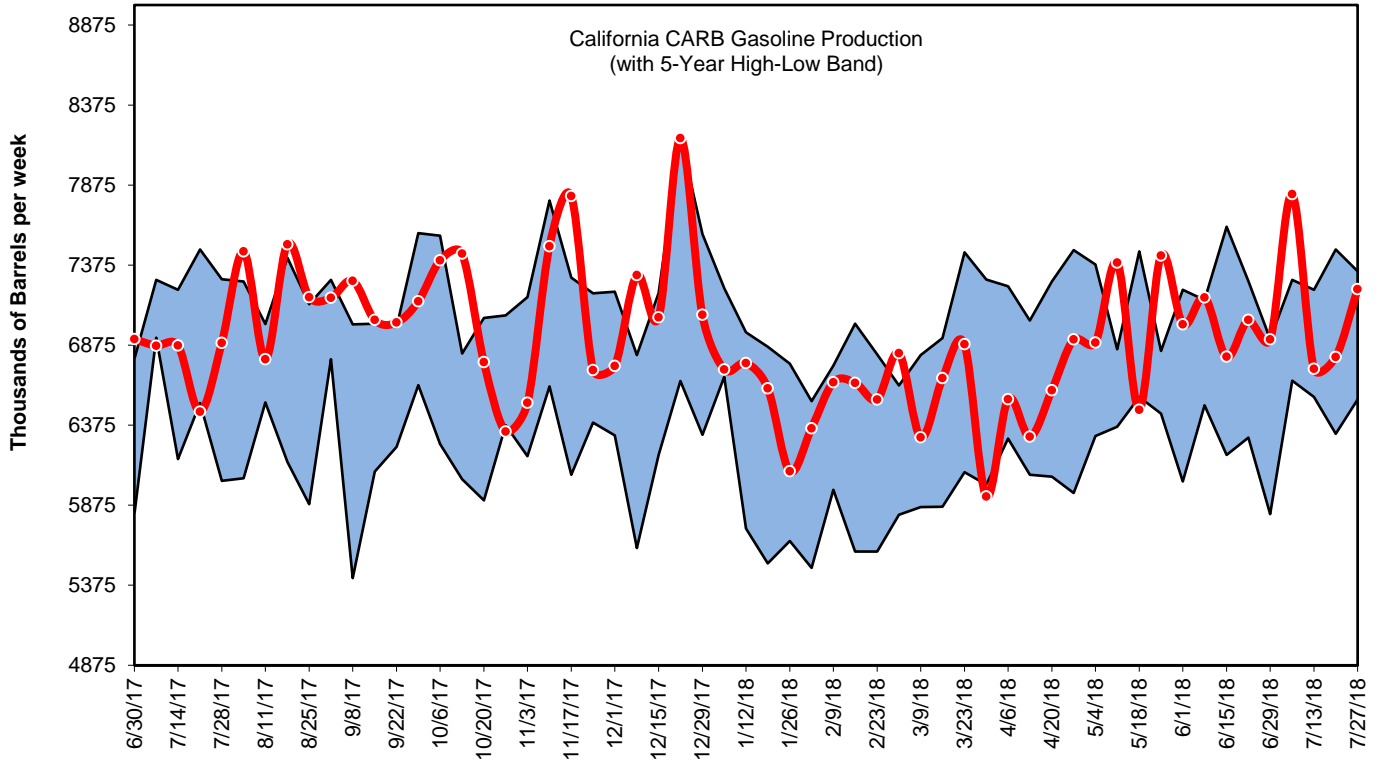
The Los Angeles (LA) and San Francisco (SF) gasoline spot market differentials to the New York Mercantile Exchange (NYMEX) peaked in early July and then declined into negative territory (Figure 5). The LA and SF differentials started at \$0.06 and \$0.05 on July 2, respectively, and increased to a monthly peak on July 9 of \$0.08 and \$0.07. The LA and SF differentials then declined, with the SF differential dropping faster than LA. On July 11, the SF differential fell below LA differential and remained that way for the rest of July, with LA at \$0.06 and SF at \$0.05. The LA and SF differential continued to decline, ending the month at -\$0.02 and -\$0.03.

California’s large gasoline inventory and strong production continues to put downward pressure on both differentials. Gasoline production was above or firmly in the five-year band during July. Gasoline inventory is in the 28th week above the five-year band (Figure 6). This leaves California well supplied with gasoline. With California’s large supply of gasoline, the LA and SF differentials are \$0.07 and \$0.11 lower than 2017. This is a 73 percent and 89 percent drop, respectively.

Looking forward, the August LA and SF differentials have shown little volatility. Being the last month of summer, demand begins to curtail but remains strong. Barring a major event, production should remain consistent. If refineries continue to hold large inventories of gasoline, the LA and SF differentials should continue to remain low.

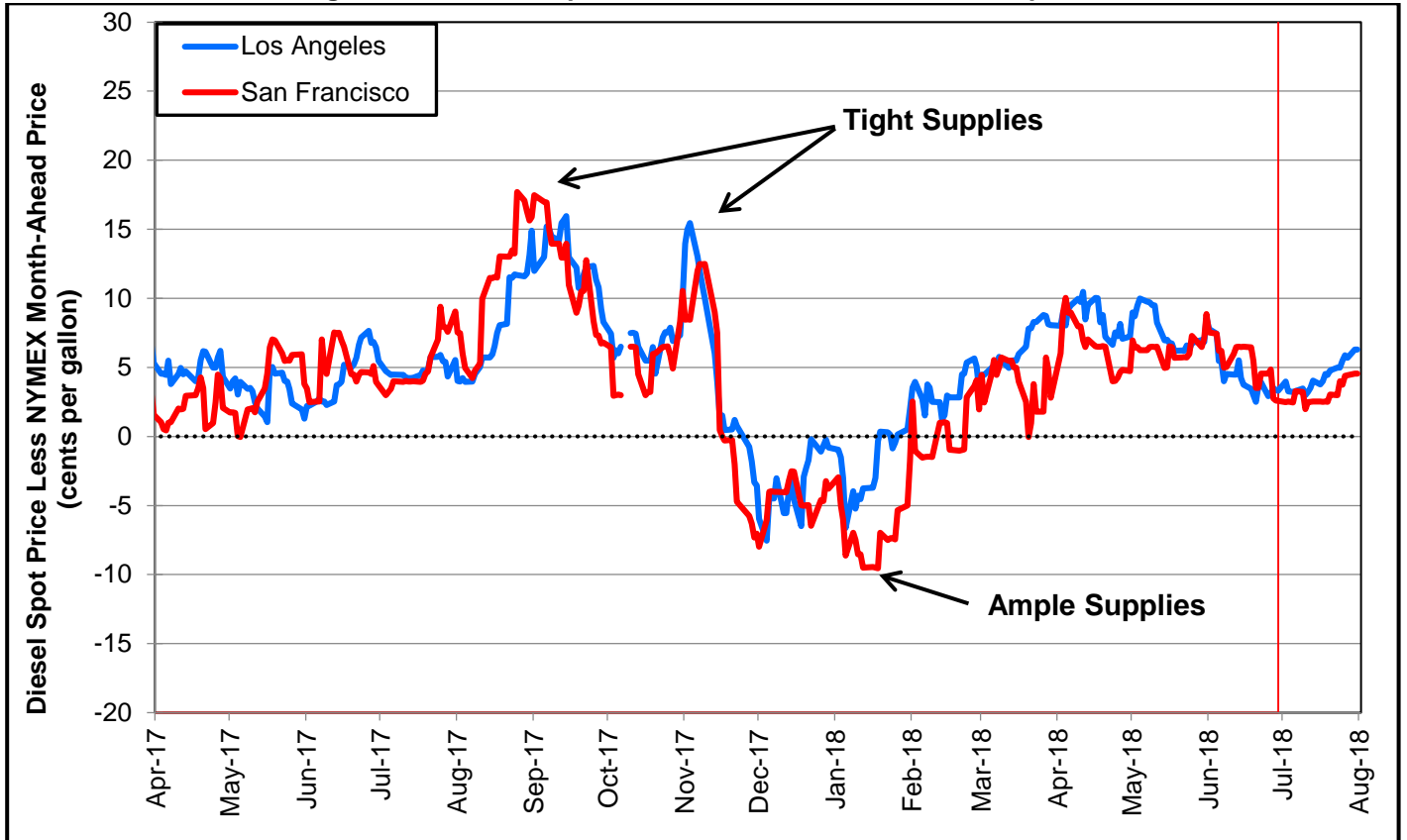
Gasoline Spot-Futures Spread	
July 2018 vs 2017	
Los Angeles	7¢ lower
San Francisco	11¢ lower
July 2018 Averages	
Los Angeles	3¢
San Francisco	1¢
July 31, 2018	
Los Angeles	-2¢ lower
San Francisco	-3¢ lower

Figure 6: Gasoline Production and Inventories



Source: California Energy Commission PIIRA data

Figure 7: California Spot Diesel to NYMEX Futures Price Spread



Source: U.S. Energy Information Administration and OPIS

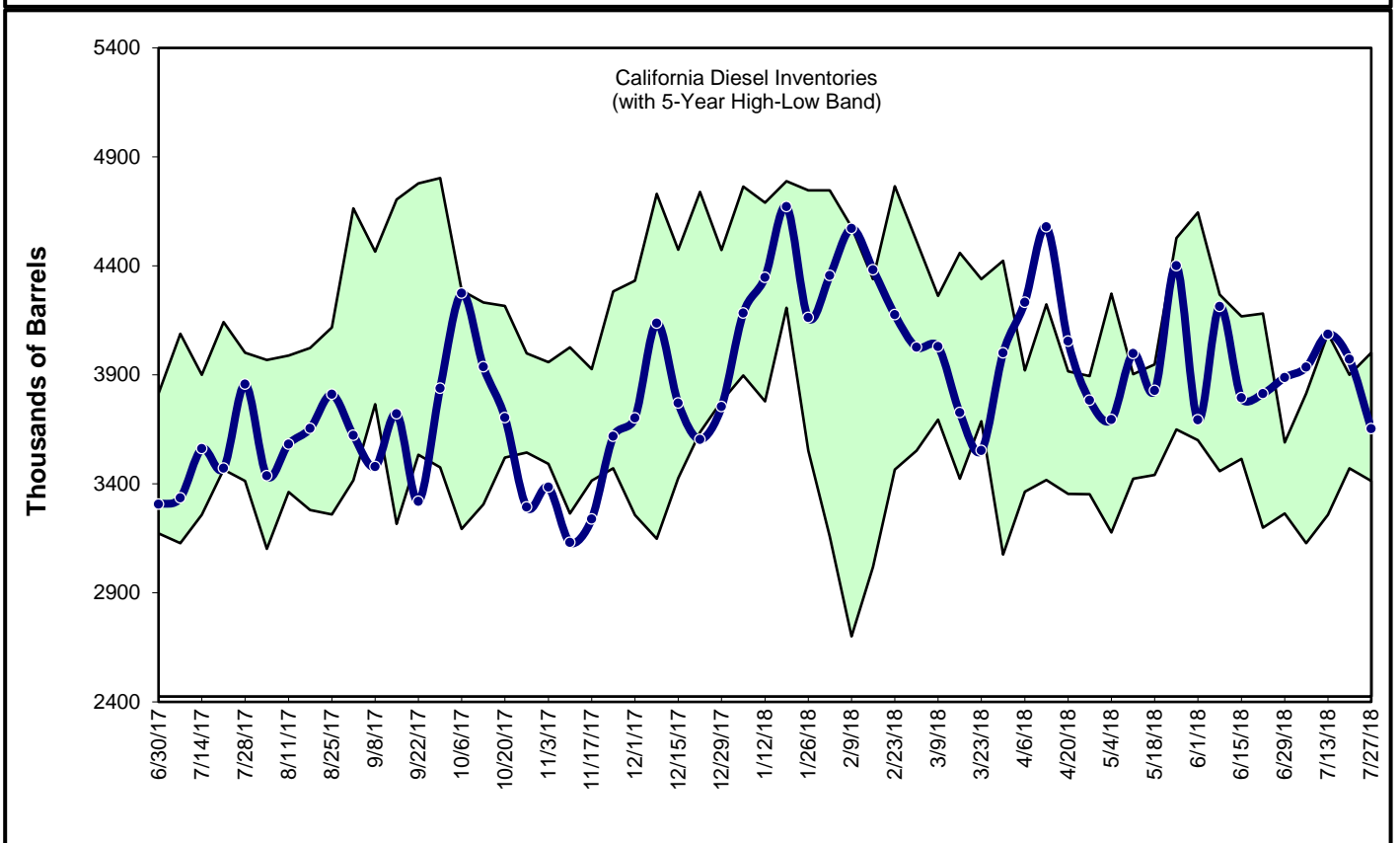
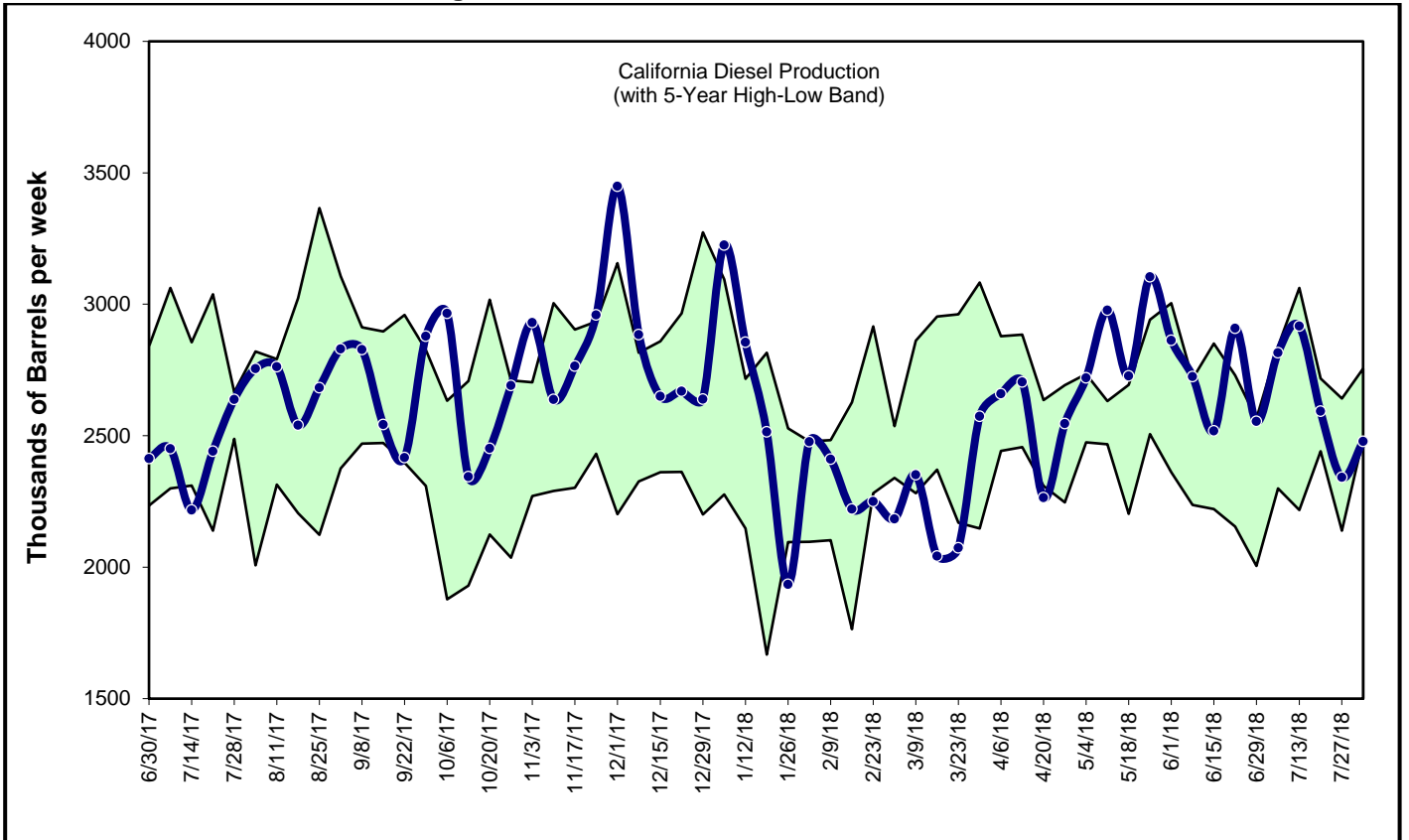
The SF diesel differential spot price increased from \$0.02 on July 2 to \$0.05 on July 31 and averaged \$0.03 for the month (sidebar). During the same period, the LA spot price had similar movement and increased from \$0.04 to \$0.06. The LA month-to-month spot price remained steady at \$0.04, same as June, and has averaged \$0.02 higher than the SF price all year (Figure 7). The price comparison between July 2018 and 2017 was \$0.02 lower for SF and was even for LA (sidebar).

Since 2014, the monthly average spot diesel price increases through the second and third quarters and falls in the fourth quarter. Last year, both prices increased from \$0.04 on July 3 to \$0.15 on August 28 and averaged \$0.09 for the third quarter (Figure 8). Both spot prices are on an upward trend, increasing from \$0.03 on July 2 to \$0.05 on July 31. If prices follow the historical trends, they are likely to increase over the remainder of the third quarter.

From June 29 to July 20, California diesel production reached the top of the high-low band and increased to a high of 2.9 million barrels on July 13 (Figure 8). Over the last two weeks of July, production decreased by 600,000 barrels, ending the month at 2.3 million barrels. California diesel supply was 9 percent higher through July compared to the same time last year, averaging 3.9 million barrels, just 1 percent less than the July high band.

<u>Diesel Spot-Futures Spread</u>	
<u>July 2018 vs 2017</u>	
Los Angeles	Even
San Francisco	2¢ lower
<u>July 2018 Averages</u>	
Los Angeles	4¢
San Francisco	3¢
<u>July 31, 2018</u>	
Los Angeles	6¢
San Francisco	5¢

Figure 8: Diesel Production and Inventories



Source: California Energy Commission PIIRA data