



PETROLEUM WATCH

California Energy Commission

September 2018

Recent Petroleum News

Prices

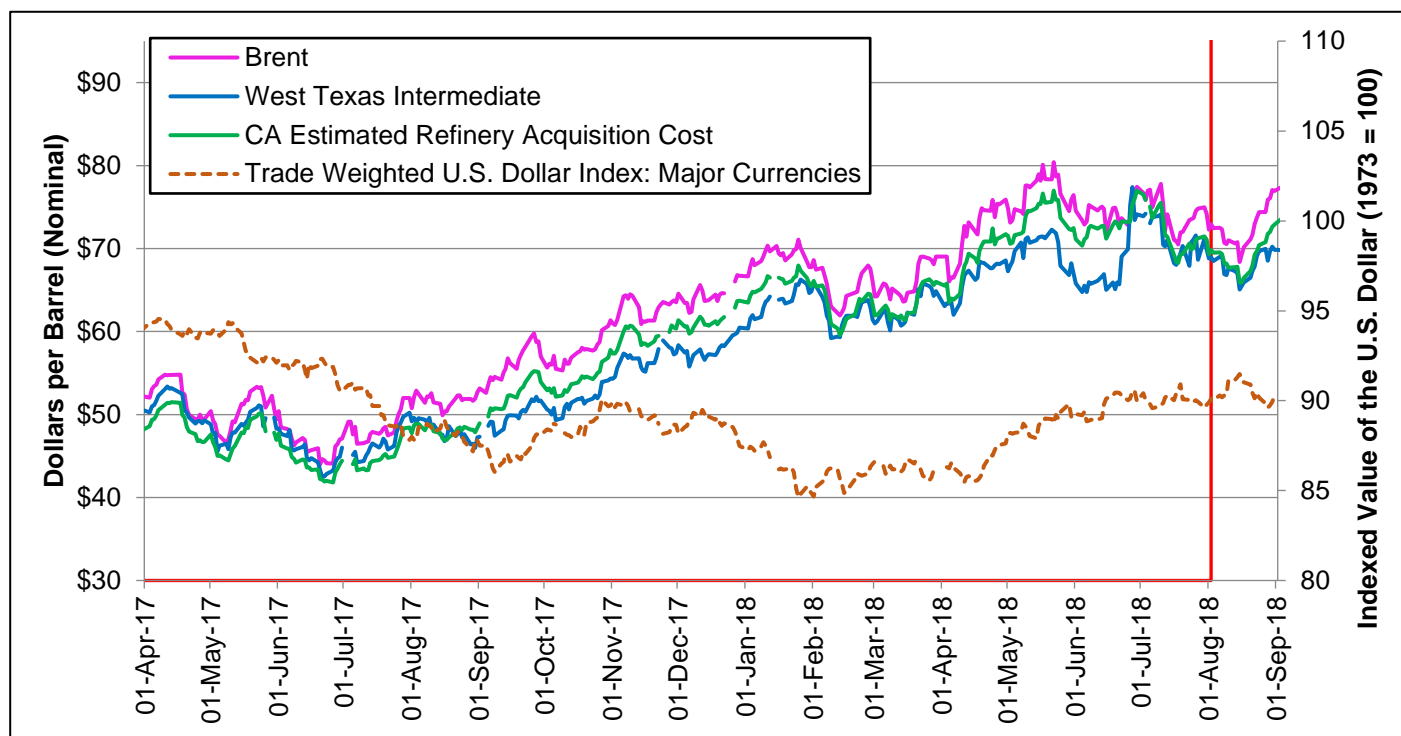
- **Crude Oil Prices:** Brent and West Texas Intermediate (WTI) crude prices closed at \$76.94 and \$69.84, respectively, on August 31 (**page 2**).
- **California Retail Gasoline Prices:** On September 3, prices reached \$3.50, a decrease of \$0.01 since the end of July. Through August, California prices averaged \$0.66 higher than the national average (**page 4**).
- **California Retail Diesel Prices:** On September 3, prices reached \$3.95. There was no change from the end of July. Through August, California prices averaged \$0.72 higher than the national average (**page 5**).

Refining News

- **Andeavor Carson:** On August 14, the refinery reduced production on a fluid catalytic cracking unit. The unit returned to full production August 25.

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.

Crude oil spot prices averaged lower in August than July, despite large price increases in late August (**Figure 1**). On August 1, Brent, WTI, and California Estimated Refinery Acquisition Cost (CA-RAC) closed on August 1 at \$72.28, \$68.80, \$69.31, respectively.¹ Crude oil spot prices hit monthly lows on August 15 and 16 to additional news of healthy supplies. Brent and WTI bottomed on August 15 at \$68.38 and \$65.07, respectively. CA-RAC prices followed on August 16, closing at \$65.90. While the rebound was immediate, crude prices would fail to increase above their August 1 levels until August 22. Brent prices increased past \$72 on August 22, and WTI and CA-RAC broke above \$69 on August 23. Prices continued to increase as each grade reached monthly highs. Brent and WTI peaked at \$77.05 and \$70.25, respectively, on August 30 while CA-RAC closed at \$72.91 on August 31.

The difference between WTI and Brent, which fluctuated throughout the summer of 2018, widened beginning August 16. The Brent-minus-WTI differential averaged \$3.14 during July 2018. The average spread from August 1 to August 15 was \$3.59 while the average from August 16 to August 31 was \$5.29. Most of the change is due to rising Brent crude prices as Brent saw a monthly price range of \$8.67 compared to \$4.55 for WTI.

This suggests that United States demand for crude oil is flattening while worldwide demand increases.

Crude Oil Prices	
August 2018 vs 2017 (Percent Change)	
Brent	40% higher
WTI	42% higher
CA-RAC	44% higher
August 2018 Averages	
Brent	\$72.53
WTI	\$68.06
CA-RAC	\$69.14
August 31, 2018	
Brent	\$76.94
WTI	\$69.84
CA-RAC	\$72.91

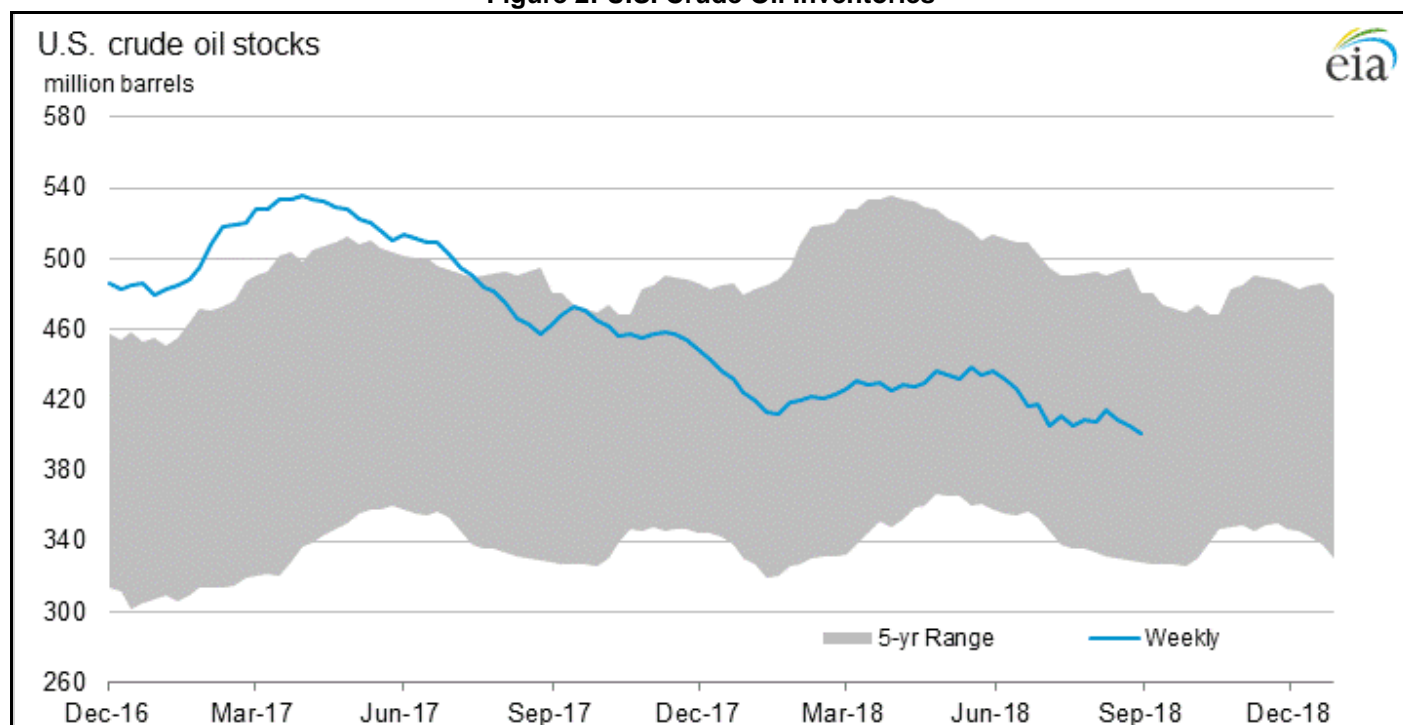
¹ CA-RAC is a weighted average of the prices of California (San Joaquin Valley) crude, Alaskan crude, and foreign crude.

Crude Oil Production and Storage

August U.S. crude oil production and inventories remained steady in comparison to July. Refinery input levels increased, while imports decreased from the previous month (**Figure 2**).

- U.S. crude oil production for August averaged 10.94 million barrels per day (bpd). This is 10,000 bpd lower than July's average of 10.95 million bpd. This is a 1.44 million bpd increase from a year ago, when production was 9.5 million bpd.
- Crude oil imports decreased from July by 71,600 bpd to 7.9 million bpd in August. Compared to import levels from August 2017 this is a decrease of 213,000 bpd.
- U.S. crude oil refinery inputs increased by 322,000 bpd since July, finishing August at a four-week average of 17.7 million bpd. Refinery inputs are 155,000 bpd higher than a year ago.
- Average U.S. crude oil inventory levels from August slightly decreased from July to 407.4 million barrels from 407.5 million barrels. Current inventories are 58 million barrels lower than one year ago.

Figure 2: U.S. Crude Oil Inventories



Source: U.S. Energy Information Administration

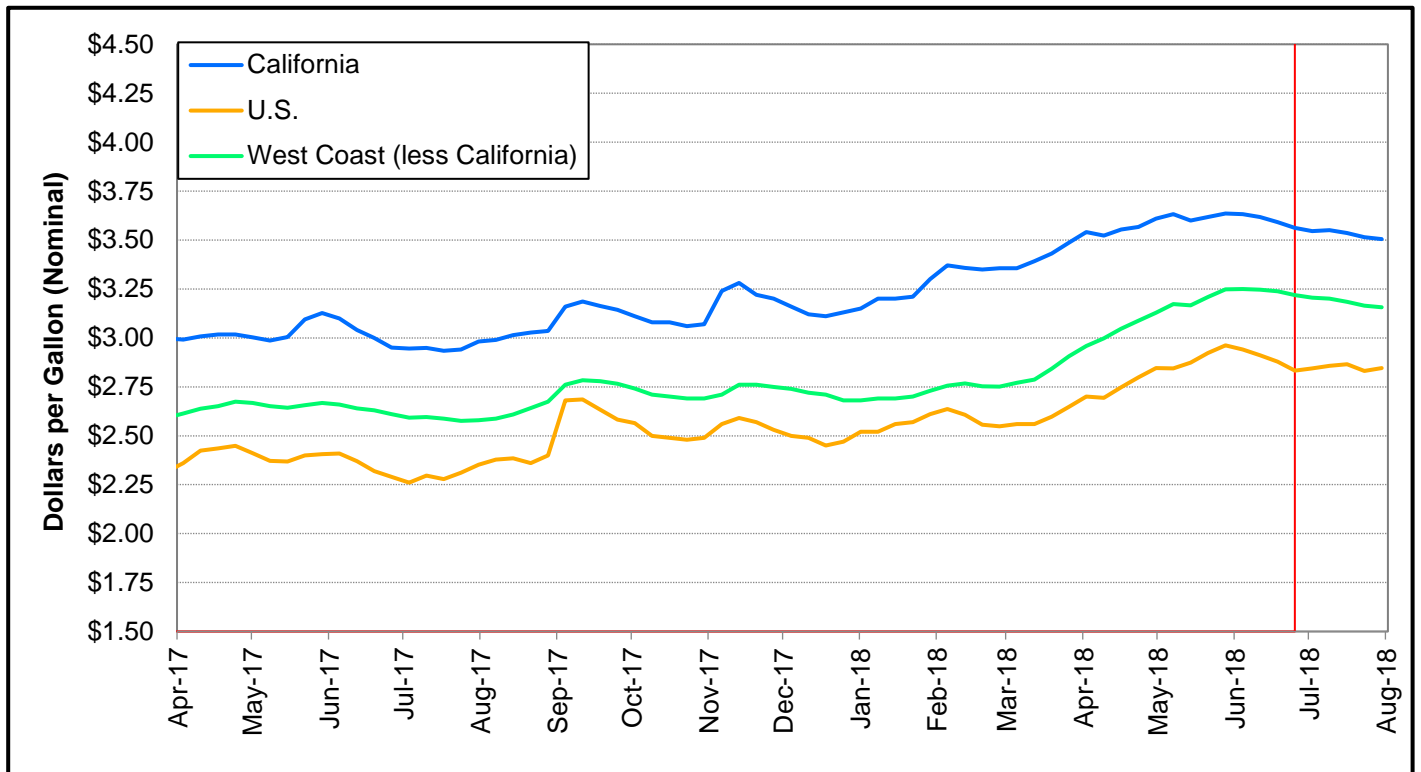
According to the Organization of Petroleum Exporting Countries' (OPEC) August *Monthly Oil Market Report*, total July OPEC production increased by 40,000 bpd to 32.32 million bpd.² OPEC's crude oil demand growth forecast for the rest of 2018 has been revised down to 1.64 million bpd, with total oil demand at 98.83 million bpd.

Both the EIA and OPEC forecast increased petroleum use for the rest of 2018. While OPEC is estimating that world petroleum consumption will reach 100.3 million bpd in the fourth quarter of 2018, EIA is estimating that consumption will reach 102.5 million bpd in the fourth quarter of 2018.

² OPEC August Monthly Oil Monthly Report, page iii, page 57: 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

Average gasoline retail prices across the United States were lower in August than in July, keeping pace with a steady decline since June (Figure 3). The monthly average gasoline retail prices for California, the West Coast (less CA), and the United States saw decreases starting at \$0.04, \$0.05, and \$0.02, respectively (sidebar). This time last year prices were going up. However, they were collectively lower than 2018 prices by nearly \$0.50.

For the past four months, California’s year-over-year percentage change has been less than that of the West Coast and the United States. The 2018 against 2017 percent changes remain high due to the price of crude oil, which has trended upward since 2017 (page 2). The price difference of California-less-United States for August 2018 is \$0.65, up \$0.04 from 2017. However, the price difference of California-less-West Coast is down from last year at \$0.36 for August 2018 down \$0.03 from August 2017.

Gasoline retail prices continue to decline as California inventories remain healthy (page 6). August’s inventories are at the highest levels in five years and there have been no major refinery disruptions, leading to an uneventful August for retail prices. Historically, gasoline retail prices turn downward as autumn approaches and the high demand from the summer months fades away.

Gasoline Prices

August 2018 vs 2017 (Percent Change)

California	16% higher
U.S.	19% higher
West Coast	19% higher

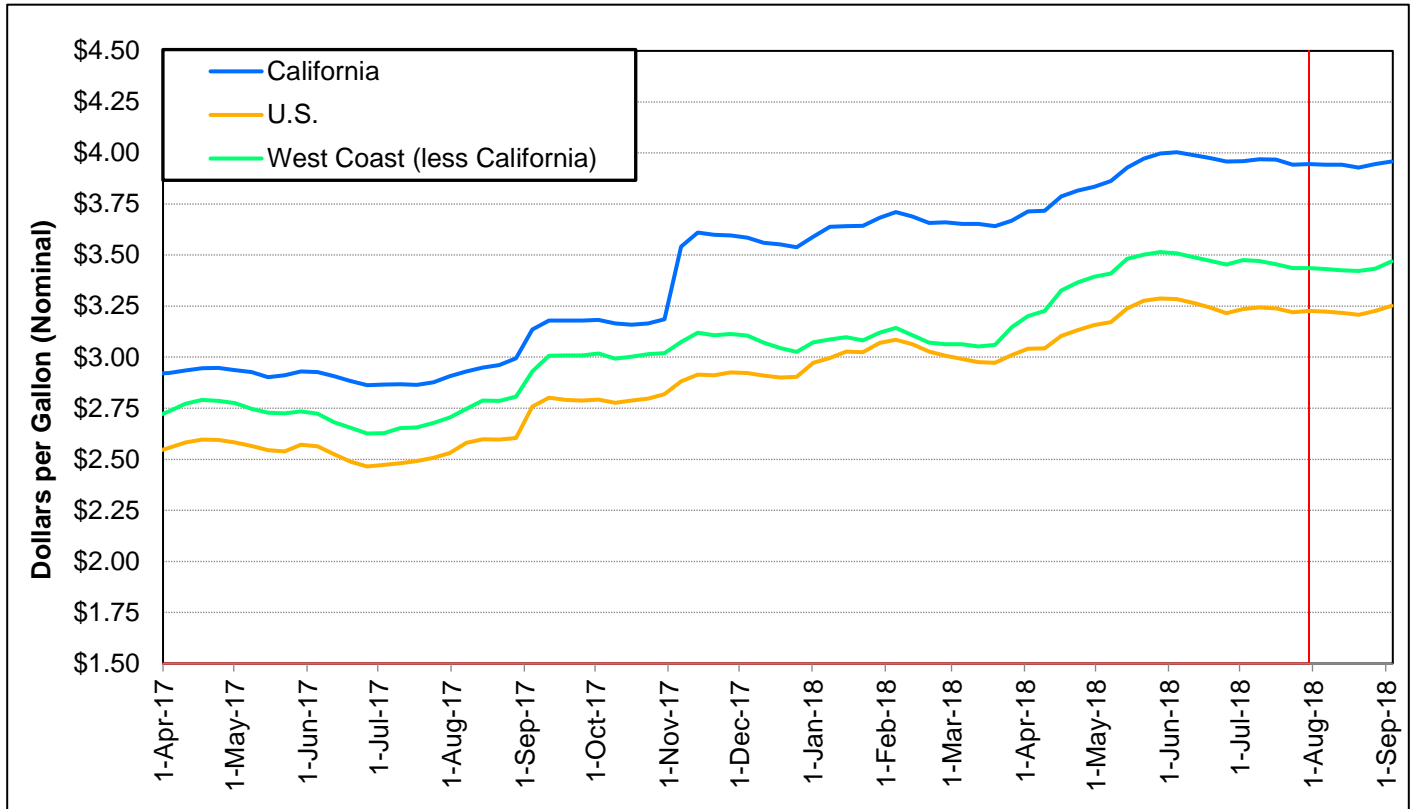
August 2018 Averages

California	\$3.49
U.S.	\$2.83
West Coast	\$3.13

Week of September 3, 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



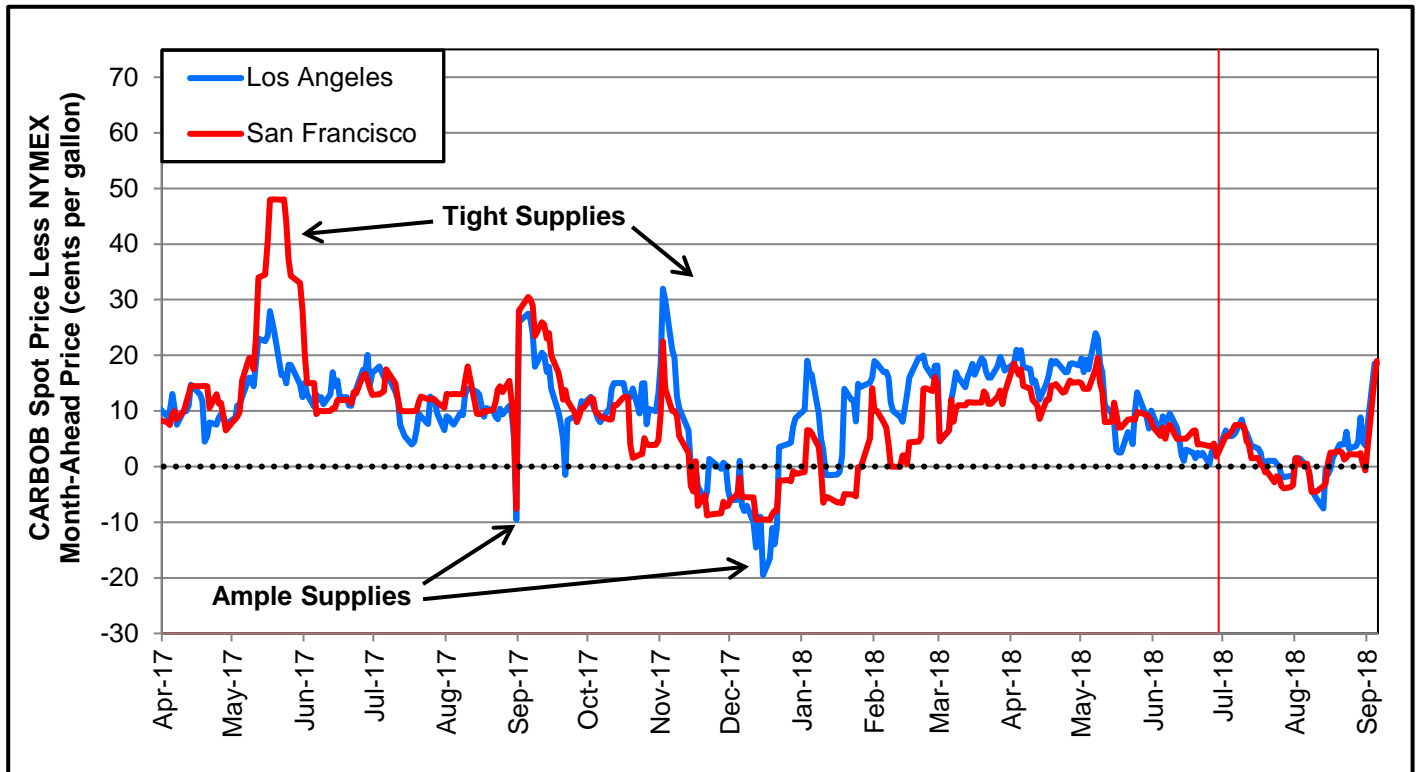
Source: U.S. Energy Information Administration

Retail diesel prices throughout the United States have had a flat August (Figure 4), with the West Coast (not including California) price being one cent less than the prior month, before increasing in early September. California’s retail diesel prices are almost \$1.00 more expensive than the 2017 August average of \$2.96. This premium is due to rises in crude oil prices and changes in California’s tax formula. As of this writing, crude oil is 40 percent more expensive than in August 2017, adding at least \$0.47 per gallon. While November 2017 brought tax changes including a \$0.20 increase in California’s excise tax on diesel and a 4 percentage point increase in the sales tax.

<u>Diesel Prices</u>	
<u>August 2018 vs 2017</u>	
<u>(Percent Change)</u>	
California	33% higher
U.S.	24% higher
West Coast	23% higher
<u>August 2018 Averages</u>	
California	\$3.94
U.S.	\$3.22
West Coast	\$3.43
<u>Week of September 3, 2018</u>	
California	\$3.95
U.S.	\$3.23
West Coast	\$3.43

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 less New York Mercantile Exchange (NYMEX) futures spreads in August averaged \$0.01 and \$0.00, respectively (Figure 5). On August 1, both spreads were \$0.02 each. The LA spread declined to an annual low on August 13 at -\$0.08, while the SF spread declined to a monthly low of -\$0.05 on August 8. By August 31, the LA and SF spreads rebounded back to \$0.04 and -\$0.01, respectively (sidebar). In August, LA spreads were \$0.09 lower and the SF spreads were \$0.11 lower than in August 2017 by monthly average comparison.

Since 2011, gasoline spreads increased just before the Labor Day weekend. The LA and SF spreads have increased at a minimum of \$0.08 and a maximum of \$0.36 each between the Friday before and the Tuesday following Labor Day. This year, from August 31 to September 4, the LA spread increased \$0.15 to \$0.19, and the SF spread increased \$0.17 to \$0.16.

California remained well-supplied with gasoline, keeping both differentials low for the month (Figure 6). August gasoline inventory levels remained firmly above the five-year band. California gasoline production averaged 6.9 million barrels per week (bpw), despite production being down 3 percent when compared to the August 2017. The 2018-year-to-date-average production rate is now 6.8 million bpw.

Gasoline Spot-Futures Spread

August 2018 vs 2017

Los Angeles	9¢ lower
San Francisco	11¢ lower

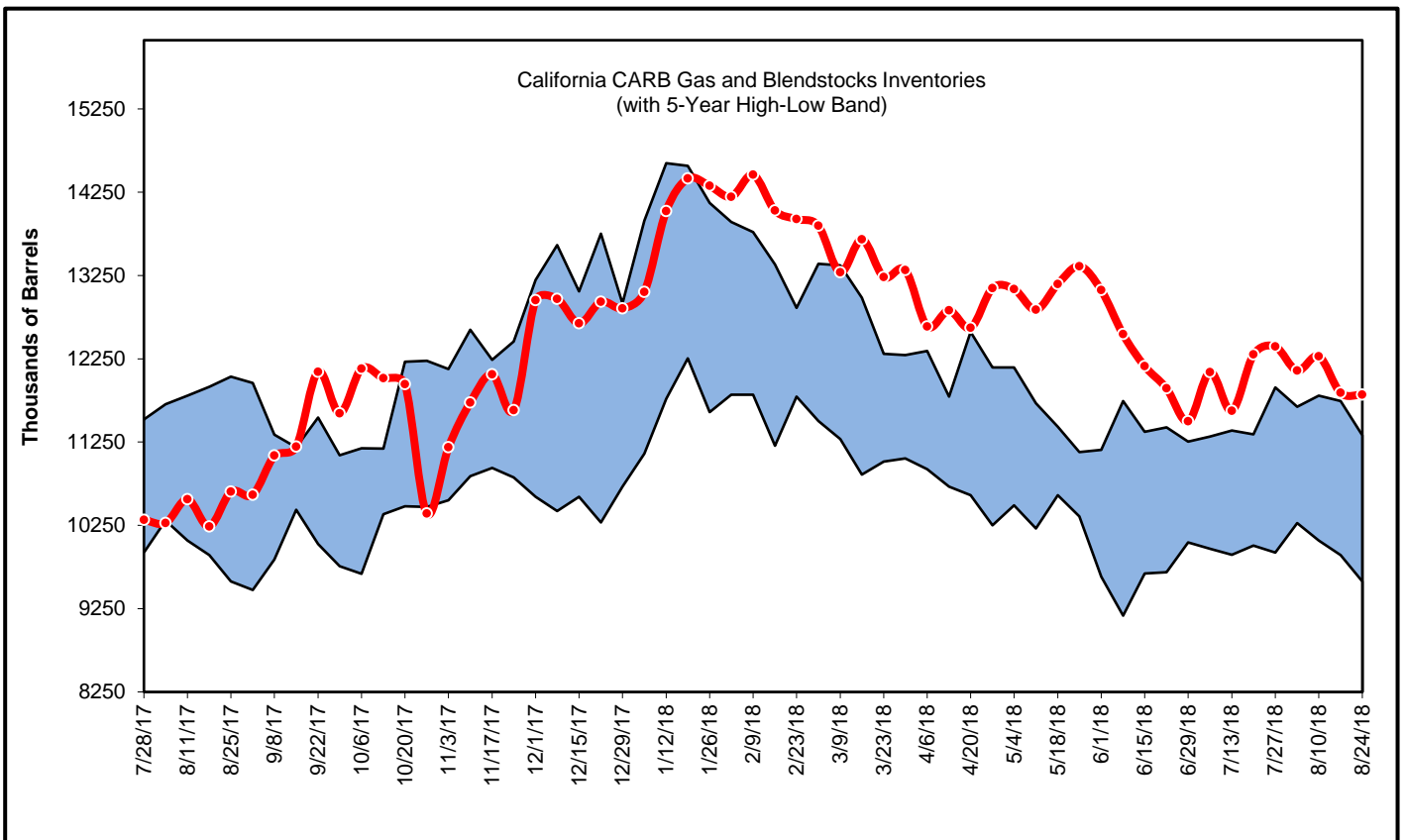
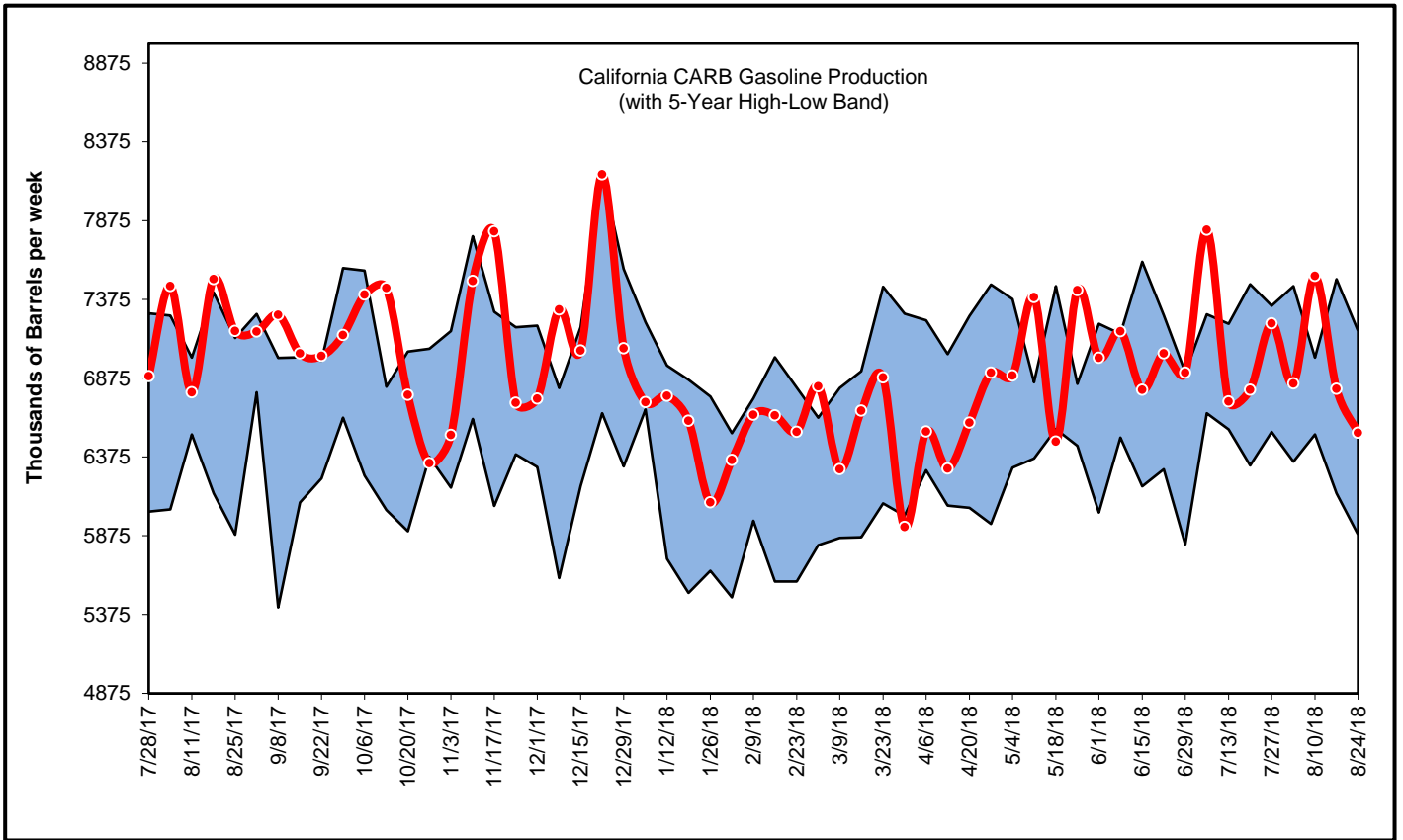
August 2018 Averages

Los Angeles	1¢
San Francisco	0¢

August 31, 2018

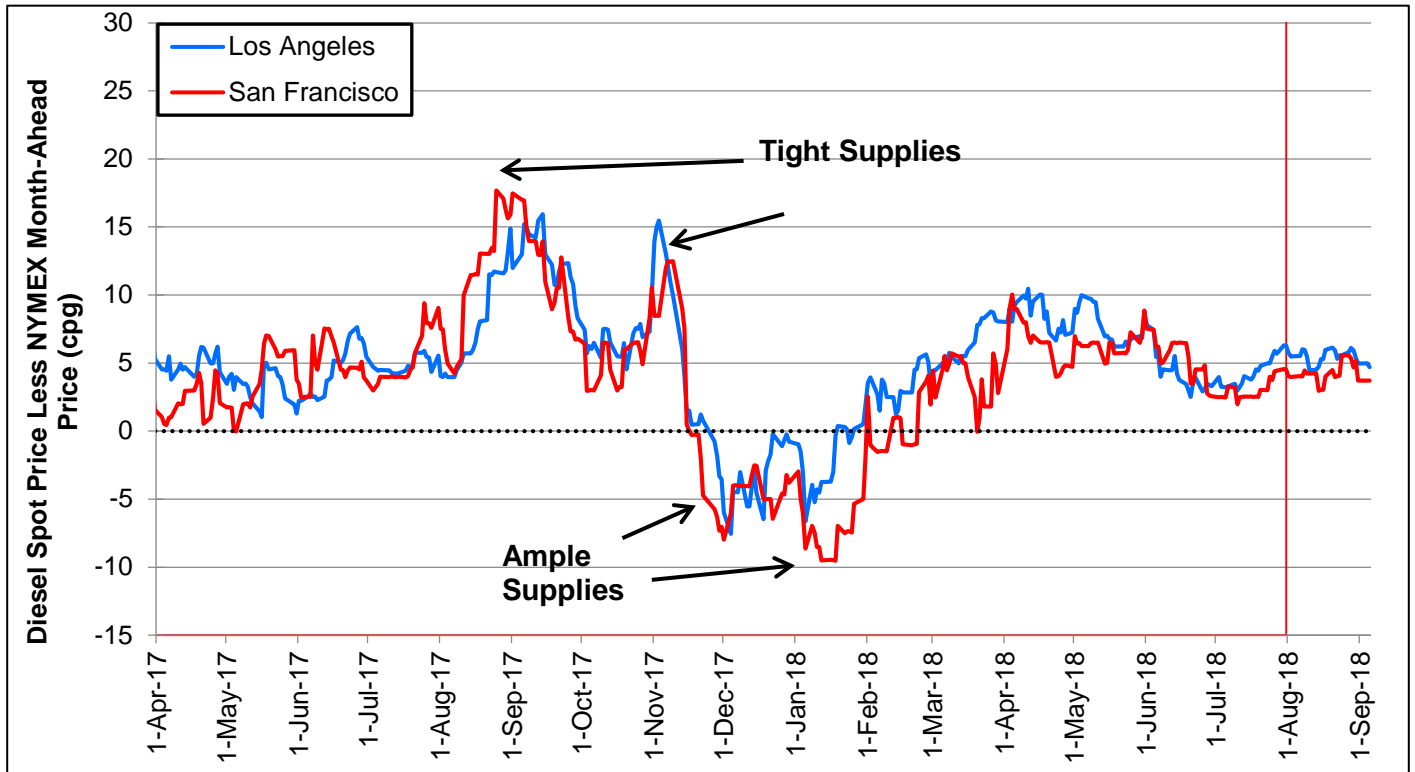
Los Angeles	4¢
San Francisco	-1¢

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

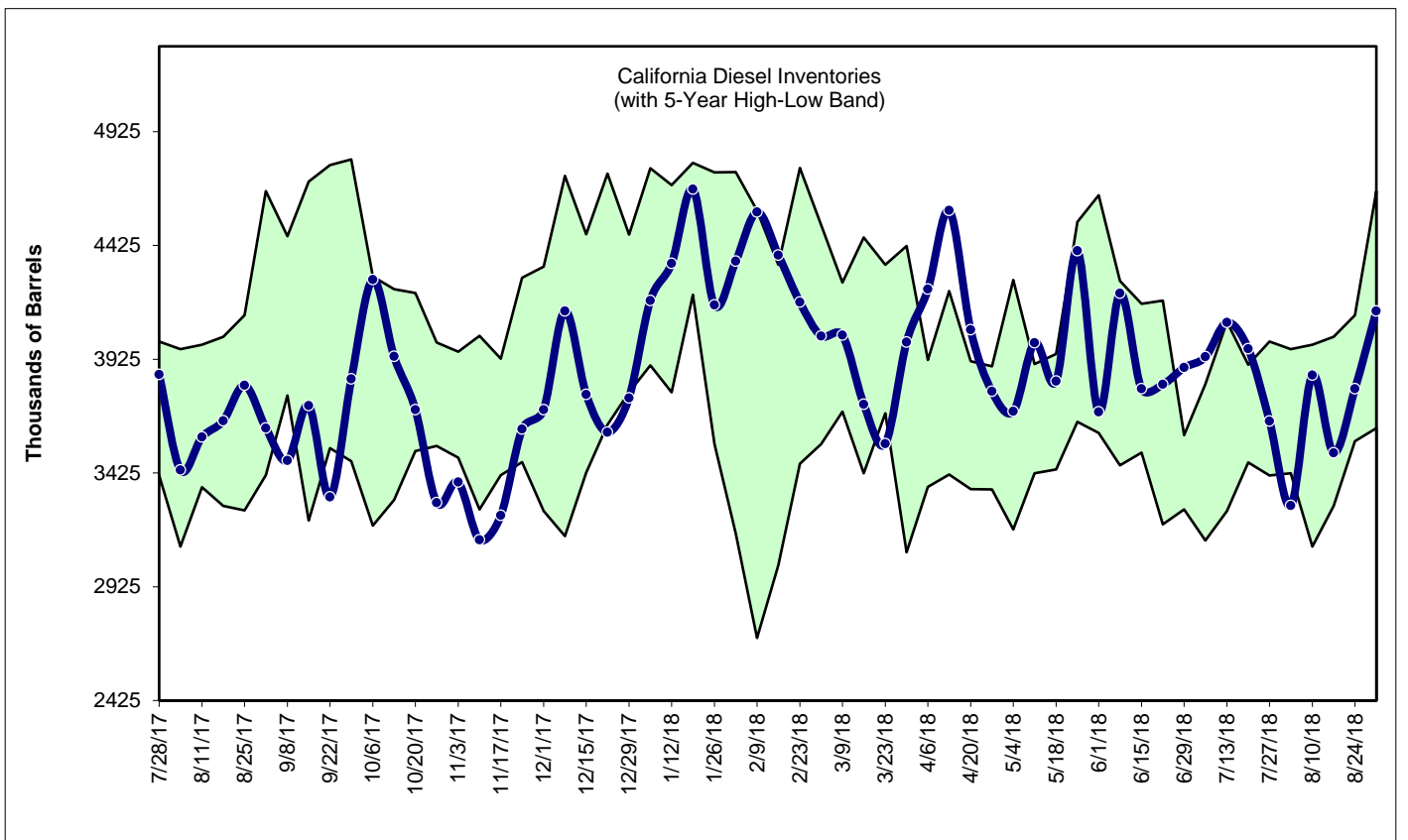
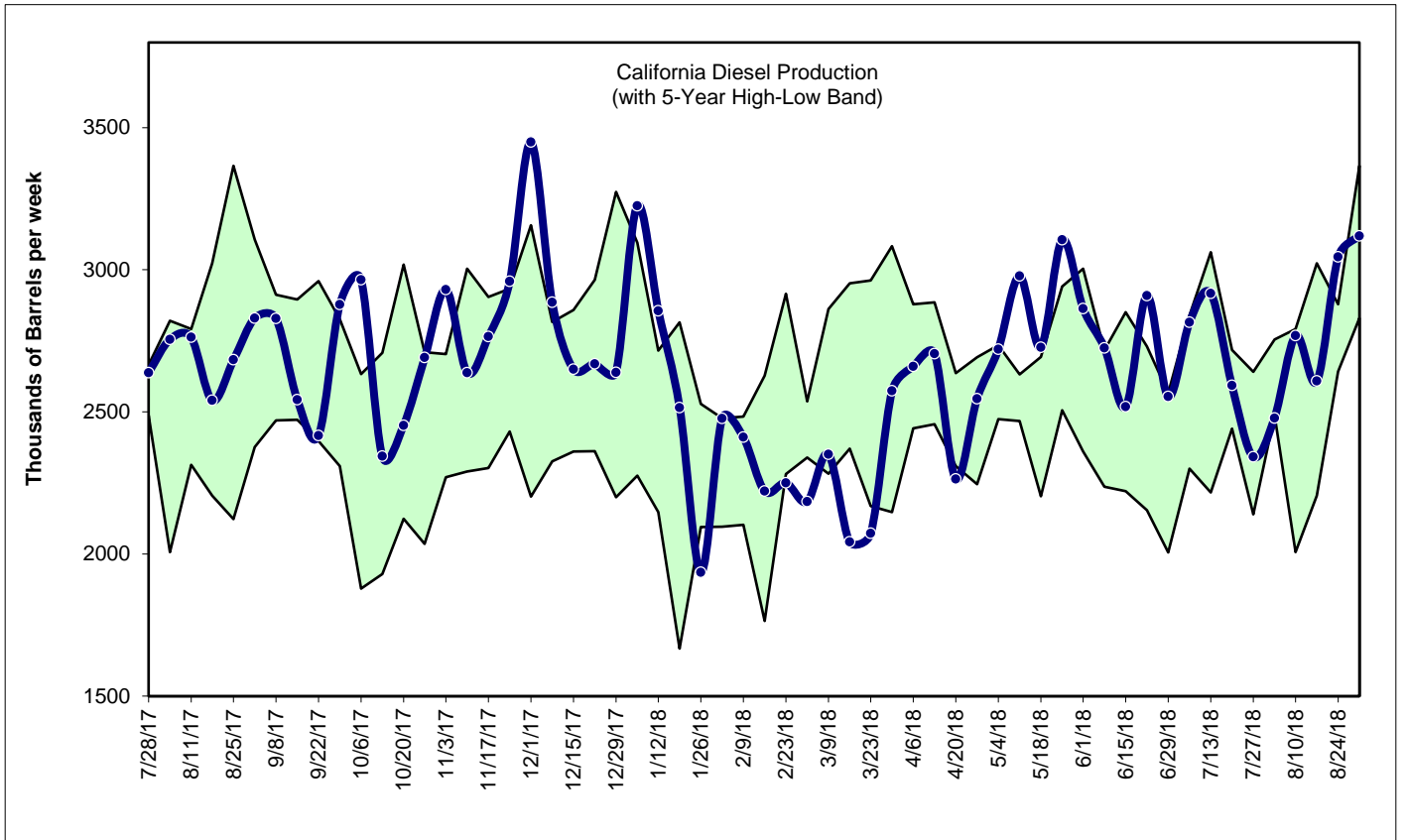
The LA and SF diesel differential spot price had little movement in August. August 1, the LA spot differential started at \$0.06 then hit a monthly low on August 10 at \$0.04 and ended the month at \$0.05 on August 28. The SF differential had similar movements-starting August 1 at \$0.04, hitting the monthly low of \$0.03 on August 15, and ending at \$0.04 on August 31. LA and SF averaged \$0.06 and \$0.04. Year-over-year comparison for LA is \$0.02 lower and SF is \$0.07 lower (**sidebar**).

August was an interesting month in the fact that both LA and SF differentials held at \$0.06. California prices typically increase in August, widening the spread over the NYMEX. The lack of change in spread implies that supply and demand balance within California remained stable for August. With only one instance of refinery maintenance (**page 1**), diesel production increased and inventories remained at consistent levels. Strong diesel production and inventory levels have kept the LA and SF differential from widening.

Diesel production rates increased in California, gaining 641,000 barrels per week (bpw) but remaining in the middle five-year band for most of August. California diesel production was initially at 2.5 million bpw on August 3 and increased by 500,000 barrels per week to over 3 million bpw on August 24 (**Figure 7**). Inventories had a similar increase of 500,000 barrels, a 9 percent increase over 2017.

<u>Diesel Spot-Futures Spread</u>	
<u>July 2018 vs 2017</u>	
Los Angeles	2¢ lower
San Francisco	7¢ 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