



PETROLEUM WATCH

California Energy Commission

June 2018

Recent Petroleum News

Prices

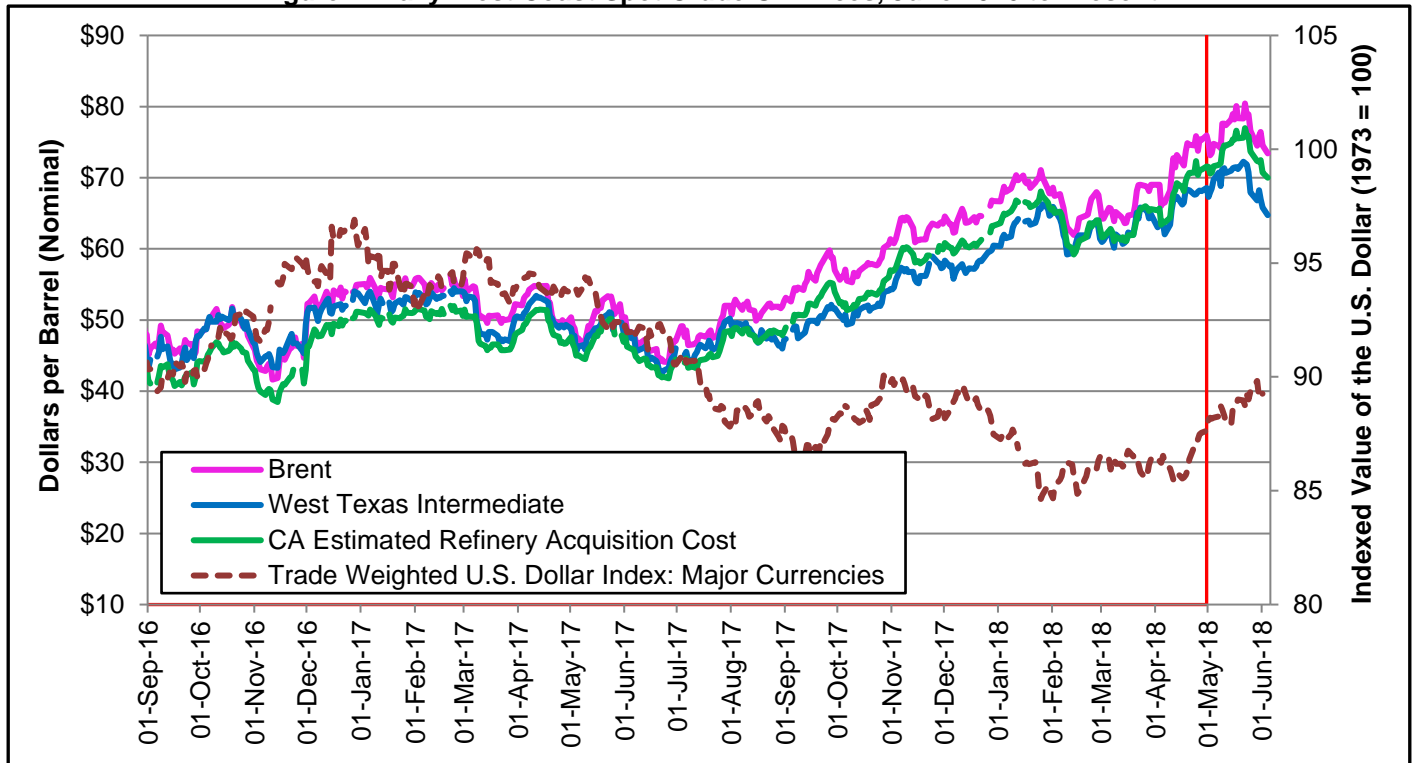
- **Crude Oil Prices:** Brent and West Texas Intermediate (WTI) crude prices closed at \$76.86 and \$66.98, respectively, on May 31 (**page 2**).
- **California Retail Gasoline Prices:** On May 28, prices reached \$3.64, an increase of \$0.03 since the end of April. Through May, California prices averaged \$0.72 higher than the national average (**page 4**).
- **California Retail Diesel Prices:** On May 28, prices reached \$4.00, an increase of \$0.23 from the end of April. Through May, California prices averaged \$0.70 higher than the national average (**page 5**).

Refining News

- **Shell Martinez Refinery:** On May 3, the refinery began planned turnaround maintenance, shutting down several units for repair. The refinery began restarting units May 30.
- **Andeavor Carson Refinery:** On May 7, the refinery shut down a fluid catalytic cracking unit for unplanned maintenance. The unit returned to service May 10.
- **Valero Wilmington:** On May 18, the refinery underwent unplanned maintenance. The refinery returned to full rates by May 25.

Crude Oil Prices

Figure 1: Daily West Coast Spot Crude Oil Prices, June 2016 to Present



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.

All displayed crude oil prices (**Figure 1**) rose to 2018 highs in May, each increased 7 percent before falling to beginning of May levels by May 31. Monthly peaks occurred on May 22, with the West Texas Intermediate (WTI) reaching \$72, the Brent \$80, and the California Estimated Refiner Acquisition Cost (CA-RAC) \$77 a barrel.¹ The rise and fall of WTI prices in May were roughly symmetrical, increasing 7 percent to the May 22 peak and falling 7 percent to May 31. Both Brent and CA-RAC had drops in percentage terms, decreasing only 5 and 6 percent, respectively.

Global factors, not U.S. petroleum market fundamentals, are continuing to move crude oil prices. Foreign-based Brent crude prices have continued to outpace the United States-based WTI, increasing the margin between these indices to \$9.47 on May 31. With United States crude oil inventories remaining strong and slightly increasing (**page 3**), it appears that the Organization of the Petroleum Exporting Countries (OPEC) supply restrictions and falling Venezuela production are pushing prices upward. This is despite the increased purchasing power of a strengthening dollar that typically pushes crude oil prices down.

<u>Crude Oil Prices</u>	
<u>May 2018 vs 2017</u>	
<u>(Percent Change)</u>	
Brent	53% higher
WTI	44% higher
CA-RAC	56% higher
<u>May 2018 Averages</u>	
Brent	\$76.86
WTI	\$69.98
CA-RAC	\$73.82
<u>May 31, 2018</u>	
Brent	\$76.45
WTI	\$66.98
CA-RAC	\$71.59

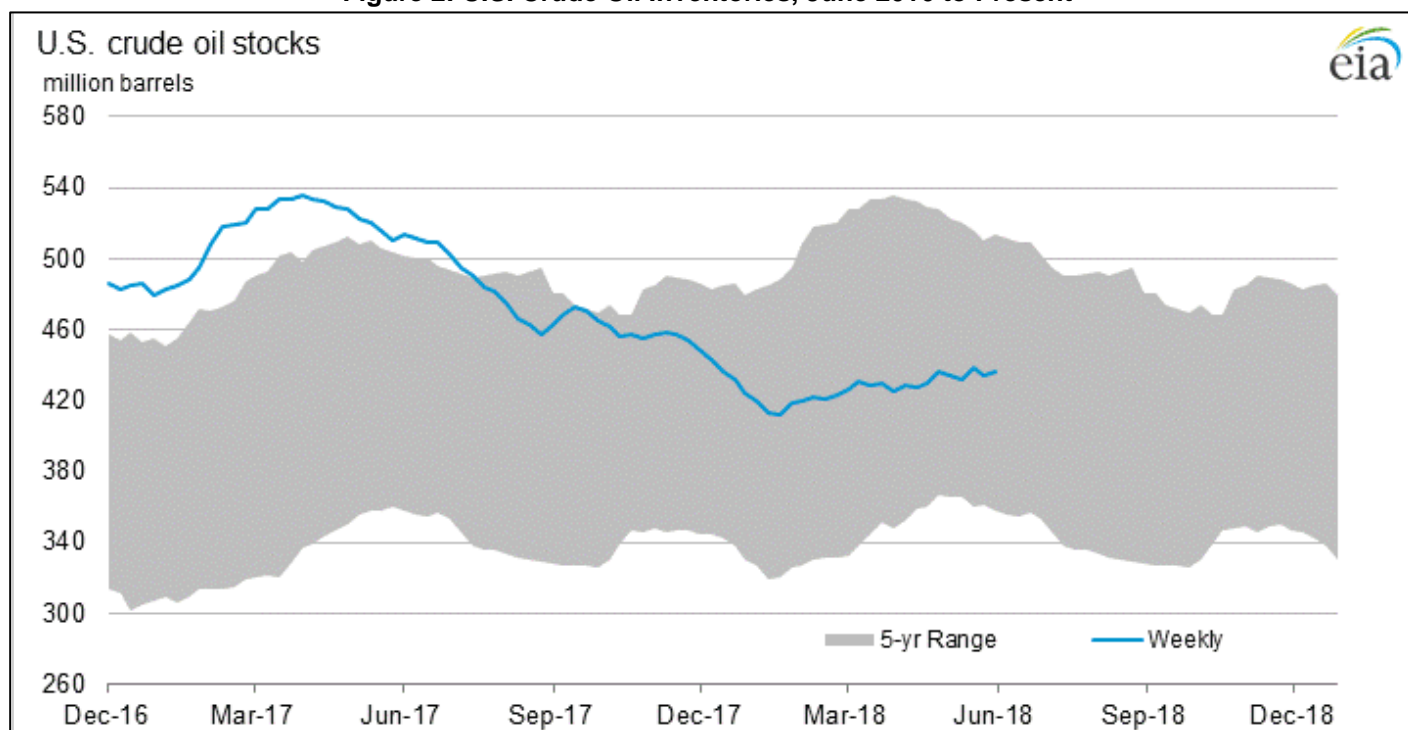
¹ CA-RAC is a weighted average of the prices of California (San Joaquin Valley) crude, Alaskan crude, and foreign crude.

Crude Oil Production and Storage

Monthly crude oil production, crude imports, refinery input levels, and crude inventories have all increased since May's *Petroleum Watch* (Figure 2).

- U.S. crude oil production for May averaged 10.75 million barrels per day (bpd), 190,000 bpd higher than April's monthly average of 10.56 million bpd. This is a 1.4 million bpd increase from a year ago, when production levels were 9.32 million bpd.
- Crude oil imports decreased by 470,000 bpd to 7.9 million bpd in May. Compared to import levels from May 2017, this is a decrease of 190,000 bpd.
- U.S. crude oil refinery inputs increased by 160,000 bpd since May *Petroleum Watch*, finishing May at a four-week average of 16.95 million bpd. Refinery inputs are 340,000 bpd lower than year-ago levels.
- Crude oil inventories in the United States increased by a meager 600,000 barrels during May to 436.6 million barrels. Current inventories are 76.6 million barrels lower than one year ago.

Figure 2: U.S. Crude Oil Inventories, June 2016 to Present



Source: U.S. Energy Information Administration

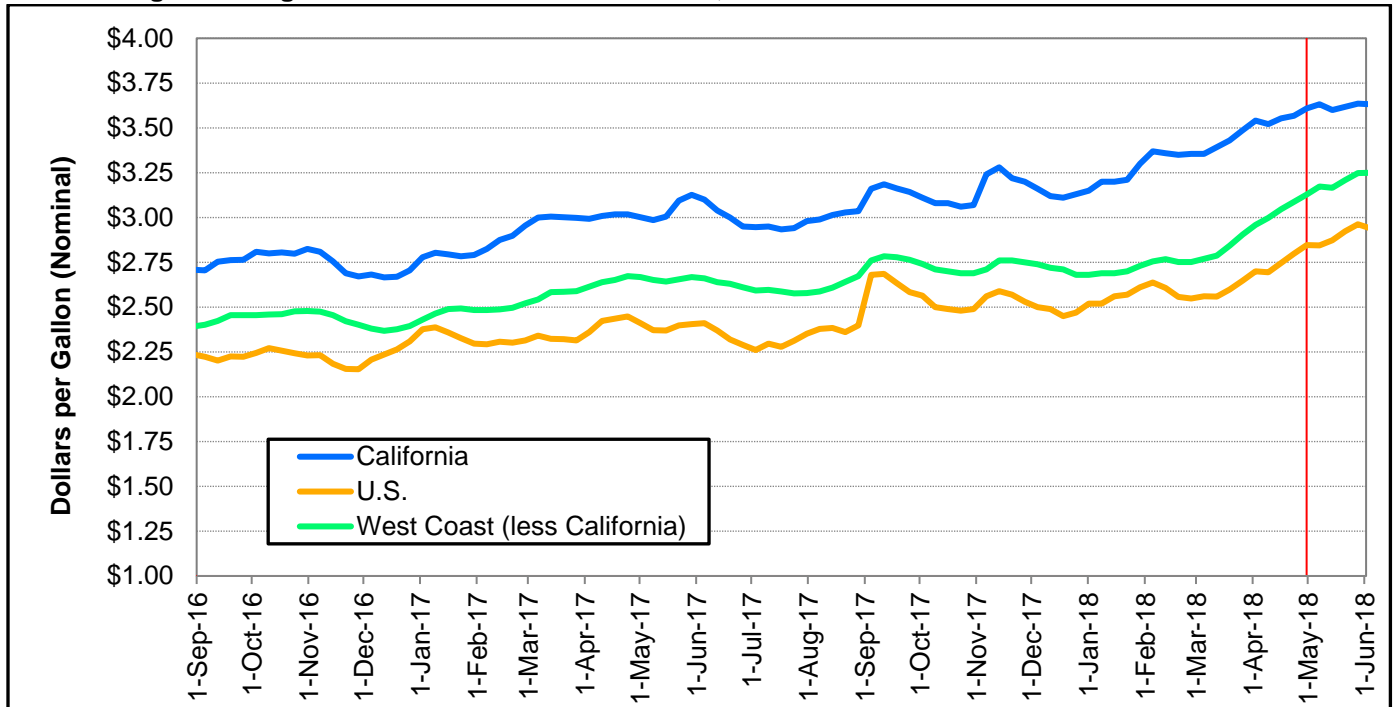
U.S. crude oil production and refinery input levels continue to increase indicating that domestic demand is still growing. Conversely, imports have decreased, and crude oil inventories saw little increase. These indicators show domestic demand slowing down. This will be especially true if crude oil prices continue to rise (page 2).

According to the OPEC May *Monthly Oil Market Report*, total April OPEC production increased by 12,100 bpd to 32 million bpd. OPEC's crude oil demand forecast reports demand growth increasing by 1.65 million bpd for the rest of 2018, with total crude oil demand increasing to 98.85 million bpd.²

² OPEC May *Monthly Oil Market Report*, page i, page 56: 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

In May, the California gasoline retail price increased slightly by \$0.03, averaging \$3.62 and finishing May at \$3.64. U.S. and West Coast prices saw larger increases of \$0.11 and \$0.12, respectively, on May 28 (Figure 3). All prices averaged at least 19 percent higher than the same time in 2017 (sidebar).

Each month this year has set a new high in retail gasoline prices. On May 28, California retail prices increased to \$3.64, the new high price for 2018 and the past two years (sidebar). Though 2018 prices remain high, retail prices saw a \$0.01 decrease from May 28 to June 4. The decrease resulted from high refinery production levels and decreasing Brent and WTI prices. Crude prices have decreased an average of \$6.68 a barrel from May 17 to June 4. If crude prices continue to fall, this will change retail gasoline prices from an upward trend into a downward trend.

When evaluating the first half of 2018, gasoline prices started on an upward trend on March 5, with steady increases afterward. From March 5 to May 28, California retail prices have increased 8 percent, or \$0.28, while West Coast prices swelled 17 percent, or \$0.48. Retail prices on the West Coast and across the United States have increased faster than California, but California remains one of the most expensive gasoline in the continental 48 states. Even with the slower increases, California retail prices remain \$0.32 higher than the rest of the West Coast.

Gasoline Prices

May 2018 vs 2017 (Percent Change)

California	19% higher
U.S.	21% higher
West Coast	20% higher

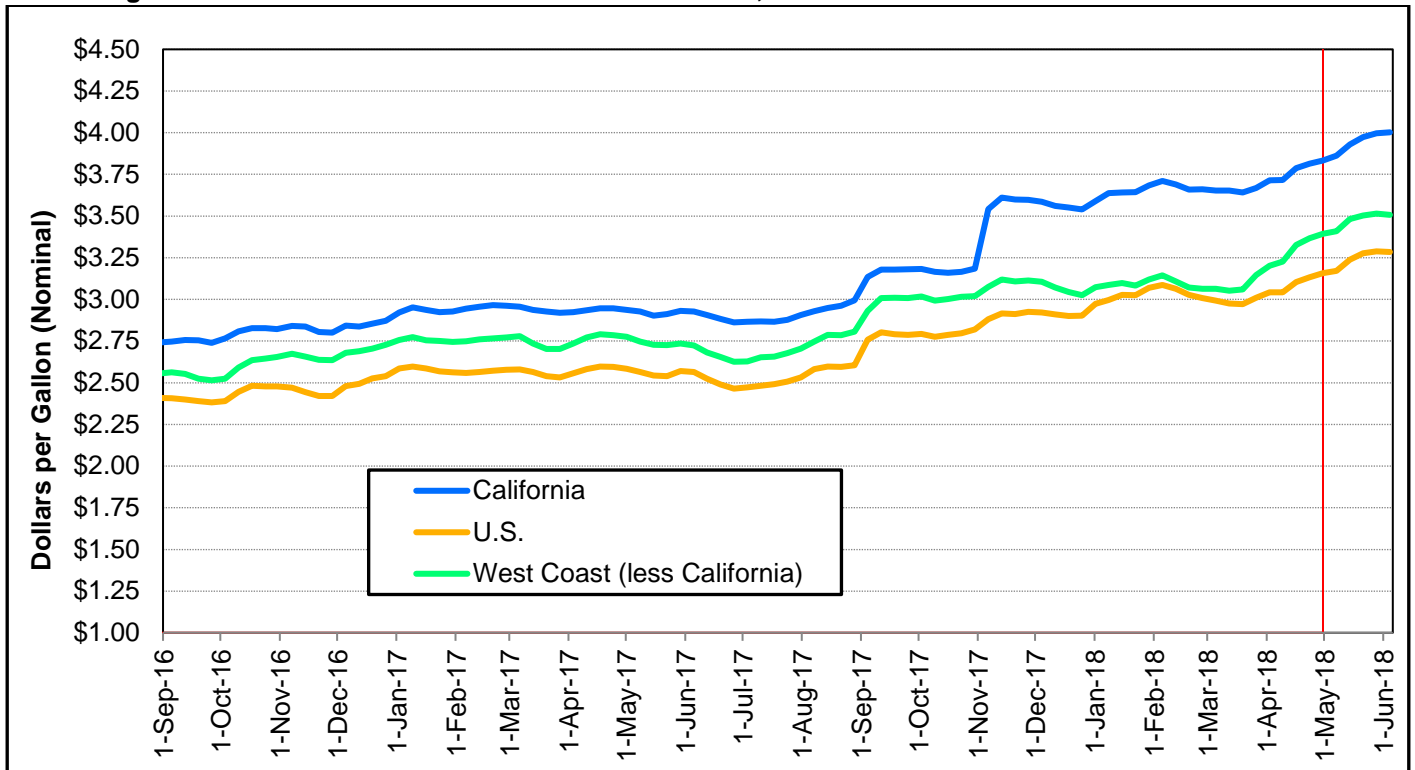
May 2018 Averages

California	\$3.62
U.S.	\$2.90
West Coast	\$3.20

Week of May 28, 2018

California	\$3.64
U.S.	\$2.96
West Coast	\$3.25

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



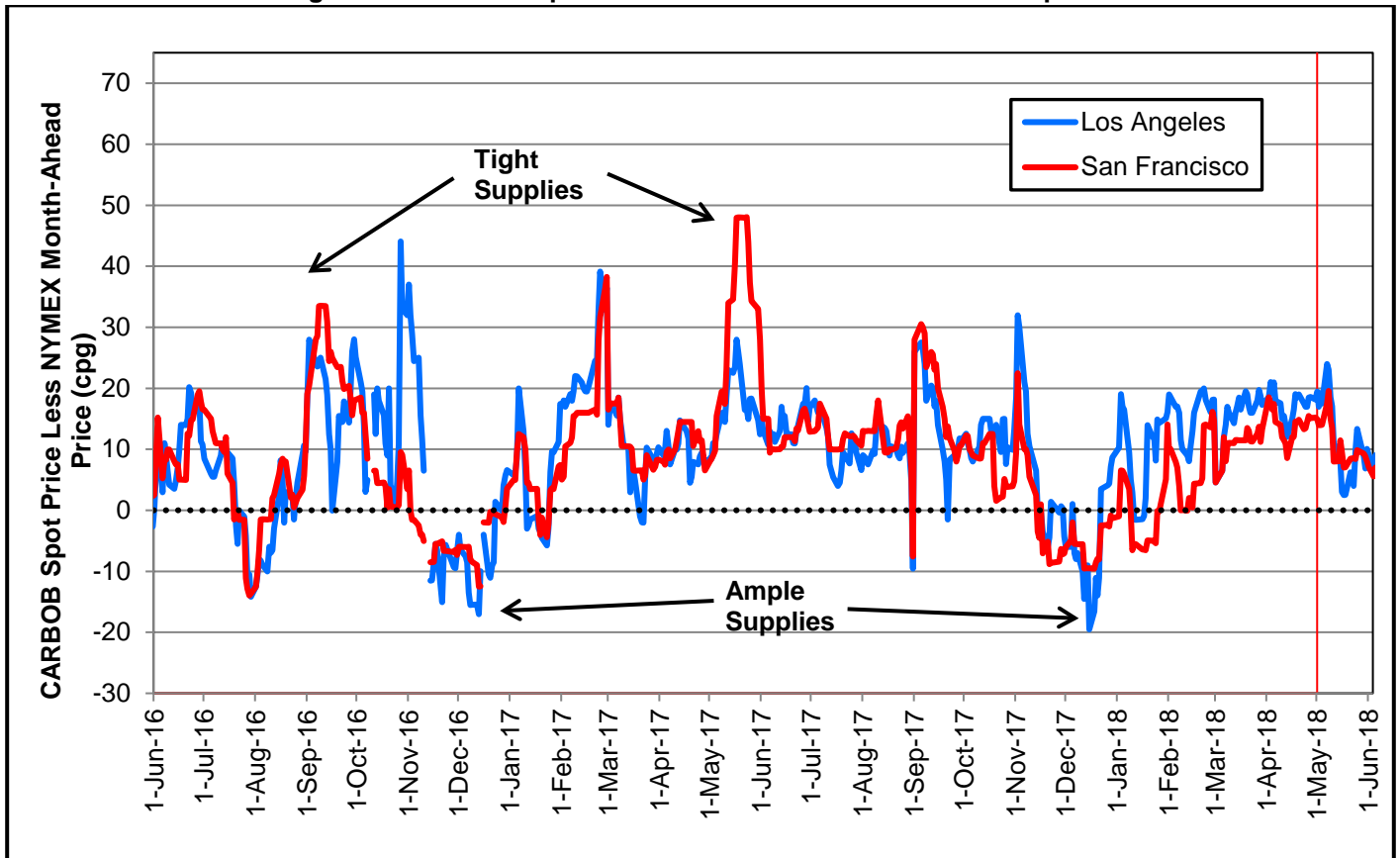
Source: U.S. Energy Information Administration

California diesel price increased \$0.14 to \$3.97 on May 21 from the last *Petroleum Watch* update when a gallon of diesel was \$3.83 on April 30. The California price set new high for the year at \$4.00 on May 28, after increasing \$0.03 from May 21, and the last time price was \$4.00 was October 2014. Throughout May, California price averaged 35 percent higher at \$1.02 more at the pump compared to the same time last year (Figure 4). Price remained steady at \$4.00 into June 4.

The May 2018 average prices are all higher than a year-ago price at 35 percent, 27 percent, and 27 percent for California, the United States, and West Coast, respectively (sidebar). The high prices also increased the California-less-West Coast difference to \$0.49 and California-less-U.S. difference to \$0.71 on May 28. From May 7 to June 4, California prices increased \$0.14 compared to \$0.12 and \$0.10 for U.S. and West Coast, respectively. The higher California prices were likely because Shell’s refinery in Martinez shut down multiple units May 3. Nevertheless, diesel production remained high and above the five-year band with two weeks of decreasing an average of 246,500 barrels (page 10).

<u>Diesel Prices</u>	
<u>May 2018 vs 2017</u>	
(Percent Change)	
California	35% higher
U.S.	27% higher
West Coast	27% higher
<u>May 2018 Averages</u>	
California	\$3.94
U.S.	\$3.24
West Coast	\$3.48
<u>Week of May 28, 2018</u>	
California	\$4.00
U.S.	\$3.29
West Coast	\$3.51

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) futures price dropped in May (Figure 5). The LA differential peaked at \$0.24 on May 7 before falling to \$0.03 on May 16. This differential then rose the following week and averaged \$0.08 from May 21 to May 31. The SF differential showed a similar drop, just not as low, falling from a peak on May 7 of \$0.19 to \$0.07 on May 17. From May 21 to May 31, it averaged \$0.01 more than the LA differential during that period at \$0.09.

California’s robust gasoline inventory numbers from May (Page 8) appear to be the primary reason for the drop in both LA and SF differentials. California gasoline inventory levels have spent 20 consecutive weeks above same week highs from the previous five years and have started June roughly 2 million barrels above that marker. With May production appearing strong, with two weeks experiencing five-year highs, California appears well supplied with gasoline, leading to the roughly \$0.10 drop in both regions differentials. Furthermore, due to an electrical supply loss at the Valero’s Benicia Refinery in May 2017, the SF differential is now \$0.19 lower than the same time last year (sidebar).

Gasoline Spot– Futures Spread

May 2018 vs 2017

Los Angeles	5¢ lower
San Francisco	19¢ lower

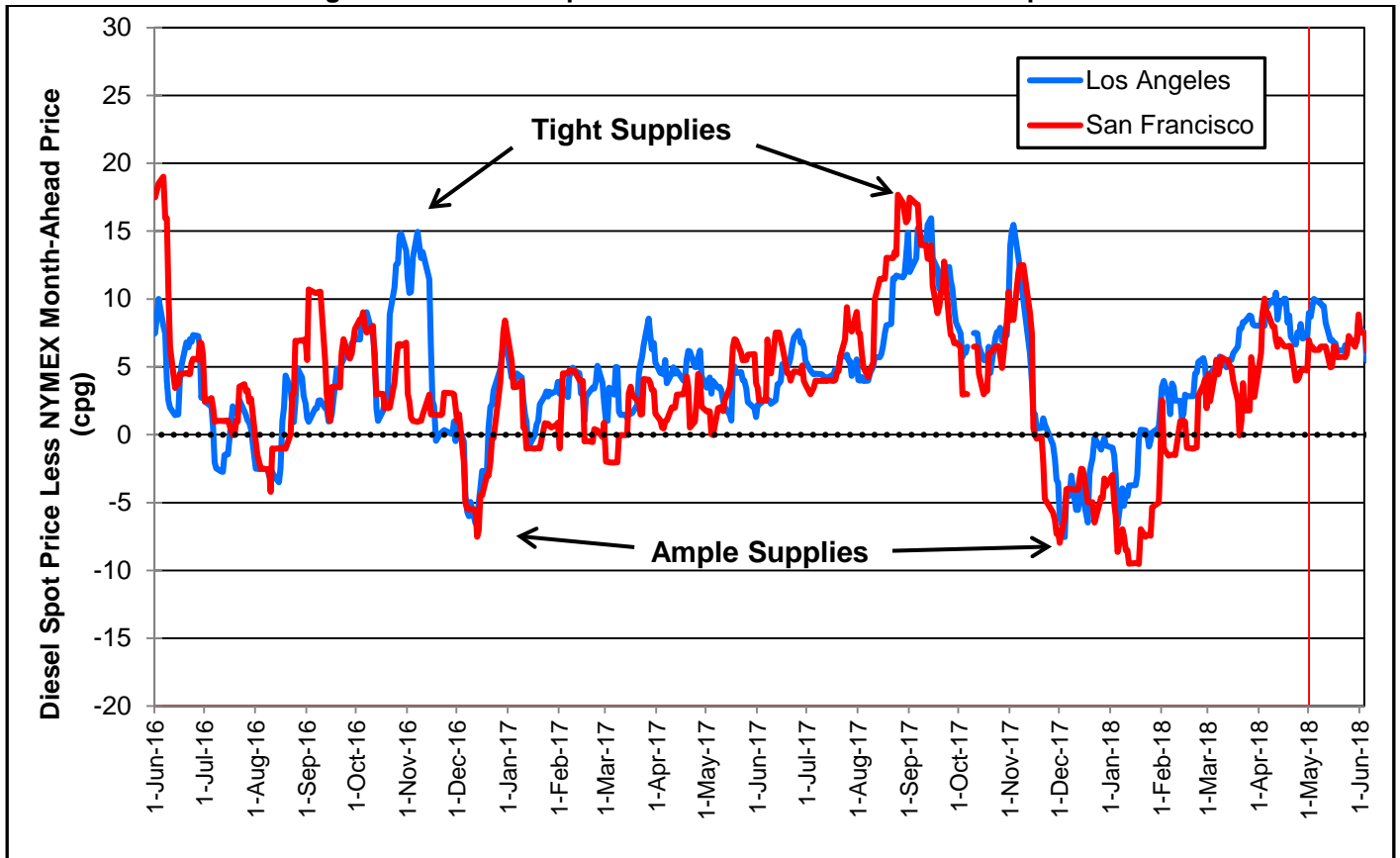
May 2018 Averages

Los Angeles	12¢
San Francisco	11¢

May 31, 2018

Los Angeles	10¢
San Francisco	8¢

Figure 6: California Spot Diesel to NYMEX Futures Price Spread



Source: U.S. Energy Information Administration and OPIS

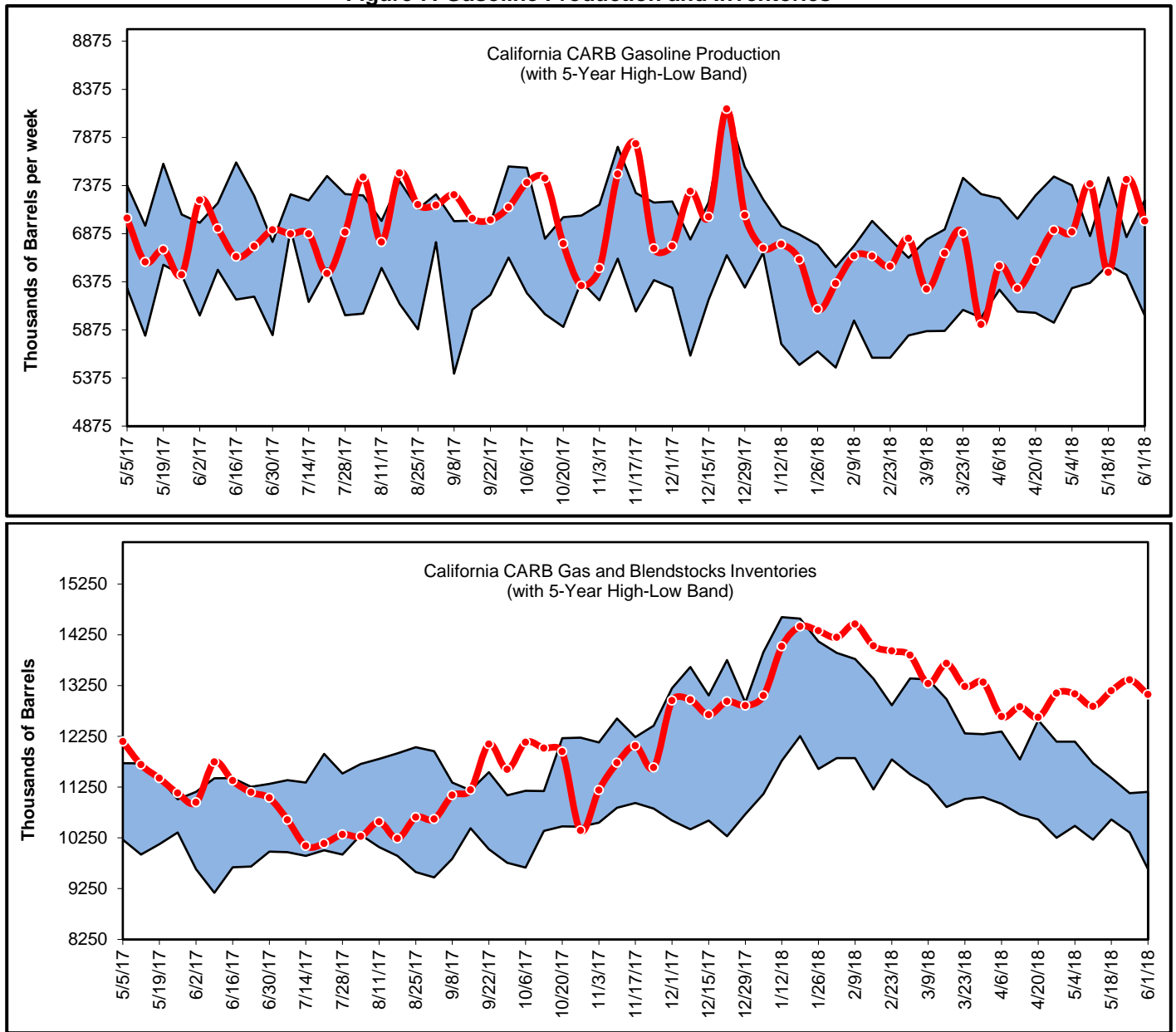
The SF diesel spot differential remained steady throughout May, averaging \$0.06 before increasing from May 25 to May 31 to \$0.09 (Figure 6). The LA diesel spot differential started May at roughly \$0.10 before dropping to \$0.06 during the middle of May. From May 25 to May 31, it too increased to \$0.09, roughly matching SF differential values.

While not as record-setting as the gasoline inventory and production numbers, California diesel inventory and production levels remained close to same week highs from the previous five years, leading to the steady differential numbers. The United States is experiencing a 10-year unemployment low, with the unemployment rate at 3.8 percent. (California’s rate was 4.2 percent in April.) As the agricultural work season is in full swing, healthy diesel demand is likely keeping differentials up, despite the positive supply figures. There might be other factors at play; the Department of Tax and Fee Administration year-to-date 2018 California diesel sales figures are down roughly 2 percent relative to 2017. However, these sales figures are only through February, and demand could have changed in the following four months.

<u>Diesel Spot–Futures Spread</u>	
<u>May 2018 vs 2017</u>	
Los Angeles	2¢ higher
San Francisco	2¢ higher
<u>May 2018 Averages</u>	
Los Angeles	7¢
San Francisco	7¢
<u>May 31, 2018</u>	
Los Angeles	9¢
San Francisco	9¢

California Gasoline and Diesel Production and Inventories

Figure 7: Gasoline Production and Inventories

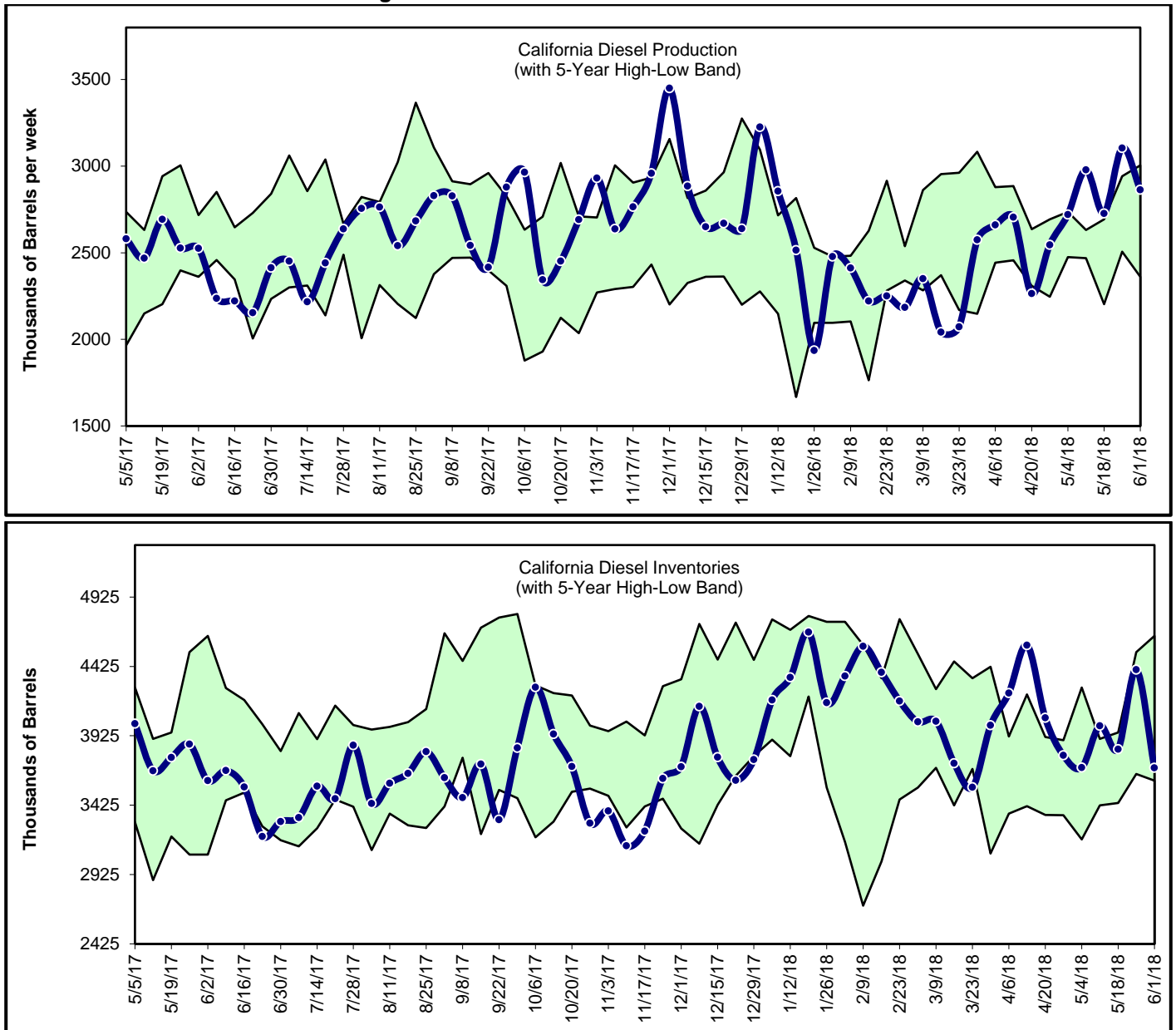


Source: PIIRA data

California gasoline production increased 0.5 million barrels to 7.4 million barrels per week (bpw) on May 11 from 6.9 million bpw on May 4. Production levels fell under the five-year band to 6.5 million bpw the week after on May 18, but it recovered on May 25 to 7.4 million bpw (**Figure 7**). May managed to finish at an average production level of 7.0 million bpw.

California gasoline inventories remained above the five-year band, averaging 13.1 million bpw throughout May. In the past five years, the maximum inventory level for May was 12.1 million bpw. On May 25, the new five-year high was set at 13.4 million bpw. Since January, gasoline and blending stock inventory levels continue to be above the five-year band with June 1 at 13.1 million bpw.

Figure 8: Diesel Production and Inventories



Source: PIIRA data

Diesel production levels started high on the five-year band on May 4 at 2.7 million bpw. Production increased and remained above the five-year band for three weeks straight, peaking on May 25 at 3.1 million bpw. On May 3, Shell’s Martinez had multiple units shut down, but overall statewide production levels remained healthy. May recorded the highest monthly average of 2.9 million bpw for this year (**Figure 8**).

California diesel inventory for May had the second lowest average of 2018 at 4.0 million bpw with only 0.1 million barrels more than March’s average. Inventory levels were 3.7 million bpw on May 4 and increased to 4.4 million bpw on May 25. Unfortunately, inventory levels fell below the May’s average to 3.7 million bpw on June 1.