

# THE U.S. Energy DATABOOK

*A summary of national and global energy indicators*



AUGUST 17, 2018

FEDERAL RESERVE BANK of KANSAS CITY

## SUMMARY OF CURRENT ENERGY CONDITIONS

The number of total active drilling rigs in the United States edged up 1.1 percent from a month ago, and increased 11.7 percent from a year ago. U.S. crude oil production inched down 0.3 percent in May, while natural gas production rose 4.1 percent. Crude oil prices moderated slightly in August. For the week ending August 10th, West Texas Intermediate (WTI) crude oil averaged \$67.90 per barrel and North Sea Brent averaged \$71.42 per barrel, decreasing 5.6 percent and 5.1 percent respectively in the last month. The Henry Hub natural gas spot price averaged \$2.95 per million Btu for the week ending August 10th, an increase of 2.1 percent in the last month. U.S. crude oil and petroleum products imports dipped 1.4 percent and exports declined 5.2 percent over the last month. While global demand for petroleum inched down 0.3 percent in the second quarter of 2018, global petroleum supply increased 0.3 percent in July.

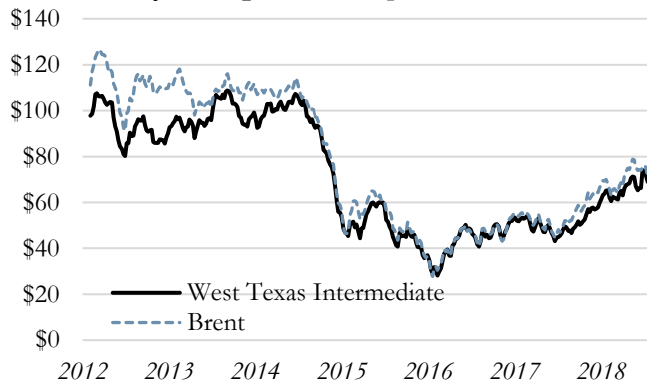
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S. oil imports; U.S. oil exports; oil and gas drilling rig counts; and U.S. natural gas production. These indicators can be found on the following pages.



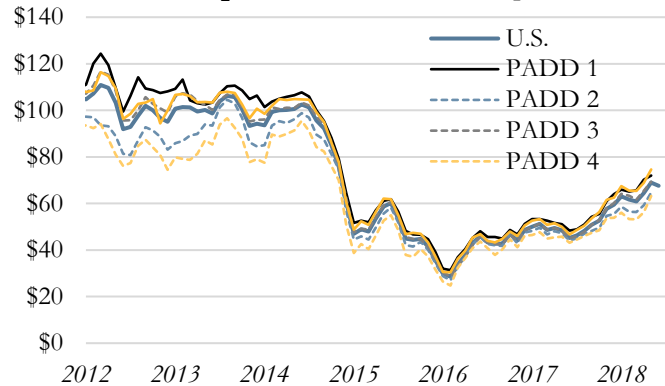
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and Wyoming. There are three branches across the Tenth Federal Reserve District located in Denver, Oklahoma City, and Omaha.

Weekly data through August 10, 2018

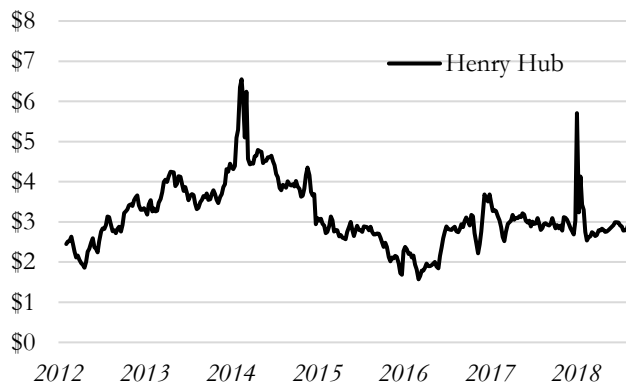
Weekly Oil Spot Prices, per barrel



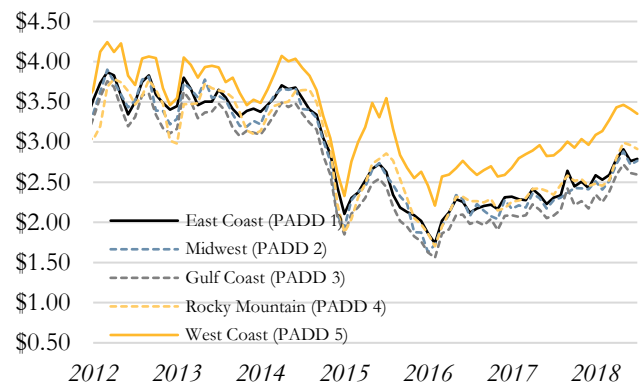
Refiner Acquisition Cost of Oil\*, per barrel



Weekly Natural Gas Spot Prices, per mmbtu



Monthly Gasoline Prices by PADD, per gallon



Weekly Spot Prices, Change from

	Current	1 Week	1 Month	6 Months	1 Year	
Weekly Spot Prices	8/10/18	Ago	Ago	Ago	Ago	Peak (2012-17)
West Texas Intermediate	\$67.90	-\$1.56	-\$4.06	\$5.89	\$18.82	-\$40.87
Brent	\$71.42	-\$1.95	-\$3.87	\$5.92	\$19.46	-\$52.27
Henry Hub	\$2.95	\$0.15	\$0.06	\$0.20	\$0.10	-\$3.60

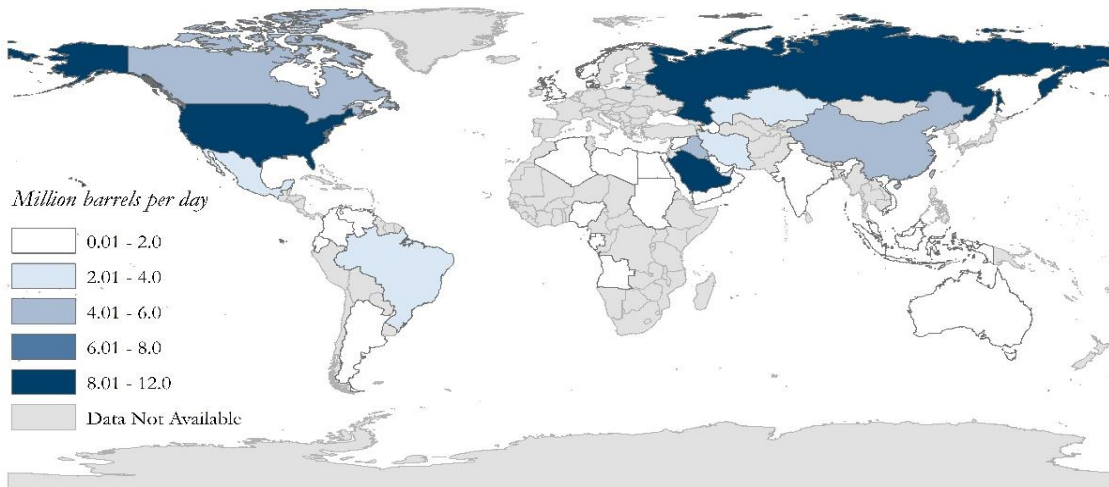
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	6 Months	1 Year	
Geographic Area	Jul-18	Ago	Ago	Ago	Peak (2012-17)
East Coast (PADD 1)	\$2.79	\$0.03	\$0.20	\$0.48	-\$1.04
Midwest (PADD 2)	\$2.77	\$0.05	\$0.26	\$0.49	-\$1.05
Gulf Coast (PADD 3)	\$2.59	-\$0.02	\$0.25	\$0.51	-\$1.09
Rocky Mountain (PADD 4)	\$2.91	-\$0.05	\$0.43	\$0.57	-\$0.87
West Coast (PADD 5)	\$3.35	-\$0.06	\$0.26	\$0.52	-\$0.88

\*The cost of crude oil, including transportation and other fees paid by the refiner.

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

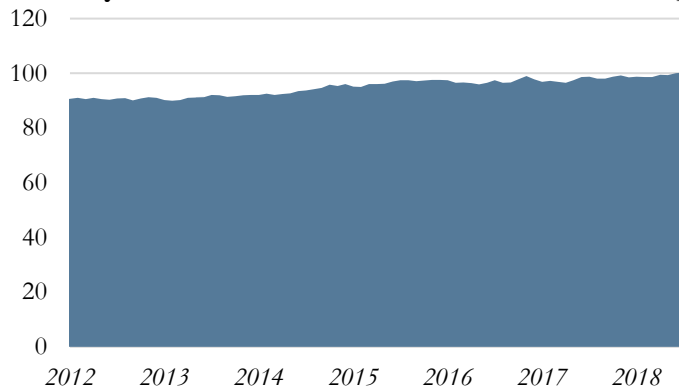
July 2018 Global Petroleum Production



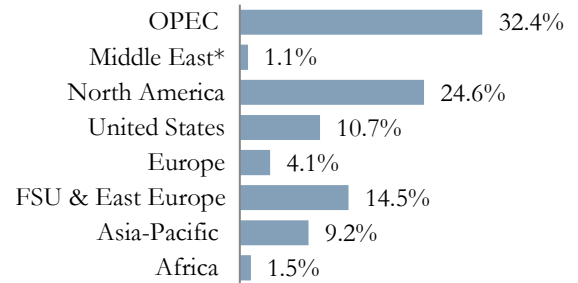
Source: Energy Information Administration/Haver Analytics

July 2018

Monthly Global Petroleum Production, million barrels per day

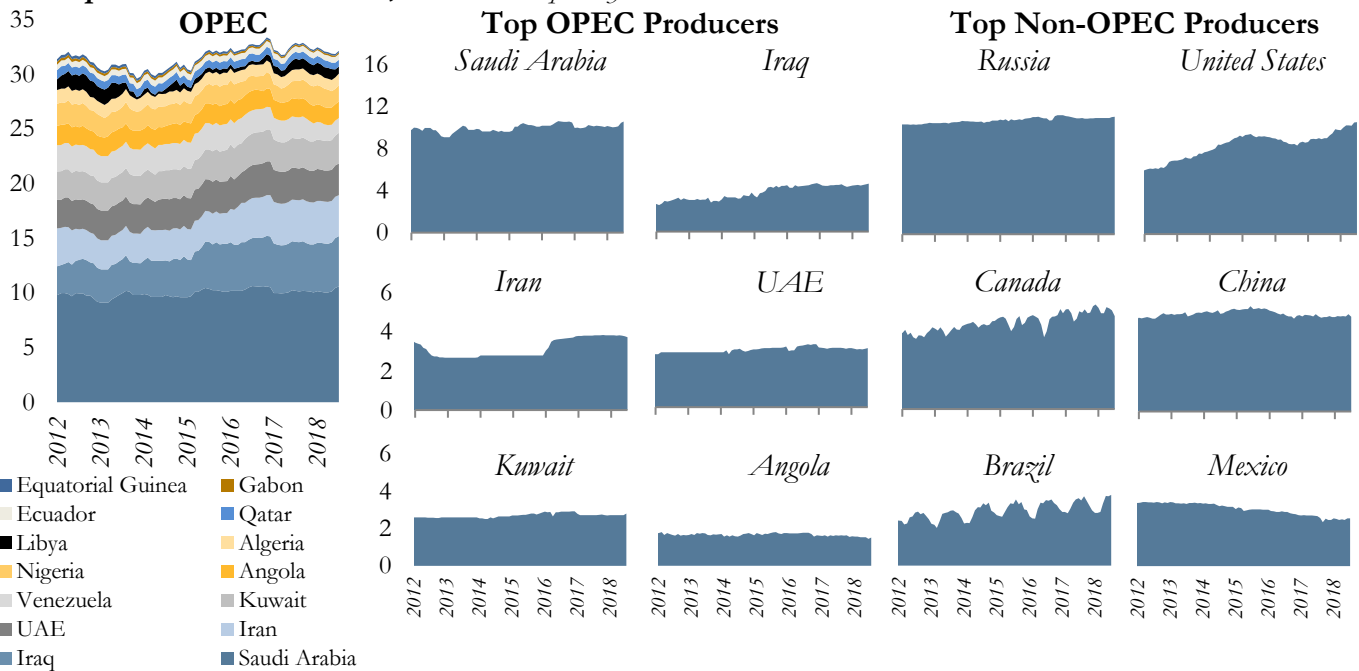


Regional Share of Production



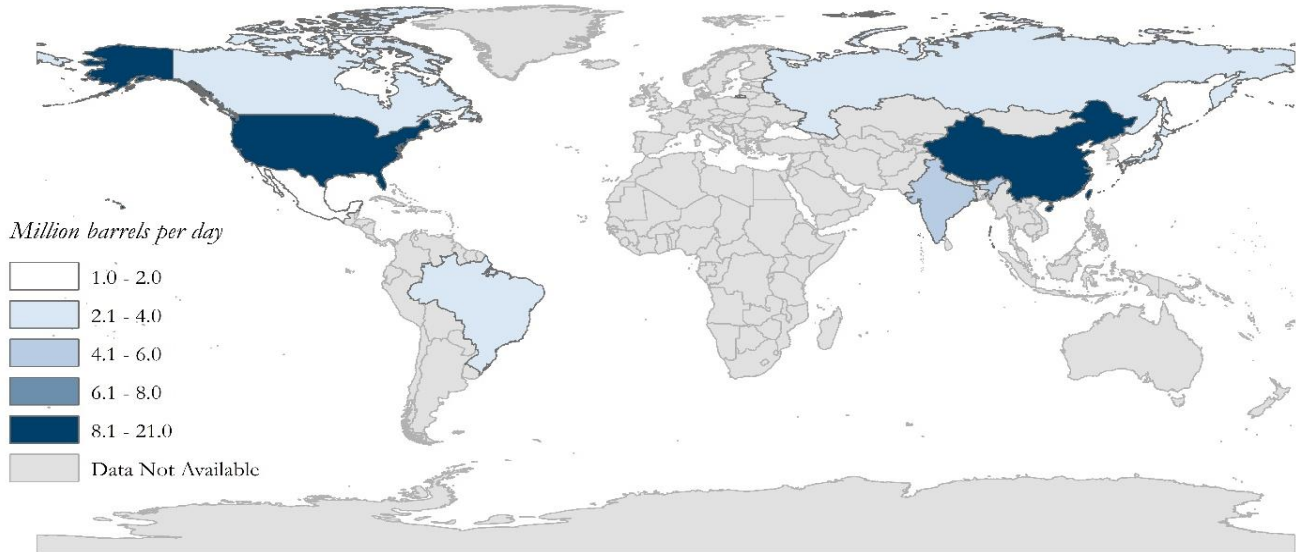
\*Excludes OPEC

Top Crude Oil Producers, million barrels per day

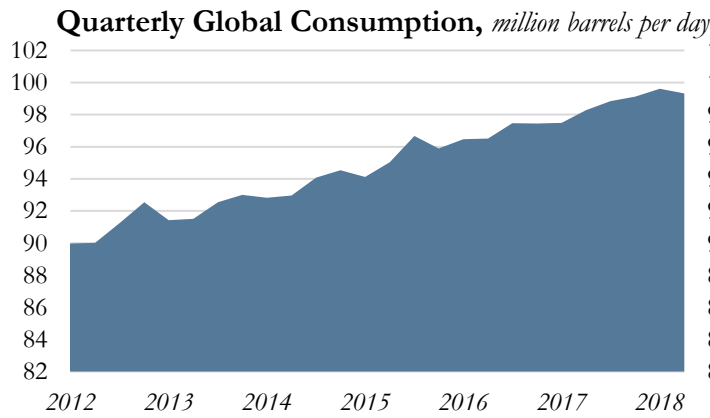


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

Second Quarter 2018 Global Petroleum Consumption

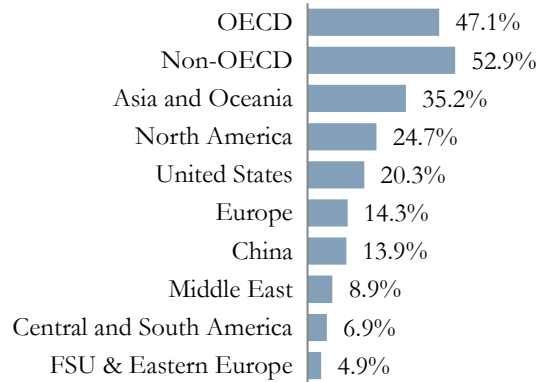


Source: Energy Information Administration/Haver Analytics

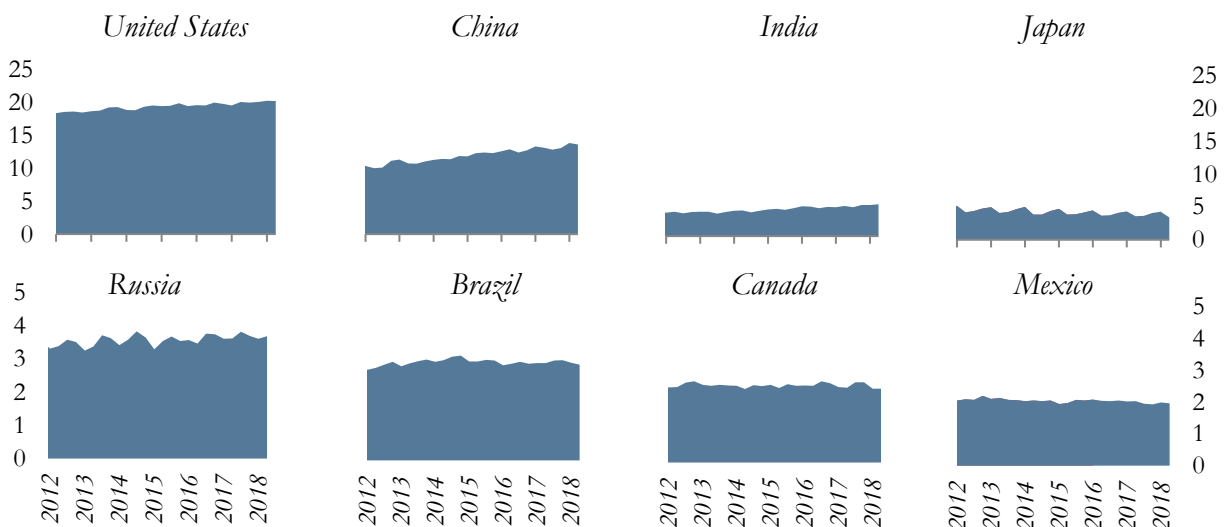


Second Quarter 2018

Regional Share of Consumption

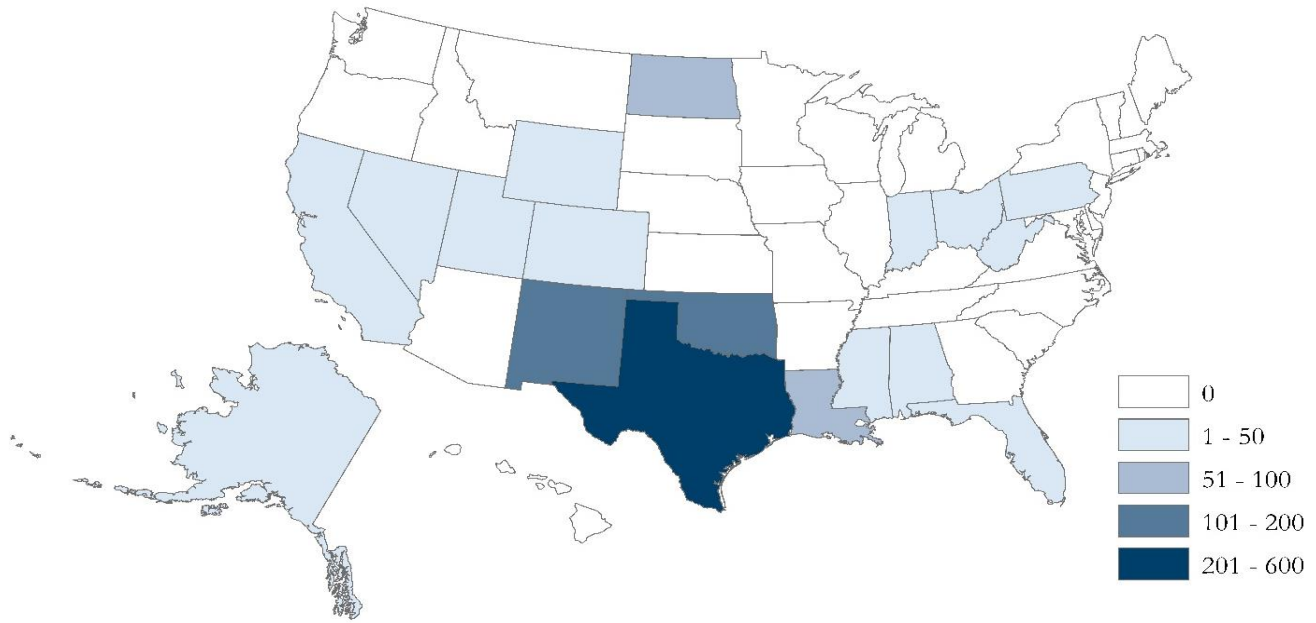


Top Petroleum Consumers, million barrels per day



Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

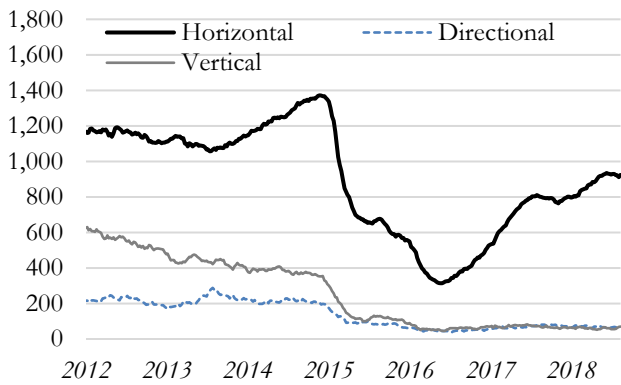
August 2018 Weekly Active Oil & Gas Drilling Rig Counts



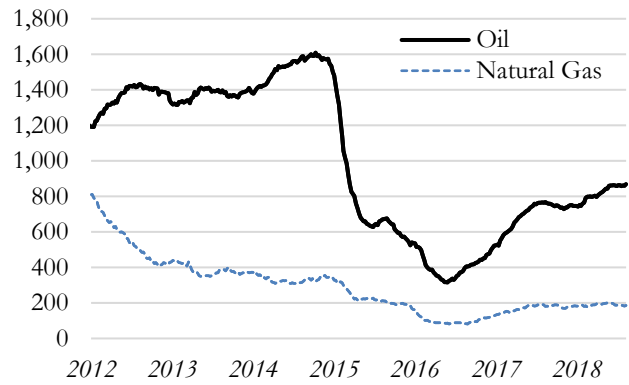
Source: Baker Hughes/Haver Analytics

August 17, 2018

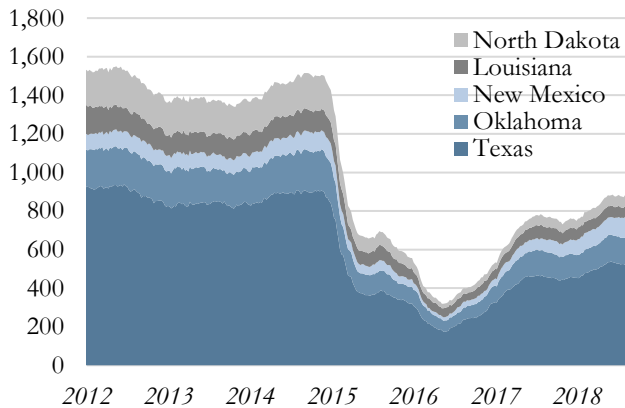
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

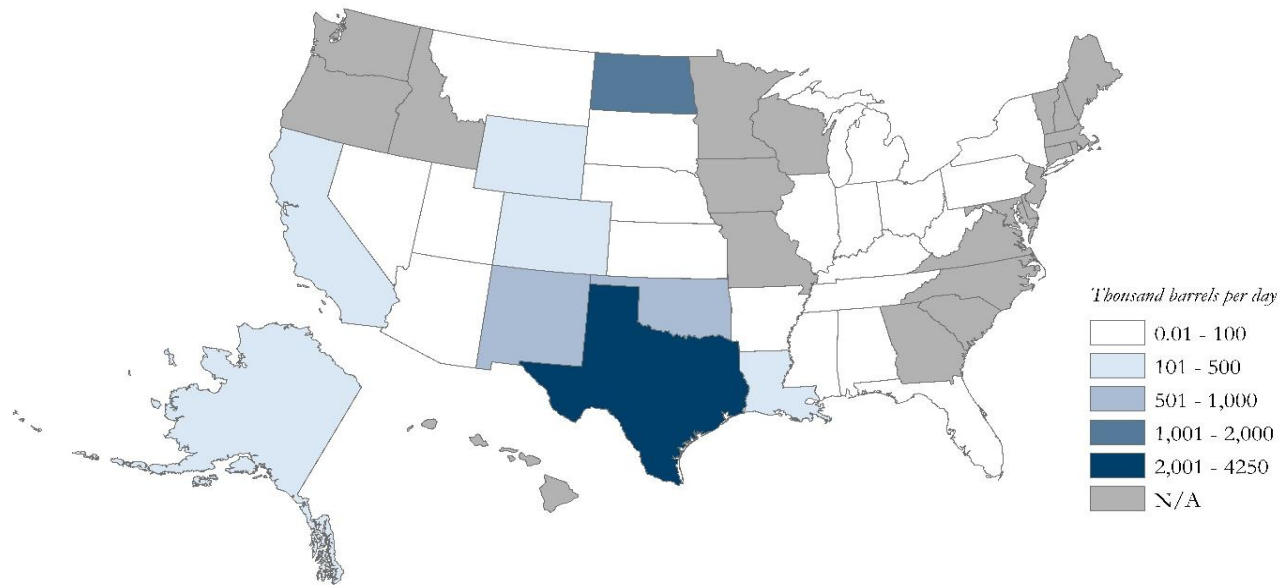
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	869	858	844	763
Gas	186	187	200	182
Misc	2	1	2	1
<b>Total</b>	<b>1057</b>	<b>1046</b>	<b>1046</b>	<b>946</b>

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	1.3%	3.0%	13.9%
Gas	-	-0.5%	-7.0%	2.2%
Misc	-	100.0%	0.0%	100.0%
<b>Total</b>	-	<b>1.1%</b>	<b>1.1%</b>	<b>11.7%</b>

Source: Baker Hughes/Haver Analytics

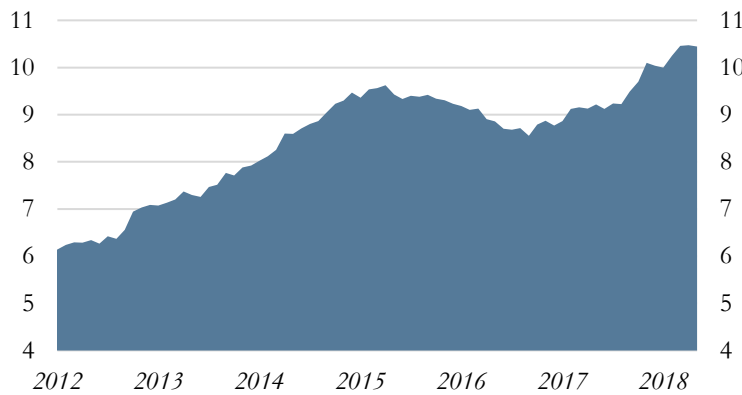
May 2018 U.S. Crude Oil Production



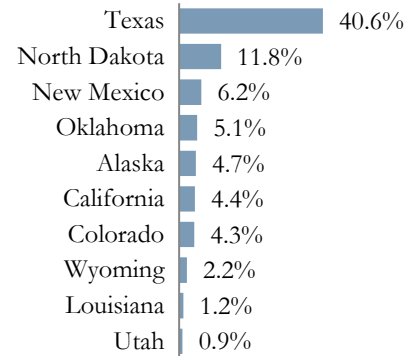
Source: Baker Hughes/Haver Analytics

May, 2018

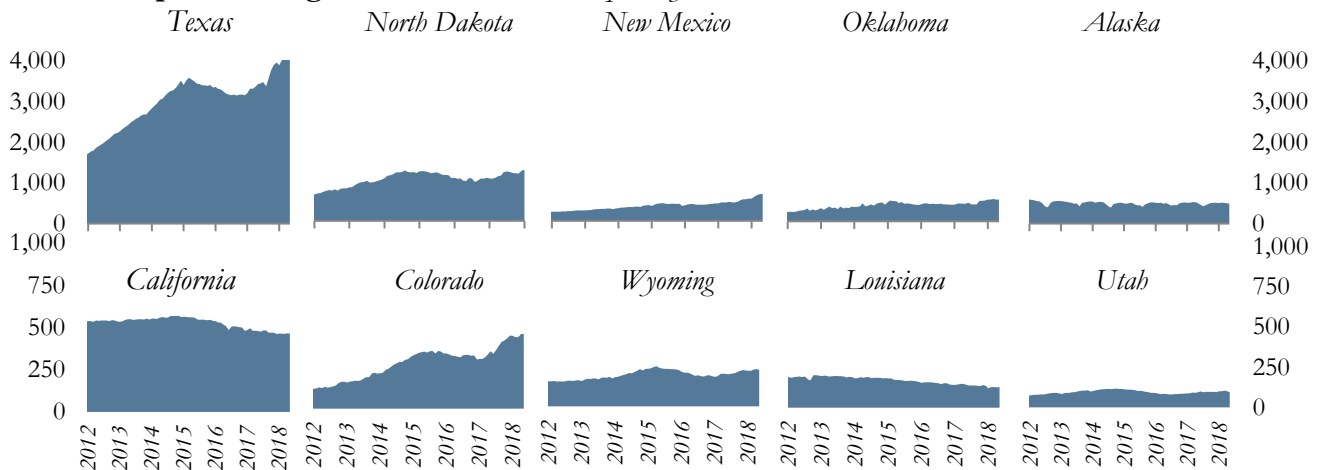
Monthly U.S. Production, million barrels per day



Share of Production



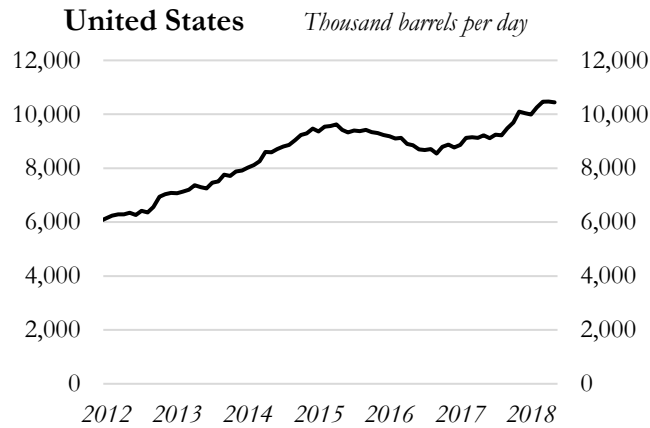
Top Producing States, thousand barrels per day



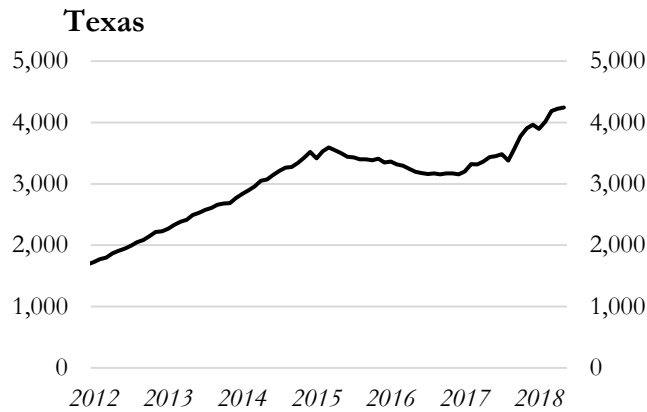
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics



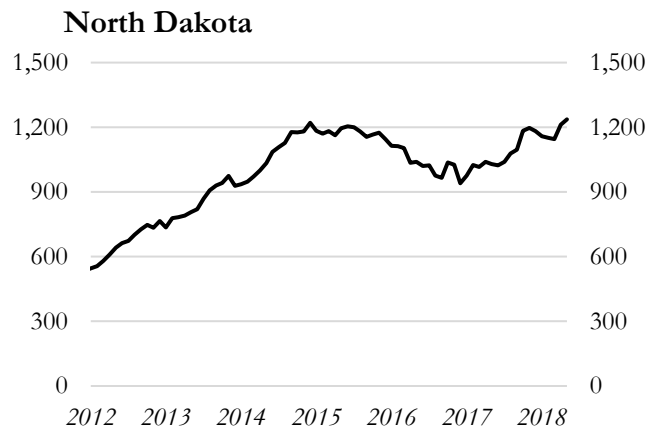
Data through May 2018



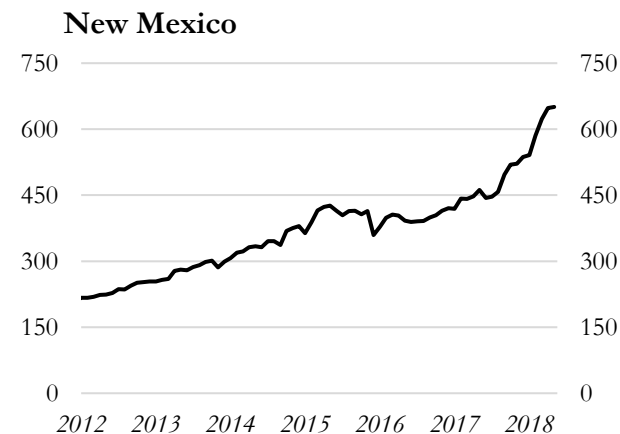
<b>United States</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
May-18	10,442	
Month Ago	10,472	-0.3%
3 Months Ago	10,248	1.9%
6 Months Ago	10,101	3.4%
1 Year Ago	9,217	13.3%



<b>Texas</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
May-18	4,243	
Month Ago	4,223	0.5%
3 Months Ago	4,015	5.7%
6 Months Ago	3,903	8.7%
1 Year Ago	3,434	23.6%
Share of U.S. Production		40.6%



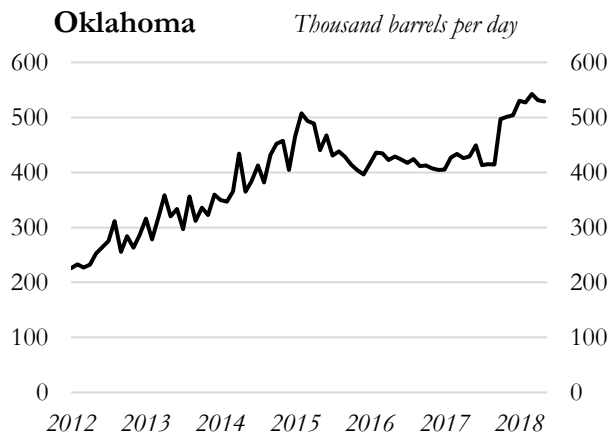
<b>North Dakota</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
May-18	1,237	
Month Ago	1,212	2.0%
3 Months Ago	1,151	7.4%
6 Months Ago	1,197	3.3%
1 Year Ago	1,029	20.1%
Share of U.S. Production		11.8%



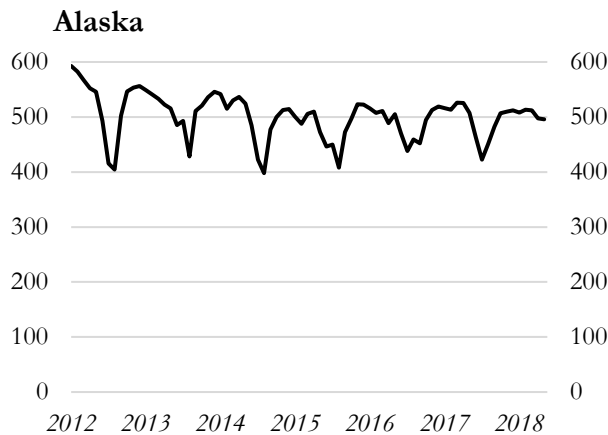
<b>New Mexico</b>		<i>Change from</i>
<i>Thousand barrels per day</i>		
May-18	651	
Month Ago	648	0.4%
3 Months Ago	586	11.1%
6 Months Ago	522	24.7%
1 Year Ago	462	40.9%
Share of U.S. Production		6.2%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

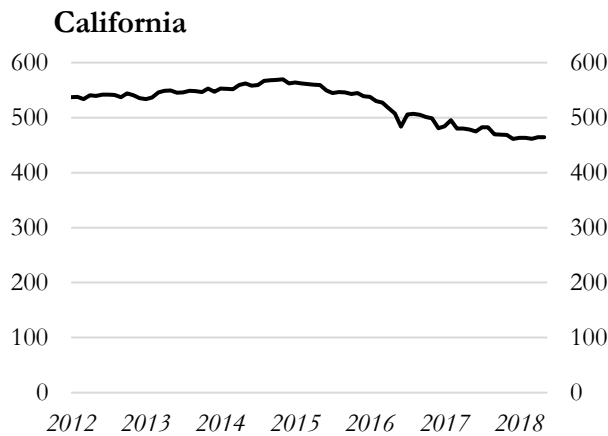
Data through May 2018



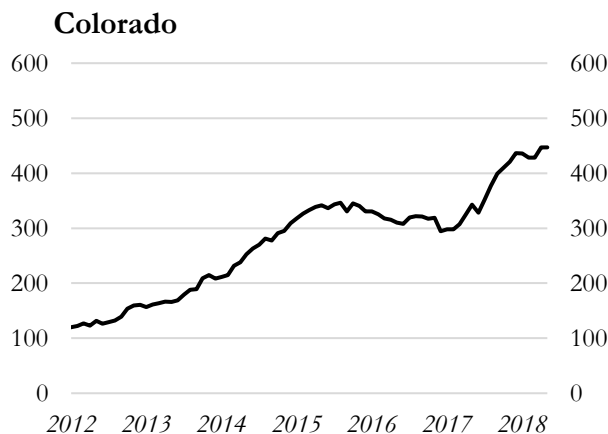
	Oklahoma Thousand barrels per day	Change from
May-18	529	
Month Ago	531	-0.4%
3 Months Ago	527	0.3%
6 Months Ago	501	5.6%
1 Year Ago	429	23.4%
Share of U.S. Production	5.1%	



	Alaska Thousand barrels per day	Change from
May-18	496	
Month Ago	497	-0.3%
3 Months Ago	513	-3.3%
6 Months Ago	510	-2.7%
1 Year Ago	508	-2.3%
Share of U.S. Production	4.7%	



	California Thousand barrels per day	Change from
May-18	464	
Month Ago	465	-0.1%
3 Months Ago	463	0.2%
6 Months Ago	468	-0.9%
1 Year Ago	478	-2.9%
Share of U.S. Production	4.4%	

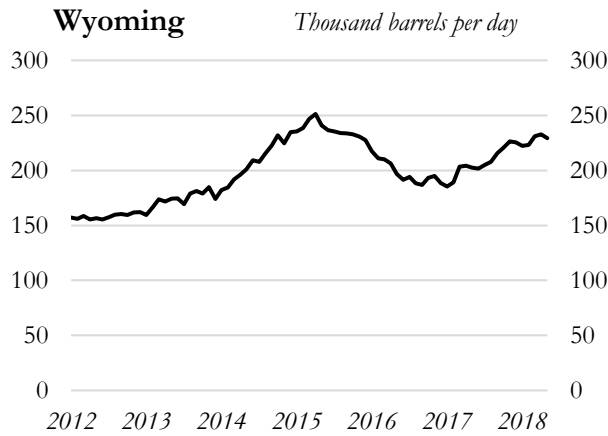


	Colorado Thousand barrels per day	Change from
May-18	447	
Month Ago	447	0.0%
3 Months Ago	428	4.3%
6 Months Ago	421	6.2%
1 Year Ago	343	30.3%
Share of U.S. Production	4.3%	

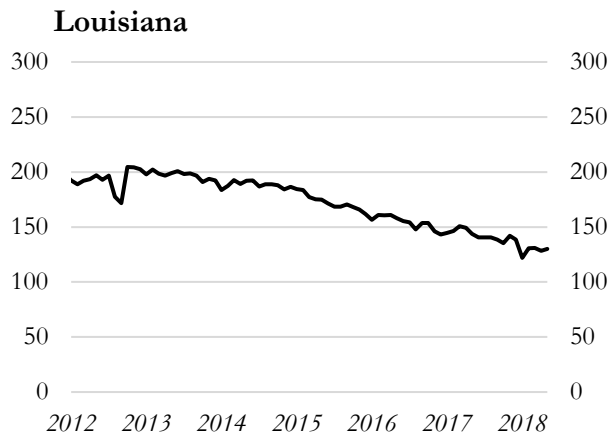
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics



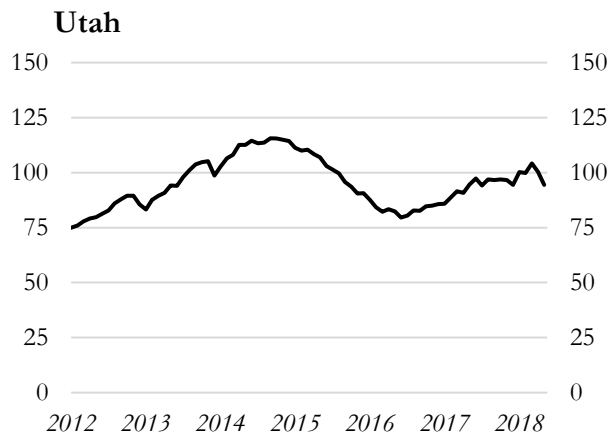
Data through May 2018



Wyoming		Change
Thousand barrels per day		from
May-18	229	
Month Ago	233	-1.4%
3 Months Ago	223	2.8%
6 Months Ago	226	1.3%
1 Year Ago	202	13.3%
Share of U.S. Production		2.2%



Louisiana		Change
Thousand barrels per day		from
May-18	130	
Month Ago	128	1.3%
3 Months Ago	131	-0.4%
6 Months Ago	142	-8.4%
1 Year Ago	144	-9.5%
Share of U.S. Production		1.2%

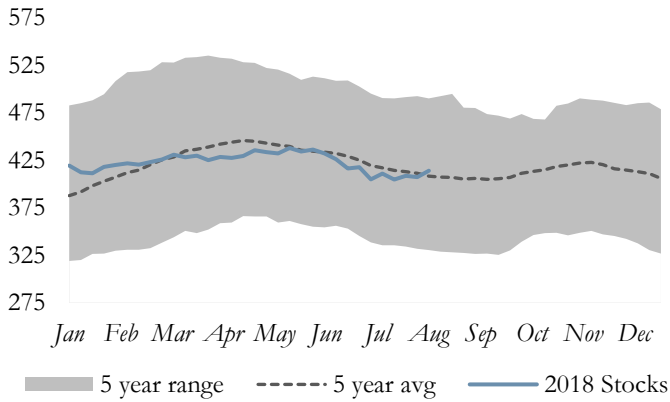


Utah		Change
Thousand barrels per day		from
May-18	94	
Month Ago	100	-6.0%
3 Months Ago	100	-5.4%
6 Months Ago	97	-2.2%
1 Year Ago	95	-0.1%
Share of U.S. Production		0.9%

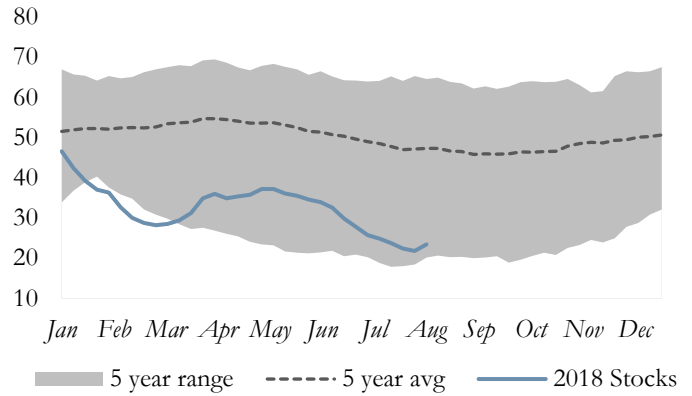
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

July 2018 Weekly U.S. Crude Oil Stocks

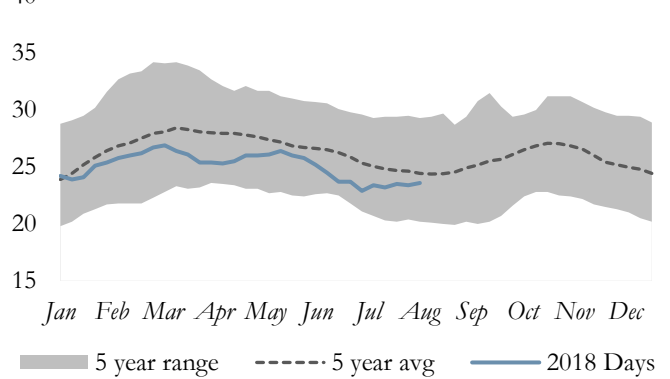
U.S. Oil Stocks, million barrels\*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



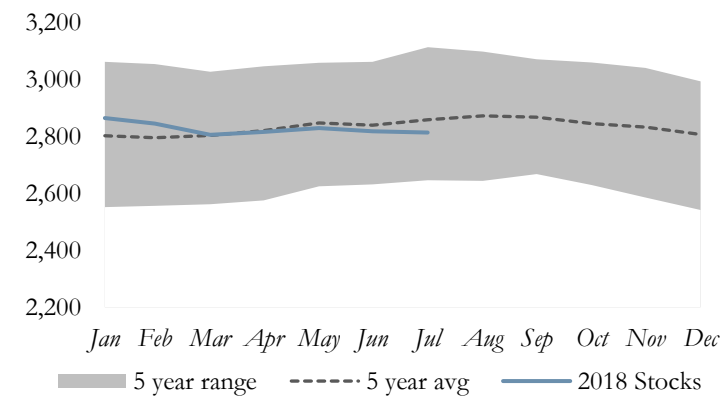
Crude Oil Stocks

	1 Week Ago	1 Year Ago
U.S.	1.7%	-11.2%
Cushing, OK	7.5%	-58.9%
Days of Supply	0.9%	-11.6%
East Coast (PADD 1)	16.3%	-2.5%
Midwest (PADD 2)	1.6%	-24.5%
Gulf Coast (PADD 3)	0.2%	-8.9%
Rocky Mountain (PADD 4)	0.1%	-3.0%
West Coast (PADD 5)	5.2%	11.3%

\*Stocks include those domestic and Customs-cleared foreign stocks held at, or in transit to, refineries and bulk terminals, and stocks in pipelines.

July 2018 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels



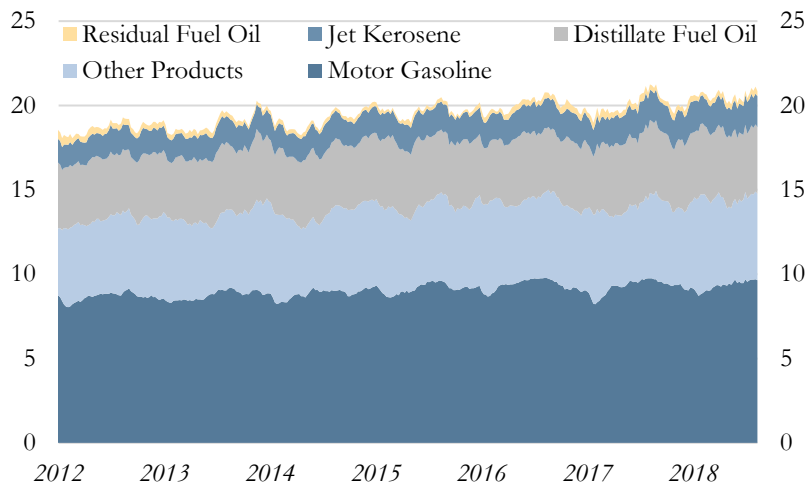
Petroleum Stocks	Million Barrels	Change from
Current Month	2,814	
1 Month Ago	2,818	-0.1%
3 Months Ago	2,816	-0.1%
6 Months Ago	2,865	-1.8%
1 Year Ago	3,020	-6.8%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

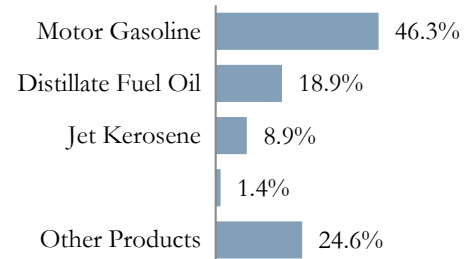
**August 2018 Weekly U.S. Demand for Petroleum Products**

*4-Week Averages*

**All Petroleum Products, million barrels per day**



**Share of Total Consumption**



**U.S. Consumption by Product & Percent Change**

**U.S. Consumption by Product, thousand barrels per day**

	<i>Current</i> 8/10/18	<i>1 Month</i> <i>Ago</i>	<i>3 Months</i> <i>Ago</i>	<i>6 Months</i> <i>Ago</i>	<i>1 Year</i> <i>Ago</i>
All Products	20,846	20,694	20,060	20,692	21,192
Motor Gasoline	9,646	9,646	9,370	8,978	9,746
Distillate Fuel Oil	3,935	3,921	4,191	4,044	4,312
Jet Kerosene	1,851	1,825	1,632	1,604	1,790
Residual Fuel Oil	296	324	325	299	330
Other Products	5,118	4,978	4,542	5,767	5,014

**U.S. Consumption by Product, Change from**

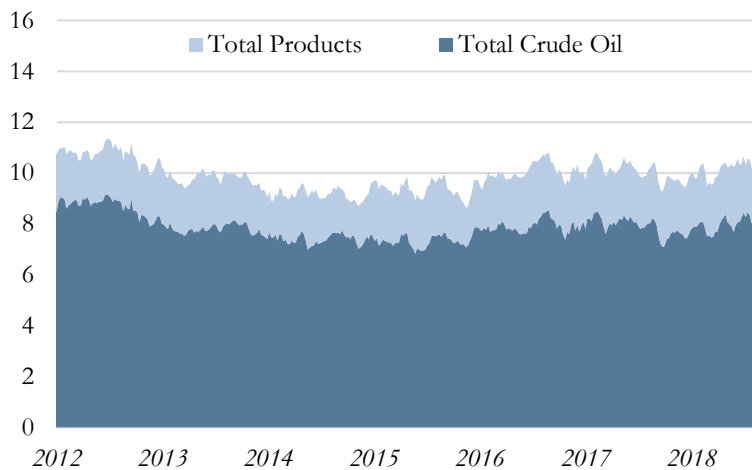
	<i>Current</i> 8/10/18	<i>1 Month</i> <i>Ago</i>	<i>3 Months</i> <i>Ago</i>	<i>6 Months</i> <i>Ago</i>	<i>1 Year</i> <i>Ago</i>
All Products	-	0.7%	3.9%	0.7%	-1.6%
Motor Gasoline	-	0.0%	2.9%	7.4%	-1.0%
Distillate Fuel Oil	-	0.4%	-6.1%	-2.7%	-8.7%
Jet Kerosene	-	1.4%	13.4%	15.4%	3.4%
Residual Fuel Oil	-	-8.6%	-8.9%	-1.0%	-10.3%
Other Products	-	2.8%	12.7%	-11.3%	2.1%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

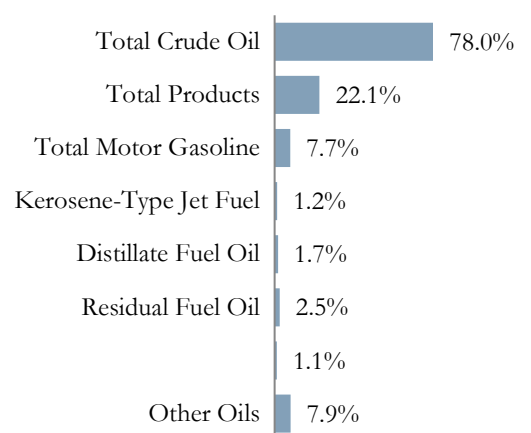
August 2018 Weekly U.S. Imports of Crude Oil & Petroleum Products

4-Week Averages

Imports, million barrels per day



Share of Total Imports



U.S. Imports by Product\*

Thousand barrels per day

	Current 8/10/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	<b>8,116</b>	<b>8,477</b>	<b>7,986</b>	<b>8,063</b>	<b>8,046</b>
<b>Total Products</b>	<b>2,296</b>	<b>2,080</b>	<b>2,246</b>	<b>2,320</b>	<b>2,164</b>
Total Motor Gasoline	798	787	836	617	762
Kerosene-Type Jet Fuel	130	117	119	131	153
Distillate Fuel Oil	177	97	101	346	111
Residual Fuel Oil	260	236	215	193	187
Propane/Propylene	112	99	130	235	114
Other Oils	819	745	845	798	818
<b>Total Imports</b>	<b>10,412</b>	<b>10,557</b>	<b>10,232</b>	<b>10,383</b>	<b>10,210</b>

U.S. Imports by Product, Change from

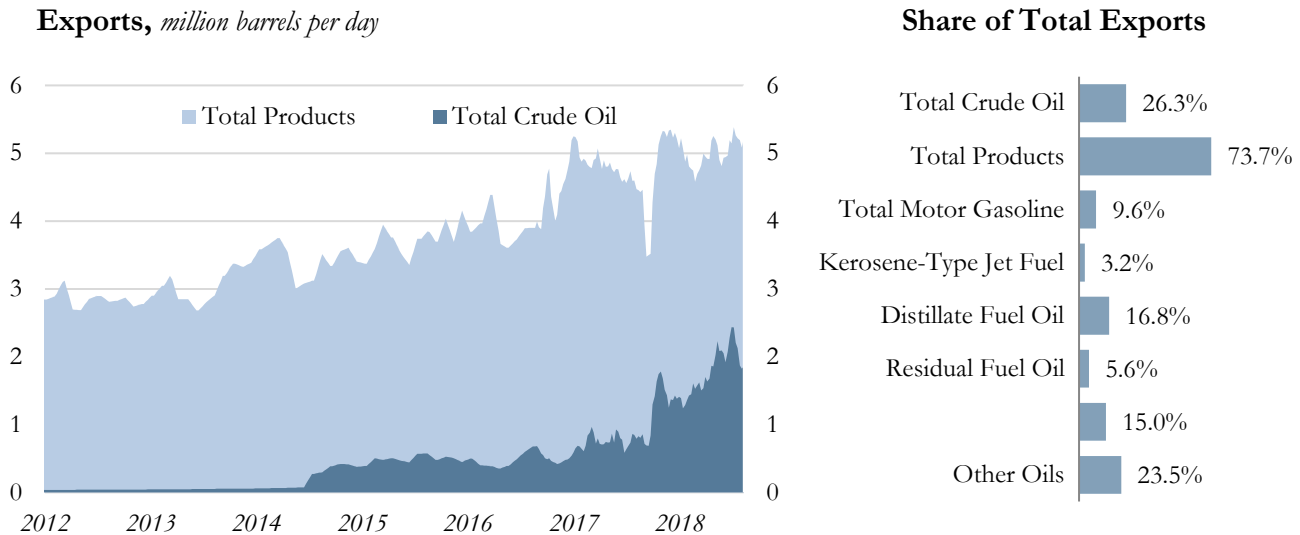
	Current 8/10/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
<b>Total Crude Oil</b>	-	<b>-4.3%</b>	<b>1.6%</b>	<b>0.7%</b>	0.9%
<b>Total Products</b>	-	<b>10.4%</b>	<b>2.2%</b>	<b>-1.0%</b>	<b>6.1%</b>
Total Motor Gasoline	-	1.4%	-4.5%	29.3%	4.7%
Kerosene-Type Jet Fuel	-	11.1%	9.2%	-0.8%	-15.0%
Distillate Fuel Oil	-	82.5%	75.2%	-48.8%	59.5%
Residual Fuel Oil	-	10.2%	20.9%	34.7%	39.0%
Propane/Propylene	-	13.1%	-13.8%	-52.3%	-1.8%
Other Oils	-	9.9%	-3.1%	2.6%	0.1%
<b>Total Imports</b>	-	<b>-1.4%</b>	<b>1.8%</b>	<b>0.3%</b>	<b>2.0%</b>

\*Totals may not sum due to component rounding

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

**August 2018 Weekly U.S. Exports of Crude Oil & Petroleum Products**

*4-Week Averages*



**U.S. Exports by Product\***

*Thousand barrels per day*

	<i>Current</i> 8/10/18	<i>1 Month</i> <i>Ago</i>	<i>3 Months</i> <i>Ago</i>	<i>6 Months</i> <i>Ago</i>	<i>1 Year</i> <i>Ago</i>
<b>Total Crude Oil</b>	<b>1,859</b>	<b>2,206</b>	<b>2,231</b>	<b>1,446</b>	<b>829</b>
<b>Total Products</b>	<b>5,219</b>	<b>5,263</b>	<b>5,116</b>	<b>4,768</b>	<b>4,457</b>
<i>Total Motor Gasoline</i>	676	755	800	728	558
<i>Kerosene-Type Jet Fuel</i>	226	225	207	118	151
<i>Distillate Fuel Oil</i>	1,190	1,406	1,281	1,070	1,147
<i>Residual Fuel Oil</i>	397	369	341	312	271
<i>Propane/ Propylene</i>	1,065	723	852	794	743
<i>Other Oils</i>	1,665	1,786	1,636	1,747	1,587
<b>Total Exports</b>	<b>7,078</b>	<b>7,469</b>	<b>7,347</b>	<b>6,215</b>	<b>5,286</b>

**U.S. Exports by Product, Change from**

	<i>Current</i> 8/10/18	<i>1 Month</i> <i>Ago</i>	<i>3 Months</i> <i>Ago</i>	<i>6 Months</i> <i>Ago</i>	<i>1 Year</i> <i>Ago</i>
<b>Total Crude Oil</b>	-	<b>-15.7%</b>	<b>-16.7%</b>	<b>28.6%</b>	124.2%
<b>Total Products</b>	-	<b>-0.8%</b>	<b>2.0%</b>	<b>9.5%</b>	<b>17.1%</b>
<i>Total Motor Gasoline</i>	-	<b>-10.5%</b>	<b>-15.5%</b>	<b>-7.1%</b>	21.1%
<i>Kerosene-Type Jet Fuel</i>	-	0.4%	9.2%	91.5%	49.7%
<i>Distillate Fuel Oil</i>	-	<b>-15.4%</b>	<b>-7.1%</b>	11.2%	3.7%
<i>Residual Fuel Oil</i>	-	7.6%	16.4%	27.2%	46.5%
<i>Propane/ Propylene</i>	-	47.3%	25.0%	34.1%	43.3%
<i>Other Oils</i>	-	<b>-6.8%</b>	1.8%	<b>-4.7%</b>	4.9%
<b>Total Exports</b>	-	<b>-5.2%</b>	<b>-3.7%</b>	<b>13.9%</b>	<b>33.9%</b>

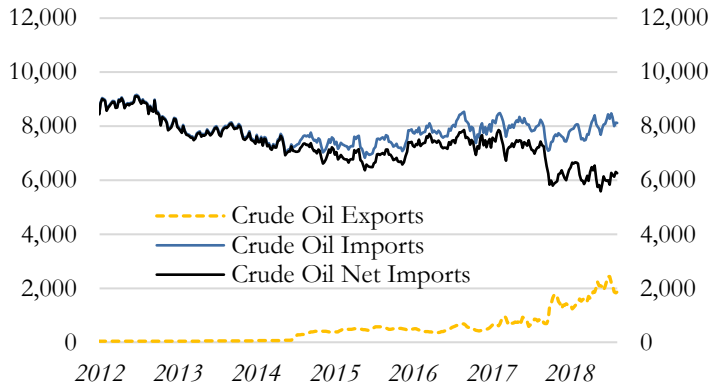
\*Totals may not sum due to rounding

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

### August 2018 Weekly U.S. Net Imports of Crude Oil & Petroleum Products

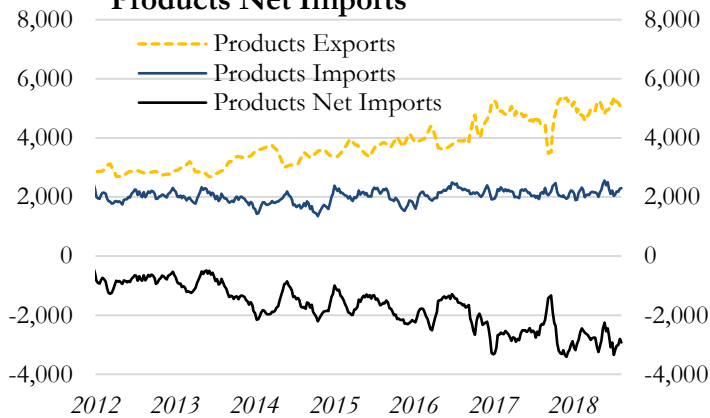
4-Week Averages, Thousand barrels per day

#### Crude Oil Net Imports



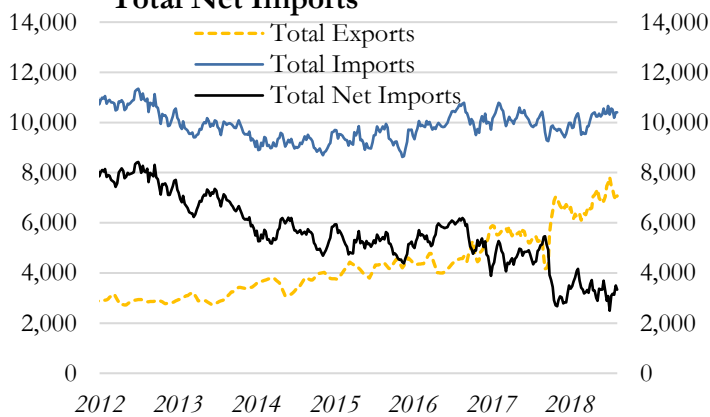
Crude Oil Net Imports		Change
Thousand barrels per day		from
8/10/18	6,257	
Month Ago	6,271	-0.2%
3 Months Ago	5,755	8.7%
6 Months Ago	6,617	-5.4%
1 Year Ago	7,217	-13.3%

#### Products Net Imports



Products Net Imports		Change
Thousand barrels per day		from
8/10/18	-2,923	
Month Ago	-3,184	-
3 Months Ago	-2,870	-
6 Months Ago	-2,448	-
1 Year Ago	-2,293	-

#### Total Net Imports

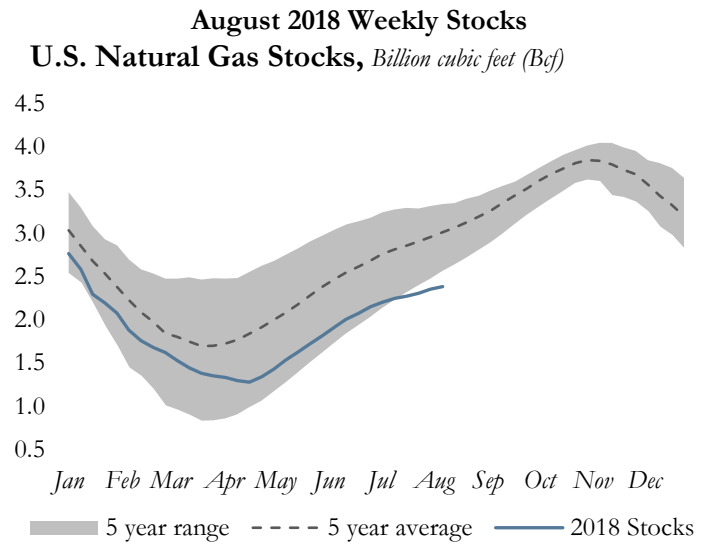
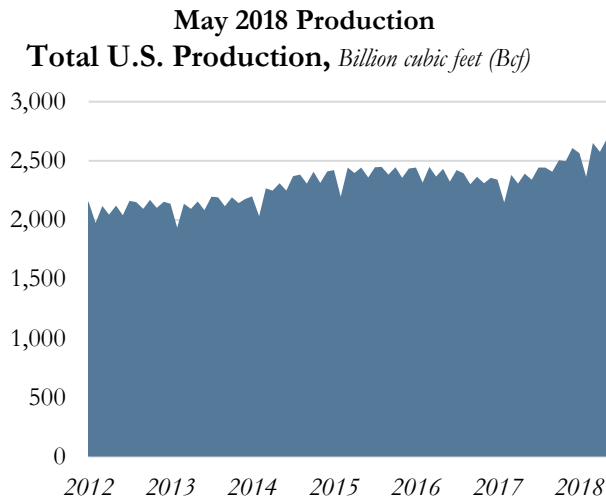


Total Net Imports		Change
Thousand barrels per day		from
8/10/18	3,334	
Month Ago	3,088	8.0%
3 Months Ago	2,885	15.6%
6 Months Ago	4,169	-20.0%
1 Year Ago	4,925	-32.3%

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics



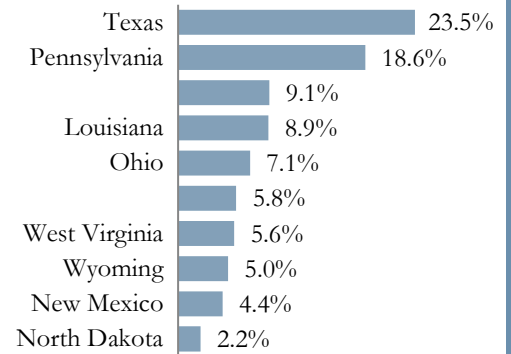
U.S. Natural Gas Production & Stocks



U.S. Natural Gas, Billion cubic feet (Bcf)

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	2,683	2,576	2,365	2,497	2,391
U.S. Stocks	2,387	2,249	1,538	1,884	3,082

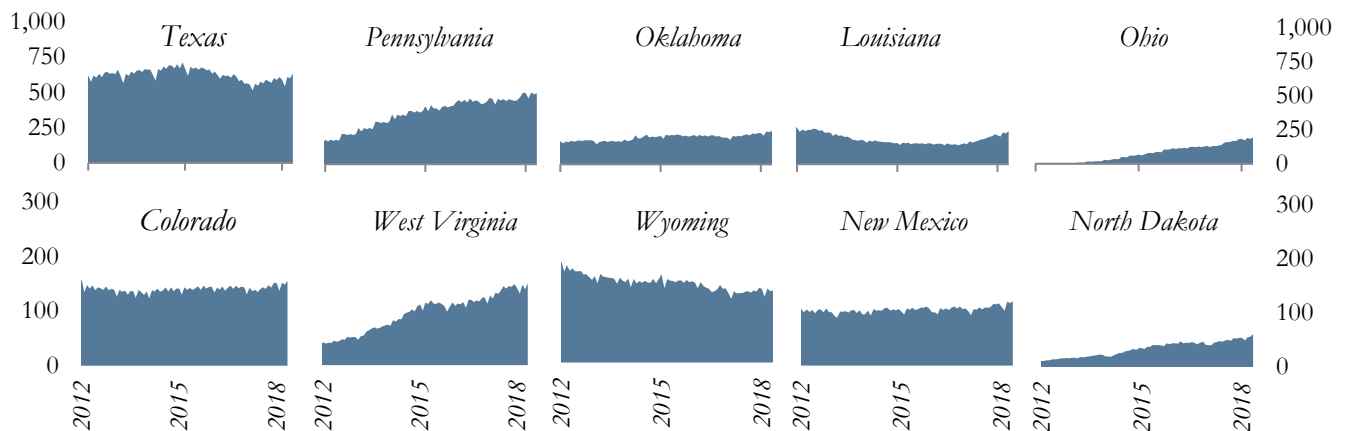
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	4.1%	13.4%	7.4%	12.2%
U.S. Stocks	-	6.1%	55.2%	26.7%	-22.6%

Top Producing States, Billion cubic feet (Bcf)



\*U.S. production is monthly data & stocks are weekly data

Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

*Definitions:*

West Texas Intermediate: A crude oil produced in Texas and southern Oklahoma which serves as a reference or "marker" for pricing a number of other crude streams and is traded in the domestic spot market at Cushing, Oklahoma.

Brent: A blended crude oil produced in the North Sea region which serves as a reference or "marker" for pricing a number of other international crude streams.

Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Refined petroleum products include but are not limited to gasolines, kerosene, distillates (including No. 2 fuel oil), liquefied petroleum gas, asphalt, lubricating oils, diesel fuels, and residual fuels.

*Notes:*

*Page 2:* Petroleum Administration for Defense Districts (PADD) are geographic aggregations of the 50 States and the District of Columbia into five districts by the Petroleum Administration for Defense in 1950. These districts were originally defined during World War II for purposes of administering oil allocation. For more information, visit: <http://www.eia.gov/petroleum/supply/monthly/pdf/append.pdf>

*Page 3:* For OPEC countries & the U.S., only crude oil production data is used. For non-OPEC countries (excluding the U.S.) total petroleum production data is used. Total petroleum production includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

*Page 5:* The active rig count is the number of rigs actively exploring for or developing oil or natural gas. Rig counts provide an indicator of new drilling activity and potential for expanded crude oil or natural gas production.

*Pages 10:* Crude oil stocks are stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

Crude oil stocks for Cushing include domestic and foreign crude oil stocks held in tank farms in Lincoln, Payne, and Creek counties in Oklahoma. Cushing, Oklahoma, is the designated delivery point for NYMEX crude oil futures contracts.

Days of supply are calculated by taking the current stock level and dividing by product supplied (used as an estimate of demand) averaged over the most recent four-week period. For crude oil, refinery inputs of crude oil are used as a proxy for demand.

*Notes:*

Page 11: Petroleum Consumption approximately represents consumption of petroleum products because it measures the disappearance of these products from primary sources, i.e., refineries, natural gas-processing plants, blending plants, pipelines, and bulk terminals.

**Data Revisions**

Most data are revised periodically to correct for errors and incorporate additional information as it becomes available. Data shown in this report are subject to change.

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