

THE U.S. Energy DATABOOK

A summary of national and global energy indicators



DECEMBER 21, 2018

FEDERAL RESERVE BANK of KANSAS CITY

SUMMARY OF CURRENT ENERGY CONDITIONS

The number of total active drilling rigs in the United States dipped 1.0 percent from a month ago, but increased 15.2 percent from a year ago. U.S. crude oil production expanded 1.1 percent in September, and natural gas production dropped by 2.0 percent. Crude oil prices continued to fall in December, though more slowly than in November. For the week ending December 14th, West Texas Intermediate (WTI) crude oil averaged \$51.54 per barrel and North Sea Brent averaged \$59.51 per barrel, decreasing 9.5 percent and 10.1 percent respectively in the last month. On the other hand, the Henry Hub natural gas spot price averaged \$4.38 per million Btu for the week ending November 9th, increasing 3.5 percent in the last month. U.S. crude oil and petroleum products imports edged up 0.9 percent, and exports jumped up 15.8 percent over the last month. Global demand for petroleum rose 1.1 percent in the third quarter of 2018, and global petroleum production inched up 0.4 percent in November.

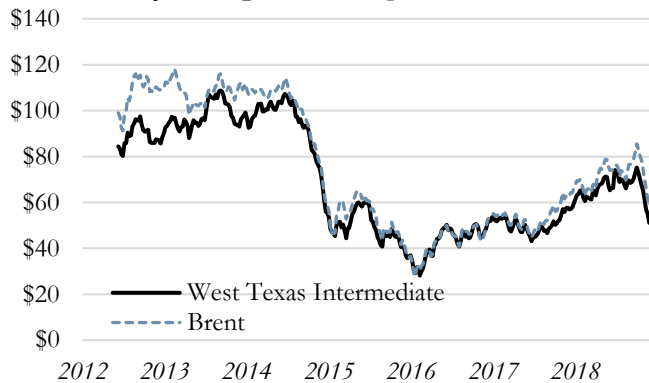
This databook provides current economic indicators to help monitor trends and allow comparison of past information. These indicators include: oil and natural gas prices; global petroleum production and demand; U.S. oil production and petroleum demand; U.S. crude oil stocks; OECD petroleum stocks; U.S. 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.



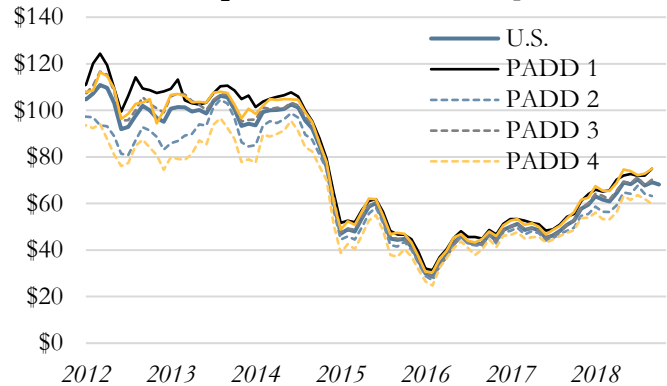
The Federal Reserve Bank of Kansas City's headquarters is located at 1 Memorial Drive in the heart of Kansas City, Missouri. The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, which includes Colorado, Kansas, western Missouri, Nebraska, northern New Mexico, Oklahoma and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

Weekly data through December 14, 2018

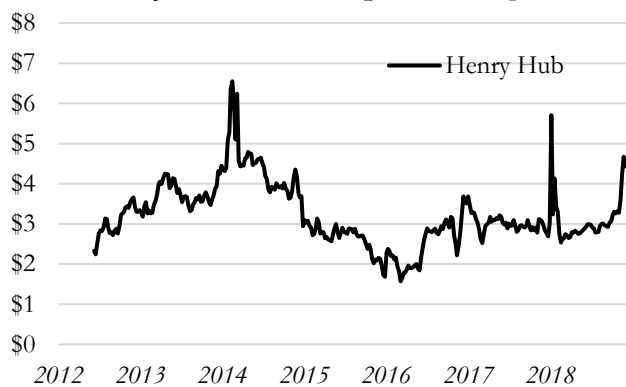
Weekly Oil Spot Prices, per barrel



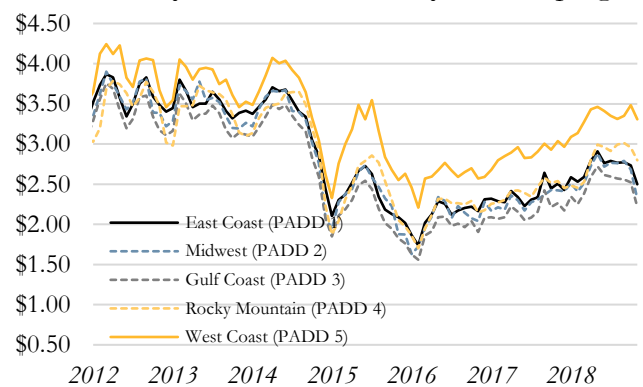
Refiner Acquisition Cost of Oil*, per barrel



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	Peak (2012-17)
Weekly Spot Prices	12/14/18	Ago	Ago	Ago	Ago	
West Texas Intermediate	\$51.54	-\$1.09	-\$5.38	-\$14.67	-\$5.63	-\$57.23
Brent	\$59.51	-\$0.96	-\$6.70	-\$14.75	-\$4.84	-\$58.59
Henry Hub	\$4.38	-\$0.11	\$0.15	\$1.39	\$1.61	-\$2.17

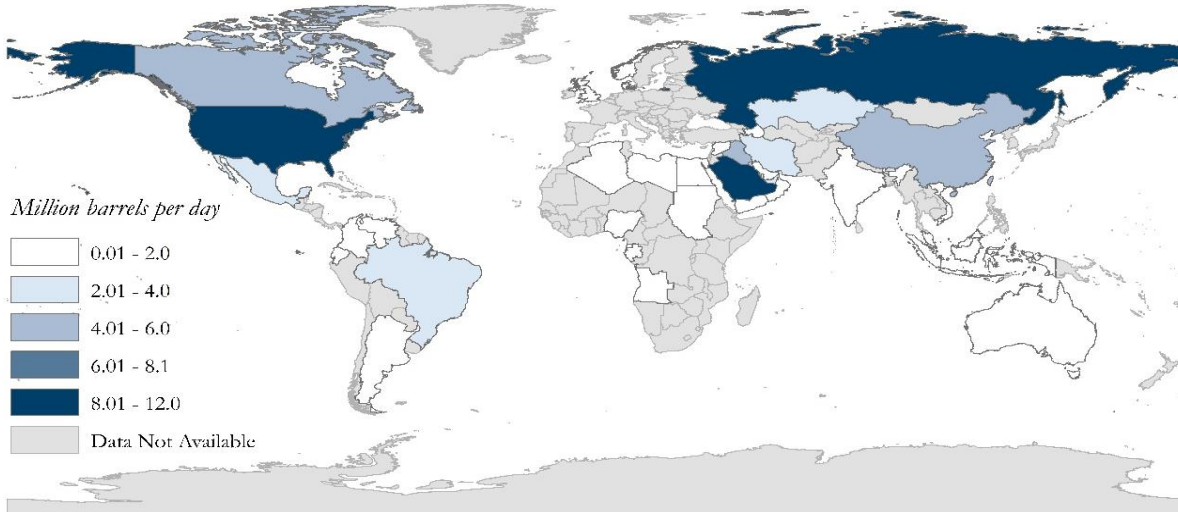
Monthly Gasoline Spot Prices, Change from

	Current	1 Month	6 Months	1 Year	Peak (2012-17)
Geographic Area	Nov-18	Ago	Ago	Ago	
East Coast (PADD 1)	\$2.50	-\$0.24	-\$0.41	-\$0.01	-\$1.33
Midwest (PADD 2)	\$2.31	-\$0.37	-\$0.57	-\$0.11	-\$1.50
Gulf Coast (PADD 3)	\$2.22	-\$0.31	-\$0.51	-\$0.05	-\$1.41
Rocky Mountain (PADD 4)	\$2.80	-\$0.16	-\$0.20	\$0.26	-\$0.98
West Coast (PADD 5)	\$3.31	-\$0.17	-\$0.16	\$0.27	-\$0.77

*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

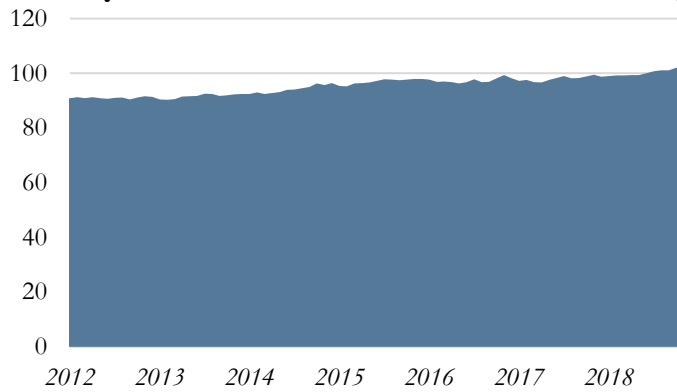
November 2018 Global Petroleum Production



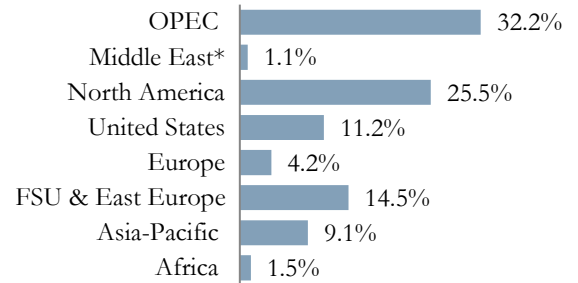
Source: Energy Information Administration/Haver Analytics

November 2018

Monthly Global Petroleum Production, million barrels per day

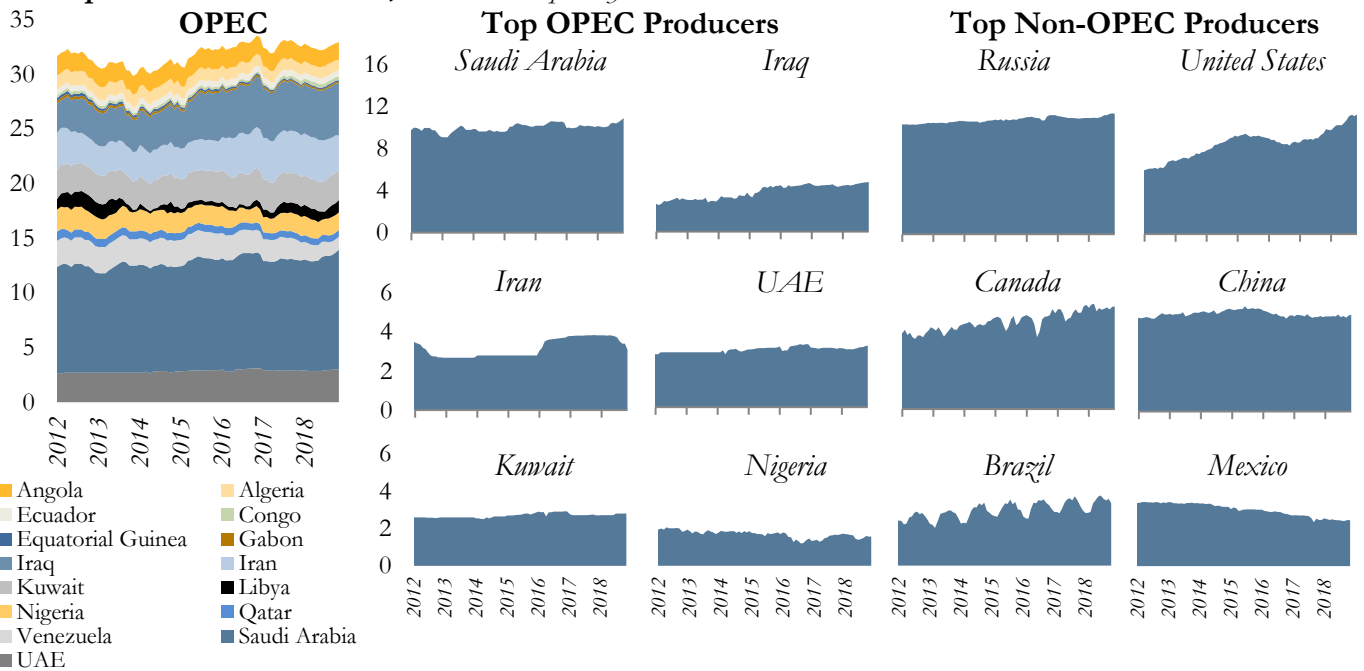


Regional Share of Production



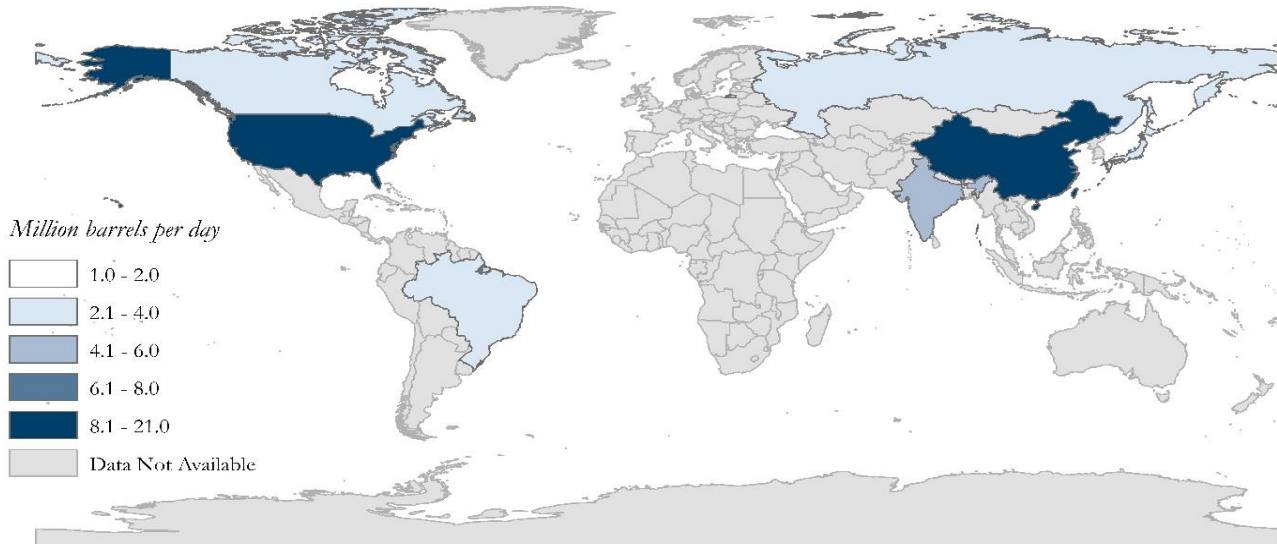
*Excludes OPEC

Top Crude Oil Producers, million barrels per day

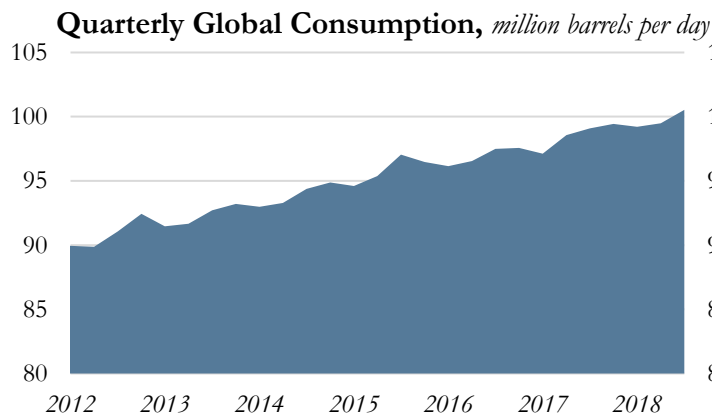


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

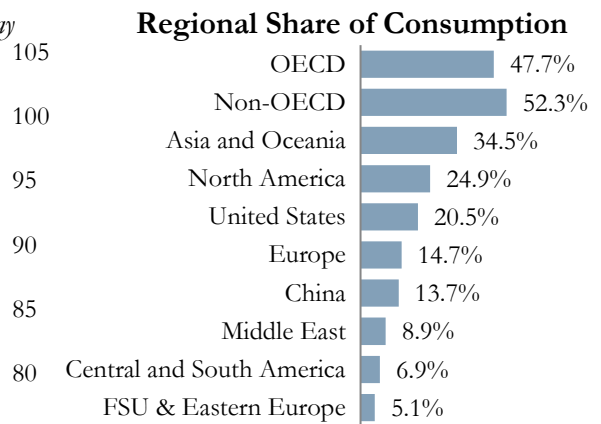
Third Quarter 2018 Global Petroleum Consumption



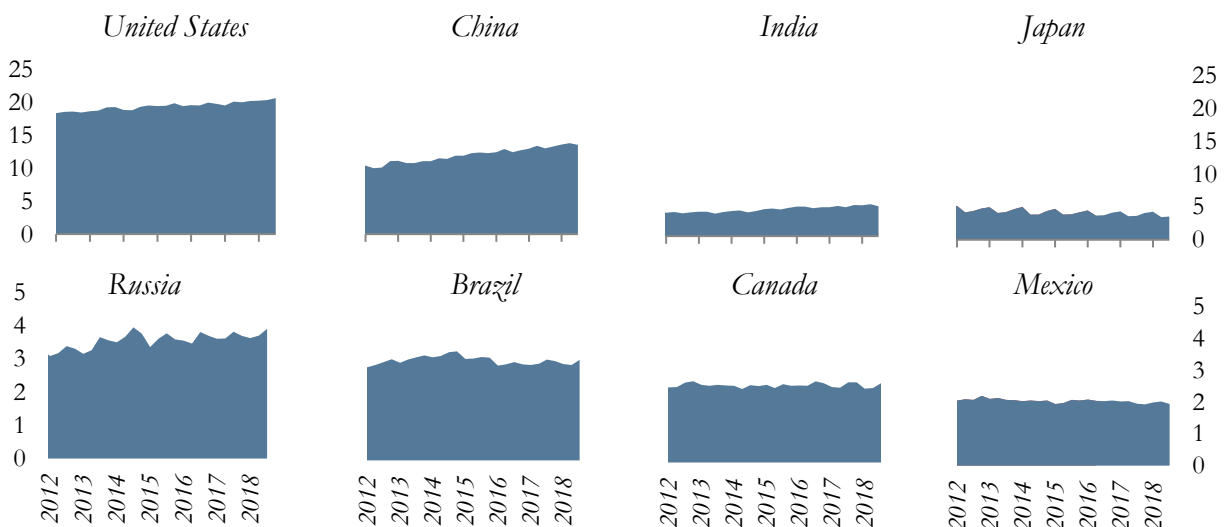
Source: Energy Information Administration/Haver Analytics



Third Quarter 2018 Regional Share of Consumption

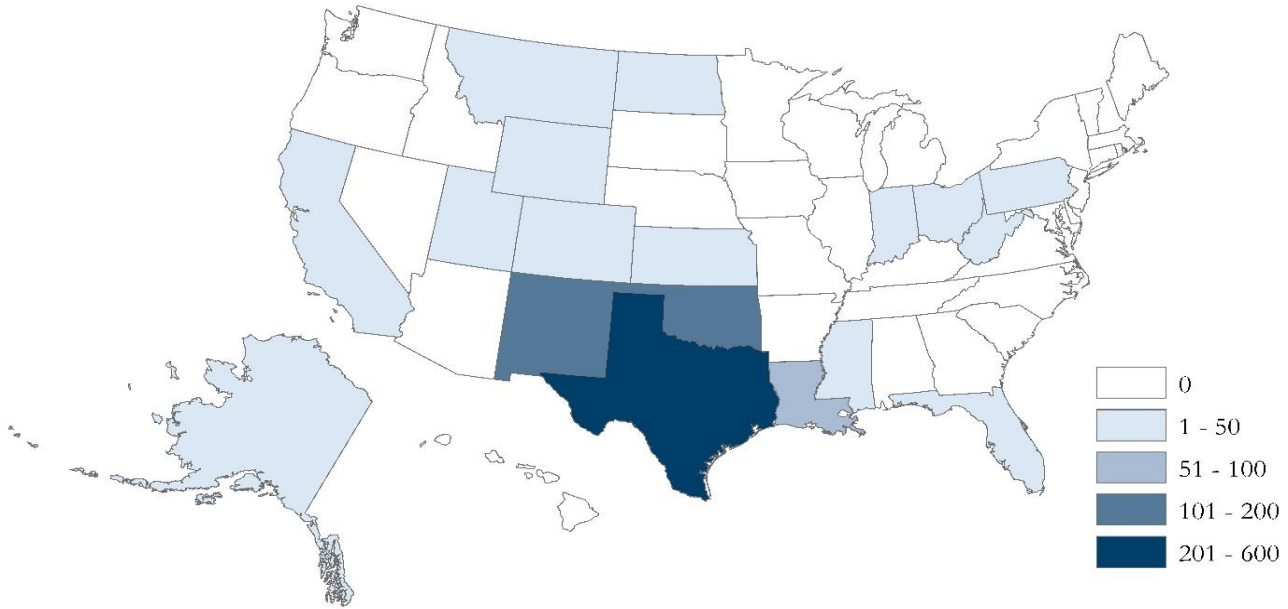


Top Petroleum Consumers, million barrels per day



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

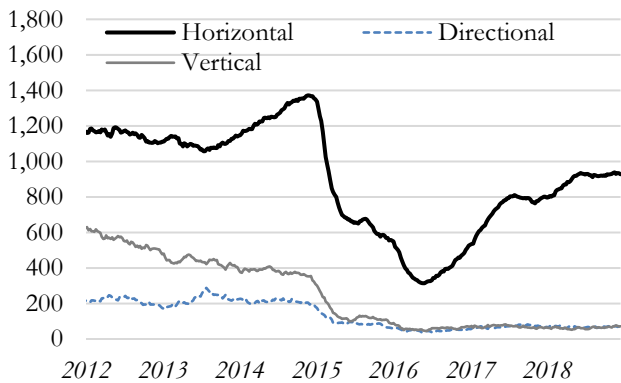
December 2018 Weekly Active Oil & Gas Drilling Rig Counts



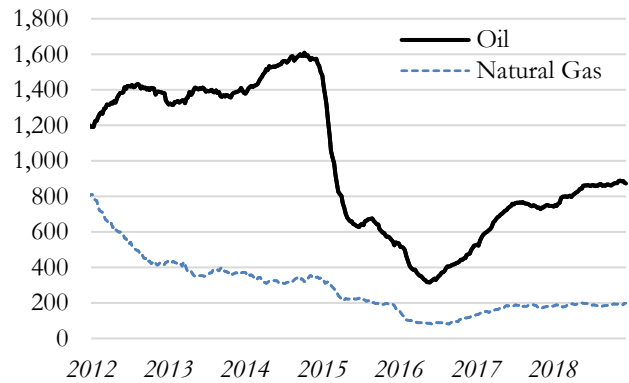
Source: Baker Hughes/Haver Analytics

December 14, 2018

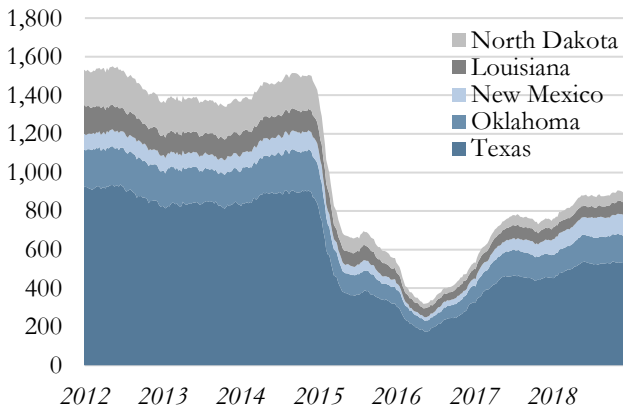
U.S. Active Drilling Rigs by Trajectory



U.S. Active Drilling Rigs by Type



Top Five States for Drilling Activity (Total Active Rigs)



Rig Count By Type

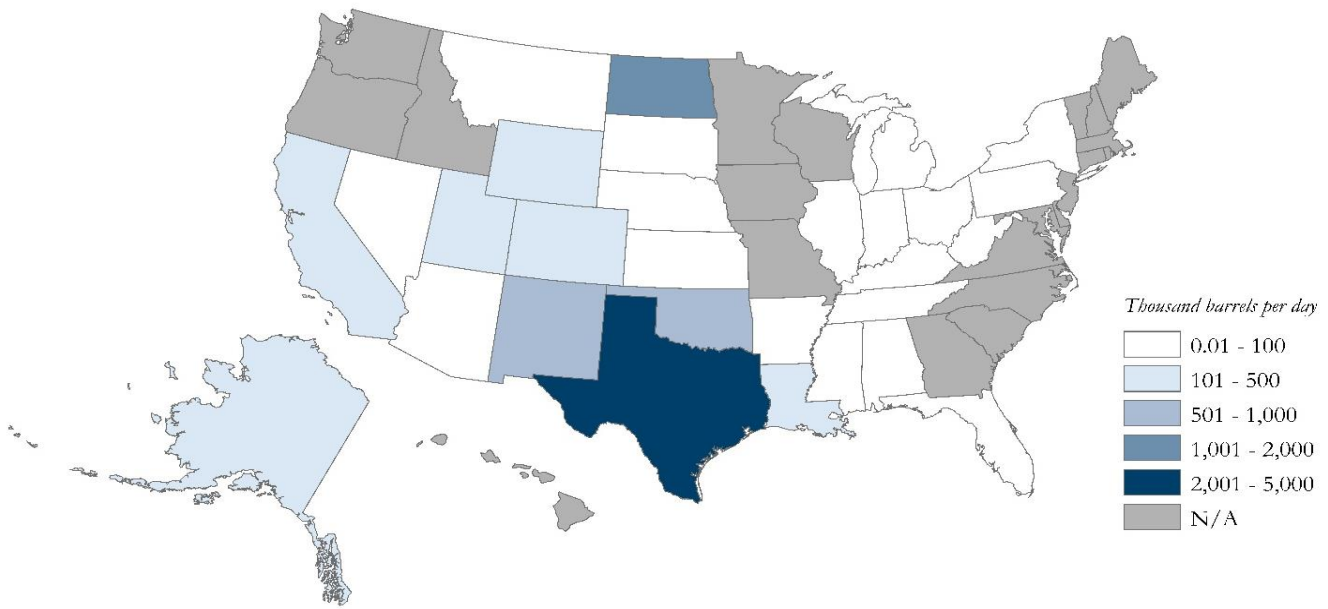
Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	873	888	867	747
Gas	198	194	186	183
Misc	0	0	2	0
Total	1071	1082	1055	930

Rig Count By Type, Change from

Rig Type	Current Week	1 Month Ago	3 Months Ago	1 Year Ago
Oil	-	-1.7%	0.7%	16.9%
Gas	-	2.1%	6.5%	8.2%
Misc	-	-	-100.0%	-
Total	-	-1.0%	1.5%	15.2%

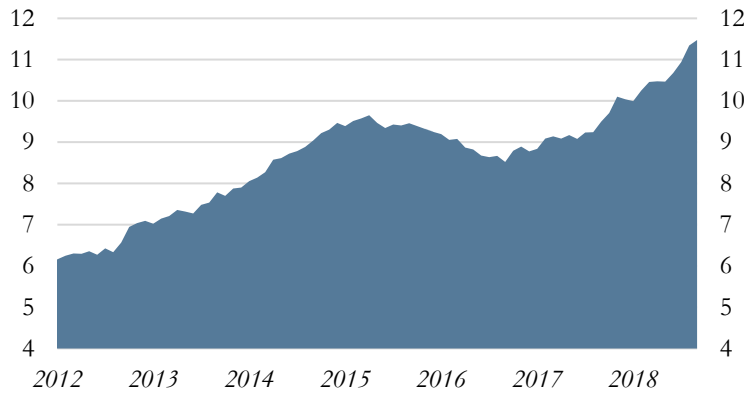
Source: Baker Hughes/Haver Analytics

September 2018 U.S. Crude Oil Production

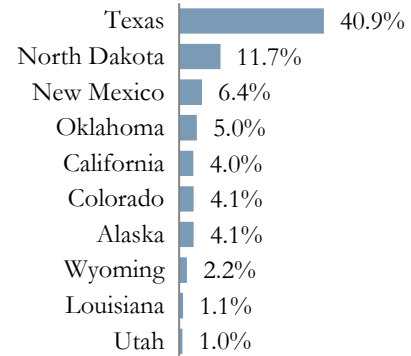


Source: Baker Hughes/Haver Analytics

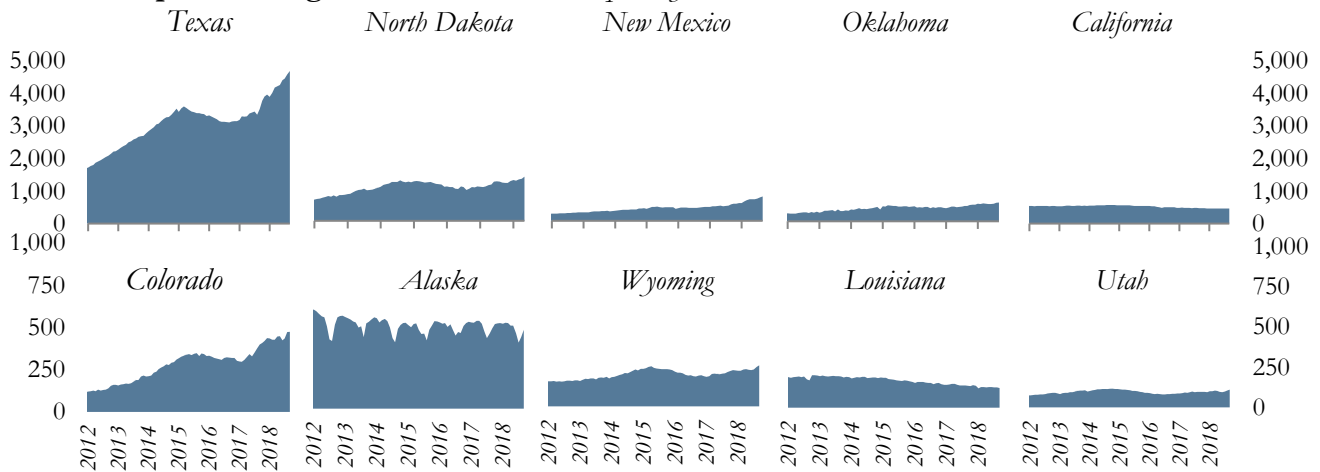
Monthly U.S. Production, million barrels per day



September 2018 Share of Production

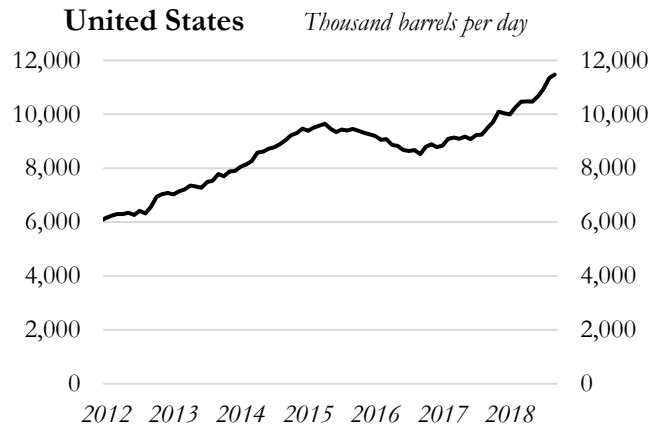


Top Producing States, thousand barrels per day

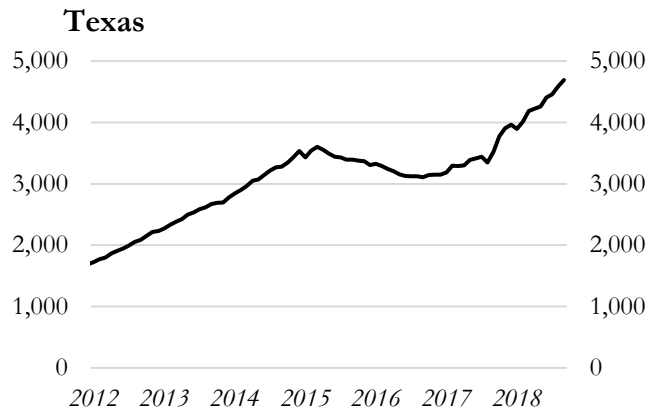


Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

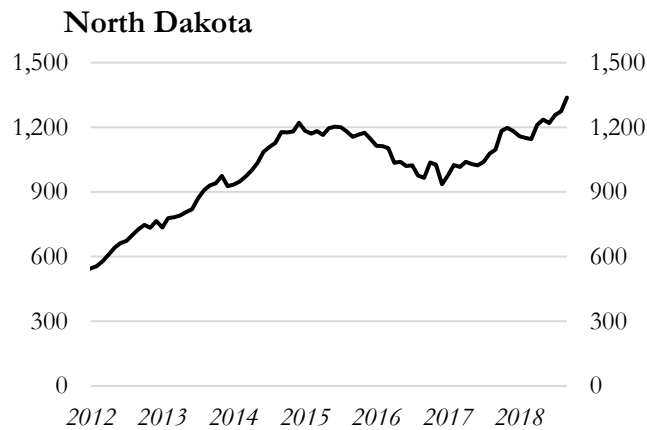
Data through September 2018



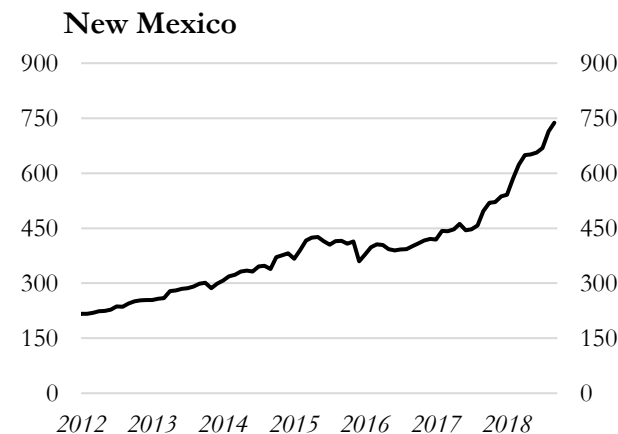
	United States <i>Thousand barrels per day</i>	<i>Change from</i>
Sep-18	11,475	
Month Ago	11,346	1.1%
3 Months Ago	10,672	7.5%
6 Months Ago	10,461	9.7%
1 Year Ago	9,495	20.8%



	Texas <i>Thousand barrels per day</i>	<i>Change from</i>
Sep-18	4,692	
Month Ago	4,586	2.3%
3 Months Ago	4,406	6.5%
6 Months Ago	4,185	12.1%
1 Year Ago	3,525	33.1%
Share of U.S. Production		40.9%



	North Dakota <i>Thousand barrels per day</i>	<i>Change from</i>
Sep-18	1,338	
Month Ago	1,274	5.0%
3 Months Ago	1,219	9.8%
6 Months Ago	1,145	16.8%
1 Year Ago	1,096	22.0%
Share of U.S. Production		11.7%

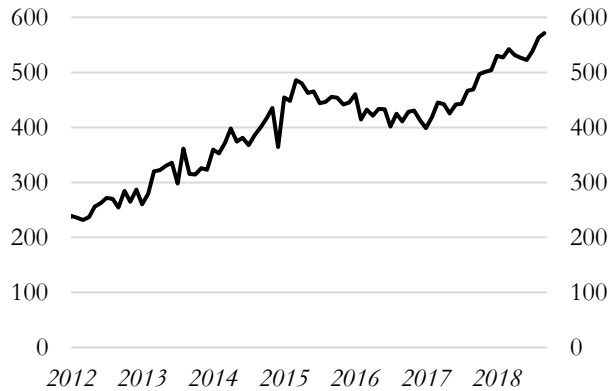


	New Mexico <i>Thousand barrels per day</i>	<i>Change from</i>
Sep-18	738	
Month Ago	714	3.3%
3 Months Ago	656	12.4%
6 Months Ago	623	18.4%
1 Year Ago	497	48.6%
Share of U.S. Production		6.4%

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

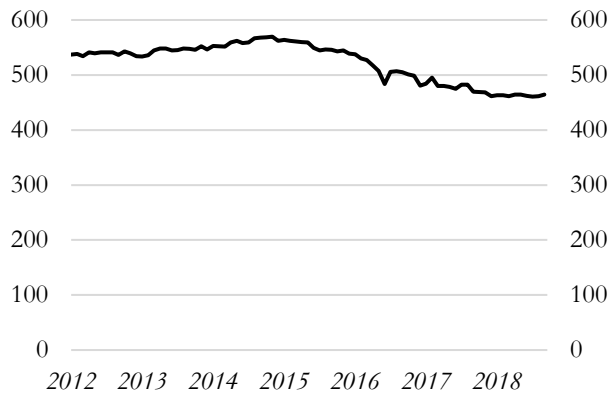
Data through September 2018

Oklahoma *Thousand barrels per day*



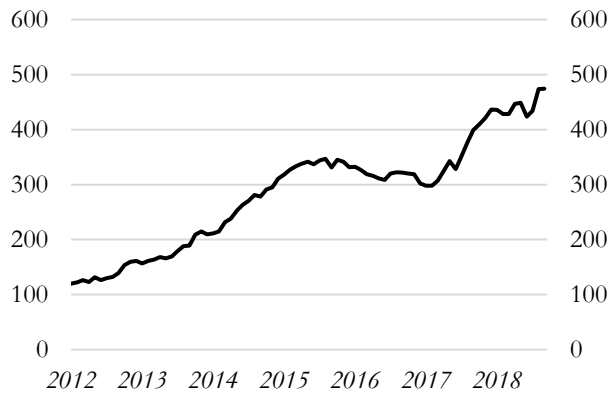
Oklahoma		<i>Change from</i>
<i>Thousand barrels per day</i>		
Sep-18	571	
Month Ago	563	1.4%
3 Months Ago	523	9.3%
6 Months Ago	543	5.3%
1 Year Ago	469	21.9%
Share of U.S. Production	5.0%	

California



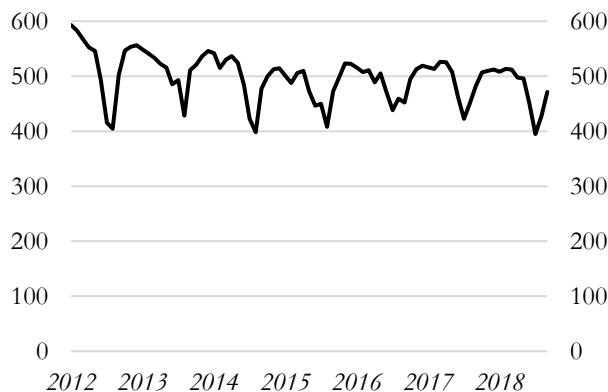
California		<i>Change from</i>
<i>Thousand barrels per day</i>		
Sep-18	464	
Month Ago	461	0.6%
3 Months Ago	462	0.5%
6 Months Ago	462	0.6%
1 Year Ago	469	-1.1%
Share of U.S. Production	4.0%	

Colorado



Colorado		<i>Change from</i>
<i>Thousand barrels per day</i>		
Sep-18	474	
Month Ago	473	0.2%
3 Months Ago	424	12.0%
6 Months Ago	428	10.7%
1 Year Ago	399	18.8%
Share of U.S. Production	4.1%	

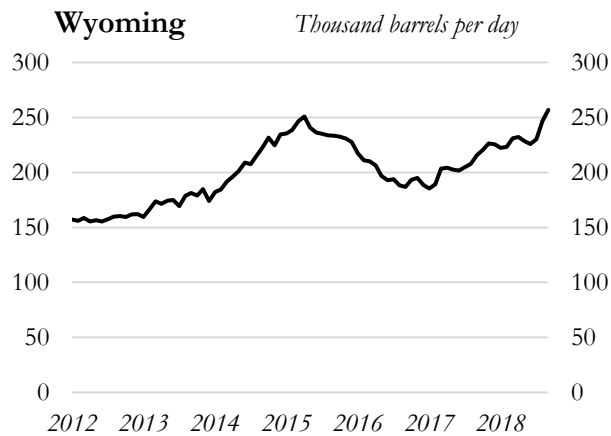
Alaska



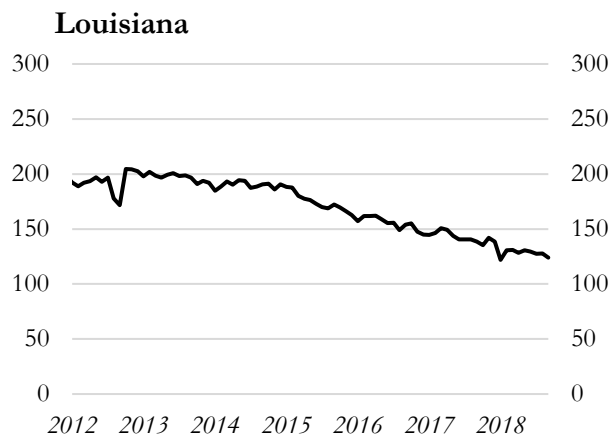
Alaska		<i>Change from</i>
<i>Thousand barrels per day</i>		
Sep-18	471	
Month Ago	428	10.2%
3 Months Ago	451	4.6%
6 Months Ago	512	-8.0%
1 Year Ago	482	-2.2%
Share of U.S. Production	4.1%	

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

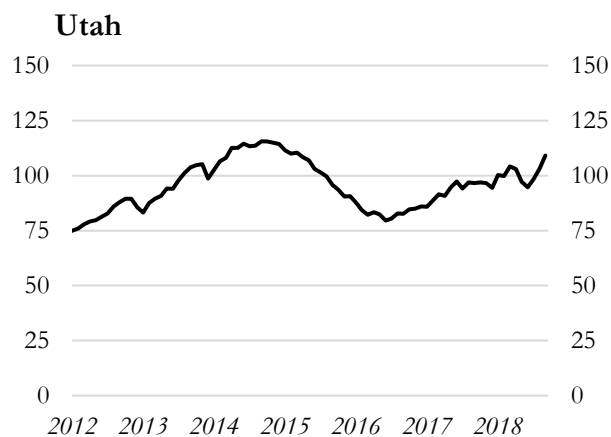
Data through September 2018



Wyoming		Change
Thousand barrels per day		from
Sep-18	257	
Month Ago	247	4.0%
3 Months Ago	226	13.7%
6 Months Ago	231	11.1%
1 Year Ago	216	19.2%
Share of U.S. Production		2.2%



Louisiana		Change
Thousand barrels per day		from
Sep-18	124	
Month Ago	128	-3.0%
3 Months Ago	129	-4.1%
6 Months Ago	131	-5.2%
1 Year Ago	139	-10.5%
Share of U.S. Production		1.1%

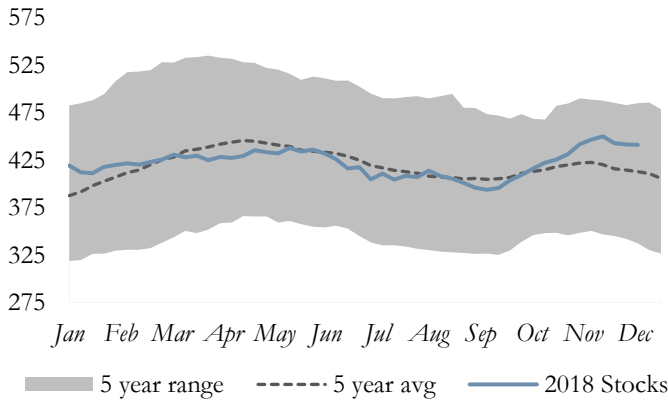


Utah		Change
Thousand barrels per day		from
Sep-18	109	
Month Ago	103	5.8%
3 Months Ago	95	15.3%
6 Months Ago	104	4.8%
1 Year Ago	97	13.1%
Share of U.S. Production		1.0%

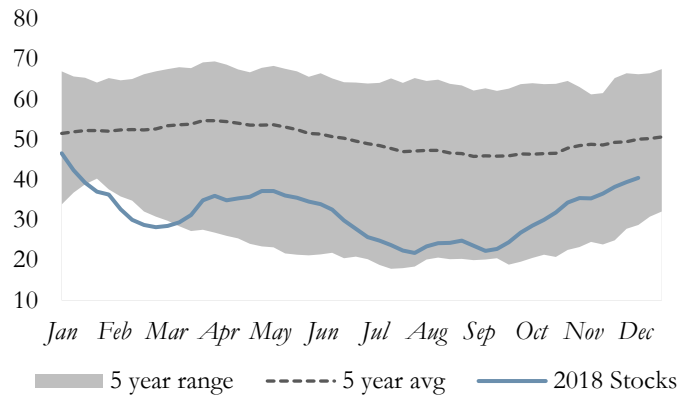
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

December 2018 Weekly U.S. Crude Oil Stocks

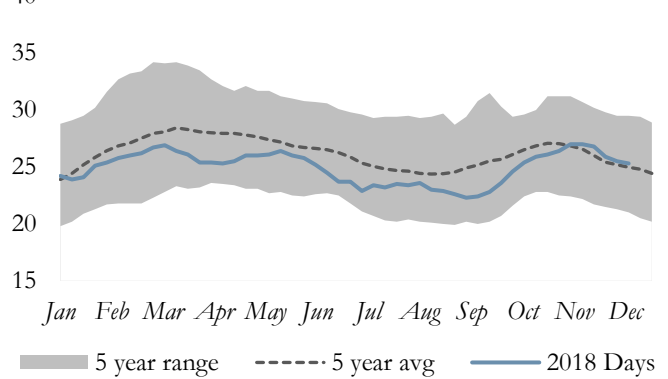
U.S. Oil Stocks, million barrels*



Cushing, OK Oil Stocks, million barrels



U.S. Oil Days of Supply, days



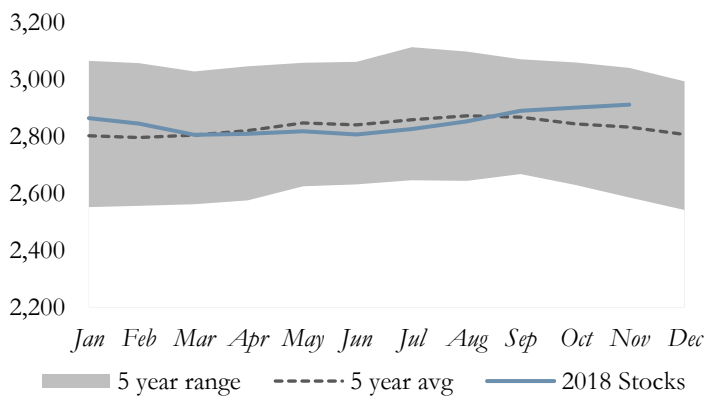
Crude Oil Stocks

	1 Week Change from Ago	1 Year Ago
U.S.	-0.1%	1.1%
Cushing, OK	2.8%	-23.6%
Days of Supply	-0.8%	-1.2%
East Coast (PADD 1)	1.1%	-12.1%
Midwest (PADD 2)	0.3%	-5.4%
Gulf Coast (PADD 3)	-0.4%	8.4%
Rocky Mountain (PADD 4)	-4.3%	-4.8%
West Coast (PADD 5)	1.7%	-5.8%

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

October 2018 OECD Commercial Petroleum Inventory

OECD Commercial Petroleum Inventory, million barrels

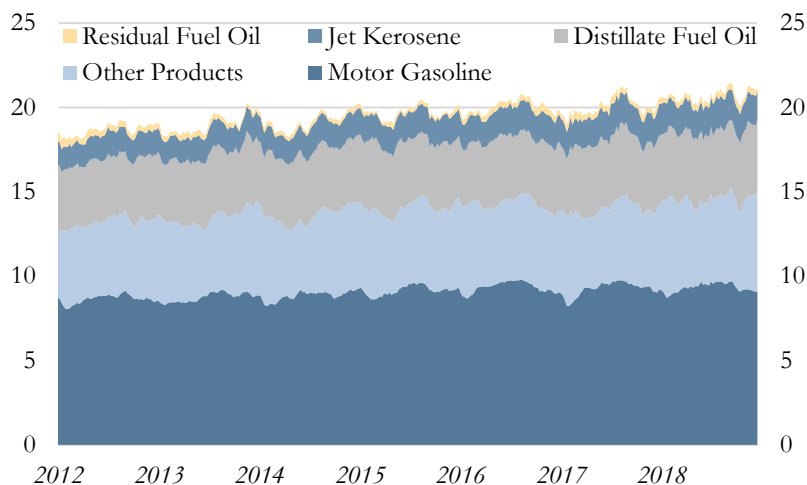


Petroleum Stocks	Million Barrels	Change from
Current Month	2,912	
1 Month Ago	2,902	0.3%
3 Months Ago	2,853	2.1%
6 Months Ago	2,818	3.3%
1 Year Ago	2,894	0.6%

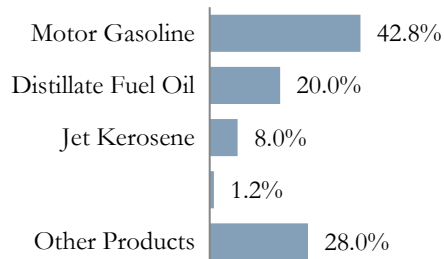
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

December 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

	Current 12/14/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	21,206	21,259	21,376	20,343	20,299
Motor Gasoline	9,086	9,185	9,704	9,468	9,034
Distillate Fuel Oil	4,240	4,412	4,042	4,013	3,981
Jet Kerosene	1,688	1,762	1,812	1,735	1,792
Residual Fuel Oil	263	394	394	280	467
Other Products	5,929	5,506	5,424	4,847	5,025

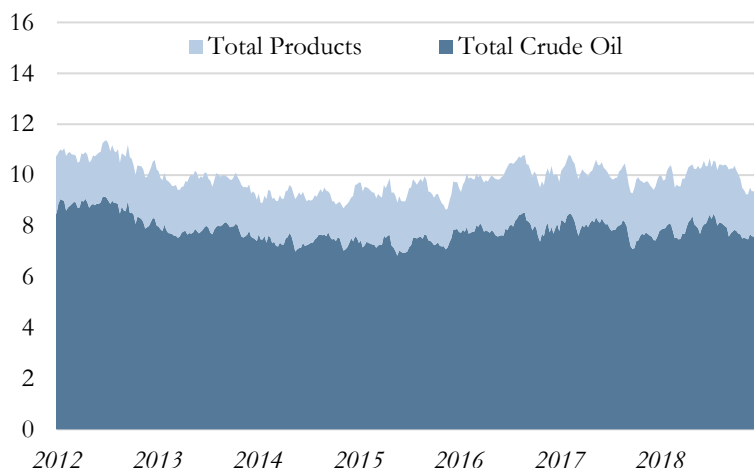
U.S. Consumption by Product, Change from

	Current 12/14/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
All Products	-	-0.2%	-0.8%	4.2%	4.5%
Motor Gasoline	-	-1.1%	-6.4%	-4.0%	0.6%
Distillate Fuel Oil	-	-3.9%	4.9%	5.7%	6.5%
Jet Kerosene	-	-4.2%	-6.8%	-2.7%	-5.8%
Residual Fuel Oil	-	-33.2%	-33.2%	-6.1%	-43.7%
Other Products	-	7.7%	9.3%	22.3%	18.0%

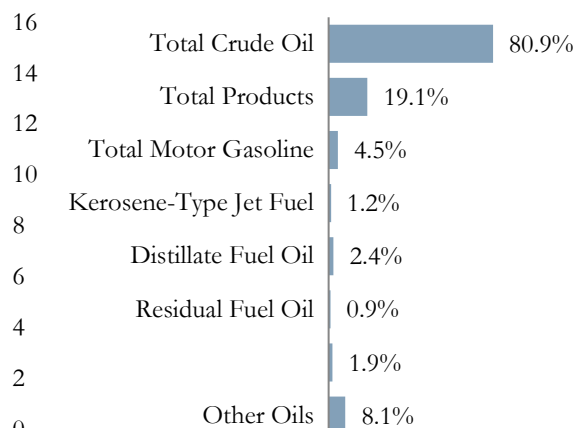
Source: U.S. Department of Energy, Energy Information Administration/Haver Analytics

December 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 12/14/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	7,549	7,472	7,704	8,080	7,432
Total Products	1,777	1,769	2,560	2,258	2,120
Total Motor Gasoline	423	363	867	853	496
Kerosene-Type Jet Fuel	110	110	199	164	156
Distillate Fuel Oil	226	179	188	134	199
Residual Fuel Oil	81	183	246	284	217
Propane/ Propylene	177	157	128	107	192
Other Oils	760	768	923	717	852
Total Imports	9,326	9,241	10,264	10,338	9,552

U.S. Imports by Product, Change from

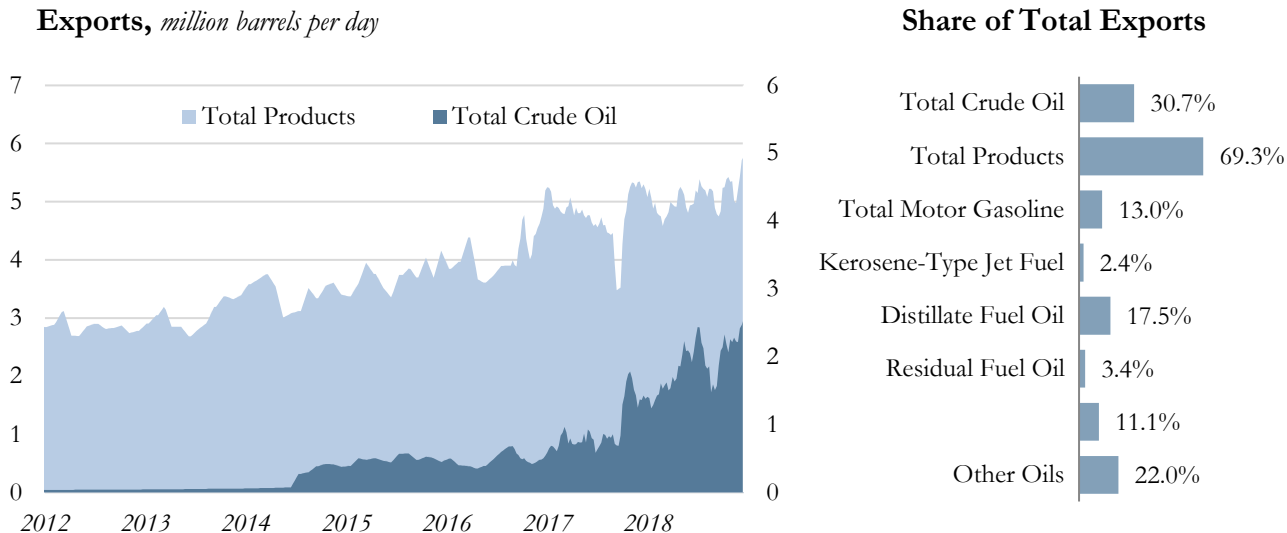
	Current 12/14/18	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
Total Crude Oil	-	1.0%	-2.0%	-6.6%	1.6%
Total Products	-	0.5%	-30.6%	-21.3%	-16.2%
Total Motor Gasoline	-	16.5%	-51.2%	-50.4%	-14.7%
Kerosene-Type Jet Fuel	-	0.0%	-44.7%	-32.9%	-29.5%
Distillate Fuel Oil	-	26.3%	20.2%	68.7%	13.6%
Residual Fuel Oil	-	-55.7%	-67.1%	-71.5%	-62.7%
Propane/ Propylene	-	12.7%	38.3%	65.4%	-7.8%
Other Oils	-	-1.0%	-17.7%	6.0%	-10.8%
Total Imports	-	0.9%	-9.1%	-9.8%	-2.4%

*Totals may not sum due to component rounding

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

December 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> 12/14/18	<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>
Total Crude Oil	2,561	2,227	1,871	2,074	1,429
Total Products	5,778	4,973	4,748	4,966	5,300
<i>Total Motor Gasoline</i>	1,080	833	610	601	911
<i>Kerosene-Type Jet Fuel</i>	203	214	180	216	123
<i>Distillate Fuel Oil</i>	1,456	1,202	1,217	1,299	1,366
<i>Residual Fuel Oil</i>	280	213	248	365	268
<i>Propane/Propylene</i>	925	863	841	854	929
<i>Other Oils</i>	1,834	1,649	1,653	1,632	1,703
Total Exports	8,339	7,201	6,618	7,041	6,728

U.S. Exports by Product, Change from

	<i>Current</i> 12/14/18	<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>
Total Crude Oil	-	15.0%	36.9%	23.5%	79.2%
Total Products	-	16.2%	21.7%	16.4%	9.0%
<i>Total Motor Gasoline</i>	-	29.7%	77.0%	79.7%	18.6%
<i>Kerosene-Type Jet Fuel</i>	-	-5.1%	12.8%	-6.0%	65.0%
<i>Distillate Fuel Oil</i>	-	21.1%	19.6%	12.1%	6.6%
<i>Residual Fuel Oil</i>	-	31.5%	12.9%	-23.3%	4.5%
<i>Propane/Propylene</i>	-	7.2%	10.0%	8.3%	-0.4%
<i>Other Oils</i>	-	11.2%	10.9%	12.4%	7.7%
Total Exports	-	15.8%	26.0%	18.4%	23.9%

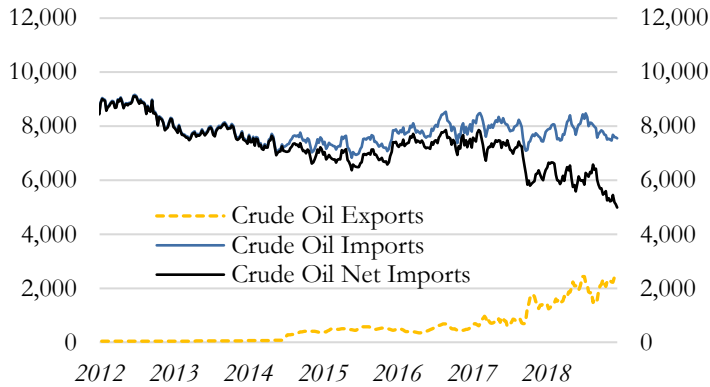
*Totals may not sum due to rounding

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

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

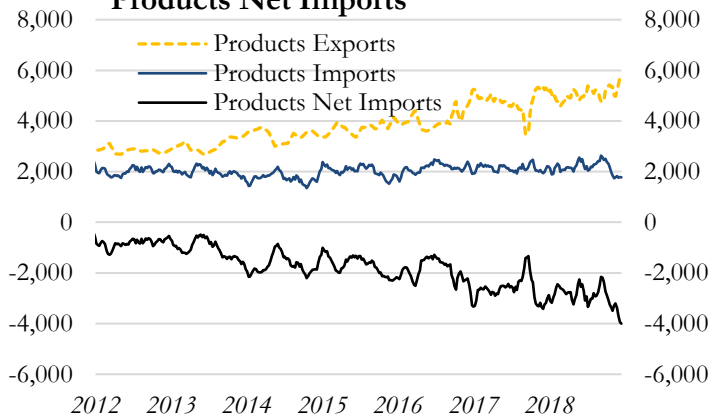
4-Week Averages, Thousand barrels per day

Crude Oil Net Imports



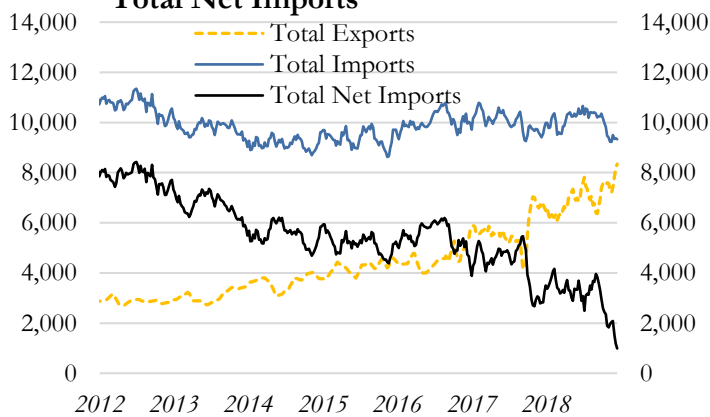
Crude Oil Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
12/14/18	4,988	
Month Ago	5,245	-4.9%
3 Months Ago	5,833	-14.5%
6 Months Ago	6,005	-16.9%
1 Year Ago	6,004	-16.9%

Products Net Imports



Products Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
12/14/18	-4,001	
Month Ago	-3,204	-
3 Months Ago	-2,188	-
6 Months Ago	-2,709	-
1 Year Ago	-3,180	-

Total Net Imports



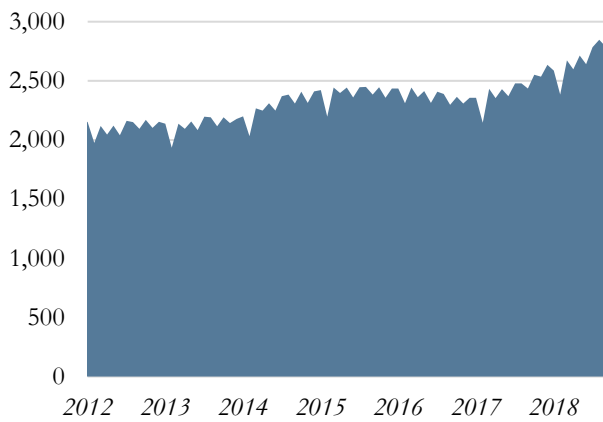
Total Net Imports		<i>Change from</i>
<i>Thousand barrels per day</i>		
12/14/18	988	
Month Ago	2,041	-51.6%
3 Months Ago	3,645	-72.9%
6 Months Ago	3,297	-70.0%
1 Year Ago	2,824	-65.0%

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

U.S. Natural Gas Production & Stocks

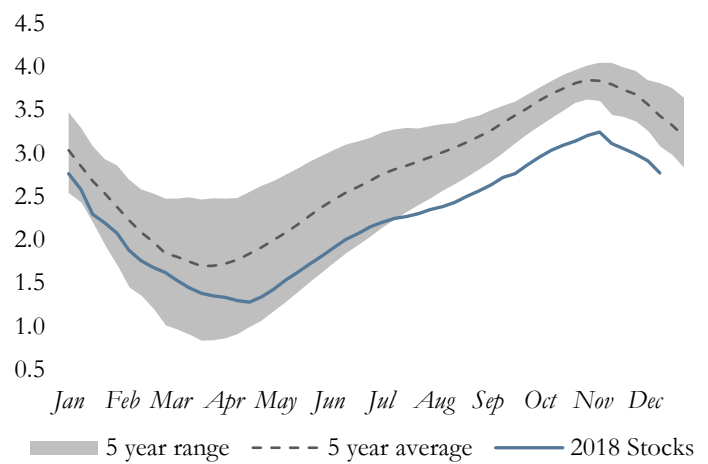
September 2018 Production

Total U.S. Production, Billion cubic feet (Bcf)



November 2018 Weekly Stocks

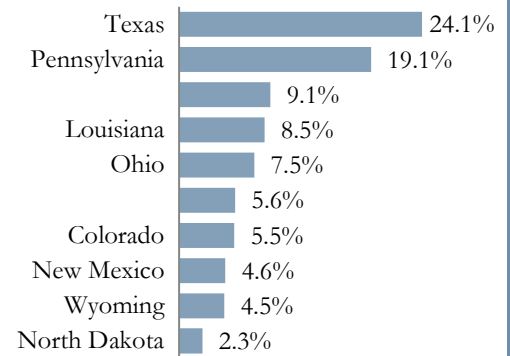
U.S. Natural Gas Stocks, Billion cubic feet (Bcf)



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	2,789	2,847	2,641	2,673	2,434
U.S. Stocks	2,773	3,113	2,722	2,008	3,444

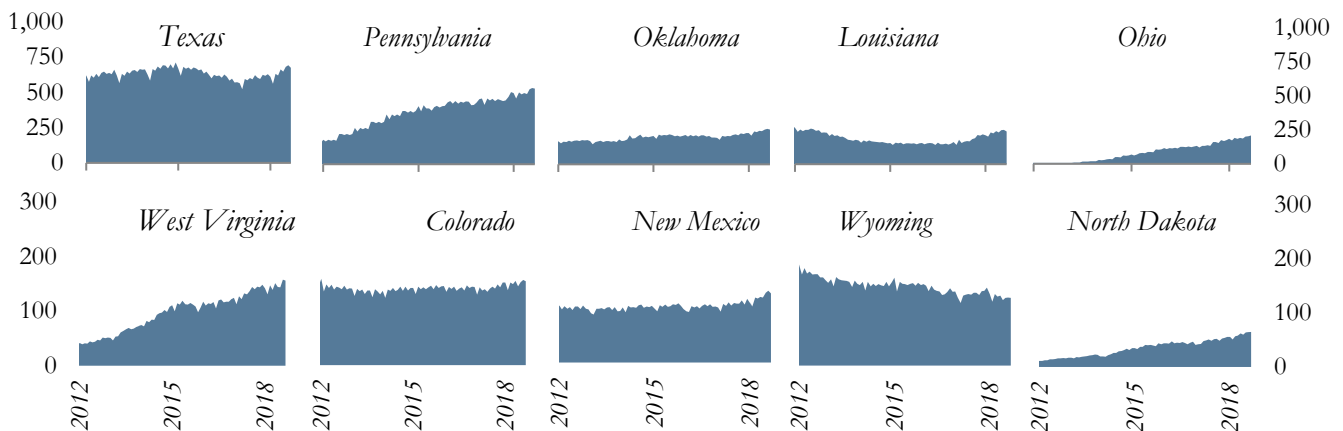
Share of Production



U.S. Natural Gas, Change from

	Current Period*	1 Month Ago	3 Months Ago	6 Months Ago	1 Year Ago
U.S. Production	-	-2.0%	5.6%	4.4%	14.6%
U.S. Stocks	-	-10.9%	1.9%	38.1%	-19.5%

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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