

Crude Oil Extraction in the United States

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Introduction

Crude Oil, also known as [petroleum](#), started as a major drilling enterprise in the United States with the Drake Well in 1859 near Titusville, Pennsylvania.

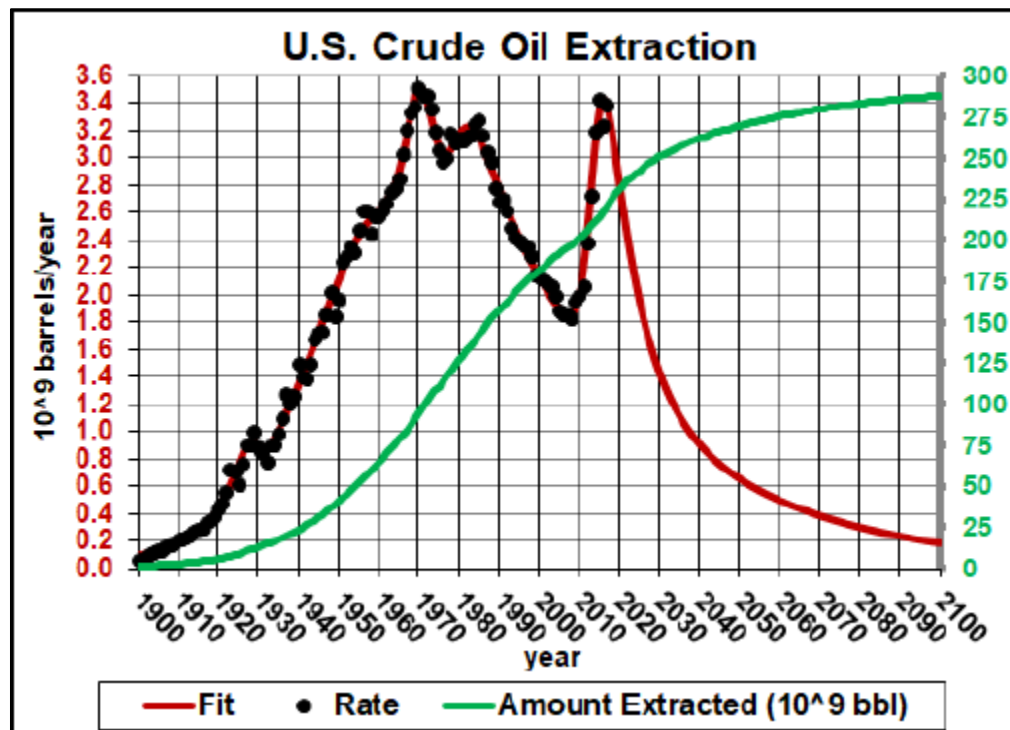
This document is a quantitative history and projection of extraction of crude oil in the various states of the United States.

The data needed for the analysis reported herein are taken from the [U.S. Energy Information Agency](#) for recent years and from various documents for early years. The analyses involve fitting a series of [Verhulst functions](#) to the extraction data and extrapolated into future years by optimistically using more than the estimated reserves value.

When extraction for recent years is rising and considerable estimated reserves exist the future is approximated by a single peak continuing the rise. When extraction for recent years is falling and considerable estimated reserves exist the future is approximated by a valley followed by a single peak.

United States

The estimated 2016 reserves value is 32.773×10^9 barrels. The fit yielded reserves 74.6×10^9 barrels, which is more than twice the estimated reserves.

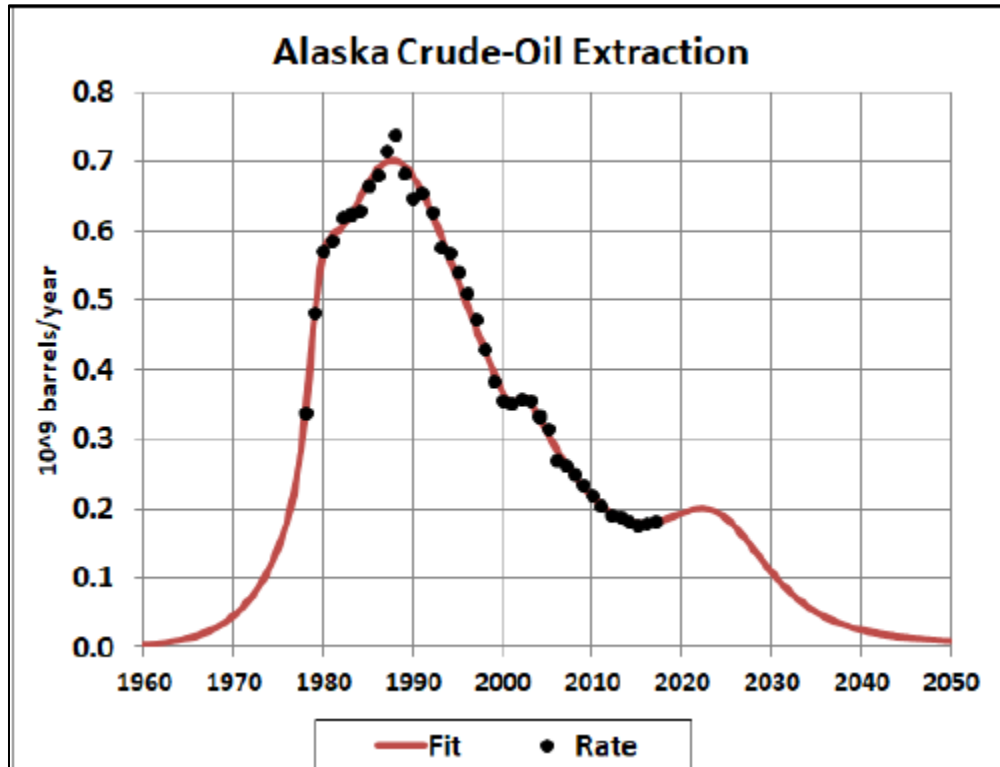


If anyone disagrees with this red curve, please send the author a better depletion curve.

The states with the highest crude-oil extraction rate over time are listed in alphabetic order.

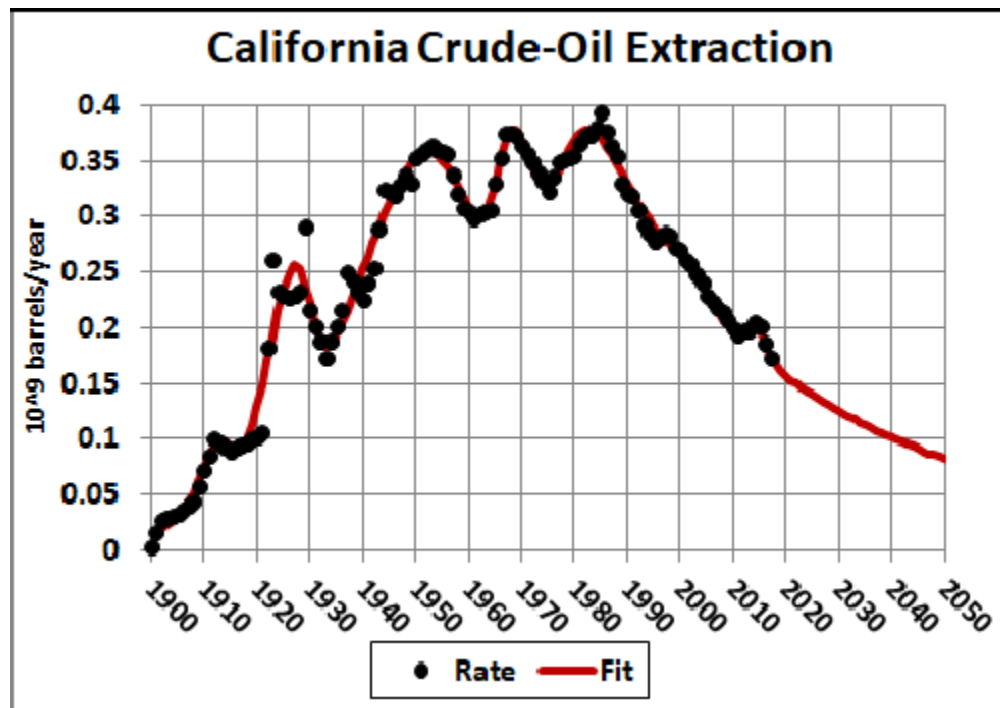
Alaska

The estimated 2016 reserves value is 1.572×10^9 barrels. Used is 3.1×10^9 barrels to be optimistic. The future peak is assumed to be symmetric.



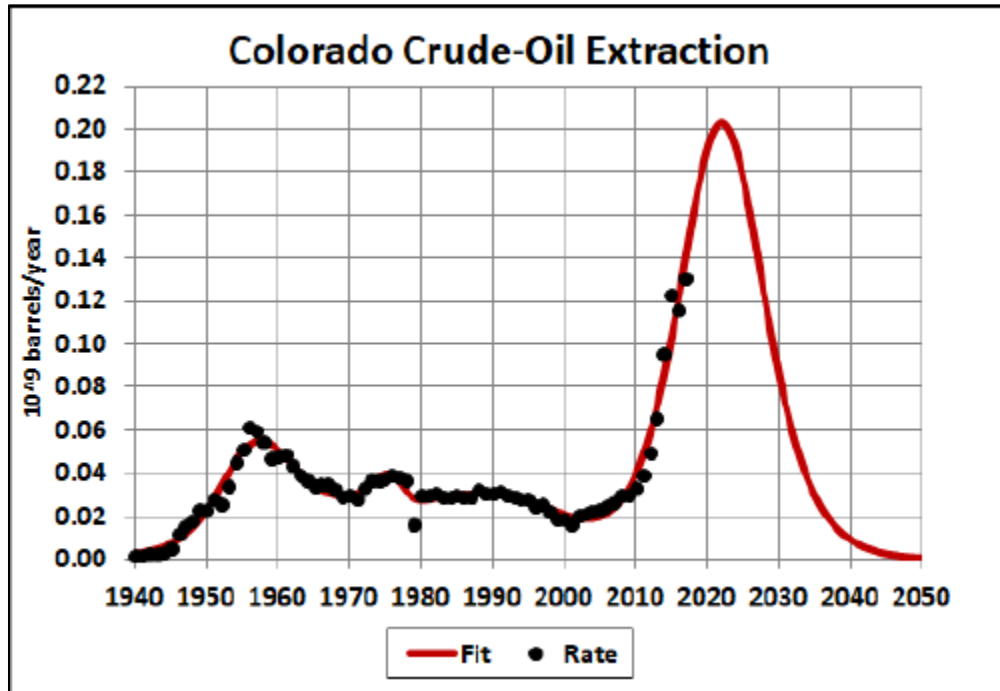
California

The estimated 2016 reserves value is 1.933×10^9 barrels. The fit yielded 7.937×10^9 barrels about four times the estimated reserves.



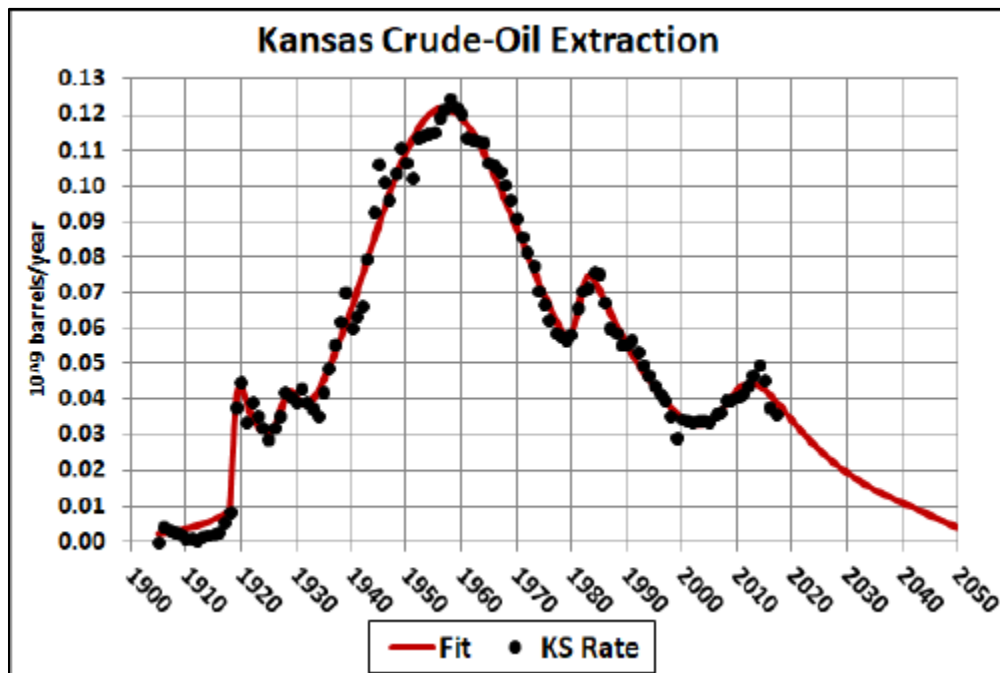
Colorado

The estimated 2016 reserves value is 1.267×10^9 barrels. Used is 2.534×10^9 barrels to be optimistic. The future peak is assumed to be symmetric.



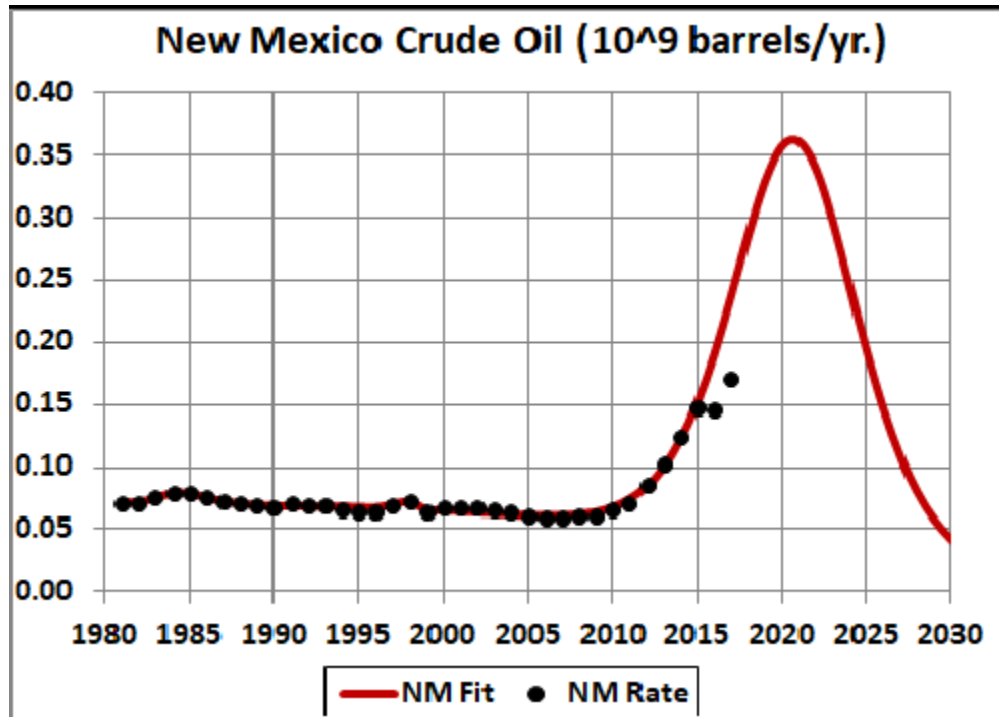
Kansas

The estimated 2016 reserves value is 0.358×10^9 barrels. Used is 0.730×10^9 barrels to be optimistic.



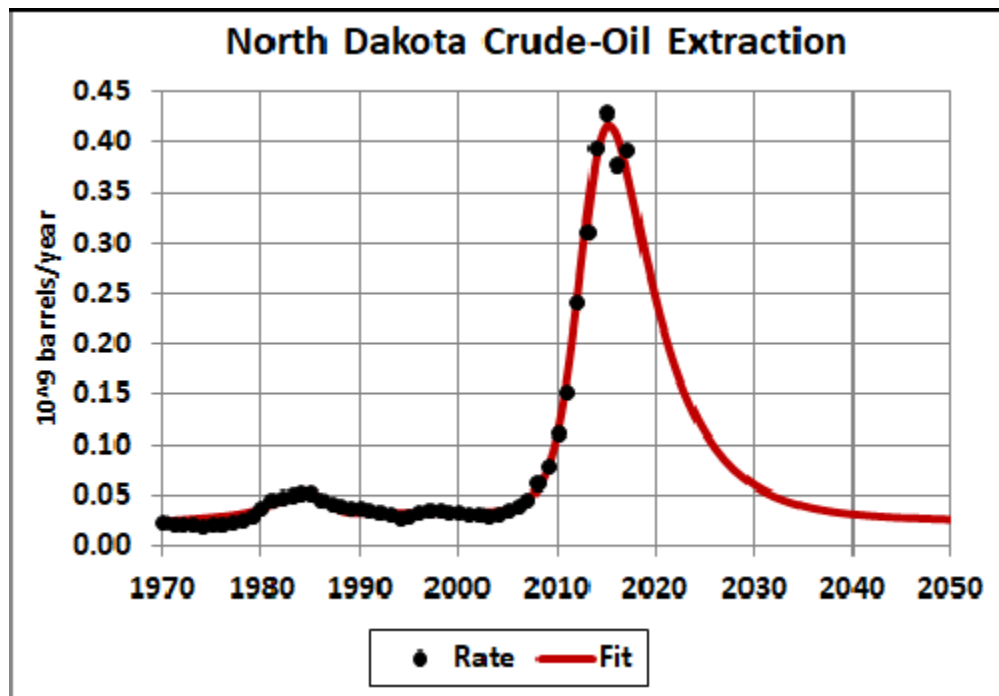
New Mexico

The estimated 2016 reserves value is 1.549×10^9 barrels. Used is 3.10×10^9 barrels to be optimistic. The future peak is assumed to be symmetric.



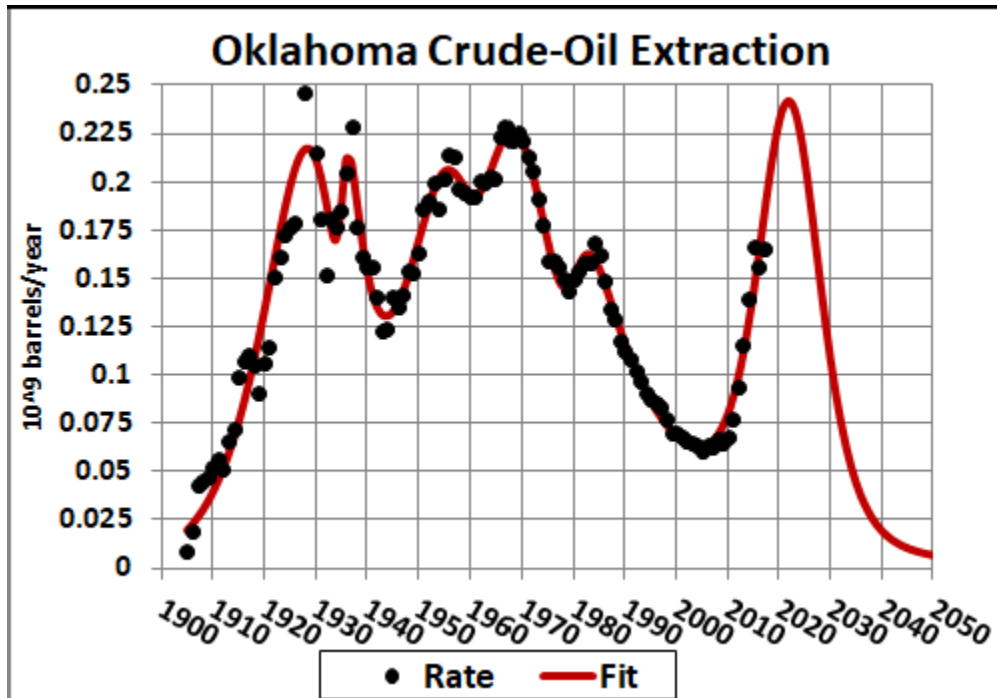
North Dakota

The estimated 2016 reserves value is 5.256×10^9 barrels. Used is 10.51×10^9 barrels to be optimistic. The peak had to skew to the future to fit the data.



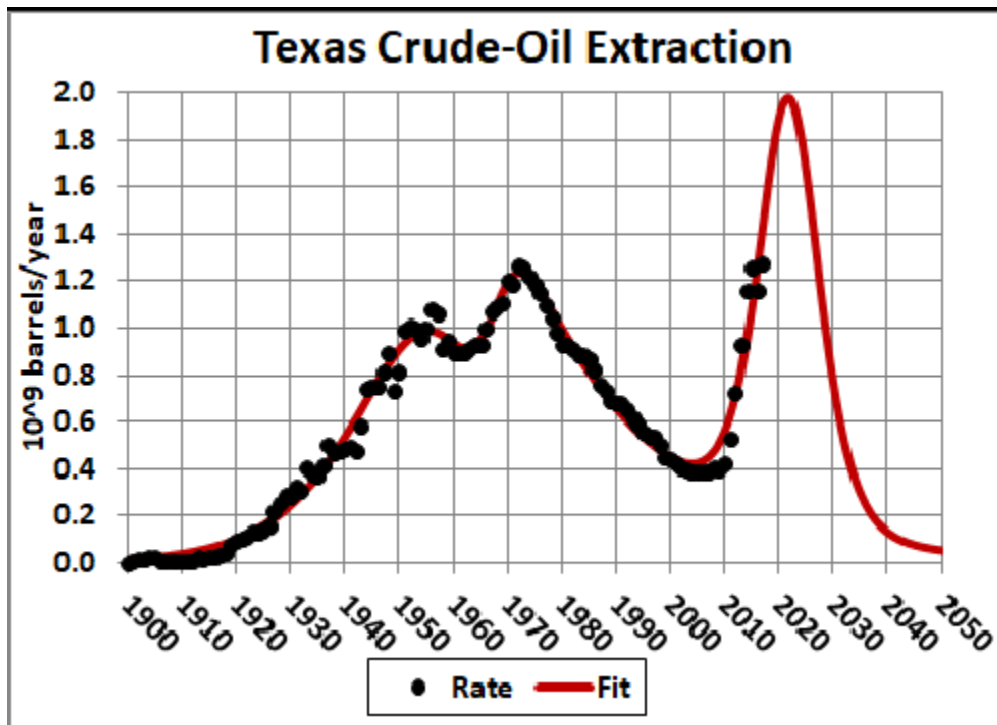
Oklahoma

The estimated 2016 reserves value is 1.693×10^9 barrels. Used is 3.35×10^9 barrels to be optimistic. The future peak is assumed to be symmetric.

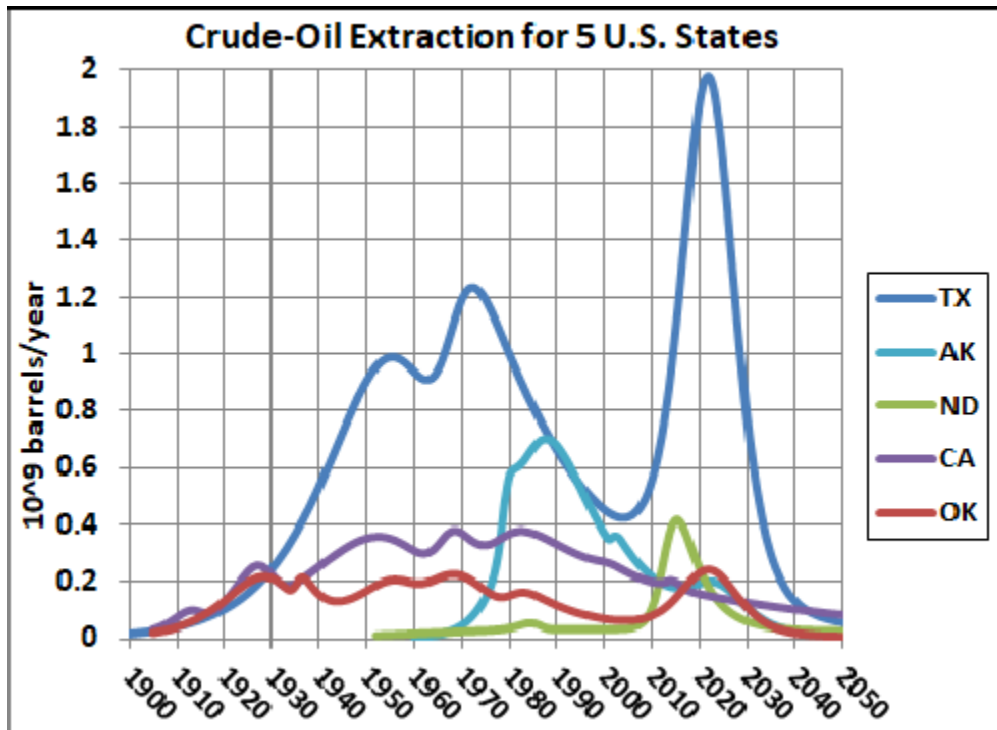


Texas

The estimated 2016 reserves value is 12.859×10^9 barrels. Used is 26.08×10^9 barrels to be optimistic. The future peak is assumed to be symmetric.

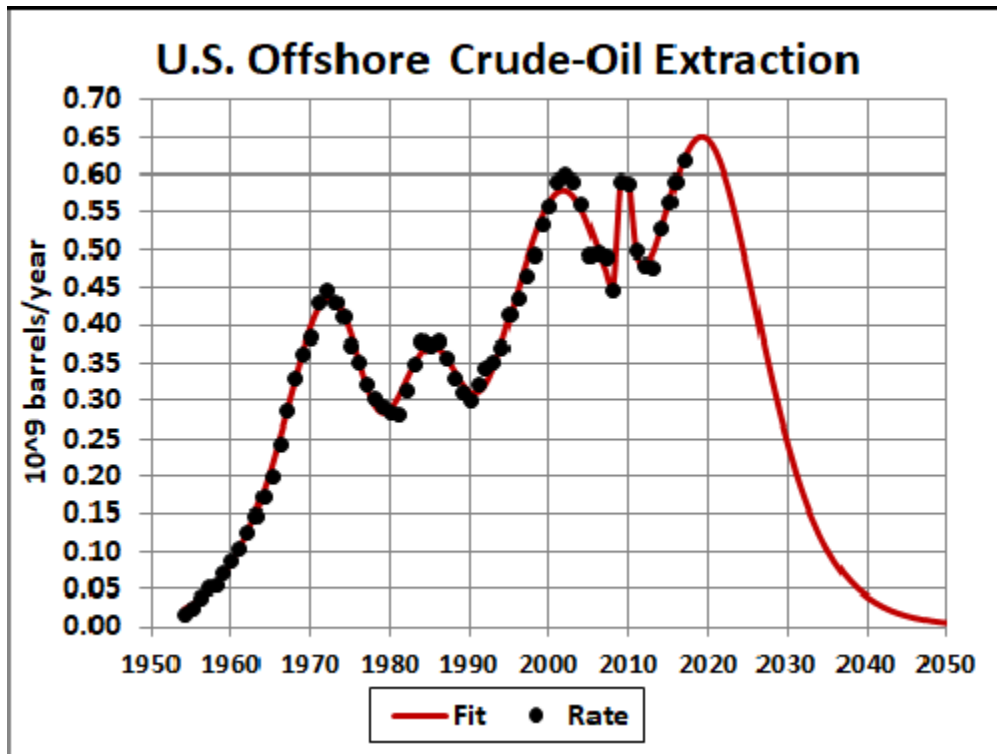


Five U.S. Highest-Extraction States



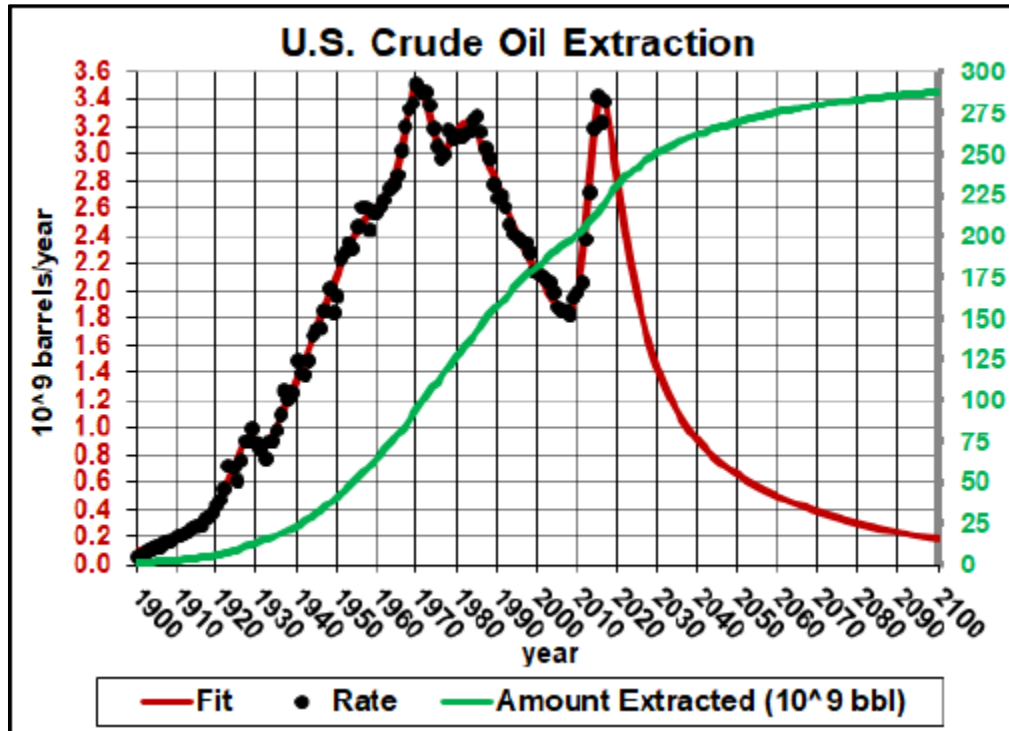
Offshore

The estimated 2016 reserves value is 4.033×10^9 barrels. Used is 7.94×10^9 barrels to be optimistic. The future peak is assumed to be symmetric.

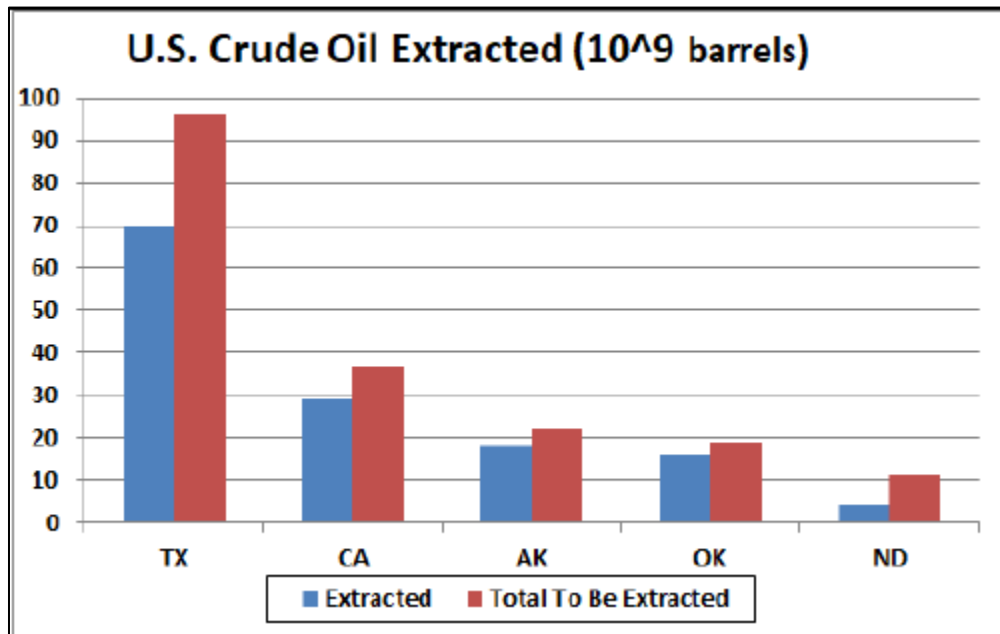


United States

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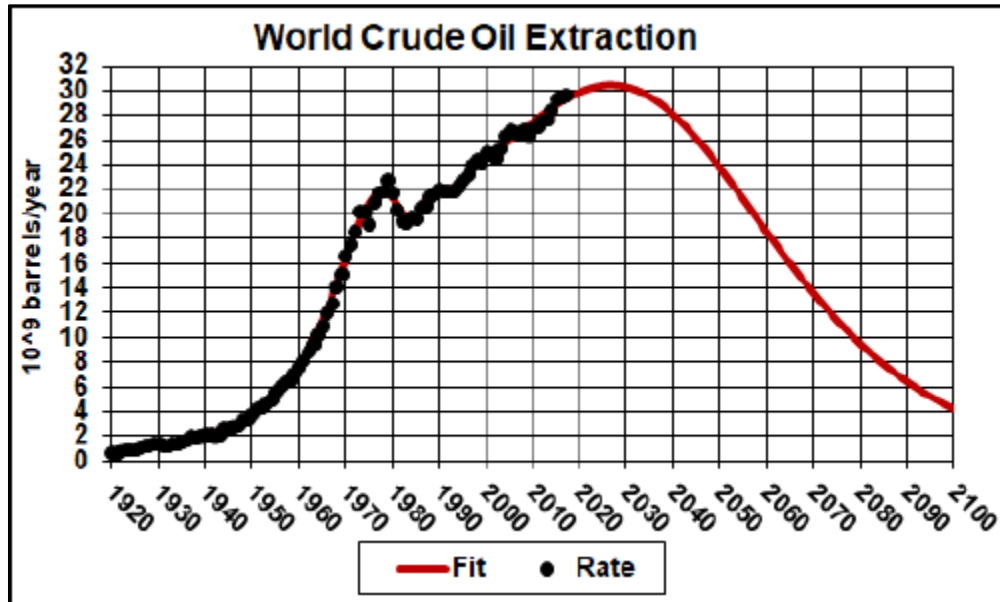


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World

The estimated 2017 reserves value is 1696.6×10^9 barrels. Used is 2136×10^9 barrels to be optimistic. The future peak is assumed to be symmetric.



There may be a small future peak due to fracking for tight oil.

Conclusion

The author does not study crude-oil extraction because he approves of burning it in automotive engines. It is too valuable for making useful items to waste it by burning it and burning it causes [global warming](#). That is a major reason the author has driven hybrid cars since 2005 and [electric cars since 2007](#).

Also, the author does not approve of extracting crude oil by fracking because it depletes the water supply and has other environmental issues. Drilling for crude oil should be regulated to the maximum extent to keep the damage to the environment as low as possible.

If readers want the [Verhulst-function](#) parameters for any of the extraction fits shown above, contact the author L. David Roper at ROPERLD@VT.EDU.

<http://www.roperld.com/science/minerals/FossilFuels.htm>

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