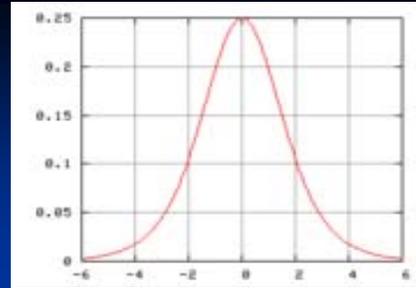


Peak Oil Theory



The rate of extraction of any non-renewable resource tends to follow a bell-shaped curve over the long term

- This applies to any individual oil field, or for the oil production on the planet as a whole

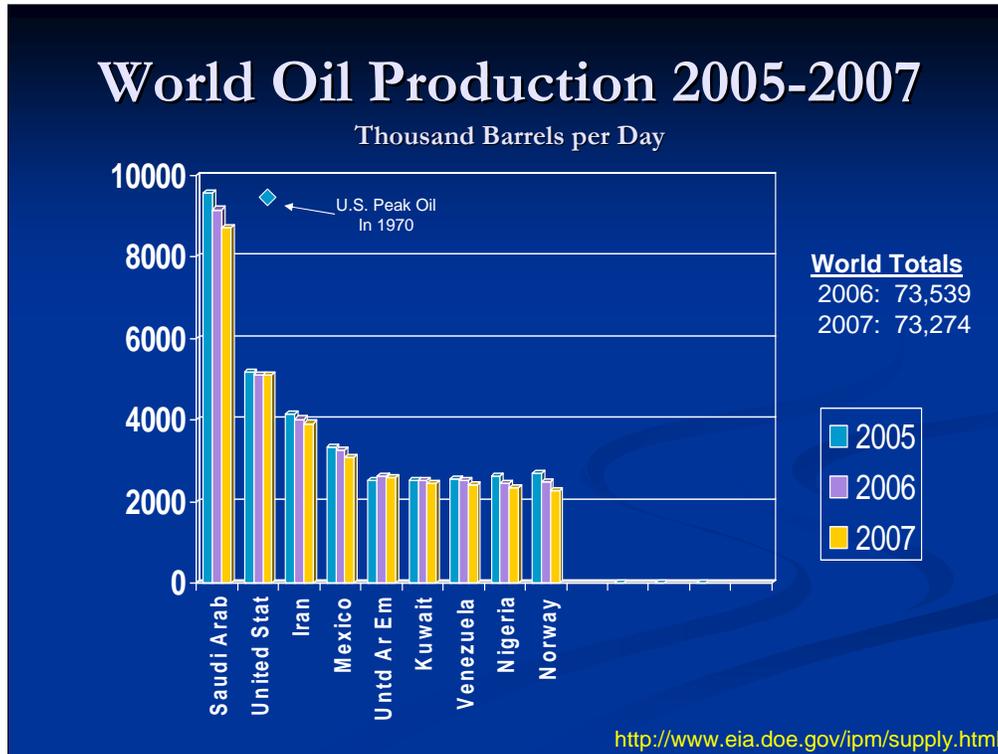
Let's move on to a discussion of peak oil, which has been getting a little less publicity than climate change over the past few years but which will probably get a much bigger focus shortly.

In 1956, American geophysicist Marion Hubbert predicted that production of oil would peak in the continental United States around 1965-1971. This was at a time when American oil production was rising rapidly with no end in sight. He was widely ridiculed for this prediction.

The actual peak was in 1970

Hubbert further predicted (in 1956) a worldwide peak at "about half a century" from publication.

So what does the actual data show?

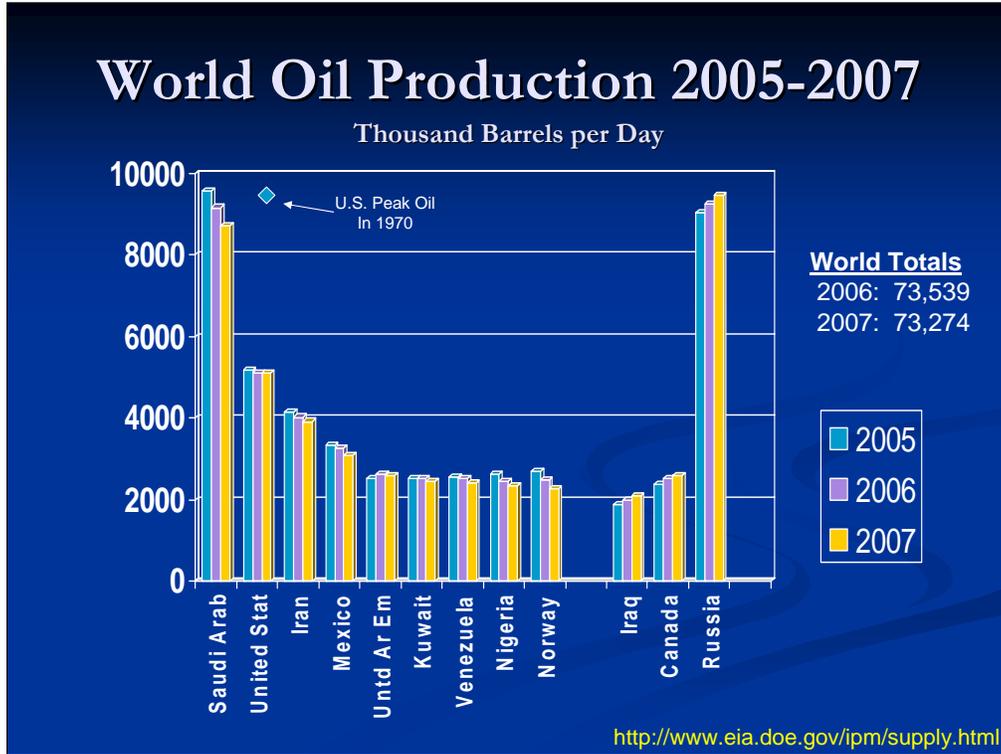


Here's the data for the last three years from the department of energy. The data indicates that we are essentially at the peak and that it may have actually occurred in 2006.

From this point on, supply will continue to decline while demand continues to grow, resulting in steady price increases for as long as we can see.

And it also means that any group of people that gets to increase their consumption of oil means some other group gets less oil.

By the way, if you consider the prospect for actually sharing the world's oil resources, in terms of oil production per capita, we hit the peak in 1979 and have been falling ever since.

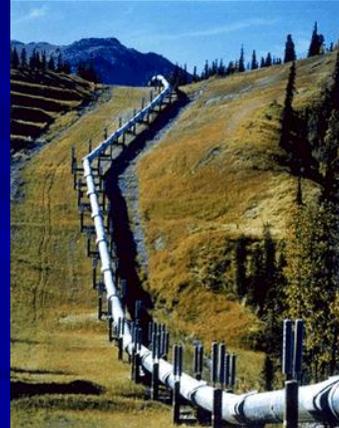


Here are the three countries that had a noticeable increase in their oil production over the past three years.

There is also concern now that Russia's oil production is starting to fall. The production for the first 3 months of 2008 is 1% less than the first three months of 2007

A new Goldman Sachs prediction that oil prices could rise to \$150 to \$200 within two years.

Prudhoe Bay and the Trans-Alaskan Pipeline

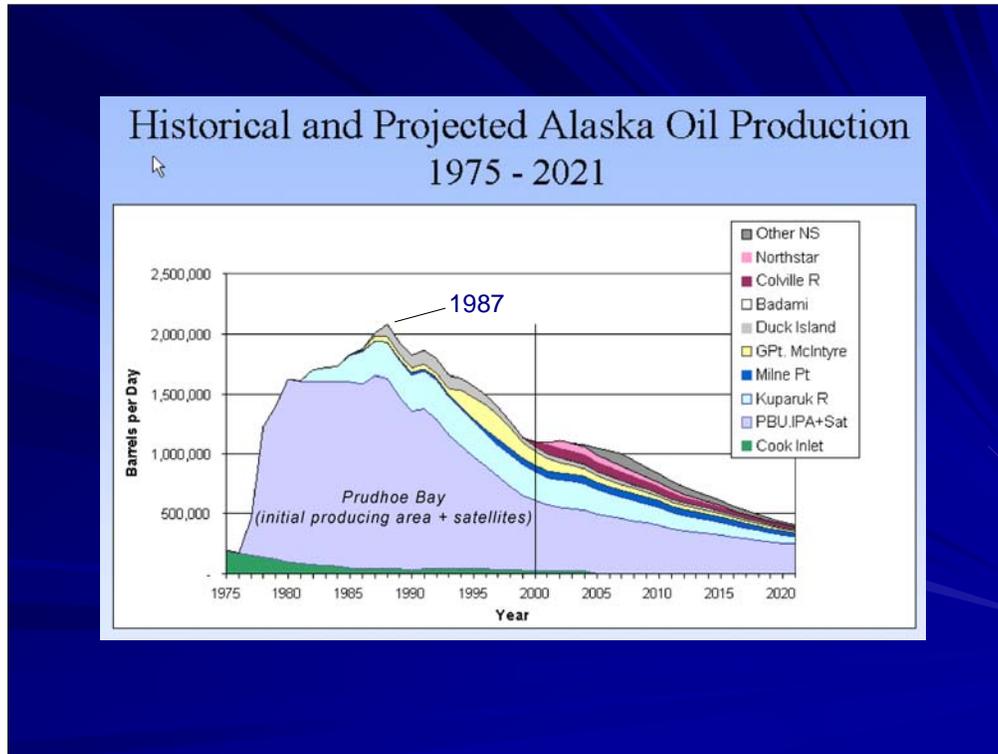


Getting oil from Alaska is an important issue that will probably be in the news a lot in the future, so let's talk a little about that.

Oil production at Prudhoe Bay on the north slope of Alaska started in the 1970s. Oil was pumped down through the Alaskan Pipeline to the port of Valdez on the southern coast of Alaska, where it is carried by ship to the west coast of the United States.

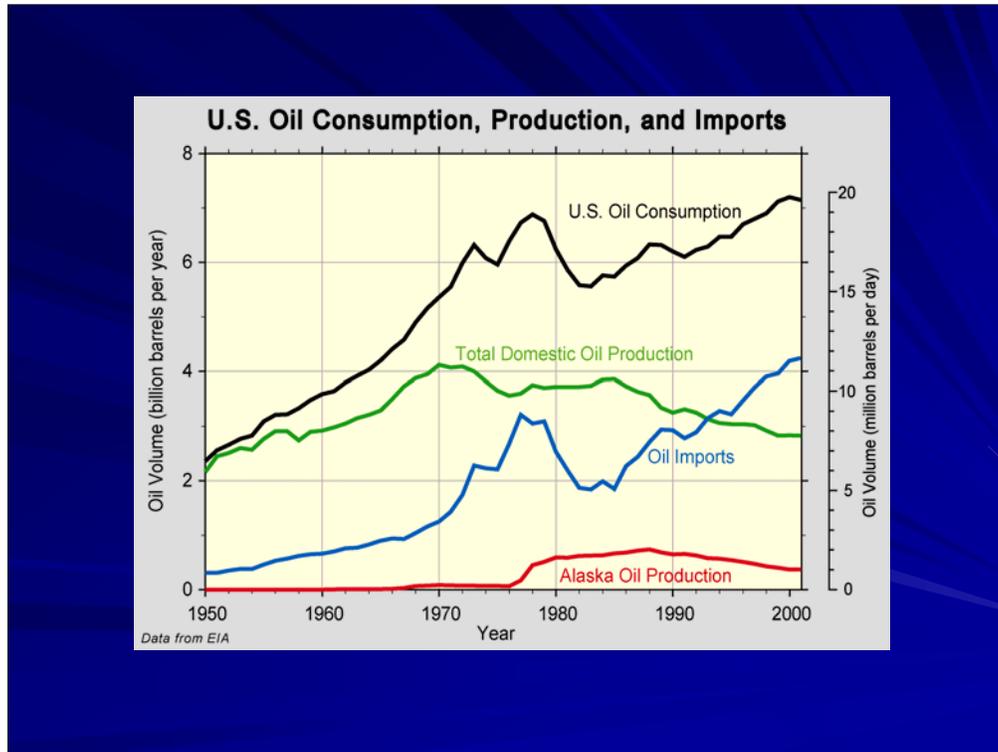
The field is operated by [British Petroleum](#); partners are [ExxonMobil](#) and [ConocoPhillips](#)

Prudhoe Bay, like any other oil field, should experience a peak in its production. Any guess on the date of such a peak?



Answer: 1987

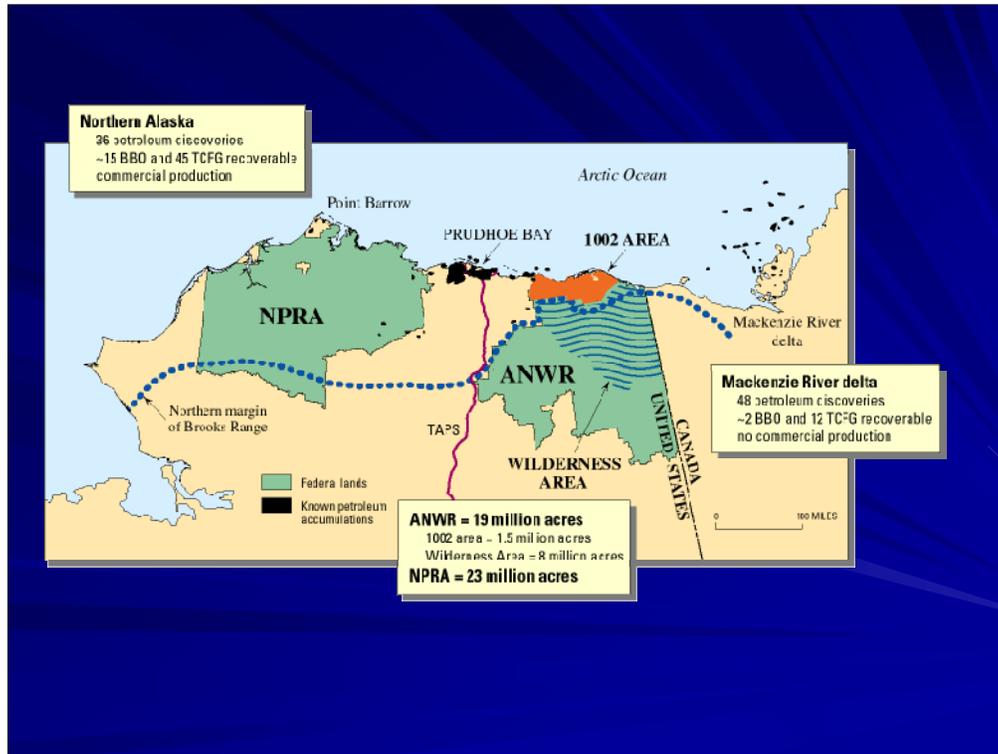
There was an estimated 13 billion barrels of recoverable oil at Prudhoe Bay, of which 10 billion have already been pumped out.



Here is a chart of the overall rate of US consumption of oil and the sources that oil comes from. Note what a small portion the Alaskan oil makes up.



This picture from the north coast of Alaska is not Prudhoe Bay. Any guesses where it is from? The Artic National Wildlife Refuge (ANWR). A big controversy has been in the news since the Carter administration about drilling for oil here too.



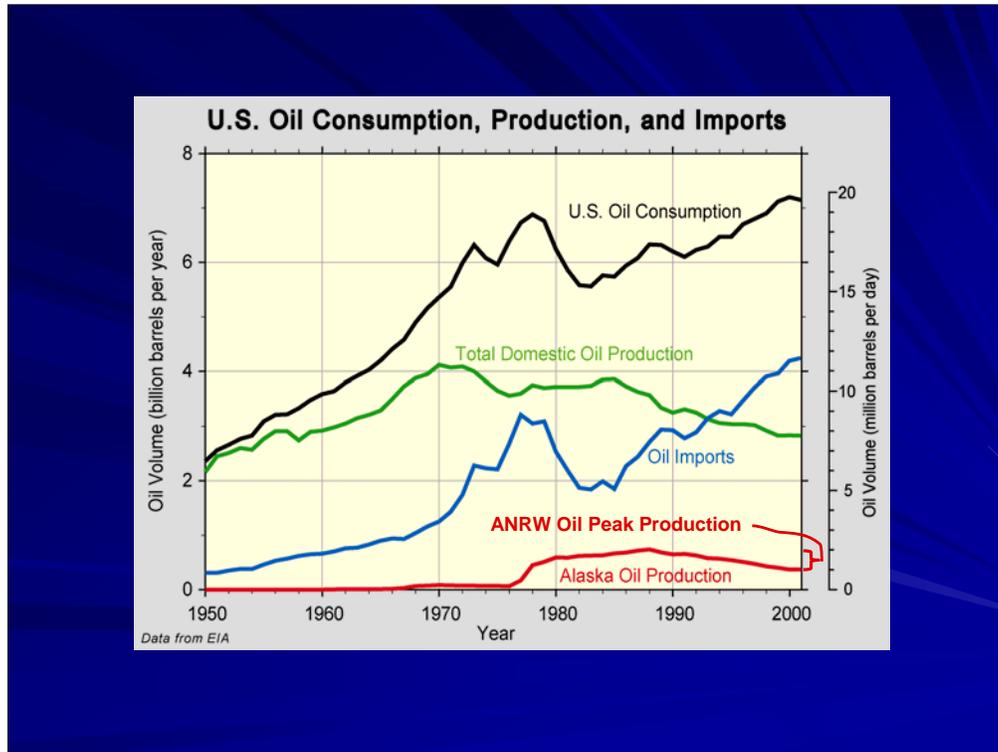
Here is a map of the north coast of Alaska. The Arctic National Wildlife Refuge is the green area on the right, The orange area along the coast is the area where drilling for oil has been proposed and is in dispute.

ANWR: recoverable oil = 6 Billion to 10 Billion barrels (less than the 13 Billion at Prudhoe Bay).

The peak rate of oil extraction is expected to be about 1 million barrels per day, but this wouldn't happen until about 2025 if the drilling permits were issued today. Unlike Prudhoe Bay where the oil is in a few large pockets, the oil in ANWR seems to be distributed in a larger number of scattered small pockets, making it harder to extract.

By the way, the NPR is the National Petroleum Reserve in Alaska, and is considered to be the largest tract of undisturbed public land in the United States. It was set aside as a petroleum reserve in 1923 but has remained largely undisturbed. There have been many drilling leases granted, but no large oil deposits have ever been found and only a minimal amount of actual oil production has taken place near the north-east part of NPR.

<http://pubs.usgs.gov/fs/fs-0028-01/fs-0028-01.htm>



Here is an illustration of the impact that oil production from ANWR would have, but again, production at this level would not be reached until 2025 at the earliest.

Although this is a fairly negligible portion of our oil consumption, it will probably be done at some point. When oil prices rise above \$200 / barrel the economic profit will be too tempting, and as gas prices exceed \$5 / gallon the public pressure to do *something* will be too great to ignore.

When you hear certain radio talk show hosts talk about how we could achieve oil independence if the “environmental wacos” would just let us drill in ANWAR, the above chart should give you an alternative view of real situaion from the *reality based world*.

Contact Information

Mike Ignatowski

Email: mikeig@yahoo.com

Blog: provocativefuture.blogspot.com

(These charts are available on my blog)