

DISUNITED NATIONS



**The Scramble for Power
in an Ungoverned World**

PETER ZEIHAN

The End of the Oil Age ...Sort Of

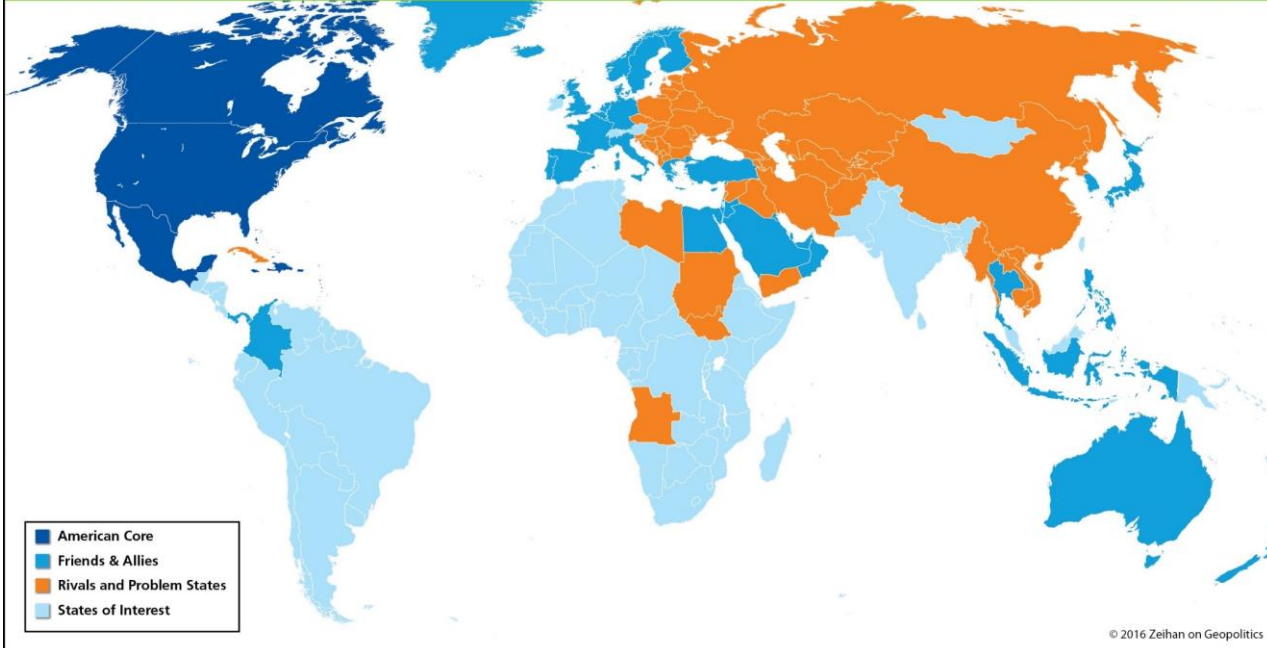
Peter Zeihan

DES

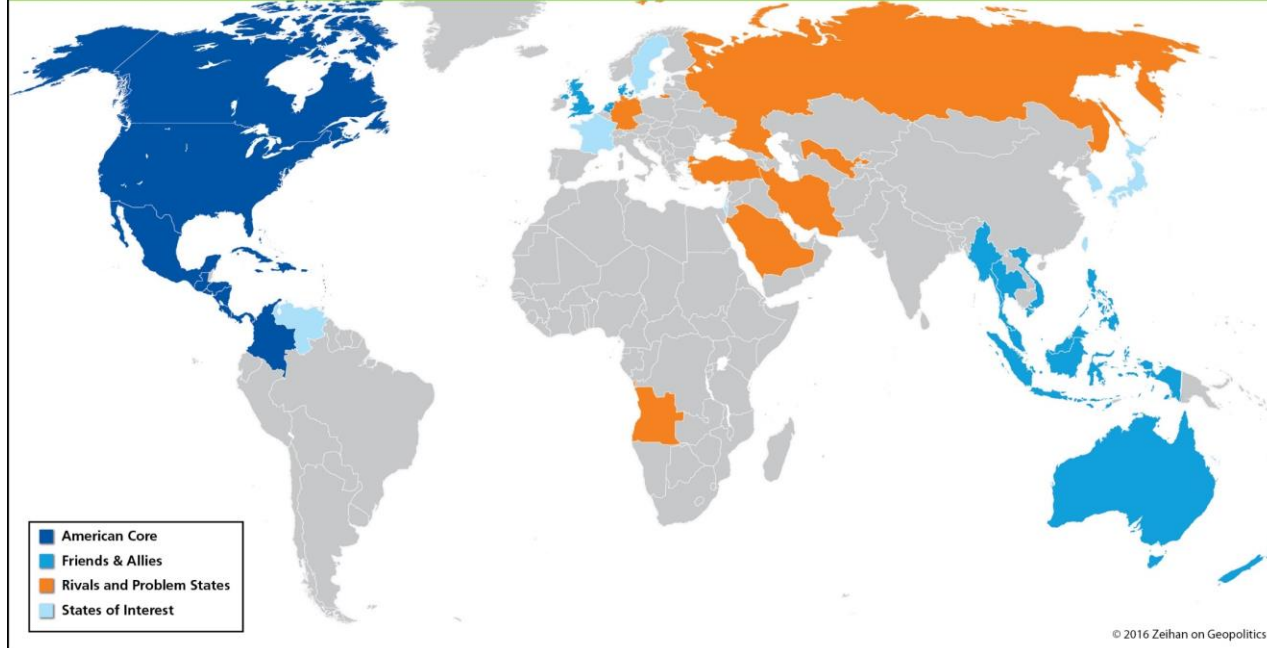
July 23, 2019

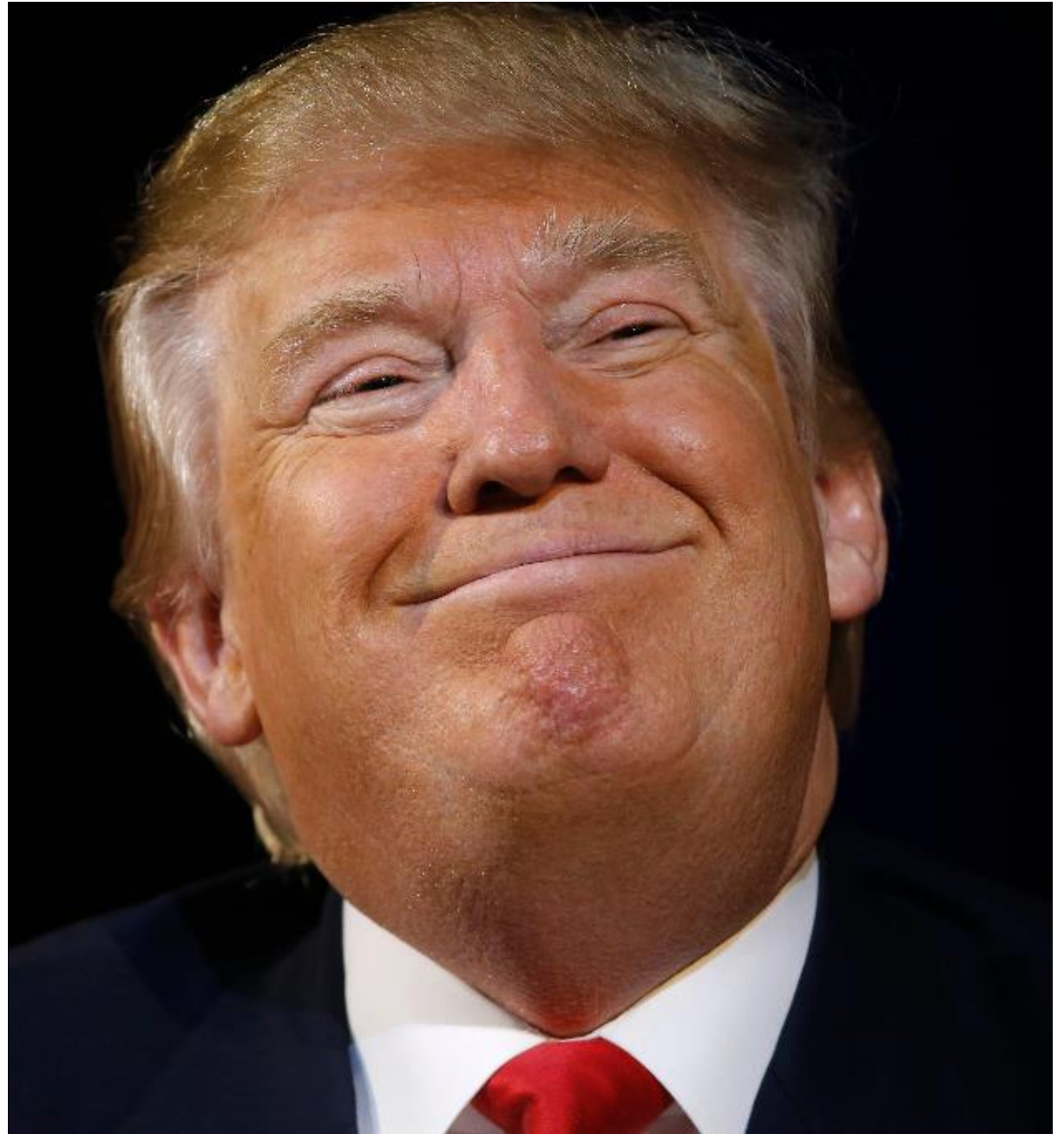
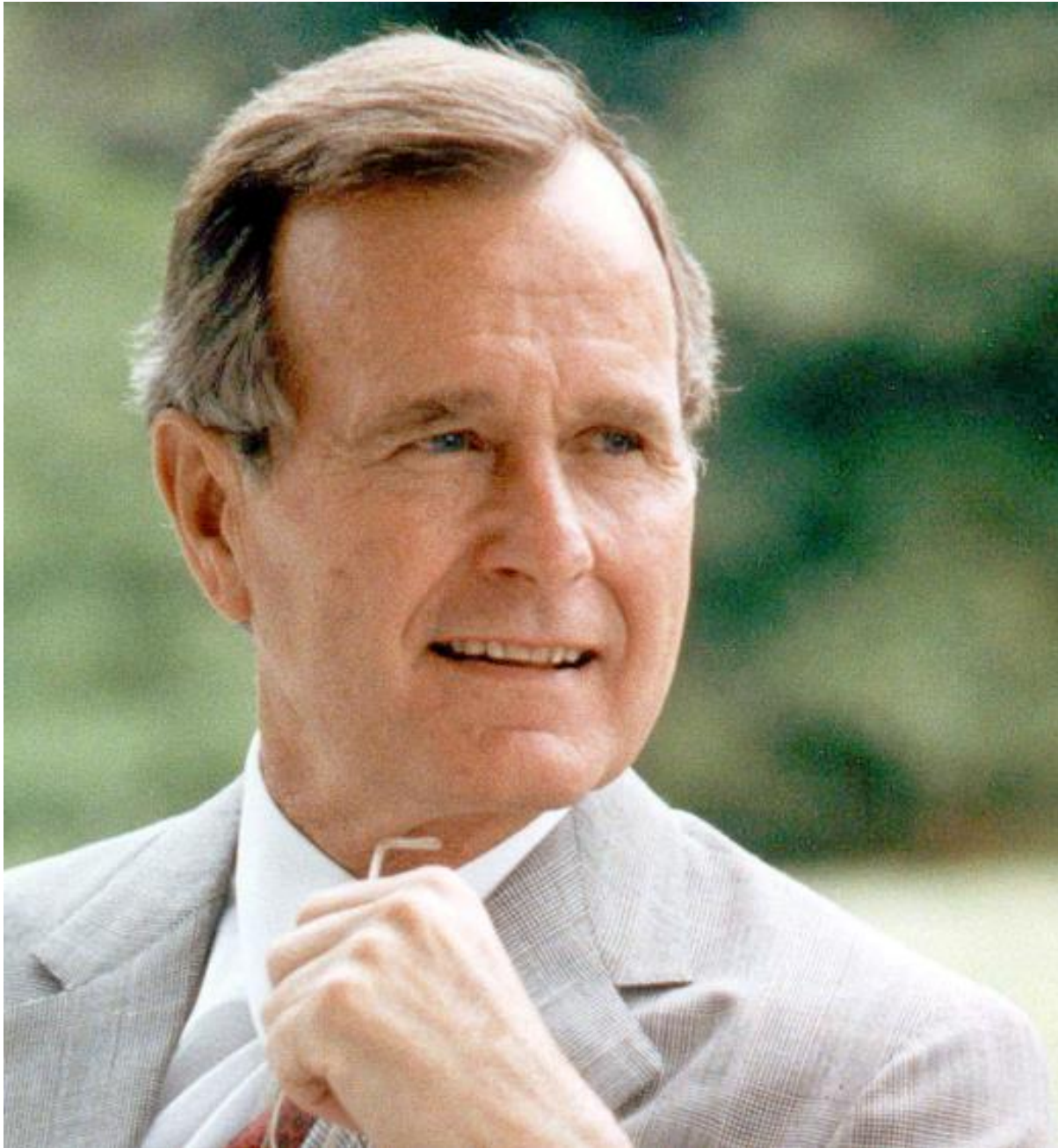


U.S. Strategic Interests, 1985

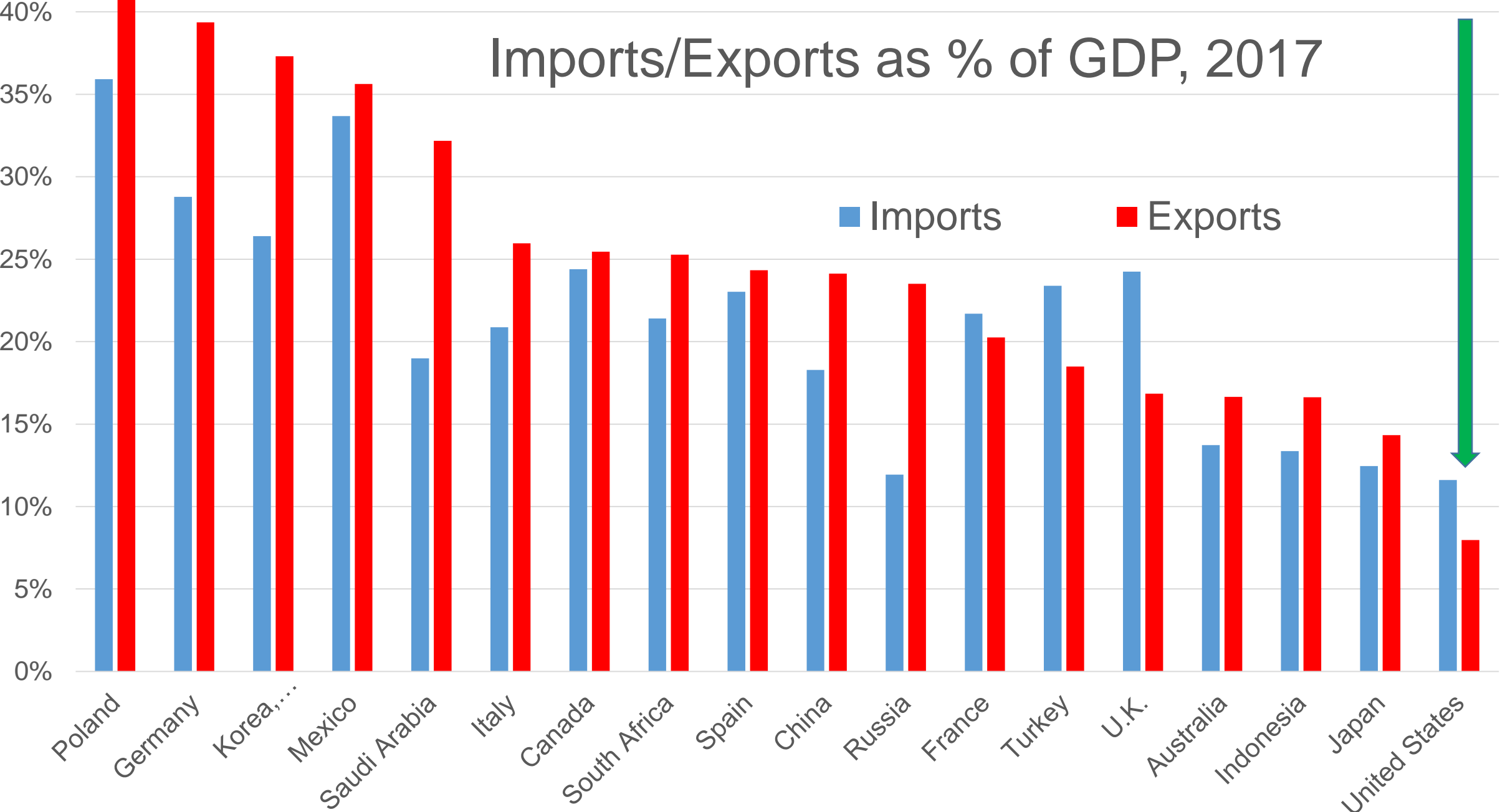


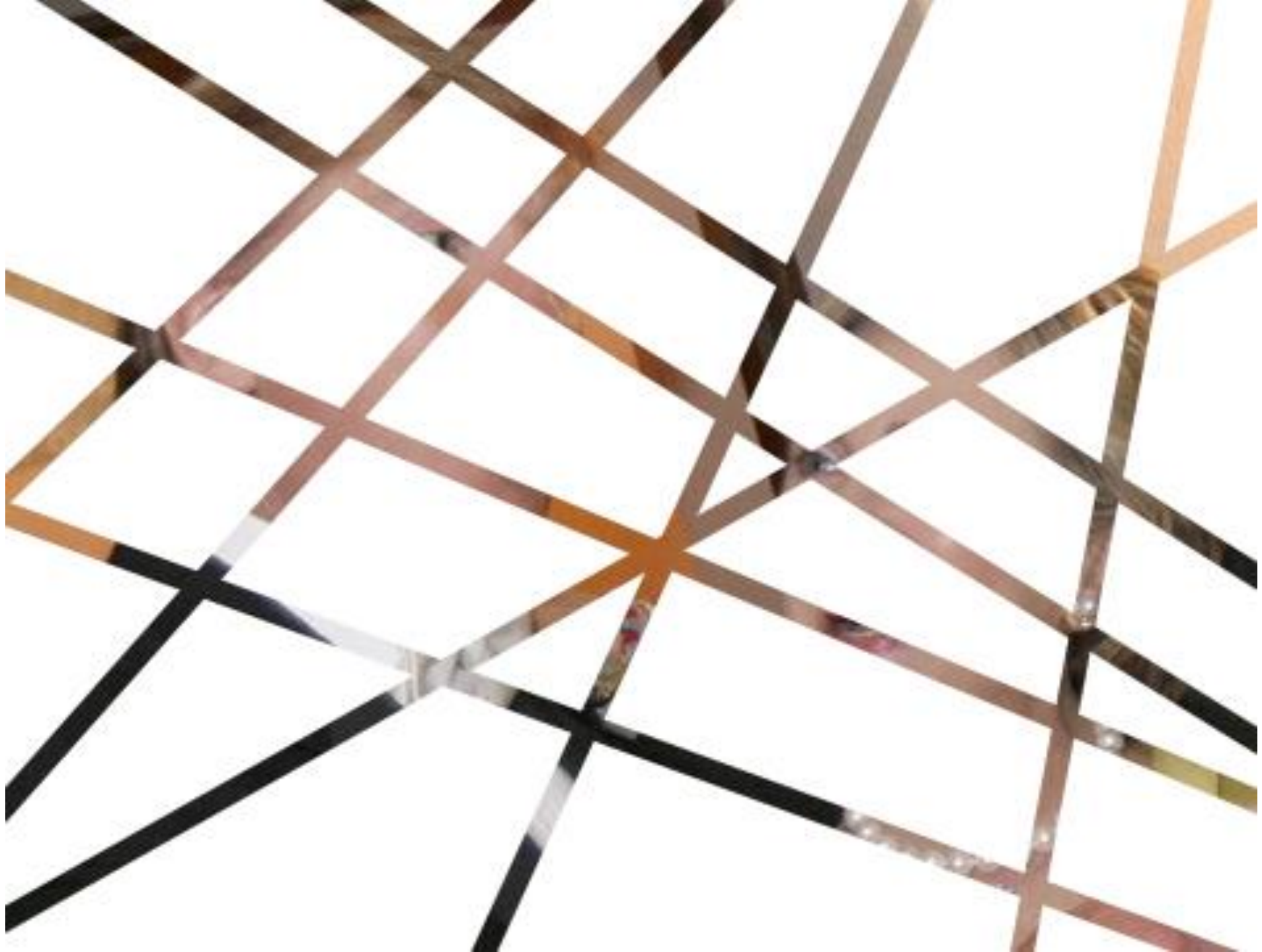
U.S. Strategic Interests, 2020





Imports/Exports as % of GDP, 2017

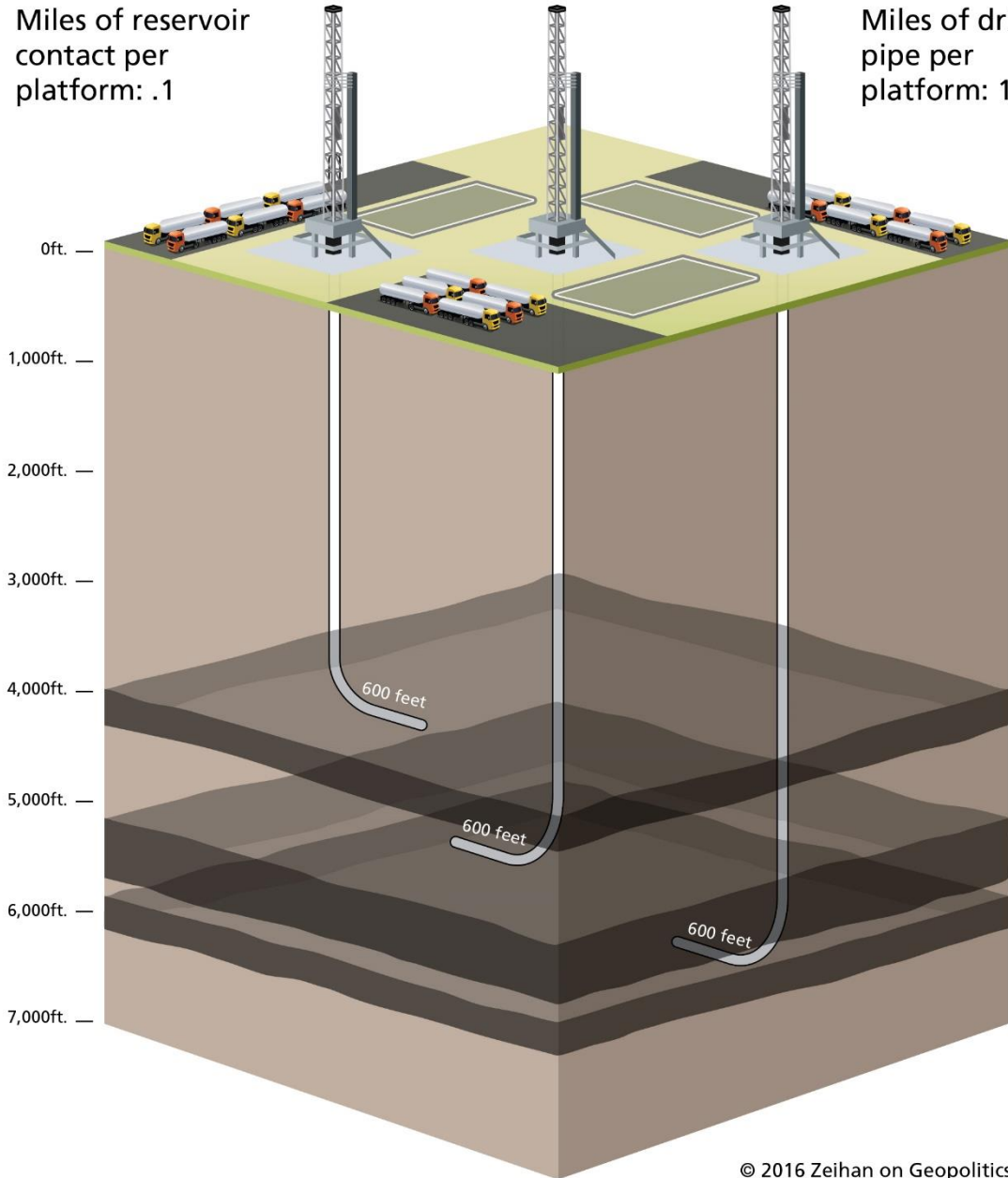




Basic Horizontal Drilling: 2004

Miles of reservoir contact per platform: .1

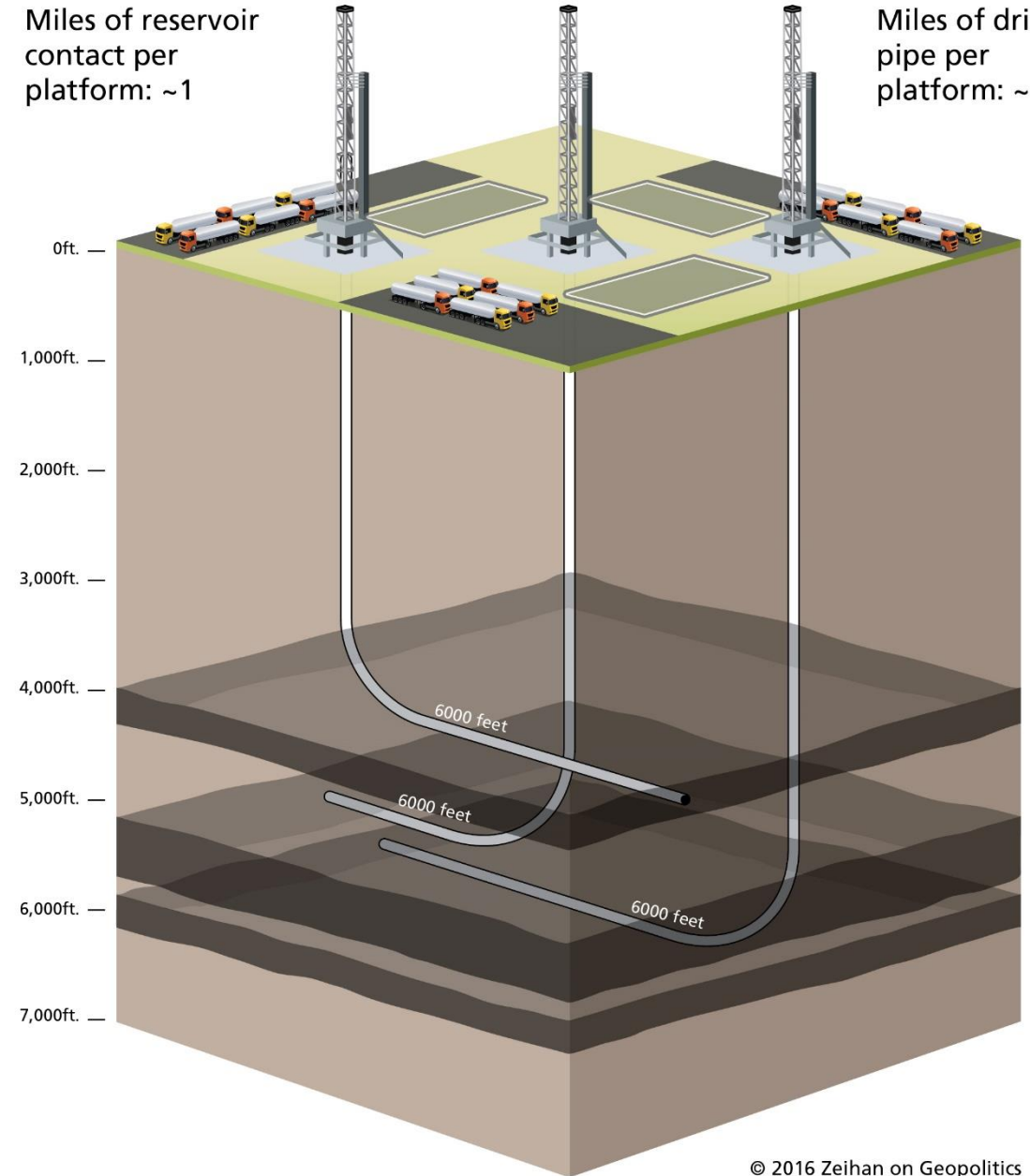
Miles of drilling pipe per platform: 1.1



Advanced Horizontal Drilling: 2011

Miles of reservoir contact per platform: ~1

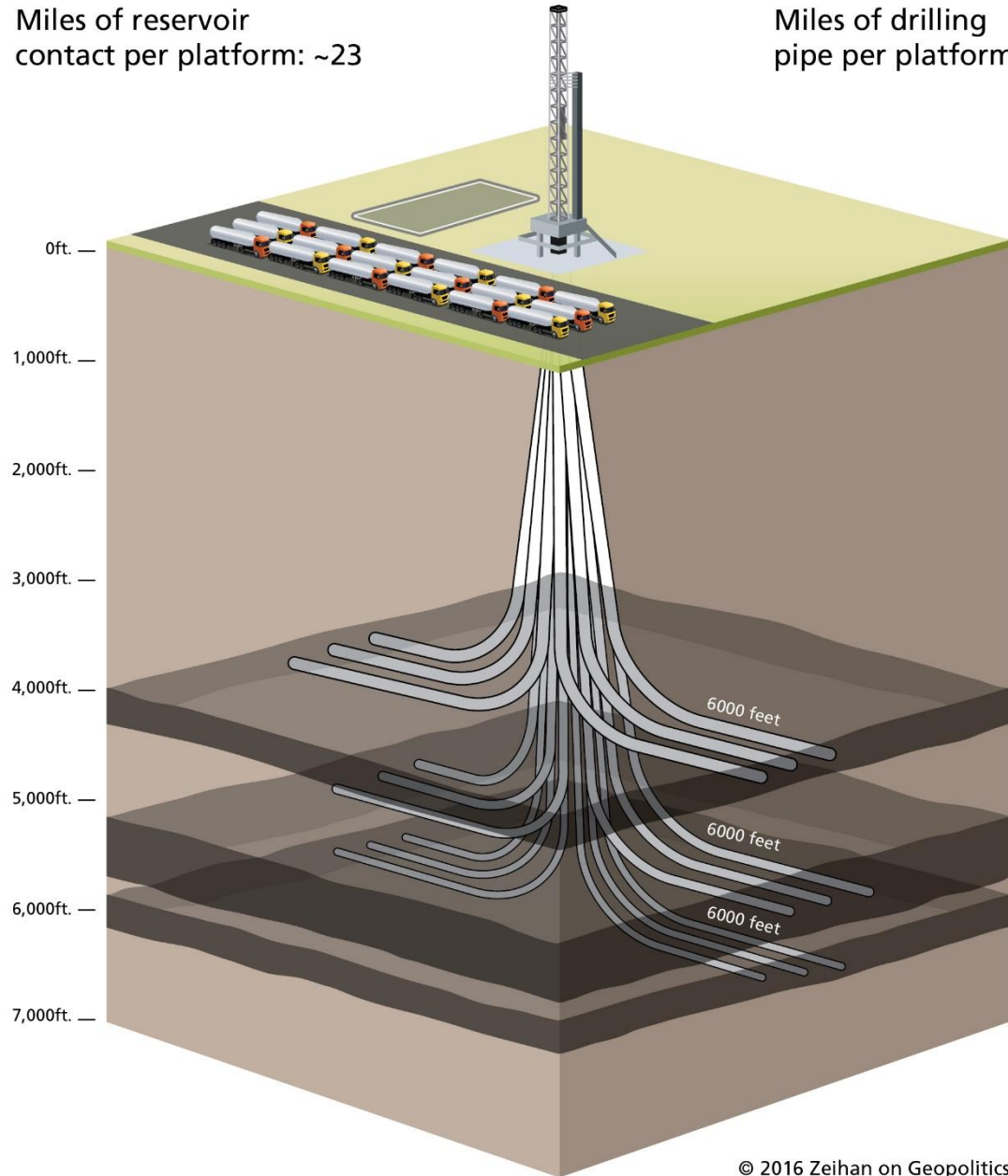
Miles of drilling pipe per platform: ~2



Pad Drilling: 2014

Miles of reservoir contact per platform: ~23

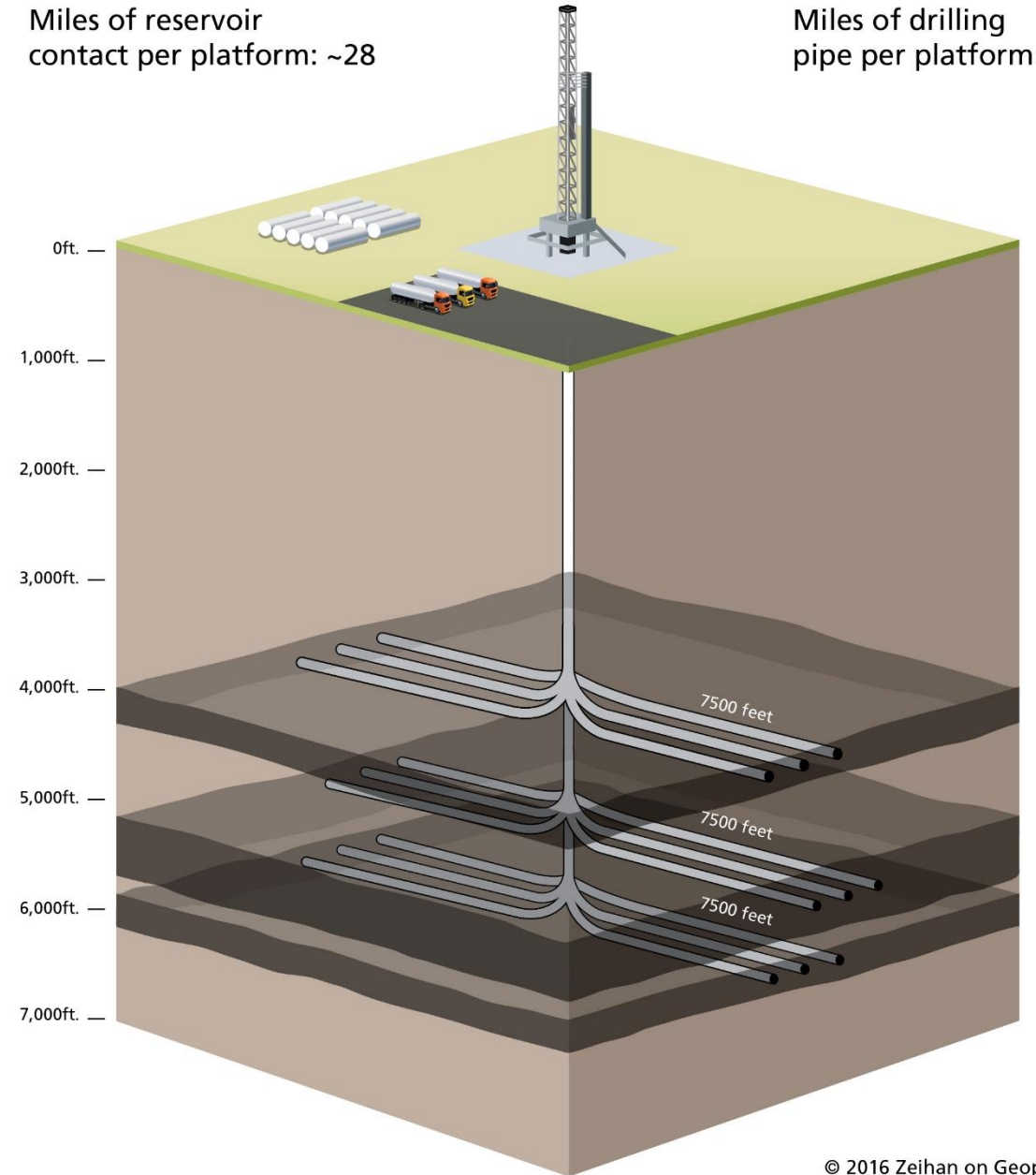
Miles of drilling pipe per platform: ~43



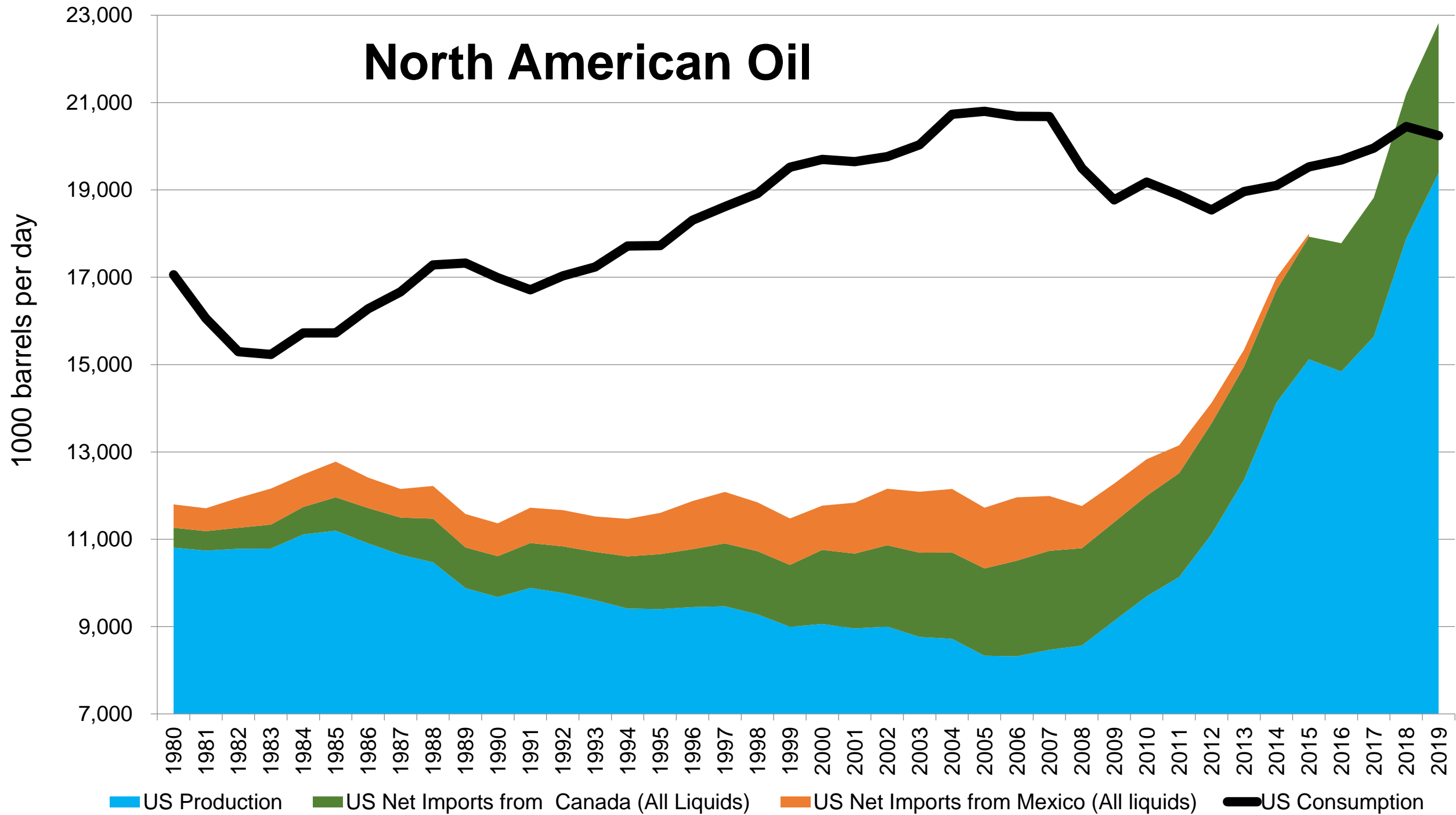
Multilateral Drilling: Mid-2016

Miles of reservoir contact per platform: ~28

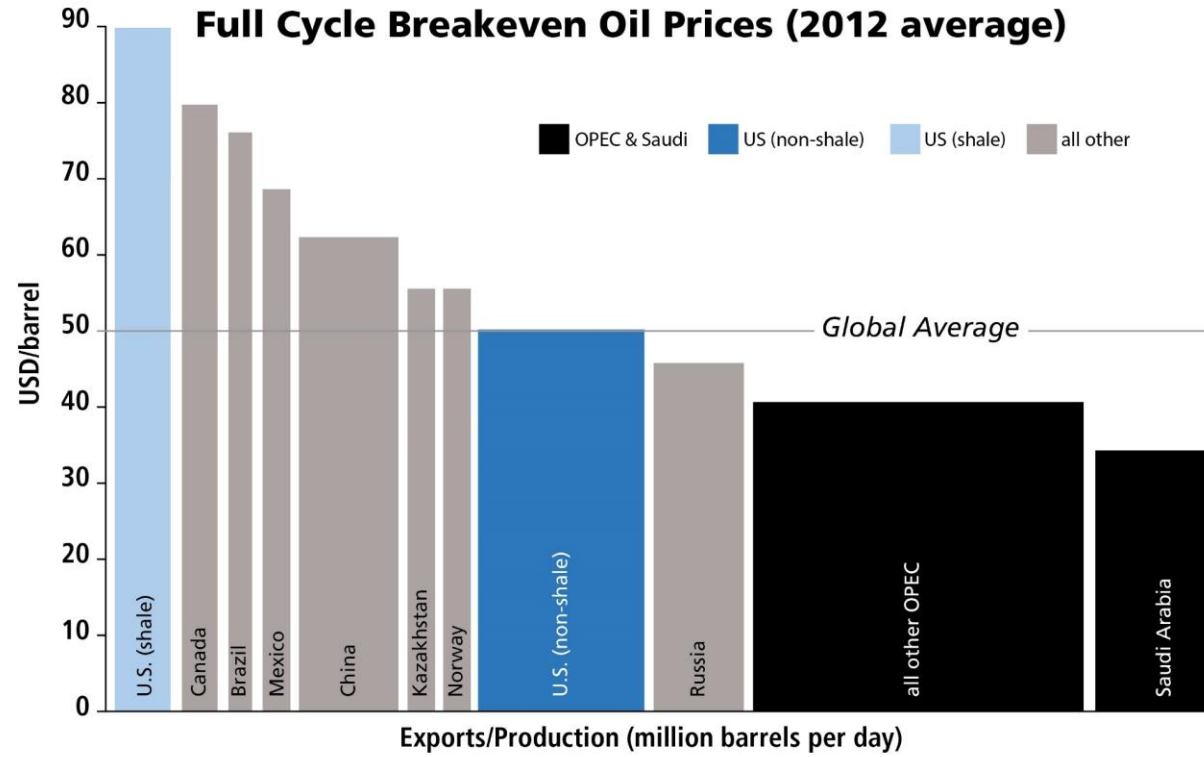
Miles of drilling pipe per platform: ~29



North American Oil

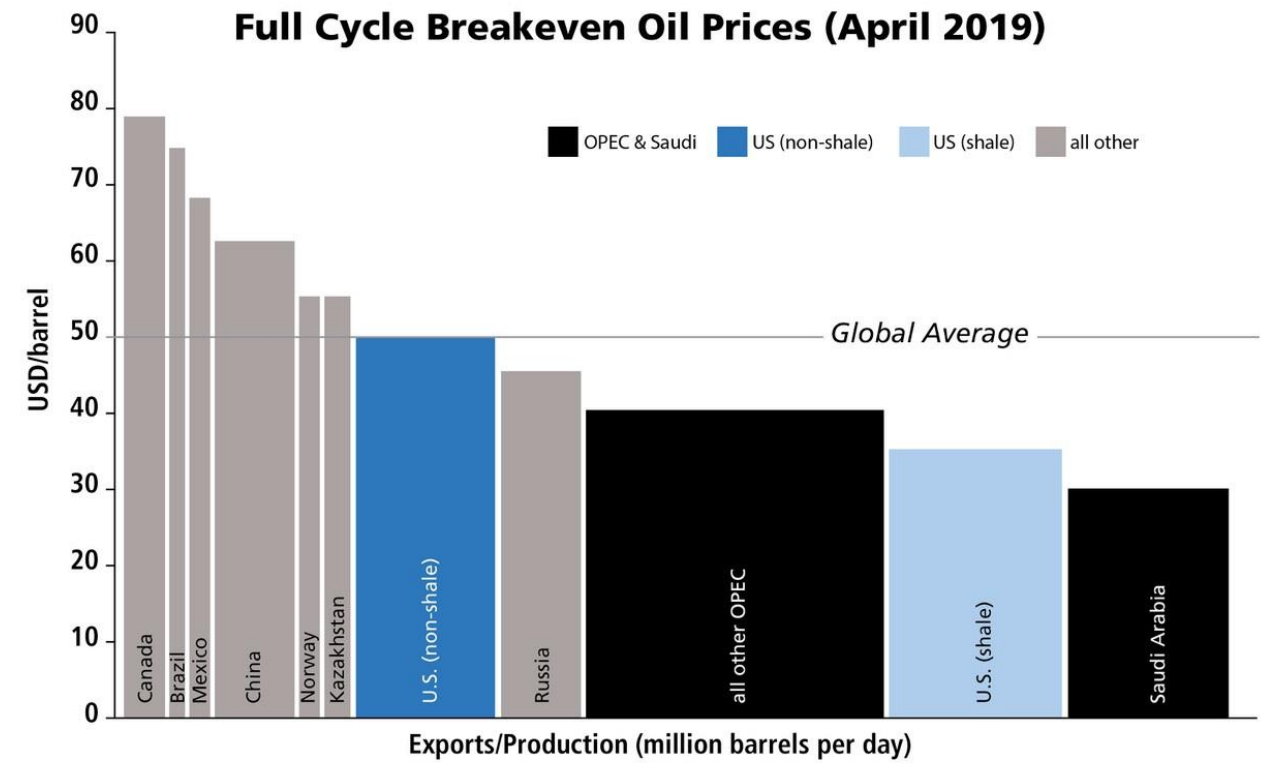


US Production US Net Imports from Canada (All Liquids) US Net Imports from Mexico (All liquids) US Consumption



© 2016 Zeihan on Geopolitics

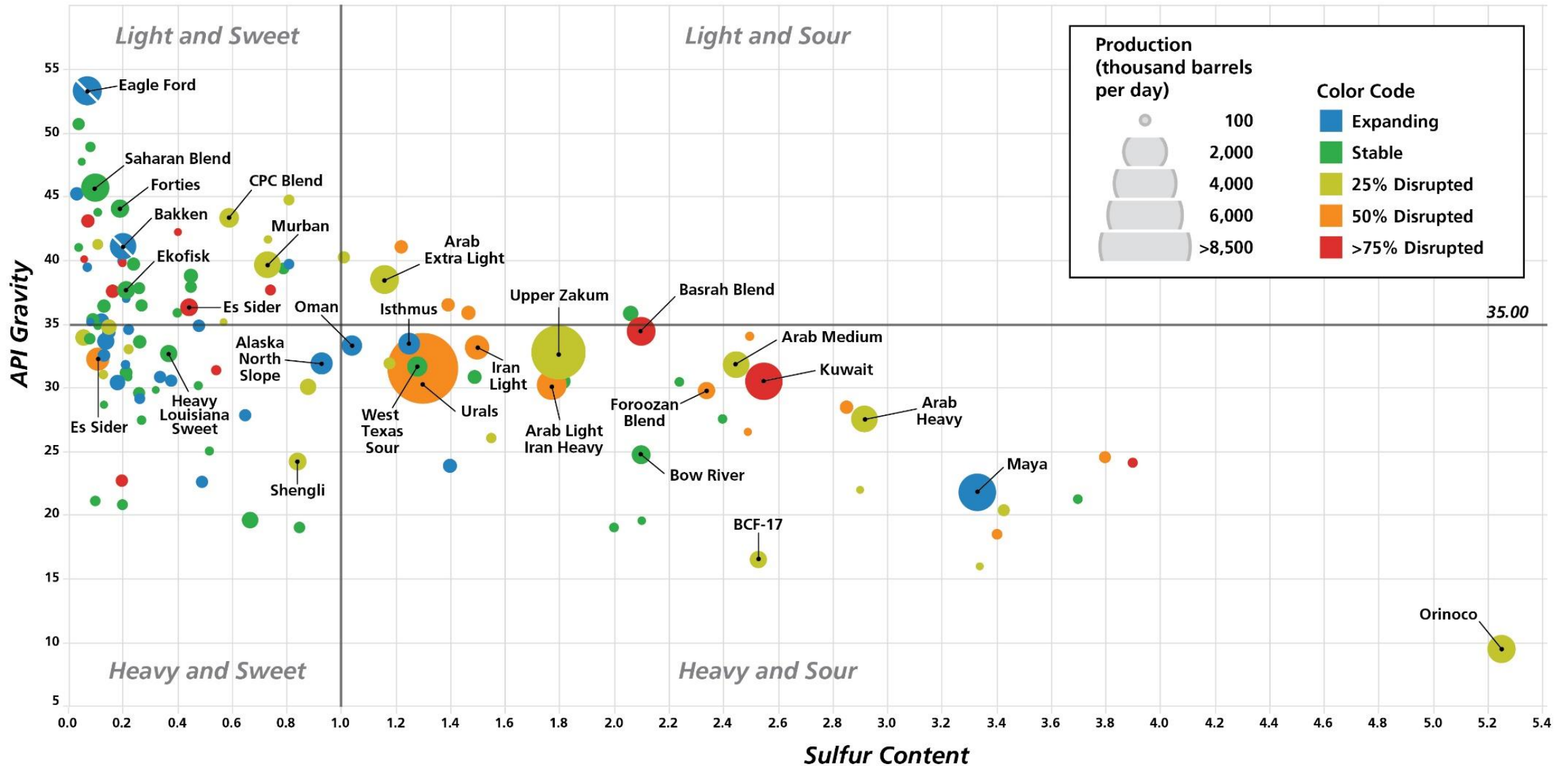
U.S. and Chinese data notes production. All other data notes exports.



© 2019 Zeihan on Geopolitics

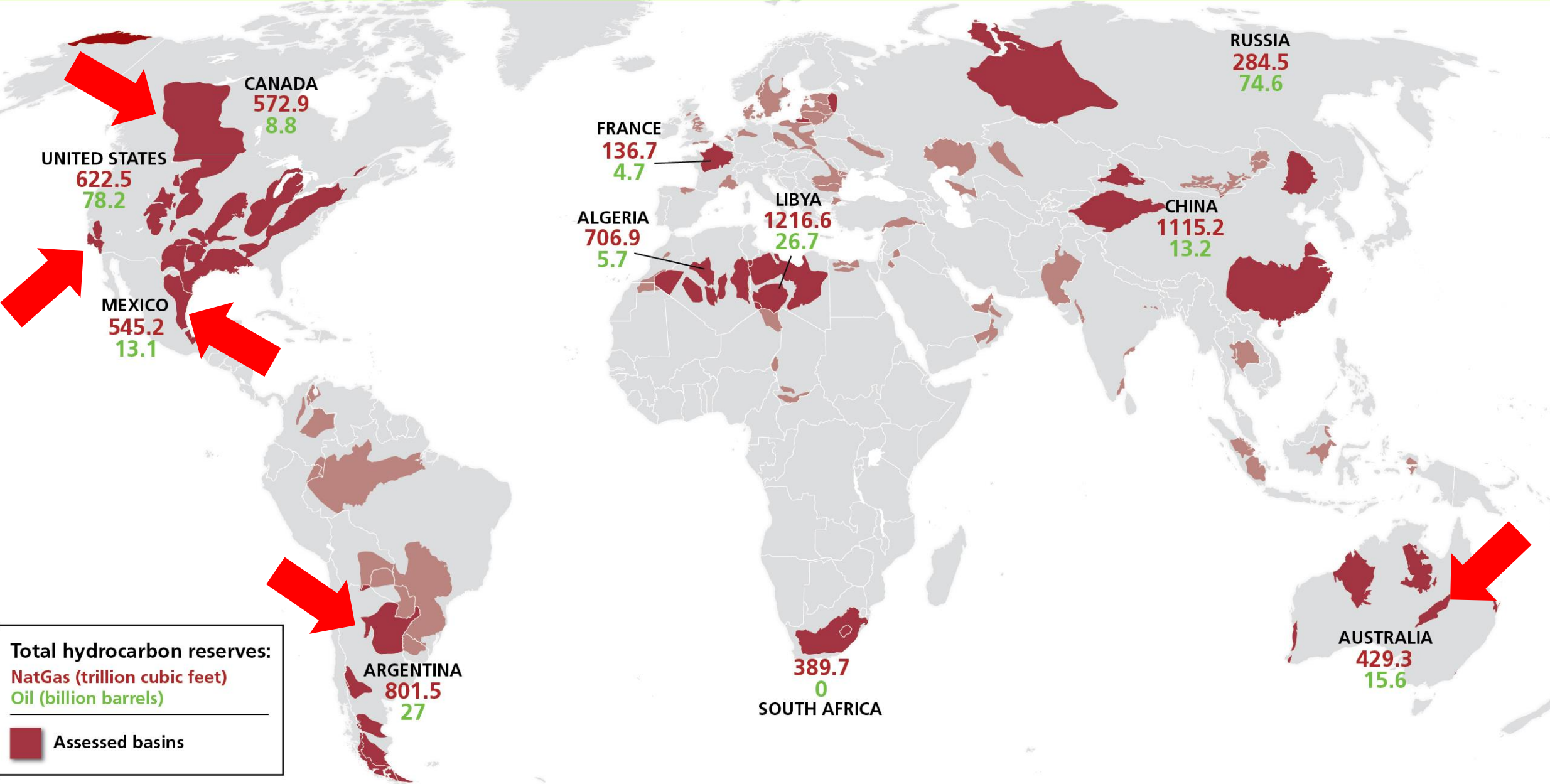
U.S. and Chinese data notes production. All other data notes exports.

Risk to Important Crude Flows



All global crude grades with a gross production in excess of 100,000 barrels per day. Sources: Energy Intelligence, Baker Institute, EIA, Argus Media, and Tableau

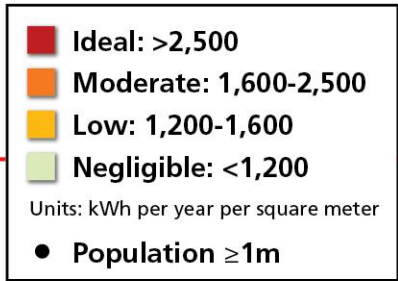
Global Shale Reserves



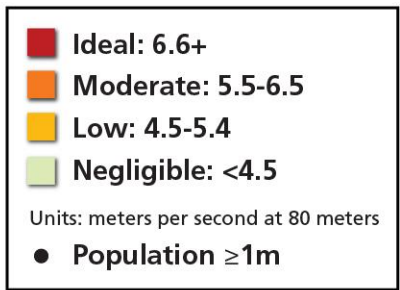
Total hydrocarbon reserves:
NatGas (trillion cubic feet)
Oil (billion barrels)

Assessed basins

Global Solar Potential



Global Wind Potential



Sources: NREL, DOE, IRENA, and EPA

© 2019 Zeihan on Geopolitics

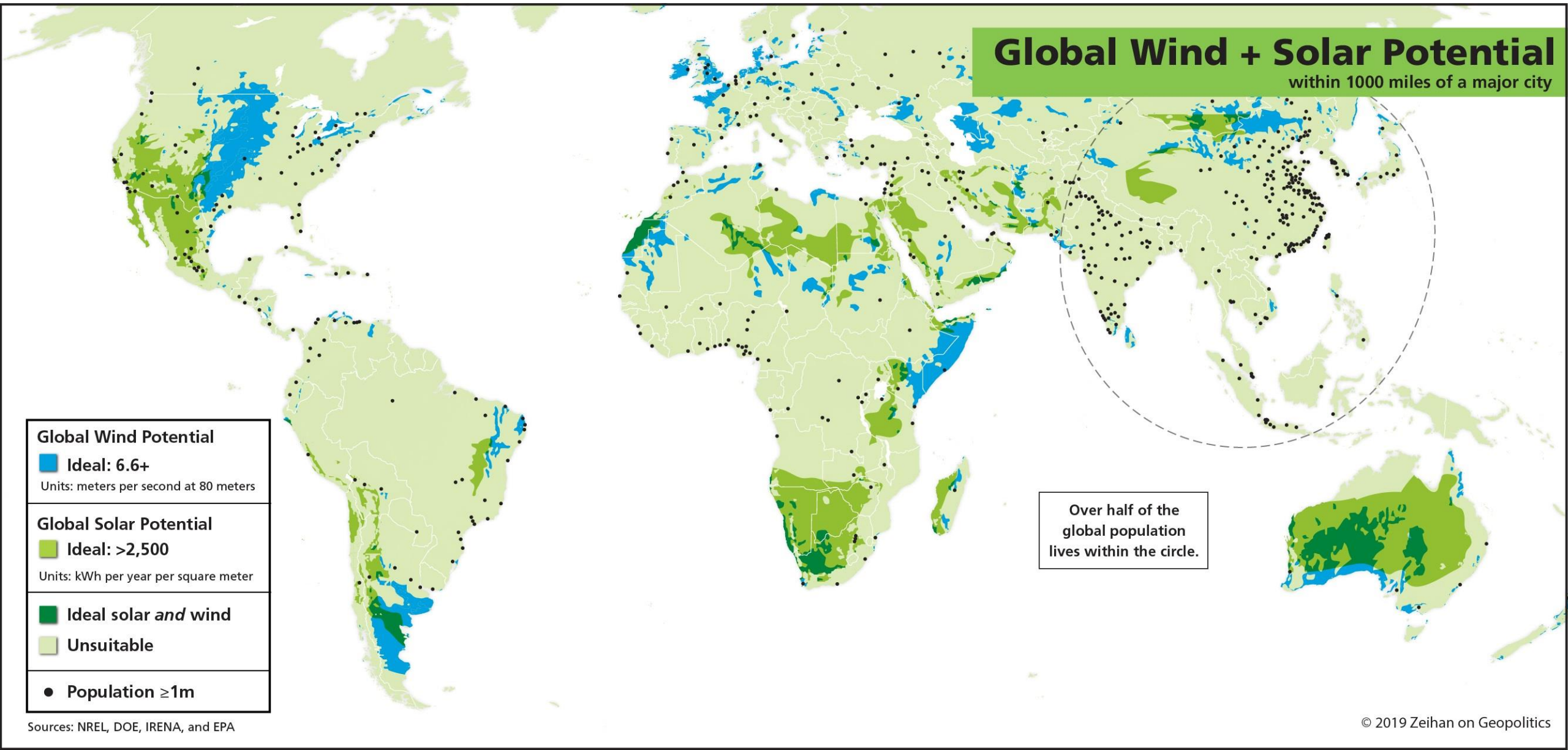
Global Wind + Solar Potential

within 1000 miles of a major city

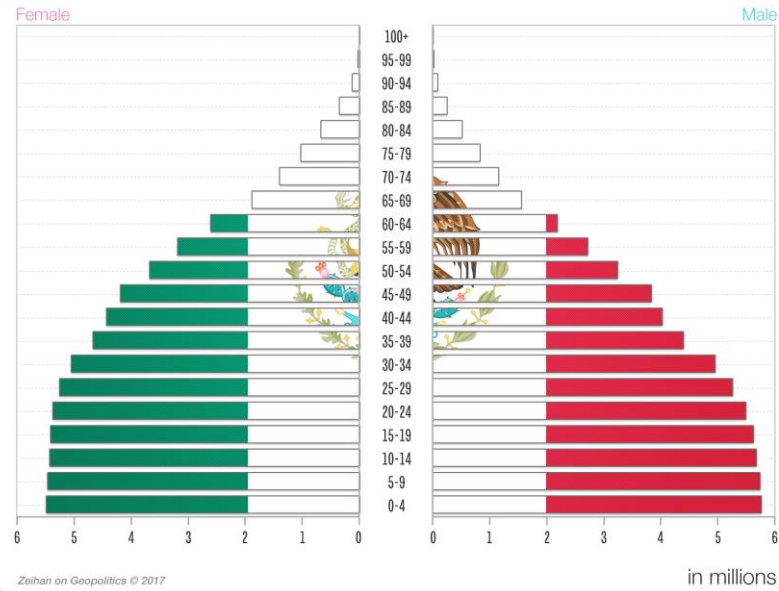
Global Wind Potential ■ Ideal: 6.6+ Units: meters per second at 80 meters
Global Solar Potential ■ Ideal: >2,500 Units: kWh per year per square meter
■ Ideal solar <i>and</i> wind ■ Unsuitable
● Population ≥1m

Over half of the global population lives within the circle.

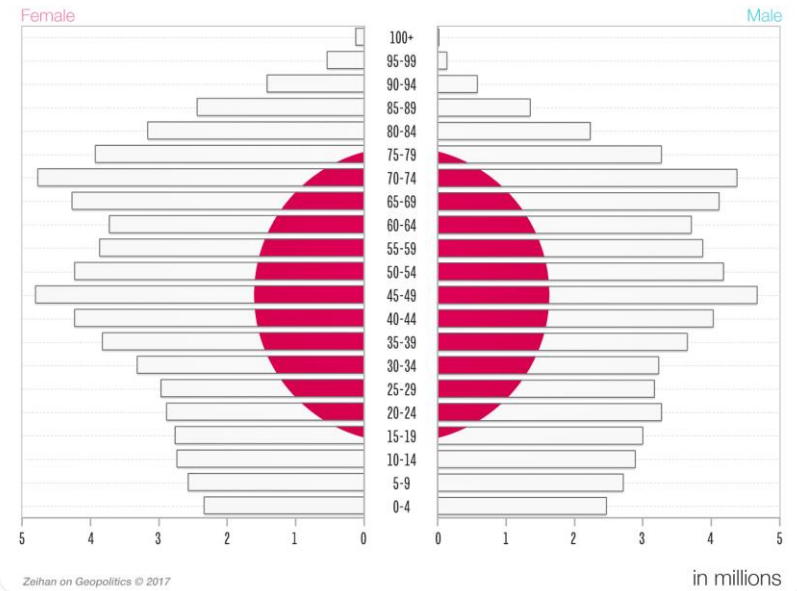
Sources: NREL, DOE, IRENA, and EPA



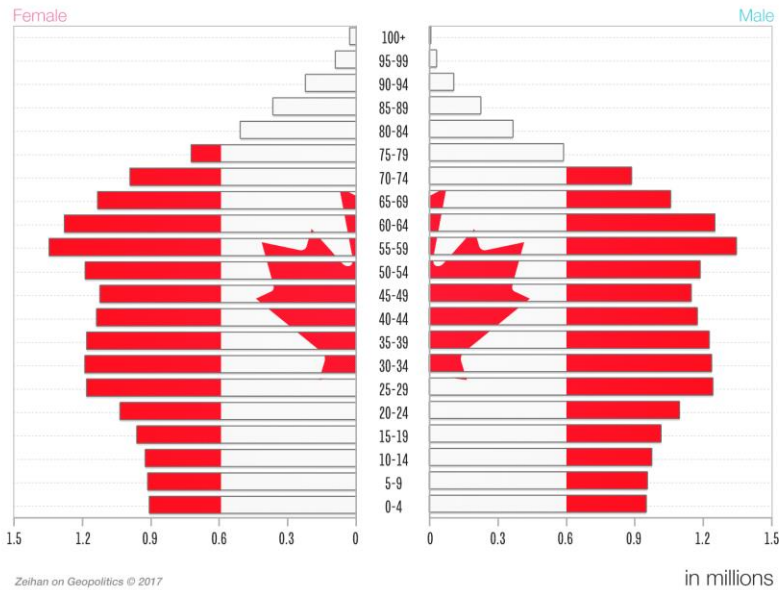
MEXICO DEMOGRAPHY 2020



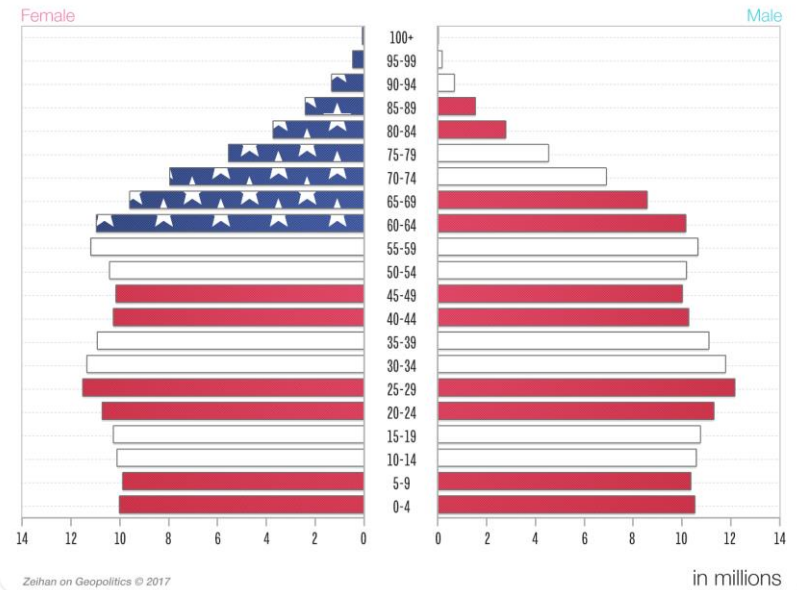
JAPAN DEMOGRAPHY 2020



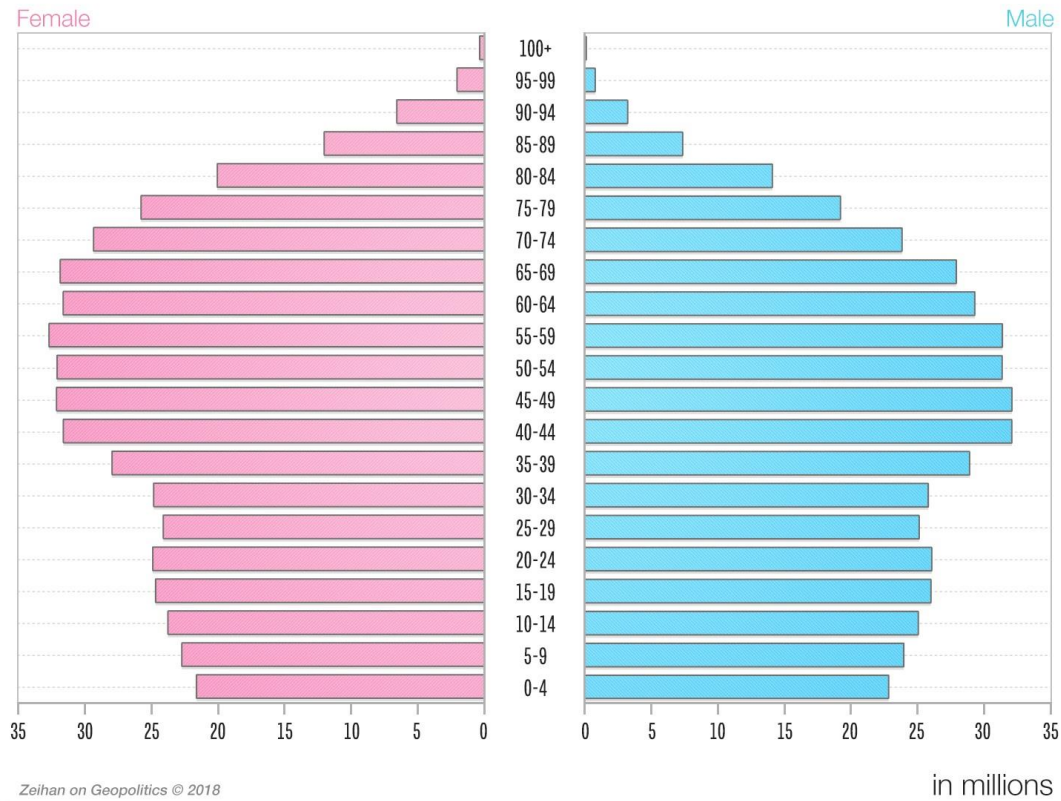
CANADA DEMOGRAPHY 2020



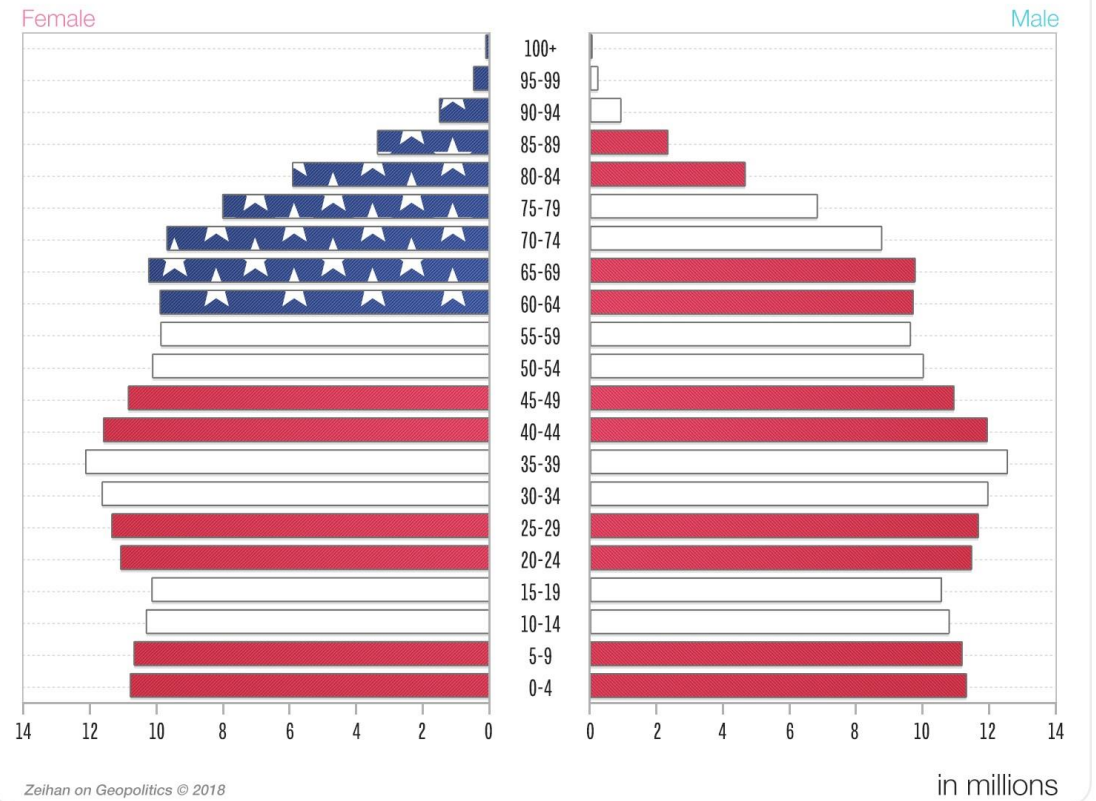
UNITED STATES DEMOGRAPHY 2020



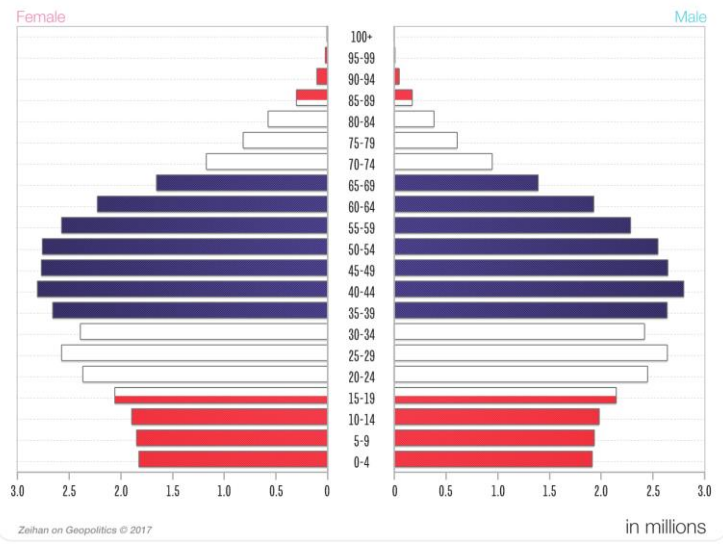
DEVELOPED WORLD DEMOGRAPHY (WITHOUT THE UNITED STATES) 2030



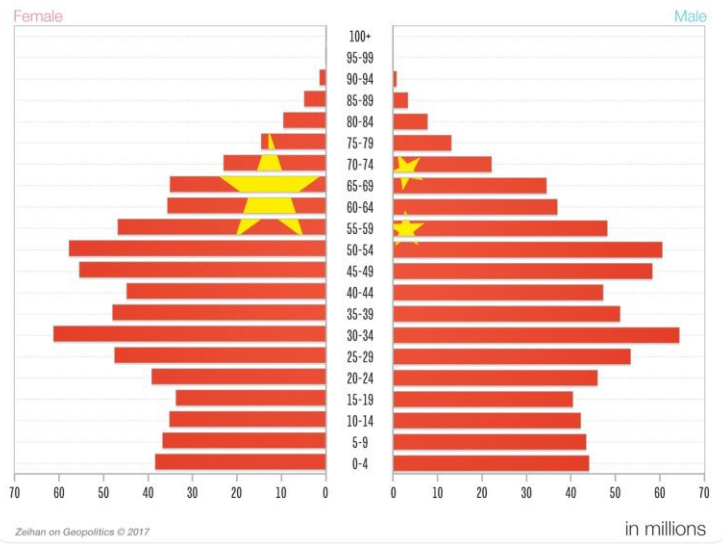
UNITED STATES DEMOGRAPHY 2030



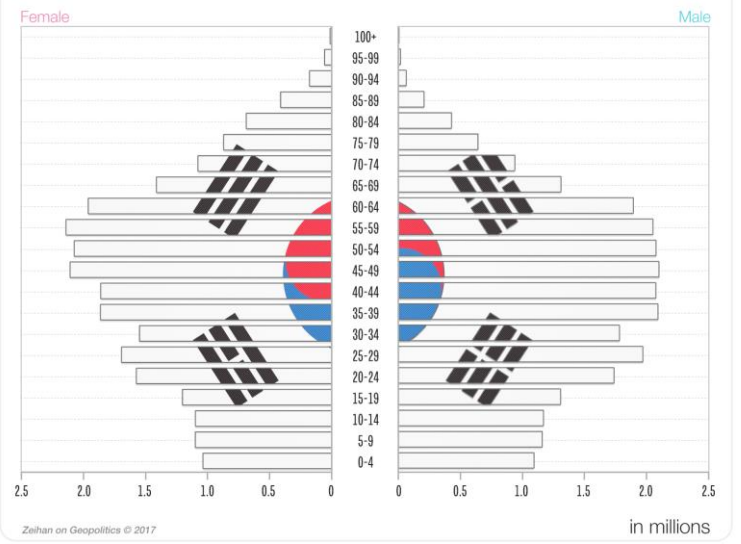
THAILAND DEMOGRAPHY 2020



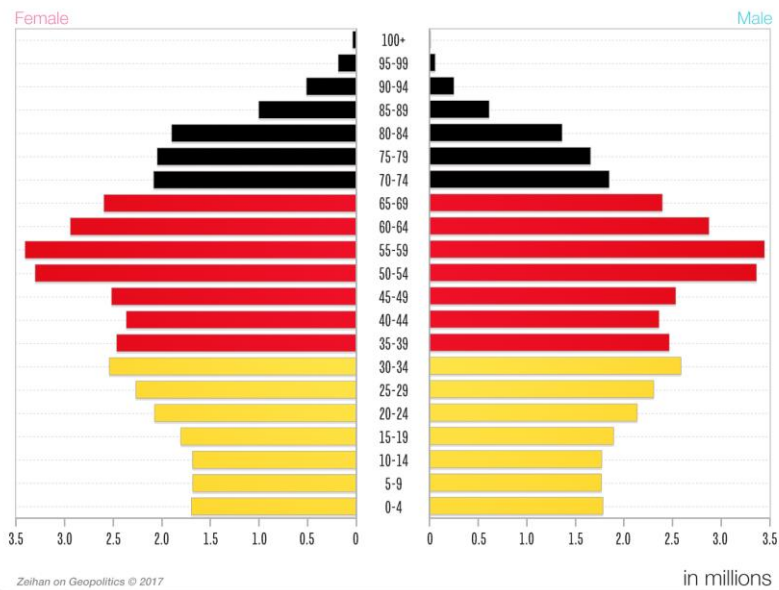
CHINA DEMOGRAPHY 2020



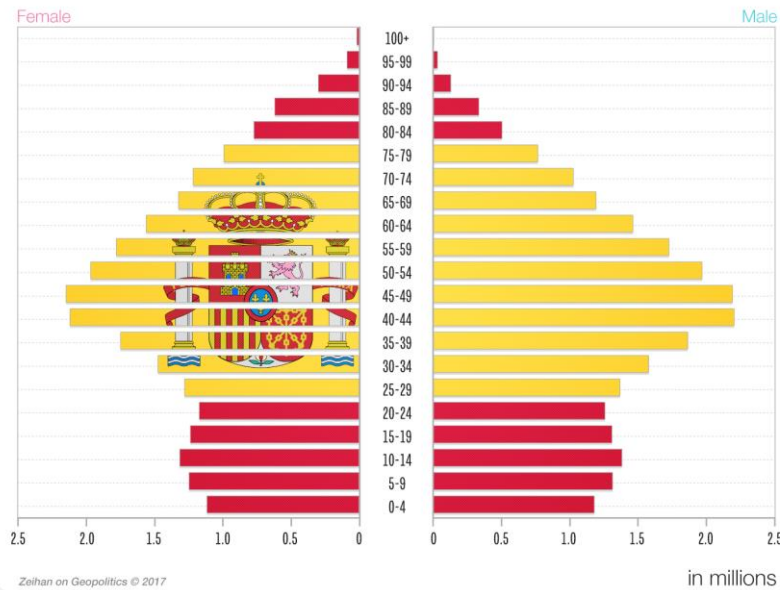
SOUTH KOREA DEMOGRAPHY 2020



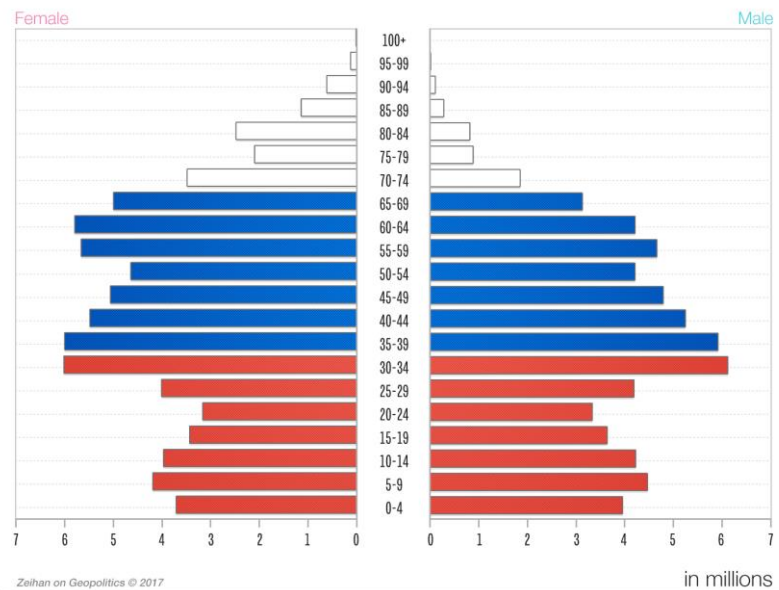
GERMANY DEMOGRAPHY 2020



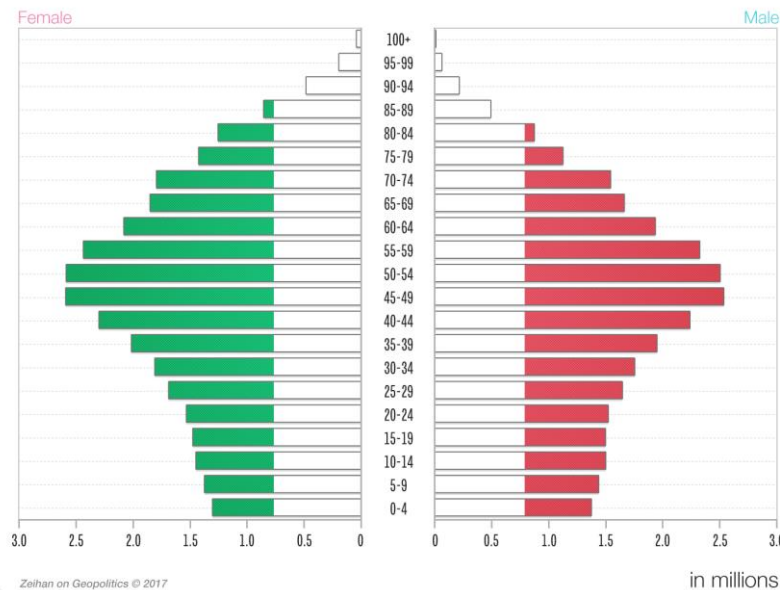
SPAIN DEMOGRAPHY 2020



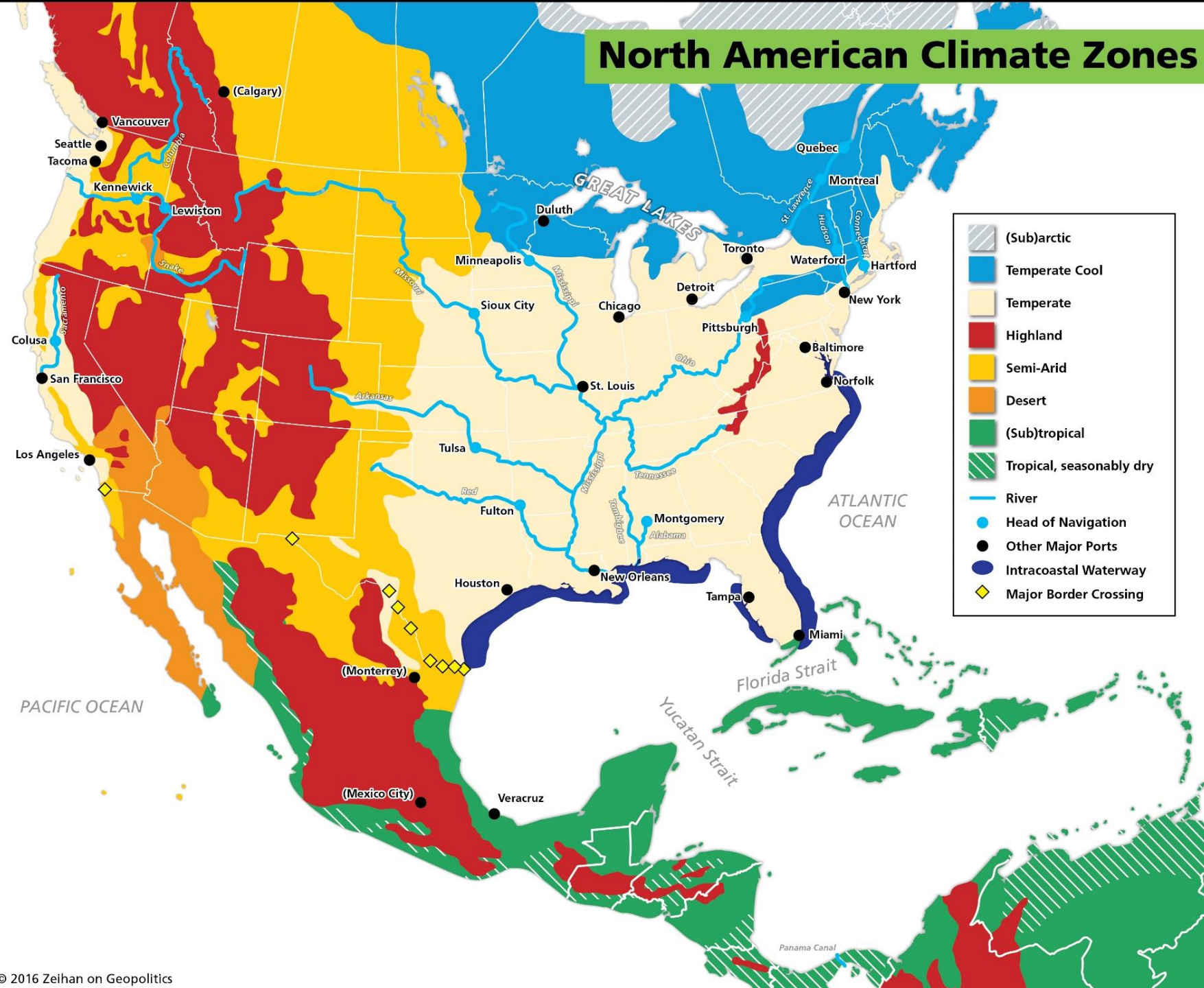
RUSSIA DEMOGRAPHY 2020



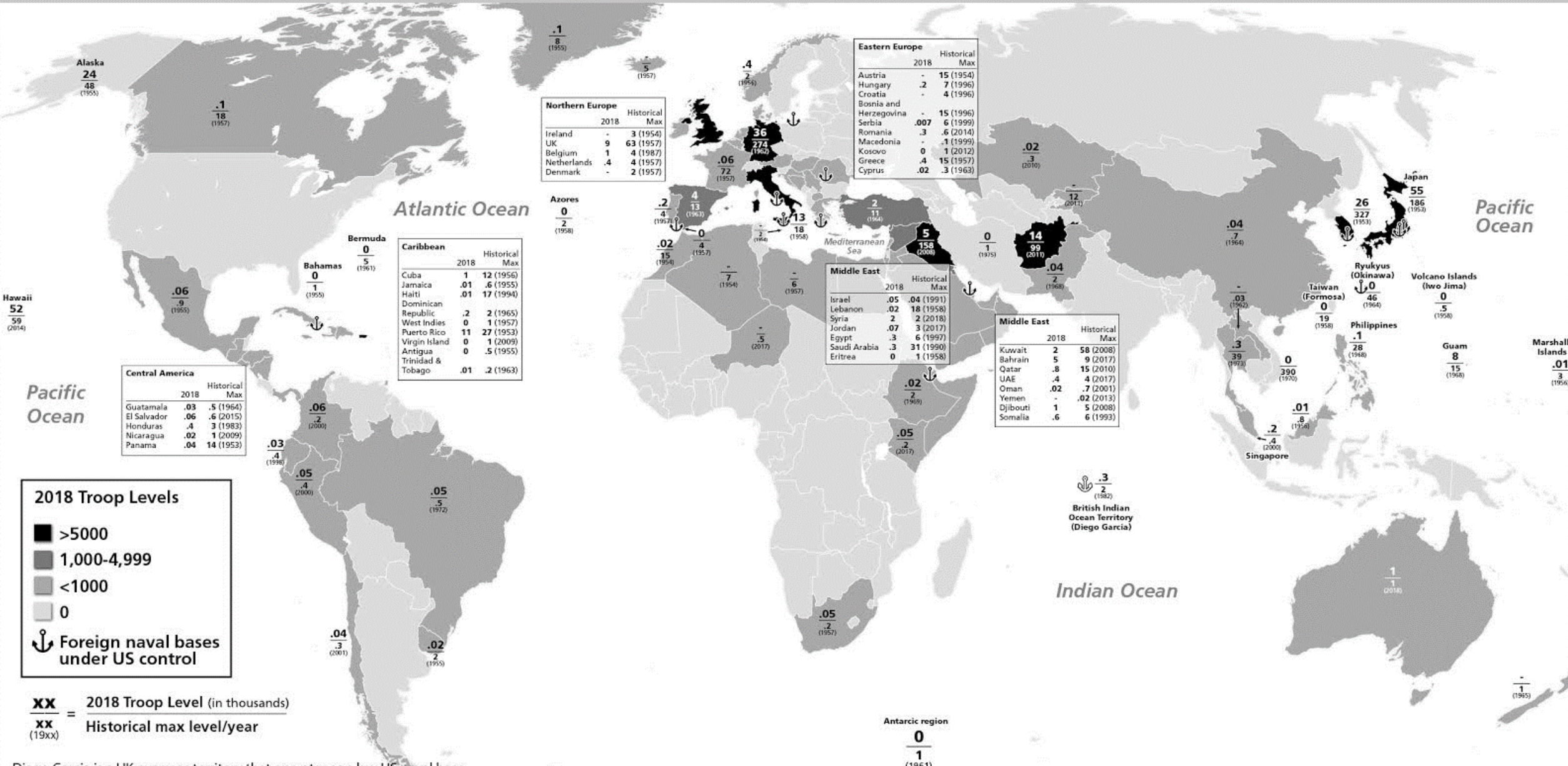
ITALY DEMOGRAPHY 2020



North American Climate Zones



America's Diminishing Deployments



Northern Europe

	2018	Historical Max
Ireland	-	3 (1954)
UK	9	63 (1957)
Belgium	1	4 (1987)
Netherlands	.4	4 (1957)
Denmark	-	2 (1957)

Eastern Europe

	2018	Historical Max
Austria	-	15 (1954)
Hungary	.2	7 (1996)
Croatia	-	4 (1996)
Bosnia and Herzegovina	-	15 (1996)
Serbia	.007	6 (1999)
Romania	.3	.6 (2014)
Macedonia	-	.1 (1999)
Kosovo	0	1 (2012)
Greece	.4	15 (1957)
Cyprus	.02	.3 (1963)

Caribbean

	2018	Historical Max
Cuba	1	12 (1956)
Jamaica	.01	.6 (1955)
Haiti	.01	17 (1994)
Dominican Republic	.2	2 (1965)
West Indies	0	1 (1957)
Puerto Rico	11	27 (1953)
Virgin Island	0	1 (2009)
Antigua	0	.5 (1955)
Trinidad & Tobago	.01	.2 (1963)

Middle East

	2018	Historical Max
Israel	.05	.04 (1991)
Lebanon	.02	18 (1958)
Syria	2	2 (2018)
Jordan	.07	3 (2017)
Egypt	.3	6 (1997)
Saudi Arabia	.3	31 (1990)
Eritrea	0	1 (1958)

Middle East

	2018	Historical Max
Kuwait	2	58 (2008)
Bahrain	5	9 (2017)
Qatar	.8	15 (2010)
UAE	.4	4 (2017)
Oman	.02	.7 (2001)
Yemen	-	.02 (2013)
Djibouti	1	5 (2008)
Somalia	.6	6 (1993)

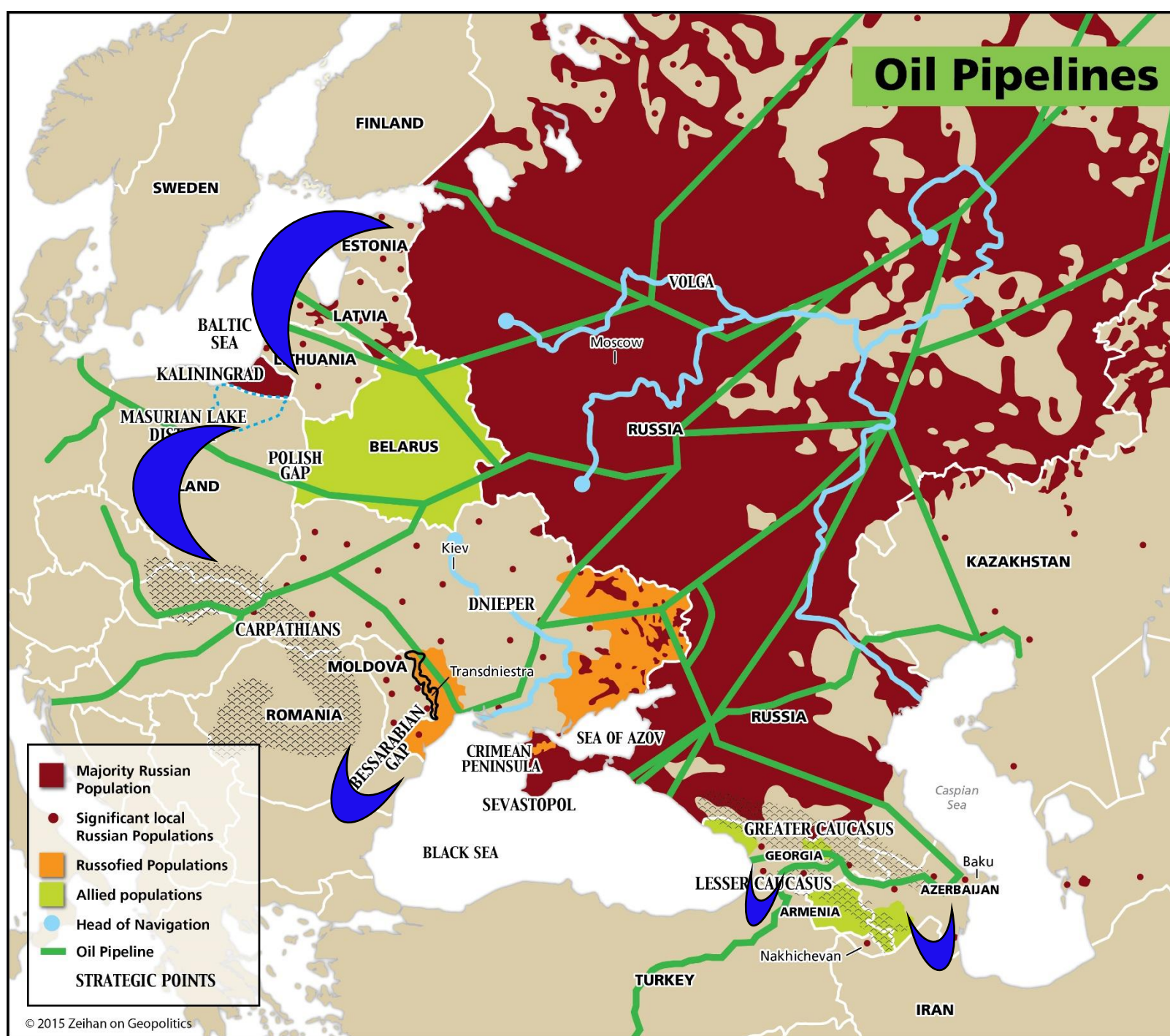
Central America

	2018	Historical Max
Guatemala	.03	.5 (1964)
El Salvador	.06	.6 (2015)
Honduras	.4	3 (1983)
Nicaragua	.02	1 (2009)
Panama	.04	14 (1953)

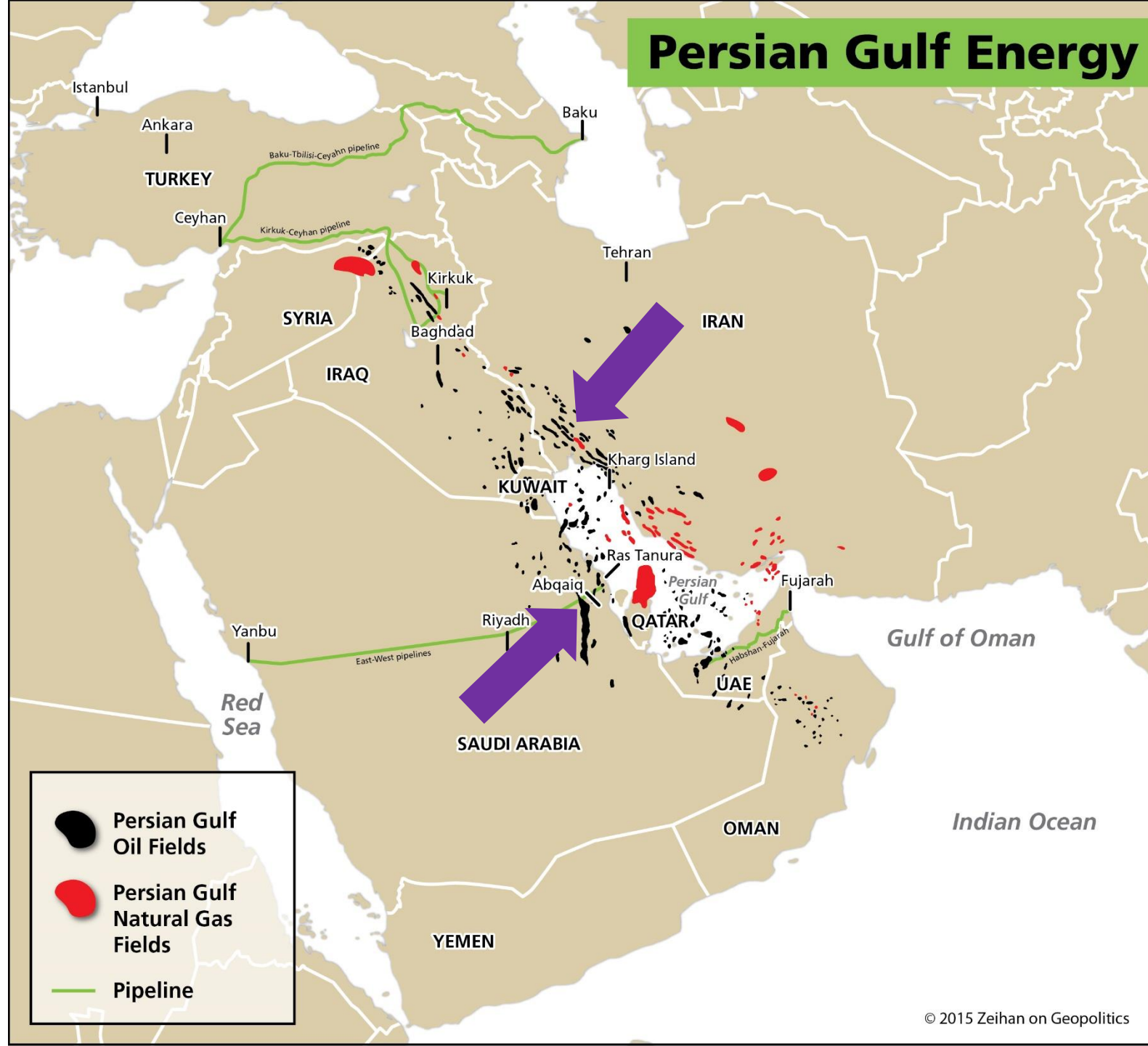
Diego Garcia is a UK overseas territory that operates as a key US naval base.

Sources: Department of Defense, Congressional Research Reports. Includes all forces outside of the US Lower 48 states. As a rule data does not include Special Operations Forces.

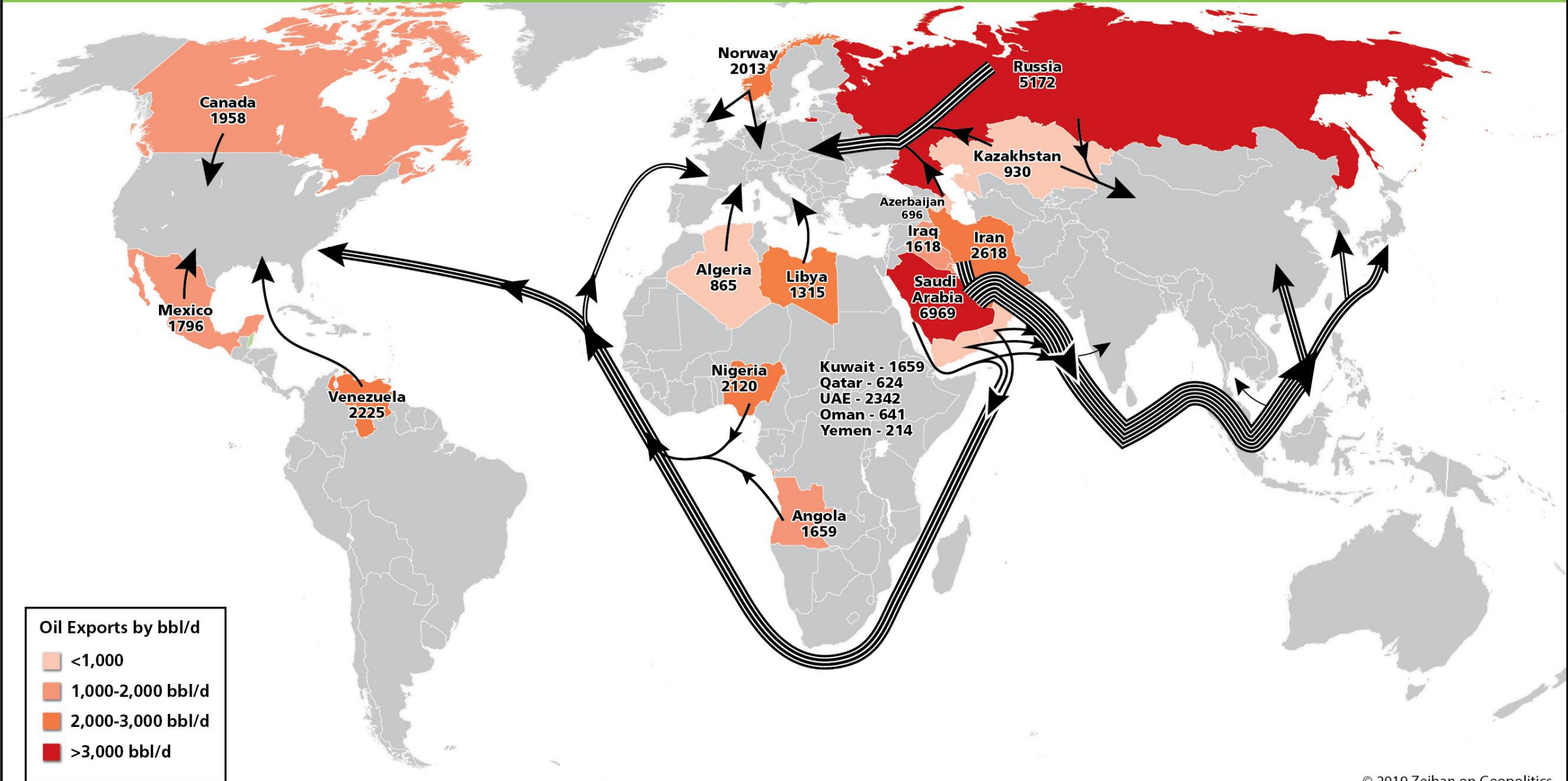
The Twilight War



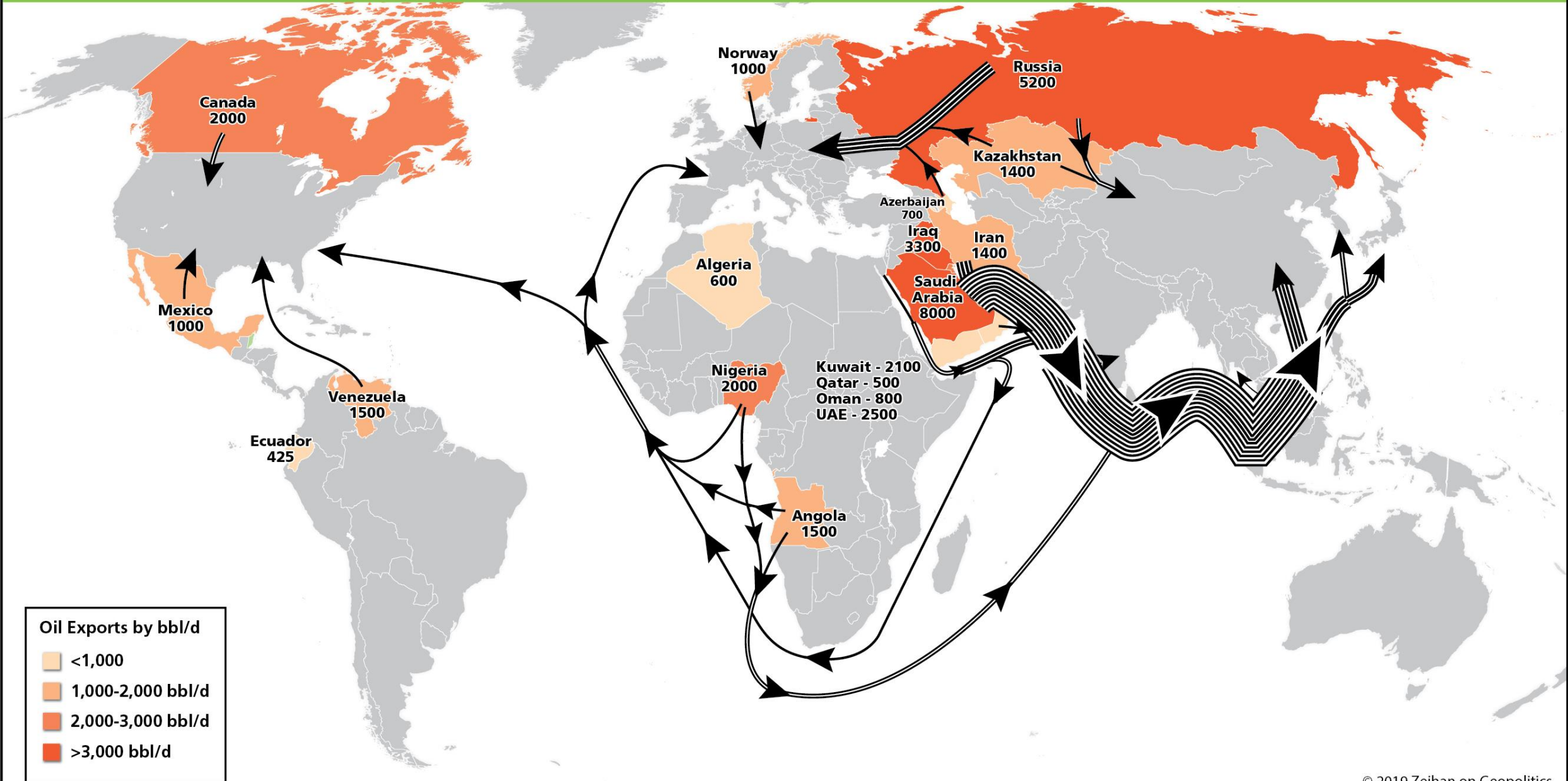
The (Next) Gulf War



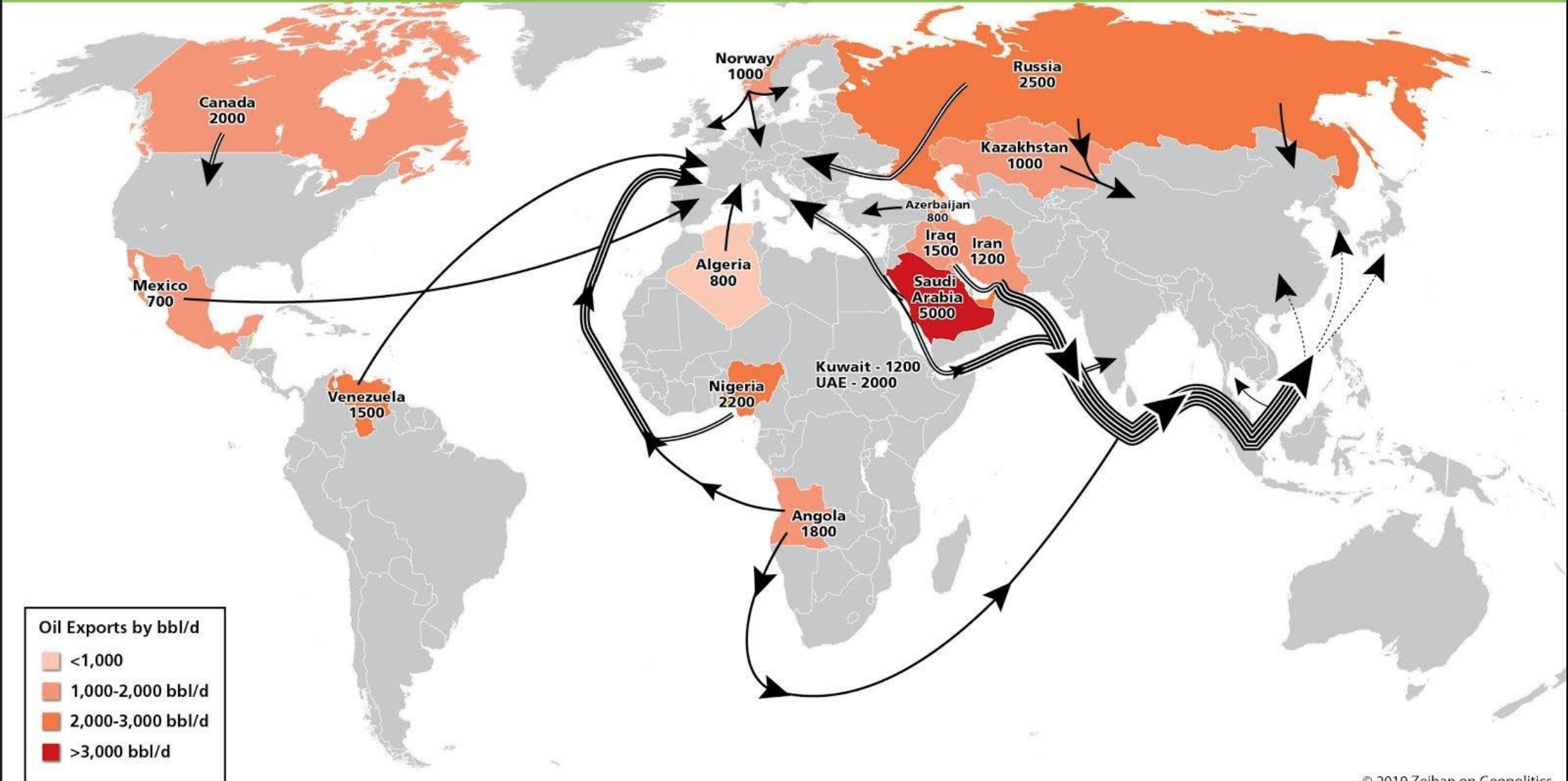
Top Oil Exporters 2007



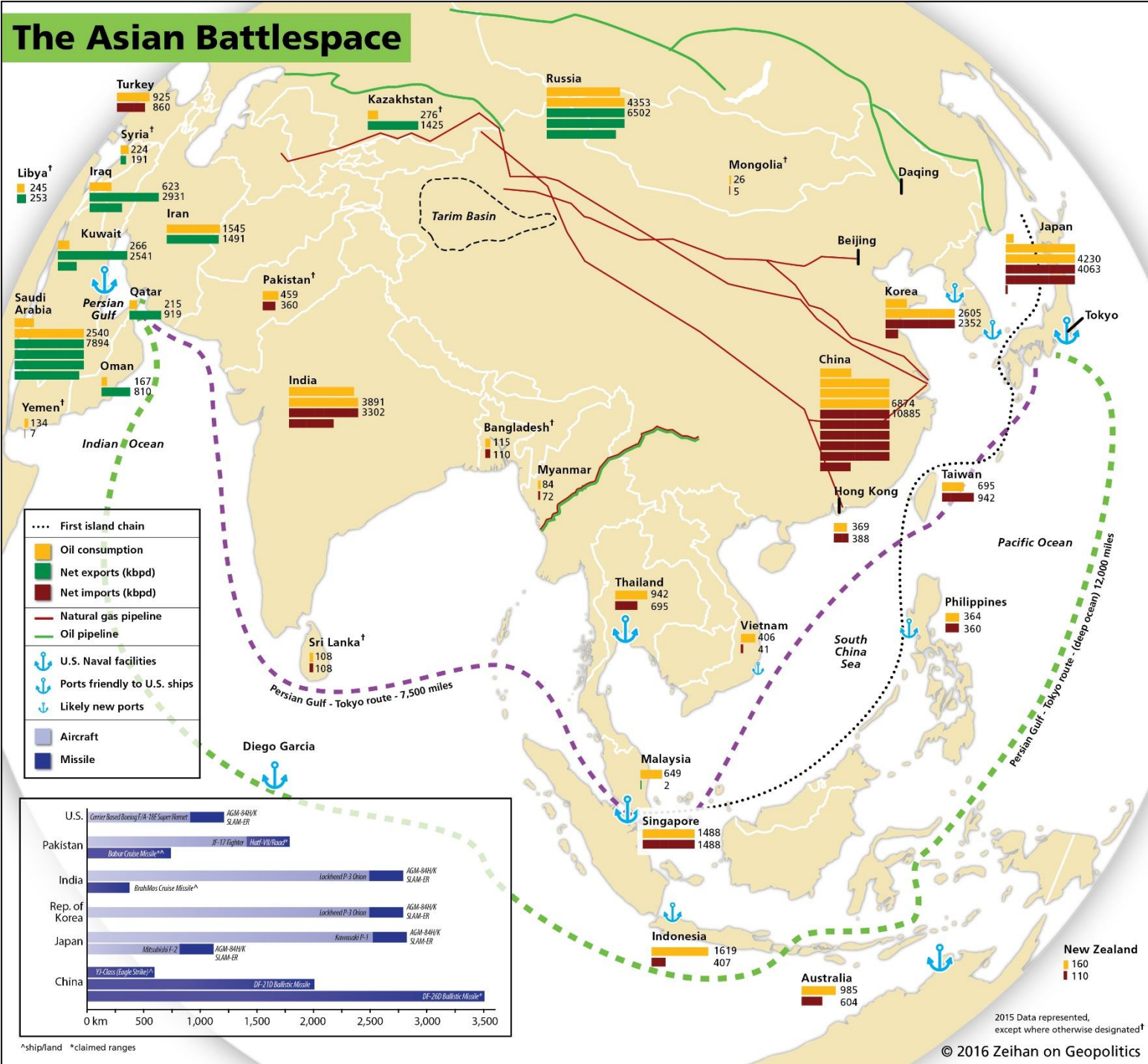
Top Oil Exporters 2015



Top Oil Exporters c2025

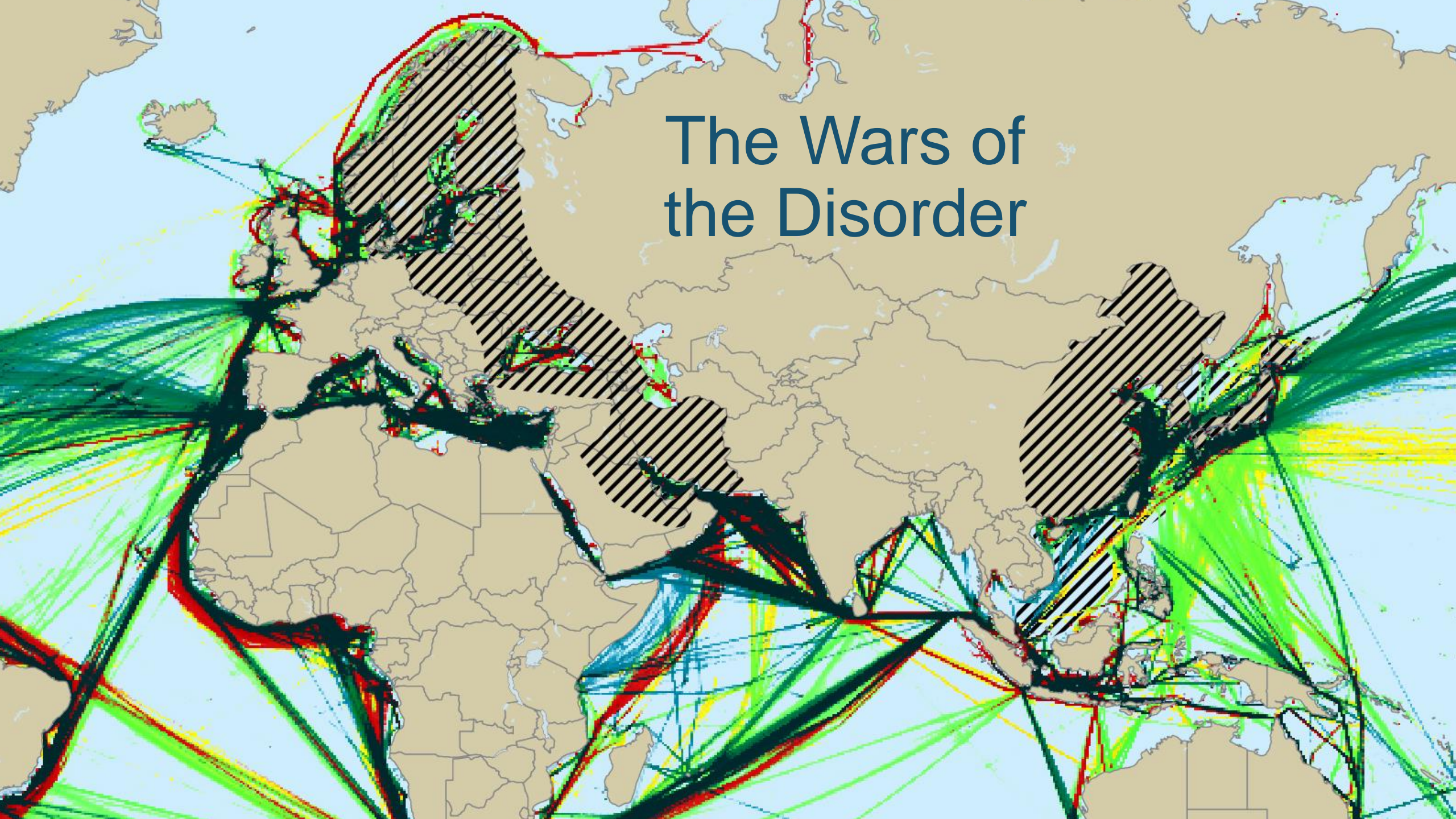


The Asian Battlespace



















2015 Data represented, except where otherwise designated†

The Wars of the Disorder



War Risk Insurance Cost Estimates in a High Risk Environment

Ship Type	Maximum Carrying Capacity (Units)	million USD					Additional insurance cost per unit per seven days in high risk zone (USD)	Approximate Ship Dimensions - Length, Beam, Depth in Meters
		Appx Secondhand Value*	Typical Cargo Value**	2.5% Normal Annual Hull Insurance Cost	5% Hull War Risk Premium for Seven Days	0.375% Additional Cargo Risk Premium for Duration at 80% Insured		
Maersk Triple E	18,000 TEU	\$180	\$630	\$4.50	\$9.00	\$1.89	 \$605 / container 	
Panamax Container (post-expansion)	12,500 TEU	\$130	\$438	\$3.25	\$6.50	\$1.31	 \$625 / container 	
Panamax Container (pre-expansion)	5,000 TEU	\$7.0	\$175	\$0.18	\$0.35	\$0.53	 \$175 / container 	
Very Large Crude Carrier	2,000,000 barrels	\$62	\$200	\$1.55	\$3.10	\$0.60	 \$1.85 / barrel 	
Aframax Tanker	800,000 barrels	\$18	\$80	\$0.45	\$0.90	\$0.24	 \$1.43 / barrel  245x34x20	
Capesize Bulk Ship	196,000 metric tons	\$33	\$16	\$0.83	\$1.65	\$0.05	 \$8.66 / metric ton  280x45x24	
Panamax Bulk Ship (pre-expansion)	83,000 metric tons	\$20	\$7	\$0.50	\$1.00	\$0.02	 \$12.29 / metric ton  225x32x14	
Handymax Bulk Ship (feeder)	59,000 metric tons	\$12	\$5	\$0.30	\$0.60	\$0.01	 \$10.41 / metric ton  190x32x11	

* Values are based 5 year old ships except for Handymax and Aframax where data was only available for 10 year old ships and the Triple E class which are newbuilds.

Prices are approximate based on reports from March 2017.

** With oil priced \$100/barrel, coal \$80/metric ton, clothing \$35,000/TEU

Sources: Athenian, Clarkson, Maersk, ZoG Research

© 2017 Zeihan on Geopolitics

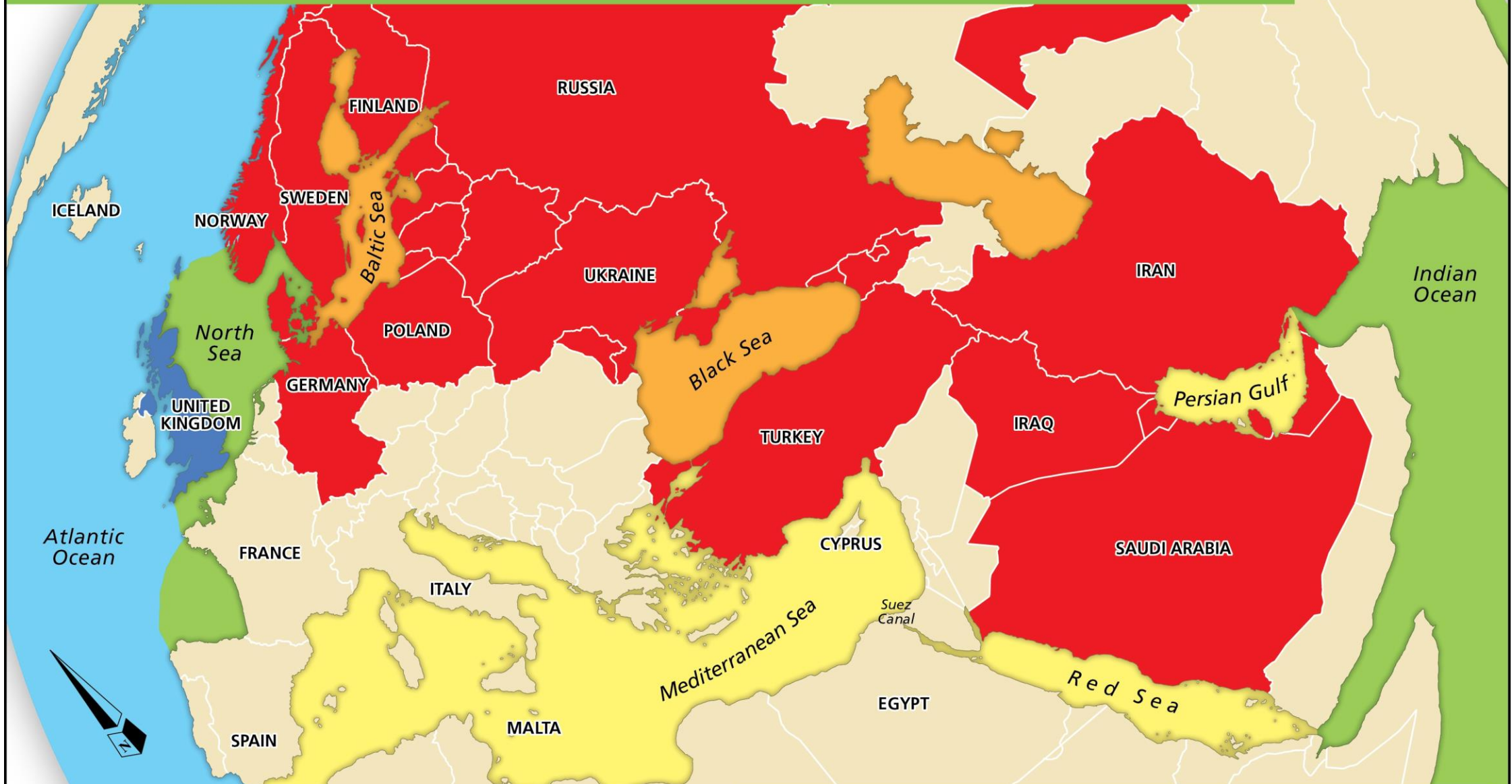




Wedge Issues

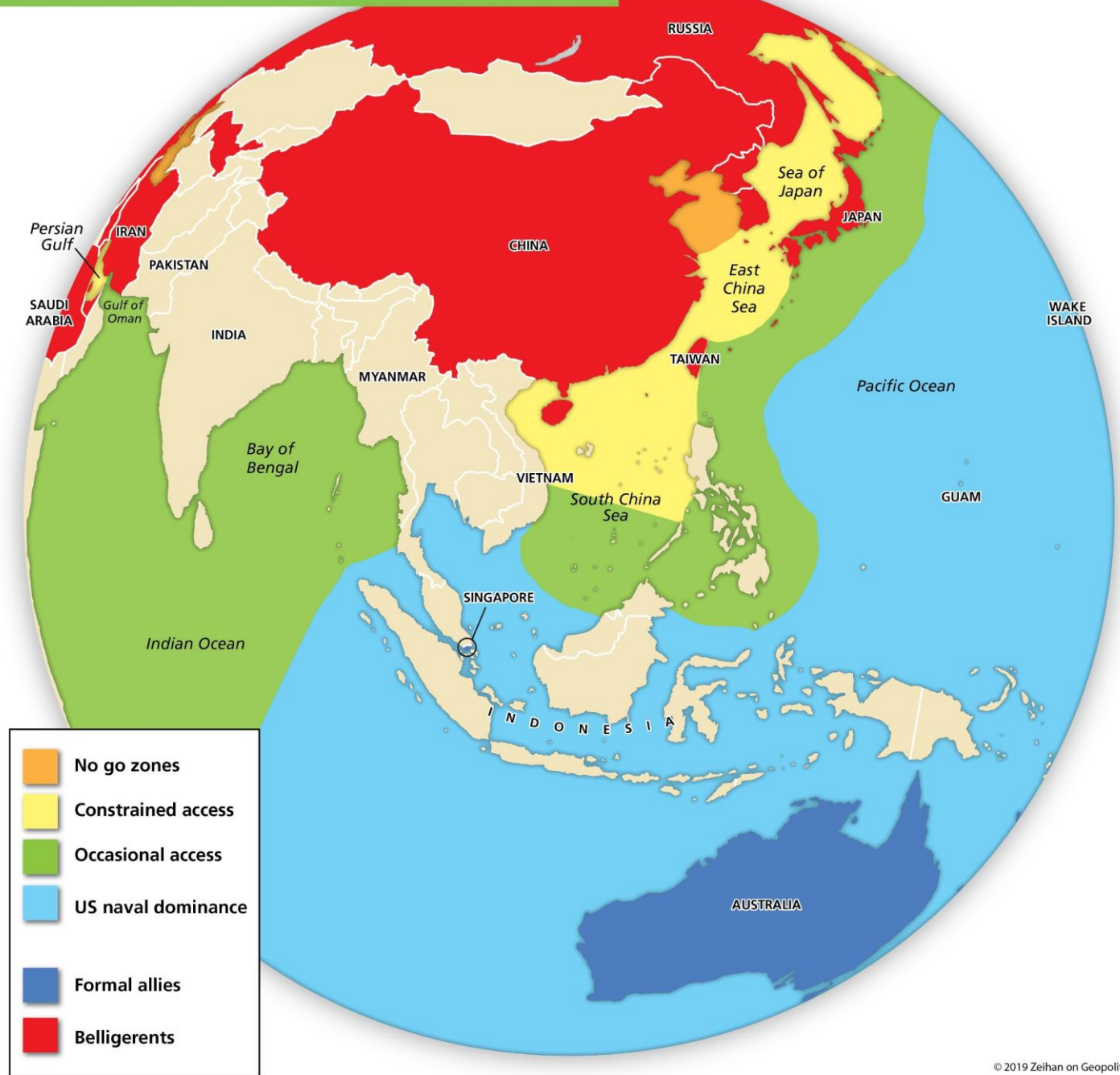


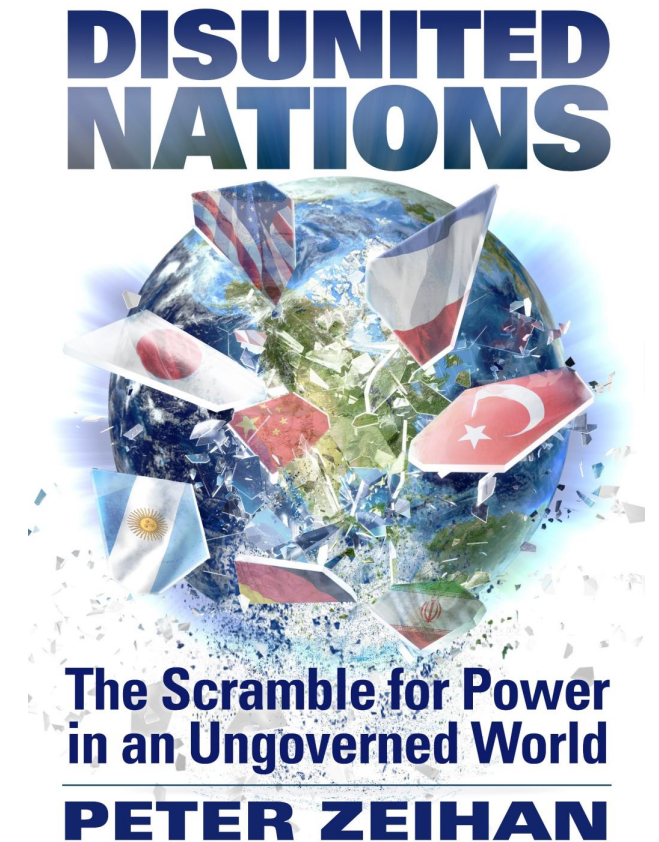
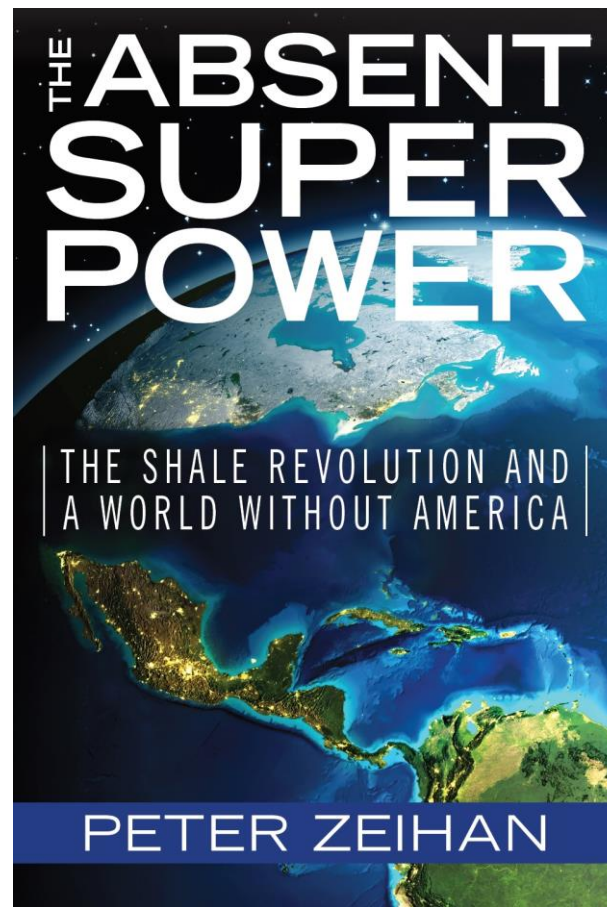
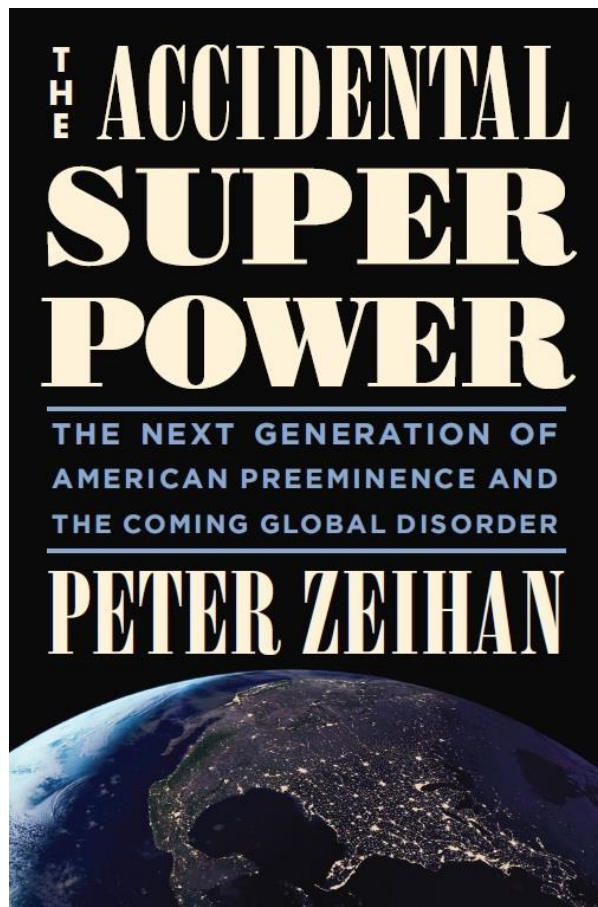
Future U.S. Naval Access – Europe and the Middle East



No go zones	Constrained access	Occasional access	US naval dominance
Formal allies	Belligerents		

Future U.S. Naval Access – Asia





[@PeterZeihan](https://www.instagram.com/PeterZeihan)

www.Zeihan.com