



The first 5 slides come from Dr. Tracey Osborne, School of Geography and Development, University of Arizona. She uses conservative estimates of international climate scientists for the climate mapping and carbon that can be burned before most serious climate impacts occur such as with sea level rise and flooding of low lying areas like impoverished nation of Bangladesh and much of Florida and disappearance of small island nations. Last two slides are photos I have taken.

-Bob Zeigler

Carbon Budget

The window for action is rapidly closing

65% of our carbon budget compatible with a 2° C goal already used



AR5 WGI SPM

IPCC AR5 Synthesis Report

ipcc
INTERGOVERNMENTAL PANEL ON climate change



Unburnable Carbon

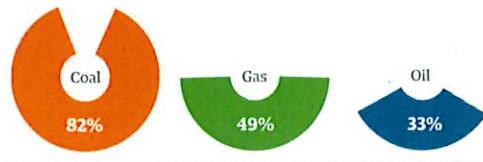
The Carbon Bubble

Unburnable fossil fuels

Known, extractable coal, oil and gas reserves that must not be burnt in order to prevent dangerous climate change of more than 2C

Global reserves

Per cent that cannot be burned



- University of College London study finds the following must stay underground:
 - 82%: Coal
 - 49%: Natural gas
 - 33%: Oil
- Fossil fuel development in the Arctic, any exploitation of unconventional oil, and any further investment in new fossil fuel resources are inconsistent with CC mitigation efforts.

From University of Arizona Climate Alliance Mapping project Web Page

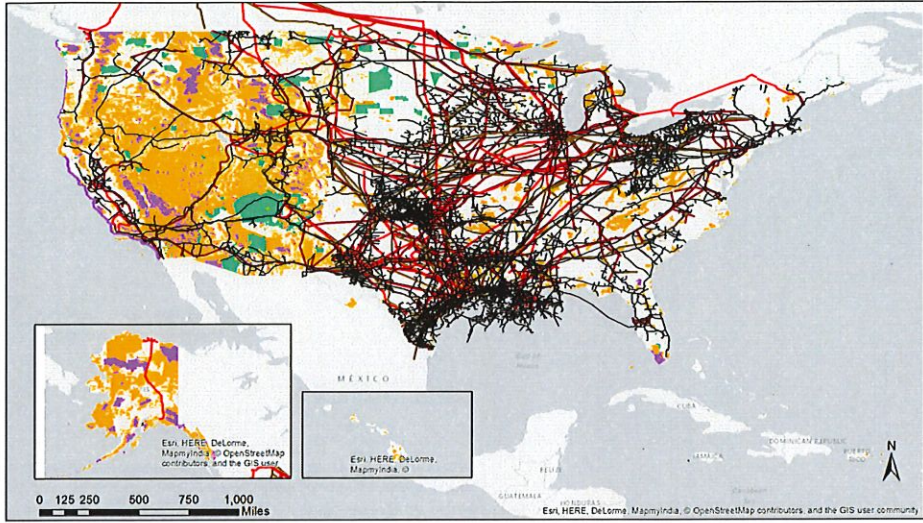
during COP21, indigenous peoples and their allies released [a declaration](#) urging world governments to keep fossil fuels in the ground.

These actions are supported by [recent research](#), which concludes that globally, over 80% of coal, 50% of gas and 30% of oil reserves are “unburnable” before 2050 under the goal to limit average temperature rise to no more than 2° C. However, the 2015 [Paris Climate Agreement](#) recognizes that a 1.5° C warming limit will better protect the most vulnerable communities from the worst impacts of climate change. [Studies show](#) that 1.5° C requires a transition to net zero carbon emissions worldwide to be achieved between 2045 and 2060. **This requires that more than 80% of known fossil fuel reserves remain in the ground.**

US Federal Land Designations and Existing Pipelines

Map: Remy Franklin (2017)
Data: USGS, EIA, PHMSA

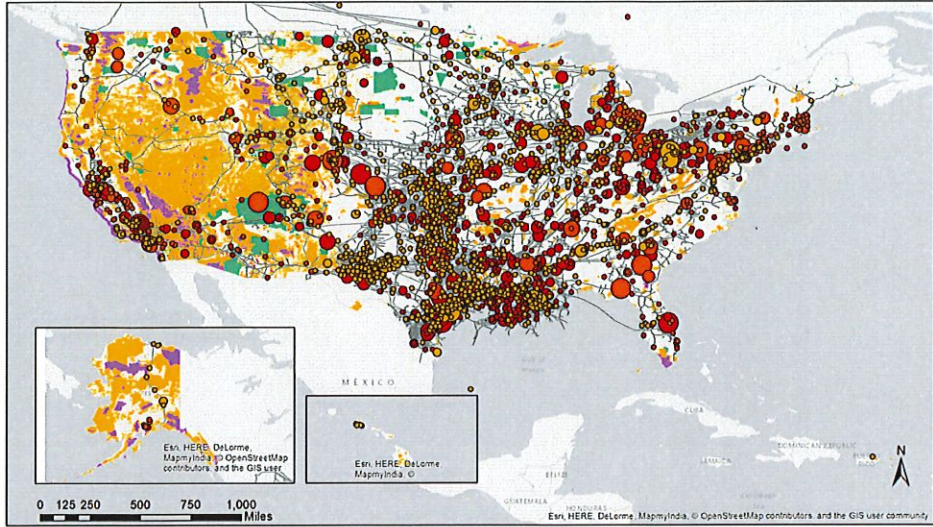
— Natural Gas Pipelines	— Wilderness Areas
— Crude Oil Pipelines	— Federally Designated Indian Lands
— Hydrocarbon Gas Liquids Pipelines	— Federal Lands
— Petroleum Product Pipelines	



US Federal Land Designations and Oil and Gas Spills since 2010

Map: Remy Franklin (2017)
Data: USGS, EIA, PHMSA

Hazardous Liquids Net Loss	Natural Gas Distribution Amount Released	Natural Gas Transmission Unintentional Loss
0.000000 - 1035.000000	0.000000 - 1084.470000	0.000000 - 13500.000000
1035.000001 - 3992.000000	1084.470001 - 3824.000000	13500.000001 - 44059.000000
3992.000001 - 8627.000000	3824.000001 - 8560.000000	44059.000001 - 110000.000000
8627.000001 - 18400.000000	8560.000001 - 20000.000000	110000.000001 - 250000.000000
18400.000001 - 30565.000000	20000.000001 - 47249.700000	250000.000001 - 585457.000000



Why Protest over Continued Shipment and Storage of Proppants at Olympia Port



Many people have testified at Port hearing on impacts of Port's shipping fracking proppants including young people on how this action of the port was robbing them of a future. The Port Commission was non responsive and continued to ship more fracking materials and have them stored on port property for future shipments and resulting frustration in our communities.

