

# Environmental Economics, Policy and Politics

# Jared Diamond – *Collapse*

## 1. Environmental destruction

- Inadvertently destroying the resource base your society depends on...

## 2. Climate change (warming or cooling)

## 3. Hostile neighbors (War- someone wants your resources and is willing to fight for them)

## 4. Once friendly neighbors choose not to support you

## 5. Political, social, culture factors

# Collapse cont. - Societal reactions

1. Failure to perceive the problem
2. Recognize the problem but choose to do nothing about it
3. Recognize the problem work effectively together, but it is not enough

# Environmental Economics, reading...



- Lester Brown
- [http://www.earth-policy.org/images/uploads/book\\_files/ecofront.pdf](http://www.earth-policy.org/images/uploads/book_files/ecofront.pdf)

1962



# SILENT SPRING

*The* CLASSIC *that* LAUNCHED  
*the* ENVIRONMENTAL MOVEMENT

RACHEL  
CARSON

Introduction by LINDA LEAR // Afterword by EDWARD O. WILSON

1970



# The New York Times

LAT  
Weat  
and to  
Temp  
67-68.

3,997

© 1970 The New York Times Company.

NEW YORK, THURSDAY, APRIL 23, 1970

## Millions Join Earth Day Observances Across the Nation



NEW YORK TIMES

NEW YORK TIMES

1970

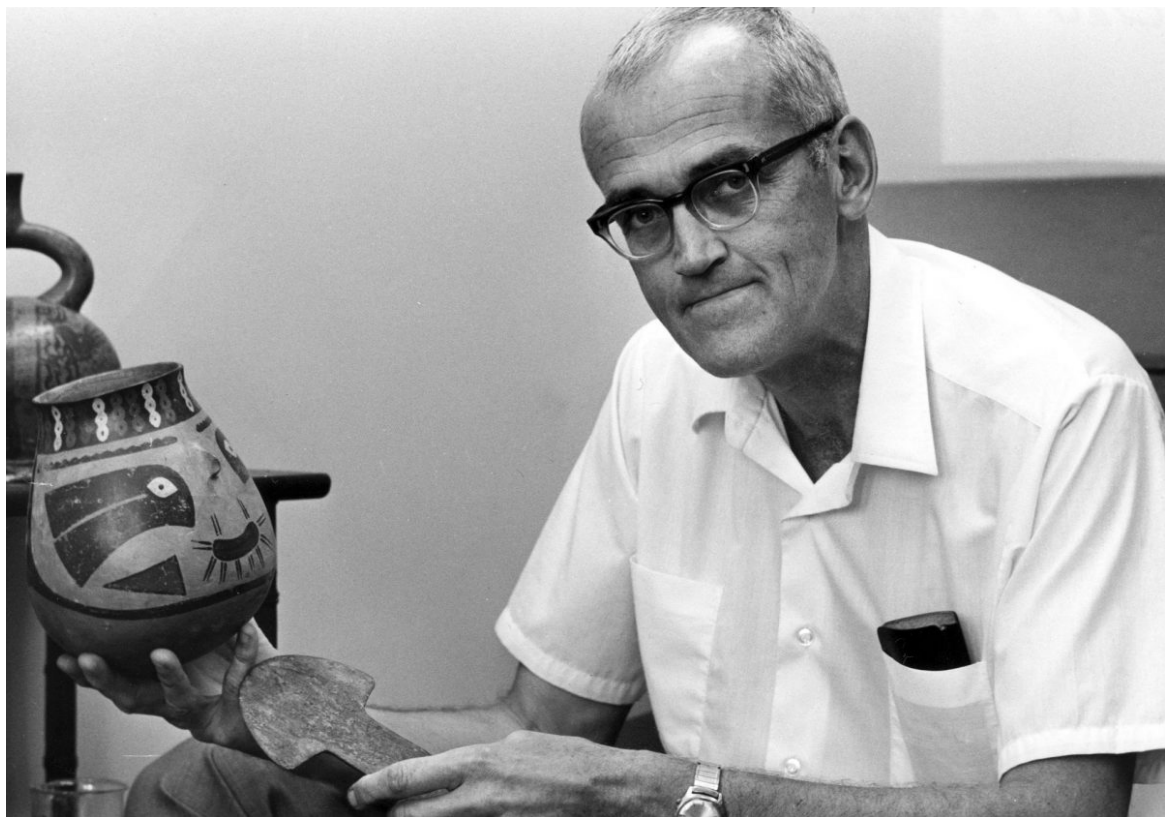


# 1970 Clean Air Act





# 1971 – Get the lead out



<https://californiascienceweekly.com/2019/11/08/the-little-known-california-scientist-who-may-have-saved-millions-of-lives/>



# 1973 Endangered Species Act



13 Years!

1973 to 1986



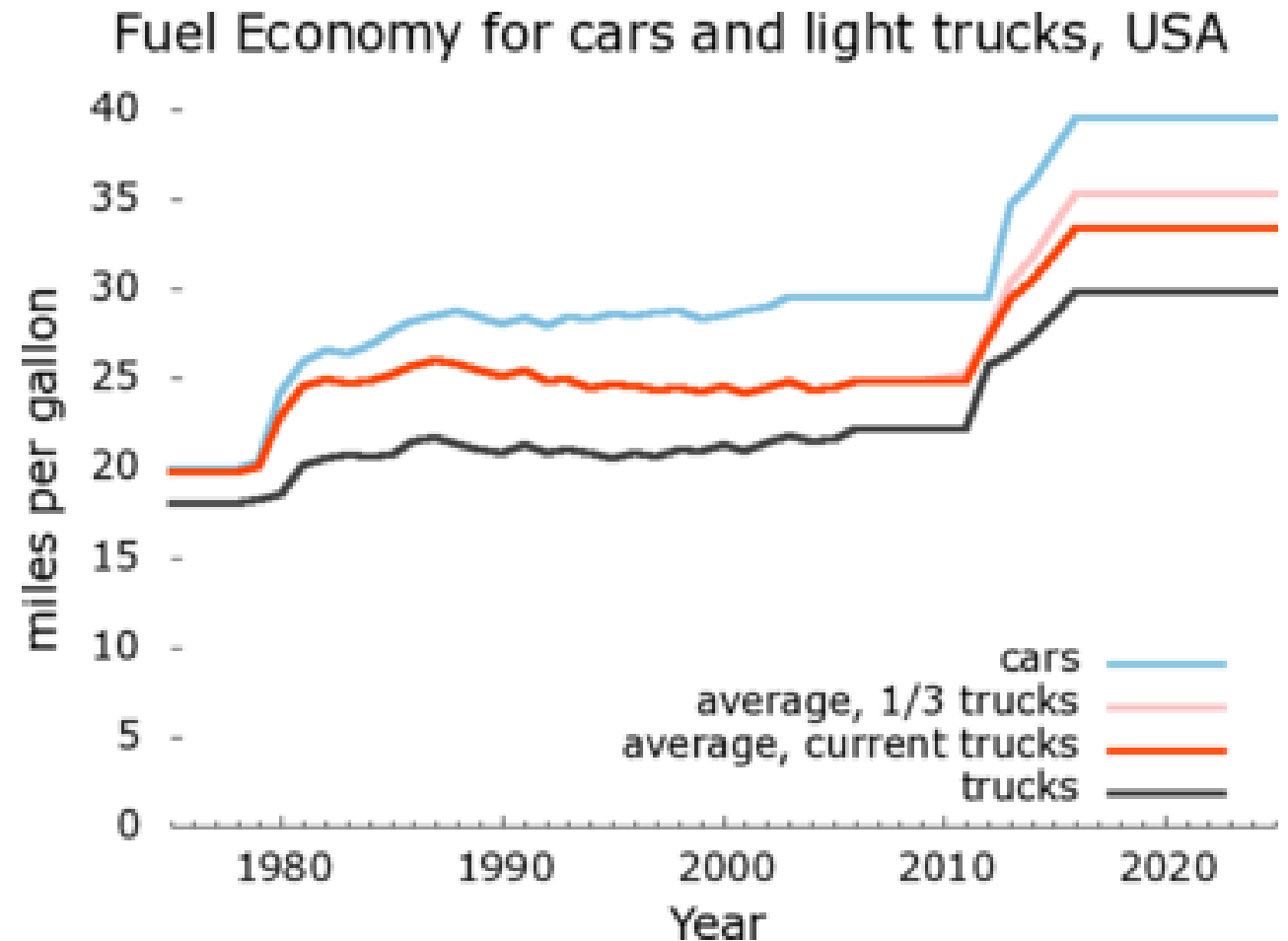
"SAFE  
DRINKING  
WATER  
FROM ANY  
SOURCE,  
ANYWHERE"



1974 Safe Water  
Drinking Act  
(SDWA)



# 1975 – Fuel and emissions standards



schutt.org model based on historical data from various sources,  
includes new EPA and NHTSA standards starting 2012

# 1978 – Love Canal



# 1979 Three Mile Island, PA



Win big \$\$\$ in new Post game PAGES 2 & 22

TODAY  
Zany, new 56

TONIGHT  
Dooh, new 48

TOMORROW  
Shaw, new 54  
Dish, Page 7

TV: Page 32

# NEW YORK POST

FINAL LATEST PRICES

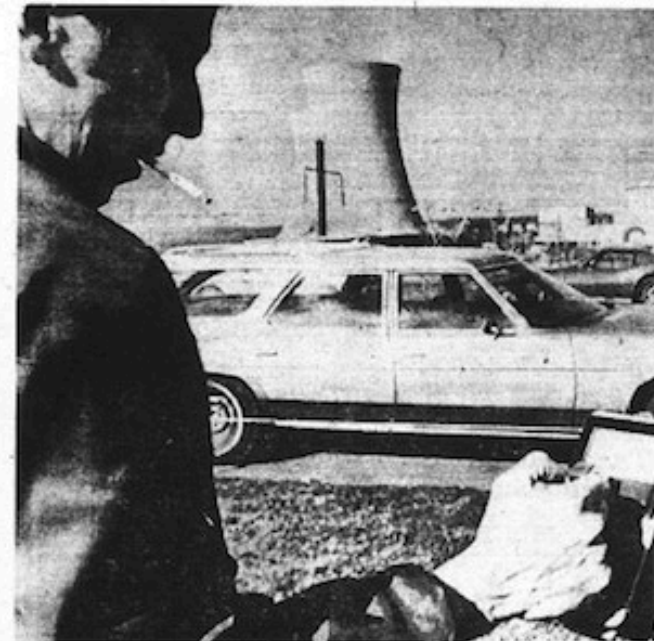
WEDNESDAY, MARCH 28, 1979 35 CENTS

© 1979 The New York Post Corporation Vol. 178, No. 112

DAILY SALES  
MAY EXCEED 600,000

# A-PLANT MISHAP LEAKS RADIATION

## Contaminated steam escapes in Pa.



*Associated Press Photo*  
Peter Vries, who is health, physics and radiation manager at the Three Mile Island nuclear plant, checks radiation levels after the accident today. Number 3 reactor, where leak occurred, is in the background.

**HARRISBURG, Pa.** — The cooling system of a nuclear power plant on the Susquehanna River broke down today, leaking radiation into the air in what was probably the nation's most serious nuclear reactor accident to date.

A small amount of radioactive steam escaped from the Three Mile Island plant, triggering an automatic shutdown and forcing evacuation of the facility.

No injuries were reported and authorities said the leak was not considered large. They said no one inside or outside the plant was seriously exposed to radiation, although it passed normal levels.

A Nuclear Regulatory Commission spokesman in Washington said the accident appeared to have been very serious, knocking out the main reactor cooling system and forcing use of the emergency backup.

"From what we know now it would sound like one of the most serious accidents we have had," the spokesman said.

It was not the first time a reactor's emergency core cooling system had been activated, he said.

"This is a mishap. I'm glad we're not off the map," said Les Jackson, York County civil defense director, at the scene.

He said his department put an emergency evacuation program into effect, but called off plans to clear residents from the area.

Officials at the Three Mile Island plant, located on an island in the Susquehanna about 30 miles southeast of the state capital, declared a "general emergency" when the accident occurred at 4 a.m.

The NRC sent a team of experts to investigate as top officials of the agency were alerted in a nerve center used to deal with nuclear accidents.

Recently the NRC — which earlier this month ordered the shutdown of five East Coast nuclear plants because of doubts about

safety — has become concerned about a rash of anonymous threats against nuclear power plants.

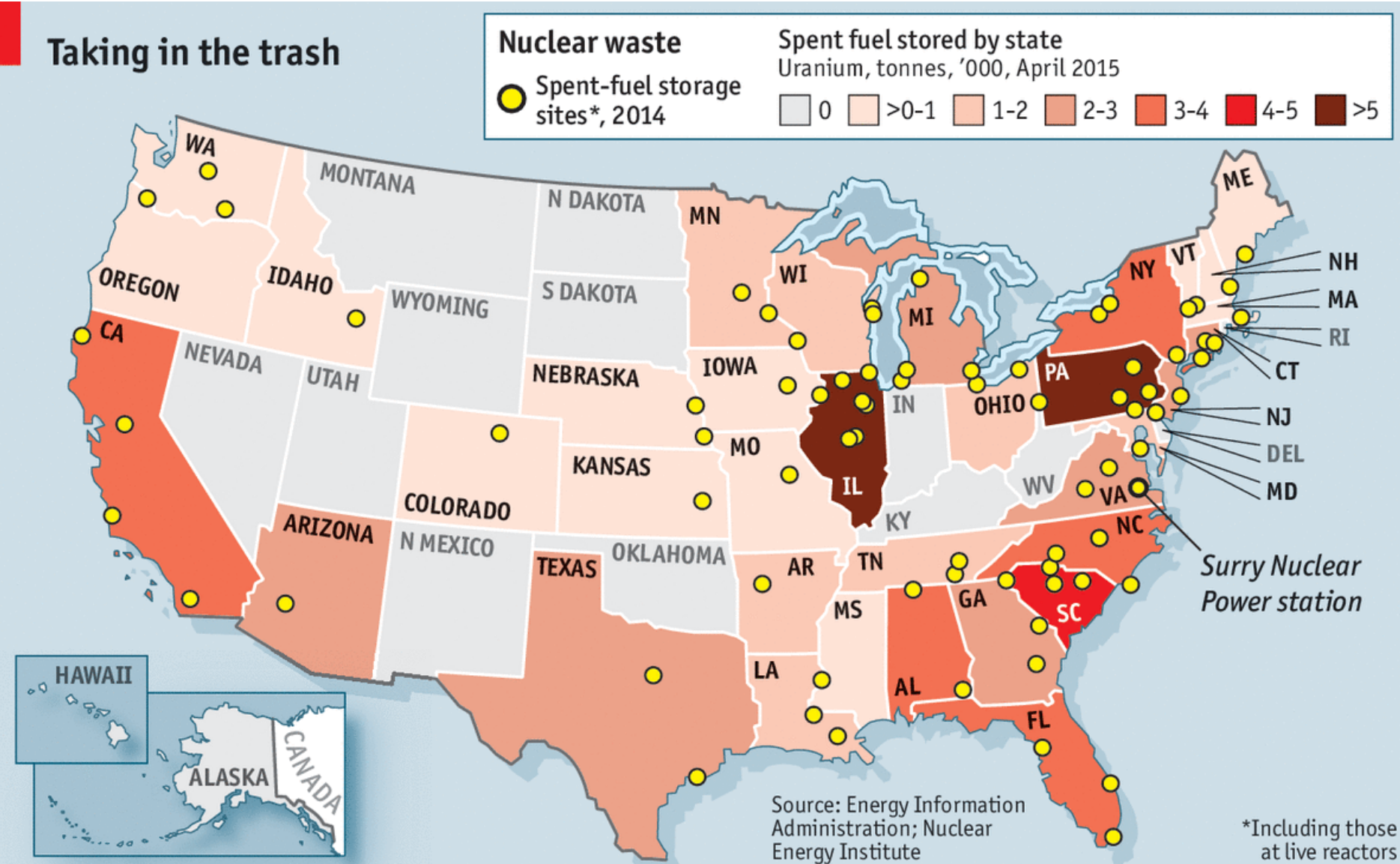
It wasn't immediately clear if today's incident had anything to do with the threats or whether it was purely an accident.

Illiana Pallas, spokesman for Metropolitan Edison, one of the consortium of utilities that runs the plant, said the accident automatically shut down the reactor.

Continued on Page 19

*Associated Press Map*  
Map shows location of the nuclear plant near Harrisburg.

# 1982 – Congress passes nuclear waste laws



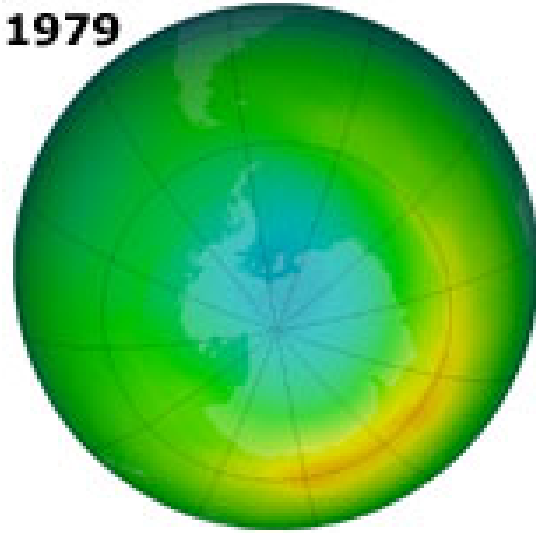


1985

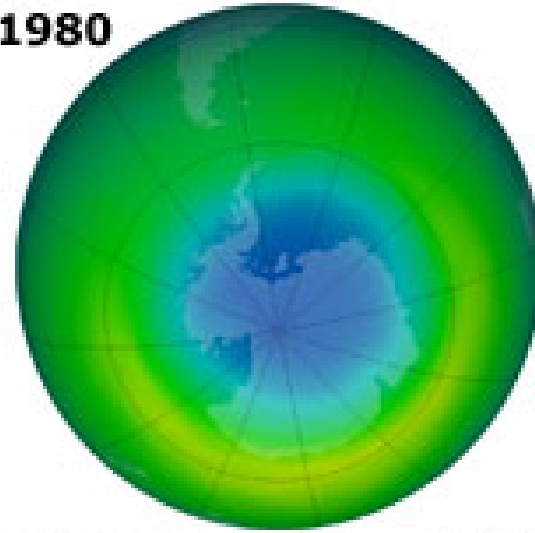
Ozone Hole

confirmed  
by science

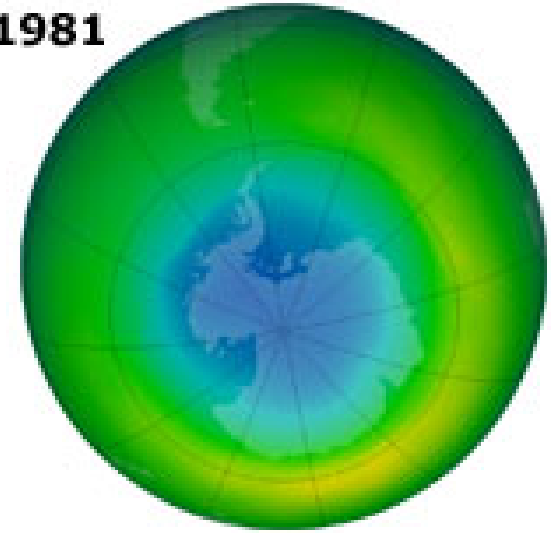
1979



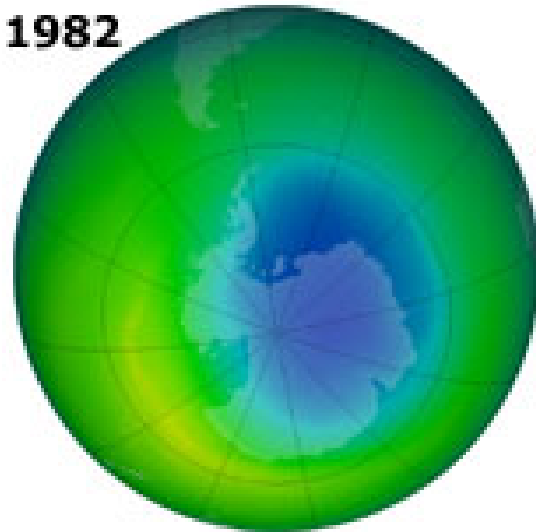
1980



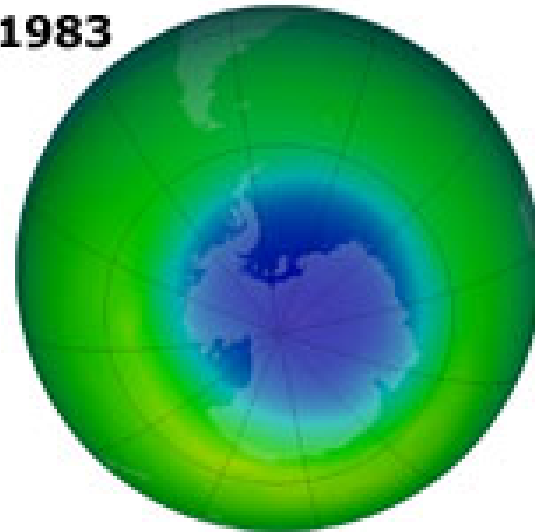
1981



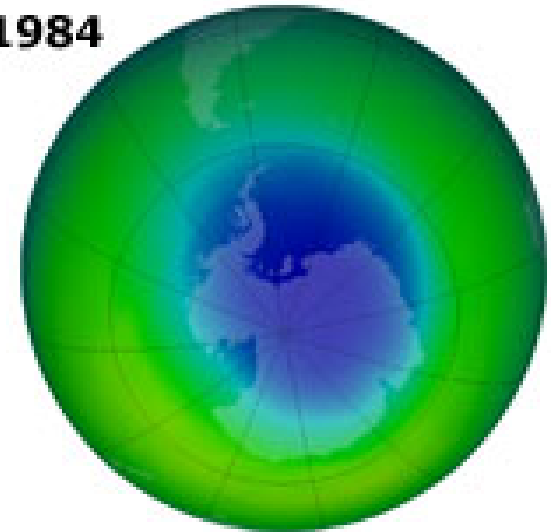
1982



1983

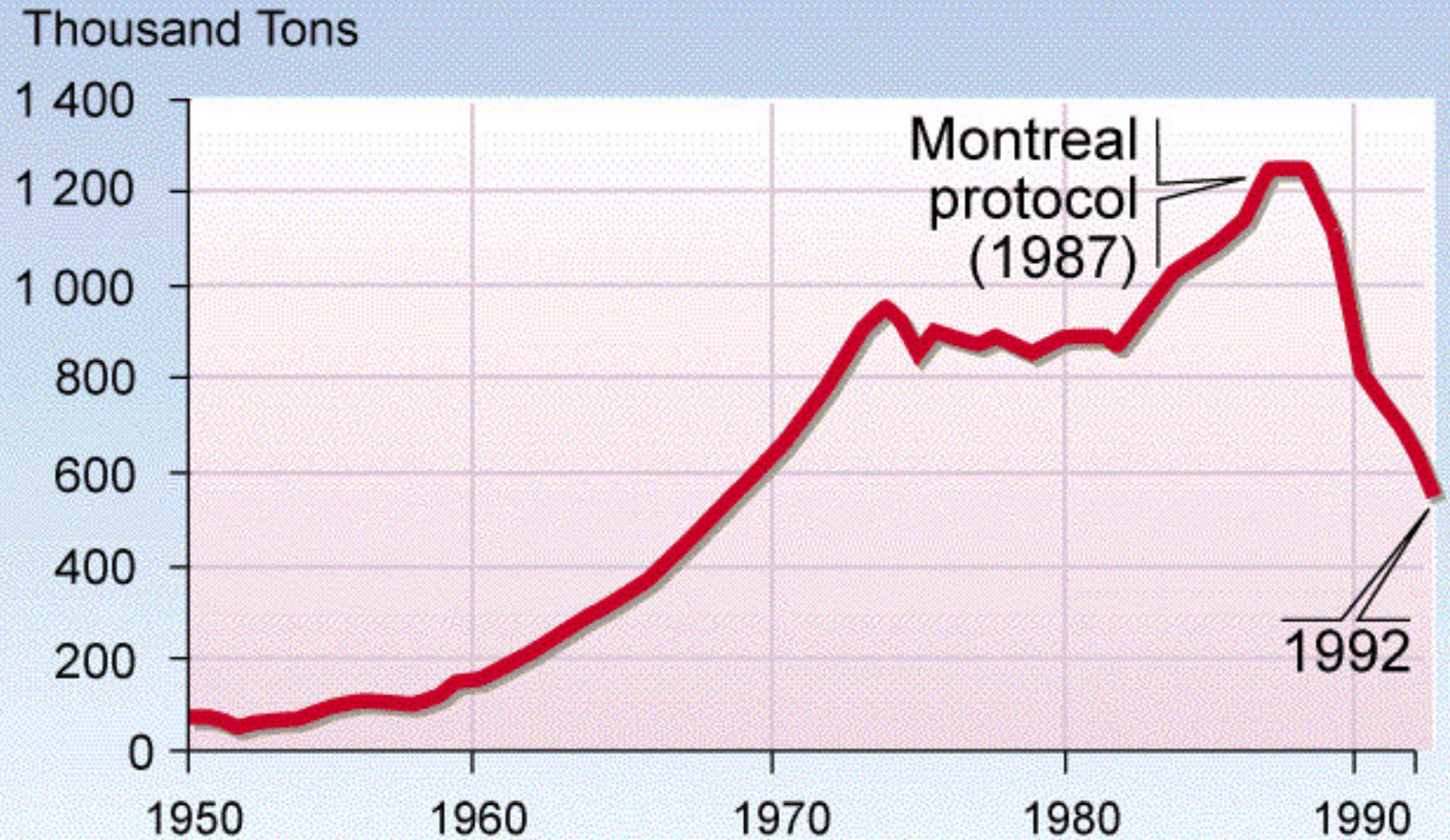


1984



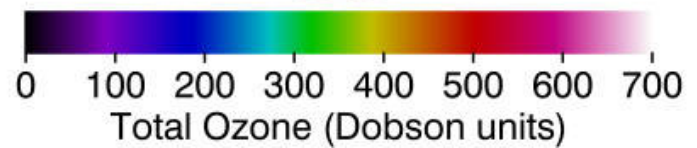
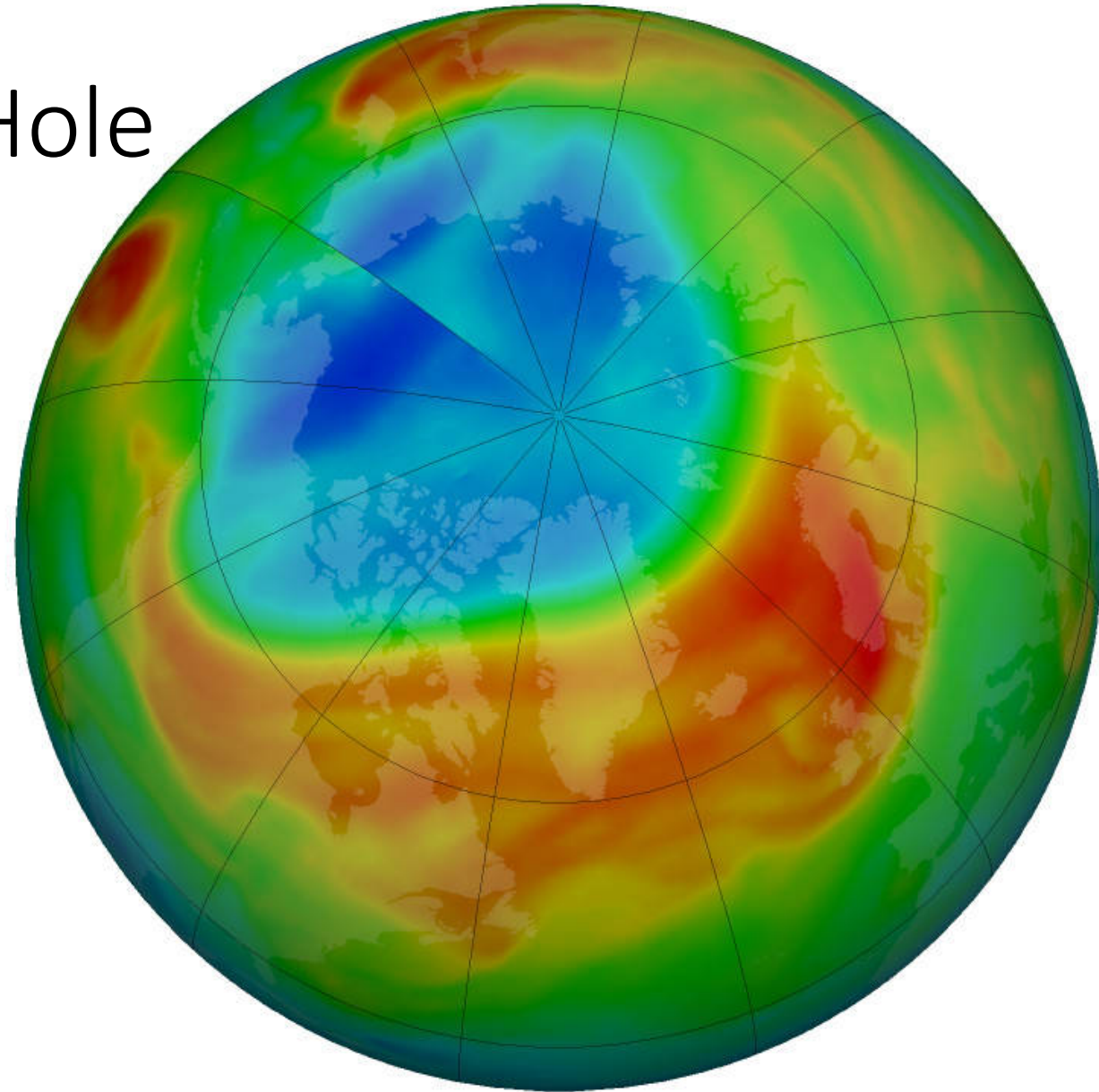
**1987** U.S. signs the Montreal Protocol, pledging to phase-out CFC production

## Global CFC production



# April 7, 2020 Arctic Ozone Hole

- [Media -  
https://www.theguardian.com/environment/2020/apr/07/record-size-hole-opens-in-ozone-layer-above-the-arctic](https://www.theguardian.com/environment/2020/apr/07/record-size-hole-opens-in-ozone-layer-above-the-arctic)
- [NASA-  
https://www.nasa.gov/feature/godda rd/2020/nasa-reports-arctic-stratospheric-ozone-depletion-hit-record-low-in-march](https://www.nasa.gov/feature/godda rd/2020/nasa-reports-arctic-stratospheric-ozone-depletion-hit-record-low-in-march)



1987 Medical and other waste washes up on shores and closes beaching in New York and New Jersey



# 1988:

Congress bans ocean dumping of sewage sludge and industrial waste



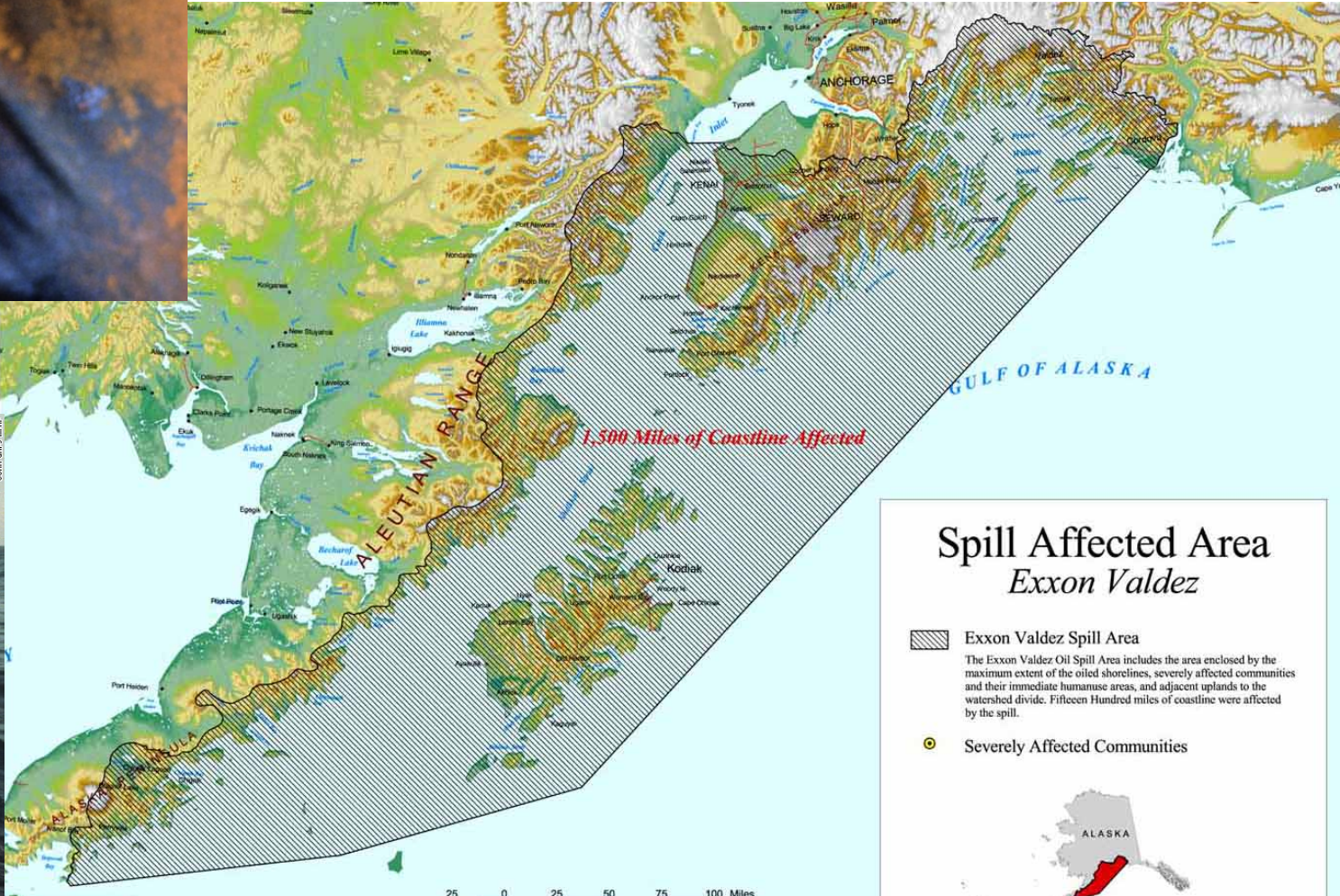


EOB (H)LINEZ/ANCHO/BOB/EE (OR)LD/ NEU/2/NOT/AGET/1/PH/8/



# 1989 Exxon Valdez Spill, 11 million gallons of crude oil



JOHN GARDNER



## Spill Affected Area *Exxon Valdez*

-  Exxon Valdez Spill Area  
The Exxon Valdez Oil Spill Area includes the area enclosed by the maximum extent of the oiled shorelines, severely affected communities and their immediate humanuse areas, and adjacent uplands to the watershed divide. Fifteen Hundred miles of coastline were affected by the spill.
-  Severely Affected Communities



1990

Pollution Prevention Act

(emphasizing the importance of preventing, not just correcting, environmental damage)

National Environmental Education Act

(showing the importance of environmental education for scientifically sound, balanced and responsible decisions)



1992



2017

[Killing Energy Star: A Popular Program Lands on the Trump Hit List](#)

[2018 – Over 1000 US companies sign a petition urging the US government to keep the program](#)



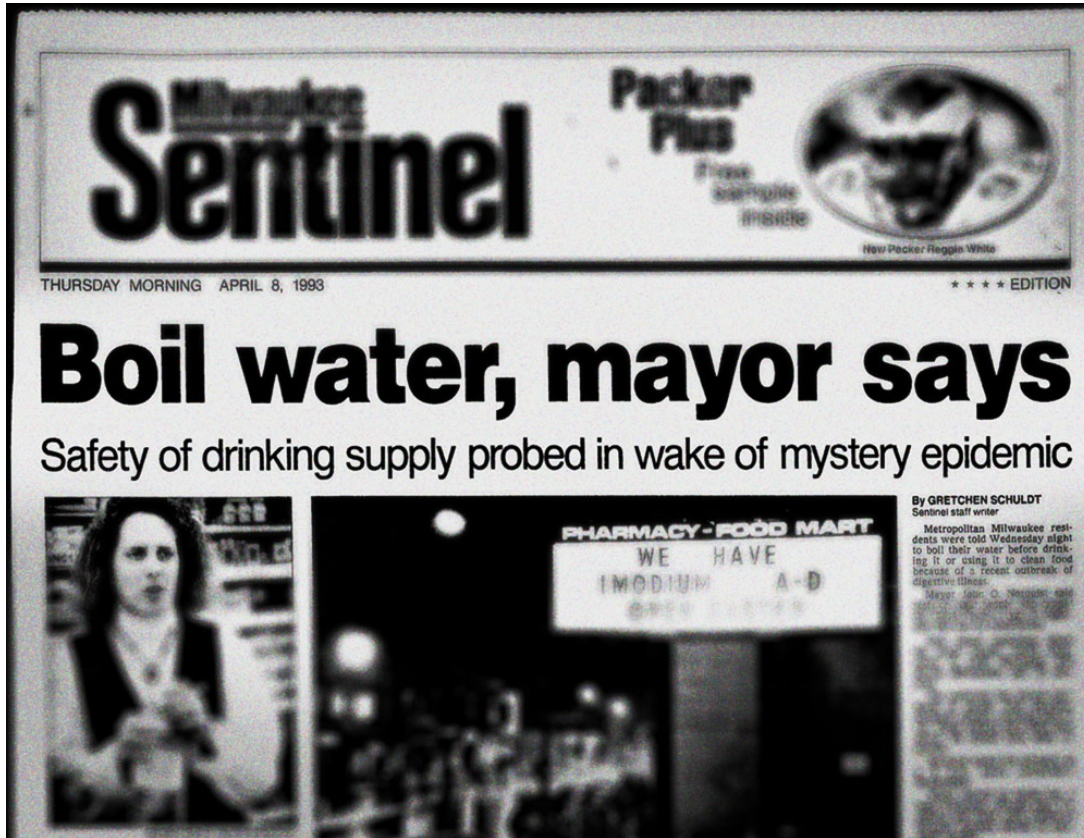


# 1993

EPA reports secondhand smoke contaminates indoor air, posing health risks for nonsmokers



1993 – 400,000 get diarrhea at the same time!



cryptosporidium

# 1990s – New EPA regulations

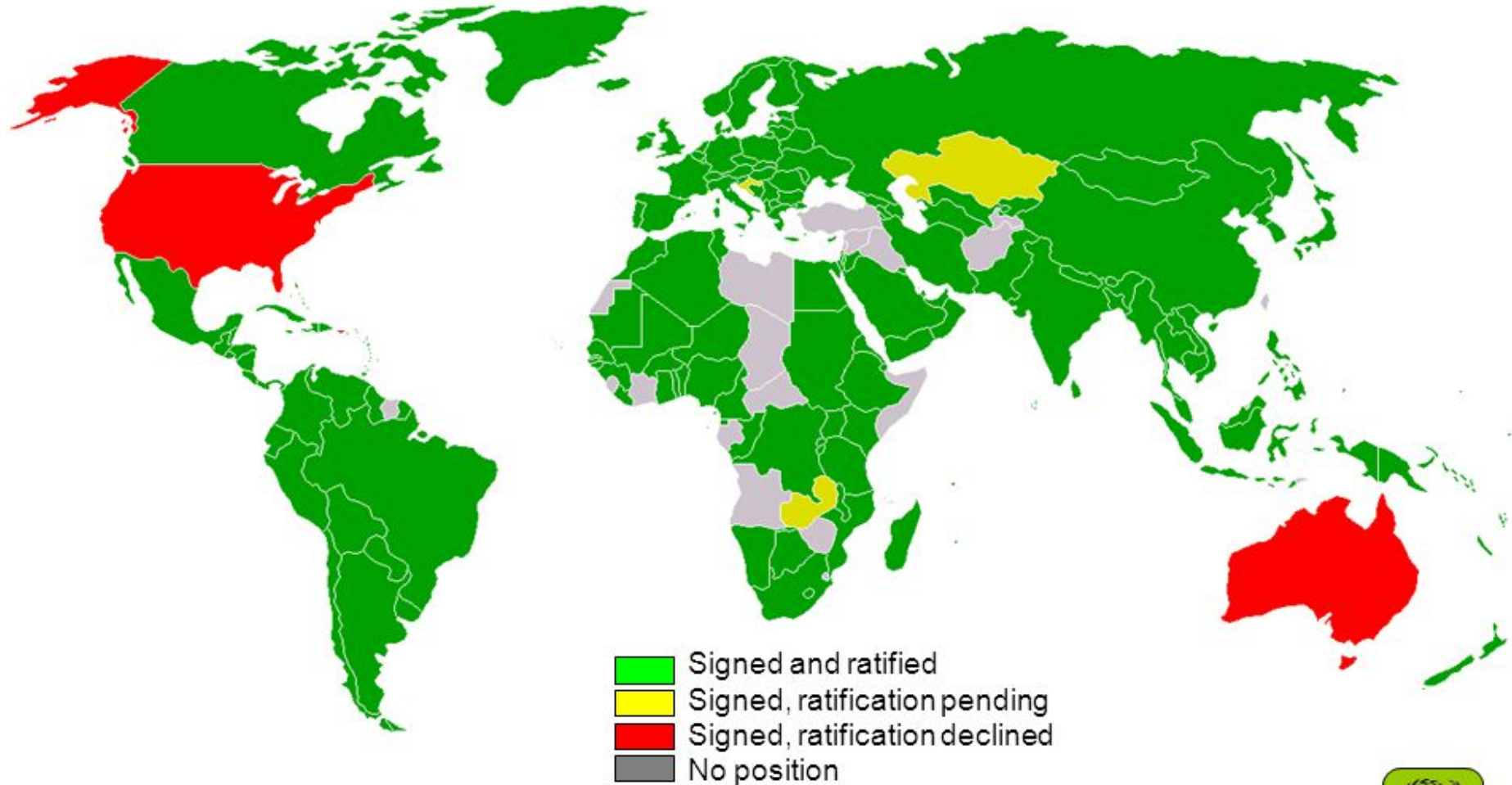
1. New standards for chemical plants (reduce toxic air pollution by more than ½)
2. Incentive-based acid rain program to reduce sulfur dioxide emissions
3. Requires municipal incinerators to reduce toxic emission by 90 percent
4. Public drinking supplies are required to inform customers about chemicals and microbes in their water
5. Requires that home buyers & renters be informed about lead-paint hazards
6. Air quality standards for smog and soot, an action that improves air quality for 125 million Americans
7. Improve air quality in national parks and wilderness areas

# 1997 Kyoto Protocol



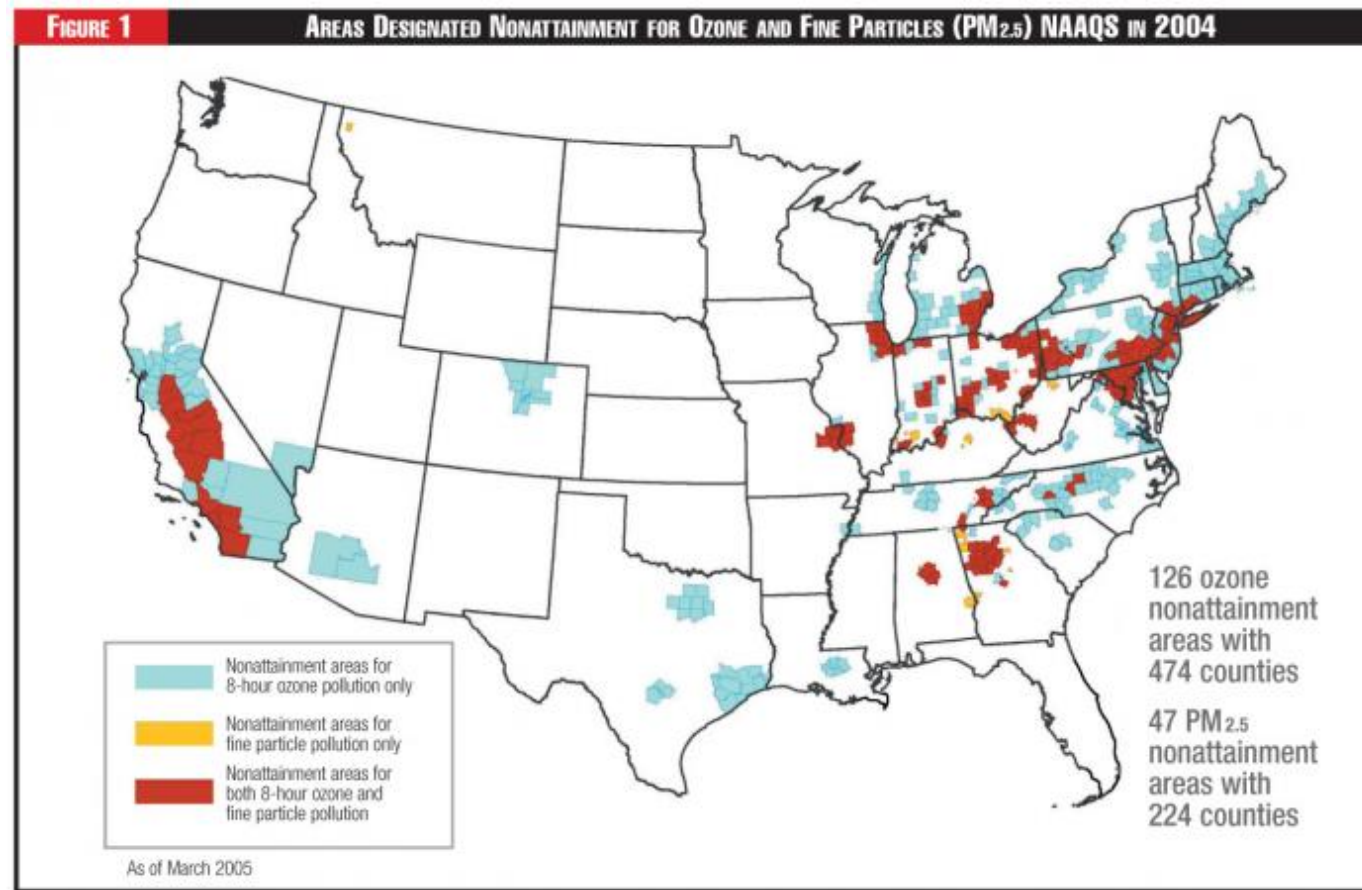
## UNFCCC

### Ratification of the Kyoto protocol



# 2005

EPA issues the Clean Air Act Interstate Rule to achieve the largest reduction in air pollution in more than a decade, by permanently capping SO<sub>2</sub> and NO<sub>x</sub> emissions in the eastern US



# 2006

- EPA's Water Sense program is created to protect the future water supply with practical ways to use less water
- Issues the Ground Water Rule to reduce the risk of contamination in public water systems that use ground water



# 2007

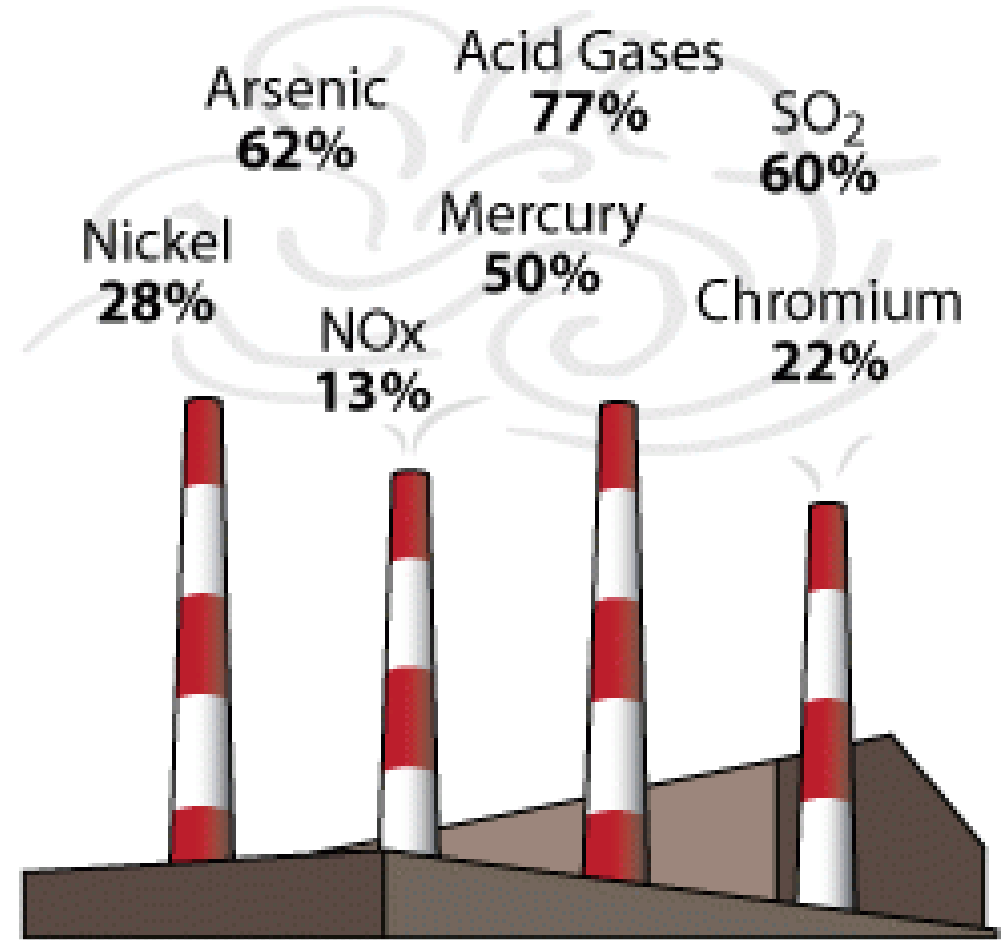
BP Products North America, Inc. agrees to pay the largest criminal fine to date for air violations, including a \$62 million criminal fine plus \$400 million on safety upgrades. The penalty was for a 2005 refinery explosion that killed 15 and the [2006 oil spill on the Alaskan tundra](#), which violated the Clean Air and Water Acts



# 2011

EPA proposes a national standard for mercury pollution from power plants, requiring many to install pollution control technologies to cut emissions. The standard is projected to prevent as many as 17,000 premature deaths and 11,000 heart attacks a year

## Portion of U.S. air pollution that comes from power plants





2009

President Obama and 13 automakers announce a program that sets the nation's first-ever greenhouse gas emission standards for cars

OBAMA ADMINISTRATION Fuel Economy Standards

In the year 2025

The fleet-wide average will be



Consumers will have saved  
**\$1.7 TRILLION**  
at the pump over the  
life of the program.



A family that purchases a new vehicle in 2025 will save

**\$8,200**

in fuel costs when compared with a similar vehicle in 2010.

Over the life of the program, the standards will:

Save **12** billion barrels of oil.



Eliminate **6** billion metric tons of carbon dioxide pollution.



This program, together with standards already put into place by this administration for Model Years 2011-2016, will result in significant cost savings for consumers at the pump, dramatically reduce oil consumption, cut pollution and create jobs.



Smartphone  
QR Code™



WHITEHOUSE.GOV

# 2015 Paris Climate Agreement

Nov. 2017, Syria joins

Oct. 2017, Nicaragua joins

Nov. 2020 U.S.A.,  
Withdrawing @ 18% of  
Total greenhouse gas  
emissions

## COUNTRIES THAT JOINED THE PARIS CLIMATE AGREEMENT

■ Ratified (146) ■ Signed (48) ■ Not signed/Withdrawing (3)



SOURCE: UNFCCC NOTE: Denmark's agreement excludes Greenland. Map is updated as of May 31, 2017.

BUSINESS INSIDER

# 2015 Clean Power Plan

- [Current EPA Head \(2017\) and Industry leaders work to end this plan](#)



# 95 Environmental Rules on the Way Out Under, current and growing, USA President xyz

- [NY Times article, 2019](#)  
[Popovich, Albeck-Ripka, Pierre-Louis](#)



Died in a rocket launch Feb. 2020

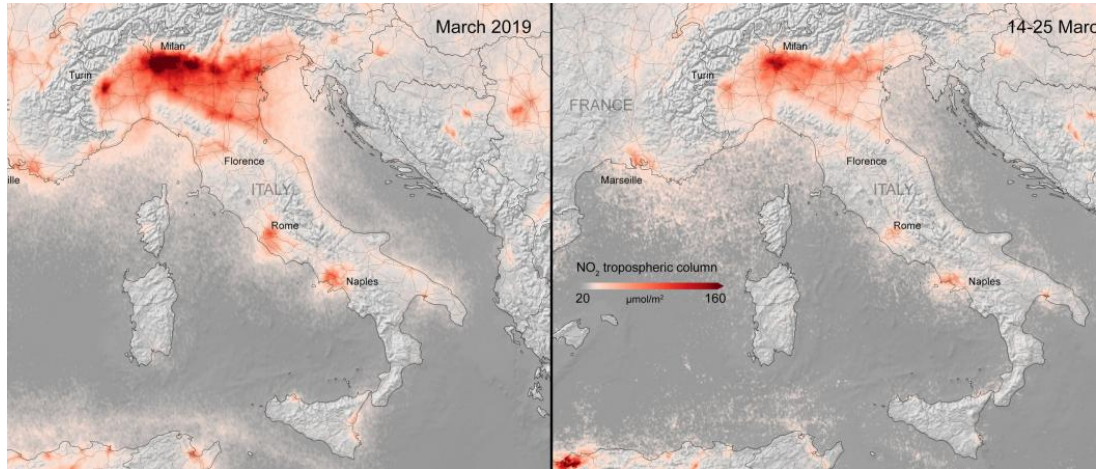
# Coronavirus Covid-19

- Space – Global
- Time – Fast, weeks to months
- Politics – divisive/partisan
- Science – evolving together
- Enviro. Affects – multiple
- Economic affects – crippling for most
- People – ?

# Climate change Environmental degradation

- Space – Global
- Time – Slow, decades to millennia
- Politics – divisive/partisan
- Science – clear for more than 20 years
- Enviro. Affects – multiple
- Economic affects – crippling for most
- People – ?

# Covid-19 and our Environment



# Jared Diamond – *Collapse*

## 1. Environmental destruction

- Inadvertently destroying the resource base your society depends on...

## 2. Climate change (warming or cooling)

## 3. Hostile neighbors (War- someone wants your resources and is willing to fight for them)

## 4. Once friendly neighbors choose not to support you

## 5. Political, social, culture factors

# Collapse cont. - Societal reactions

1. Failure to perceive the problem
2. Recognize the problem but choose to do nothing about it  
2020 version recognize the problem, work to mislead the public for short term economic gain
3. Recognize the problem work effectively together, but it is not enough



Stage of Denial	Coronavirus	Climate Change
<p><b>Stage 1</b> It's not happening</p>	<p>"The Democrats are politicizing the coronavirus ... This is their new hoax" - [redacted]</p>	<p>"It's a hoax; I think the scientists are having a lot of fun." - [redacted]</p>
<p><b>Stage 2</b> It's not our fault</p>	<p>"China is to blame because the culture where people eat bats and snakes and dogs and things like that, these viruses are transmitted from the animal to the people" - Sen. [redacted]</p>	<p>"China does not do anything to help climate change. They burn everything you could burn; they couldn't care less" - [redacted]</p>
<p><b>Stage 3</b> It's not that bad</p>	<p>"One day like a miracle it will disappear" - [redacted]</p>	<p>"[The climate] will change back." - [redacted]</p>
<p><b>Stage 4</b> Solutions are too costly</p>	<p>"We cannot let the cure be worse than the problem itself." - [redacted]</p>	<p>"I think the climate change is just a very, very expensive form of tax." - [redacted]</p>
	<p>"It is going to spread further and I</p>	<p>"The climate catastrophe is</p>

Yale Climate Connections, [Dana Nuccitelli](#), April 14, 2020  
[redacted]

Moving  
forward

Environmental  
solutions,  
opportunities  
& the quest  
for  
sustainability

