

Natural Resources, Governments and People

Natural Resources and Civilizations

Panther Ovation Projects

- Keep working on these, there is not much time left.
- Try to incorporate class content and influences
- If doing a project, include a short paper that details the thought behind the project, it's relationships to Natural Resources and Civilizations and Responsibility.

Specifically

- Values: Analyze the origins and consequences of one's own personal values
- Ethics: Apply ethical reasoning to important issues facing society

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

Black Rock, CEO

- Asset manager
- Oversees \$10 Trillion



Environmental Economics, reading...



- Lester Brown
- 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

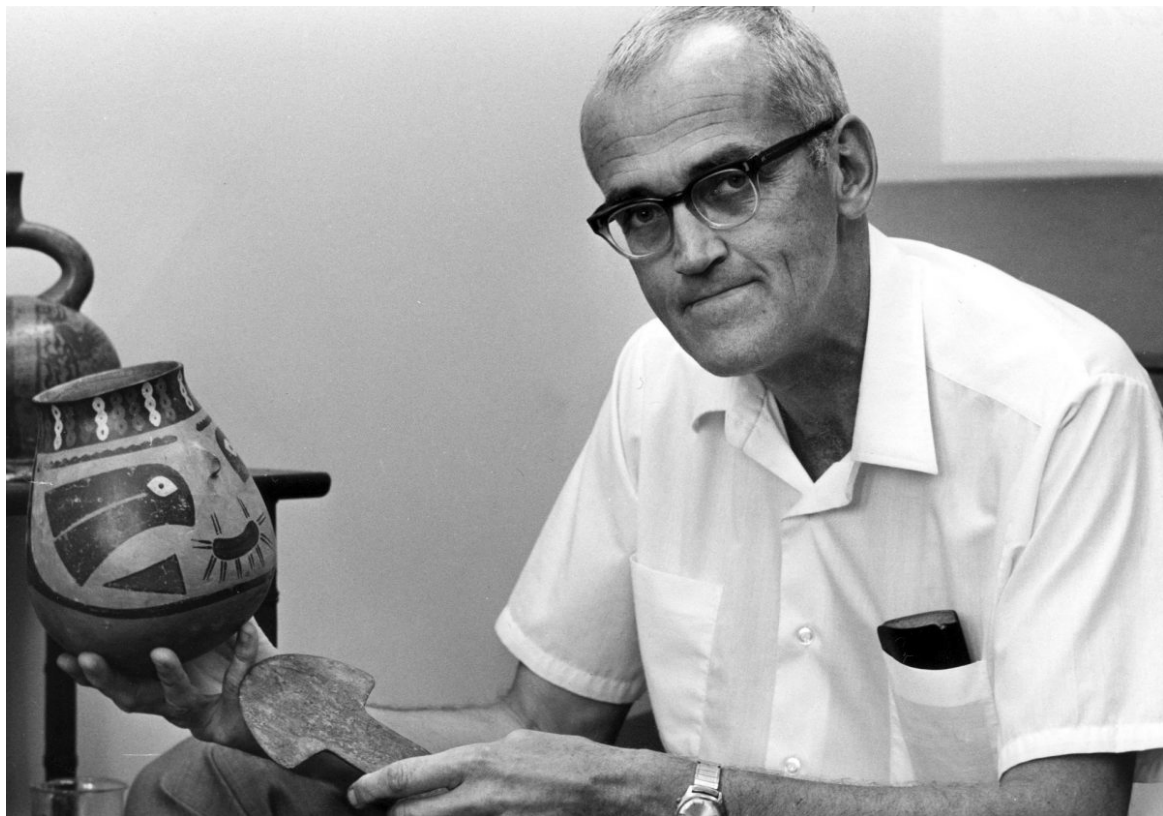
1970



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



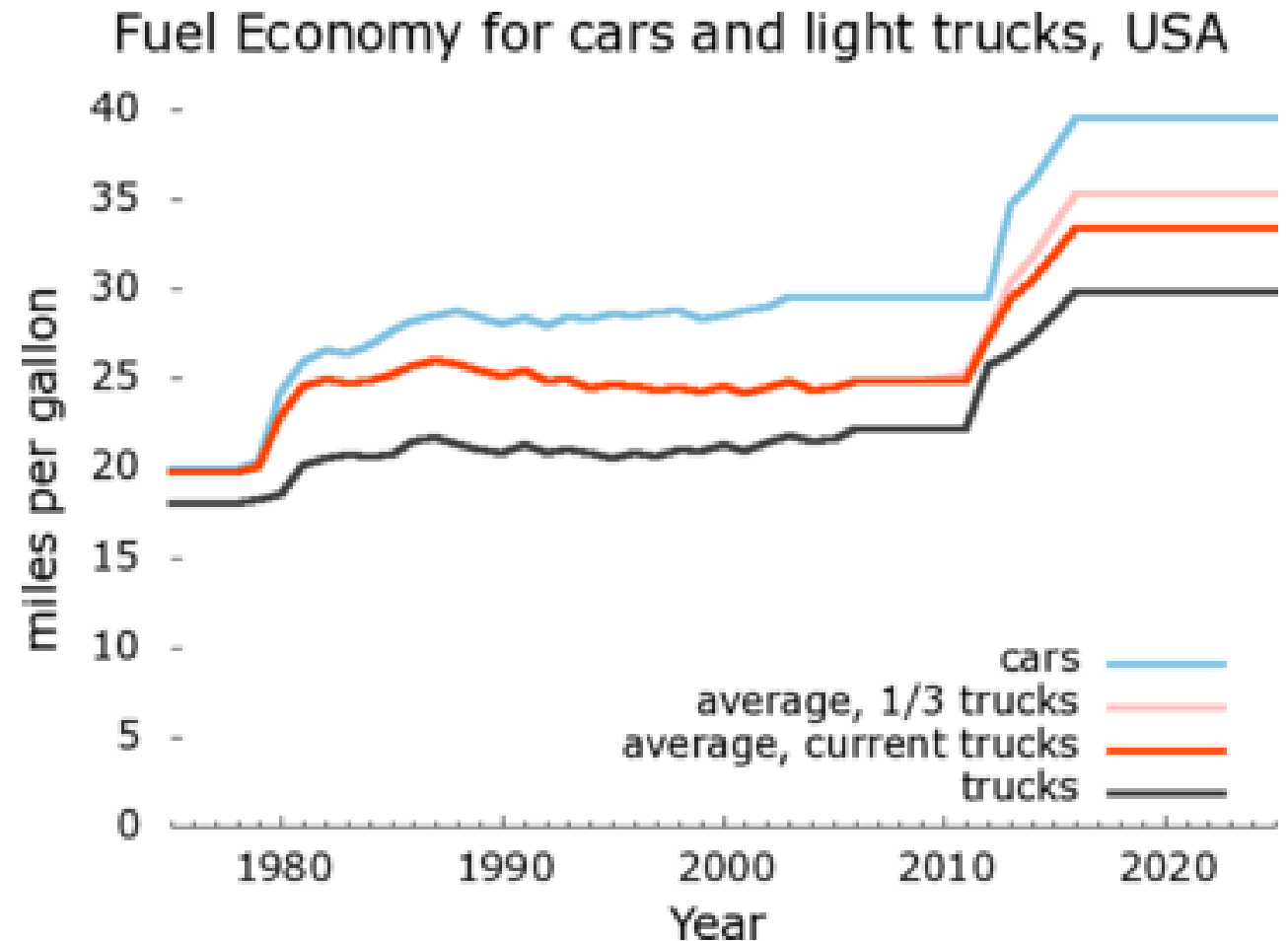
"SAFE
DRINKING
WATER
FROM ANY
SOURCE,
ANYWHERE"



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 36

TONIGHT
Doozy, new 48

TOMORROW
Doozy, new 48
Doozy, Page 1

TV: Page 32

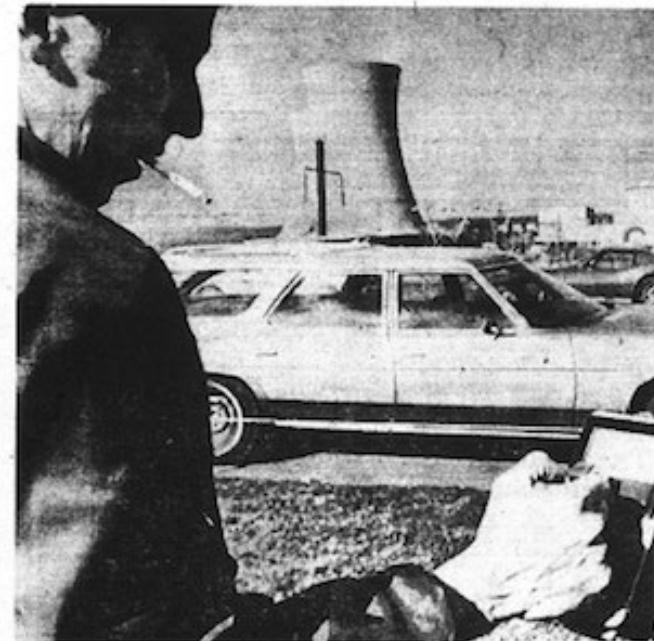
NEW YORK POST **FINAL**
LATEST PRICES

WEDNESDAY, MARCH 28, 1979 35 CENTS © 1979 The New York Post Corporation Vol. 178, No. 112

DAILY SALES
NOW EXCEED 600,000

A-PLANT MISHAP LEAKS RADIATION

Contaminated steam escapes in Pa.



Police officer, who is health, physics and radiation manager at the Three Mile Island nuclear power plant, checks radiation levels after the accident today. Number 1 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 to 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.

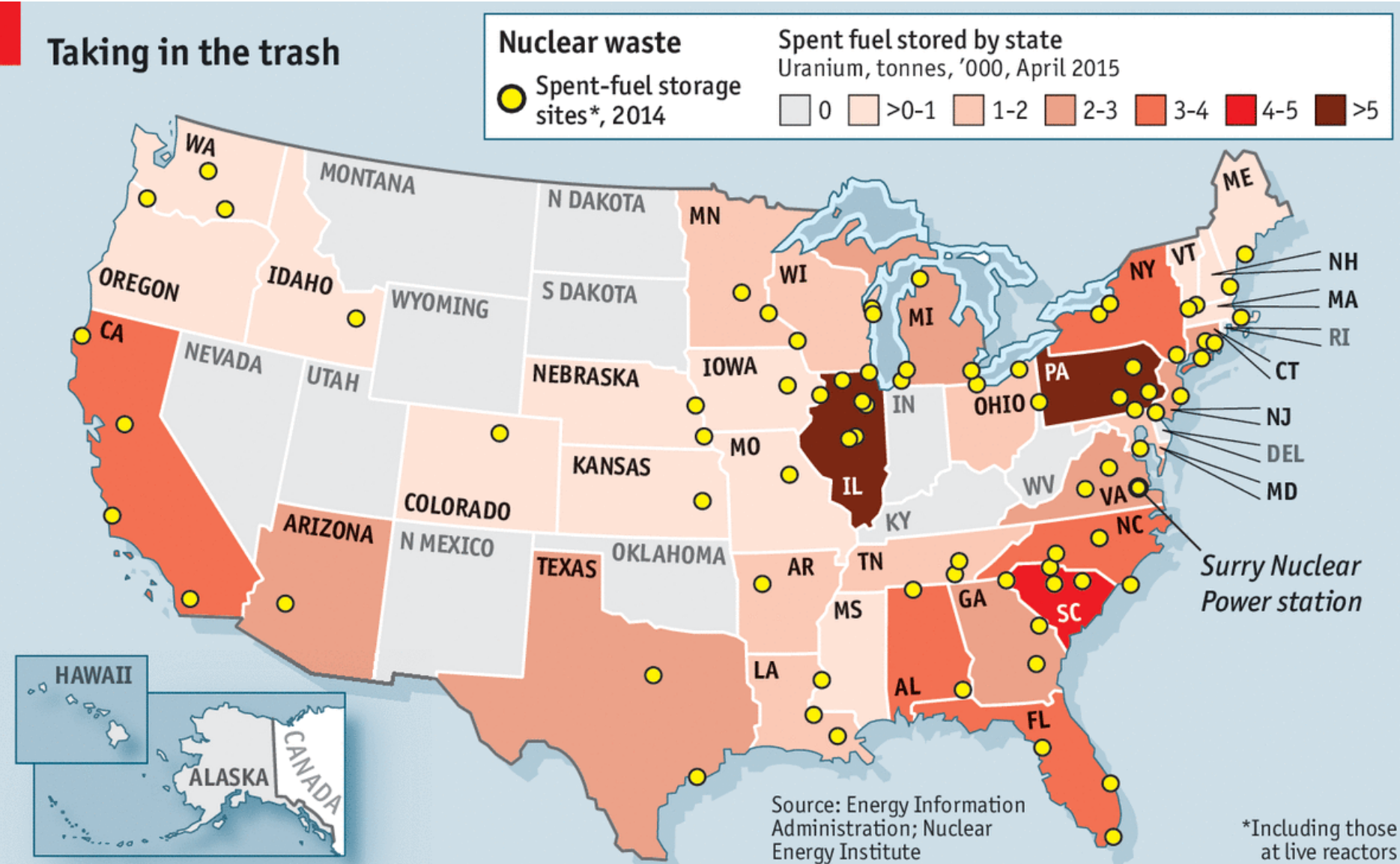
Blaine Peltas, spokesman for Metropolitan Edison, one of the cooperatives of utilities that runs the plant, said the accident automatically shut down the reactor.

Continued on Page 19

Associated Press Photo

Map shows location of the nuclear plant near Harrisburg.

1982 – Congress passes nuclear waste laws

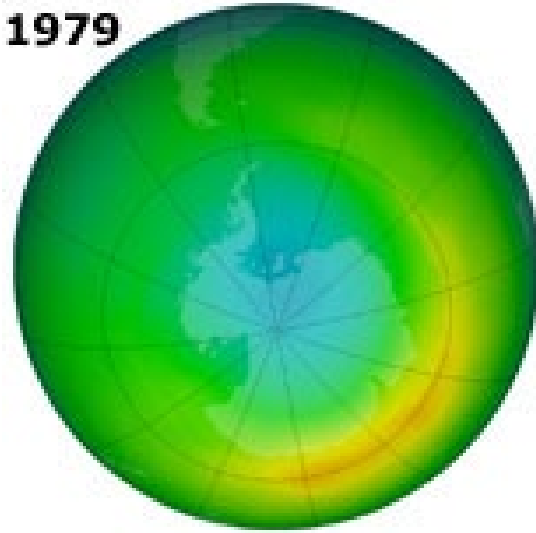


1985

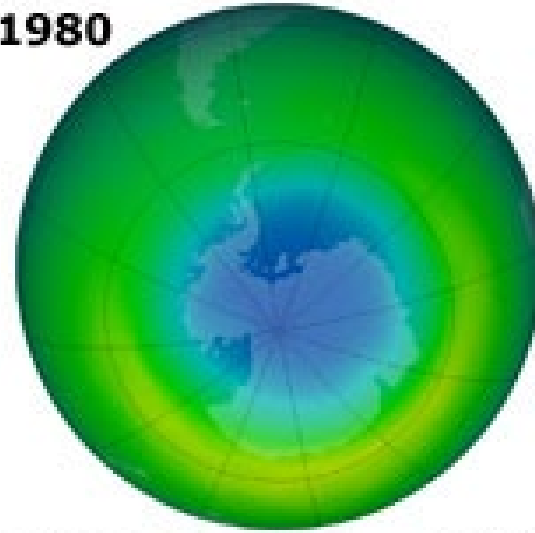
Ozone Hole

confirmed
by science

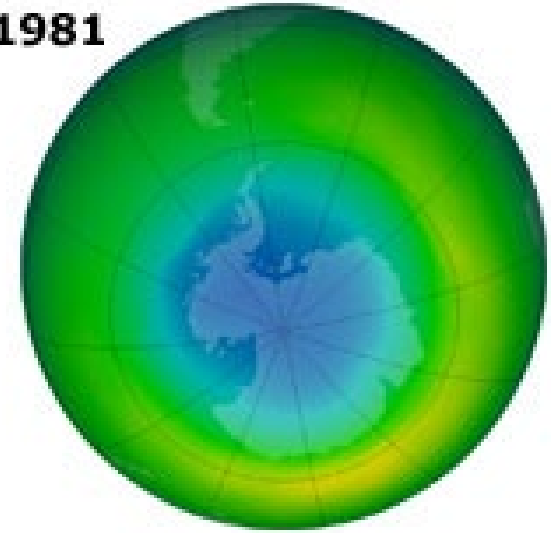
1979



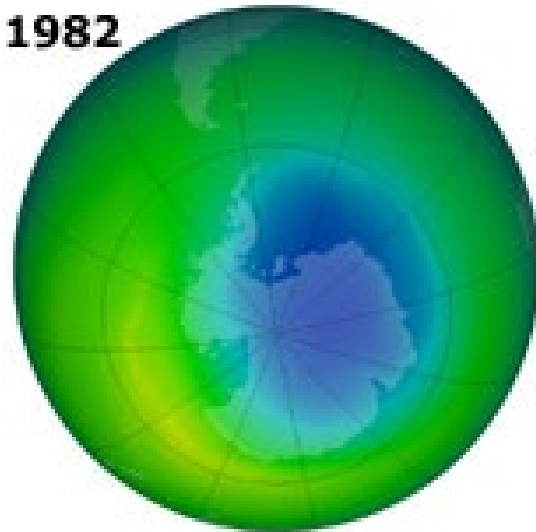
1980



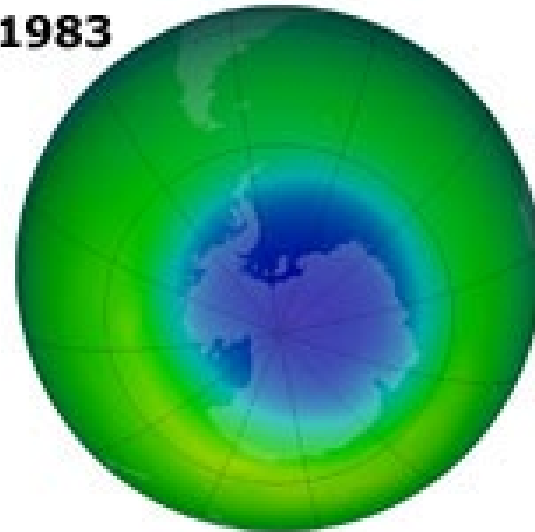
1981



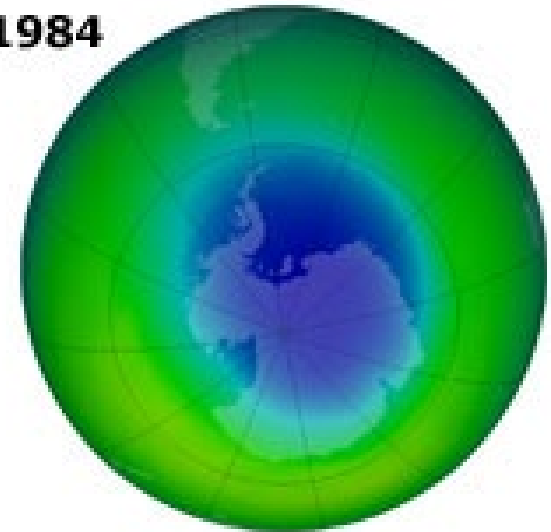
1982



1983

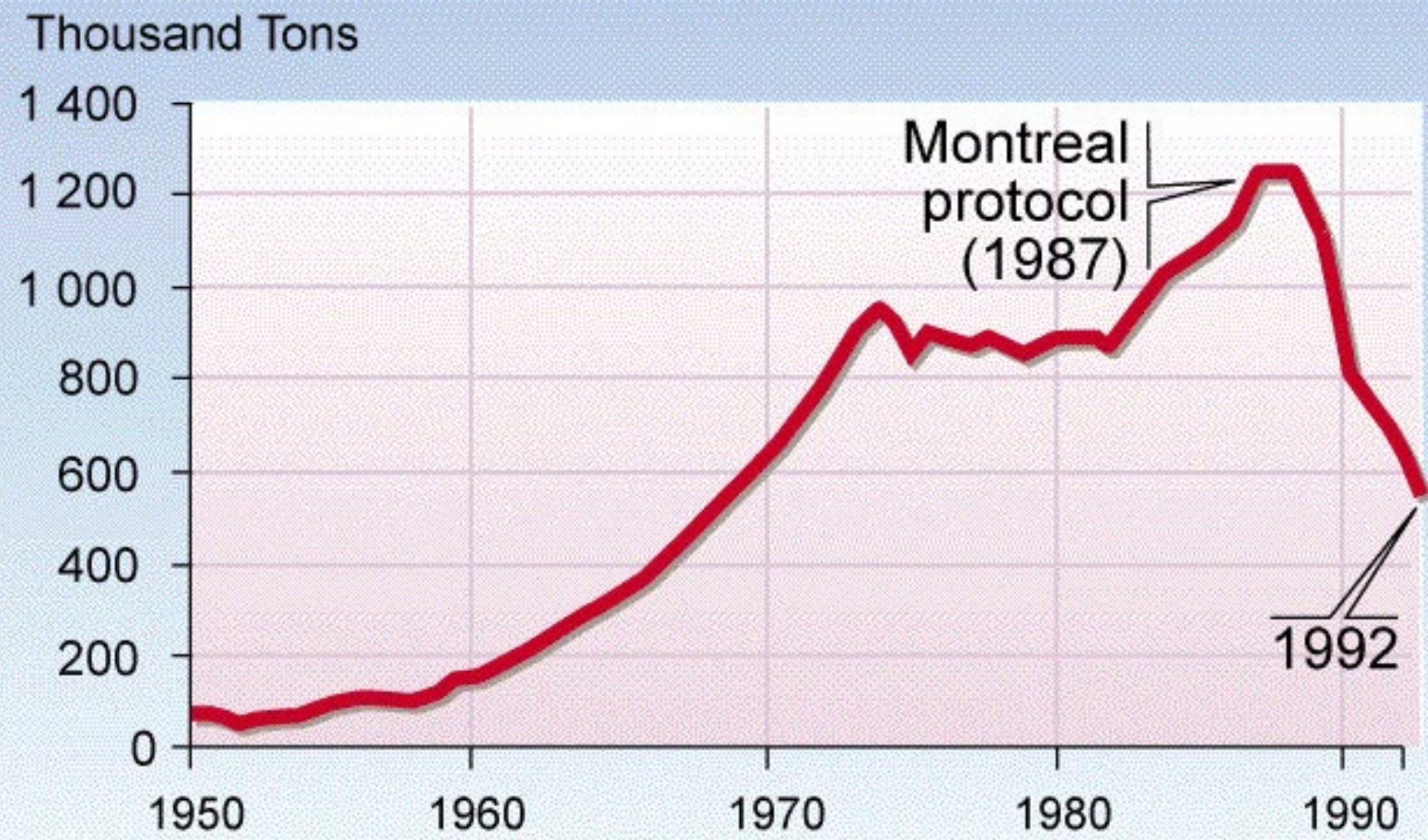


1984



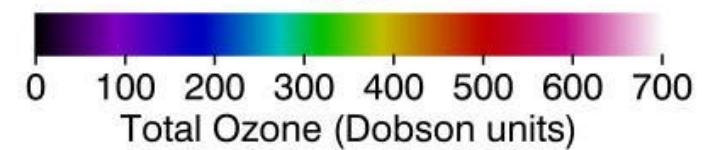
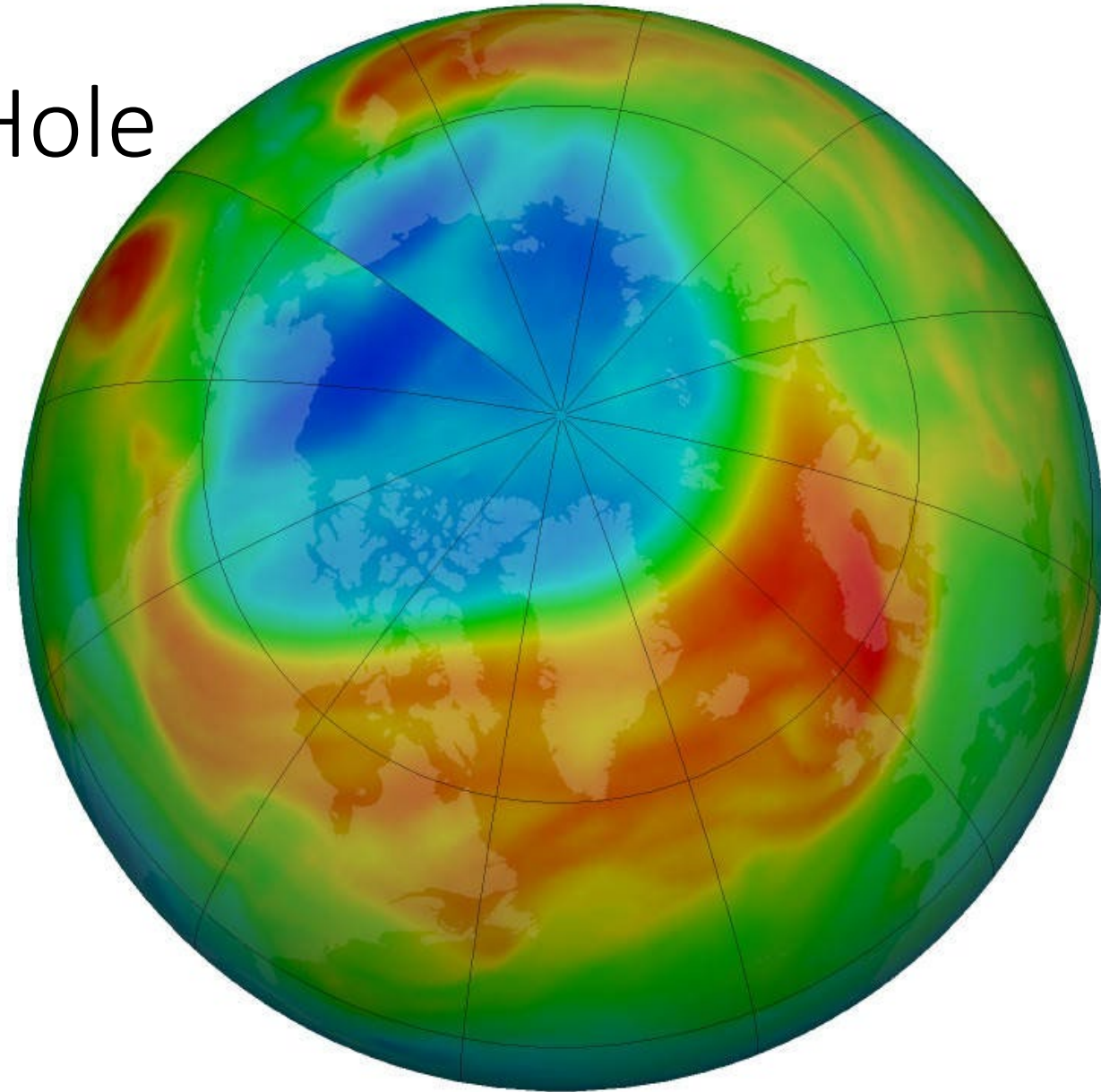
1987 U.S. signs the Montreal Protocol, pledging to phase-out CFC production

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/2020/nasa-reports-arctic-stratospheric-ozone-depletion-hit-record-low-in-march](https://www.nasa.gov/feature/godda/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



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](#)



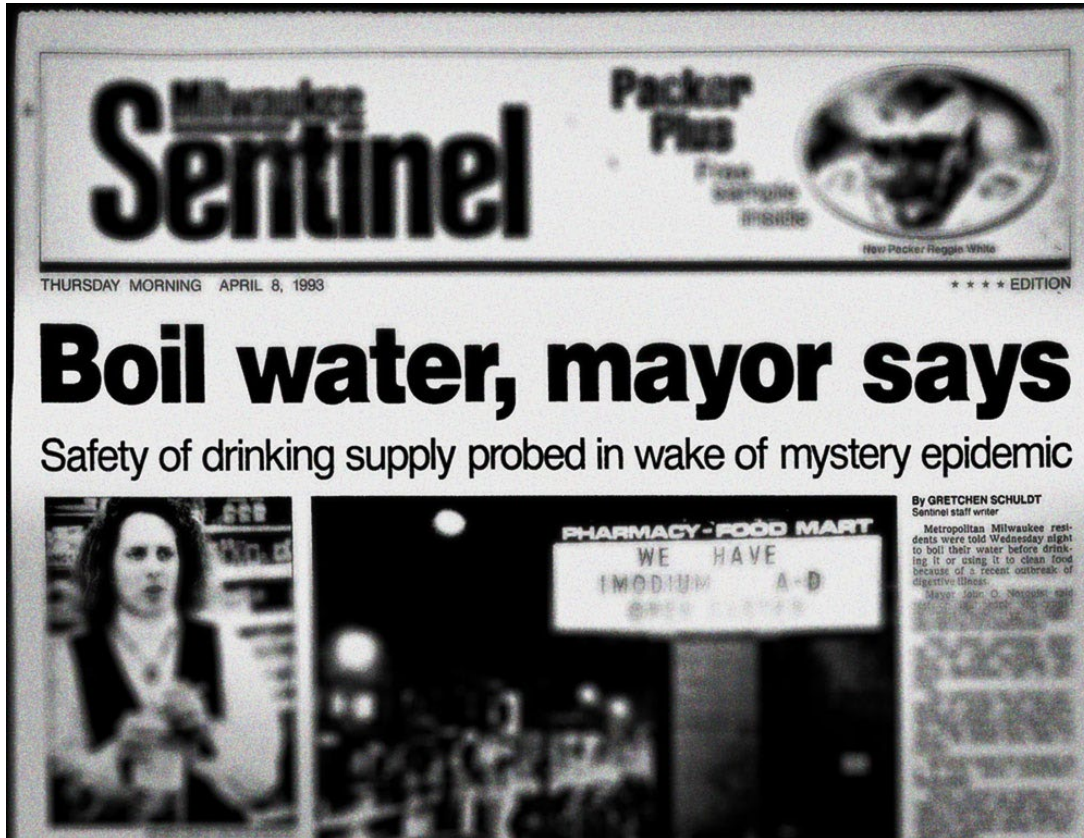
ENERGY STAR

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

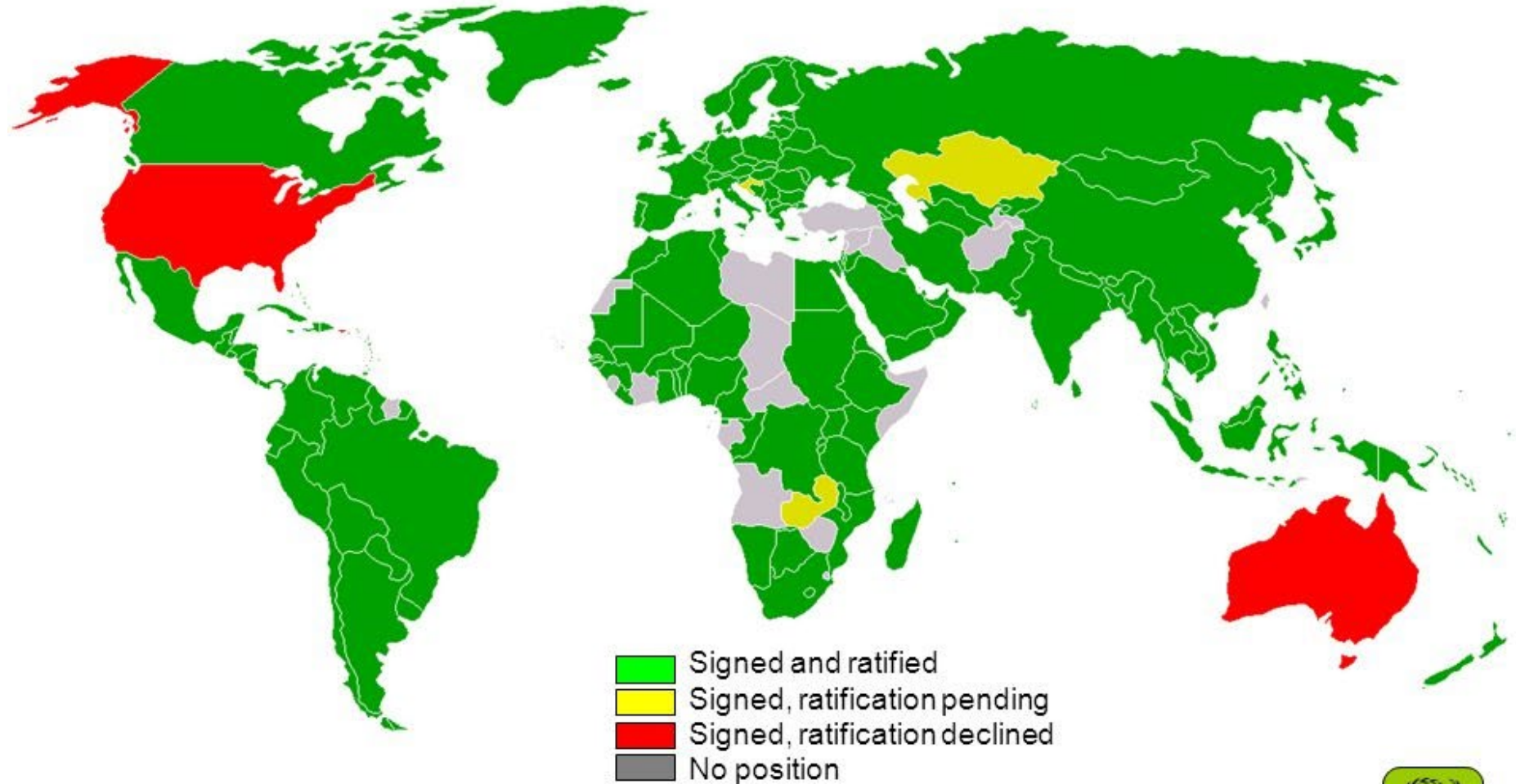
1. New standards for chemical plants (reduce toxic air pollution by more than ½)
2. Incentive-based acid rain program to reduce sulfur dioxide emissions
3. Requires municipal incinerators to reduce toxic emission by 90 percent
4. Public drinking supplies are required to inform customers about chemicals 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



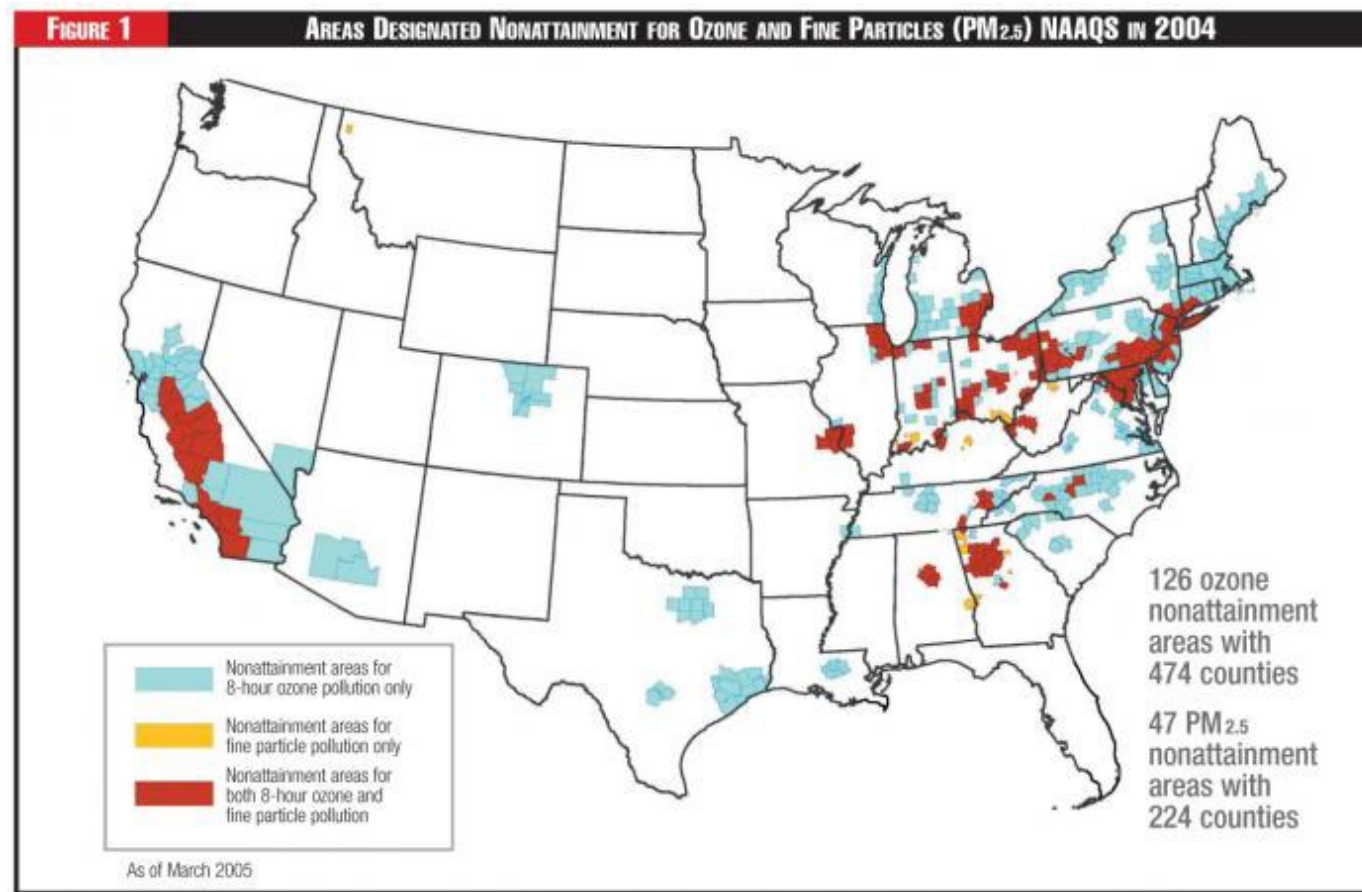
UNFCCC

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 SO₂ and NO_x 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

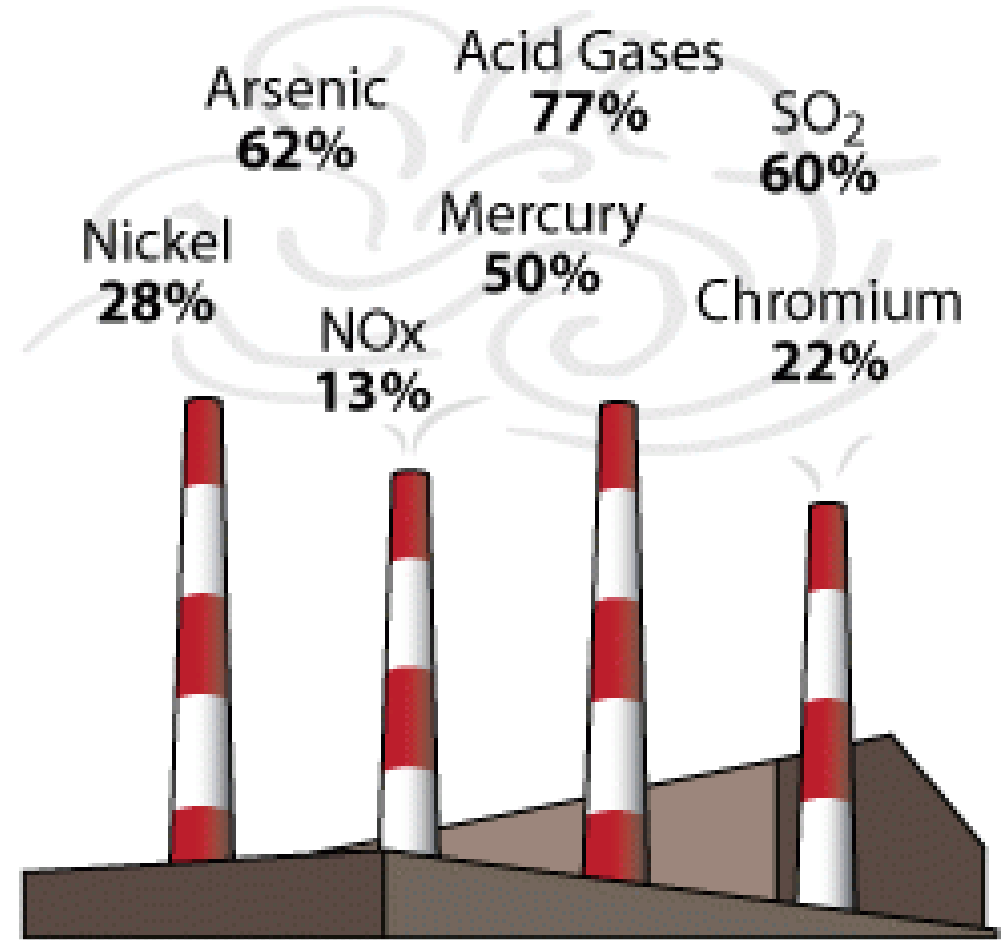
BP Products North America, Inc. agrees to pay the largest criminal fine to date for air violations, including a \$62 million criminal fine plus \$400 million on safety upgrades. The penalty was for a 2005 refinery explosion that killed 15 and the [2006 oil spill on the Alaskan tundra](#), which violated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

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



Died in a rocket launch Feb. 2020

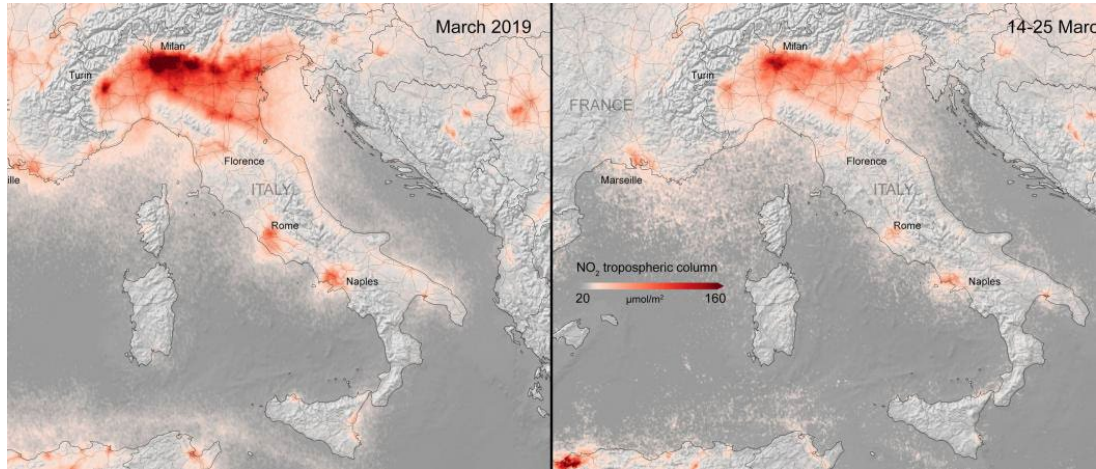
Coronavirus Covid-19

- 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



PFAS - polyfluoroalkyl substances ,

<https://www.epa.gov/pfas/pfas-explained>



IOWA DEPARTMENT OF NATURAL RESOURCES

GOVERNOR KIM REYNOLDS
LT. GOVERNOR ADAM GREGG

DIRECTOR KAYLA LYON

October 10, 2022

SIoux CITY, CITY OF
ATTN CITY MANAGER
CITY HALL PO BOX 447
SIoux CITY IA 51102-0447

SUBJECT: Public Notice Required - PFOA & PFOS Health Advisory Exceedance

SIoux CITY WATER SUPPLY (PWSID: 9778054) has exceeded the Health Advisories (HA) for PFOA & PFOS. This is based on the following sample results:

PFAS Compound	Date Received	Our Result (ppt)	Health Advisory Level (ppt)
PFOA	10/10/2022	5.4	0.004 (interim)
PFOS	10/10/2022	4	0.02 (interim)