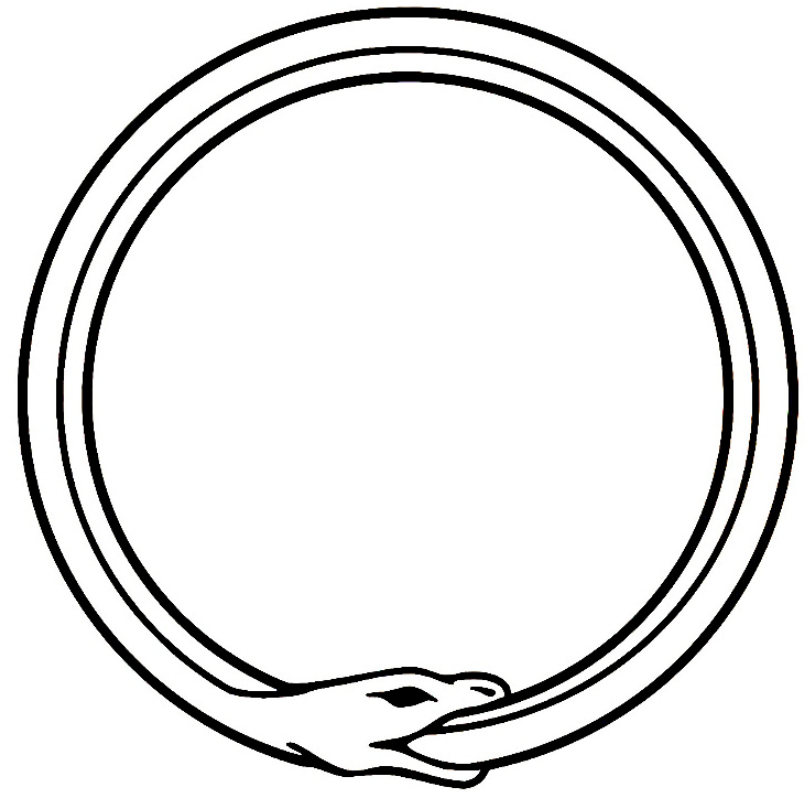


# EVERYTHING CHANGES, NOTHING CHANGES:

*a retrospective on  
environmental problems  
since the first Earth Day*



Ruth DeFries, Columbia University

April, 2022



November 1969

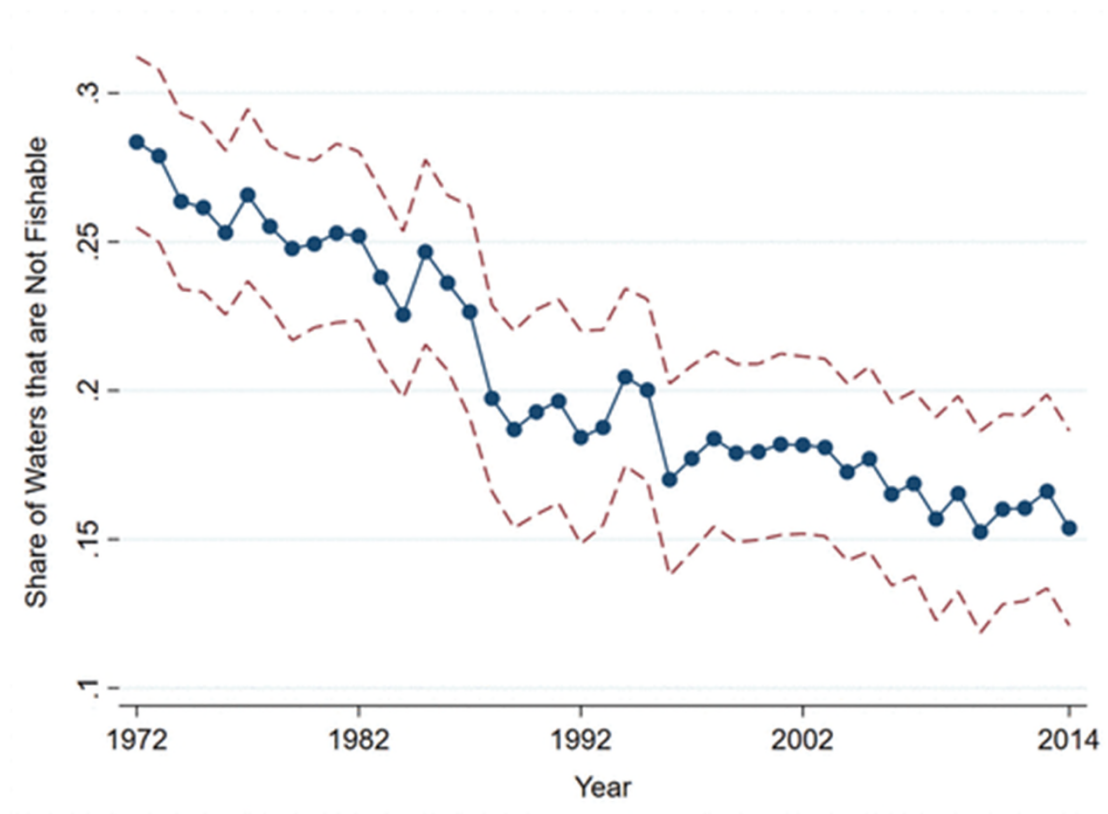
# EARTH DAY APRIL 22, 1970



# Cuyahoga River, 1970



# WATER QUALITY HAS IMPROVED IN THE UNITED STATES SINCE THE CLEAN WATER ACT



Source: Keiser and Shapiro (2019)



# *Remembering a City Where the Smog Could Kill*

By Jim Dwyer

Feb. 28, 2017



The view to the south from the Empire State Building on Nov. 24, 1966, one of New York's worst smog days.



*WE ACT co-Founders Peggy Shepard and the late Chuck Sutton raising awareness about poor air quality in Northern Manhattan*



*A smoke stack at the North River Sewage Treatment Plant*



A view of the downtown San Francisco shrouded in dark orange smoke in San Francisco, Calif. Wednesday, September 9, 2020 due to multiple wildfires burning across California and Oregon.



# AIR POLLUTION IS MAJOR KILLER IN MANY PARTS OF THE WORLD

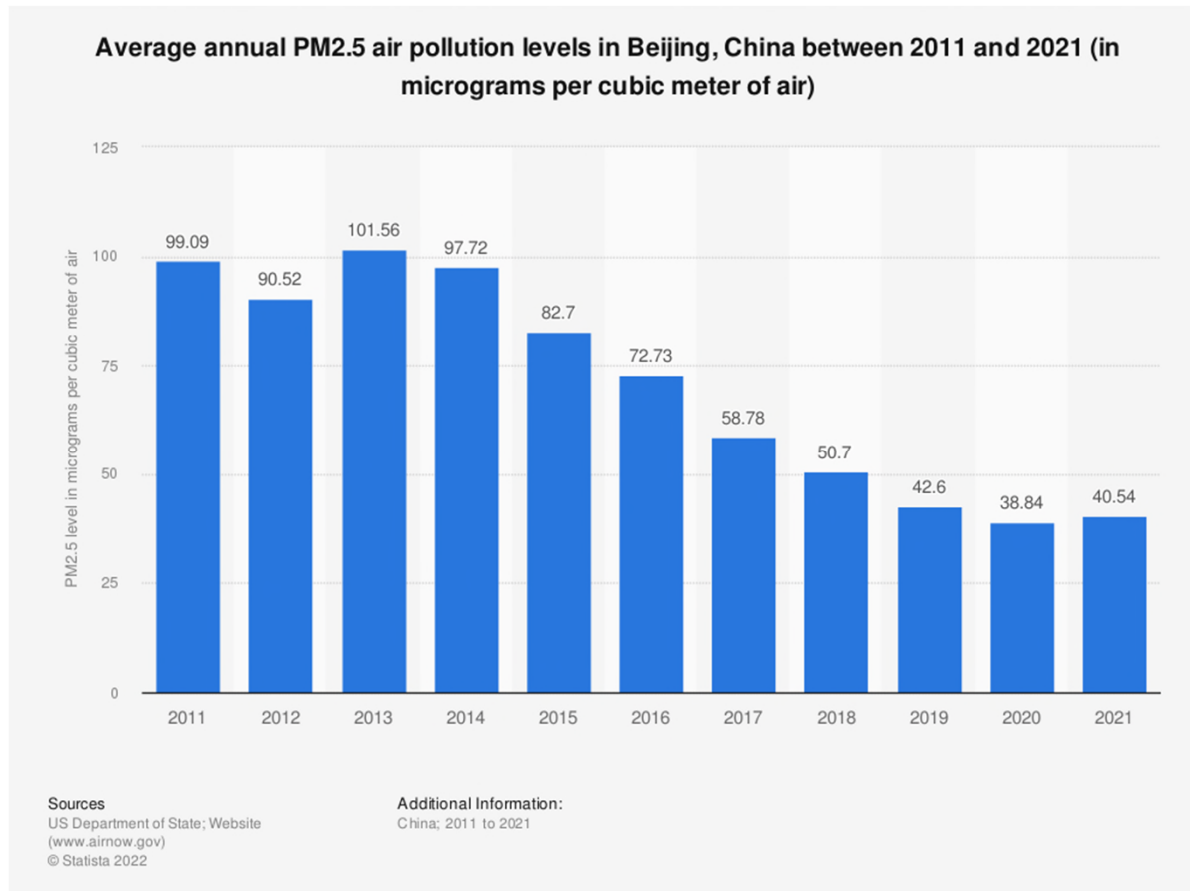
Delhi – the worst air quality in the world



Beijing – was worst air quality in the world



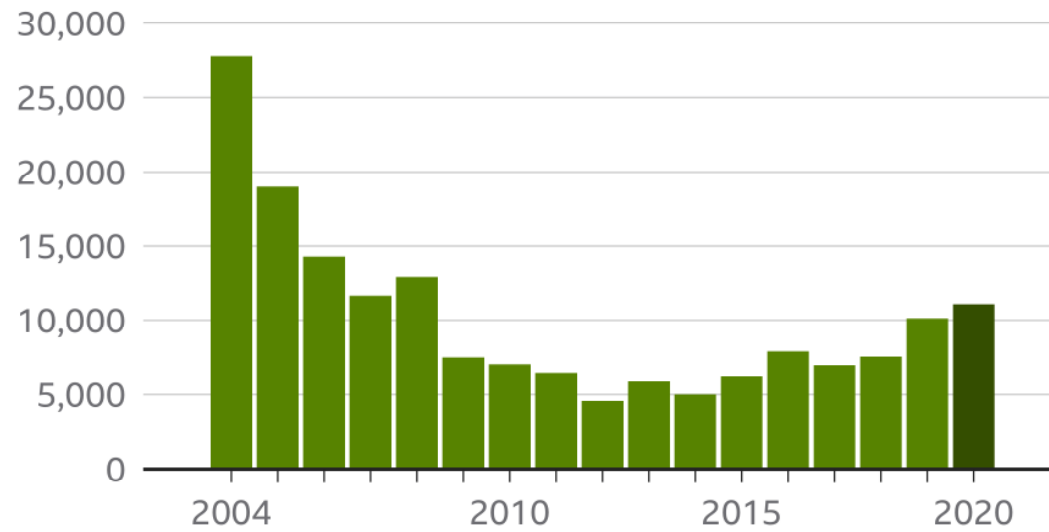
# SUCCESS IS POSSIBLE



# ..AND SUCCESS IS NOT PERMANENT

## Amazon deforestation highest since 2008

Annual rate in square kilometres



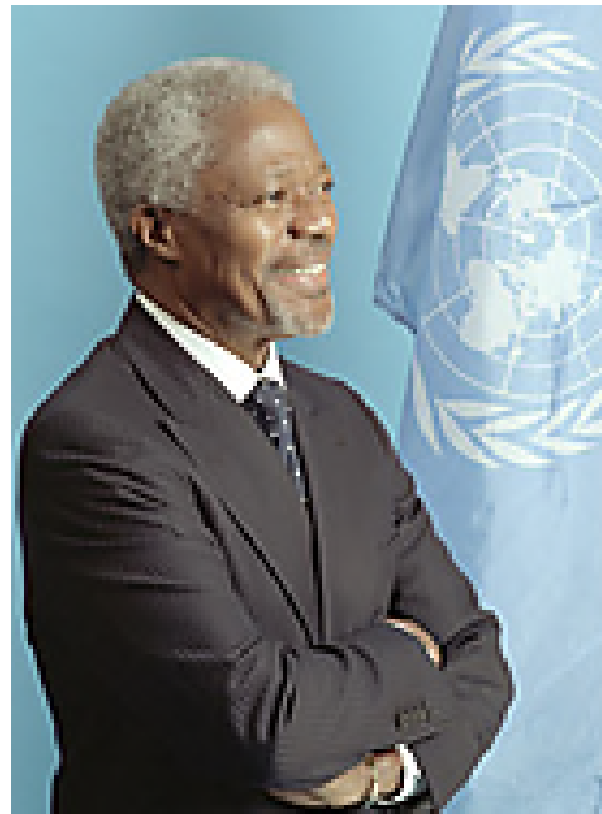
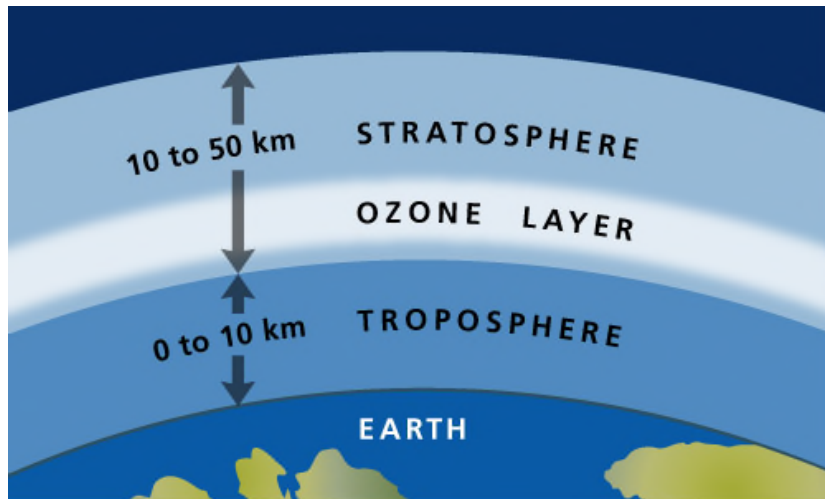
Note: Annual figures August-July

Source: PRODES, Inpe

BBC



# INTERNATIONAL AGREEMENTS ARE POSSIBLE



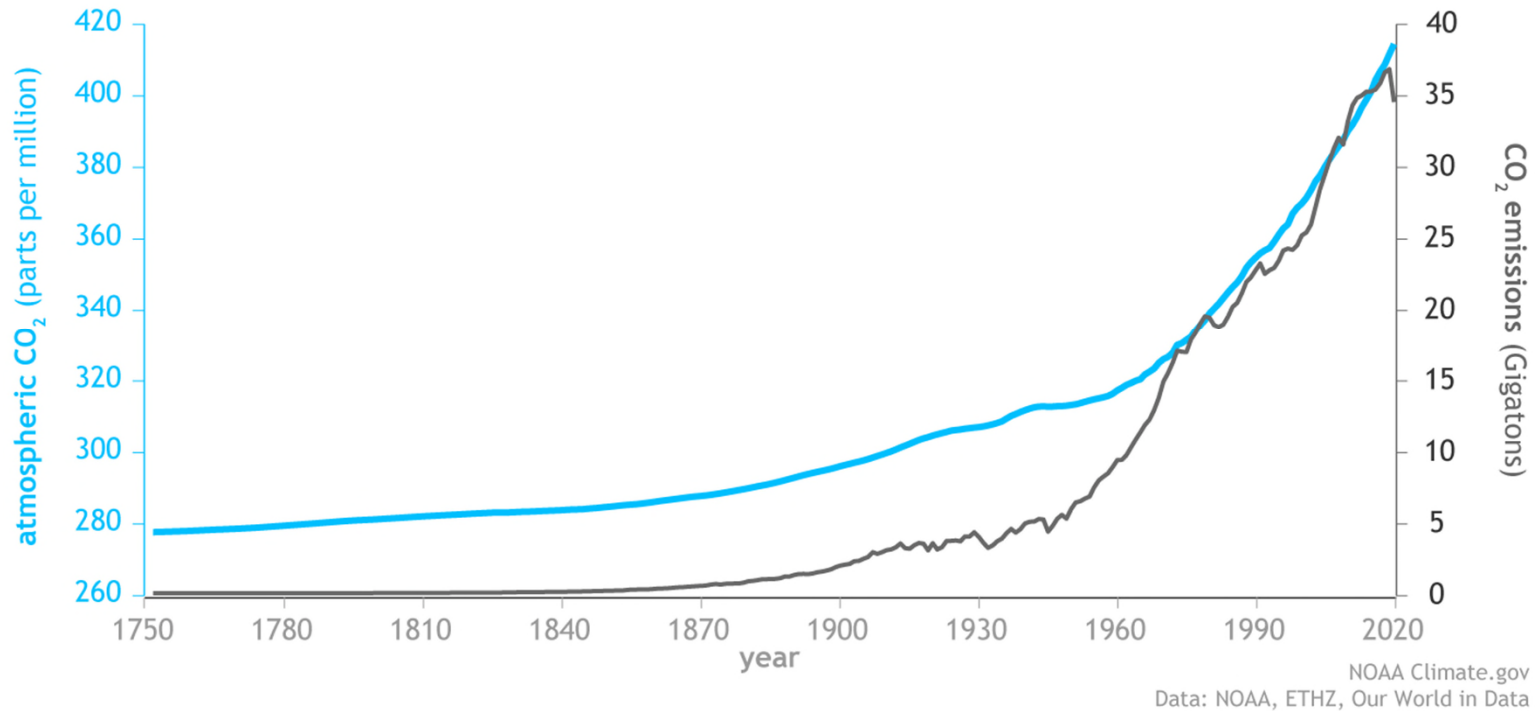
"Perhaps the single most successful international agreement to date has been the Montreal Protocol."

-Kofi Annan,  
Seventh Secretary General  
of the United Nations



# SO WHY IS IT SO DIFFICULT TO BUDGE ON GREENHOUSE GASES?

Carbon dioxide emissions and atmospheric concentration (1750-2020)



# PROBLEMS ARE MORE WICKED SINCE FIRST EARTH DAY

	LOCAL POLLUTION	STRATOSPHERIC OZONE	GREENHOUSE GASES/CLIMATE CHANGE
<b>Directly observable</b>	✓		
<b>Affects everyday life</b>	✓		
<b>Technically solvable</b>	✓	✓	✓
<b>Political will to overcome entrenched vested interests</b>	✓	✓	

# EVERYTHING CHANGES, NOTHING CHANGES:

