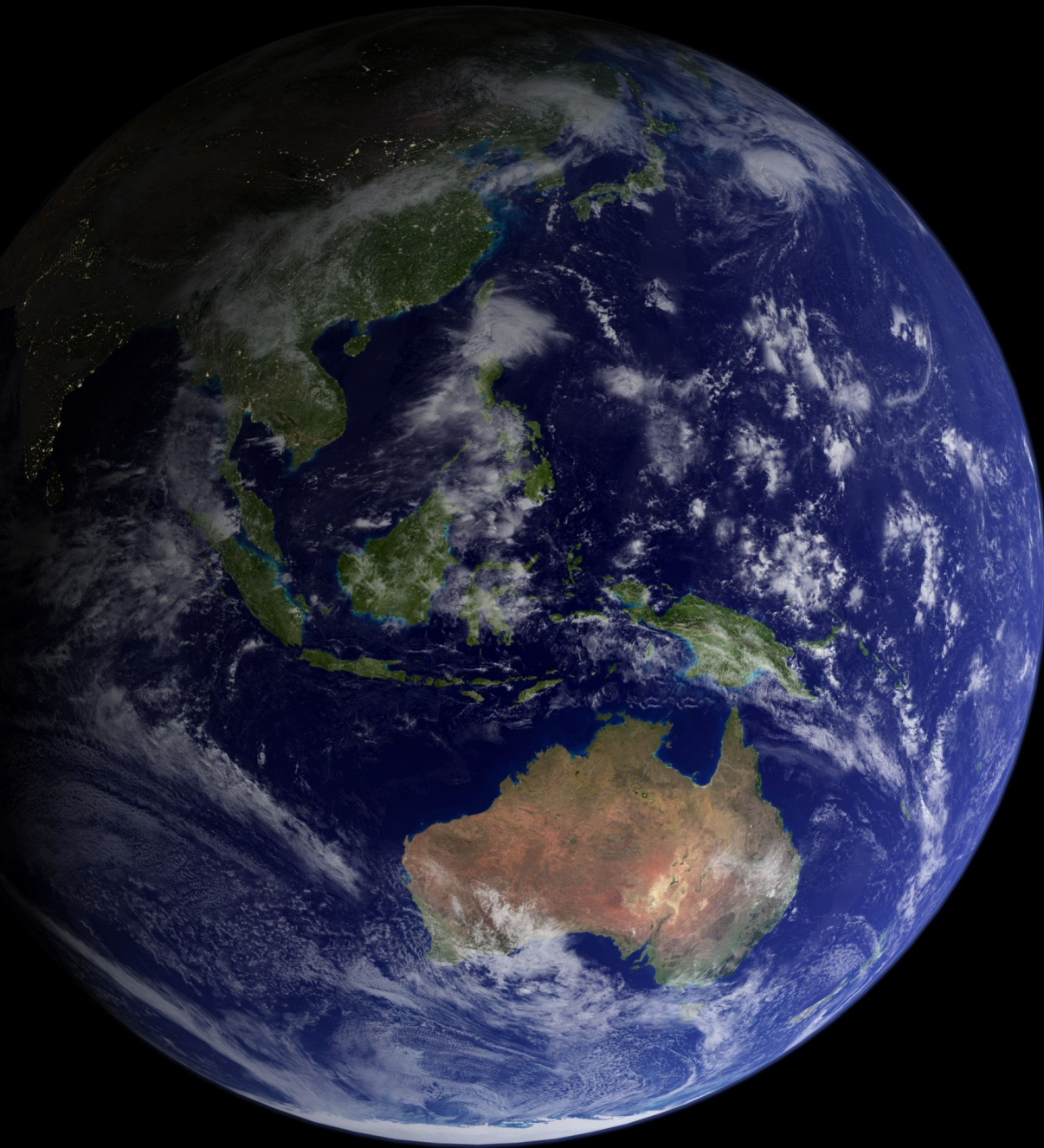


Allen R Riebau, PhD.

**Something
good this way
came: World
governments'
successes on
ozone
Depletion, acid
rain, and air
pollution**





Acid rain?

**Ozone
hole?**

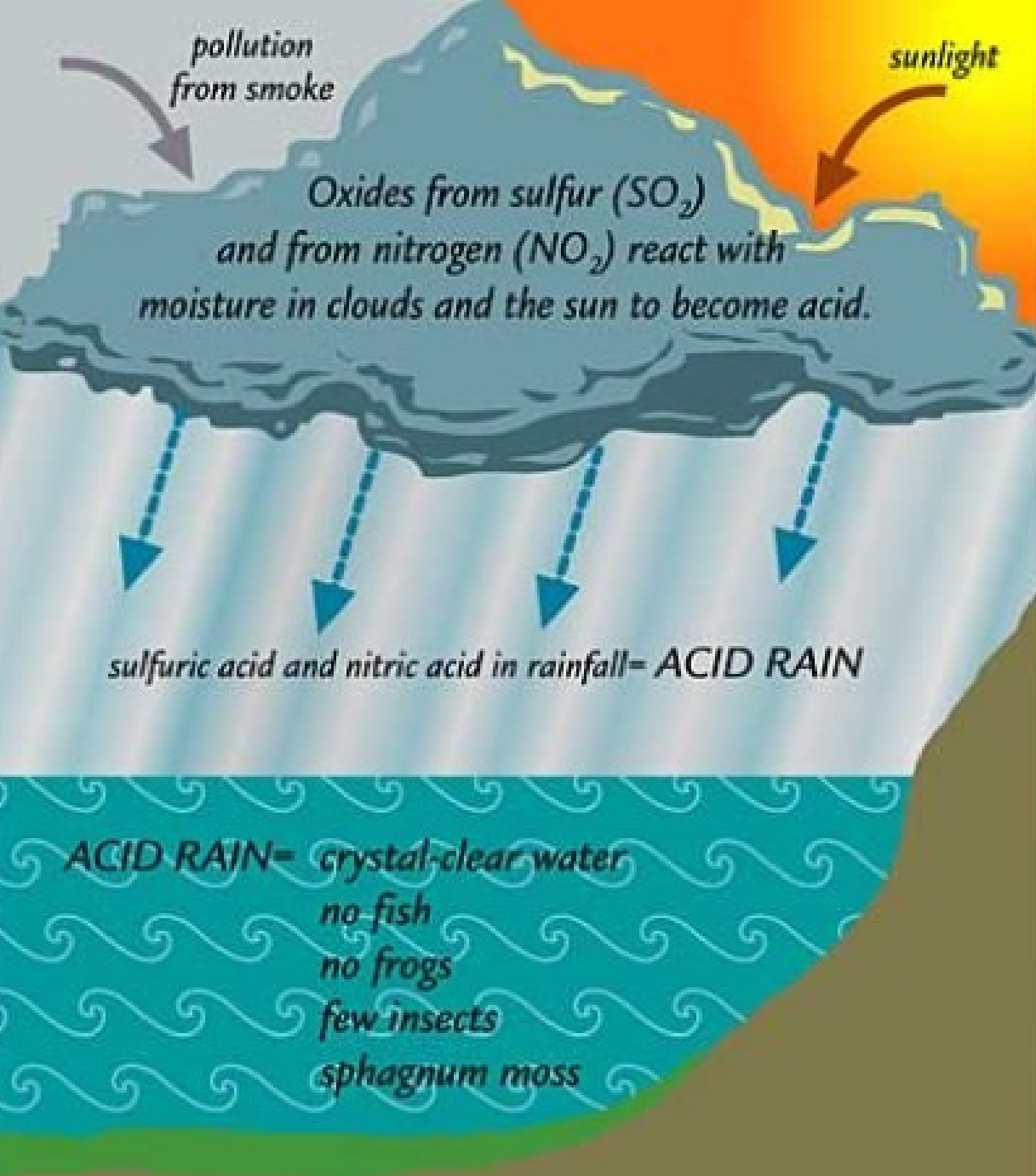
**Air
pollution?**

**Why aren't
we all dead
yet?**



Many feel that politics and government are so hopelessly corrupt that no progress can be made...

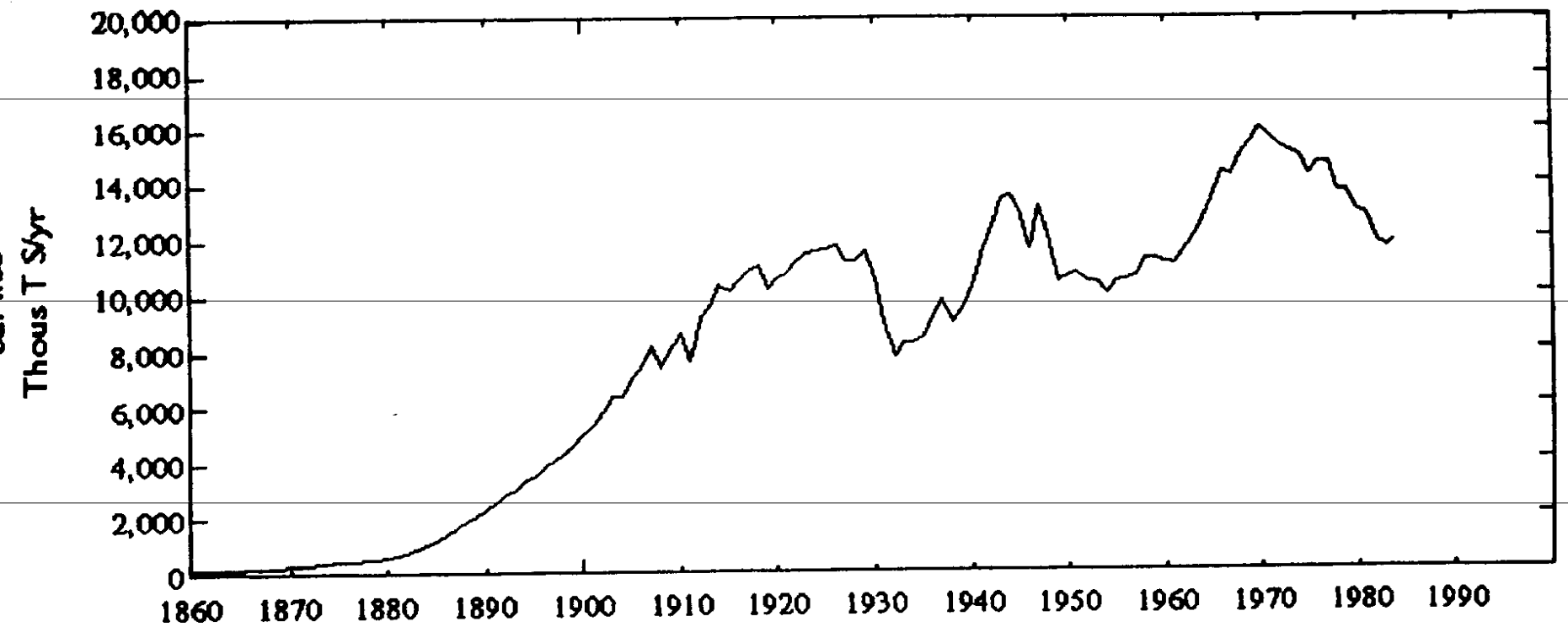
Yet the world has made much admirable action and progress on environmental issues through political systems.



Acid rain was (and is still) a very real issue...

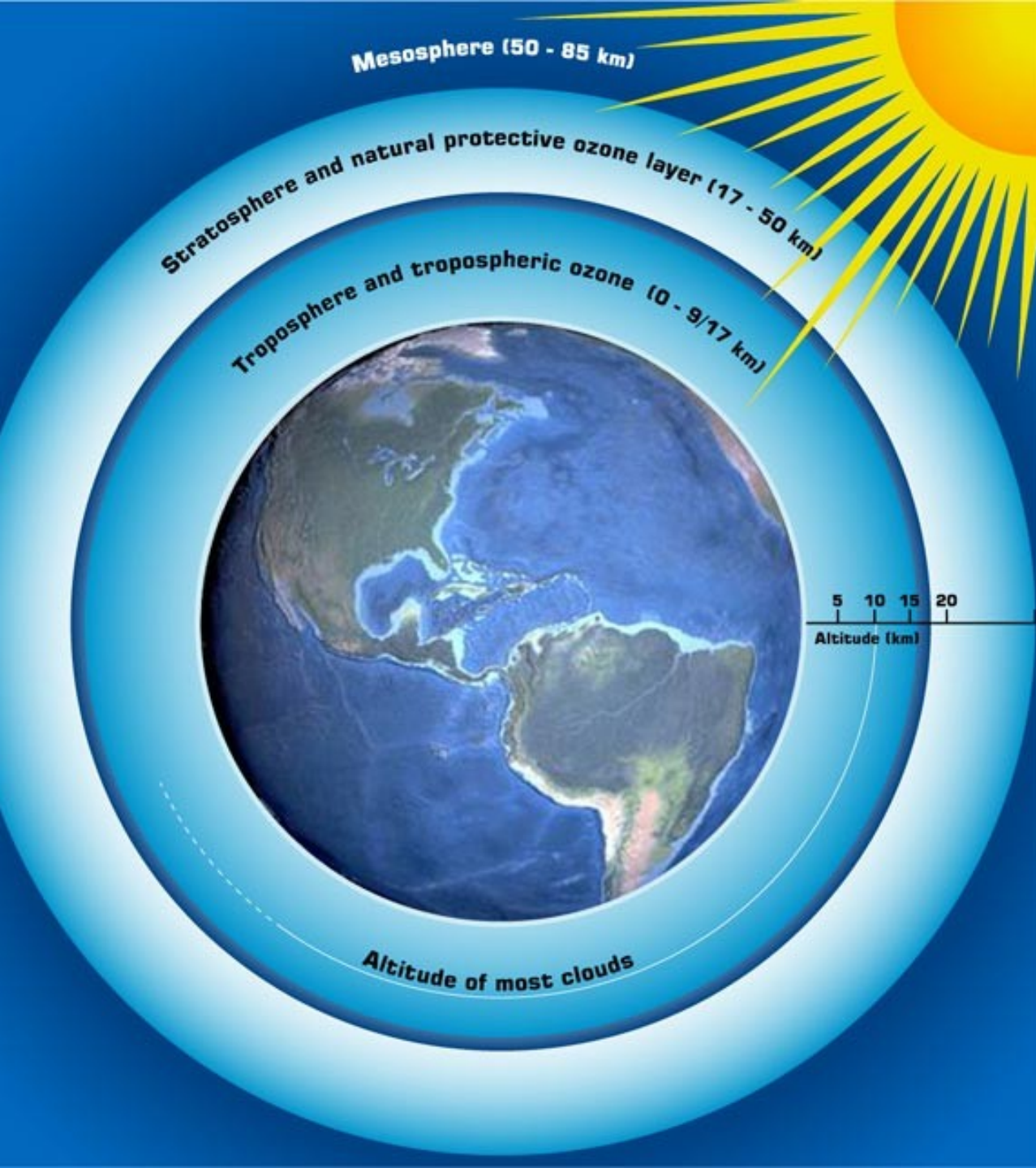
Sulphur and nitrogen emissions from **power generation, industrial sources, agriculture, and automobiles** to acidify rain which in turn acidified surface waters leaching chemicals from geological formations and killing wildlife, killing trees, and endangering human well-being.

It has now been very largely mitigated in North America and the EU through emissions control achieved through a partnership of science and politics and government and even.... Industry.



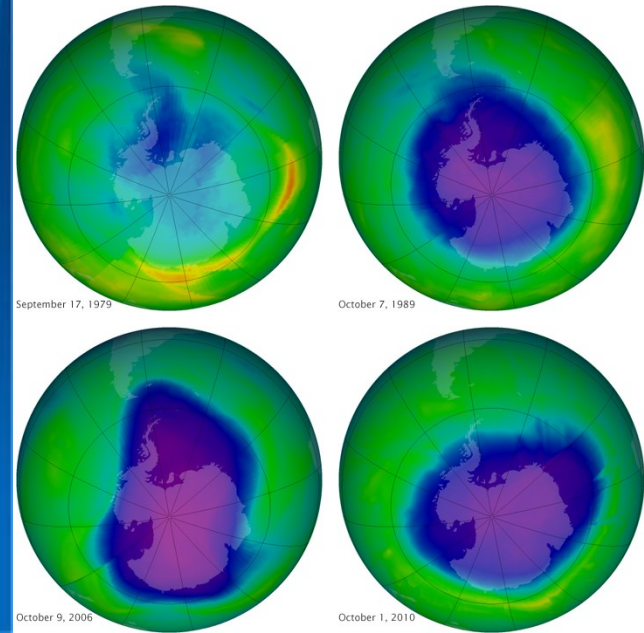
Emissions of nitrogen oxides are down by 30% since the early 1990's, according to a report released today by the European Environment Agency. The report, 'Annual European Community LRTAP Convention emission inventory 1990-2004' also says that emissions of sulphur (SO_x) as reported by Member States dropped by 70% between 1990 and 2004 within the EU-15.

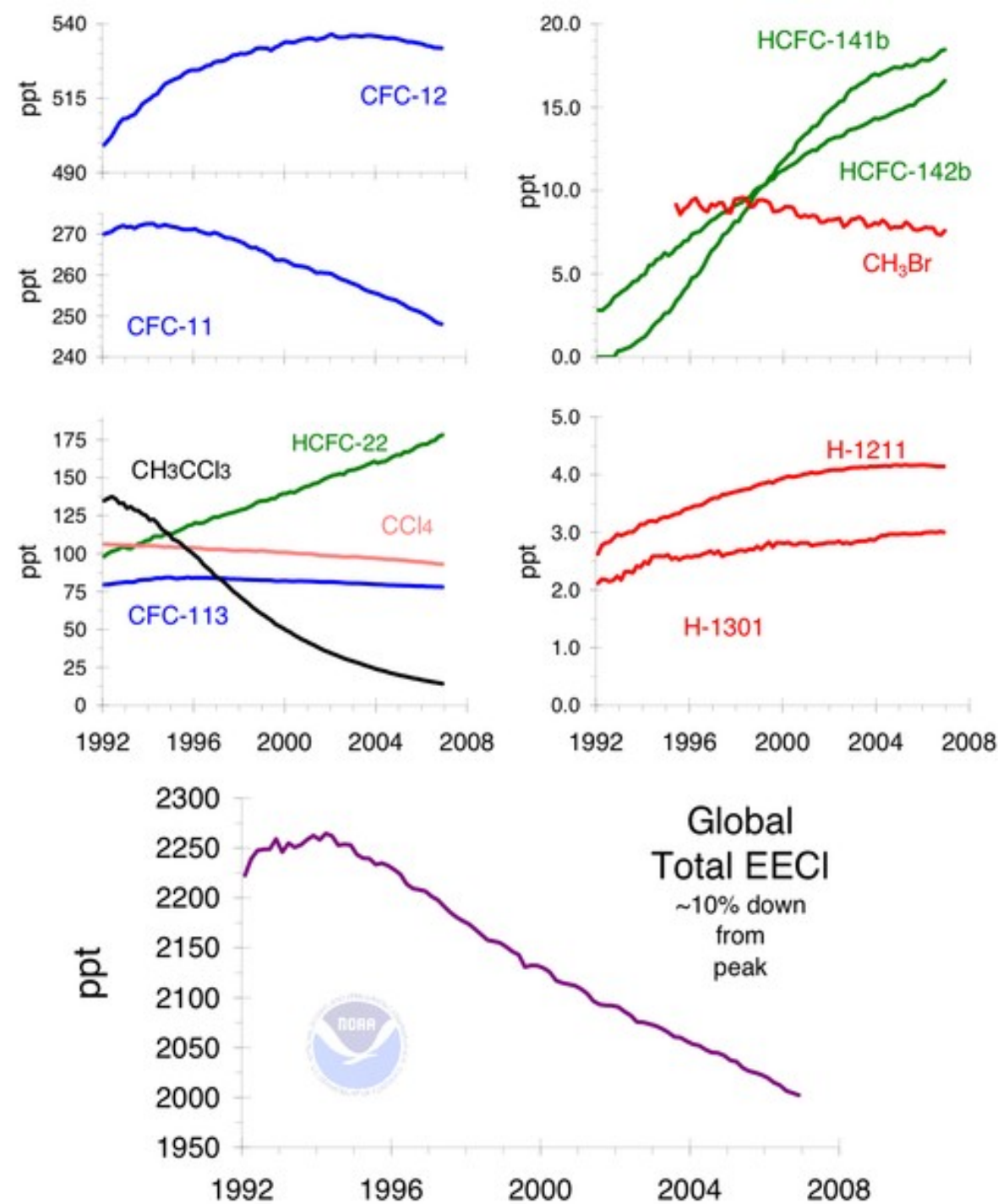
Acid rain: An environmental crisis that disappeared off the radar



Stratospheric Ozone depletion threatened us with increases in cancer, genetic mutations, loss of species, vision impairment, and other consequences.

It's still not over but...





The **Montreal Protocol on Substances That Deplete the Ozone Layer** (a protocol to the Vienna Convention for the Protection of the Ozone Layer) is an international treaty designed to protect the ozone layer by phasing out the production of numerous substances believed to be responsible for ozone depletion. The treaty was opened for signature on September 16, 1987, and entered into force on January 1, 1989. **It is believed that if the international agreement is adhered to, the ozone layer is expected to recover by 2050.**



Air pollution is problem that is growing worldwide, but especially in developing countries. It threatens our health (deaths through cardio-pulmonary failure, increased cancer, etc.) and welfare (visibility impairment, wildlife decline) and has gotten worse in every industrialised country ...

Yet it would be so much worse without government intervention via regulations.

Deaths attributable to urban air pollution, 2004



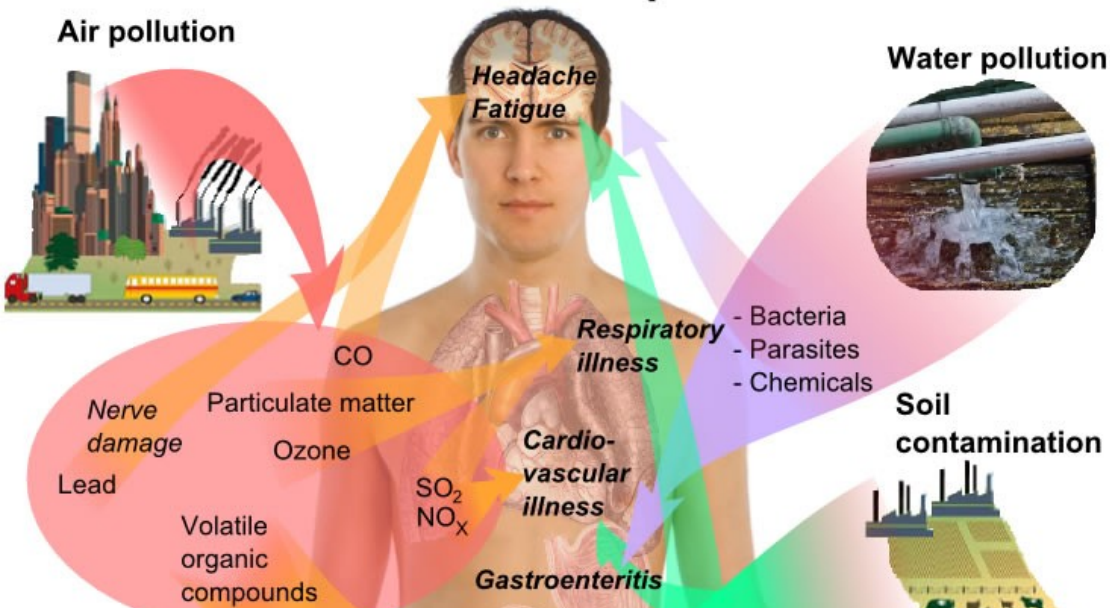
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: Global Health Risks, WHO 2009. © WHO 2010. All rights reserved.

It is estimated that more than **1 billion people** are exposed to **outdoor air pollution annually**. Urban air pollution is linked to **up to 1 million premature deaths and 1 million pre-natal deaths each year**. Urban air pollution is estimated to **cost approximately 2% of GDP in developed countries and 5% in developing countries**. Rapid urbanisation has resulted in increasing urban air pollution in major cities, especially in developing countries. Over 90% of air pollution in cities in these countries is attributed to vehicle emissions brought about by high number of older vehicles coupled with poor vehicle maintenance, inadequate infrastructure and low fuel quality.

From United Nations Environmental Program

Health effects of pollution



Generally air pollution laws exist in almost every country taking some general forms targeting criteria pollutants (PM, Ozone, SO₂, Nox), with WMO/WHO guidance often informing them:

- Ambient concentration standards
- Emissions rates per source (e.g., tons per year or emission by heat unit)
- Regional source allocations/Cap and trade policies
- Health exposure standards (HAPS)
- Mileage standards
- Ecosystem protection/ Public welfare standards (PSD Increments, Regional Haze)

**Before standards... no progress
After standards... some remarkable progress**

**WE HAVE MET
THE ENEMY
AND HE IS US.**



Political
Essence of
'Atmosphere
Pollution'

VICTORY
(significant
action)

DEFEAT
(no action)



Crisis

Politically Very
Hard/ Big long-term
REWARDS

Politically
Easy/ Big long-term
LOSSES

**Is the
atmosphere
and climate
system and
biosphere
in crisis?**

Not a real
crisis

Politically
Hard/ Big
investment for
no rewards

Politically
Easy/ Miss-
spend no \$\$

**Are we in
crisis?**



The violent derangement of the world's equilibrium; the trembling that will seize the limbs of mankind; ...;the fanning into flame of the smouldering fire of racial strife; the development of infernal engines of war; the burning of cities; **the contamination of the atmosphere of the earth** -- these stand out as the signs and portents... which must purge the human race of the dross of its age-long corruptions, and weld its component parts... **into a Civilization, the like of which mankind has, at no stage...witnessed.**

(Shoghi Effendi, Messages to the Baha'i World - 1950-1957, p. 103)



"Our Father in heaven, hallowed be your name. **Your kingdom come, your will be done, on earth as it is in heaven.** Give us this day our daily bread, and forgive us our debts, as we also have forgiven our debtors. And lead us not into temptation, but deliver us from evil."

Matthew 6:9–13

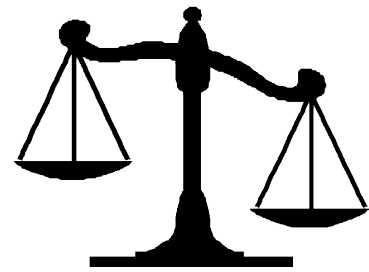


This talk was all really too simplified...

Ultimately if we give up on governments and the political process completely we throw the baby out with the bathwater.

LRTAP, Montreal Protocol, NEPM (USA NAAQS)

Conclusions:



- § Acid rain, stratospheric ozone depletion, and air pollution are still moderate to BIG problems, but international and national government actions have helped (e.g., LRTAP, Montreal protocols, NEPM).
- § Without regulations and treaties on these issues many ecosystems and many more peoples' lives would have been lost.
- § The three problems cited in this talk are part of a bigger even more challenging whole – catastrophic transition to a new climate and biosphere 'steady state.'
- § **Individuals, Communities, and Institutions** need to take a rational stand and have a voice in these issues and others that concern the environment... that means well-considered activism, setting good examples, managing materialism/consumption, voting, choosing careers, becoming knowledgeable about the issues, and building partnerships.

Something good this way came: World governments' successes on ozone depletion, acid rain, and air pollution

Allen R. Riebau email: ariebau@msn.com

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