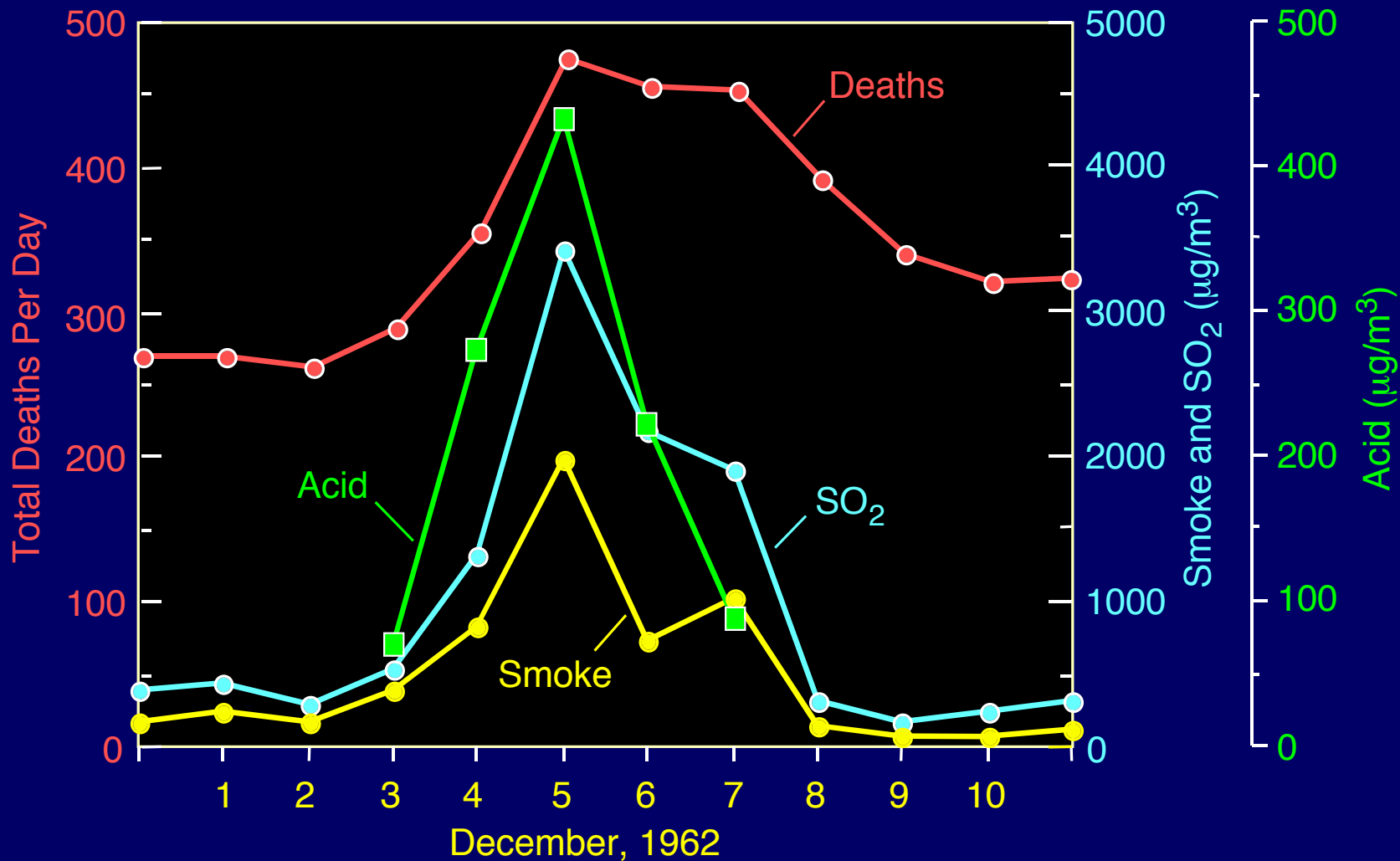


International Lecture Course on Atmospheric Aerosol

Why do we care about aerosols?

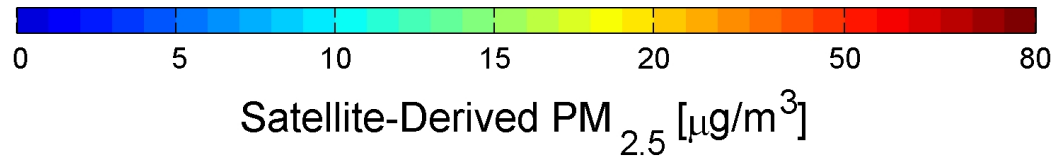
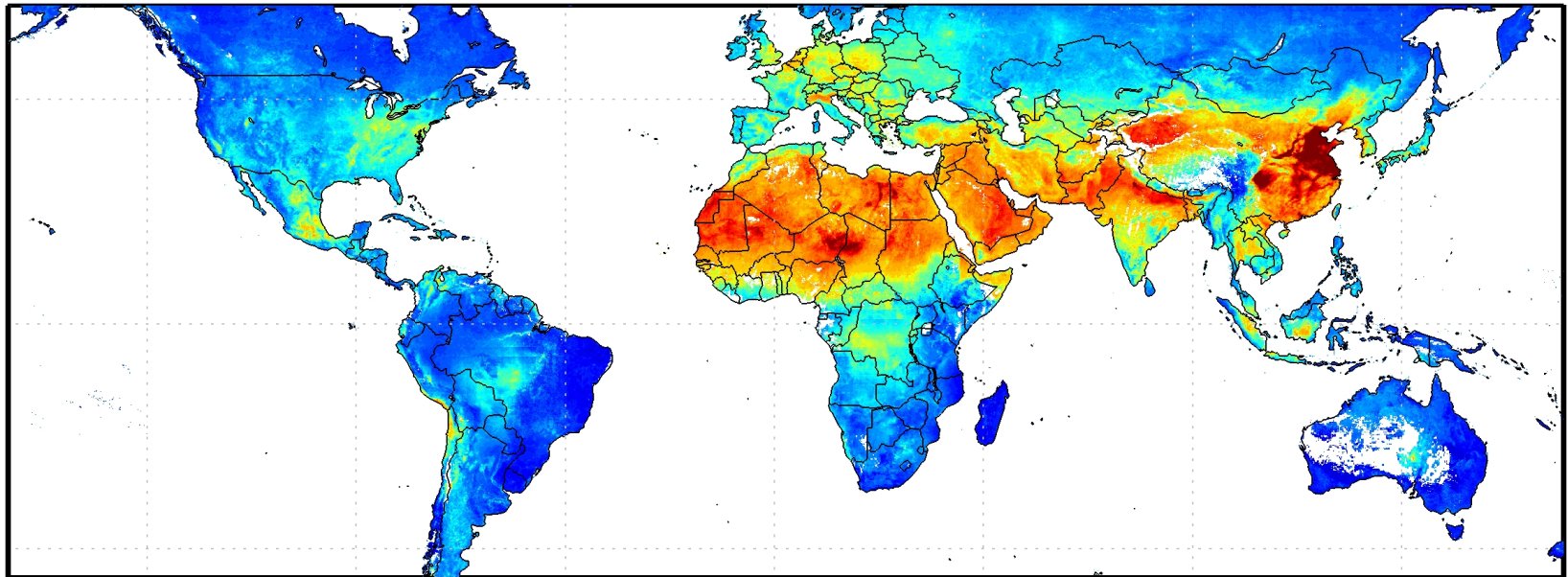
Brian Toon

Aerosols kill people



1962 London smog deaths

Aerosols kill people

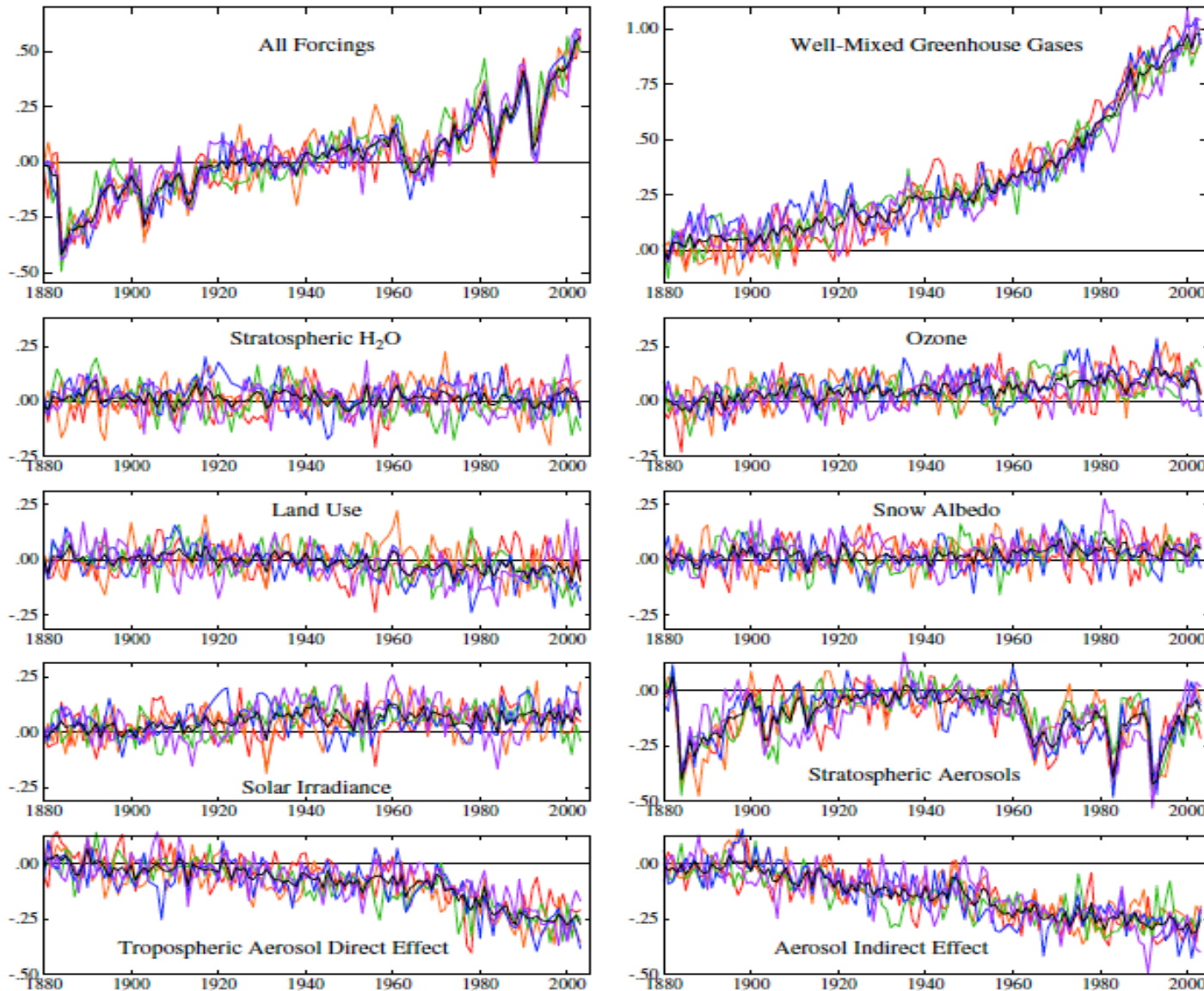


80% of world population breathing air exceeding $10 \mu\text{g m}^{-3}$

Shindell et al 2016 (Nature Climate Change ,6,513) suggest 175,000 premature US deaths due to air pollution would be prevented between 2015-2030 by shifting to clean energy

Aerosols cool the planet

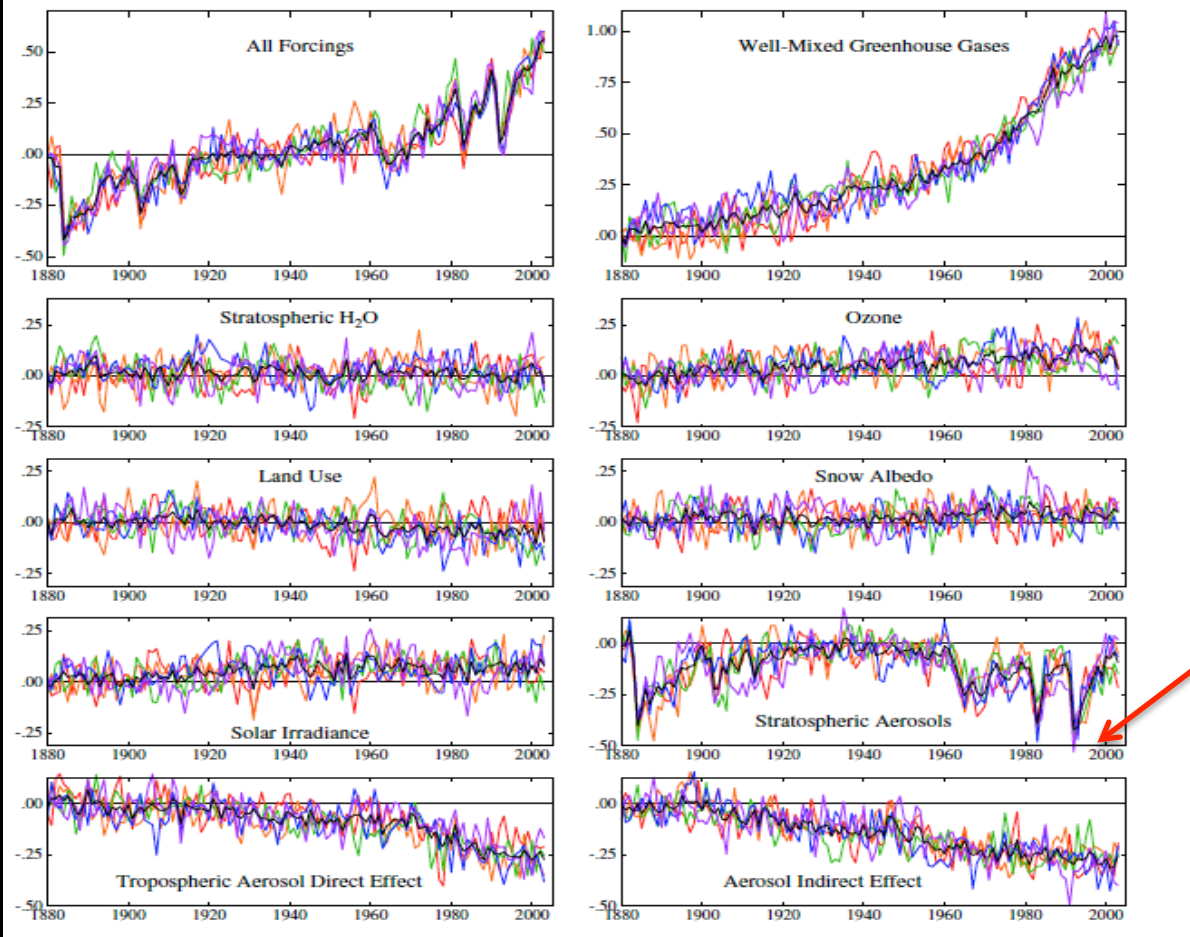
Annual-Mean Global-Mean Surface Temperature Change ($^{\circ}\text{C}$)



Hansen
et al.,
2007
Clim.
Dyn.
29,661

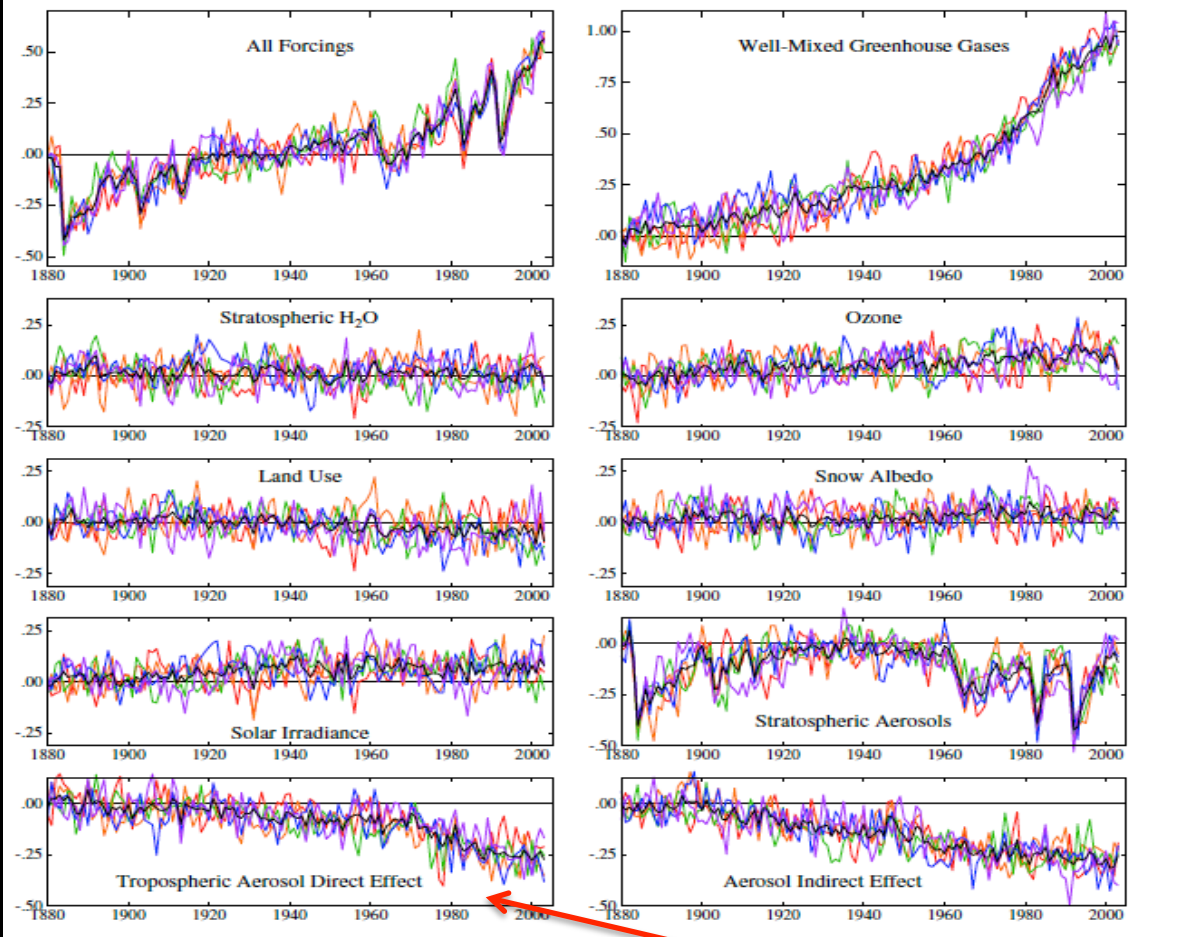
Aerosols cool the planet

Annual-Mean Global-Mean Surface Temperature Change ($^{\circ}\text{C}$)



Aerosols cool the planet

Annual-Mean Global-Mean Surface Temperature Change ($^{\circ}\text{C}$)



Hansen et al., 2007
Clim. Dyn. 29,661

Aerosols affect cloud properties

