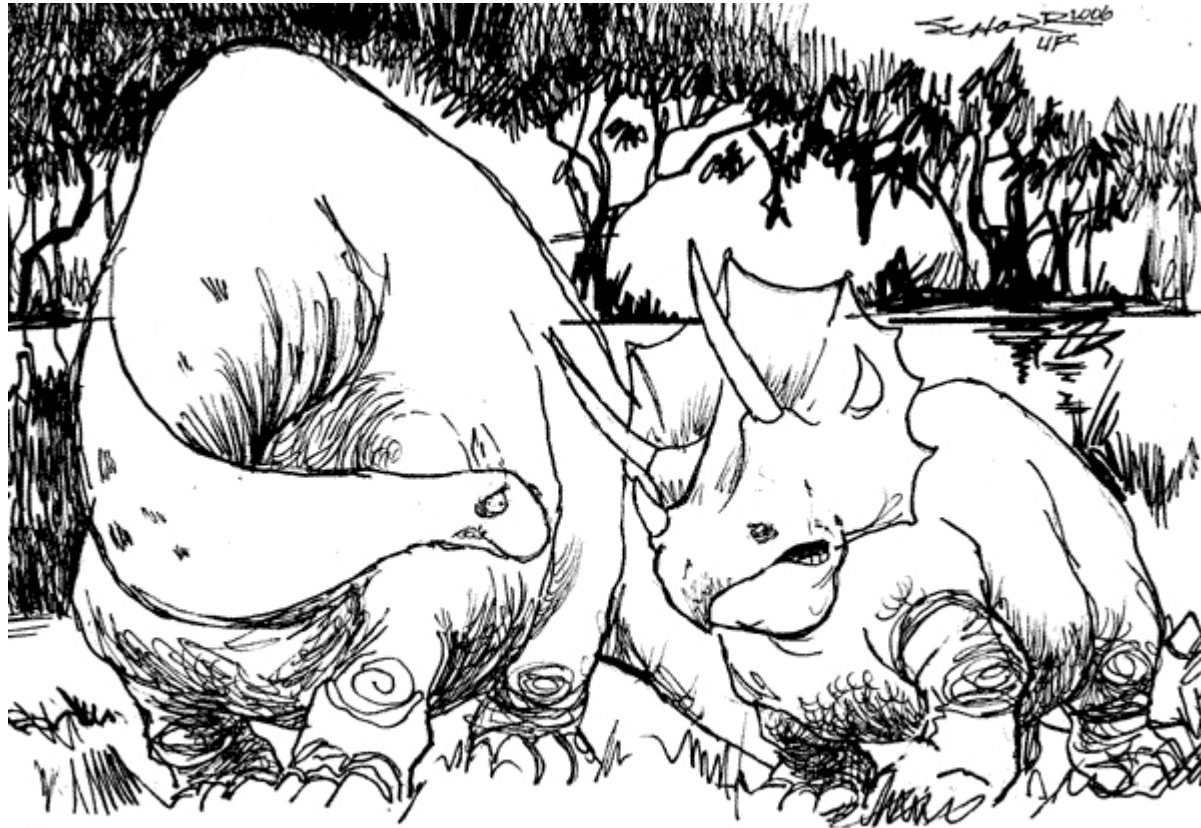


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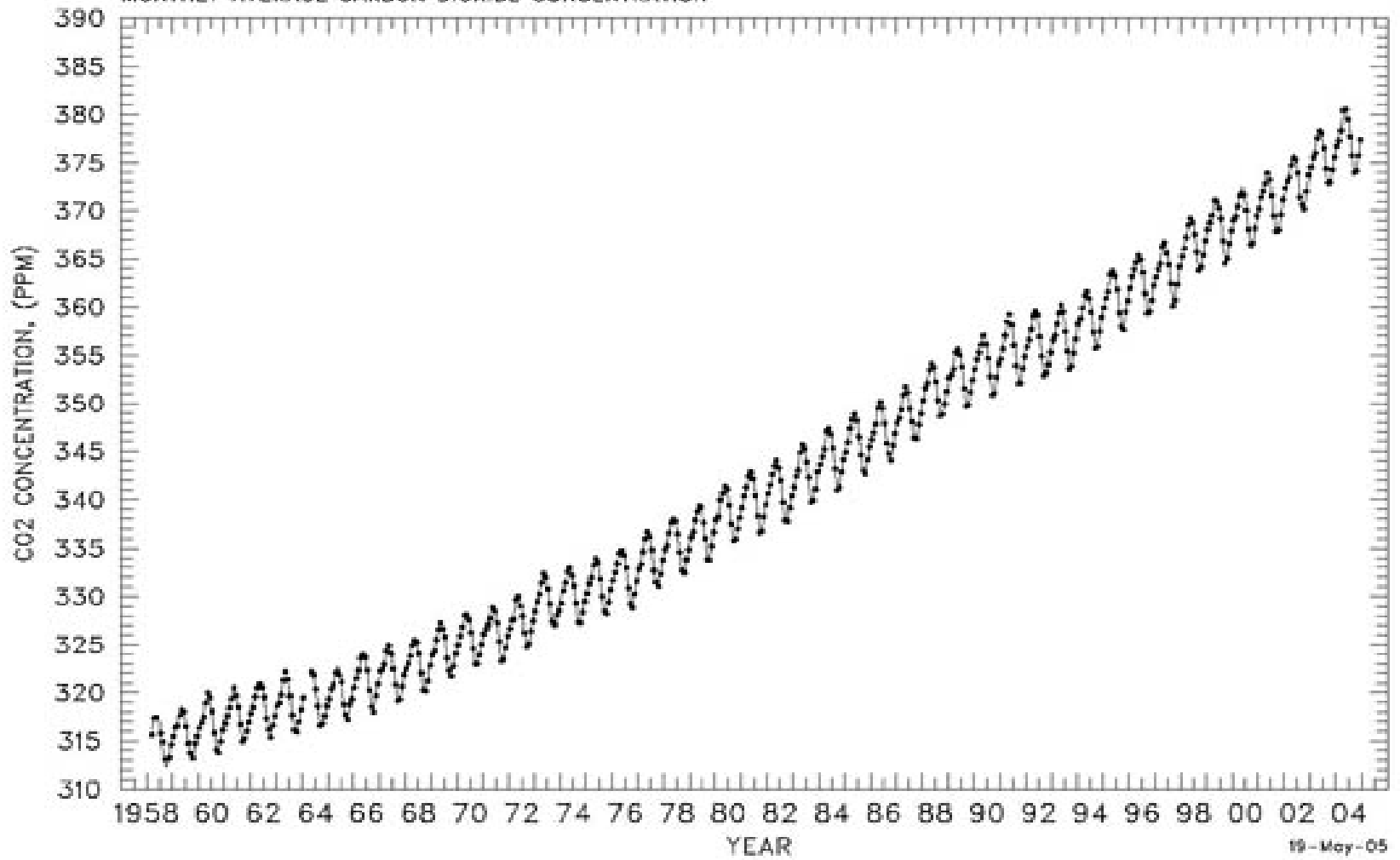
Simon Dalby
Carleton University
sdalby@gmail.com





"GIANT METEORS!...ICE AGE!...EXTINCTION!...YOU SOUND LIKE AL GORE..."

MAUNA LOA OBSERVATORY, HAWAII
MONTHLY AVERAGE CARBON DIOXIDE CONCENTRATION



The Anthropocene

The Anthropocene could be said to have started in the late eighteenth century, when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane.

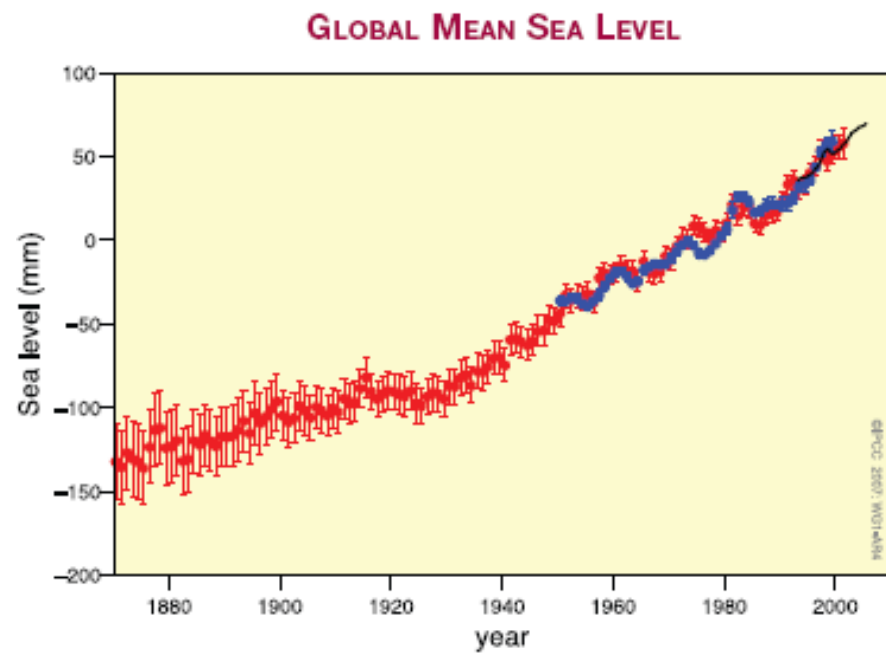


Figure TS.18. Annual averages of the global mean sea level based on reconstructed sea level fields since 1870 (red), tide gauge measurements since 1950 (blue) and satellite altimetry since 1992 (black). Units are in mm relative to the average for 1961 to 1990. Error bars are 90% confidence intervals. (Figure 5.13)

GLACIAL-INTERGLACIAL ICE CORE DATA

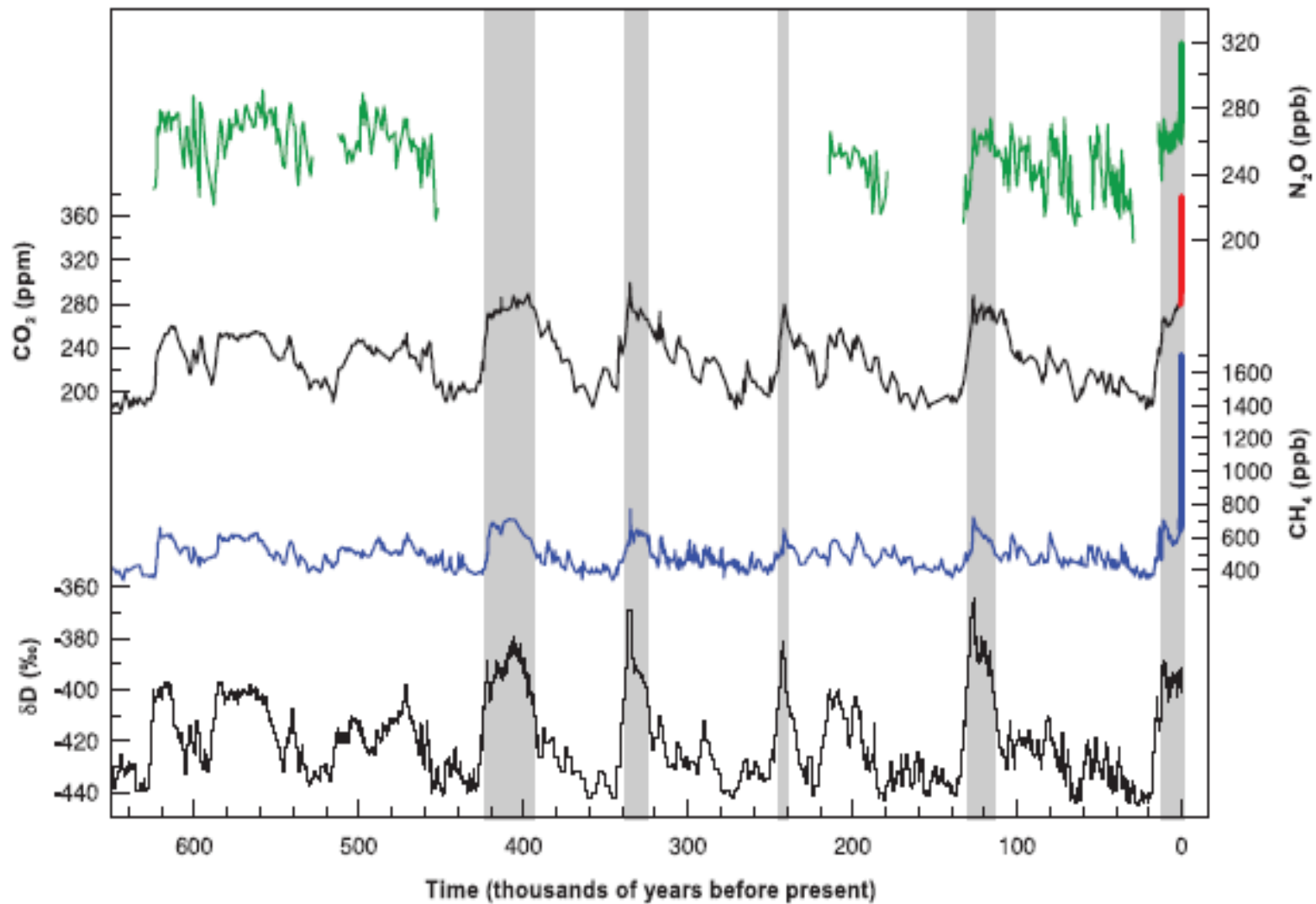


Figure TS.1. Variations of deuterium (δD) in antarctic ice, which is a proxy for local temperature, and the atmospheric concentrations of the greenhouse gases carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) in air trapped within the ice cores and from recent atmospheric measurements. Data cover 650,000 years and the shaded bands indicate current and previous interglacial warm periods. [Adapted from Figure 6.3]



Global Environment Outlook

GEO₄

environment for development



United Nations Environment Programme

Hans Günter Brauch
Úrsula Oswald Spring
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John Grin
Pál Dunay
Navnita Behera Chadha
Béchir Chourou
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Hurricane Katrina, August 2005



- Levee failure
 - lack of investment
 - land use changes
- Poor vulnerable
- Evacuation plan?
- Emergency systems
- "Security"??

Mumbai Flood, July 2005



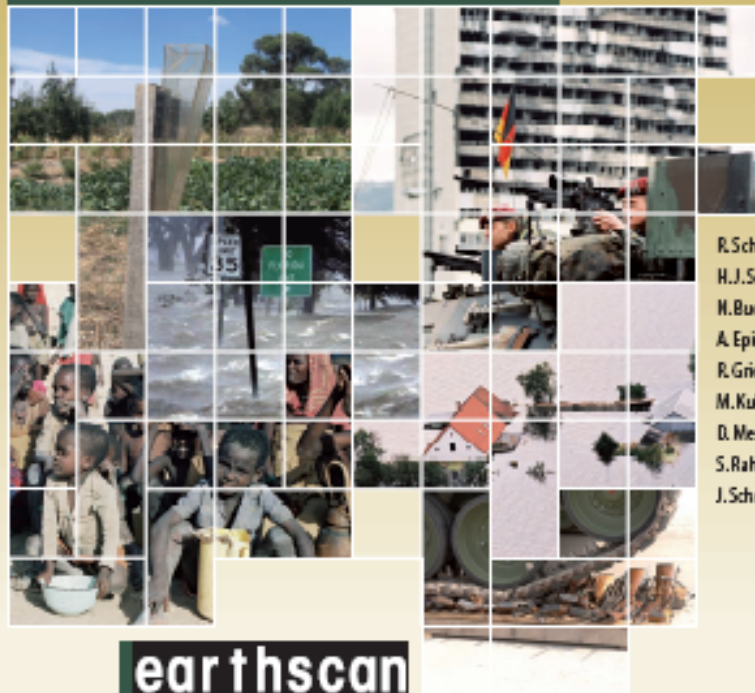
- 90+ cms rainfall
- thousand + dead
- flooding damage
- emergency systems
- land use change
- climate change





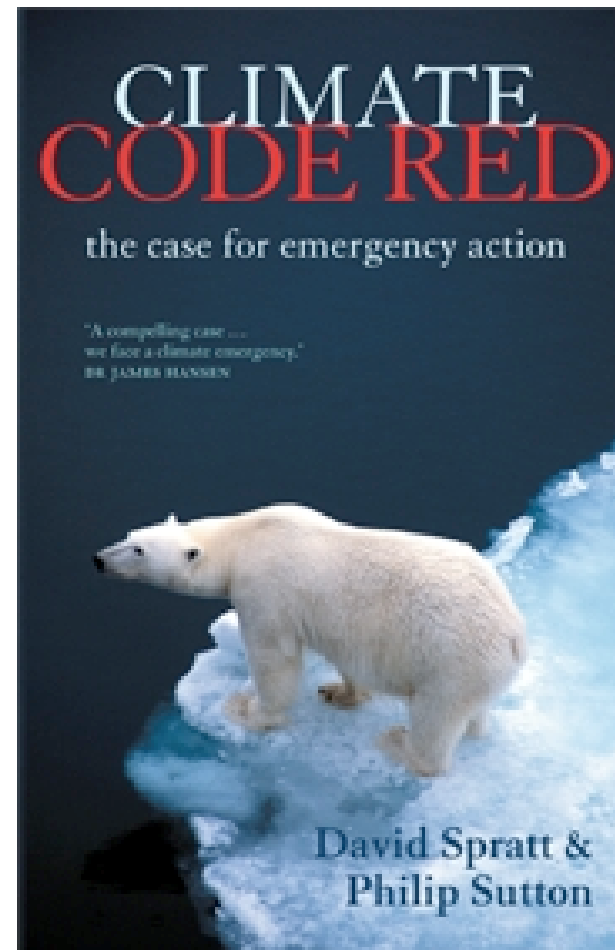
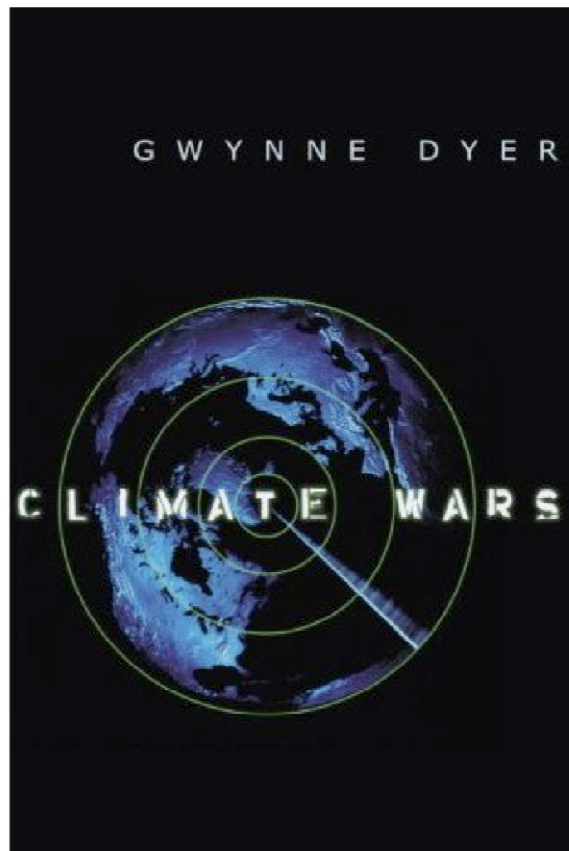
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Climate Change as a Security Risk



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Wars? Emergency? Security?



Threats, Impacts and Climate Change

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