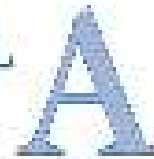


Human Security in the Anthropocene

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PHILOSOPHICAL
TRANSACTIONS
OF

THE ROYAL
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MATHEMATICAL,
PHYSICAL
& ENGINEERING
SCIENCES

The Anthropocene: a new epoch of geological time?

Jan Zalasiewicz, Mark Williams, Alan Haywood and Michael Ellis

Phil. Trans. R. Soc. A 2011 **369**, 835-841

doi: 10.1098/rsta.2010.0339

Anthropocene

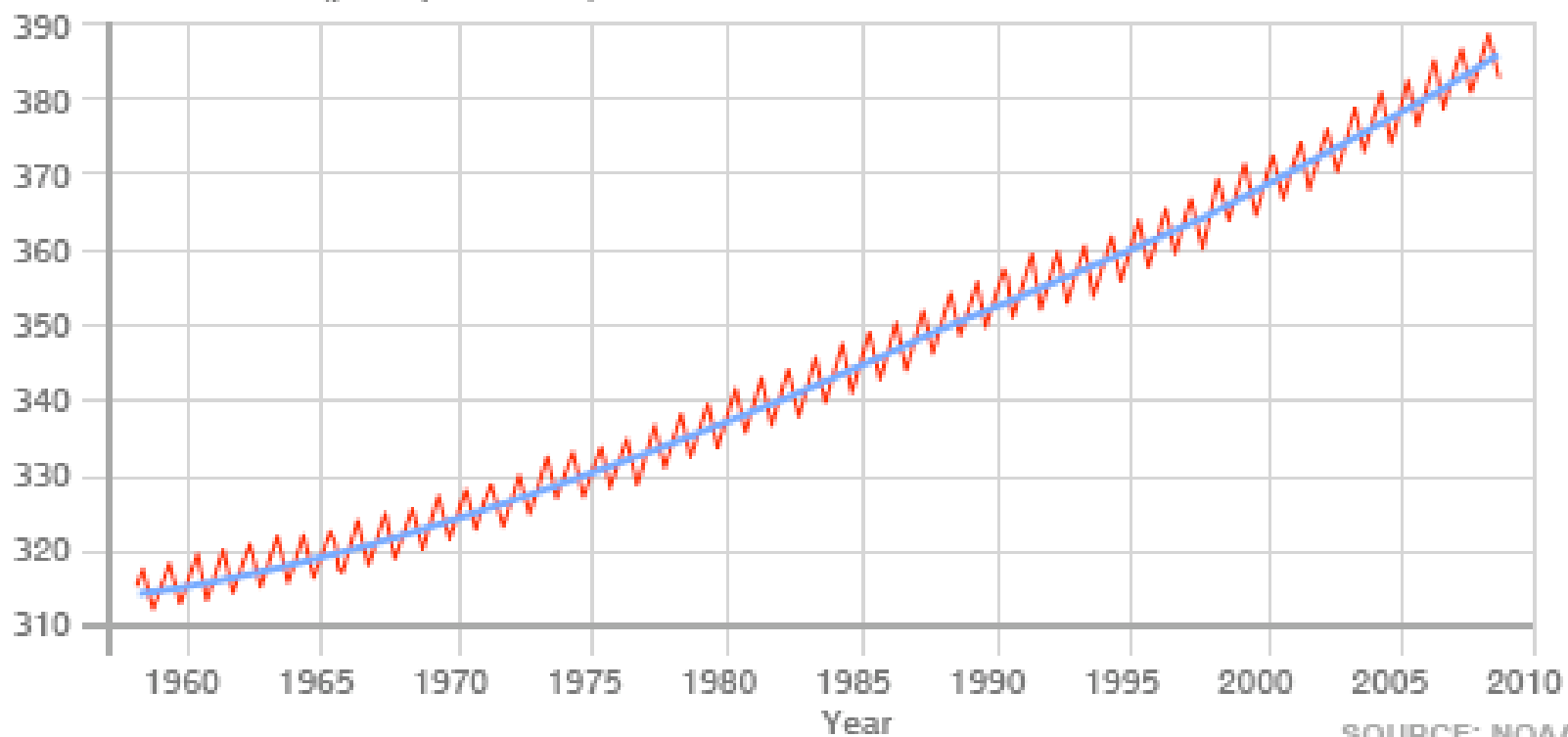
- New sedimentary patterns/“artificial land”
- Humanity as geomorphic agent
- Re-plumbing the planet!!
- Acidification of oceans
- Species loss/land use changes
- Now an urban species
- “Artificial Biomes”
- Rapidly changing atmosphere

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.

ATMOSPHERIC CO₂ AT MAUNA LOA OBSERVATORY

CO₂ concentration (parts per million)



SOURCE: NOAA

GLACIAL-INTERGLACIAL ICE CORE DATA

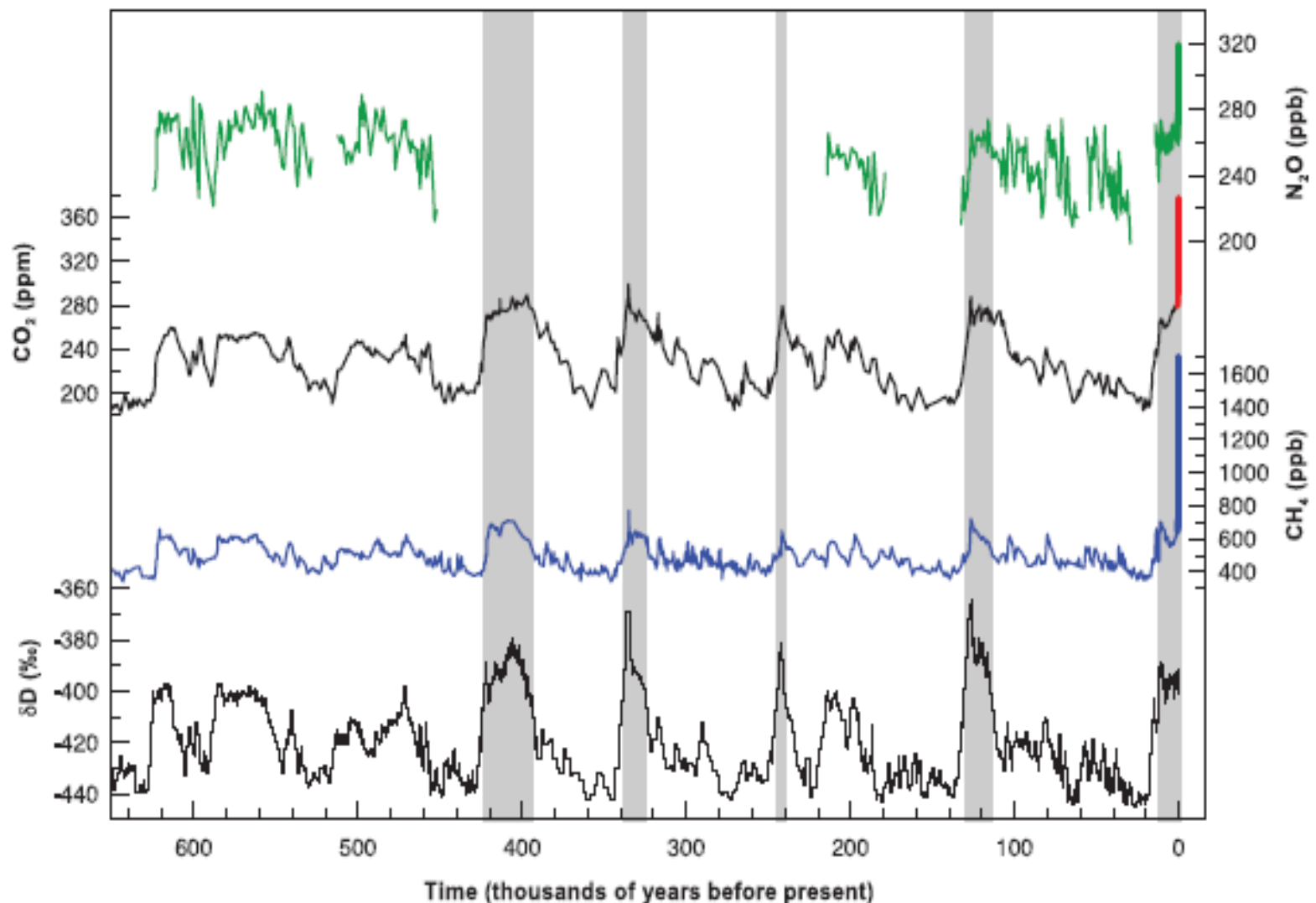


Figure TS.1. Variations of deuterium (δD) in antarctic ice, which is a proxy for local temperature, and the atmospheric concentrations of the greenhouse gases carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) in air trapped within the ice cores and from recent atmospheric measurements.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

Anthropocene Vulnerabilities?

Europe Christmas 2010



Climate Change?

- Warming Arctic
 - “Arctic Amplification”
- Polar ice missing
- Energy transfer
- Arctic lows
- Changing storm tracks
- Europe prepared?

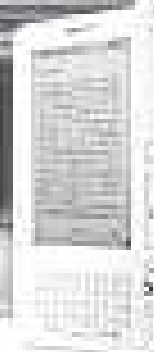
R

EDITED BY STEPHEN GRAHAM

DISRUPTED CITIES

When Infrastructure Fails

kindle edition



“Political Geoecology”

- From Geopolitics – to Geoecology
- Geography isn't destiny!

- Taking fate into our own hands
- New context – “Anthropocene”
- “Non-stationarity” the new normal

- “Second Copernican Revolution”
- What kind of nature are we making?

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