



An Introduction to Air Pollution

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According to World Health Organisation

4.2 Million Deaths

every year as a result of exposure to ambient air pollution (**outdoor**).

3.8 Million Deaths

every year as a result of household exposure to smoke from dirty cookstoves and fuels (**indoor**).



Nearly 800,000 people
die prematurely each
year in Europe because
of dirty air



@MumsForLungs

Sources of air pollution

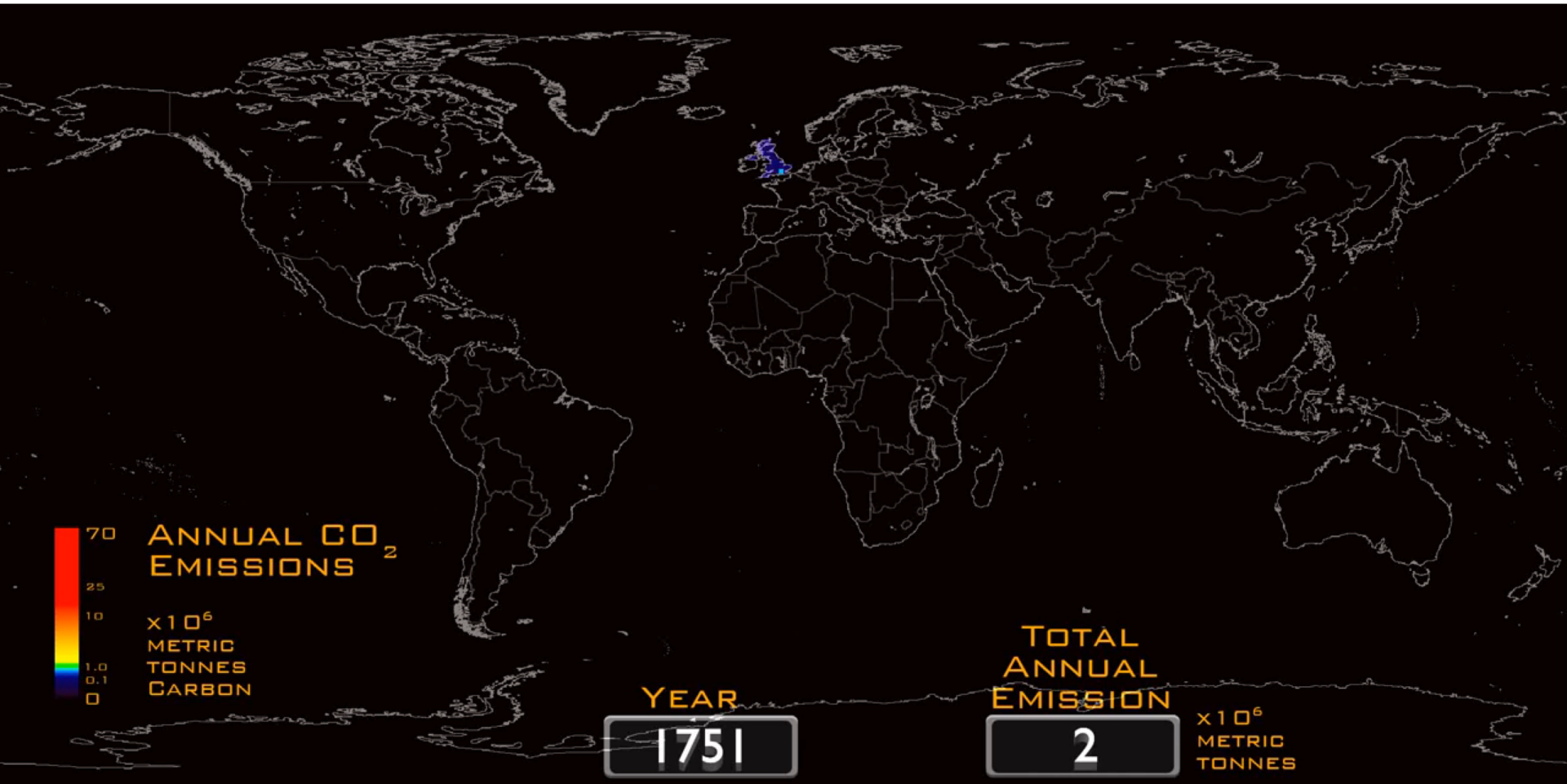




Great Smog of London (5 Dec 1952 – 9 Dec 1952)

Source: <https://www.history.com/news/the-killer-fog-that-blanketed-london-60-years-ago>

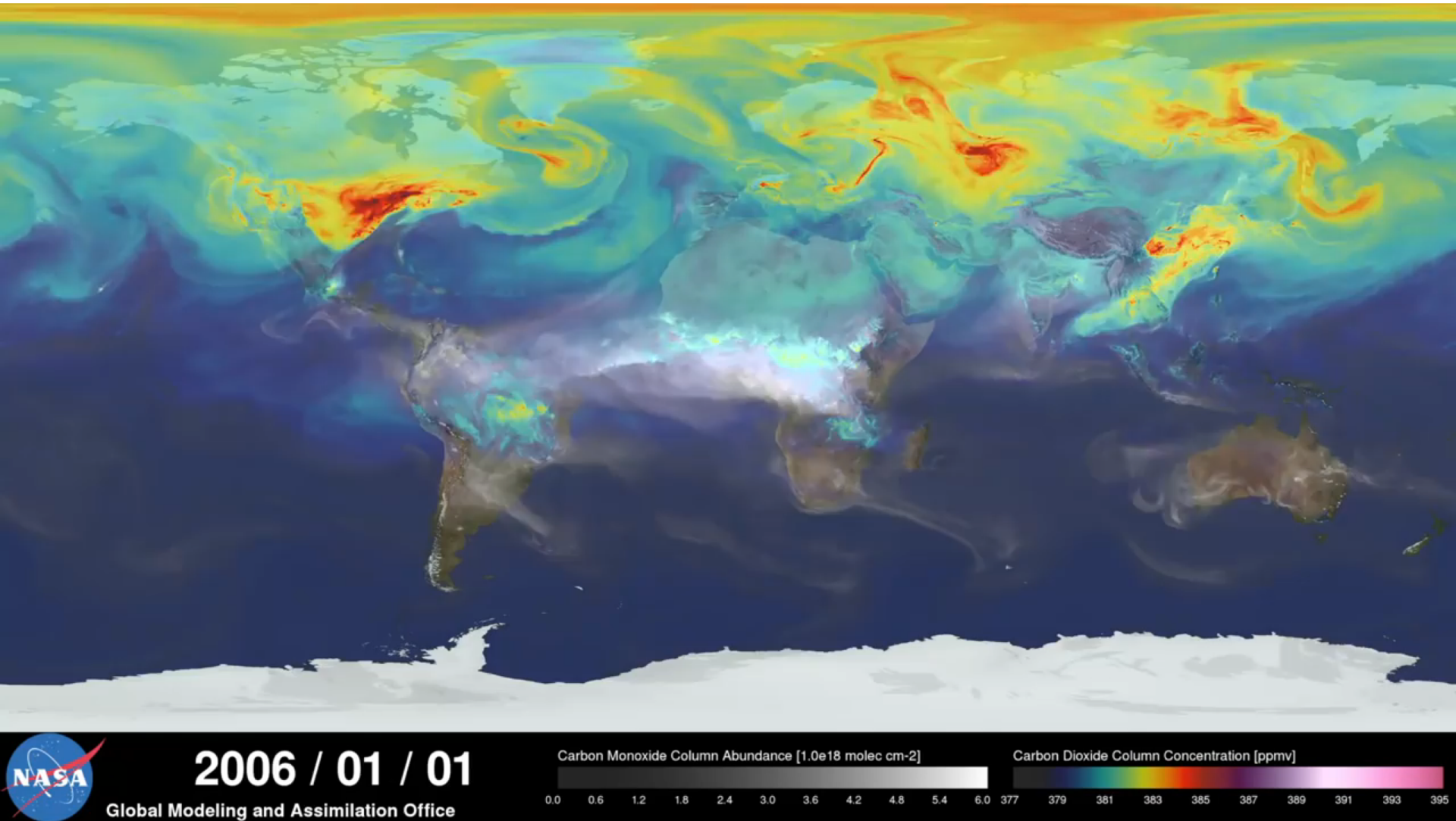
Industrial Revolution in 1750, Coal, Oil and Gas



Annual CO₂ emissions

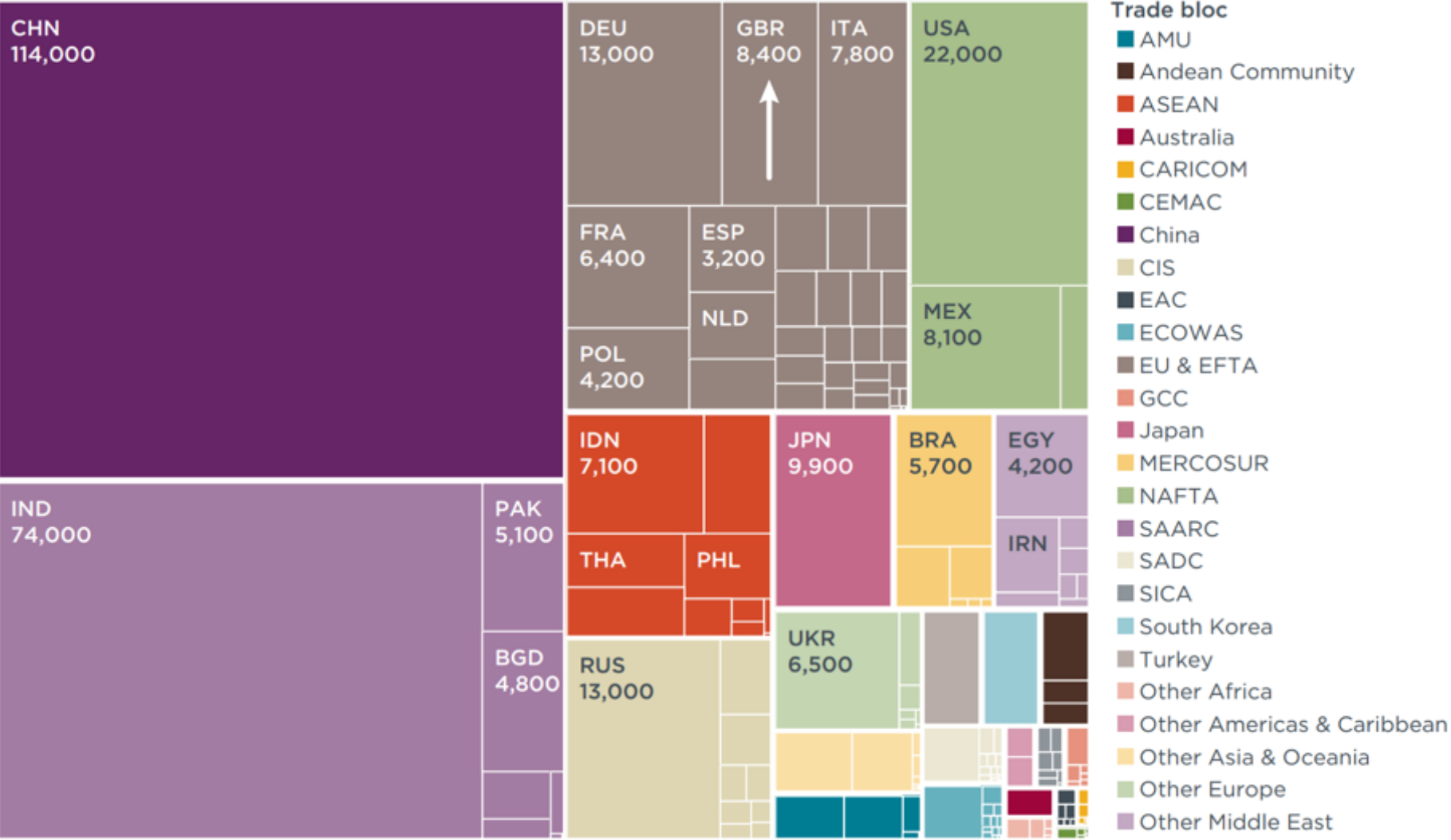
Source: Oak Ridge National Laboratory, TN, USA

CO₂ Emission



Green house gas emissions
Source: NASA

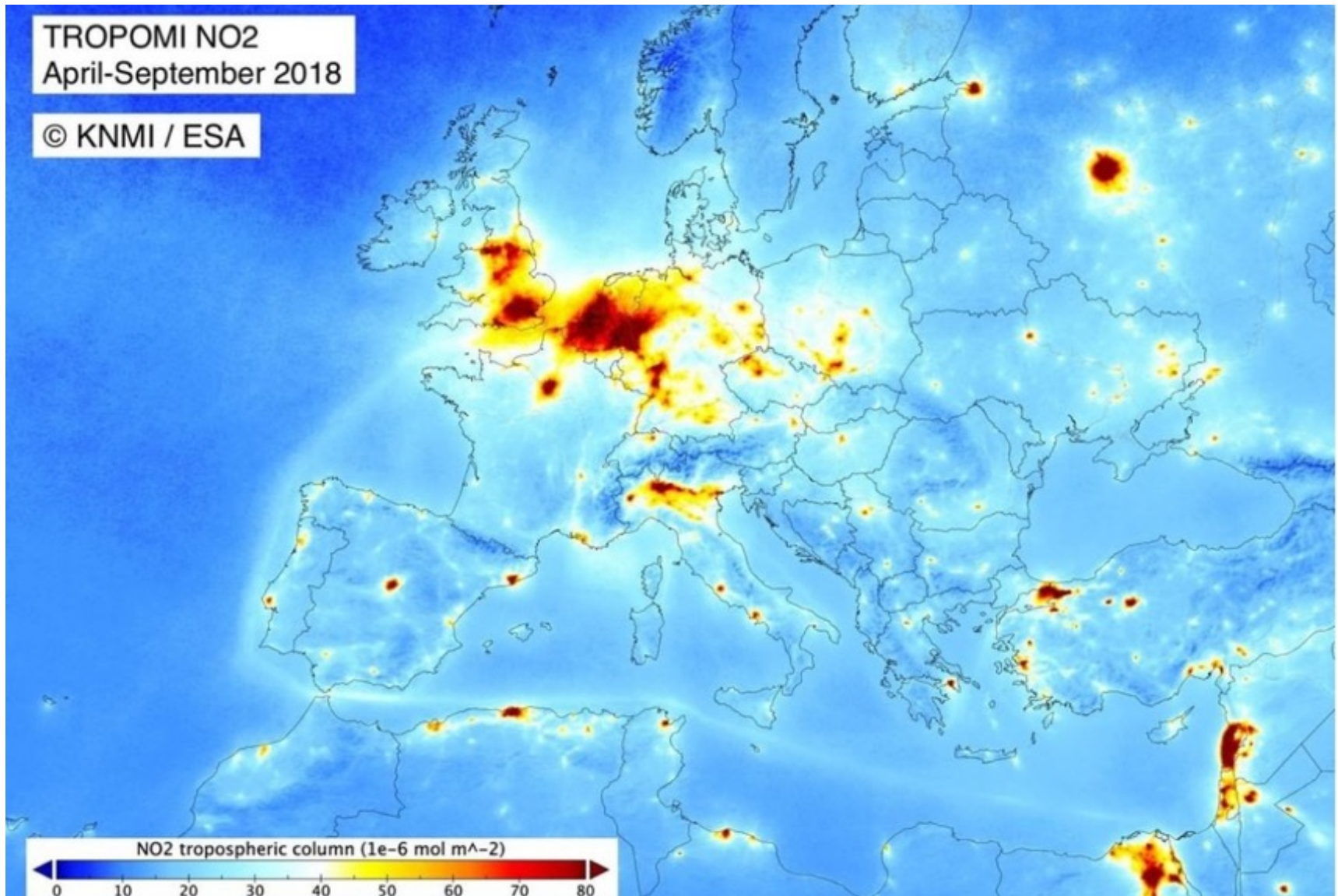
Pollution related mortality



National total PM2.5 and ozone mortality attributable to transportation emissions in 2015

Source: The International Council on Clean Transportation

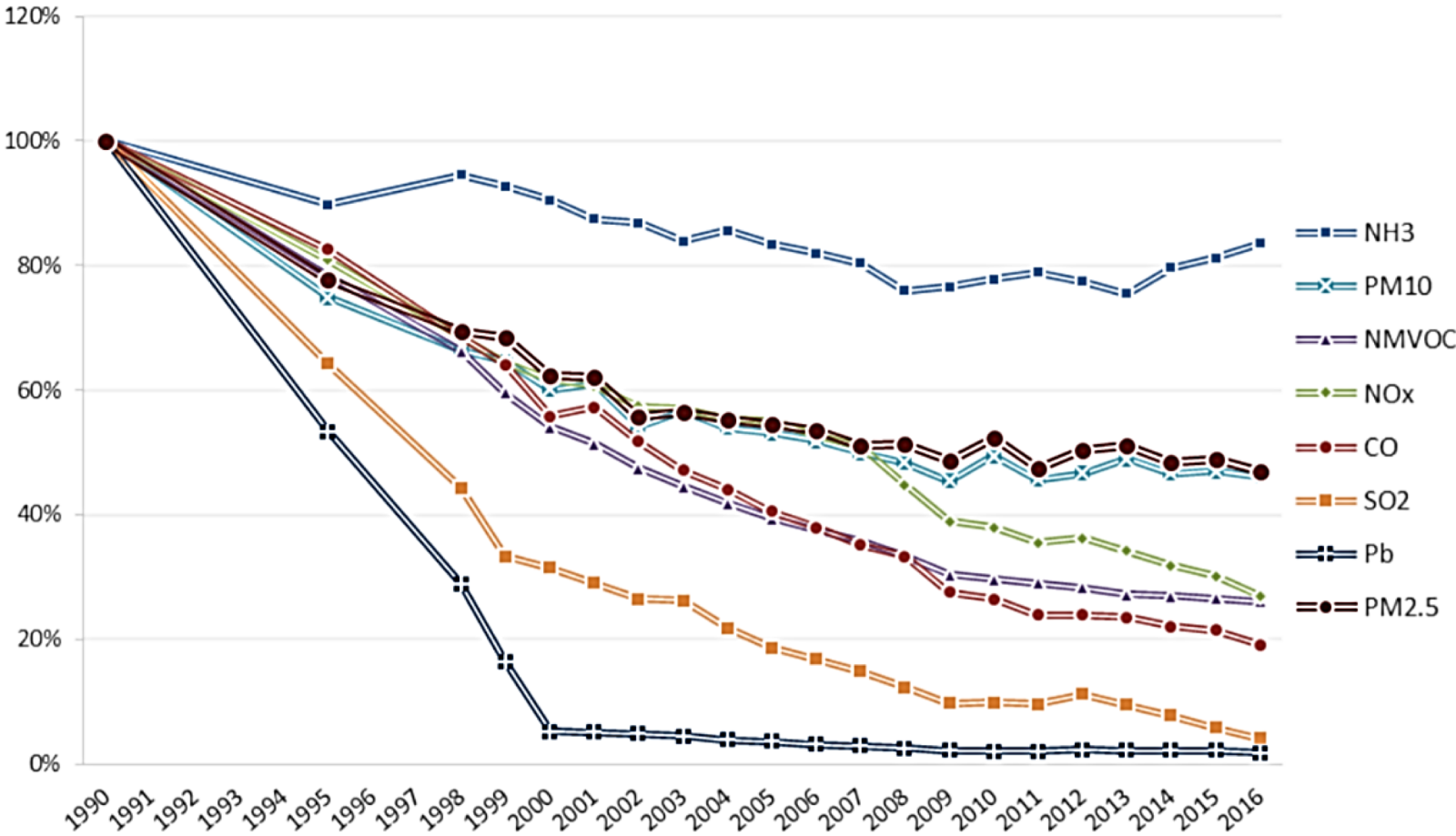
Pollution in Europe



NO2 levels over Europe April-September 2018

Source: https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1810160958_DA_Air_Pollutant_Inventories_1990-2016_Issue1.pdf

Pollution in England



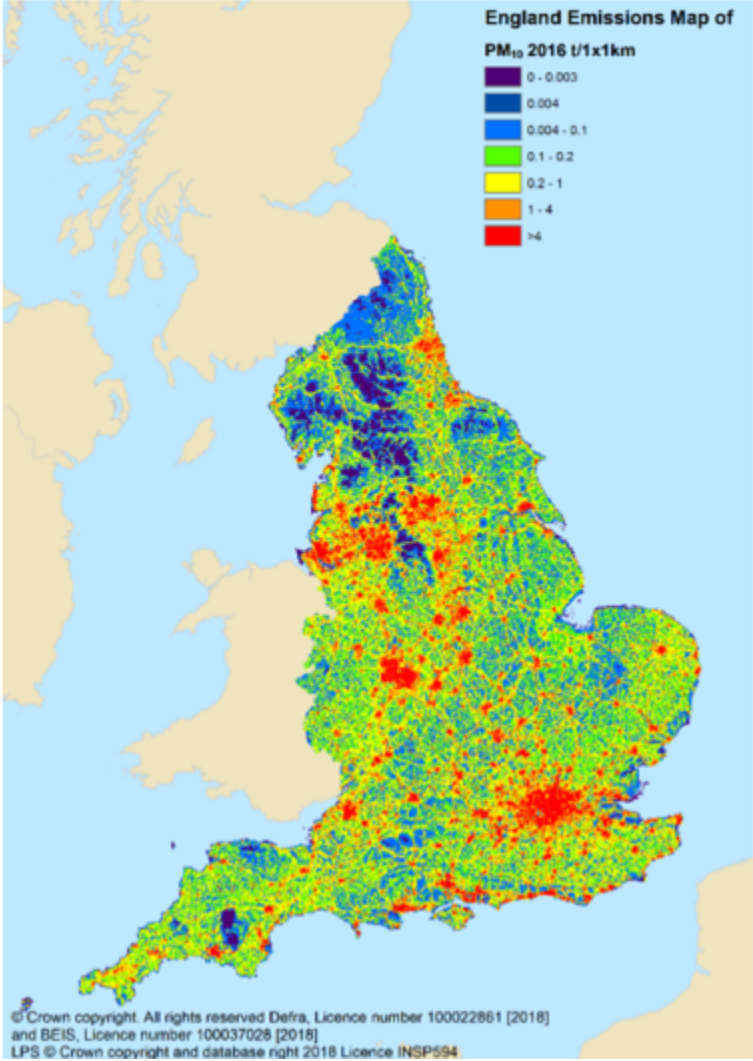
England normalised trends for all pollutants

Pollution in England



Map of all roads in UK

Source: Instagram of @amapaday



Particulate Matter (PM10) in England

Source: uk-air.defra.gov.uk/

Index of Living Environment Deprivation 2015

Figure 1: Manchester compared to other Core Cities, Living Environment Deprivation domain 2015

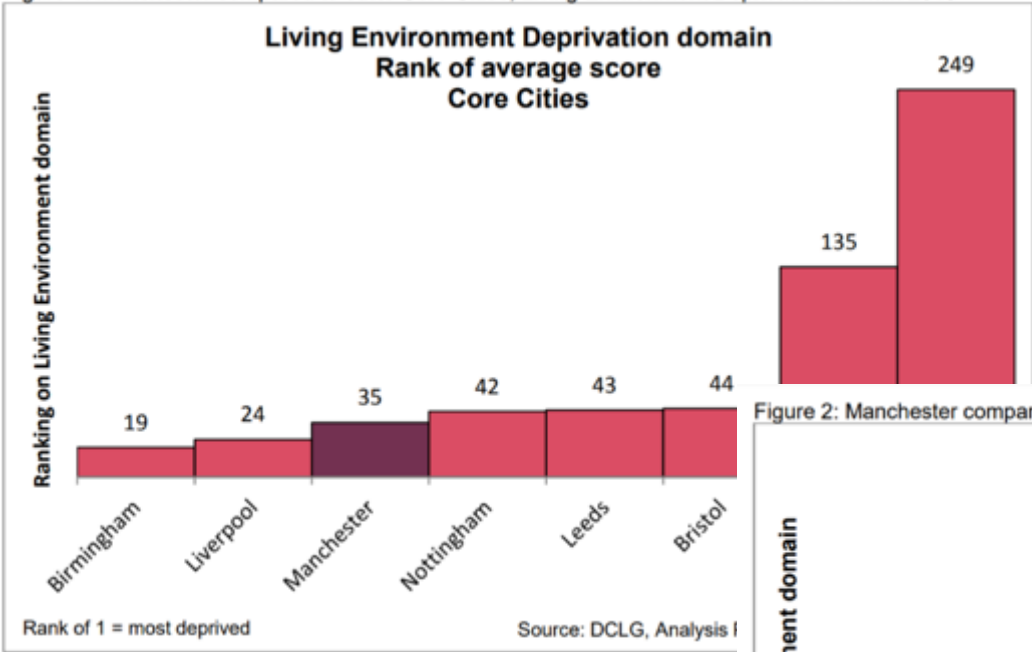
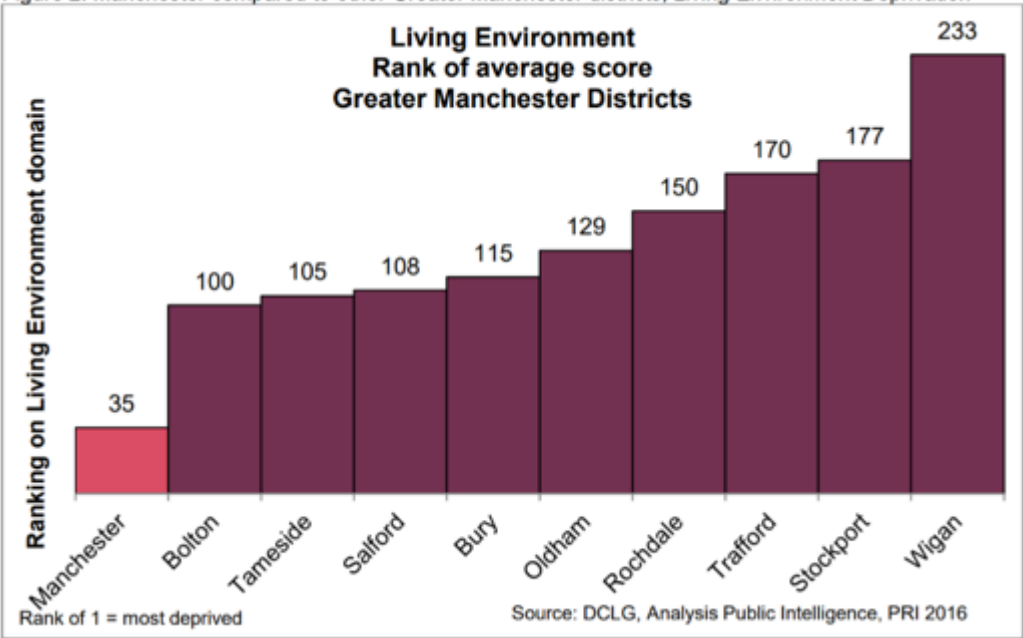
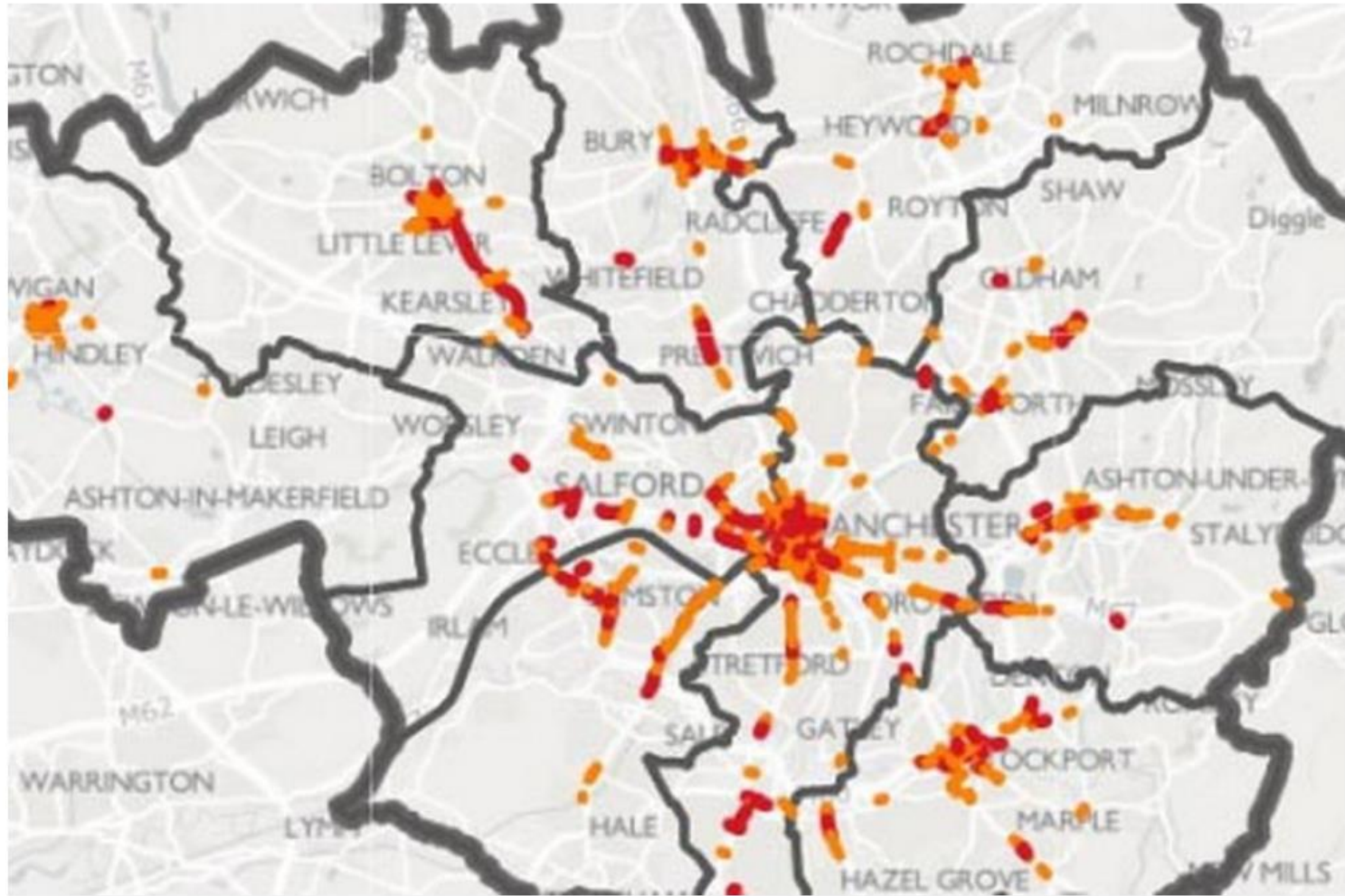


Figure 2: Manchester compared to other Greater Manchester districts, Living Environment Deprivation

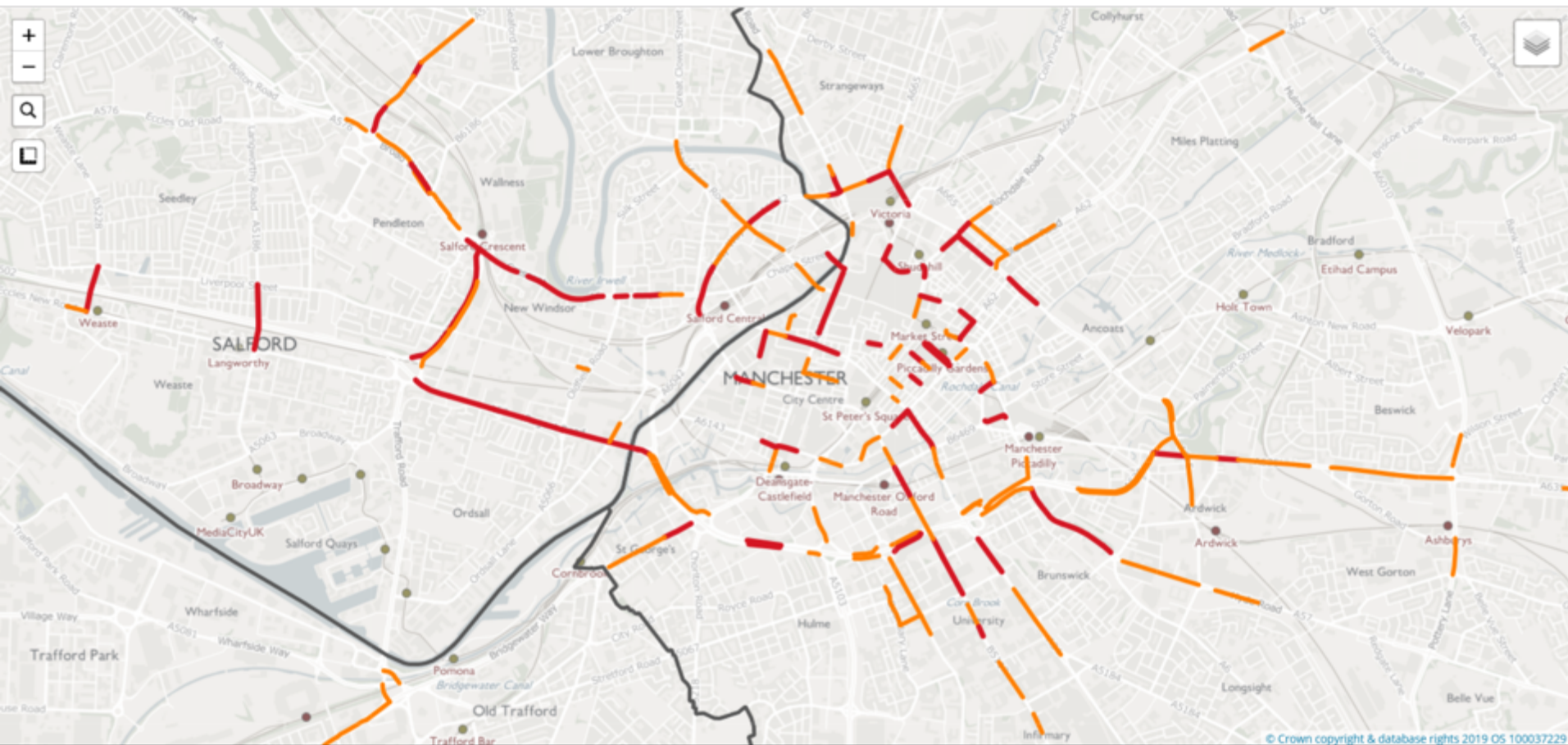


Pollution in Manchester from TfGM



Nitrogen dioxide is one of a raft of air pollutants considered 'silent killers', linked to 1,200 deaths a year in Greater Manchester.

Pollution in Manchester from TfGM



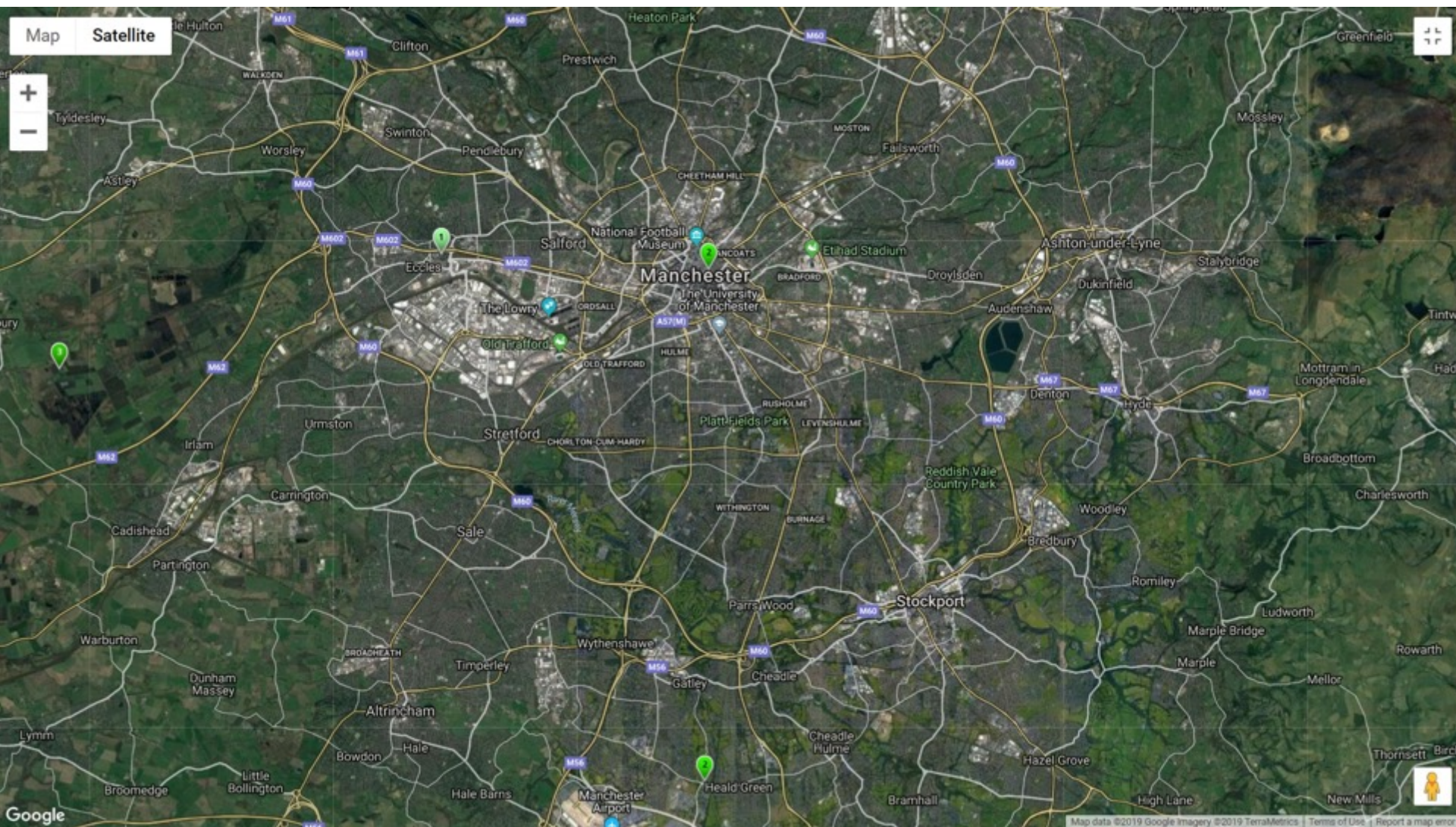
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Pollution Monitoring Networks



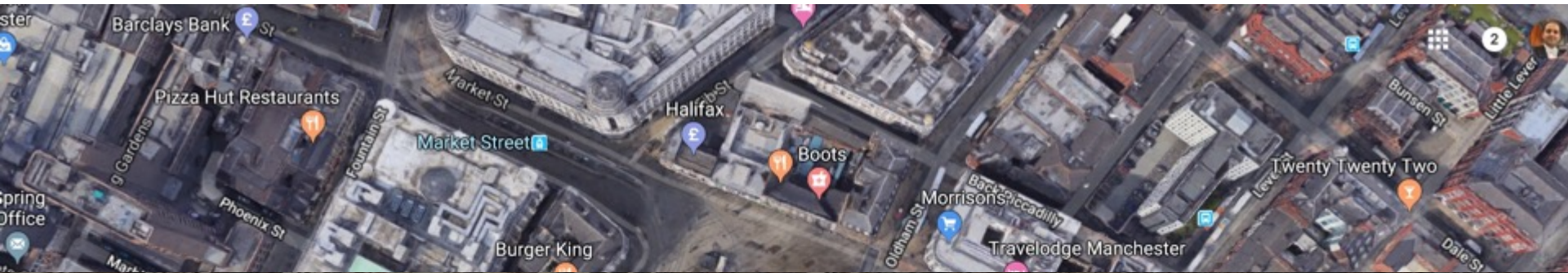
<https://uk-air.defra.gov.uk/interactive-map>

Pollution Monitoring Networks



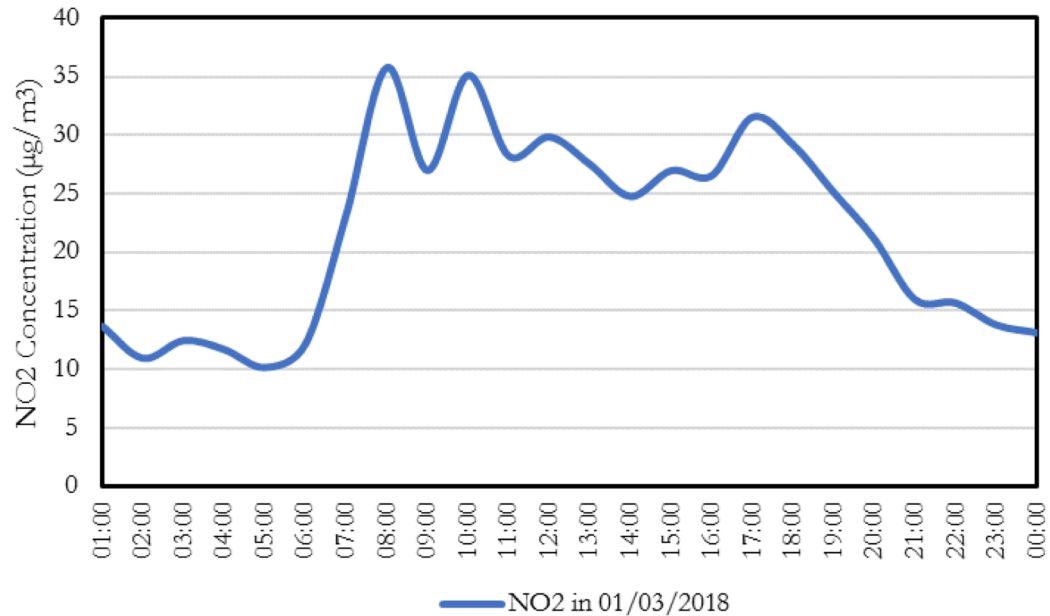
<https://uk-air.defra.gov.uk/interactive-map>

Pollution Monitoring Networks

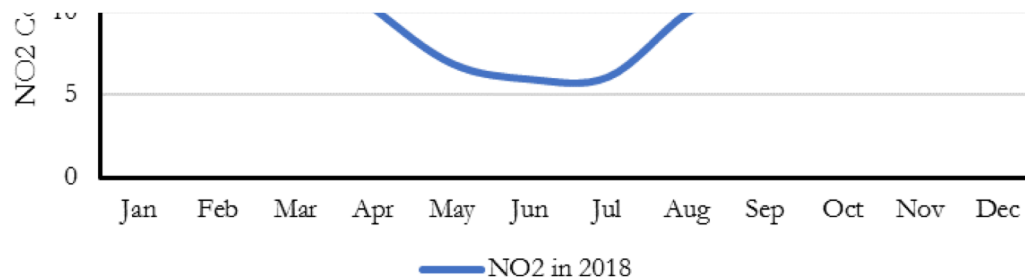


Air Pollution in Manchester

24 h



2018



What can we do?



Source: The Australian Cycling Promotion Foundation

What can we do?

GASOLINE-ONLY

Conventional cars run on gasoline and tend to be dirtier and more expensive to fuel than EVs.



PLUG-IN HYBRID ELECTRIC

Plug-in hybrids use both gasoline and electricity and can be recharged from an outlet.



BATTERY ELECTRIC

Battery electric vehicles run on electricity and are some of the cleanest and cheapest cars to drive.





Thank you

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