2024_78_SPH_GF: Air pollution data rescue - datasets for climate, health and policy

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The air pollution data rescue is inspired by the World Meteorological Organisation's projects that are recovering weather observations from ship logs to construct datasets for climate modelling.

The project will use a unique set of paper records that were donated to the King's College London library. These contain measurements of UK air pollution from 1916 to the start of modern datasets in the 1960s. The project will construct time series of air pollution metrics for different cities in the UK through careful assimilation of data and calibration information, and the reconstruction and testing of older mechanical air samplers.

The time series will then be used to examine how social and legal interventions changed the UK's 20th Century air pollution including miner's strikes and industrial unrest in the 1920s, the Second World War and the 1956 Clean Air Act.

The long-term exposure data and changing contrasts between cities will provide datasets for epidemiological studies. Data from the twentieth century will be reprocessed to provide metrics of atmospheric black carbon as a resource for climate modellers.