

Tracking Climate-Related Health Risks in England

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Department: Grantham Institute

Project Overview: As we navigate the era of climate change, the frequency and intensity of extreme weather events, such as heatwaves and floods, are on the rise. Climate change is also expected to lead to other extreme events, including infectious disease outbreaks and disruptions in food availability and quality, all of which can significantly impact health. Understanding the health impacts of these events is essential for understanding the impacts of these events, generating new hypotheses, and informing policymakers on effective mitigation strategies.

However, it presents several challenges: estimates can be hard to validate and often depend on strong assumptions about causality, at-risk groups, and community adaptation. It is also important to disentangle the effects of past human activities from the observed health impacts. This requires climate attribution analysis to determine the additional health burdens caused by human-induced climate change. Currently, there is no framework in place in England to provide this information.

Focusing on England, this project aims to use Bayesian spatiotemporal models to:

- Develop an algorithm for dynamic health surveillance that operates in quasi-real time to estimate the health burden of extreme weather events.
- Analyse the relationship between health and extreme weather events while considering spatiotemporal vulnerabilities.
- Assess the impact of human-induced climate change on mortality and hospital admissions in England.

This project will be hosted at the Grantham Institute for Climate Change and the Environment and the MRC Centre for Environment and Health. The project will employ novel statistical methodologies to tackle a pressing timely problem. The student will get trained in biostatistics, epidemiology, and climate science. The student will be expected to attend national and international conferences and publish their research.

Successful students will have a background in mathematics, statistics, biostatistics, or relevant field, and have a strong interest in climate science and epidemiology.

To apply:

Please email g.konstantinoudis@imperial.ac.uk and include in your application:

- Statement of Purpose
- Your CV

At least two references to be sent directly to Dr Konstantinoudis from the referees