

Bluesky National Tree Map to Help Hay Fever Sufferers



By shedding light on the way pollen travels through our atmosphere, a ground-breaking new environmental dataset is helping scientists improve the lives of hay fever sufferers. Created from high-resolution aerial photography and colour infrared data, the National Tree Map database details more than 280 million trees covering around 20,000 square kilometres, and has been painstakingly produced by aerial mapping company, Bluesky.

In a novel research initiative, experts at the Met Office and University of Exeter Medical School have partnered with Bluesky to develop the most detailed, species-specific maps of allergenic pollen ever produced. This information will then be combined with detailed models of how pollen is likely to move and behave in the atmosphere. It will allow researchers to assess the links between pollen exposure and allergic diseases such as asthma, as well as examine other potential health implications, including links to pre-term births, strokes and mental health issues.

Dr Rachel McInnes, Senior Climate Scientist at the Met Office Hadley Centre, commented, "Different types of pollen are released from different plants and trees at different times of the year. These can trigger hay fever and other allergies that can have a serious impact on the health and wellbeing of sufferers. By understanding where and when allergens are produced and how they are affected by weather and climate, we can gain a better understanding of their impact on health and provide more accurate and detailed forecasts.

"The Bluesky National Tree Map data is particularly useful as it provides detail of trees in urban environments, small wooded areas and hedgerows that our existing forest datasets do not cover," she continued, "and will help make the resulting pollen maps more accurate in these areas."

Using a tested methodology, scientists at the Met Office Hadley Centre will use Bluesky's National Tree Map data alongside other land use maps, vegetation and species datasets. The project will not only consider the actual location of where the pollen is produced, but will also look at when it is produced and how and where it is likely travel, taking into account species characteristics and climatological impacts.

Dr Nick Osborne at the University of Exeter Medical School said, "This kind of data can help us understand and plan for periods likely to affect those with allergies. We're hoping that by joining all of this information up we might one day be able to provide forecasts that not only help individuals, but also allow us to target our healthcare more effectively."

Dr Sari Kovats, lead of the Health Protection Research Unit in Environmental Change and Health at the London School of Hygiene & Tropical Medicine, added, "This project is part of a series of work we are coordinating looking at how our health is affected by various aspects of the natural environment. These projects will provide high-quality scientific evidence to support UK public health policies relating to environmental change, particularly climate change and land use change, that we know are already influencing pollen exposures in the UK."