Bluesky Tree Map Helps Identify Diseases in UK Trees

Bluesky, creator of the National Tree Map, is working with researchers at the University of Leicester, UK, to investigate the use of airborne mapping systems to identify diseases in trees. The health of UK forestry has been in the news for many years with Sudden Oak Death, Dutch Elm and more recently Ash Die Back and Red Band Needle Drop all generating headlines.

Funded by the Natural Environment Research Council (NERC) and supported by Forest Research, the study will investigate the use of aerial photography, thermal imaging and airborne laser mapping systems to improve the identification of diseases, determine the accuracy of identification and inform responses to disease outbreaks.

James Eddy, technical director and industrial associate at the University of Leicester, commented that this project will place the UK at the forefront of research into the devastating effects of disease on a most valuable but declining natural resource. It enables the development of new applications and solutions for deployment around the world.

Remote sensing

The research project will be led by professor Heiko Balzter who has over 17 years' experience in remote sensing and ecological modelling. Professor Balzter, holder of the Royal Society Wolfson Research Merit Award, is director of the Centre for Landscape and Climate research at the University of Leicester. He stated that remote sensing offers new approaches for the rapid large area mapping of tree disease outbreaks. By working with Bluesky, in partnership with Forest Research, it is possible to use a state-of-the-art aerial mapping system to collect data for already infected trees and compare that with data for healthy sites nearby and historic, pre-diseased, baseline data.

New insights

It is hoped that the impact of this research will help protect the British landscape. Forest Research will benefit by gaining new insights into the patterns and effects (epidemiology) of disease-producing pests and microorganisms (pathogens) allowing faster response times to outbreaks. It is anticipated it will also allow for the more effective containment of infections preventing the spread of disease between forested areas. Dr Juan Suarez, project leader remote sensing applications at Forest Research and co-supervisor on the project said by spatially recording the levels of stress in different parts of a forest, field inspections can be targeted more effectively, thus potentially catching outbreaks before they spread.

Local authorities, utility companies and transport operators are all predicted to gain benefit through the early identification and targeted felling of potential unsafe trees. The general public will also benefit from increased protection against invasive plant pathogens and the safeguarding of the UK's biodiversity.

The research project is funded by NERC through the Industrial CASE Studentship programme. CASE (Collaborative Awards in Science and Engineering) studentships provide doctoral students with a first-rate, challenging research training experience, within the context of a mutually beneficial research collaboration between academic and partner organisations in the private, public and civil sectors.

https://www.gim-international.com/content/news/bluesky-tree-map-helps-identify-diseases-in-uk-trees