

The background of the slide is a low-angle photograph of a large, mature tree with a thick trunk and a dense canopy of bright green leaves. Sunlight filters through the foliage, creating a bright, starburst effect in the center-left area.

The National Tree Map

Ralph Coleman, Sales Director →



About Bluesky

- A leading UK aerial survey and geospatial data company
- Privately owned
- Established in 2003
- 100 staff across 4 locations (UK, Ireland, India and the US)
- We work across a diverse range of market sectors producing and maintaining seamless digital aerial photography and height data on a national scale for both GB and Rep. of Ireland
- Proud history serving the public sector at central and local level
- Accurate, high quality off the shelf data and bespoke projects
- Home of innovative products including The National Tree Map and MetroVista

National Tree Map – Why?

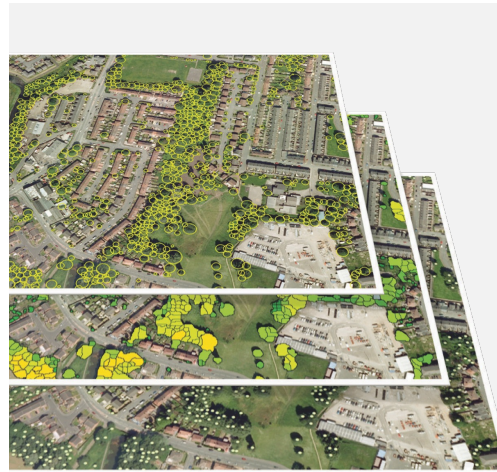
A unique comprehensive database locating trees 3m and over in height. Providing geographic location, height and canopy cover measurement.

What is the National Tree Map

A unique dataset, launched in 2011, that captures the location, height (trees taller than 3m) and canopy cover.

Created by Bluesky using a specially developed algorithm taking our high-resolution aerial photography, accurate terrain and surface data and colour infrared imagery.

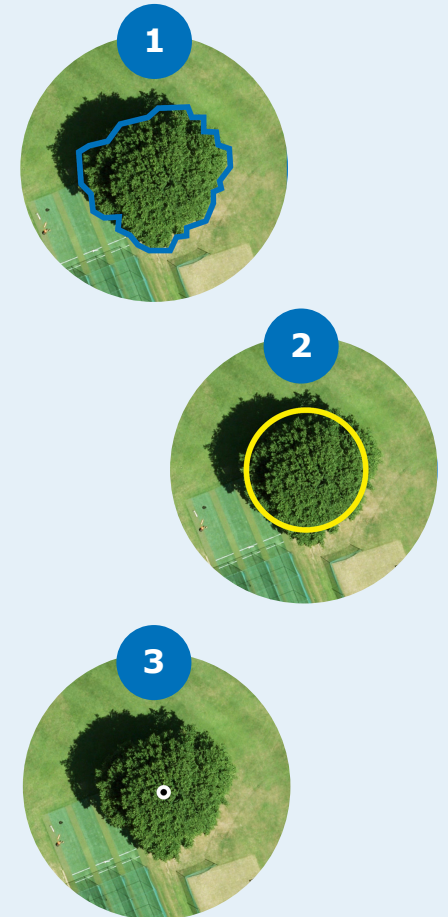
Updated on a cyclic rota based on our three year-rolling flying programme ensuring it remains the most detailed, comprehensive and up-to-date national tree map commercially available.



We use innovative processing techniques ↑

SPECIFICATION

- Trees 3m and over in height
- Measurements of location, height and canopy spread
- Idealised crowns
- Detailed crowns
- Height points
- Created using five key datasets
- OSGB Projection
- Vector format – ESRI .shp as standard



Challenges faced

- The way we presented NTM to the Market
- Keeping the data current
- Changing methodologies
- Processing/output challenges that we've had to overcome
- Delivery methods



Shadow

The use of NTM

- Forestry
- Land and estate management
- Agriculture
- Utilities
- Environmental planning
- Environmental consultancies
- Government and local authorities
- Academia
- Risk insurance

50%

of NTM licencees are using it to mitigate risk but we believe there is a much bigger role NTM can play

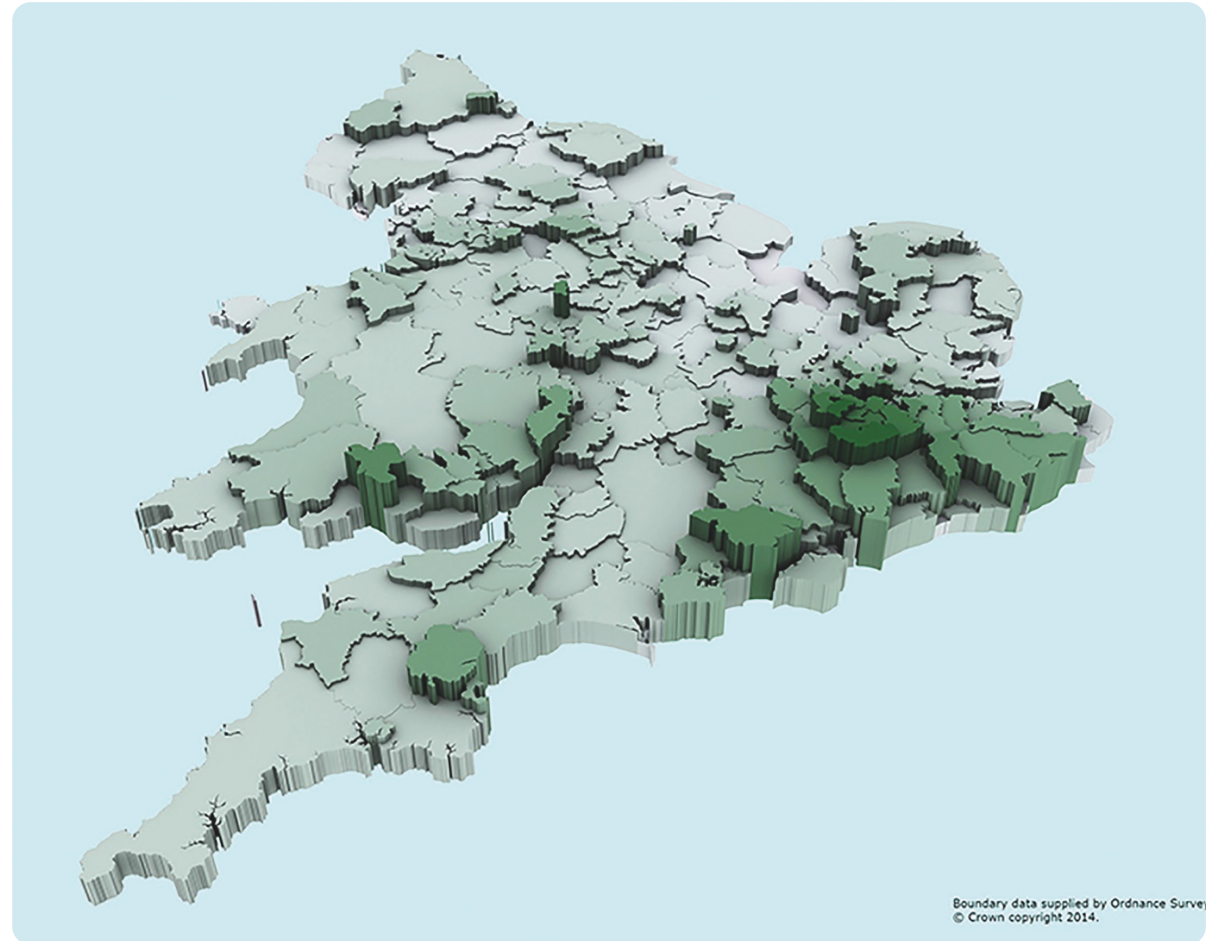


NTM data can support analysis, decision and policy making, offering an insight to risk mitigation



The use of NTM

- Canopy cover stats have featured heavily in use cases
- Interest from the national press
- Collaborations with other organisations working with government at all levels



Trees now a key news agenda item

The Telegraph

How to protect our natural environment

Tree-planting will treble by May 2024 as the Government seeks to create new woodlands to capture more carbon from the atmosphere.

Overall, the UK has a target of increasing planting rates to 30,000 hectares each year by the end of this Parliament. Last year around 2,200 hectares of trees were planted in England, according to Forestry Commission figures.

Biden Aims to Protect the Nation's Old Trees to Help with Carbon Removal

The president is issuing an executive order requiring the federal government to catalog the nation's biggest trees

Ireland falling far short of tree planting targets, CSO report finds

Failure to plant enough trees places State in 'serious hole' over meeting carbon targets

NTM: Supporting the fight against climate change

- Monitor existing coverage
- Three year rolling programme will give a benchmark of now vs progress made over coming years
- Understanding canopy coverage means carbon absorption calculations are more accurate
- Identify most suitable locations for tree planting
- Increase levels of biodiversity



NTM customer case studies

There is nothing better than seeing Bluesky's datasets being adopted by customers in increasingly more innovative ways. Tackling climate change has led to some of the most exciting applications yet!





Treeconomics

WHO

Treeconomics and London Borough of Islington.

PROJECT

An urban forest canopy cover, mapping the borough.

NTM DATA

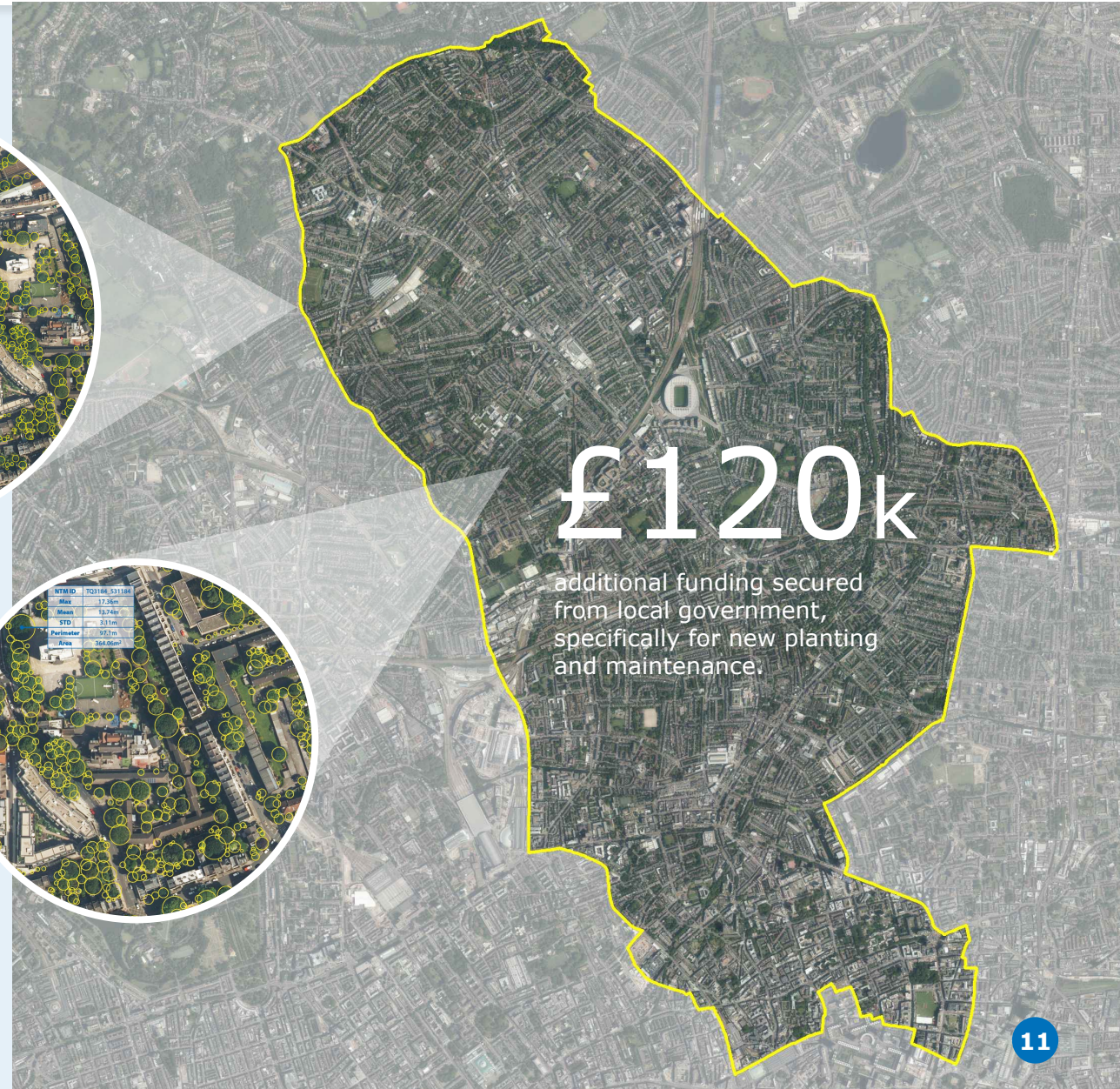
Used to report on relationship between tree cover and environmental factors such as flooding, air pollution plus socio-economic factors.

OPPORTUNITIES

- Tree planting opportunity map created
- Future canopy cover modelled



| | |
|-----------|----------------------|
| NTM ID | TQ3186 531104 |
| Min | 17.24m |
| Mean | 19.24m |
| STD | 2.01m |
| Perimeter | 92.1m |
| Area | 236.65m ² |



£120k

additional funding secured from local government, specifically for new planting and maintenance.



The Bluesky National Tree Map™ has enabled and assisted conversations about current and future tree cover. It allows us to visualise the urban environment to include the urban forest from the desktop and make data driven decisions that will inform future policies and budgets. It also allows us to measure and report on progress over the next few years.

Eoin Dullea

Horticulturist at Waterford City and County Council



Waterford

WHO

Waterford City and County Council.

PROJECT

Used NTM to benchmark current tree cover in the city and assess suitable sites for tree planting.

NTM DATA

Used to inform:

- decisions as it moves to meeting decarbonisation targets
- policy, budgets and actionable climate change and green initiatives
- allow and enable measurement of progress



White Rose Forest

WHO

The White Rose Forest is the community forest for North and West Yorkshire.

PROJECT

To create an accurate report of tree carbon capture.

NTM DATA

NTM was the only dataset that was able to provide an accurate account of tree canopy cover. Other datasets only capture sites over half a hectare.

When all tree cover was calculated, it showed carbon capture figures were higher than previously thought. Eg in York it was 60% higher.

OPPORTUNITIES



Data has provided a clear indication of where new tree planting sites need to be located



Using the National Tree Map data we could see how much coverage we were missing compared to when we just looked at the national forest inventory. There is absolutely no way we could have this level of detail without the NTM as it has allowed us to drill down to individual trees.

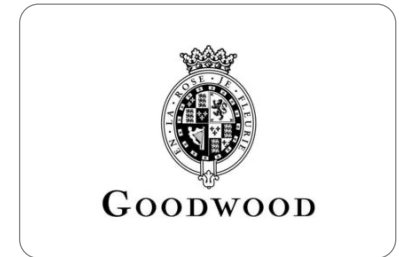
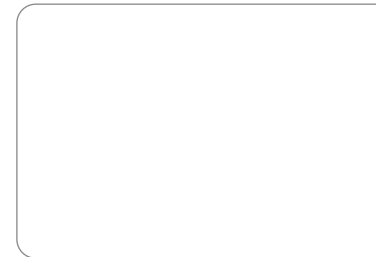
Dr Cat Scott

University of Leeds



Natural Capital Research

- Research and data-science organisation
- Natural capital and biodiversity baselines, monitoring and enhancement opportunities
- Large range of clients in the UK and globally



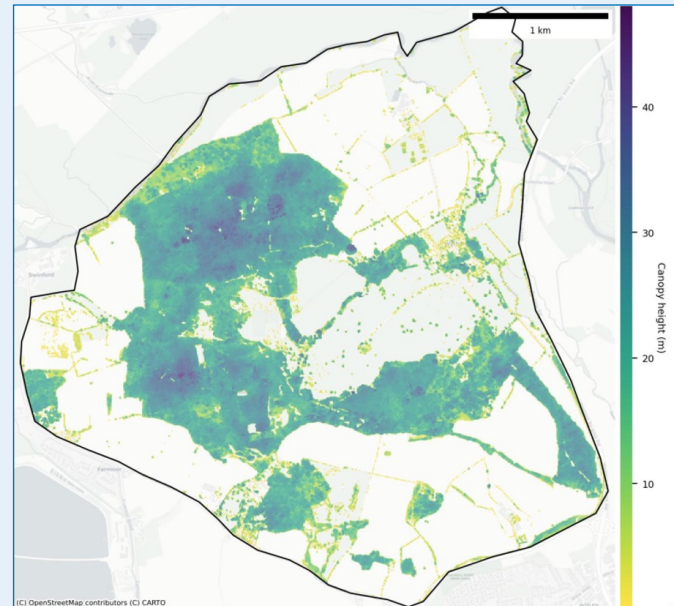
NATCAP MAP tool for unparalleled natural capital baselines

Example site:
Wytham Woods,
Oxfordshire

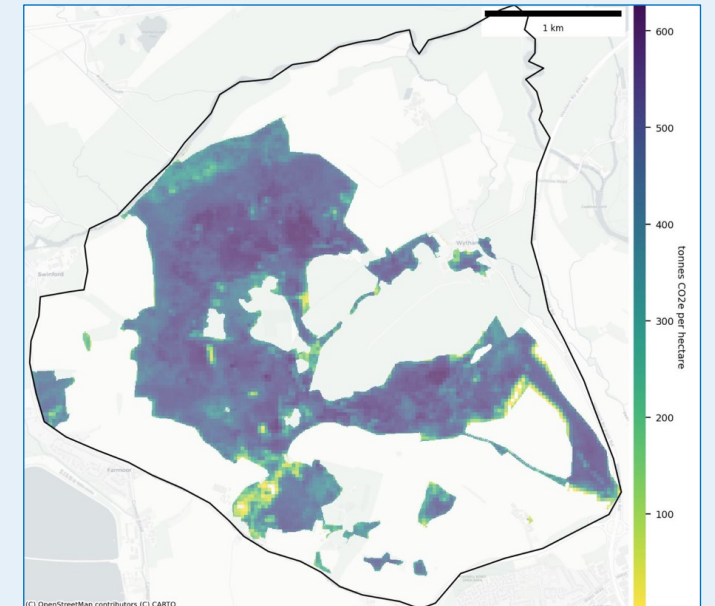
Example study site ↓



Canopy height derived from
National Tree Map (Bluesky Ltd.) ↓

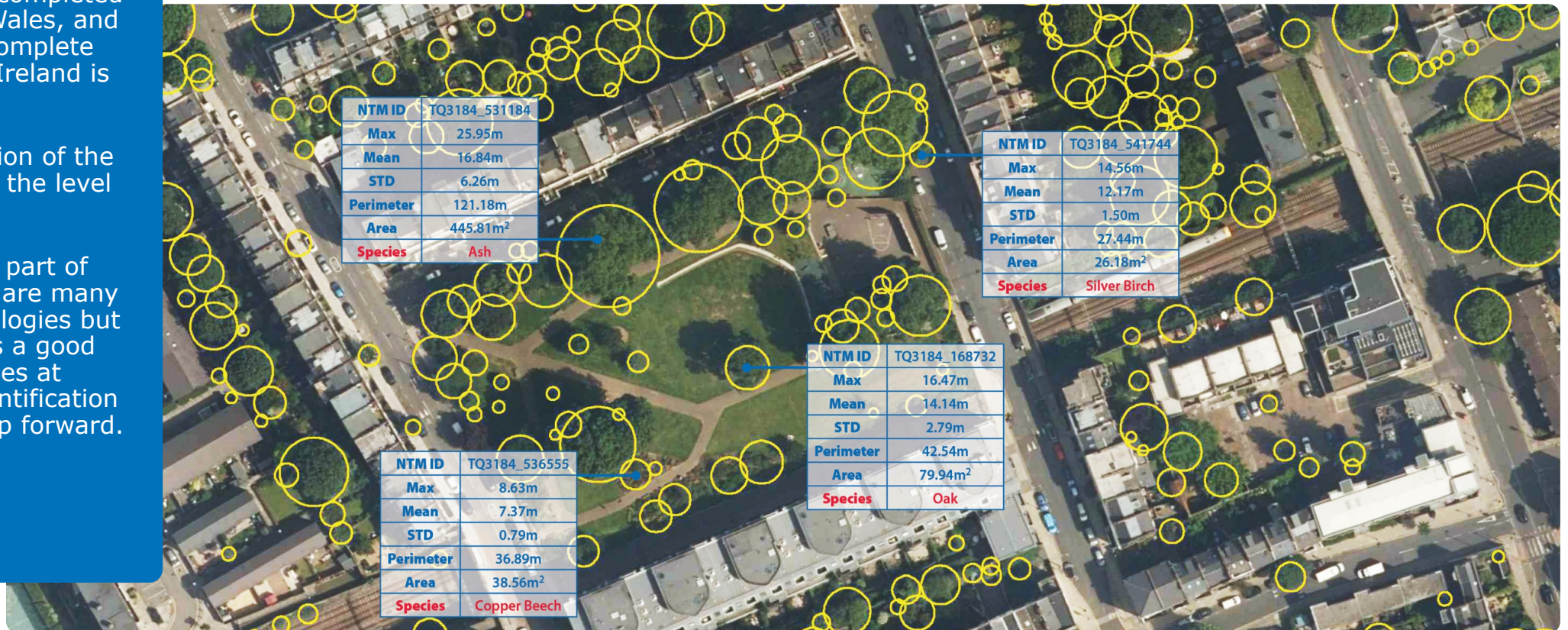


Carbon storage in woodlands (NCR) ↓



What's next for the NTM

- V2 has just been completed for England and Wales, and Scotland will be complete soon. Epoch 1 of Ireland is already available
- Continuing evolution of the process to reduce the level of manual Q/A
- Species are a key part of the puzzle. There are many different methodologies but nothing that gives a good indication of species at scale. Species identification will be a huge step forward.





Conclusion: the importance of trees

We expect to continue to engage with national and global organisations to map trees and vegetation and how it plays into the broader agenda of carbon reduction.

Significant amounts of research taking place in the academic sector much of it fueled by external funding and partnerships.

We believe NTM to be a unique dataset in the UK and Ireland that is ready to be taken to the next level. So watch this space!