Case Study

Tree carbon capture figures are accurately recorded thanks to Bluesky's National Tree Map™

Client:

The White Rose Forest is the community forest for North and West Yorkshire, working in partnership with local authorities, landowners, businesses, and communities to increase woodland across the region. They are planting millions of trees in urban centres and the countryside to help manage flood risk, mitigate the impact of climate change, create jobs, and provide happier and healthier places to live, work and enjoy.

Industry:

Research

Product:

National Tree Map™

> *"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 from the University of Leeds

Summary:

The United Bank of Carbon (UBoC), supported by a team at the University of Leeds with funding from the White Rose Forest, has launched a project to provide an accurate report of tree carbon capture. Bluesky's National Tree Map (NTM) captures all tree canopy coverage in England, Wales, Scotland, and the Republic of Ireland for trees 3m and over. Using this advanced dataset was an enabler for accurate carbon capture data to be recorded.

Challenge:

Initially, the team used data from the National Forest Inventory to calculate tree carbon capture figures. However, the extent of data available was limited to the canopy area of forests, woodlands, and groups of trees over half a hectare. The results led to inaccurate readings, as individual trees or smaller groups of trees were excluded from final calculation. Research of this kind is dependent on using cost-effective and time efficient methods so to have people on site, manually surveying each tree was not an option.

Solution:

The project team turned to data from Bluesky's National Tree Map, a unique and comprehensive dataset that covers the whole region. The team were able to analyse the data sent directly from Bluesky to their desktops that included canopy cover from individual as well as small groups or lines of trees taller than 3m.

Results:

The project has delivered interesting results, highlighting a significant difference in the carbon capture data when individual or small groups of trees are added into the mix. For example, in York, the carbon capture figure by trees was 60% higher than previously thought. Overall, the findings show that approximately 40% of the existing tree canopy in the White Rose Forest region is made up of trees in groups of less than half a hectare. This has led to accurate data now being recorded with a clear indication of areas where canopy cover needs to be improved.

The project report was published at the end of 2021 and is now accessible to all local authorities in the North and West Yorkshire regions. It can be **downloaded here**.

Specification	
Layers	1. Canopy Polygons (Vector Polygon) - Representing individual trees or closely-grouped tree crowns 2. Idealised Crowns (Vector Polygon) - Crown polygons visualised as circles for ease of use 3. Height points (Vector Point) - Detailing the centre point and height of each canopy feature
Coverage	England, Wales & Scotland
Accuracy Z	± 1m rmse
Classification Criteria	Trees over 3m in height
Formats	Include: ESRI Shape & MapInfo, Geodatabase, DWG, KMZ
Standard Projection	British National Grid

Get in touch today at **info@bluesky-world.com**