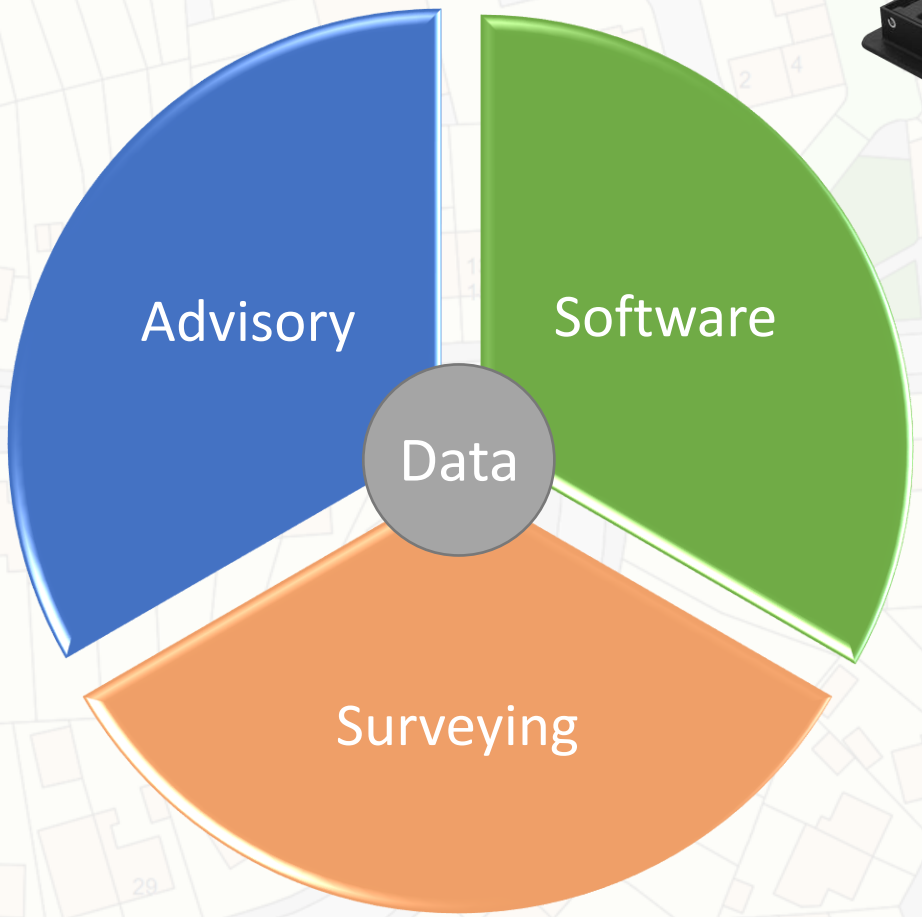
Active Tree Management

For those that don’t know us



Joining Data, Research and Technology to Transform Tree Management

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Kew

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The work RBG Kew are doing

Using climate models to understand effects on species in the UK and identify those with the greatest chance of survival over the next 50 years

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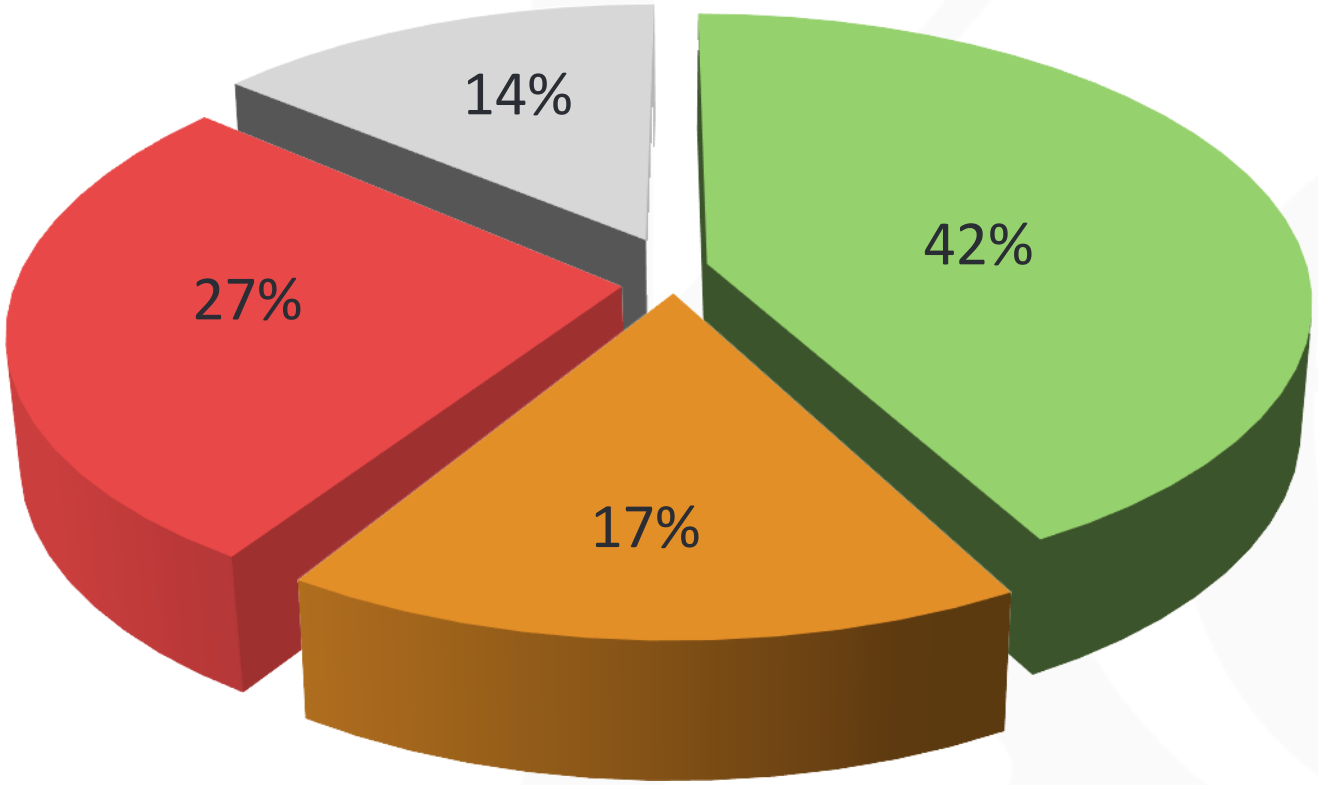
Climate assessment of Local Authority tree collection



Natural range
Species that will comfortably survive or thrive though the changing climate

Edge of range
Those that need higher amounts of precipitation or cannot manage vast temperature variance

Outside of range
Will not be able to tolerate any of the climate chan expected

No data
Species have not yet been classified with climate or precipitation requirements

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Why are trees affected?

Getting too much or too little water

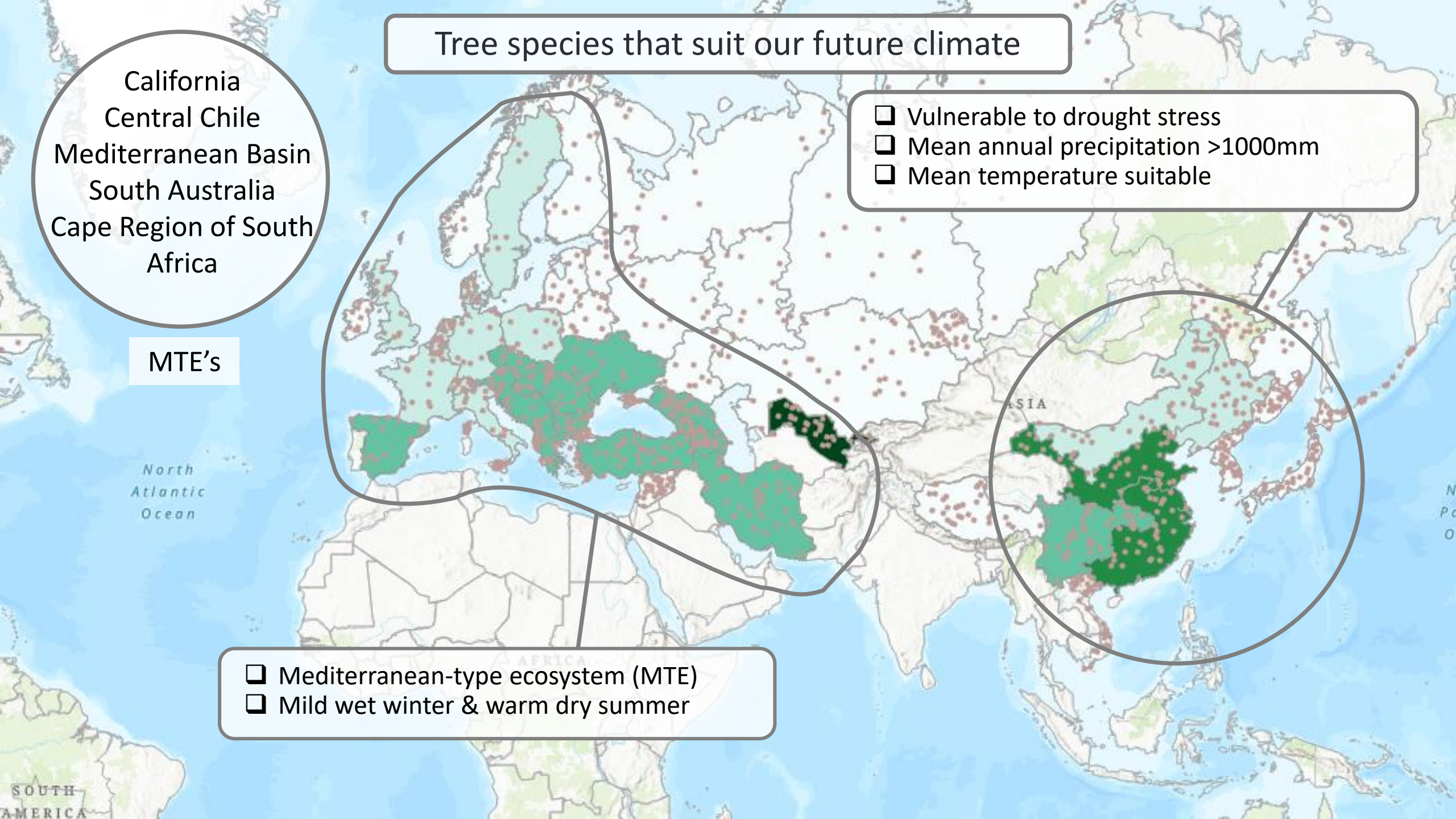
Not used to the temperature

Tree species that suit our future climate

California
Central Chile
Mediterranean Basin
South Australia
Cape Region of South Africa

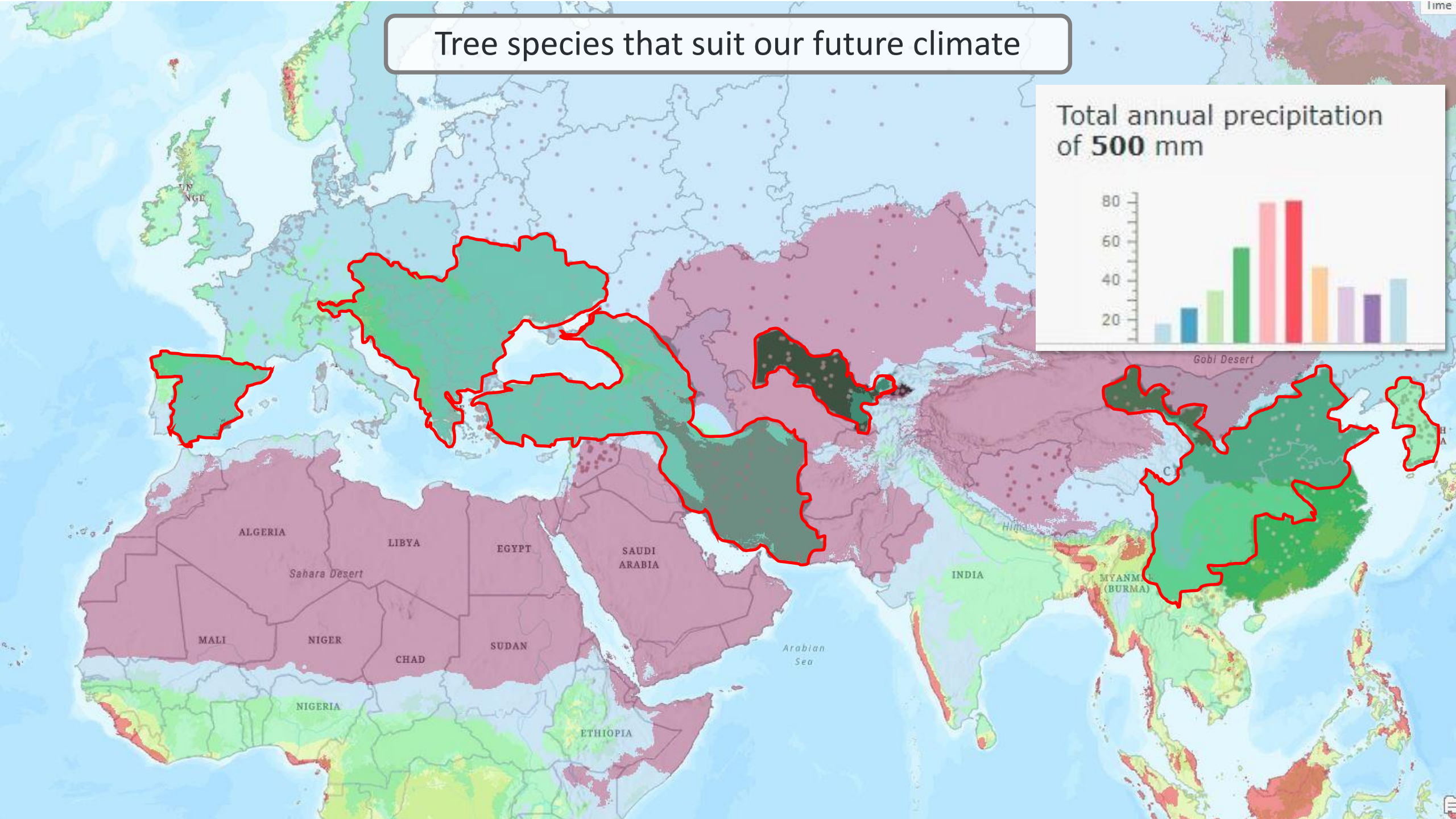
MTE's

- ❑ Vulnerable to drought stress
- ❑ Mean annual precipitation >1000mm
- ❑ Mean temperature suitable



- ❑ Mediterranean-type ecosystem (MTE)
- ❑ Mild wet winter & warm dry summer

Tree species that suit our future climate



Putting the models to the test

Taking cuttings for lab growth

- 3 x natural range
- 3 x edge of range
- 3 x outside of range

50 cuttings for each species
Testing over 2 years

Organisations can use this formula when planting

Sustainable landscape

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Can we add value?

Typical connections that we make through data

Typical connections through data

- Deciduous trees + vicinity to gullies
- Tree heights + their target area with pavements, roads, building or rail + Type of road
- Risk assessments + spatial data (Road hierarchy, speed limits, flood zones) + Risk modelling

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Typical connections through data

- Tree coverage + by ward ÷ by UK government targets

- Co2 or Carbon sequestration from species type + DBH = % ward cover

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Identifying tree locations, the carbon capture and other benefits

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How do we add value?

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The Tree Management Research Group

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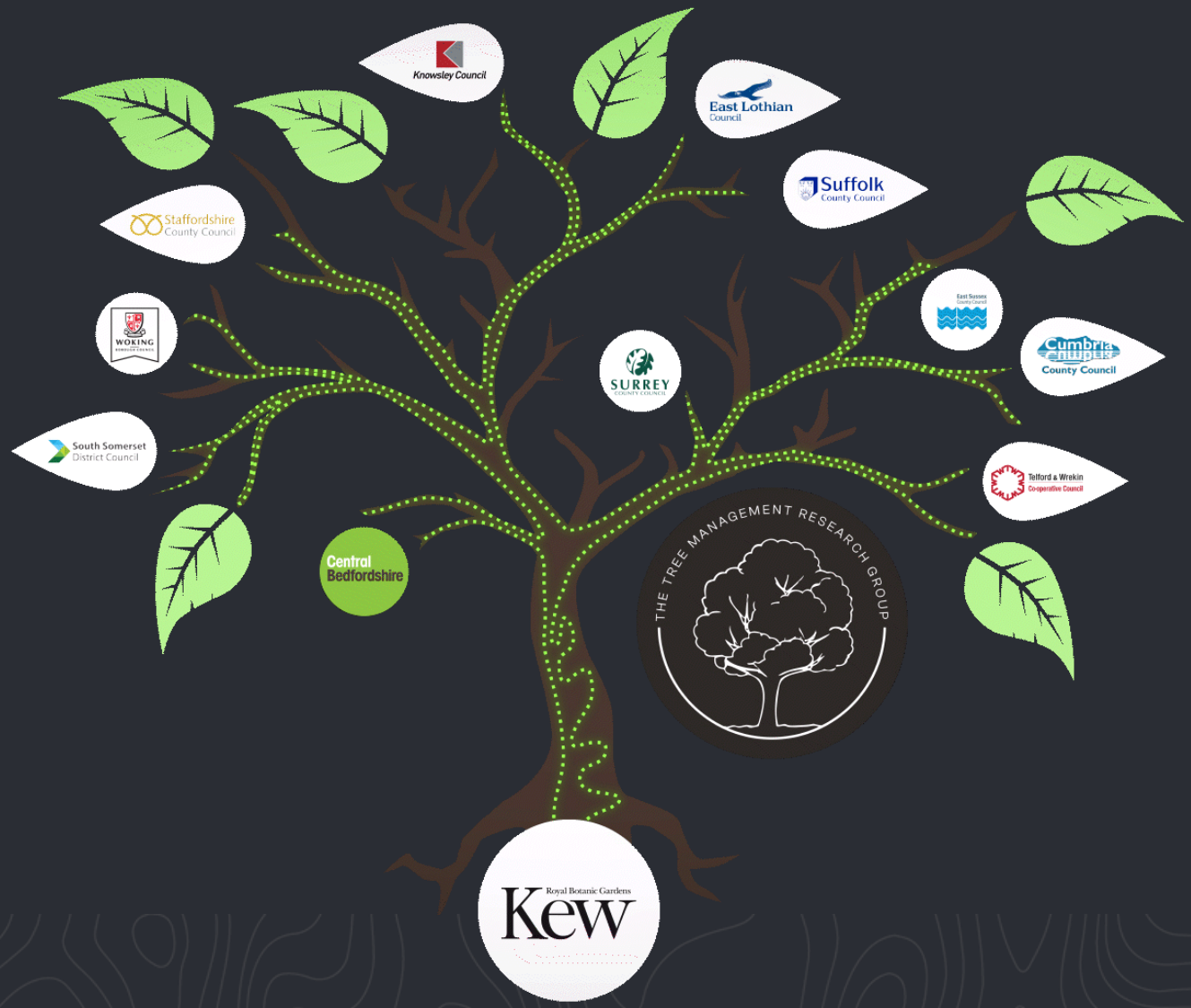
Tree Management Research Group



- Collaborate with LAs & researchers
- Share knowledge
- Widen scope of data collection
- Improve tree management

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How can we add value to this?

Provide more data to RBG Kew's 300 scientists

Share the results of the research back with the local authorities

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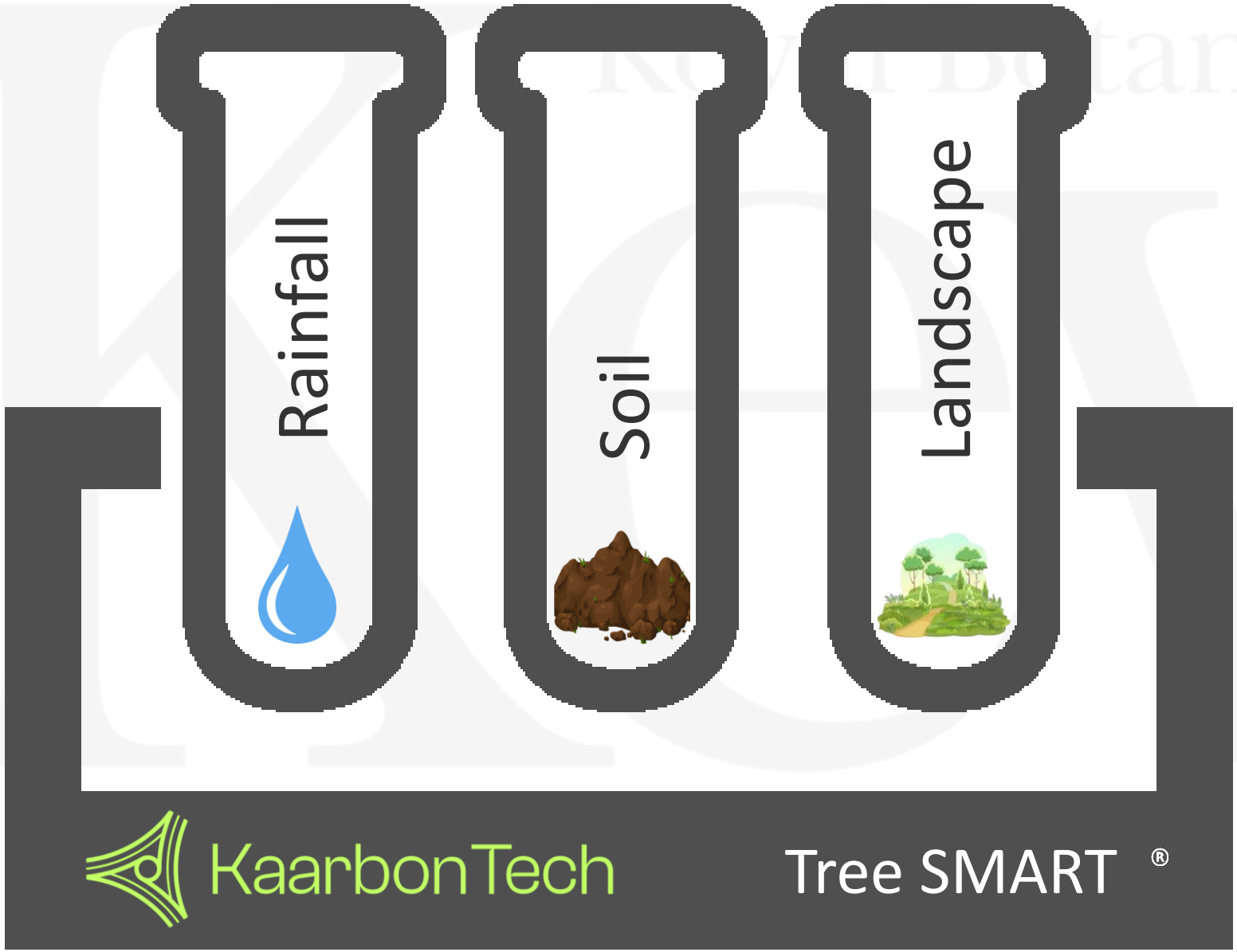
Joining data for better outcomes



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A step further? Identifying tree planning locations

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Research

What to plant

Where to plant

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How we can use data to help

Tree Species Selection for Green Infrastructure
Tree Design Action Group (TDAG)

Transport corridor | Paved areas | SuDS | Parks | Coastal | Small garden

Ordnance Survey

- Road
- Pavement
- Rail
- Grass area
- Building
- Urban density

Local Authority Archives

- Priority roads
- Footpaths and pedestrian areas
- Car parks
- Schools, recreational areas and parks
- Traffic counts
- Public complaints
- Localised flood knowledge

How we can use data to help

Tree SMART

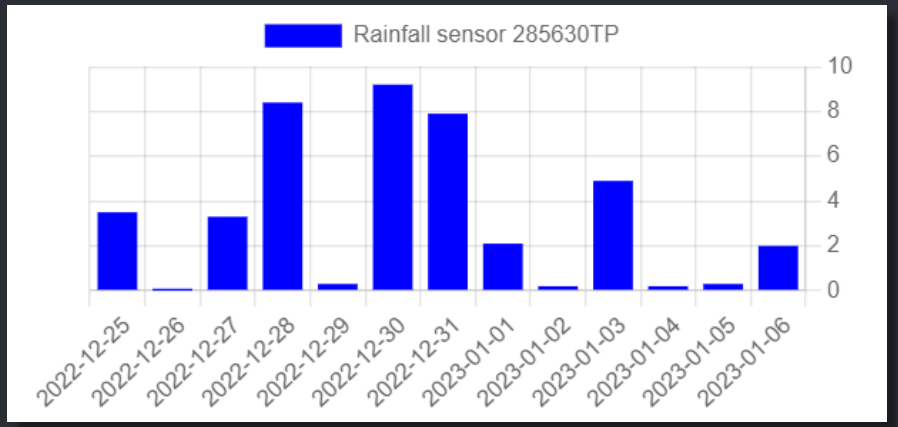
- Existing tree inventory
- Identifying areas of most need
- CO_2 benefit per tree species
- Appropriate species for location

British Geological Survey

- Groundwater Flooding (BGS)
  - Selecting the right tree for the right soil type.
  - Flagging risks, where subsidence might be an issue

Environment Agency

- Canopy and tree locations
- Surface water flood zones
- Fluvial flood zones
- Recorded flood outlines
  - All sources of flooding are a risk to trees.
  - Increasing trees within floodplains could slow flood waters
- Live and historic rainfall data



Live & historic rainfall in tree vicinity within Tree SMART

What can we create?

- Locations for approval with suitable species identified
- A platform to manage public sponsorship
- A streamlined request, approval and action process
- An ability to measure the success of planting activity

Why is it so important to have mature trees?

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More information

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