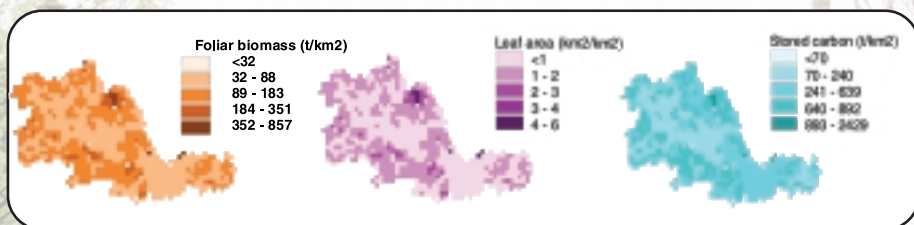


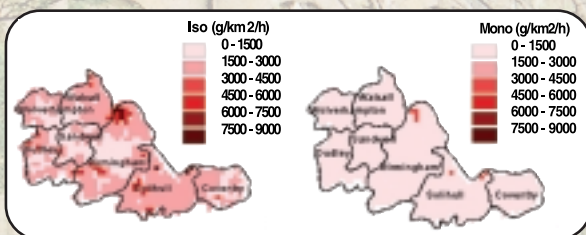
### 3 Calculating foliar biomass, leaf area and stored carbon

We calculated leaf area, foliar biomass and stored carbon from the tree size data collected in the West Midlands survey for each land class and scaled the leaf attributes monthly to account for the growth cycle of deciduous trees. These maps show the distributions of these attributes in the West Midlands during the month of August.

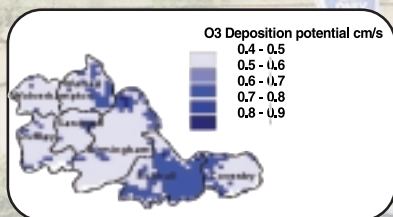


### 4 Estimating emission potential (EP)

The emissions of volatile organic compounds that would take place at a temperature of 30°C in bright sunlight were calculated by multiplying the foliar biomass of each tree species by the relevant emission potential for each species, found at [www.es.lancs.ac.uk/cnhgroup/iso-emissions.pdf](http://www.es.lancs.ac.uk/cnhgroup/iso-emissions.pdf). Isoprene and the monoterpene family are the most important naturally emitted VOCs so the assignment was limited to these compounds. Summing the EPs for each land class gives the isoprene and monoterpene emission distributions shown here.



### 5 Estimating deposition potential (DP)



The proportions of grass, water, trees and built-up land in each land class are unique. Each surface has a unique capacity to capture chemical species (i.e. has a unique deposition potential). The DPs of five chemical compounds important to urban air quality (ozone, nitric oxide, nitrogen dioxide, nitric acid and carbon monoxide) were weighted in proportion to the land cover areas to generate land class DPs. This map shows the distribution of ozone DP in the West Midlands in August, the highest values being in the most vegetated areas.