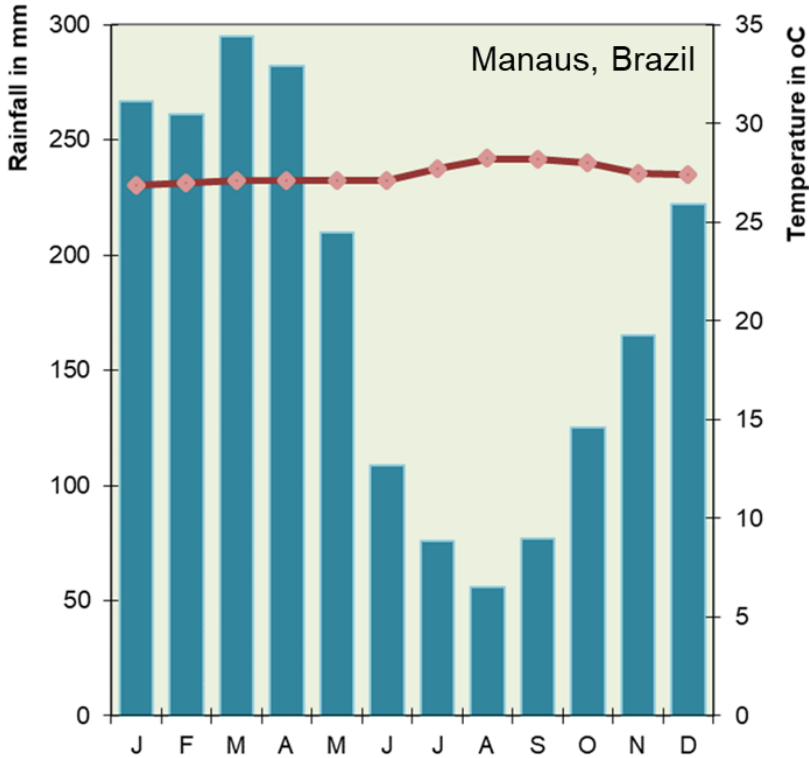
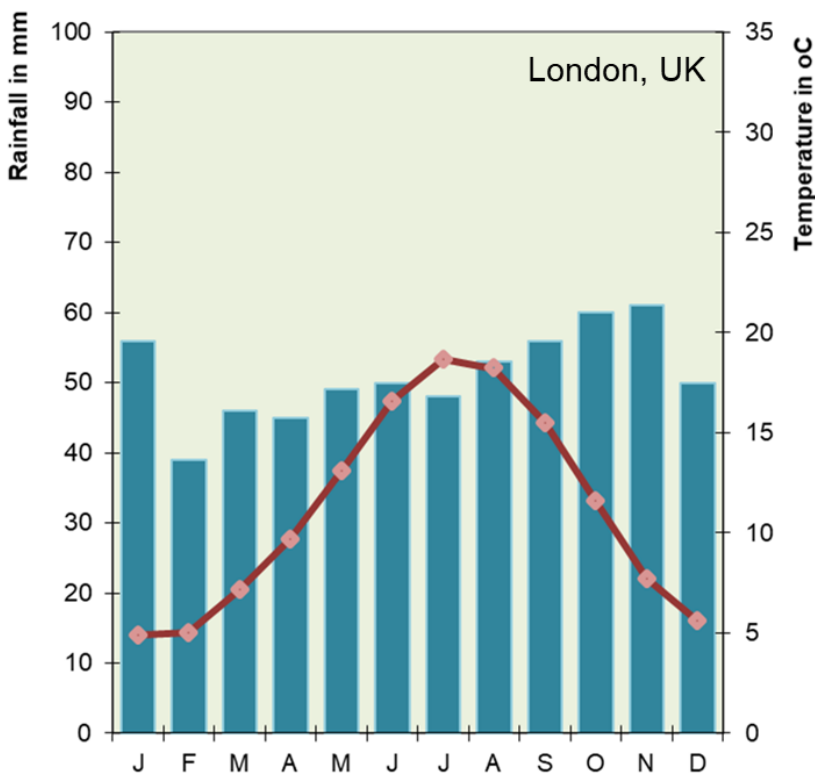


Comparing Forest Ecosystems

Temperate and Tropical Climates



Describe the main differences between a tropical and a temperate climate.



Comparing Forest Ecosystems

Simpson's Diversity Index

The **Simpson's Diversity Index** is used to calculate the degree to which an area is considered diverse compared to another area. It relates the number of individuals of a kind to the total number of individuals in an area. In this case, the two areas are the two habitats we are studying.

A tree survey was conducted in a set area of temperate woodland. The following numbers of trees were recorded:

Species	Abundance (n)	$= n/N$	$= (n/N)^2$
Field maple	807		
Alder	6		
Hazel	1856		
Hawthorn	82		
Blackthorn	40		
White willow	101		
Wayfaring tree	78		
Guelder Rose	84		
Oak	1036		
Dogwood	29		
Total (N)		Total	

1. Calculate the total number of trees found in the temperate woodland area. This is given the letter **N** . Write this number in the table.
2. For each species of tree, divide the number of that tree (the abundance or **n**) by the total number of trees (**N**). Write these answers in the first empty column.
3. These answers should then be squared. Write the answers in the last column.
4. At the bottom of that last column there is space to write the total of these squared answers. Calculate this and write it in.
5. Taking this total away from 1 gives you your score on the Simpson's Diversity Index (**D**). **D** should always be a value between 0 and 1. The higher the value the more diverse the habitat.

Temperate Woodland: $D =$