LONDON BOROUGH OF RICHMOND UPON THAMES

How will the Climate Emergency impact Richmond?

Climate Variable	Summary of change	Overview	Impact for Richmond
Temperature	Increase in average annual temperatures with noticeable changes in the number of hot days	The UK is projected to experience temperature increases of up to around 2°C in the south of England. Average temperatures have increased by nearly 1°C since the 1980s. All of the top ten warmest years for the UK have occurred since 1990.	Public transport links will be affected by the heat as temperatures on all modes of transport become harder to bear. There is a risk of severe disruption on roads (affecting cars, buses, and emergency services), rail and underground leading to transport difficulties. This can also impact services such as rubbish collection, schools and hospitals, which could postpone appointments and operations.
Sea/ River Level Rise	Rise in sea / river levels and storm surges.	The risk of fluvial and tidal flooding in Richmond can be expected to increase as a result of climate change and this increase in the number of properties at risk of flooding. LBRuT is very susceptible to surface water flooding, such as the summer 2007 flooding	The borough is vulnerable to surface water flooding which could cause disruption to transport (road closures, speed restrictions and lane restrictions) and damage to property. Surface water flooding is regularly contaminated with sewage which in turn causes the spread of disease.

			There will be a greater risk from tidal, pluvial and fluvial flooding throughout the borough. Increased flood risk will lead to a change in insurance provisions, with some areas prohibitively expensive to insure. Flood defences will need to be upgraded to cope with new parameters. If inadequately treated or in excessive quantities, sewage in the river effluent can damage the plant and animal life of a river by reducing the oxygen content of the water. In extreme cases, the river will support very little life and the entire ecosystem and will become foul smelling and grossly offensive.
Extreme events	Increase in frequency of extreme weather events	Heat waves could have a major effect on mortality in the UK with greater frequency of record-breaking temperatures and longer consecutive days of higher than average temperatures being recorded. Rainfall extremes are generally projected to increase, particularly	Severe heat waves can impact on vulnerable residents in particular, such as the very young, very old and those who are severely ill. There has been an increase in damage to council infrastructure caused by weather events (e.g. trees, roads, pathways) and an increasing propensity for

		during winter but with drier long summers.	insurance claims against the Council. Severe winter weather events could cause widespread impacts throughout the borough with school closures and increased number of hospital admissions. Extreme events will mean that wildlife species displacement will become more common. Prevalence of disease, pests and non-native species will become more frequent
Water Supply	Water shortages	Changing rainfall patterns leading to unpredictable rainfall and water shortages. Water shortages will impact upon local biodiversity as well as food production nationally and regionally Recent simulations by the AVOID programme project that the UK could experience a moderate increase in water stress with climate change.	London is within the driest part of the country and is potentially at risk of drought if reservoirs and groundwater aquifers are not re-filled by regular rainfall. The cost of a severe drought to London's economy is estimated by Thames Water to be £330m per day, and would have severe economic, social and environmental consequences.
Biodiversity	Changes to the climate will change the biodiversity of the borough	There is strong evidence that climate change is affecting UK biodiversity. Impacts are expected to increase as the magnitude of climate	Climate change increases the potential for non-native species introduced by people (including pests and pathogens posing a public health risk) to

		change increases. Many spring life-cycle events are likely to occur earlier in the seasons.	establish and spread. Temperature increases could result in migration of species or even loss of habitats. Reduction of summer precipitation could have an impact on flora growth and diversity. Changed growing seasons could result in some crops being unviable but could lead to others becoming viable. Various species of tree within the borough are particularly vulnerable to the effects of climate change, this was evidenced in 2018 where a long, hot summer resulted in high mortality rates of both native and non-native trees.