

IPCC 6th Assessment WG2 report: Impacts, Adaptation, and Vulnerability

Report here: <https://www.ipcc.ch/working-group/wg2/>

1. Top lines

- If human-caused global warming isn't limited to just another couple tenths of a degree, an Earth now struck regularly by deadly heat, fires, floods and drought in future decades will degrade, as assessed using 127 metrics.
- Some impacts are now **irreversible**.
- We now have high confidence that the accelerating climate crisis is increasing **water-related diseases**. Second, we have high confidence that climate change will **severely impact food production** and food security. Third, **droughts and heatwaves will trigger biodiversity loss, as well as human migration**.
- **One in three people are exposed to deadly heat stress**, and this is projected to increase to 50% to 75% by the end of the century
- **The report is clear that adapting to the climate crisis is as much a social problem as a scientific one**. The best way to give effective and lasting protection from climate chaos is through action that addresses "inequities such as those based on gender, ethnicity, disability, age, location and income".

Global impacts:

Today's children who may still be alive in the year 2100 are going to experience four times more climate extremes than they do now, even with only a few more tenths of a degree of warming over today. But if temperatures increase nearly 2 more degrees Celsius over current levels they will experience five times the floods, storms, drought and heatwaves. Already at least 3.3 billion people's daily lives "are highly vulnerable to climate change," making them 15 times more likely to die from extreme weather. Expected impacts by continent:

- **North America** - increasing deaths and physical and mental illness due to greater extreme weather, from storms to wildfires.
- **Europe** - "substantive agricultural production losses are projected for most areas over the 21st century".
- **Australia** - "increases in heat-related mortality and morbidity for people and wildlife", while "destruction" lies in wait for small island settlements.
- **Central and south America** - "severe health effects due to increasing epidemics" are anticipated, particularly from diseases spread by insects and other animals.
- **Asia** - greatest risks is flooding
- **Africa** - hunger as climate impacts hit farmers.

2. Background

The Intergovernmental Panel on Climate Change (IPCC) is the world's most authoritative climate science body. Every six years (approx.) it releases a series of reports on the different aspects of climate change based on large-scale peer review of all the latest scientific research. The IPCC does

not produce original research and is mandated by national governments and its reports are adopted by consensus. For this reason, observers generally say that the IPCC's findings are conservative.

This report forms part of the IPCC's sixth assessment report (AR6), which follows on from the fifth assessment report released in 2013-2014 (AR5). Like the process for developing AR5, this report is divided into three reports being produced by different working groups:

- Working Group I (WG1): The physical science basis (report released in August 2021)
- **Working Group II (WG2): Impacts, adaptation and vulnerability**
- Working Group III (WG3): Mitigation of climate change (report expected Spring 2022)

On 28 February 2022, the IPCC released the report of WG2 on Impacts, adaptation and vulnerability, which "assesses the impacts of climate change, looking at ecosystems, biodiversity and human communities at global and regional levels. It also reviews vulnerabilities and the capacities and limits of the natural world and human societies to adapt to climate change." The report consists of 18 chapters focusing on ecosystems, sectors, SDGs, and regions (and 7 cross-chapter papers), and an integrated technical summary.

For the first time, the WG2 report includes a chapter on **'Cities, settlements and key infrastructure,'** which is the result of a "Cities IPCC" campaign led by C40 and partners in 2016 that led to an IPCC decision to give a special focus on cities to all reports in this cycle and work on a 'Special Report on Climate Change and Cities' starting from 2023. The 2018 [IPCC Special Report on 1.5°C](#) also listed urban as one of the five sectors where strengthening and implementing the global response to 1.5°C will be necessary.

3. Report headlines

The AR6 WG2 report pulls together evidence and findings from more than 34,000 papers written by 270 authors in 67 countries. While the general conclusions are not significantly different from those of AR5, **this report places much more urgency on the need for immediate climate action, noting that a wider range of impacts are already being experienced globally and will only intensify.** In particular:

- Adaptation solutions exist, but their effectiveness declines with each increment of warming
- Ill-considered adaptation can cause risk of maladaptation, or negative unintended consequences like higher emissions or ecosystem degradation
- There is new consideration of compound events (i.e., multiple hazard events) and interdependencies that cause cascading impacts
- The report more strongly recognises the interdependencies between climate, ecosystems, biodiversity and human society when looking at risks, impacts and solutions – and aims to provide a more integrated view across natural, ecological and socio-economic sciences than previous IPCC reports.
- In this vein, the report highlights a solutions framework called 'Climate Resilient Development' (CRD), which aims to pursue climate action and sustainable development in a more integrated manner.

Key findings are summarised as follows:

Observed and Projected Impacts and Risks

- Human-induced climate change has already caused significant, irreversible impacts to ecosystems, making **climate action more urgent than previously thought.** In some cases, climate change will mean that natural and human systems will be pushed beyond their ability to

adapt. Any further delay will miss the brief and rapidly closing window to secure a liveable future for all.

- **The vulnerability of ecosystems and people to climate change differs significantly across regions, driven by patterns of historic socio-economic development.** Approximately 3.3-3.5 billion people live in contexts highly vulnerable to climate change and a high proportion of species are vulnerable, with the most vulnerable being disproportionately affected by climate change impacts.
- In the near-term, **limiting global warming to 1.5°C would reduce losses and damages related to climate change but cannot eliminate them all.** Current patterns of development are unsustainable and are increasing exposure to climate hazards.
- In the longer term, the impacts of climate change will be significantly higher than currently observed. The magnitude of losses and damages escalates with every increment of warming and will depend on near-term mitigation and adaptation actions. **Impacts are magnified in cities** where most of the world's population lives.
- Climate change impacts and risks are becoming more complex and difficult to manage, particularly where **multiple climate hazards occur simultaneously and compound risks further. The impacts are expected to cascade across sectors and regions.** (e.g. heat and drought causes heat stress, leading to reduced crop yield and productivity, increased food prices, reduced household incomes, etc.). Understanding these climatic and non-climatic interdependencies and concurrencies will be key to managing risks.
- If global warming exceeds 1.5°C in the coming decades (overshoot), then human and natural systems will face additional, severe, and irreversible risks – even if global warming is reduced in the long-term.

Adaptation Measures and Enabling Conditions

- Adaptation planning and implementation is increasing across all sectors and regions, with multiple benefits. 170 countries and many cities are now including adaptation in climate policies and planning processes. However, **implementation of adaptation measures is not evenly distributed, nor being done at the scale and speed needed to respond to impacts and reduce climate risks,** resulting in significant adaptation gaps.
- The feasibility and effectiveness of adaptation measures are well documented across regions and sectors, with adaptation to water-related risks and impacts making up the majority of these. Integrated, multi-sectoral solutions that address social inequities, differentiate responses based on climate risk, and cut across systems (e.g. health, energy, social protection, etc.) can enhance the benefits of adaptation measures.
- The report distinguishes **between soft and hard limits to adaptation for humans and nature** - soft limits are those where adaptation options are currently not available, but could become available in the future. Hard limits are those where no further adaptation is possible. Soft limits can be overcome by addressing financial, institutional and governance and policy-related constraints - finance is noted as a particularly important constraint, with financial flows historically being directed towards physical rather than natural infrastructure, and to mitigation rather than adaptation measures. **Some natural systems are reaching hard limits where adaptation to climate change is no longer possible** (e.g. coral reefs, rainforests, polar and mountain ecosystems). **This raises a risk that some nature-based solutions may lose their effectiveness as warming increases.**
- The report notes **increasing evidence of maladaptation** across many sectors and regions, which can lock in vulnerability, exposure and risks that are difficult and expensive to change and exacerbate inequalities. Avoiding maladaptation will require approaches that are flexible, multi-sectoral, inclusive and focused on long-term planning.
- **Adaptation will require enabling conditions** including political commitment and follow-through; clear institutional frameworks/policies/instruments; knowledge and capacity; inclusive

governance process; and mobilisation of financial resources. **Monitoring and evaluation of adaptation is critical for tracking progress** – this is currently limited but has increased since AR5 at local and national levels.

Climate Resilient Development

- Climate Resilient Development (CRD) recognises that achieving a climate resilient, sustainable world will **require combining adaptation and mitigation strategies and actions**, while aiming to support social justice and sustainable development for all.
- CRD is enabled when communities, governments, civil society and the private sector make inclusive development choices that **prioritise risk reduction, equity and social justice**, and when decision-making processes and finance are integrated across governance levels, sectors and timeframes.
- The report specifically notes that **urbanisation presents a critical opportunity in the near-term** to advance CRD through integrated inclusive planning and investment in everyday decision-making about urban infrastructure. Integrated action to avoid climate risk and promote sustainable development “requires urgent decision-making for the new built environment and retrofitting existing urban design, infrastructure and land use.” Coastal cities are particularly key to moving towards higher CRD.
- **Safeguarding of biodiversity and ecosystems is fundamental** to CRD, particularly as these have a key role to play in adaptation and mitigation but are also under significant threat from climate change. The report estimates that maintaining the resilience of biodiversity and ecosystem services will require conservation of 30-50% of the Earth’s land, freshwater and ocean areas.
- Past and current development trends have not advanced CRD, with observed disruption to human and natural systems already taking place. **CRD prospects are increasingly limited if current GHG emission do not rapidly decline and if 1.5°C is exceeded in the near future**, therefore the choices and actions made in the next decade will set the trajectory towards higher or lower CRD pathways in the medium and longer-terms.

4. **Cities, Settlements and Key Infrastructure – Chapter 6**

For the first time, reports under AR6 include a chapter on ‘Cities, settlements and key infrastructure’ recognising the importance of cities as main contributors to climate change and areas where climate risks and vulnerabilities are exacerbated and increasing overtime.

Key findings from this chapter are as follows:

- **The most rapid growth in urban vulnerability and exposure is in cities with limited adaptive capacity**, i.e. unplanned and informal settlements in low- and middle-income countries, and in smaller-to-medium sized cities. 90% of urban population growth has taken place in less-developed regions.
- **Climate-related events and observed human and economic losses have increased in urban areas since AR5**, including from single events (e.g. direct impact of heat stress on human health) and compound events (e.g. heat and poor air quality from traffic fumes or wildfires). **Cascading impacts** (e.g. flood waters damaging energy infrastructure causing blackouts and human/financial impacts) and **systemic losses** (drought leading to rural food production leading to urban food insecurity) have been increasingly observed.
- **Climate impacts are disproportionately felt by the most economically and socially marginalised in urban communities**. Intersections between drivers of inequality – e.g. gender, class, race, sexuality, level of ability, nonconforming gender orientation, etc. –shape unique experiences of vulnerability and risk to climate change and affect ability to adapt. Few urban adaptation plans are developed through consultation and coproduction with diverse and marginalised communities.

- **COVID-19 has had a significant impact on urban communities and climate adaptation,** revealing multiple, persistent health related vulnerabilities. Future interventions should consider co-benefits from investing in and preparing for pandemics and climate risk.
- **The number of people living in and expected to live in urban areas highly exposed to climate change impacts has increased significantly.** Cities will be particularly affected by sea level rise, increases in storm surges, and more frequent and intense precipitation leading to flooding. Increased heat in cities will see more people exposed to harmful heatwaves, and severe droughts will lead urban residents to face water scarcity.
- **Many more cities have developed adaptation plans since AR5, but only a limited number have been implemented.** More adaptation options are being identified and included in plans, including nature-based solutions, but these tend to focus narrowly on climate risk reduction rather than seeing broader co-benefits when combined with climate mitigation and sustainable development measures.
- **Urban adaptation gaps exist in all regions and for all hazard types, although they are unevenly distributed.** Key limitations to adaptation are governance capacity, financial support and historic investment in urban infrastructure. Further, lack of uptake and agreement on monitoring and evaluation limits the potential for CRD in cities.
- **City and local governments are recognised as key actors** to facilitate adaptation, by investing directly and working in partnership with other actors - like communities, government agencies, and the private sector - to address climate risk.
- **Decisions about key infrastructure systems and urban expansion drive risk and opportunities** for action. How cities and key infrastructure are planned, designed and maintained will determine climate risk exposure, vulnerability and capacity for resilience. Unplanned and rapid urbanisation, including peri-urban development, is a major driver of risk, particularly where essential services cannot meet the needs of growing populations.
- **Investment in urban adaptation has not kept pace with innovations in policy and practice.** Adaptation finance tends to be directed towards large-scale grey/physical engineering projects, rather than finance to support multiple, integrated adaptation measures; and finance for city, local and non-state actors remains difficult to access.
- **Global urbanisation offers a time-limited opportunity** to work towards widespread and transformational adaptation and CRD. This will require integrated development planning that carefully considers interactions between development, mitigation and adaptation; and transitioning cities to low carbon development and equitable resilience. The greatest gains for well-being in urban areas can be achieved by prioritising investment to reduce climate-risk for low-income and most marginalised residents. City and infrastructure planning approaches should integrate adaptation into every-day decision making, and are supported by the Paris Agreement, SDGs, New Urban Agenda and Sendai Framework for Disaster Risk Reduction (altogether forming the '2030 Agenda').

5. Other Commentary on the report

Climate Crisis Advisory Group

- **Sir David King said:** "The younger generations amongst us, alongside future generations, will face climate disaster unless we act now. This is not a challenge for scientists to overcome, it is a moral duty for the whole planet to take urgent, co-ordinated action. This is a code red situation. No Government is taking it seriously enough. We must urgently seek productive collaboration between sub-national, national, and international bodies to do more to combat climate issues equitably, with determination and speed."
- **Professor Lorraine Whitmarsh MBE said:** There are options we can take to adapt, but their effectiveness decreases with increased warming. Any delay at all will mean irreversible impacts and species extinction, such as eradication of tropical coral reefs and loss of polar ice. These changes affect the poorest worst, but no-one will escape effects such as extreme

weather and crop failures. And we are already experiencing these effects with global warming now to 1.1°C. There is a rapidly closing window to secure a liveable future. The good news is that many measures to adapt to climate change will also improve quality of life and protect nature.”

- **Dr Arunabha Ghosh said:** “The IPCC report has made it clear that not only are humans responsible for the impact on climate, we also know very well what a changing planet will do to us. Yet, international cooperation continues to fray and regional security crises are taking on geopolitical dimensions. It's now for us to decide how we will behave with each other in the face of a severe climate crisis.
- **The C40 Knowledge Hub** has several articles and resources offering tips on how to prioritise, plan and implement adaptation actions in your city. The report [Focused Adaptation: A strategic approach to climate adaptation in cities](#) identifies and explains 15 high-potential actions across five major climate hazards to help cities become more climate resilient.

For more specific guidance on adapting to major climate hazards facing cities, read the C40's implementation guides: *How to protect urban lives, health and property from wildfire*; *How to adapt your city to sea level rise and coastal flooding*; *How to reduce flood risk in your city*; *How to manage water scarcity and adapt to drought*; and *How to adapt your city to extreme heat*.

6. **Climate change impacts in London and our responses**

As a growing city, London faces increasing pressure on housing, infrastructure, services, environment, and Londoners' wellbeing and prosperity. Climate change will increase these existing pressures. It will make flooding more frequent and severe, threaten water resources, and increase the risk of overheating for buildings and infrastructure.

Summary of Main Risks

- **Climate change is already happening in London.** We are already experiencing climate-related events such as the flash flooding in July 2021 and increased heatwaves.
- The total rainfall over a typical year is likely to remain broadly similar to current levels. But there are likely to be seasonal changes, with **summers becoming drier and winters wetter**.
- Climate change will drive **more variability in weather patterns in London**. While overall rainfall may be broadly similar, it is likely we will face more intense storms, increasing the risk of flooding, especially surface water flooding.
- **London is likely to be at higher risk of drought**, as there will be less water to capture in the summer and the groundwater will not be replenished during winter, and there may be greater demand for water during hotter periods.
- Heat: **Projected increases in average monthly temperatures in London until 2050 show a 5-6°C increase in summer and winter averages**. This will have an impact on health, infrastructure, comfort, and the operation of the city.
- **Climate risks won't hit London equally or fairly**. Poverty, deprivation, and health inequalities will reduce people's ability to prepare for, respond to, and recover from overheating or flooding incidents. And these incidents will, in turn, exacerbate inequalities. Our understanding of climate impacts and our adaptive responses must be based on careful consideration of these disparities.

Coastal and river flooding

- Coastal: London currently benefits from a high standard of protection from tidal flooding but, even in a net zero world, sea level rise is 'locked in' for many decades, so we need to plan for this future. The expected date for the replacement of the Thames Barrier is 2070.
- River: Almost a fifth of London is in the Thames floodplain. Most of this area is well defended by traditional hard-engineered flood defences. However, the upstream part of the Thames and

many of its tributaries have lower standards of protection. Traditional flood defences can only protect London from predictable fluvial (river) and tidal flood risk. More than 37,000 homes are at high or medium risk of tidal or fluvial flooding in London.

- Sea level in the Thames Estuary could rise by 1.15m between 1990 and 2100 (under the higher climate change scenario from UK Climate Projections 2018 Left unmitigated, the tidal flood risk to London will increase as sea levels rise.

London's response to coastal and river flooding

- The Mayor supports the Environment Agency in ensuring their Thames Estuary 2100 plan is delivered to protect Londoners as sea levels rise continue to rise. The Mayor works closely with the Environment Agency to plan for upgrading the tidal defences and setting aside land for a new barrier. GLA officers are also part of the Agency's 10-year review advisory group, to ensure the long-term plan is up to date and will ensure London's River defences are fit for the future.
- We are working with partners to develop Integrated Water Management Strategies for London's key growth locations, including Isle of Dogs and the Royal Docks, These strategies will recommend solutions for tackling flooding, sewer capacity and water scarcity.
- London Plan policies support the use of Flood Risk Appraisal and Strategic Flood Assessment in local flood risk strategies. All development proposals must ensure flood risk is minimised, mitigated and residual risk addressed. Utility services proposals are expected to be designed to remain operational under flood conditions and buildings designed for quick recovery.

Surface Water Flooding

- The city is also vulnerable to less predictable surface water and sewer flooding from heavy rainfall events. This is due to increasing areas of impermeable surfacing, such as roads, roofs and pavements. London also has a Victorian drainage system that wasn't designed to cope with the demands of the current and future population.
- London was hit by two extreme storms on the 12 and 25 July last year. Parts of London received close to 100mm of rainfall, the equivalent of more than twice the average July rainfall, in just two hours. The rain caused damage and disruption to homes and infrastructure across the city, and many Londoners required rehousing as their homes were flooded with stormwater and sewage. It rendered critical infrastructure unusable with the closure or partial closure of 30 London underground stations and the evacuation of hospital wards and schools.

London's response to surface water flooding:

July 2021 floods

- The Mayor convened a roundtable with key partners, including senior members of the Environment Agency, Thames Water, the London Resilience Partnership, London Fire Brigade and the leaders of affected London Boroughs to review the response to the flooding and ensure everything possible is being done to anticipate, prevent, and reduce the impact of surface water flooding in London.
- A Roundtable progress report will be published imminently setting out what actions have been delivered or are underway to improve flood preparedness and incident response and what will be done to improve London's longer-term resilience to flooding.
- While many organisations have a role in managing flooding, there is no clear responsible body for developing and delivering a strategic plan for its management.
- Progress since the July 2021 floods:
 - Emergency response*
 - London boroughs have established a multi-agency flood group to examine resilience improvements before and after flooding

- Thames Water has undertaken an internal review of its operations, incident response, and customer communications and has commissioned an independent review of surface water flooding in London
- The Environment Agency has established a new national team to examine its role in surface water flood risk management. It is also working with partners on workshops and videos to improve flood awareness across sectors.
- The Thames Regional Flood and Coastal Committee has set up a task and finish group to make recommendations for improving the resilience of infrastructure to flood risk and set out resource requirements for implementing any projects or measures.
- TfL and Thames Water are working together to investigate and apply flood mitigation interventions in known flooding hotspots
- The London Resilience Communications Group has taken action to improve the consistency of content and coordination of messages across agencies, for example signposting to the Floodline advice service.

Adaptation/Longer term resilience

- Establishment of a Strategic Group to oversee the first vision, strategy, and plan for surface water flood risk management in London.
- Development of a communications strategy that engages all stakeholders, led by London Resilience
- Establishment of an urgent work stream to identify and reduce risk to occupants of vulnerable basement properties.

Other work on surface water flood risk

- SuDS Guidance – The GLA has published a [series of sector specific sustainable drainage guidance](#) for six sectors (Schools, Social Housing, Parks & Greenspaces, Hospitals, Offices and Retail) and has delivered training to more than 300 highways officers on sustainable drainage.
- The London Plan requires that more water is captured and managed on site through rainwater harvesting, permeable surfaces, green infrastructure etc., which reduces water run-off rates from development sites by 87% (compared to rates at those sites pre-development) easing pressures on drainage networks and reducing local flood risk.
- The [London Strategic SuDS pilot](#) used modelling in six boroughs to demonstrate the benefits of SuDS schemes in tackling surface water flooding in a cost-effective way. The project has initially unlocked £1m of regional flood risk funding, and the Mayor has asked Defra to support an expansion of this approach city-wide.

Properties at risk of surface water flooding events

 Residential Properties	 Commercial Properties
High (1 in 30 year event) 68,499	High (1 in 30 year event) 12,148
Medium (1 in 100 year event) 164,546	Medium (1 in 100 year event) 25,623

Drought

- London is within the driest part of the country and is potentially at risk of drought if reservoirs and groundwater aquifers are not refilled by regular rainfall. The cost of a severe drought to London's economy is £330m per day.
- London's water supply comes from a combination of groundwater and surface water sources. Below average rainfall, particularly over the winter, puts pressure on London's water resources. London is at risk of drought following two dry winters (when the majority of groundwater/aquifer recharge occurs). London has experienced the early stages of drought as recently as winter 2018 and very close to severe drought in 2012.

London's response to drought/water scarcity

- Water-efficiency improvements (led by Thames Water).
- The Mayor continues to hold water companies to account to increase their resilience and that of London's water supplies, plan for new water resources and reduce leakage. Working with Ofwat and the Executive Chair of Thames Water, Mayor Khan secured commitment from Thames Water to report their performance at London scale for the first time, through a set of bespoke indicators. This will allow us to monitor Thames Water's performance in London, including on mains bursts and river pollution.
- We have worked with Thames Water, their shareholders, and Ofwat to ensure that half of the £600m new investment in Thames Water's supply network comes from the company's shareholders and not customers and goes to start renewing their ageing infrastructure.
- Integrated Water Management Strategies in Mayoral Growth areas including most recently for Isle of Dogs, and starting work on another for the Royal Docks, two of London's key growth locations. These strategies will recommend solutions for tackling flooding, sewer capacity and water scarcity.

Heat

- Projected increases in average monthly temperatures in London until 2050 show a 5-6°C increase in summer and winter averages. This will have an impact on health, infrastructure, comfort, and the operation of the city.
- According to Public Health England, Hot weather during the Summer in 2020 led to almost 500 excess deaths in London.

London's response to heat risk

- Heat alerts – The Mayor has used his communications channels to keep Londoners informed during extreme heat events last summer by sharing messaging at public locations across London. Advice is also provided for groups at risk during a heatwave with more targeted advice for care homes, schools and early years settings.
- Cool Spaces – The GLA has established a [cool spaces network](#) which identifies spaces for Londoners to take respite on hot days. It includes 313 outdoor and 43 indoor cool spaces.
- Mitigating heat risk in new buildings – the London Plan encourages developers to carry out robust overheating modelling against extreme weather scenarios and design in appropriate mitigation measures. London's spatial strategy also includes a cooling hierarchy to ensure that overheating risk is addressed first through the development and design of buildings rather than through air conditioning, which will exacerbate the Urban Heat Island.

Social vulnerability to climate change

- The impacts of climate change will be neither equal nor fair; impacts will fall disproportionately on those with fewer resources to cope. We will need to consider not only who is most at risk from climate change, but also how the benefits of our actions are distributed, in order to ensure equitable responses.

London's response to climate vulnerability

- To support communities at highest risk, the GLA produced a series of [Climate Risk Maps](#) showing areas of London that are most exposed to climate impacts with high concentrations of vulnerable populations. These maps have been used as part of the Mayor's Green New Deal grant programmes to help select areas with greatest need and encourage projects that address vulnerability. They have also been widely disseminated to the Boroughs and other stakeholders, who are using them in local decision-making. An update to the maps, with new data and functionality, will be released in coming weeks.

London's investment to enable adaptation

- Through the Greener City and Grow Back Greener Funds the Mayor is providing funding for projects with adaptation (including flood risk) benefits. These schemes have contributed over £13 million since 2016 to green infrastructure which helps London adapt to the impacts of climate change, £1.8 million of which has funded over 40 projects specifically addressing surface water flood risk.
- The 2021 Grow Back Greener Fund, co-funded by the Mayor of London and Thames Water, awarded a further £1.4m to 45 community projects to create and enhance green spaces and increase climate resilience. The fund prioritises projects in areas of deprivation, high climate risk and poor access to green space. Projects help reduce flood risk and increase greening. Examples include de-paving a school playground and creating new wetlands to store water and increase biodiversity. The programme is supporting water quality and adaptation projects in 12 boroughs (Barnet, Brent, Bromley, Enfield, Hackney, Haringey, Hillingdon, Islington, Lambeth, Lewisham, Waltham Forest, Westminster). By November 2022, the Grow Back Greener 2021 projects will have improved over 18 hectares of green space, including turning almost one hectare of paved impermeable surface to green.
- The £7.5m Future Neighbourhoods 2030 and £4m Green and Resilient Spaces funds are also funding projects that will provide local adaptation benefits in high-risk areas.
- In November 2021 the Mayor announced a £1.5 million Climate Resilient Schools Programme funded by City Hall, the Department for Education and Thames Water working together to enhance the climate resilience of up to 100 schools. The funding will prioritise schools that are at highest risk of surface water flooding. The Department for Education estimates that summer flooding in England resulted in widespread school closures that amounted to 400,000 lost pupil school days, at an estimated economic cost of £12m.