

Culture

Edinburgh Fringe

The spiralling costs causing problems for the juggernaut attraction

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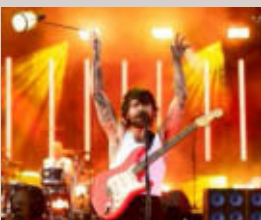


Review

TRNSMT

Underworld's dance music masterclass – and the delightful Biffy Clyro

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Superstorms, 45°C days and sleeping in the park

What summer could be like in 2050

As a Met Office report declares that extreme weather is the UK's new normal, climate expert **Bill McGuire** explores how our lives are likely to be affected

Hard on the heels of a bone-dry spring and an even hotter June, the third heatwave of the summer is upon us, and it looks to be the longest yet.

We are lucky. In 2025, heatwaves are still news, but as temperatures ramp up year-on-year, soon there will be nothing to write home about. In 25 years, this comparably cool and comfortable summer will be regarded with envy.

Take July 2022. The UK temperature record was smashed when the mercury in thermometers touched 40.3°C at Coningsby in Lincolnshire, but this will soon feel pretty average. A recent Met Office report warns that we need to be prepared for even

more heat. According to the study, 40°C temperatures are already 20 times more likely than they were in the 60s. It warns that temperatures in excess of 45°C are now possible in the UK, if unlikely. These are grim figures, made worse by the prediction that heatwaves will last much longer. A single day of 40°C in 2022 was bad enough – but these temperatures could last a week or more.

I have spent much of my working life delving deep into natural hazards, what causes them and how they can kill and destroy.

There is, however, nothing natural about global heating and the climate breakdown it is driving. For more than 15 years, this is where my focus has been. Together with other scien-

tists working on the effect of a failing climate, I try to predict what we can expect in the decades and centuries to come.

Giant thunderstorms, drought and wildfires

Future summers will be all about the heat and how we cope with it, but there will be other threats too. When heatwaves arrive, it will be with increasing violence. Giant super-cell thunderstorms will roam the countryside, dumping colossal amounts of rain and golf ball-sized hail. This will lead to flash floods and damage to property and crops.

Expect the odd tornado, too. In between the storms, drought will be the order of the day, bringing

severe water shortages and desiccating farmland. As a hotter atmosphere sucks up more water, "flash" droughts could build in a matter of days. Wildfires are already far more common in the UK than they used to be, and the tinder-dry vegetation of future summers will ensure that they become a normal part of our lives during the hottest months, burning woods, moors and cropland and threatening infrastructure and communities.

There is no end in sight to global heating driven by human activities, which pump out more than 40 billion tons of carbon dioxide every year – equivalent to the weight of 800,000 *Titanics*. This means the supercharged weather will just keep on coming. The truth is, we are transitioning to a climate that our great-grandparents wouldn't recognise. What will this mean for us, and what can we all do to manage and adapt?

Hospitals overwhelmed

There's no sugar-coating it. Extreme heat – like extreme cold – brings death. More than 3,000 people lost their lives as a consequence of 2022's hot summer, including more than 1,000 senior citizens during the record-breaking heatwave in the second half of July.

The first heatwave of June this year is thought to have led to around

600 deaths, and there will be many more this summer. Future 40°C heatwaves will mean far higher death tolls amongst not only the elderly, but the very young and infirm.

A&E departments will be overwhelmed at times, as they struggle to manage temperatures in buildings not fit for purpose in a hotter world, and try to cope with the huge numbers of overheated, vulnerable people turning up at their doors.

And it won't be just the heat causing problems. Poor air quality from wildfires will affect those with respiratory diseases, while a hike in burns and trauma injuries can be expected as more people are directly affected by fires and flash floods.

Tropical diseases

Tropical diseases will also become more common, especially as winters become mild enough to allow mosquitoes to survive and breed. Just a few months ago, researchers working for the UK Health Security Agency and Animal and Plant Agency found mosquitoes carrying the West Nile fever virus in wetlands near Retford in Nottinghamshire.

We will need to be careful about how we store our food, too. A number of studies have already revealed a link between higher temperatures and food poisoning by *Salmonella* and other harmful

bacteria. And needless to say, incidences of skin cancer in the UK are already surging.

Unbearably hot homes

The UK has some of the worst-insulated homes in Europe, which is why you struggle to sleep when summer arrives. Good insulation helps to keep a house warm in winter, but also keeps out the heat in summer. In the future, several days of 40°C temperatures will make a large chunk of homes, especially flats, simply unlivable. For many, the only chance of sleeping will be to camp outside, in the street or local park. If you live in a basement flat, it might be a tad cooler, but listen out for flood warnings. Only last week, London Mayor Sadiq Khan warned that 50,000 people living in basements were at risk of flash floods.

I moved out of London to the Peak District after the 2003 heatwave, and now live 150 miles north of the capital and nearly 1,000ft uphill, and I don't regret it for a minute – especially at the height of summer. Heatwave temperatures here are typically at least 6°C lower than in London. As the summers get hotter, the housing market will be transformed as people decant from the cities into smaller towns or the countryside, seeking cooler conditions. There will also be a general movement northwards and uphill, where peak temperatures will be that much lower.

And as water supplies become compromised by heat and drought, rationing will become more common, so be prepared – on occasion – for baths to be banned and to have water supply limited to standpipes in the street. Finding the food you like to eat will become harder too, as crops in the UK and abroad suffer from extreme weather, causing shortages, massive price hikes and big gaps on supermarket shelves.

Oh, and if you don't want to miss an episode of *Strictly* during frequent power outages, you might want to invest in solar panels and battery storage.

Schools will shut

As France roasted last week in the blistering heatwave across Europe, an order went out to shut the schools. This will become commonplace in the UK in the next few decades. Most school buildings have poor insulation, and many are made largely of glass, which, in future heatwaves, will result in baking temperatures that make studying impossible and threaten the health and wellbeing of students. It may



Water levels in reservoirs will continue to fall as summers get hotter GETTY

We will avoid rather than embrace the sun, during June, July and August

be that the school year needs to be restructured, so that more teaching and exams take place outside the summer months.

In the raging heat, Italy was also forced to ban outside working during the hottest parts of the day across more than half its regions, including Lombardy and Emilia-Romagna in the north, following a number of heat-related deaths.

In the UK, the hotter summers to come will mean that working in the open will become dangerous during the hottest parts of the day, affecting the work schedules of farmers, builders, gardeners and others working outside.

Indoor workplaces and those who inhabit them will also suffer from increasingly stifling heat, especially as there is no legally binding maximum temperature in the UK for workspaces. Unions have been campaigning for years to have an enforceable limit in place, and it is now more desperately needed than ever. If you are one of the many who now work from home, this is unlikely to provide much respite.

The Med will empty

Historically, our weather has often been grim, and so we have sought out the sun whenever the opportunity has arisen. But this is already beginning to change. This year, eight per cent fewer Britons are heading for the Med at the height of the summer than in 2024, while Scandinavia is becoming more fashionable – an early sign of a future in which we will avoid rather than embrace the sun during June, July and August.

Breezy hills and mountains and wooded countryside will prove ever more attractive than slowly broiling on a stretch of baking sand. Anywhere close to water will become a honeypot and wild swimming will come into its own, as more and more venues open to meet demand.

Frequent power failures

During the four-day heatwave of July 2022, thousands of people across the country suffered power cuts. The heat caused power cables to sag and transformers to break down. It also meant hot power cables were unable to carry as much electricity.

Expect plenty more of this as summers get hotter, causing businesses to shut down and making working from home – with no power or internet – that much more problematic.

Demand also shoots up when it gets really hot, as people switch on fans or, if they have it, air conditioning, overloading the grid and making power failures more likely.

In the years ahead, many more people are likely to install air conditioning, which will place even greater strain on the energy supply.

In 2022, transport chaos also ensued, as the heat buckled rails and overhead cables expanded and sagged, sometimes short-circuiting or snapping. This is only going to get worse.

Roads won't fare much better either, as tarmacked surfaces melt into a gooey mess.

Don't expect flying to be any easier either – not that anyone should be flying during a climate emergency. Extreme temperatures reduce the air density and make it harder for fully loaded planes to get off the ground.

What can we do?

Government action is needed urgently, in the form of an emergency insulation programme that ensures UK homes are high-summer sanctuaries rather than death traps. Maximum temperature legislation needs to be introduced now for schools and workplaces, ensuring the safety of those studying and working, and including those who are forced by their occupations to work outside.

Public buildings need to be "greened"; trees planted to provide shade and reflective paint to cool them down. Public spaces need water features to provide respite from the heat, including sprinklers, misters and drinking fountains, and wild swimming needs to be facilitated in many more locations.

Above all, the Government needs to slash greenhouse gas emissions and ensure that no more fossil fuels are dug up and burned.

As individuals, there is plenty we can do to make future extreme heat waves more bearable. Install external shutters, paint roofs and walls with white reflective paint, and plant trees – lots of them. On top of this, do what's needed to cut your own greenhouse gas emissions: stop flying unless absolutely essential; switch to a renewable energy tariff; and swap your petrol or diesel car for an electric vehicle while using public transport as much as possible.

Your children and their children will thank you for it.

Bill McGuire, left, is professor emeritus of geophysical and climate hazards at UCL. His book, 'The Fate of the World: How our Future is Written in the Past', is out next year

