

# Environmental review of 2022: another mile on the ‘highway to climate hell’

Deadly floods in Pakistan and record heat in the UK were just two symptoms this year of the global crisis



Children take refuge along a damaged road amid flooding in Sehwan, Pakistan, in early September. Photograph: Akhtar Soomro/Reuters

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Two events in 2022 symbolised the climate breakdown that humanity is careering towards and the real, though fast-fading, hope that the world can still be steered away from calamity.

The first was the apocalyptic **floods that submerged a third of Pakistan**, the world's fifth most populous country, affecting 33 million people. Scientists found that the climate crisis had made the deluge **up to 50% more intense**.

The second was the re-election of **Luiz Inácio Lula da Silva as the president of Brazil**. Experts had said **the fate of the Amazon rested on the vote**. Another term of the rampant destruction seen under Jair Bolsonaro could have pushed the world's biggest rainforest past its tipping point, with global consequences.

Overall, however, the climate crisis is bleaker than it has ever been. In October, a **slew of reports** laid bare how close the planet had neared to irreversible climate breakdown, with one UN study stating there was **“no credible pathway in place to 1.5C”**, the internationally agreed limit for global heating, and that progress on cutting carbon emissions was **“woefully inadequate”**.



Icebergs at Disko Bay, Ilulissat, Greenland. Photograph: Hollandse Hoogte/Rex/Shutterstock

Scientists had revealed in September that **five “disastrous” tipping points** may already have been passed due to the 1.1C of global heating to date. These included the **collapse of Greenland’s ice cap**, eventually producing a huge sea level rise and the **collapse of a key current** in the north Atlantic, disrupting rain upon which billions of people depend for food.

The climate equation remains simple: carbon emissions must halve by 2030 to have an even chance of keeping to the 1.5C limit. But in 2022 **emissions will have risen to a record level**. “We are on a highway to climate hell with our foot on the accelerator,” said the UN secretary general, António Guterres.

It is clear that **no new fossil fuel projects** are consistent with climate goals. But in May the Guardian revealed that the world's biggest firms are planning **scores of "carbon bomb" oil and gas projects**, in effect placing multibillion-dollar bets against humanity halting global heating. Many of the **carbon bombs are in the fracking fields of the US**, the world's largest oil producer.

With high energy prices due to Russia's war in Ukraine, 2022 has been a bonanza year for fossil fuel companies, but it was also revealed that the oil and gas industry has delivered **\$1tn a day in pure profit** for the past 50 years.

The energy crisis also meant global **coal burning will hit an all-time high** in 2022, according to the International Energy Agency (IEA). But responsibility for emissions is highly unequal, data showed, even in wealthy nations: in the UK, a year of **emissions from richest people** is the same as the lowest earners produce in a quarter of a century.

## Deep impact

The effects of the climate crisis were clearer than ever in 2022. The Pakistan floods were preceded by a **searing heatwave** that also hit India and was made **30 times more likely by global heating**.

Dangerous **heatwaves also engulfed** parts of China, Europe, and the US, with scientists saying a northern hemisphere summer as hot as 2022 would have been "**virtually impossible**" without global heating, and led to a record drought. In the UK, **temperatures rose above 40C** for the first time, obliterating records and shocking scientists.



A man walks through corn crops amid a severe drought, near Jiujiang, China, in August. Photograph: Alex Plavevski/EPA

In the US, Hurricane Ian became the **most deadly hurricane** since Katrina in 2005, while the American west continued to struggle with the **most extreme megadrought** in at least 1,200 years. In Australia, hot seas led to the **Great Barrier Reef suffering its fourth mass bleaching** in just seven years. **Flooding also struck around the world**, including **Nigeria**, Australia, Thailand and Vietnam, and Venezuela.

In August, a Guardian analysis revealed how people across the world are losing their lives and livelihoods to heatwaves, floods, wildfires and droughts, all **made more deadly and more frequent** by the climate crisis. Sherry Rehman, Pakistan's climate minister, **said in September**: "This dystopia is on our doorstep; it's going to be next in their country [in the global north]. If you're not understanding that it's right here, right now, then you're really sleepwalking into annihilation."

A Guardian investigation also revealed how a lack of crop diversity means that the climate crisis was already **threatening many of our favourite foods**, including rice, chickpeas, coffee and vanilla.

## **'Turbocharged' renewables growth**

The Cop27 UN climate summit in Egypt in November was the key event intended to ramp up global action, but two weeks of **increasingly fractious and messy talks** ended "**disappointment**" for those **hoping for progress** on the global goal of limiting temperature rises to 1.5C. The target came under attack from countries including Saudi Arabia and other Gulf states, Russia, Brazil and China.

However, there were at least **signs of a much-needed pact between the developed and developing world** in an agreement to set up a fund for loss and damage. Its purpose is to help rebuild countries and communities laid waste by the unavoidable ravages of climate breakdown. Rich countries will be expected to pay into the fund and it will pay out to the poorest countries which are suffering most. Deals to **phase out coal use** in South Africa, Indonesia and Vietnam were also a plus in 2022.

In the US, President Joe Biden passed the **biggest climate bill** in the country's history, channelling \$369bn in support to renewable energy, electric cars and heating, and energy efficiency. The US is the world's second biggest polluter and

the bill could lead to emissions being slashed by 40% by 2030, compared with 2005.



A bush fire seen from Port Noarlunga, South Australia. Photograph: Matthew Orr/Getty Images

In Australia, after nearly a decade of destruction and delay under conservative administrations, a new Labor government quickly increased the nation's climate target from a 26% reduction in emissions by 2030 to 43%. It also passed the **country's first climate change legislation** since 2011. The new climate change minister, Chris Bowen, was nonetheless cautious, saying: "Today doesn't mark the end of the work; today the work just gets started."

Russia's war in Ukraine pushed up energy prices. But it also sparked an **efficiency drive in Europe** and "**turbocharged**" **renewable energy growth**, according to the IEA. However, political turmoil in the UK **delayed action on efficiency** and its government also approved its first **new coal mine for 30 years** and **opposed solar farms**, undermining its international reputation on climate.

New forms of climate protest sprang up in the UK and rapidly spread to other countries. The most high-profile action by the Just Stop Oil group saw **tomato soup thrown** onto the glass covering Van Gogh's famous Sunflowers painting. Another group, called Tyre Extinguishers, claimed to have "disarmed" – **deflated the tyres** – on more than 600 SUVs in one night, across nine countries.

## **Deal for nature**

Humanity's destruction of wildlife and nature is seen by scientists as just as serious as the climate crisis, with some arguing a **sixth mass extinction is under way** that will undermine the clean air, water and food that civilisation depends upon. Data released in 2022 indicates the destruction continues apace, with the average size of **animal populations now having plunged by 70%** since 1970.

But while more than 100 world leaders attended Cop27, the equivalent event for biodiversity – **Cop15** – attracted none. That was despite Cop15 being charged with the greater task, sealing a deal on the action for the decade ahead.

In the event, the **deal struck by the world's nations in Montreal** was largely seen as historic. It included **targets to protect 30% of land and oceans** for nature by 2030, reform \$500bn of environmentally damaging subsidies, tackle species extinctions, increase funding and, crucially, to promote and protect rights of Indigenous peoples.

The test will be whether these targets are met – the ones set a decade ago **were all missed**.

## **Chemical cocktails**

Pollution is the third major environmental crisis and January saw scientists reach a striking conclusion – the **cocktail of chemicals pervading the planet** now threatens the stability of global ecosystems upon which humanity depends. The release of 350,000 synthetic chemicals including plastics, pesticides, industrial compounds and antibiotics, meant chemical pollution has crossed a “planetary boundary”, they said.

Toxic air, water and soil are already **killing 9 million people** a year, another report found, making it responsible for one in six of all deaths. Pollution “is an existential threat to human health and planetary health, and jeopardises the sustainability of modern societies”, the review concluded.



A woman wears a scarf over her face as she walks past factories in Skopje, North Macedonia. Photograph: Georgi Licovski/EPA-EFE

More of the impacts of pollution on people were revealed in 2022, with environmental **toxins being linked to the worsening obesity** pandemic and to **falling sperm quality**.

The presence of **air pollution particles in the lungs, livers and brains** of unborn babies, long before they have taken their first breath, was revealed in October. Researchers said the discovery was “very worrying”, as the gestation period of fetuses is the most vulnerable stage of human development. Separate research estimated that almost a **million stillbirths a year** can be attributed to air pollution.

Microplastics, another planet-pervading pollutant, was **found in human blood** for the first time in 2022, showing the particles can travel around the body and may lodge in organs. In March, world leaders from 173 countries agreed to develop a **legally binding treaty on plastic waste** over the next two years.

The problem of sewage pollution was particularly high profile in England, with water companies revealed to have **discharged raw sewage into rivers** 372,533 times in a year. One company was also found to have **dumped sewage onto**

**bathing beaches** 493 times in just eight days in November. A Guardian investigation revealed how the privatised water companies **suck billions of pounds a year** out of England's water system in dividends and debt payments, a situation described by one expert as "a scandal of financial engineering".

### **Attention grabbers**

Among the stories that really caught the attention of readers in 2022 was a spectacular collection of images, headlined: '**It was like an apocalyptic movie**': **20 climate photographs that changed the world**. The stunning images included dust storms in Australia, wildfires in Greece and huskies pulling a sled through water in Greenland.

Another spectacular story was the discovery of what may be the world's longest animal – a **45-metre-long deep-sea siphonophore**, arranged in a feeding spiral and trailing its deadly tentacles.

Calling out bad behaviour was popular with readers, from the short **private jet flights of Kylie Jenner** and other celebrities to the "**word salad of nonsense**" spouted by Jordan Peterson about climate models.

Homely subjects were also popular, including advice to UK gardeners to **refrain from mowing their lawns until May** in order to let wild plants and insects thrive and the news that a bird flu outbreak meant that **free-range eggs were no longer available** after hens were moved indoors.



Indigenous people demand justice for Dom Phillips and Bruno Pereira, at the supreme court in Brasilia. Photograph: Evaristo Sa/AFP/Getty Images

## Final farewells

Finally, 2022 saw the **deaths of the Guardian writer Dom Phillips and Indigenous activist Bruno Pereira**, murdered in the Brazilian Amazon. They were killed in “an undeclared global war against nature and the people who defend it,” wrote Jonathan Watts, a Guardian staffer and Phillips’s friend.

The British scientist **James Lovelock also died** in 2022, at the age of 103. He was best known for his Gaia hypothesis, the idea that life on Earth is a self-regulating community of organisms interacting with each other and their surroundings.

Lovelock worked well into his 90s, saying in 2011: “My main reason for not relaxing into contented retirement is that, like most of you, I am deeply concerned about the probability of massively harmful climate change and the need to do something about it now.”