

# CLIMATE CHANGE? YOU AIN'T SEEN NOTHING YET

A meteorologist's view of why we need to take global warming seriously and do what we can – however small – to help reverse the trend

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So, here we are at the climate crosshairs, with 2023 being the warmest year on Earth for at least 120,000 years and we had (at the time of writing) at least two days when average global temperatures exceeded 2°C above pre-industrial levels.

It might not have felt like a hothouse at times – and certainly not right now when you might be more concerned about flood threats opposed to debilitating heatwaves and droughts – but the climate ‘Titanic’ remains firmly on course for the ominous iceberg that awaits.

Not concerned? Well, you should be. Indeed, groundspeople and all those involved in the upkeep and wellbeing of the Earth's surface are positioned near the front of the Titanic as lookouts, with their feet firmly planted on the deck and eyes staring towards the horizon.

## RECENT WEATHER EVENTS

You may have already noticed some changes in the behaviour of your own patch. The UK's record-breaking heat of June, September and October in 2023 followed on from the record-breaking

40.3°C the year before. However, if you happen to have straddled those events, as well as the autumn storms and floods, then simply join the dots around the world from major and sometimes catastrophic occurrences, such as the wildfires in Maui, Hawaii, or the shocking Derna dam-busting floods in Libya.

The unnaturally high winds in Maui and weak dam structures in Derna may have contributed massively to both disasters, but underpinning the pair was prolonged drought in one and unprecedented biblical rainfall



Above: Wildfires rage through British Columbia, Canada, last year, inflicting air pollution on millions of Americans

Below: Extensive flooding caused by Storm Babet in the UK in October 2023



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## Trusted resources

There are a number of reputable websites you can turn to for reliable information on climate change, the science behind it and evidence that the effects are happening right here, right now. Here are just a few:

- **The National Oceanic and Atmospheric Administration: [noaa.gov](http://noaa.gov)**
- **The World Meteorological Organization: [wmo.int](http://wmo.int)**
- **NASA: [science.nasa.gov](http://science.nasa.gov)**
- **Met Office: [metoffice.gov.uk](http://metoffice.gov.uk)**

in the other. There were plenty of other impacts caused by climate shifts, such as the record-breaking Canadian wildfires and the devastating floods in Somalia that lifted bodies from cemeteries and carried them into a local town like some horror movie – only it was very real.

If you are of the mind to reject the evidence or have dismissed the incontrovertible evidence supplied by climate scientists from the likes of NASA, the National Oceanic and Atmospheric Administration and the World Meteorological Organization, you should ask yourself what exactly your denials are based on.

Your gut feelings could be far from a safe indicator of climate change – and beyond that is the perilous world of social media, heavily polluted by politicians spouting misinformation.

It is, however, fair to say that there are people who are genuinely concerned but

yet to be convinced, to whom I would politely offer a key word if I may – and that is ‘education’.

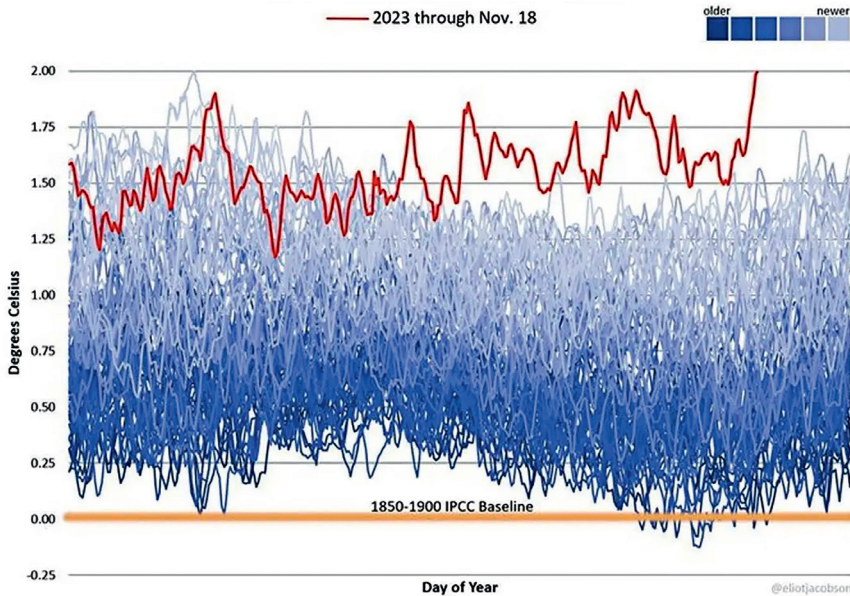
### UNDERSTANDING THE FACTS

Most of us strive to be educated in pivotal fields we don’t fully understand, and I too continue to learn in the fast-moving and fast-changing profession that I inhabit. The Met Office and the organisations I have already mentioned (and many others) have superb websites that provide unbiased, simple information concerning climate change, including verifiable data sets. Yes, you will find anomalies and questions not yet answered – after all, we are now alive in a brand-new epoch called the Anthropocene, where mankind is the dominant force, a force for good, and bad, where we have created our own successes, dilemmas and outright dangers.

**MAYBE IT WILL TAKE A FEW DECADES OR EVEN A CENTURY OR TWO. IT MAY BE A VERY SLOW PROCESS, A SLOW DECLINE AND A SLOW DEATH, WHERE WE DON’T FULLY REALISE OUR FATE UNTIL IT’S TOO LATE**

Just to put a little flesh on that: there are nine known environmental ‘tipping points’ and straying too far towards any one of them could mean the end of human life on Earth. Let me make it clear, the planet itself will survive after we are long gone, much as it did (albeit with recovery periods) following the five previous mass global extinctions. It’s just the human race and other inhabitants that will be exterminated.

**GLOBAL 2m SURFACE TEMPERATURE ANOMALIES:  
1940–2023 VS 1850–1900 IPCC BASELINE**



DATA: NCEP CLIMATE FORECAST SYSTEM 1979–2023, COPERNICUS adj. 1940–1978 © Professor Eliot Jacobson

**WITH CLIMATE, BIOMASS  
AND BIODIVERSITY, WE ARE  
ALREADY TREADING ON VERY  
THIN ICE AND HEADING TO  
A POINT OF NO RECOVERY**



Left: Global surface temperatures have shown a marked increase since 1850

Above: High summer temperatures make sportsturf management a challenge

Three of the nine headings in the ‘The nine environmental tipping points’ (see below right) are coloured red – and red spells danger. With climate, biomass and biodiversity, we are already treading on very thin ice and heading to a point of no recovery. Lose one of the three and as a species we are doomed.

The problem is that we cannot yet say how long we might be able to stand up on this rapidly thinning ice and what it may mean to us in the interim period. Maybe it will take a few decades or even a century or two. It may be a very slow process, a slow decline and a slow death, where we don’t fully realise our fate until it’s too late.

Or maybe we finally come to our senses and earnestly turnabout, perhaps assisted by technology, but more likely a strong will to survive.

I am *not* a ‘climate alarmist’, far from it. I’ve been doing this job for over 40 years and in all that time I’ve witnessed the shifting sands with my own eyes. However, at the same time I’m an optimist and we have to be full-on positive if we are to emerge from what we have created. Maybe the effort required to turn the ‘Titanic’ around won’t fully mend things in our respective lifetimes, but what we do now is for our children, grandchildren and for generations to come.

**FUTURE CONCERNS**

With climate change and the El Niño phenomenon to contend with, we have all got to be on our toes. What we have ahead of us is something of an unknown, not just in whether we see sudden wintry blasts, but what comes after that by way of storms, floods, droughts, excessive heat and other unsavoury happenings. We are steaming towards this immense ‘iceberg’ and there will be chaos along the way, simply because nothing has changed as far as fossil fuel emissions are concerned, and more heat in the atmosphere will make for more danger and with it more catastrophes.

We can turn a corner; we can be sharp and alert to the dangers. We can change our ill-gotten practices and let no one say it won’t make a difference – it will. And when it does, you can say that you did your bit.

■ **Jim Dale is author of *Weather or Not? The Personal & Commercial Impacts of Weather & Climate* and the co-author of *Surviving Extreme Weather: The Complete Climate Change Preparedness Manual*, available from April 2024. [Jim@britishweatherservices.co.uk](mailto:Jim@britishweatherservices.co.uk) X @BritWeatherSvs**

**The nine environmental tipping points**

1. **Climate.**
2. **Biomass: forests, wetlands, grasslands etc. It's what goes to feed and enrich the Earth and oceans.**
3. **Biodiversity: other species, such as insects, animals, plants etc.**
4. **Water, specifically the water cycle and the lack of fresh water.**
5. **Nutrients: natural chemicals, elements that make us what we are.**
6. **Ocean acidification: the PH value of what covers 71% of the planet.**
7. **Man-made pollutants: nuclear, plastics, clothing, general waste products.**
8. **Aerosols: traffic fumes, contrails, particles etc.**
9. **Ozone layer: our stratospheric shield from the sun's dangerous ultraviolet light.**

**Key** ● **Now at severe risk** ● Moving towards the edge ● Currently safe

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