



Second Nature 065 (June 2026)

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Welcome to new subscribers Kay and Mick from Cambridge, Chris from Hagley, Caroline from Grange-over-Sands, Toni from Dingwall, Rachel from Climate Matters, and Jennifer from 'Keep Fit to Music', which sounds a fine group to belong to.

In this issue: Earth's energy imbalance is at record levels, climate model CMIP drops worst-case scenario, NSF to dismantle Ocean Observatories Initiative, Atlantic cold blob is bad news for AMOC, El Niño kicks off, mangrove forests are healing, drone used to catch fly tippers, social tipping points, de-linking gas and electricity prices, subscriber Ian achieves greatly-reduced CO2 emissions.

Climate Science

Lots of new science, including more on the AMOC. There are not many reasons to be cheerful; however our efforts to tackle climate change have made a difference. We have averted the worst climate future once thought possible. And mangrove forests have revealed a remarkable capacity to regenerate naturally once humans stop chopping them down.

Earth's energy imbalance has doubled

[Indicators of Global Climate Change 2025](#) is a review produced by a large group of researchers and published 11 June in Earth Systems Science Data. Group leaders Piers Forster and Debbie Rosen have written a summary in The Conversation, from which I've taken an extract. I've edited it a bit.

The Earth's energy imbalance – the difference between the amount of energy entering and leaving the planet – has doubled in recent decades, and is now at record levels. This is a key indicator of the pace and scale of human-caused climate change. In a climate unaffected by human greenhouse gas emissions, the Earth's energy imbalance would be zero. But, since the 1970s, the Earth has become increasingly out of balance. This rate of increase is faster than expected.

Most of the excess heat doesn't stay in the atmosphere: around 90% of it is being absorbed by the oceans, which act as a vast heat sink, but the consequences are playing out across the entire Earth system. The oceans are warming, ice sheets and glaciers are melting, and permafrost is thawing.

Sea levels are rising too, driven by thermal expansion of the warming ocean (a physical increase in the volume of seawater as it absorbs heat) and melting of land-based ice. Since 1901, the global sea level has increased by about 23cm. Even relatively small increases in sea levels can make storm surges more dangerous, increase coastal flooding and damage ecosystems and infrastructure.

The rate of sea level rise is speeding up. Between 1901 and 2018, it rose by around 1.7mm per year. In the decade 2006-25 this rate has more than doubled to over 3.6mm per year.

[Earth's energy imbalance has doubled](#) | Piers Forster and Debbie Rosen in The Conversation, 11 June

WRONG! WRONG! WRONG!

Climate commentator **Donald** posts:



Donald J. Trump  
@realDonaldTrump

GOOD RIDDANCE! After 15 years of Dumocrats promising that "Climate Change" is going to destroy the Planet, the United Nations TOP Climate Committee just admitted that its own projections (RCP8.5) were WRONG! WRONG! WRONG! For far too long Climate Activism has been used by Dumocrats to scare Americans, push horrible Energy Polices, and fund BILLIONS into their bogus research programs. Unlike the Dumocrats, who use Climate Alarmism nonsense to push their GREEN NEW SCAM, my Administration will always be based on TRUTH, SCIENCE, and FACT! President DONALD J. TRUMP

7.91k ReTruths 28.1k Likes

May 17, 2026, 7:57 AM

What has in fact happened here is that the Climate Model Intercomparison Project (CMIP) has dropped its worst case scenario RCP8.5. CMIP gives the climate-modelling community a framework that allows for millions of results to be collected together and compared. The resulting projections are used in climate science and policy and in the landmark reports of the Intergovernmental Panel on Climate Change (IPCC). In RCP8.5 nations make no effort to cut emissions and expand fossil fuel use; by 2100, CO₂ levels almost triple to 1135 ppm and the world is around 4.5°C hotter than the pre-industrial period.

[How CMIP7 will shape the next wave of climate science](#) | Multiple authors for Carbon Brief, 22 May

Climate scientist Andrew King writes in *The Conversation*:

The removal of this high-emissions scenario isn't, as Trump and other climate sceptics have claimed, a sign of failed modelling, or that climate change was a hoax. It's a sign that the expansion of solar, wind, electric vehicles and batteries have slowed emissions growth.

*The climate scientists responsible for laying out the range of possible futures removed RCP8.5 for a very good reason. Although often slow and incomplete, **our efforts to tackle climate change have made a difference. We have averted the worst climate future once thought possible.** [My emphasis]*

So this is good news. Just one cheer, however:

While the worst outcome has been averted, we have also missed the window for the best future climate. The new scenarios have no pathway as optimistic as the lowest emissions scenario from the last round of major climate projections. That scenario – SSP1-1.9 – envisaged strong climate action and rapid cuts to emissions, leading to global warming peaking at around 1.5°C.

Because global emissions haven't yet begun to fall, the most optimistic new pathway would lead to warming peaking at about 1.9°C.

While we will definitely now pass 1.5°C, the hope is to only temporarily overshoot that level of warming while working to draw CO₂ back out of the atmosphere to get back to 1.5°C.

Our current emissions trajectory is somewhere in the middle – below the high emissions path but well above the most optimistic scenario. Based on current policies and countries' actions, we're looking at around 2.6°C warming by 2100.

[Scientists have scrapped the worst-case climate scenario – because action is making a difference](#) | Andrew King in *The Conversation*, 27 May

Donald promises an administration based on Truth, Science, and Fact - but not data, it seems.

His administration plans to dismantle a \$368m deep-sea observation system that provides crucial data on ocean systems and climate change. The National Science Foundation (NSF) announced that it had “**initiated descopeing of the Ocean Observatories Initiative (OOI)**”. The OOI is a network comprising more than 900 instruments that collect data on ocean health, including current patterns, climate variability and marine biodiversity.

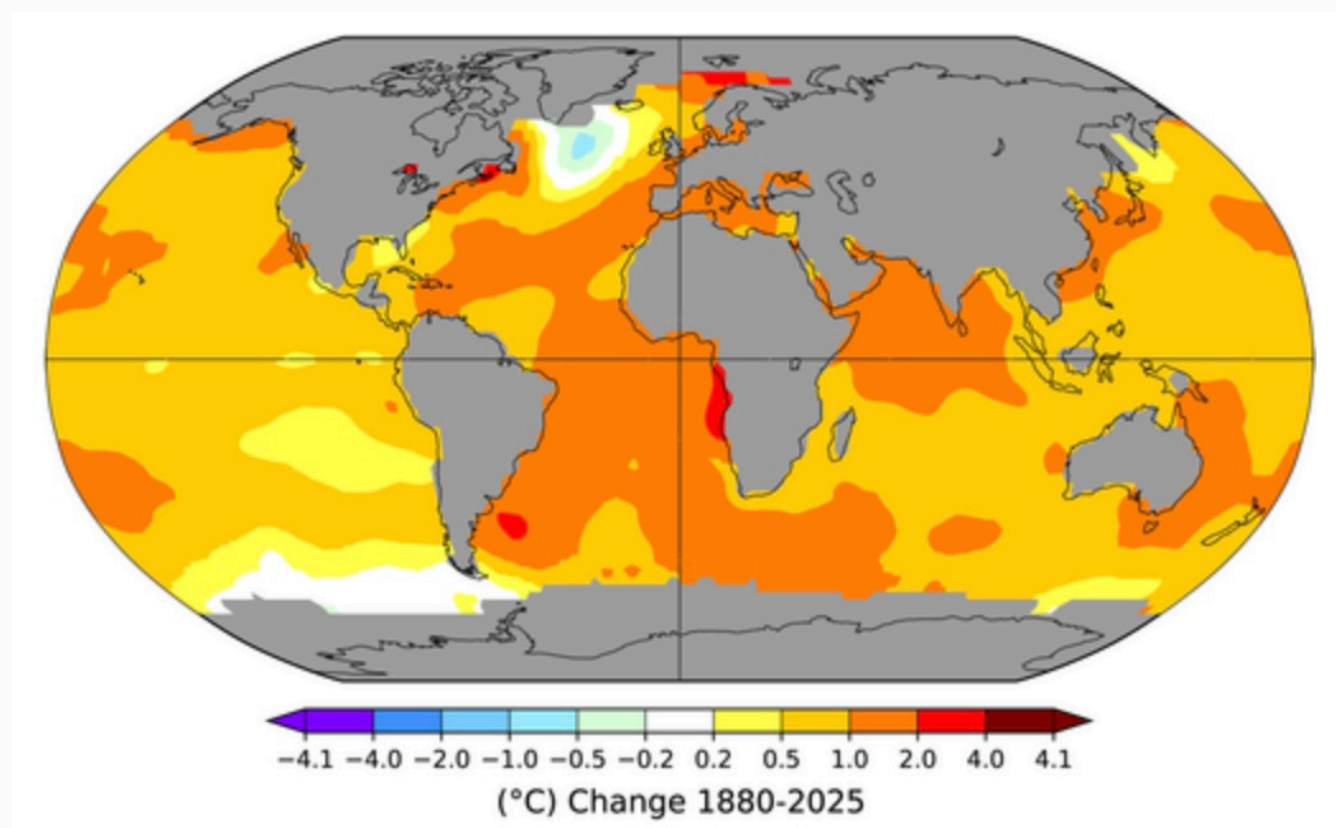
The announcement, issued on 21 May, came just days after Trump fired all members of the independent board that oversees the NSF.

Scientists say that dismantling the OOI will ‘severely degrade’ the accuracy of weather predictions.

[Dismay as Trump officials to dismantle key ocean monitoring system](#) | Maya Yang in the Guardian, 3 June

[Trump plan to axe US ocean monitoring system will leave world ‘flying blind’](#) | Karen McVeigh in the Guardian, 5 June

A cold blob



A region of the northern Atlantic – sometimes called the “cold blob” – has cooled since the 19th Century while the rest of the world has warmed. It is particularly the ocean which has cooled there. Scientists have been discussing whether this is because ocean currents bring less heat

into this region, or because more heat is being lost through the sea surface there. An analysis of temperature data sets based on measurements show it is the former— changing ocean heat transport – which dominates heat content changes in the cold blob. This is of concern because a further weakening of Atlantic heat transport in future climate change could lead to serious impacts on climate and weather conditions in Europe and other parts of the world.

This is the plain language summary from [Multidecadal Atlantic “Warming Hole” Heat Content Variations Are Caused by Ocean Heat Transport, Not by Surface Fluxes](#) | Rahmstorf et al, Geophysical Research Letters 28 May.

Nature Briefing Anthropocene reports this work with the title 'Atlantic cold blob is bad news for AMOC'. For a summary of the science around the AMOC, go to [Carbon Brief](#).

El Niño begins

The natural weather phenomenon El Niño, which can raise global heat and “bring domino weather effects across the planet”, is now underway, the US National Oceanic and Atmospheric Administration declared on Thursday. The Japanese Meteorological Administration also identified the start of El Niño on Wednesday. According to the Japanese weather agency, the event is “expected to intensify in the coming months and become very strong later in the year, persisting into at least December”. [BBC News](#) reported that “many forecasts suggest this could end up as a so-called ‘super’ El Niño” and be “among the strongest ever recorded”. It added: “Coming on top of decades of human-caused warming, it could bring another record-hot year – most likely in 2027 – with disruption to weather, food supplies and economies running well into that year.” *Source: Carbon Brief.*

Mangrove forests are healing

Coastal mangrove forests are staging a comeback. They protect millions of people from storms - and soak up vast amounts of planet-warming gases. For decades they had been declining rapidly as they were cleared for fish farms and housing, but a new study shows that since 2010 the world has been gaining more mangroves than it has been losing - driven by stronger legal protections and increased public awareness of their importance, sparked by disasters such as the 2004 Indian Ocean tsunami.

The researchers say the key factor is the remarkable capacity of these forests to regenerate naturally once humans stop chopping them down.

[Mangrove forests are healing](#) | Matt McGrath and Esme Stallard for BBC News. 5 June

In other news ...

[A man and woman have been fined and ordered to pay costs](#) after the Environment Agency used drone footage and covert cameras to catch vehicles dumping waste near King's Lynn. The fines look relatively modest to me.

An article in The Conversation makes an interesting comment on **social tipping points** and draws a parallel with the collapse of the fur industry in the 1980s.

Tropical rainforests are edging towards collapse. But knowing how to stop deforestation isn't enough to drive action. The challenge is aligning all the pieces of the puzzle to initiate substantial change. Research suggests that the key is to persuade enough people to make the system tip in the right direction.

In the mid-1980s, the British fur industry collapsed in less than a decade. Famous retail stores shut down their fur departments. Fur farming was banned in 2000. By the late 2010s, even fashion houses whose heritage was built on the fur trade had gone fur free, citing consumer sentiment.

This abrupt change didn't come because of new technology or better regulation. It came because of a shift in social norms, triggered by David Bailey's Dumb Animals cinema ad campaign. This short film featured a catwalk model trailing a fur dripping with blood and a slogan: "It takes up to 40 dumb animals to make a fur coat. But only one to wear it." Once desirable and luxurious, fur coats quickly became taboo.

Unfortunately, a similar shift has not yet happened in how people consider tropical forest destruction.

[Positive tipping points may be the key to protecting tropical rainforests](#) | Steven R Smith and Tom Powell in The Conversation, 9 June

Thinktank Common Wealth argues that the government's approach to **de-linking gas and electricity prices** would lead to only modest savings for consumers. It offers a more radical idea whereby the government would buy all the power generated in England, Scotland and Wales through contracts offered to generators by a publicly accountable body. Gas-fired generators would join a "strategic gas reserve" and would be paid to step in when renewables were producing less or nuclear reactors were offline. The UK's legacy nuclear power plants, older windfarms that benefit from generous past subsidies, and existing hydroelectric

plants would be paid through public power purchase agreements. This looks a lot like Greenpeace's **Power Shift** report which I covered briefly in [Second Nature 043](#) back in October. Power Shift proposes taking gas plants out of the wholesale market and into a Regulated Asset Base where gas plants would only generate when called on by the energy system operator NESO, and at an agreed price.

[Households could save £200 on energy bills in plan to break link between gas and electricity prices](#) | Fiona Harvey in the Guardian, 10 June

Sources

SN065 uses or links to content from BBC News, Carbon Brief, The Conversation, Earth Systems Science Data, Geophysical Research Letters, GOV.UK, Greenpeace, the Guardian, Nature Briefing Anthropocene, [resourcemia](#), and Truth Social. All of this material is gratefully acknowledged.

Feedback

The most used link in SN064 was [A good life for the 99% isn't a pipe dream: it can be done](#), by Thomas Piketty and others. In second place [What your local council can actually do to tackle the climate crisis](#) by Rebecca Willis; in third place the learning survey from Oxford Brookes.

Ian emails to say for four years we've had solar panels and a battery on our house. And until Jan 2025 we had a gas boiler, which has been replaced by an air source heat pump. In July 2025 we replaced our diesel car with an EV. Being a typical ex-engineer, I've looked at the figures and it's quite surprising. The removal of the gas boiler and installation of a heat pump were part of some major building work we had done between October 2024 and April 2025. Because of this I've compiled figures for April-April 2023/24 and 2025/26.

So in 2023/24 we used 1,044kWh of electricity, our solar panels exported 1,619kWh and we used 11,350kWh of gas, making our total energy use 10,775kWh. In 2025/26 we used 5,917kWh electricity, exported 1,672kWh and used 0kWh of gas, making a total of 4,241kWh. Or to put it another way, a reduction of over 50%

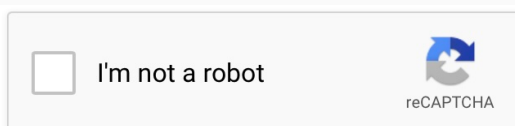
So while our overall electricity use has increased only 27% of that increase is from fossil fuels, and our direct fossil fuels used, gas, has gone from 11,350 to 0. According to our energy supplier, Octopus, all their electricity is zero carbon, so our increased electricity use has added no CO2 to the atmosphere. Which makes our figures even better.

And remember that this includes running an EV from July.

According to Hannah Ritchie an electric car is about four times as efficient as an internal combustion engine. Again I've looked at the figures for our car and Hannah's statement bears out. We have a Peugeot e208. according to Peugeot's website a petrol 208 will do about 506 miles on a 44 litre tank of petrol. 44l of petrol equates to around 400kW. The e208 will do 259miles on a 51kW charge, so two charges is a bit more than a tank of petrol. Or to put it another way 100kW of electricity equals 400kW of petrol. This matches Hannah's statement that an EV is four time as efficient as a petrol car. I know that people never get the mpg or electric range claimed, but I'm assuming that the official mpg and range figures are equally inaccurate when compared to the real world. So again switching to electric significantly reduces the amount of energy used and CO2 emitted, particularly as 100% of our electricity is zero carbon. And when I look at the costs. Even with electricity costing more per kWh than gas, our bills are down, and it gets even better when you remember we're not filling our car with diesel at today's prices.

I know there are many challenges electrifying everything, but due to the increased efficiencies and low CO2 emissions, it's worth the effort.

All feedback is welcome, if it is constructive (or instructive). Emails sent to u3asecondnature@gmail.com may be used here or on the website, unless you make it clear when you email that you don't want me to use your content. I may edit the material to save space, but I take care not to change its meaning. I won't share your contact details. I keep your emails in a Gmail folder to which only I have access, and delete them when I don't need them any more.



I don't use AI tools to compile Second Nature. Climate Matters member **Greg** however has no such reservations and has used ChatGPT and Gemini to create a poem "The Elephant in the Room". You can find it on his Facebook page [here](#). He says *I was impressed by how it captured what I was trying to say more eloquently than I did.*

Readers who find this newsletter useful may also like the [u3a Climate Change & Environment website](#) and the [Climate Group Leaders Facebook Group](#).

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