



Above: From a cloudless sky, the Sun blazed down on the hot day on August 2, 2018.

Editor: Martin Heath.

Heatwave and a fire close to home: it reminds us that the future Earth will be hotter and with more frequent and extreme fires.

This is the story of a world that we can yet save. It's not hopeless, but that depends on all of use keeping the politicians and planners on course. There will, however, come a time, when it really is too late.

Despite a few cooler days, a heatwave had been building for weeks.

Planet Earth continues to warm as the decades roll on and this July has seen a remarkable heatwave. Readers will have already read of heart-rending details in other parts of the Northern Hemisphere. Summer 2018 has brought home the reality of climate change.

Needless to say, the farmers in the SE have had their concerns and the prolonged absence of rain will not help the harvest. The bigger picture, unfortunately, includes many people who will have been experiencing an unpleasant heat and some face hospitalisation or risk of death. Planet Earth continues to warm as the decades roll on and this July and August have seen a remarkable heatwave. Our readers will not need us to tell them that there's been a heatwave at home.

TV, radio, news papers and internet have unfolded the story of an intense heat wave that has developed across the Northern Hemisphere. Climate was not the concern only for readers of the more highbrow press. The UK's *The Sun* (July 25, 2018) told its readers "THE WORLD'S ON FIRE," "Planet gripped by killer heatwave" and "Hundreds die in Europe and Japan". The UK's *Guardian* takes a close look at climate in more detail. It cannot avoid superlatives, "The big heatwave: from Algeria to the Arctic. But what's the cause?" The *Guardian* was responsibly cautious. It pointed out that climate change was not the whole picture.

The Met Office described Prof. Adam Scaife as "Adam leads our monthly to decadal prediction work while carrying out personal research on climate variability." The *Guardian*: "In fact, the situation is very like the one we had in 1976, when we had similar ocean temperatures in the Atlantic and an unchanging jet stream that left great areas of high pressure over many areas for long periods," They also explained, however, that since 1976, the worlds has become warmer, so that situations cannot simple repeat themselves.





On August 2, with my colleague Penelope Stanford, I was compiling some photographs, out on the sere meadow of long, dry grass on the wildlife area of Northfield, New Ash Green. The afternoon sunshine was hot and the sky was brilliant, blue and almost cloudless.

The first photo (above left) was taken at around half past two in the afternoon. Less than ten minutes later (right), the plume of smoke was well underway.

It was difficult to be sure how far away this fire might be. A garden bonfire in nearby Church Road or a heatwaye fire?

We soon discovered that it lay about two kilometres away in a parched fallow field along the quaintly named "Hartley Bottom Road."

As we arrived, we realised (below) that numerous fires were breaking out.





The photo above was kindly sent in to us by local resident Ryan Spellacey.

A railway line and houses were potentially under threat from the fire and local people were becoming concerned about their neighbours and children.

The field was not an easy place to be reached by fire engines, but they were on their way.

KentOnline reported: "Around 20 firefighters tackled a large grass fire in a field about the size of five football pitches."

During August 2, we saw a number of what appeared to be other fires, some in the distance.

KentOnline also published a report from another notable fire in a different locality, which took place on August 4.

This news outlet described: "Around 30 firefighters tackled a blaze in a standing corn field near Sittingbourne."

Right: On a cloudless day (August 2), the fires filled the air with their own local clouds.







Above right: Ryan Spellacey took this photo of clouds floating across the railway line.



Left and below: Our photos show more of the plumes, potential row of houses and a couple of the fire engines headed down the rural roads.

Compared with the devastating fire outbursts across the Northern Hemisphere, we experienced a very minor event, with, fortunately, a reassuring outcome.

The fires were put out, so we are told by KentOnline by officers armed only with beaters and backpacks and the incident was over by around 4:30 pm.

Meanwhile, the world media have Northern Hemisphere has witnessed multiple fires within the Arctic Circle.

The roll call from the media includes Alaska, California, Russia, Norway Sweden, Finland, Greece, Spain, Portugal and Saddleworth Moor (Northern England). Readers can chase these up in detail on the internet, but a comment on the California fires from President Trump does require a note here.



"Catastrophic wildfires continue to ravage California, as one blaze nearly doubled in size over the last three days, making it the largest in the state's history." Madison Park (CNN).

California has seen its largest outbreak of wildfires on record. The California Department of Forestry and fire Protection (Cal Fire), US Forest Service and National Interagency Fire Center reported that 5,038 fires have burned 2,881.9 km² or 712,135 acres (Eric Levenson, CNN August 8, 2018) "more than twice the land area of the city of Los Angeles."

A very strange announcement from President Trump.

This would be a major environmental event in its own right. Of no less importance, however, was the astonishing response from the nation's President. Donald Trump's twitter response was highlighted in an astonished report from Madison Park (CNN August 7, 2018).

The President claimed: "California wildfires are being magnified & made so much worse by the bad environmental laws which aren't allowing massive amount of readily available water to be properly utilized. It is being diverted into the Pacific Ocean. Must also tree clear to stop fire spreading!" (@realDonaldTrump August 5, 2018)

CNN asked for a response from geography professor Henri Grissino-Mayer, of the University of Tennessee. It wasn't immediately clear what Trump was alluding to concerning California's environmental laws, this statement made no obvious sense but Grissino-Mayer was able to clarify: "California does NOT divert water to the ocean . . . Ridiculous. It's true that water is diverted to the coastal cities for a constant water supply but all such water is used by the coastal communities."

Our believe is that this is an important, indeed, historical event: at a time of escalating fire emergency, with (at present) the deaths of 8 civilians and 4 firefighters, and immense loss of property, the President whilst personally ignorant of the physical realities of these events continues to fail to engage with scientific expertise, of which the USA is the global leader.

It is hard to conclude that this extraordinary behaviour from the President is not simple boorishness, because it is part of a long-term intention to undermine public confidence in the concept of climate change.

Numerous publications in the scientific journals have shown the danger of increased wildfires as the world becomes warmer. In May 30, 2018, a study from A. Park Williams of the Lamont-Doherty Earth Observatory (Columbia University), argued that urban sprawl and climate change both raise temperatures and this tends to dissipate more of cloud cover. This makes the ground yet hotter, because clouds reduce surface temperatures. Losing clouds will see an increase in wildfires.

Trump is eager to persuade his readers that wildfires have an explanation other than climate change. Why?

A. Park Williams, Pierre Gentine, Max A. Moritz, Dar A. Roberts, John T. Abatzoglou. Effect of reduced summer cloud shading on evaporative demand and wildfire in coastal southern California. *Geophysical Research Letters*, 2018; DOI:10.1029/2018GL077319

Lamont-Doherty Earth Observatory, Columbia University. "Increasing heat is driving off clouds that dampen California wildfires: Urbanization and climate change combine to heighten danger." ScienceDaily. ScienceDaily, 30 May 2018. www.sciencedaily.com/releases/2018/05/180530112935.htm



Above: Fires spreading along Hartley Bottom Road, Kent, on August 2, 2018.

Prime Meridian

Prime Meridian is published by the Ecospheres Project, a research and media collaboration.

This newsletter follows global environmental issues alongside the cycle of the seasons in South East England. It steps back to look at the Earth in its astronomical context and it pursues the search for other habitable worlds.

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