



Source: CNN
Wildfires and deadly heat waves across continents
01:07

Our climate plans are in pieces as killer summer shreds records

By [Angela Dewan](#), CNN

Updated 2342 GMT (0742 HKT) August 4, 2018

(CNN) Deadly fires have scorched swaths of the Northern Hemisphere this summer, from California to Arctic Sweden and down to Greece on the sunny Mediterranean. Drought in Europe has turned verdant land barren, while people in Japan and Korea are dying from record-breaking heat.

Climate change is here and is affecting the entire globe -- not just the polar bears or tiny islands vulnerable to rising sea levels -- scientists say. It is on the doorsteps of everyday Americans, Europeans and Asians, and the best evidence shows it will get much worse.

This summer, 119 people in Japan died in a heat wave, while [29 were killed in South Korea](#), officials there say. Ninety-one people in Greece died in wildfires, and ongoing fires in California have taken at least eight lives. Spain and Portugal sweltered through an exceptionally hot weekend with a heat wave that has [killed three people in Spain](#) and pushed temperatures toward record levels..

Deadly heat waves will become more frequent and occur in more places on the planet in coming decades, [according to a study published last summer in the journal Nature Climate Change](#). Extreme heat waves are frequently cited as one of the most direct effects of man-made climate change.

Remarkably, scientists can now work out in just a matter of days how much human-induced climate change has had to do with a particular weather event, using a combination of observation, historical data and current information from weather stations.



2018 is on pace to be the 4th-hottest year on record

"The European heat wave was at least twice as likely to happen because of human intervention. Based on findings in Ireland it was double -- and we know that with very high confidence -- and based on data from all other weather stations it was more than double," said Karsten Haustein from the World Weather Attribution Project, part of Oxford University's Environmental Change Institute.

Scientists have been able to use this kind of modeling for more than a decade, but improved technology now allows them to do it nearly in real time, letting people understand the links between what they are seeing and climate change.

Despite the deadly summer, overwhelming evidence that humans are altering the planet, and ever-improving science that links specific weather events to global warming, the international politics around the issue of climate change are in disarray. And there are alarming signs that the planet may be in worse shape than ever before.



A house is caught up in the Carr fire in Redding, California, on July 27.

A report released Wednesday by the US National Oceanic and Atmospheric Administration (NOAA) [gave the Earth in 2017 a grim report card](#).

The major greenhouse gases -- carbon dioxide, methane and nitrous oxide -- all rose to record levels last year. The global average carbon dioxide concentration was the highest ever recorded, and higher than at any point in the past 800,000 years, according to ice-core data.



Grim report card for planet ranks 2017 one of hottest years in recorded history

Spending on oil and gas increased last year, pushing up the share of fossil fuels in energy supply investment for the first time since 2014, [according to the International Energy Agency](#). Investment in renewable energy dropped 7%, while demand for coal rose, largely to keep Asia's furnaces burning as the region rapidly develops.

And last year also saw US President Donald Trump [announce his plan to pull the US from the Paris Agreement](#), in a striking blow to global action on climate change. The US is the world's second-biggest emitter of carbon dioxide, and a pact without the powerhouse nation is significantly weakened.

The symptoms of climate change were also dramatic. Last year was the second or third-hottest year on record, depending on the dataset used, following three record-breaking hot years, the NOAA report showed. It was the hottest year on record without an El Niño, the natural weather event that adds to the warming of the seas and the whole planet.

A new record for global sea levels was set. Unprecedented coral bleaching occurred, and both the Arctic and the Antarctic saw record-low levels of sea ice, as warmer air and seas continued the trend of thinning out the polar ice.

Most Americans accept man-made climate change is real

The Earth has been getting steadily warmer since humans began using high levels of fossil fuels in the 18th to 19th centuries, during the Industrial Revolution. The planet [has already warmed by around 1 degree Celsius](#) since the late 19th century.

More and more Americans are starting to accept climate change is happening, despite Trump's pledge to pull the US from the Paris Agreement.

American acceptance of climate change returned to an all-time high of 71% in October last year after sliding significantly from around a decade ago, [according to the Yale Program on Climate Change Communication](#), which conducts quarterly surveys on attitudes to global warming. It has dropped to 70% this year so far.

Some 58% of Americans believe that climate change is mostly man-made, a clear majority but a lower percentage than in most other developed nations.

This understanding that climate change is at least happening has a lot to do with what people are seeing and experiencing, according to the Yale program's director, Anthony Leiserowitz.

After the US was hit with several catastrophic hurricanes, the number of people who felt global warming was affecting US weather "a lot" leaped to 33% last October from 25% in May, five months earlier. That number went back down when winter came and extreme weather events subsided.



People walk through flooded roads in Houston, Texas, on August 27, 2017 as Hurricane Harvey hit the city.

"People are increasingly connecting the dots when they see these weather events happening across the United States," Leiserowitz said.

"It's about the pattern -- if an extreme event happens once or twice, it's just a coincidence, but three, five, 12, 22 times, seeing record-setting events, seeing 1,000-year event after 1,000-year event happen frequently, people begin to see that larger pattern, that climate change is actually affecting the weather today. And that's a new concept for many Americans."

This increase in awareness appears to be happening in Redding, California. The Carr Fire has torched more than 130,000 acres of land -- the equivalent of nearly 100,000 football fields -- and it became so big and hot this week, [it created its own weather system](#).

Firefighter Gabriel Lauderdale, 29, has lived all his life by the forest near Redding, and he says even that's enough time to have noticed the pattern and behavior of wildfires change dramatically.

"There seems to be more destructive wildfires and they're happening more frequently," said Lauderdale.

"It used to be that a 10,000-acre fire was a large fire, and in these cases, we're seeing many exceed 100,000 acres, and they reach that size relative quickly. They move into homes and businesses, and they move very fast from structure to structure."

The US pulls the plug on Paris

The Paris Agreement in 2015 was widely celebrated as an achievement, but it has major flaws -- it is not legally binding, it's unenforceable and soon it is likely to lack one of the world's biggest polluters.

The agreement's predecessor, the Kyoto Protocol, was much stronger. It set ambitious and legally binding emissions reduction targets. But it too had its problems.

It included only developed nations, so China, the world's biggest carbon emitter, was not obliged to make reductions.

This was always a sticking point for the US. George W. Bush in 2001 pulled his country out of the Kyoto agreement, which Congress had never ratified.

Kyoto's other major flaw was that although it was legally binding, no one was ever sanctioned for over-polluting.

So the success of Paris lies in the fact that it at least engaged more than just developed nations. Those who ratify it make pledges to combat climate change as their countries see fit, and they are obliged to report on them transparently, in more of a name-and-shame system than one with mutually set goals.

Another success of Paris is the recognition that the world should try to contain warming to 1.5 degrees Celsius above pre-industrial levels, or two degrees as a worst-case scenario.

The agreement, however, did not include the legally binding goals to reduce carbon emissions that were sought by Europe but largely opposed by the US.



Cars are blocked after a wildfire caused a road closure in Kineta in Greece on July 23.

Now the world is left with a watered-down agreement, and the country that pushed strongly for that dilution is no longer playing along.

Todd Stern, the chief US negotiator in Paris, and the Obama administration are credited with bringing the US back into the fold after pulling out of Kyoto. But, Stern said, they knew they would never get binding targets past Congress, so they went into talks seeking an agreement that wouldn't need Congressional approval.

Stern denies, however, that the US was the only one against binding targets, saying he would be "stunned" if all countries had agreed to get on board.



Deadly heat waves becoming more common due to climate change

He made clear his strong disapproval of Trump's announcement the day after it happened, and he has written op-ed after op-ed warning of the dangers of doing so.

"It's a completely mind-bogglingly, ill-informed and unwise decision for so many reasons," Stern told CNN, adding that the US was "too big and influential" to be left out.

Trump has governed with his "America First" agenda at the forefront of his policy making and had argued that the Paris Agreement placed "draconian" financial burdens on the American people.

"I was elected by the citizens of Pittsburgh, not Paris," he said [upon making his announcement in June last year](#).

With the Paris Agreement being largely non-binding and with the US out of the deal, environmental groups are calling on the rest of the world to make stronger commitments.

"All other nations have to ditch incremental action for transformational change," said Claire Norman, speaking for Friends of the Earth in the UK.

"Other nations will need to step up -- especially the UK, we used to be world-leading -- and use every diplomatic and economic tool to compel the US to act."

Europe's heat record could be broken in Spain and Portugal

2 August 2018



In Madrid, the heat has driven people to the city's fountains

As Europe bakes in another heatwave, forecasters say the all-time temperature record could be broken in the coming days.

The current European record is 48C (118.4F) set in Athens in July 1977.

Temperatures are rising in Spain and Portugal, aided by a surge of hot air sweeping in from Africa.

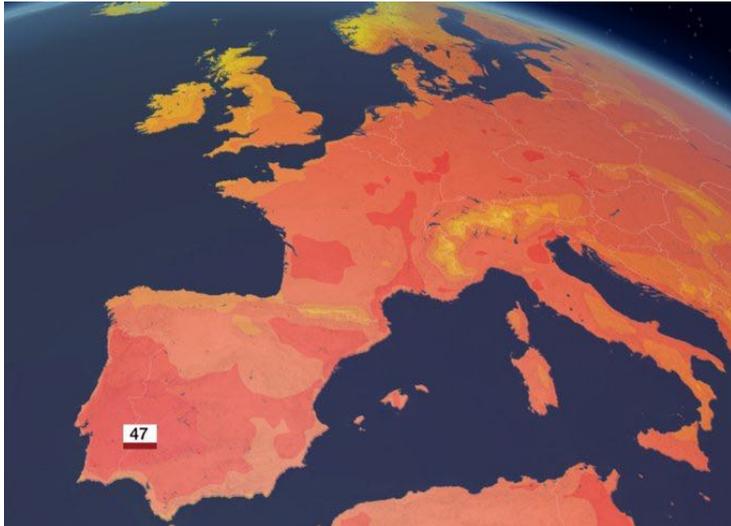
BBC Weather says the current forecast for southwestern Spain and southern and southeastern Portugal is 47C (116.6F) on both Friday and Saturday.

Portugal's national record is 47.4C (117.3F), set in 2003. Spain's peak of 47.3C (117.1F) was only set in July last year.

In the UK, temperatures are expected to reach about 33C (91.4F) in the southeast.

Spain's national weather service has put a warning in place until at least Sunday, saying the heatwave will be "especially intense and lasting in the southwest".

Europe's weather warning group, Meteoalarm, has already issued red warnings - categorised as very dangerous and posing a risk to life - for much of southern Portugal and for the Badajoz province in Spain.



Dangerously high (45C+) temperatures in SW Spain and SE Portugal. Extreme heat warnings have been issued there and in other parts of Europe as the heat builds. Jo #heatwave
9:21 PM - Aug 2, 2018

Italy has also issued red alerts across its centre and north, which includes the tourist hotspots of Rome, Florence and Venice. Meteogroup said there was a 40% chance of equalling the 48C record from Athens - and "a 25-30% chance that we will break the European temperature record".

European temperature records



Ipma, the Portuguese national weather service, said the period of exceptional heat was comparable to the 2003 record-setting season. Even the lowest overnight temperatures would stay between 25-30C (77-86F) for much of the country, it said. The sweltering Iberian temperatures follow weeks of sustained heat across Europe.



UPDATE: We've talked a lot about the heat across Iberia this week - at 10am, the temperature at Seville was 35.3 °C, already as hot as the UK's maximum temperature so far in 2018!
10:22 PM - Aug 2, 2018

Sweden's highest peak, a glacier on the Kebnekaise mountain, is melting at a rate of several centimetres a day. Scientists monitoring the decline say the glacier will lose its title of the highest point to the mountain's northern tip.
The Norwegian Public Roads Administration has urged drivers to watch out for reindeer and sheep sheltering in tunnels to cool down. Tore Lysberg of the administration told AFP news agency that "the animals retreat to colder places; both reindeer and sheep find refuge in tunnels and shaded areas". The temperature reached 31.2C on Wednesday in Finnmark, inside the Arctic Circle, but it is now below 20C.
Wildfires have raged across Greece killing more than 90 people, and Sweden has battled dozens of fires as far north as the Arctic Circle. While fires are an annual problem in much of Europe, the hot, dry conditions for an extended period of time made those fires much more likely.
Researchers said that **climate change made Europe's extended heatwave twice as likely** as it would otherwise have been.
The long, hot summer has been so consistent that it has put a strain on **German breweries, who have sold so much beer that there is a bottle shortage** - bouncing back from record low sales last year.
And in the German state of Saxony-Anhalt, extremely low water levels in the river Elbe have led to the discovery of World War Two grenades and ammunition, police said.
A few discoveries were made by people actively searching for old explosives on the river bed - which police warned was both "forbidden and dangerous".

Death toll from fires in Greece climbs to 91 as investigation points toward arson

By **BILL HUTCHINSON**
Jul 29, 2018, 5:34 PM ET



Antonis Nicolopoulos/Eurokinissi via Reuters

WATCH At least 74 killed as nearly 50 wildfires explode in parts of Greece

The death toll from wildfires that swept through a seaside area of [Greece](#) last week rose to 91 on Sunday and officials said 25 people remained missing.

Interested in Greece Wildfires?

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[Greece Wildfires](#)

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The number of people killed climbed from 86 on Saturday as search-and-rescue crews continued to search the widespread rubble on the outskirts of Athens.



Antonis Nicolopoulos/Eurokinissi via Reuters

An aerial view shows burnt houses and trees following a wildfire in the village of Mati, near Athens, Greece, July 25, 2018.

[more](#) ↑



Dive teams kept searching the sea off the shores of Mati, Rafina, Neos Voutzas and Kokkino Limanaki where many people fled to escape the fires, officials said.



Nearly 200 people, including children, were injured in the blazes.

[\(MORE: Greek investigators find 'serious indications' of arson in wildfires that killed at least 82 people\)](#)

The fire broke out in multiple places simultaneously in forest areas on July 23. Fanned by winds of up to 60 miles per hour, the fires quickly grew into raging infernos.



Copyright: Deodanis/Imagine Africa/ Pictures.com/ Getty Images
Dozens of cars destroyed by the blaze in the Mati area, Kokkino Limanaki in Greece, July 24, 2018.

Many people said they ran to the beach and dove into the sea, treading water for several hours before being rescued.

[\(MORE: Arson suspected in devastating fires in Greece that killed at least 79 people\)](#)

Government officials said last week that investigators found "serious indications" that the fires were deliberately set, saying they were started in at least 22 different locations.



Nikos Toskas, the country's public order minister, told reporters at a press conference on Thursday that satellite image analysis and ground inspections suggest the fires were the work of arsonists.

"We have serious indications of criminal acts... lots of fires appeared in a very short period of time," Toskas said during the press conference.



More than 1,000 homes and 300 vehicles were either destroyed or damaged by the fires, officials said.

It was the worst wildfire to hit Greece since August 2007, when fires erupted in the outskirts of Athens, killing 67 people.

Europe heatwave: Spain and Portugal struggle in 40C+ temperatures

4 August 2018



image copyright
EPA

Image caption:
The Algarve fire has been spreading through dense undergrowth

More than 700 firefighters are battling a major wildfire in southern Portugal's Algarve region, as parts of Europe continue to swelter.

Temperatures reached 46C (115F) in places, close to Portugal's national record of 47.4C (117.3F).

Soaring temperatures continued in Spain, where three deaths by heatstroke were reported.

A continent-wide heatwave in recent weeks has seen drought and wildfires from Greece to Sweden.

Temperatures above 40C in Spain and Portugal are expected to continue at least until Sunday.

The side effects of the European heatwave

In pictures: Europe heatwave

Portugal's Civil Protection Agency has been sending mobile text alerts warning of extreme fire risk in some areas, as they seek to avert casualties. Dozens of people were killed in two major forest fires last year.

Friday saw local all-time record temperatures at almost half the country's weather stations.



image copyright
EPA

Image caption:
Temperatures in parts of Portugal have topped 40C

A major fire broke out on Friday in Monchique, in Algarve, consuming more than 1,000 hectares of forest and forcing evacuations from one village.

On Saturday the fire was boosted by 46C temperatures with "a real feel of 50C", rescue operations head Victor Vaz Pinto told local media.

The fire has been spreading through eucalyptus forest and dense undergrowth, the Civil Protection Agency says.

Ten water-dropping planes have been assisting the firefighters.

Meanwhile in Spain, media reports said two people died of heatstroke in the southeastern Murcia region, while a third - believed to be homeless - died in Barcelona.



Media caption

BBC forecaster Chris Fawkes explains why temperatures have hit above 40C

Temperatures reached 44C in the southern city of Cordoba. Wildfires have been raging near Nerva, southern Spain, and near the capital Madrid. More fires have been reported in the Estremadura region close to the Portuguese border and in Catalonia near the French border.

Elsewhere in Europe:

Four nuclear reactors in **France** were forced to close because of the heat

Some sections of road closed in the **Netherlands** after asphalt melted in the heat

Temperatures remain in the high 20s in southern **England**

But in **Sweden** temperatures have dropped and some areas see rain showers after the country's hottest July for 250 years, which saw dozens of wildfires

The sweltering Iberian temperatures follow weeks of sustained heat across Europe, which saw Sweden's highest peak - a glacier - melting at a rate of several centimetres a day.

In Greece high winds fanned dangerous wildfires which killed more than 90 people.

Researchers said that **climate change made Europe's extended heatwave twice as likely** as it would otherwise have been.