

# Report finds extreme heatwaves would have been “virtually impossible” without global warming

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The Pacific Northwest heat wave that shattered temperature records in the western United States and Canada in late June would have been “virtually impossible” without human-caused climate change, and will become “a lot less rare” according to a report from the World Weather Attribution Group, a worldwide group of climate scientists.

Scientists from the US, Canada, the UK, the Netherlands, France, Germany and Switzerland collaborated to assess to what extent human-induced climate change made this heat wave hotter and more likely to occur.

Multiple cities in Oregon and Washington and the western provinces of Canada recorded temperatures far above 40 degrees Celsius (104 degrees Fahrenheit), including setting a new all-time Canadian temperature record of 49.6 degrees Celsius in the village of Lytton, British Columbia. Shortly after setting the record, Lytton, a town of 250 people with 1,000 more in nearby Indigenous reserves, was substantially destroyed in a wildfire, the report observed.

The report explains “The heatwave considered in this study is linked to a slow-moving strong high pressure system, sometimes called Omega-blocking or “heat dome,” which brings descending and thus warm and dry air, as well clear skies, further heating the near-surface air.

“Recent research suggests that climate change increases the chances for such stagnant high pressure systems in summer through weakening of the summer jet stream.

“An important feature of this extreme heatwave is that it occurred following a very dry spring over the Western U.S... Overall, it is difficult at this stage to

assess the extent to which these factors either in isolation or combined provide a good explanation of why the observed temperatures were so much higher than anything ever recorded in this part of the world. Hence, more research is needed to understand the processes as well as potential influence of human-caused climate change on them.”

The human impact in a region largely unprepared for such an extreme heat event cannot be overstated. The report points out that “The exceptionally high temperatures led to spikes in sudden deaths, and sharp increases in hospital visits for heat-related illnesses and emergency calls. Heatwaves are one of the deadliest natural hazards ... Currently available mortality estimates of at least several hundred additional deaths are almost certainly an underestimate. The full extent of the impact of this exceptional heat on population health will not be known for several months.”

Among the main findings in the report was the determination that “the occurrence of a heatwave with maximum daily temperatures as observed in the study area was virtually impossible without human-caused climate change.”

And even though it was a rare event, as warming continues, it will become a lot less rare.

The researchers' findings presented two likely scenarios that caused the extreme jump in peak temperatures.

First: “This is a very low probability event, even in the current climate which already includes about 1.2 degrees Celsius of global warming — the statistical equivalent of really bad luck, albeit aggravated by climate change.”

Second: “Nonlinear interactions in the climate have

substantially increased the probability of such extreme heat, much beyond the gradual increase in heat extremes that has been observed up to now.”

The researchers warned that “We need to investigate the second possibility further, although we note the climate models do not show it.” This event would have been “at least 150 times rarer without human-induced climate change.”

Looking into a future with 2 degrees Celsius of global warming (0.8 degrees Celsius warmer than today, which at current emission levels would be reached as early as the 2040s), this event would have been one degree warmer. An event like this, currently estimated to occur only once every 1000 years, would occur roughly every 5 to 10 years in that future world with 2 degrees Celsius of global warming.

The researchers warned, “Based on this first rapid analysis, we cannot say whether this was a so-called “freak” event (with a return time on the order of 1 in 1000 years or more) that largely occurred by chance, or whether our changing climate altered conditions conducive to heatwaves in the Pacific Northwest, which would imply that “bad luck” played a smaller role and this type of event would be more frequent in our current climate.

“In either case, the future will be characterized by more frequent, more severe, and longer heatwaves, highlighting the importance of significantly reducing our greenhouse gas emissions to reduce the amount of additional warming.

“The latest heat-related death numbers are alarming, yet they are likely a severe undercount and the real toll will only become clear after mortality statistics are reviewed for the role of heat in exacerbating underlying conditions.”

The report concludes: “Our results provide a strong warning: our rapidly warming climate is bringing us into uncharted territory that has significant consequences for health, well-being, and livelihoods. Adaptation and mitigation are urgently needed to prepare societies for a very different future. Adaptation measures need to be much more ambitious and take account of the rising risk of heatwaves around the world, including surprises such as this unexpected extreme.”

While the federal and state governments tinker around with free market, capitalist “solutions” to

climate change, such as the much-hyped Green New Deal, little to nothing has been done to prepare the infrastructure for the oncoming extreme heat waves that are already occurring and will become much more frequent in the very near future.

Extreme weather (both heat waves and deep freezes) affects millions of people and entire communities who are in most cases wholly unprepared to survive such recurring events.

Governments have not focused on preparing the infrastructure to help people survive, but rather, on “marketing new technologies” that enrich already massively wealthy corporations and individuals, such as Tesla, the maker of electric cars, which can only be purchased by an elite few.

Human-caused climate change could be re-named “Capitalist-Caused Climate Change,” a more apt description given the science as we now understand it. Massive multi-national oil companies such as Exxon-Mobil even admit they knew their industry would be causing an extreme global warming problem, as was widely reported in 2015, but covered up the information and kept pumping out fossil fuel filth anyway, harming people and the entire planet.



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