

CHERRYPICKING HARM TO CLIMATE DEBATE

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Debate on climate science, climate change and extreme fire events is being fuelled by commentators cherry-picking the science, creating doubt in the readers' and viewers' minds as to what is really going on, and undermining public support for climate-related policies and actions. Cherry-picking involves selecting fragments of scientific information and using these to support a predetermined point of view. This can involve selecting text from publications as well as misquoting or quoting scientists out of context.

Scientists can, occasionally, also be guilty of this misdemeanour but they are soon called out by their colleagues. While a common behaviour on social media, it can often be ignored as mere grist in the endless digital churn. Cherry-picking however, can have social impact when used by high-profile politicians and journalists. It is common to read in mainstream media that the current bushfires are unrelated to climate change, there has been no decrease in Australian rainfall, lack of prior fuel reduction burning is a major cause of these fires, and the current bushfires are not exceptional.

Such statements can of course be "fact checked", and for evidence we need to look no further than the climate update reports of the Bureau of Meteorology such as Climate of the 2018-2019 Financial Year and Special Climate Updates. Australian researchers are also writing accessible commentaries supported by peer-reviewed scientific papers. There is abundant evidence that our climate has changed, and we are experiencing the impacts now associated with 1C-plus global warming. In Australia these impacts include a five-fold increase in the frequency of extreme heatwave events, regions such as the Murray Irrigation Area and South West WA for the past three years having the lowest rainfall on record, and bushfires being experienced that are unprecedented in scale, number and intensity.

Climate is just the weather conditions averaged over a given time period, and climate change the measurable difference between the current and past climatic conditions. The Forest Fire Danger Index – a major component of bushfire danger ratings – is based on current weather conditions concerning air temperature, relative humidity, wind speed, fuel conditions, and the effect of drought. As the climate changes, so does fire weather, and the risk of bushfires.

The 1C of global warming to date is associated in Australia with long-term and more dangerous changes in fire weather conditions in many regions, including increased frequency and magnitude of extremes, as well as indicating an earlier start to the fire season. When the Forest Fire Danger Index was introduced in the 1960s, the values ranged from 1-100 calibrated to the most intense fires at the time. In 2009, the system was revised nationally to include index values above 100 and a new "catastrophic" level was adopted (called Code Red in Victoria).

Public commentators should also pay a little more respect to the projections of future climate generated by global and regional climate models, a scientific endeavour in which Australian science excels. These models accurately replicate current and past climatic conditions to the extent that

projections at least for temperatures are robust. The projected increase in maximum temperatures and extreme heatwave events suggests their impacts will be significant and disruptive to many sectors.

Of course, I could be accused in this article of also cherry-picking the science. But my aim is not to provide a comprehensive assessment of all relevant recent scientific data and literature. That is the job of the Intergovernmental Panel on Climate Change and the Sixth Assessment Report currently under way. My aim is more modest and simply to suggest that it is difficult for a scientifically literate person to examine the available data and authoritative literature and dismiss out of hand climate change, and its direct and indirect impacts on bushfires, as a minor risk not worthy of our attention.