



**News, Muse and Views from the United Nations Climate Change community for
Education, Communication and Outreach Stakeholders**

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ECOS Newsletter Special Issue- Australia

Editor's Note: We are grateful to our ECOS partner Dr. Susie Ho, who is Associate Dean for International and Graduate Education and Faculty of Science Course Director at Monash University in Melbourne, Australia for sharing her insights into recent climate and public health-related events in Australia in this special issue of the ECOS newsletter.



Overview

Both the bushfire crisis and the current coronavirus pandemic have become interesting and worrying case studies in the importance of effective public science communication, literacy and education in advancing global sustainability. This is because, in both cases, misinformation and misunderstanding have featured in the public and political discourse to some degree. For example, during Australia's bushfire crisis, arsonists

and limited backburning were initially viewed by some members of the public and leadership as the root cause of the crisis.

From a scientific perspective the true drivers are the multi-annual above average temperatures and prolonged dry conditions. With reference to COVID-19, we see multiple views circulating amongst the public as to how the virus is spread, how one can protect themselves, and the levels of risk. Misinformation is having negative impacts on individuals, the economy, and the implementation of measures for the protection of the community.

One may argue that both cases show that science education, communication and outreach are crucial to building community resilience and adaptation, and as a flow-on, can support better public policy and policy action. They also bring into stark relief a known challenge for those of us who work in SDG and climate-related education, communication and outreach. Namely, how do we communicate the complex interconnections between issues? Whilst wildfires and COVID may appear to be separate issues, they need to be concurrently addressed. Our role and challenge is to articulate the interrelationships between global sustainable development, climate change and public health during our public outreach work. These issues cannot be managed, nor understood, independently.

Reflections on the Australian Fires and Response

While cooler weather had brought some respite, by the end of January at least 100 fires were still burning in Australia. These fires, and [‘megafires’](#) which are defined as massive fires greater than 1.5 million acres, were touching all sectors of society and industry. The possible [long-term outcomes](#) are only just emerging. For example, while over [11 million hectares of bush and pasture burnt](#), and over 1 billion animals were estimated to be lost, more worrying for ecologists were the long term ramifications. What will the destruction of prime habitat mean for a broad range of threatened, endangered and even common species 50 years into the future? The long term impacts on freshwater and marine ecosystems, and insect pollinators and crops, are only starting to emerge. To provide another example, there was an increase in [mental health issues](#) and respiratory conditions during the fires but we do not know the long-term impacts on health. In addition, our future freshwater [supply was in peril](#), and was cut off in some towns, however longer-term catchment recovery will inform future capacity. The current - but also future ramifications - to infrastructure, education, health care, agriculture, and tourism, to name a few sectors, look significant.



The impacts go beyond Australia of course; the sheer size of these fires were a world first. In an immediate sense, the carbon emissions were likely over [400 million tonnes](#). Our national smoke plume literally circled the globe. Looking forward, increased wildfires worldwide will sharply increase global carbon emissions, which will in turn further increase the frequency of wildfires in a feedback loop. Australia's catastrophe are now seen as a [‘wake-up call to the world’](#) on climate change. Scientists warned these fires were a [sign of what to expect](#) under 3 degrees of global warming. [Sir David Attenborough](#) called this a ‘major international catastrophe’, a ‘moment of crisis’, and a call to climate action.

[Rob Russell](#) from Gosford, NSW, Australia

During the fires, our capital cities experienced some of the [worst air quality in the world](#). This caused illness and anxiety, particularly in the worst-hit states of New South Wales and Victoria. Day to day it meant that people couldn't open their windows during the summer nights, nor go for their daily run, and children were cooped up indoors during their summer holidays.

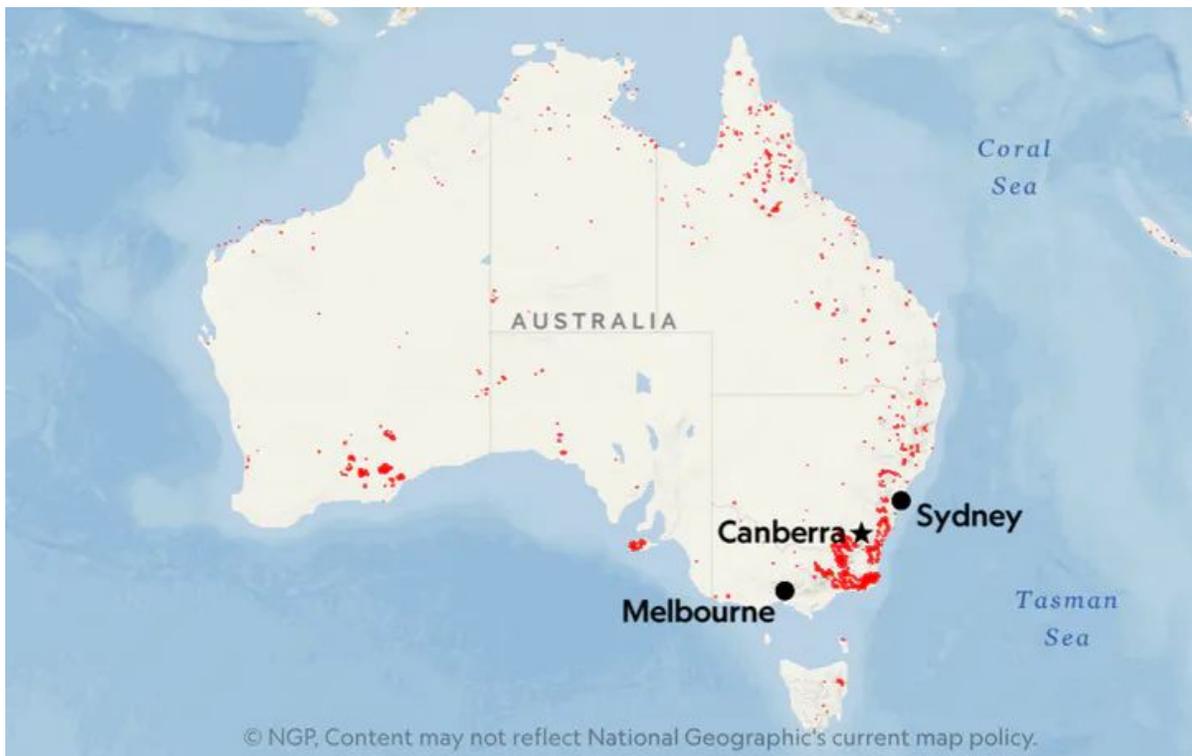


Protective masks were sold out (and are selling out again currently with COVID-19). People asked themselves - *is this the new normal?* Nationally experts suggested we move our [holiday season back two months to March](#). This might be safer and ensure our regional tourism industry would survive future fire seasons. [Tennis star Dalila Jakupovic](#) quit her qualifier at the Australian Open after a coughing fit. [Businesses and celebrities](#) pledged and fundraised millions in support and even spoke out on national

policy. In regional areas directly affected by fires, the situation was and is of course more dire.

At least 33 people were killed and over 2500 homes destroyed. Infrastructure, such as schools, water supply systems, resorts, fencing, roads and homes, now need to be rebuilt, with the [NSW government committing \\$1 billion](#) to these efforts. The number of tourists coming to Australia was down by 10-20% in January, at an estimated cost of \$4.5 billion - this impact is of course now greatly exacerbated by COVID. People were evacuated, sometimes with military assistance, or found themselves indefinitely relocated. For now, rural communities are surviving. They are rebuilding their homes, communities and regional industries, but also wondering how the government will support them and our largely voluntary emergency fire force in the long term. What will happen now that the media focus has shifted to the current COVID-19 crisis?

A wide range of experts are concerned about our response to this crisis and arguing for long-term thinking. Australia needs to keep a focus on science-based dialogue and education, to inform and underpin this big picture thinking. For example, misinformation was rife in the media during the fires. In some groups, 'greenies' were incorrectly viewed as contributing to insufficient backburning, while in fact, [state hazard-reduction burning](#) was hindered by the frequency of unsuitable hot and windy days under climate change. The [New York Times](#) reported on the conservative media's fanning of such narratives. [Our leaders for a time actively denied](#) the role of climate change, citing dry lightning strikes and arsonists rather than the reality of hotter and drier conditions. The general public shifted that conversation, fueled by the world calling out Australia's approaches. Organisations such as the [Australian Academy of Science](#) and [Nature Conservation Council](#) also issued statements to put the facts straight and highlight the need for far-sighted action.



The existing fires at of January 9 2020

One silver lining of the bushfire crisis was that it did stimulate more conversations about climate change. There was a new thirst for high quality information and climate education amongst the general public. At the time, you could pick up any paper, or walk into any cafe, and the people would be talking about climate change and what it meant for Australia and the world. The conversation on climate has slowed down a little given the COVID pandemic, but that issue is stimulating a similar thirst for science-based conversation, albeit digital conversation.

[There are many learnings from both cases that we need to take away and incorporate into long-term planning for an Australia under climate change.](#) While immediate efforts to deal with the fires, or COVID, are our priority, we must now think about long term recovery, resilience and adaptation. In terms of the fires, this includes but is not limited to future disaster management and funding, hazard reduction burning under unfavourable conditions, improved policy on infrastructure and relocation and other support for affected families, fire related PTSD and wellbeing recovery, the effects of extended exposure to smoke pollution in both healthy people as well as those with respiratory conditions, conservation recovery planning and strategy, managing destroyed catchments, reenvisioning tourism, and future water security with a view that we will need to divert water to fire efforts from agriculture and our drinking supply. This is not a full list but the tip of the iceberg.

Of course climate, health and sustainability education, outreach and communication must be part of any long-term plan, in alignment with UN Article 6. Dr Holmes, the Director of the Climate Change Communication Research Hub (Monash) said of the fires in January - *“This isn’t just about cyclical drought which politicians like to use to normalise the current situation (“we have always had droughts”), but about the fact that southern and inland areas of Australia are becoming much drier in a way that is overwhelming typical variability.”*

This is the sort of scientific nuance the public are now engaging with as a result of the fires (and now, in relation to COVID, where exponential growth is a hot topic), and we need to encourage and support this. We, the communicators and educators, must work to improve the public's access to good evidence and science-based education and literacy. This may also foster a mindset of long-term strategic thinking and planning in our nations.

Despite climate-anxiety, we should be inspired by the fact that [Australia's youth remain resolute ambassadors](#) for evidence and science-based dialogue and action. For example, this year I noticed a 20% increase in interest in the course I direct, the Master of Environment and Sustainability. Public interest is strengthening more broadly too. For example, the [National Climate Emergency Summit](#) in Melbourne this February featured many youth leaders, prominent politicians and public figures, and members of the public. As David Attenborough said, this is the 'moment of crisis'. Youth and science-informed climate outreach, communication, and education to the public have therefore arguably never been more important in Australia and beyond. Those of us who work in this space are activated, but we are also trying to recontextualise and understand our roles in this new era of wildfires and pandemic.



Graffiti in Melbourne's popular Hosier Lane in the CBD January 2020

My Experience



This December, after a beautiful hike to Australia's highest peak in Kosciuszko National Park, I listened to a group of fellow holidaymakers chat. They were trying to decide whether to continue their holiday or return to defend their homes. Though they had seen fires in Gippsland before, this was different. This was clearly a conversation they were surprised to be having. The situation had escalated rapidly. There was a feeling of disbelief and shock.

The unprecedented speed, severity and scale of the Australian fires became more real to me the next day. I headed down a small road towards the tiny coastal town of Narooma. Like thousands of other Australians from major cities like Canberra, Melbourne and Sydney, I was on my way to the New South Wales south coast for bushwalking, BBQs and sunburn. Australians make this pilgrimage each summer to reconnect with nature and the Australian identity. This annual migration supports the rural tourism industry and is something we've done since we were small.

Since Australia is a big country, the drive is typically relaxed. There is usually one road in and out, the petrol stops and their towns can be 1-2 hours apart, and usually the trip is peaceful. This time I noticed many cars travelling in the opposite direction, with bikes and kayaks on their roof racks. There was smoke on the horizon and it became thicker approaching the coast.

By the time I hit Bega, [a future evacuation point for tourists](#), I was outright nervous. There was 5 metres visibility. The mountains I had just left had fires and there was a fire ahead. I parked on the side of the road, and approached other cars. I'm a nervous city person from another state I said, what is happening and where should I go. The locals said because the roads were not yet closed by emergency services, I should continue to the coast. It would be fine, they said. We've had heavy smoke in the area for months now. The fifth lady I approached, was kind enough to look through the emergency Apps with me, such as NSW Fires Near Me and Emergency Road Closures. We listened to the local emergency radio together. We decided Canberra, which was four hours away, was my best and only option. I could not go back to the mountains, or to Melbourne or Sydney, due to new fires. I could see that even as a highly informed local, who had seen big fires before, she was unsure what to do. In fact she wasn't sure she would return home to her family. There was no official emergency for our specific location yet but it could happen, and rapidly. There were massive fires encroaching on us from the north, south and west.

A mushroom cloud of smoke materialised ahead of me on route to Canberra. To get to Canberra, a major city, I would have to pass through a windy alpine track, in the fire's path. I stopped at a pub in [Bemboka](#) (population 400). The forest road was officially closed but I didn't know how fast our fire would move. I asked - Should I stay at the Bemboka pub tonight rather than risk the forest pass? With typical Australian humour, the locals replied "Not if the pub's on fire". By the next day, it was. Although this group of experienced farmers had survived fires before, they said this year was different. It was clear they were gathering together at the pub for support.

The city of Canberra was awash with red smoke when I arrived. [Protective masks were sold out](#) due to the hazardous air quality. I had arrived safely but there was still a nervous drive ahead. As I travelled six hours to Melbourne, along one of Australia's main highways, the drive was thick with smoke. I checked four separate fire emergency Apps every 15 minutes because of how fast the fires were spreading. When a fire moved and I was unsure, I stopped and spoke to kindly locals about the safest routes. They were used to the smoke from Sydney, which had hung over the areas for months, but I could see they were newly anxious. The speed and scale of these new fires was unprecedented. During that single day, I watched many fires shift from 'watch and act' to 'emergency' status, new roads close, and new people evacuate.

Ultimately I was never in any real danger. However, like most Australians, both from the bush and city, the fires touched me personally and on a deep level. I saw fires connect across states and emergency announcements appear across the whole country over the period of a day. Once back home, my workplace, commute and city was blanketed in smoke. Through this, I have felt deeply for people, and as an ecologist, strong ecological grief too. I'm sure many can relate to this. My experiences are not in any way comparable to those who live and work within these affected fire zones. They cannot in any way approach the experience of those who may have lost everything, but simply serve an example of how the fires have touched Australians.



Pollution pods: [link to official site here](#). image (left) of first year undergraduate students visiting the pods after a discussion with the Environmental Protection Authority (EPA) on developing and implementing air quality standards.