

COMMUNICATION GUIDE: EXTREME WEATHER

Climate change is supercharging our atmosphere and leading to more frequent and severe extreme weather events, such as bushfires, heatwaves, flooding and cyclones. Australians are paying the price in costs to their health, lost lives and livelihoods.

We've produced this communication guide so you can accurately explain the link between extreme weather events and climate change.



TIP

Sharing statistics and figures isn't enough to change people's hearts and minds... This is why it's so important that the people who are being impacted by extreme weather events are able to share their personal stories.

Keep in mind the golden rules of climate communications:

 Talk about problems that are local, immediate and relevant to people's lives - such as how New South Wales residents who experienced the devastating 2019-2020 bushfire season are being told to expect fire seasons like that, or worse, to happen again.

- **Highlight how widespread concern for climate change is** as well as demonstrate the action that is already underway in communities and constituencies of all types.
- Outline a positive vision of the future such as how renewable energy and storage can transform our electricity system and provide everyday people with cheap, clean and abundant power and increase resilience during extreme weather.
- **Remember the importance of the messenger as well as the message** and equip those who have high credibility with the tools they need to speak out.

SOCIAL MEDIA SQUARES

As part of this guide, we've produced social media squares you can share during extreme weather events. We've provided these in Chinese (Simplified), Vietnamese, Chinese (Traditional), Arabic, Korean, Greek, Thai, Italian, Khmer and Spanish.



You can find these at: climatecouncil.org.au/resources/extreme-weather-communication-guides

BUSHFIRES

BACKGROUND

The nature of bushfires in Australia has changed. Bushfire conditions are more dangerous, the risk to people and property has increased, and emergency services are struggling to cope. Climate change is lengthening the bushfire season, which means less time to reduce risks and prepare for fires through measures like hazard reduction burning. Australian authorities used to be able to regularly exchange personnel and specialist equipment, but overlapping fire seasons in the northern and southern hemispheres is making this more difficult.

Climate change worsens bushfires through:

- Hotter temperatures: Australia is getting hotter, with more extreme hot days and heatwaves that are longer, hotter and more frequent. These conditions are increasing the risk of bushfires in many parts of the country.
- Drier vegetation & 'fuel': Over recent decades, there has been a decreasing trend in rainfall across mainland southern Australia during the cooler months, leading to drier vegetation and soils. This increases fire risk.
- Longer fire season: When combined, hotter and drier conditions mean a longer fire season. This leaves less time for hazard reduction burns, which aim to reduce fire risk. These factors contribute to more dangerous bushfires that are more difficult (or too dangerous) to fight.
- More lightning: A warmer, drier climate increases the chance of lightning ignitions, which is the most common natural source of bushfires.



DO SAY

Climate change, driven by the burning of coal, oil and gas is driving more dangerous bushfires and Australians are paying the price for such blazes, which are harming our health, homes and livelihoods.

Climate change is pushing Australia into a future of unprecedented bushfire severity.

Extreme heat and changing rainfall patterns – both impacted by climate change – are making bushfires more dangerous than ever before.

Australian fire seasons are starting earlier and lasting longer, resulting in a drastically shorter window to undertake preparations and risk reduction.

Fire agencies can learn from First Nations people and the ways they protect Country through cultural burning and other indigenous practices.

CSIRO research says global warming is the dominant factor behind worsening bushfires in Australia.

DO SHOW

People impacted by the bushfires, such as individuals sheltering in a community refuge, escaping the danger, or inspecting their impacted property.

DON'T SHOW

Don't centre individuals who aren't impacted by the fires or part of the community, such as politicians on excursions.

MORE INFORMATION

<u>Climate Council: Hitting Home: The Compounding</u> <u>Costs Of Climate Inaction</u>

<u>CSIRO's Latest Research on Bushfires and Climate</u> <u>Change</u>

Climate Council: Summer of Crisis

<u>Climate Council: This Is Not Normal: Explaining</u> Bushfires And Climate Change

<u>Climate Council: Unpacking The Bushfire Royal</u> <u>Commission Report</u>

CLIMATECOUNCIL.ORG.AU

BUSHFIRE SMOKE

BACKGROUND

Bushfire smoke contains very fine particles and carcinogens (cancer-causing substances) such as formaldehyde and benzene. Fine particulate matter is particularly damaging to our health because it can travel deep into the lungs and even the bloodstream. As smoke can travel for thousands of kilometres and cover expansive geographic areas it means large parts of our population can be exposed.

Several studies confirm that bushfire smoke is associated with worsening cardio-respiratory problems, higher ambulance callouts, increased hospital admissions, and premature deaths. Maternal exposure to air pollutants including PM2.5 during pregnancy has been linked to preterm births, decreased birth weight and other poor outcomes. Australia has one of the highest rates of asthma in the world, and exposure to bushfire smoke.¹

During the Black Summer bushfires of 2019/2020, 80% of the Australian population was exposed to bushfire smoke.² There were significant adverse health outcomes with some exposures lasting for months. There were 417 excess deaths from bushfire smoke, with more than 3000 hospital presentations for heart and lung conditions and more than 1000 emergency presentations for asthma.³ During the same period smoke infiltrated critical care areas in hospitals rendering some hospital equipment unusable.⁴

DO SAY

Climate change, driven by the burning of coal, oil and gas is supercharging bushfires, and threatening Australia's way of life. Everyone is at risk when exposed to toxic bushfire smoke.

Bushfires can affect air quality up to thousands of kilometres away from the fire source.

DO SHOW

The health impacts of smoke, such as hazy scenes, people wearing masks or struggling to breathe, or patients in hospital.

People who cannot go about their daily lives and need to stay indoors.

The economic impacts of bushfire smoke such as empty streets and outdoor dining areas.

DON'T PRIORITISE

A bird's eye view of bushfire smoke (e.g. NASA images) unless you need to demonstrate the scale of the impacts.

MORE INFORMATION

Doctors For The Environment: How Climate Change Affects Your Health

RANZCOG: Air Pollution and Pregnancy



¹ http://globalasthmanetwork.org/Global%20Asthma%20Report%202018.pdf

² https://naturaldisaster.royalcommission.gov.au/system/files/2020-11/Royal%20Commission%20into%20National%20Natural%20Disaster%20 Arrangements%20-%20Report%20%20%5Baccessible%5D.pdf

³ https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Finance_and_Public_Administration/Bushfirerecovery/Interim_Report/section?id=committees%2freportsen%2f024518%2f73732

⁴ https://www.abc.net.au/news/2020-05-25/canberra-hospitals-wards-filled-with-toxic-smoke-this-summer/12279384?nw=0&r=HtmlFragment

HEATWAVES

BACKGROUND

Climate change is rapidly turning up the heat in Australia. Our regional climate has warmed on average by around 1.4°C since 1910, leading to an increase in the frequency, duration and intensity of heatwaves in most parts of Australia.⁵

All of us are at risk during extreme heatwaves and need to take precautions to stay cool. Human bodies need to maintain a temperature of around 37°C to remain healthy. If a person can't sweat enough to stay cool (e.g. due to dehydration), their body temperature keeps rising. This can lead to heat exhaustion or heat stroke, which are life threatening medical emergencies. Heat illness can also lead to serious health issues, such as cardiovascular failure.

DO SAY

Climate change is turning up the heat on the cities and towns we call home; driven by the burning of coal, oil, and gas.

Heatwaves are a silent killer. Since 1890, they have killed more Australians than bushfires, cyclones, earthquakes, floods, and severe storms combined.⁶

All of us are at risk during extreme heatwaves and should be taking precautions to stay cool.

Children and babies, older people, those who live in poor housing or are sleeping rough, people who work in manual labour and anyone with preexisting illnesses are among those at highest risk during heatwaves.

Extreme heat is on the rise with significant increases in the length, intensity and frequency of heatwaves in many regions.

The best way to protect Australians from worsening heat is to contribute to efforts to deeply and rapidly reduce greenhouse gas emissions this decade.

DO SHOW

The many human faces of those affected by extreme heat and taking measures to cool down, such as pouring water bottles over their heads. This includes people who work in outdoor roles, or in hot, enclosed workplaces (such as chefs and factory workers), or marginalised people who struggle to escape the heat.

The economic impacts of heat, such as melted roads, warped train tracks or small businesses without customers.

DON'T SHOW

People "enjoying" the beach or pool. This trivialises the danger of heatwaves and ignores the millions of people who cannot escape the heat.

MORE INFORMATION

The Climate Council: Silent Killer: Climate Change And The Health Impacts Of Extreme Heat

Doctors For the Environment: Heatwaves and health in Australia report

The Lancet: Health in the World of Extreme Heat



⁵ http://www.bom.gov.au/state-of-the-climate/australias-changing-climate.shtml

⁶ https://www.infrastructure.gov.au/sites/default/files/migrated/infrastructure/pab/soac/files/2013_00_INFRA1782_MCU_SOAC_FULL_WEB_FA.pdf



BACKGROUND

Climate change is contributing to an increase in short but heavy downpours, which raises the risk of flooding. Warmer ocean temperatures increase evaporation and warmer atmospheres can hold more moisture. In Australia, there has been an observed increase in the intensity of heavy rainfall events over recent decades.⁷

Floods are costly. By 2060 it's estimated floods could cost our national economy \$40 billion each year, making this the costliest type of disaster in Australia.⁸ Immediate impacts include loss of life, property damage, destruction of crops and livestock, clean up costs and emergency response. There are substantial, ongoing impacts including business closures, reduced agricultural productivity, increased emotional stress, and physical illnesses (e.g. from waterborne diseases). Floods frequently damage power transmission and sometimes power generation, which also has knock-on effects. It is critical that communities and emergency services have access to information about rainfall in a changing climate to ensure they are prepared, particularly when rebuilding damaged infrastructure.

DO SAY

Climate change, driven by the burning of coal, oil and gas is increasing short and heavy rain events, which increases the risk of flash flooding.

Intense rainfall and floods are taking place in an atmosphere made warmer and wetter by climate change.

For each 1°C rise in global average temperature, the atmosphere can hold approximately 7 percent more moisture —increasing the likelihood of extreme downpours.⁹

Floods made worse by climate change are costing our economy billions of dollars. If emissions continue unabated, floods could cost us \$40 billion per year by 2060.

DO SHOW

People being rescued, such as from their rooftops, or carrying possessions away from flooded homes.

The economic impacts, such as flooded shops and restaurants.

The impact on vulnerable populations, such as the elderly or those living with a disability.

DON'T SHOW

Flooded streets without people.

MORE INFORMATION

The Climate Council: Factsheet: Climate Change And Intense Rainfall And Flooding

Deloitte Access Economics: Special report: Update to the economic costs of natural disasters in Australia

⁷ http://www.bom.gov.au/state-of-the-climate/australias-changing-climate.shtml

⁸ http://australianbusinessroundtable.com.au/assets/documents/Special%20report%3A%20Update%20to%20the%20economic%20costs%20of%20natural%20 disasters%20in%20Australia/Special%20report%20_Update%20to%20the%20economic%20costs%20of%20natural%20disasters%20in%20Australia.pdf

⁹ http://www.bom.gov.au/state-of-the-climate/australias-changing-climate.shtml

CYCLONES

BACKGROUND

Tropical cyclones (known as hurricanes in the North Atlantic and Northeast Pacific and typhoons in the Northwest Pacific, but as tropical cyclones in the South Pacific and Indian Oceans) are among the most destructive extreme weather events.

Today, cyclones are forming in a climate that is warmer, wetter, and more energetic. Cyclones draw energy from the surface waters of the ocean, and as more heat is stored in these upper waters this provides a larger source of energy on which cyclones can draw. This surplus energy translates into cyclones that develop and intensify faster. The added heat also leads to greater wind speeds, which makes cyclones far more destructive.

Climate change is also increasing the risk of flooding associated with tropical cyclones. This is partly due to an average decline in the linear pace at which cyclones move forward (called the translation speed), which raises the risk of flash flooding when cyclones make landfall. It is also because a warmer atmosphere can hold more water vapour.

In the southern hemisphere and Australian region, projections indicate an overall decline in the frequency of tropical cyclones over time. However, it is likely that the intensity of tropical cyclones will increase, leading to a higher percentage of severe tropical cyclones (category 4 and 5). La Niña years accentuate the risk of cyclones developing.

DO SAY

Climate change, driven by the burning of coal, oil and gas is increasing the destructive power of tropical cyclones.

All weather events today, including tropical cyclones, occur in an atmosphere that's warmer, wetter, and more energetic.

As one of the world's largest exporters of fossil fuels Australia is helping to increase the destructive power of tropical cyclones hitting our Pacific neighbours.

DO SHOW

Centre communities that are impacted by showing people in evacuation centres or near destroyed homes.

The impact on livelihoods, destruction of small business and vital infrastructure.

DON'T SHOW

Don't centre individuals who are there to show the physical impact of the cyclone - such as reporters, citizen journalists or those doing live streams - who are not part of the community directly impacted.

MORE INFORMATION

Fact Sheet: Tropical Cyclones And Climate Change



AIR QUALITY

BACKGROUND

Climate change and air quality are closely linked in at least four ways:

- The main cause behind climate change burning fossil fuels – also has a significant impact on human health via its effects on air quality. Air pollution from burning fossil fuels (e.g. in power stations and in vehicles) causes around 5,700 premature deaths per year in Australia – around 4% of all deaths each year.
- 2. Climate change alters meteorological variables (e.g. temperature, rainfall etc.) that influence air pollutants, including ground level ozone and fine particulate matter. For example, heatwaves increase the risk of ground level ozone formation. Even low levels of ozone exposure increase the risk of death.
- **3.** Climate change may indirectly increase natural sources of particulate matter by increasing fire weather and dust storms in regions projected to be hotter and drier.
- 4. Climate change may affect the production and dispersion of aeroallergens such as pollens (and also moulds). Higher temperatures and carbon dioxide levels may increase the area where allergenic plants grow, increase pollen production and its ability to cause allergies, and lengthen the pollen season. In Australia, asthma affects around 10% of children. as does hayfever and allergic rhinitis. Pollen is recognised as a major trigger for both conditions. Climate change may also increase the risk of 'thunderstorm asthma' epidemics in the future. These occur when an uncommon combination of high grass pollen levels and a certain type of thunderstorm cause pollen grains to rupture, releasing tiny particles that are concentrated at ground level, causing many people to be exposed to high concentrations of pollen.

Being exposed to air pollution and high temperatures at the same time may compound detrimental impacts on our health.

DO SAY

Burning coal, oil and gas is polluting the air we breathe, impacting our health and the leading cause of climate change.

Phasing out fossil fuels will directly improve air quality and benefit our health.

Air pollution, climate change and energy security can all be addressed at the same time by accelerating the transition to renewable energy, battery storage and electrifying everything.

DO SHOW

Children and adults struggling to breathe, or suffering from asthma and hayfever.

Children and adults in ambulances or emergency rooms, being treated by paramedics and doctors.

The smoke stacks of coal-fired power stations, rather than the cooling towers.

DON'T SHOW

Empty streets or cityscapes without people.

MORE INFORMATION

<u>Climate Change Blueprints: Climate Change, Air</u> <u>Pollution and Health in Australia</u>

Real, Urgent & Now Communicating the Health Impacts of Climate Change

How Climate Change Affects Your Health: The Facts

<u>Climate Change, Air Pollution and Human Health in</u> <u>Sydney, Australia: A Review of the Literature</u>

