CLIMATE ADAPTATION PROJECT

Research paper 1

Public anxieties about the changing climate

Clive Hamilton[1]

Introduction

This research paper is the first in a series reporting the results of a new public opinion survey exploring what Australians think and how they feel about life on a warmer planet, and how to prepare for it. Carried out by Roy Morgan Research for Clive Hamilton, Professor of Public Ethics at Charles Sturt University in Canberra, the survey sampled the views of almost 2,000 adults, chosen to be representative of the Australian population. An overview of the survey method can be found at the end of this paper, with full details available in a separate technical report.

There have been many surveys canvassing beliefs about climate change and support for emission reduction and energy policies. This survey is different. It is the first devoted to how Australians see climate change affecting them and their families now and into the future as global warming intensifies.

The survey includes questions exploring Australians' experience of extreme weather events, how anxious they are, how hot they expect it to become, how they are modifying their homes, whether they believe food supplies will be jeopardised, whether climate change is affecting their decisions to have children, and where they believe will be the best place to live in Australia as the climate warms and extreme events become more common.

In addition to the general population, the survey was completed by an additional sample drawn from parts of the country particularly exposed to extreme weather events like floods and bushfires. Their experience is likely to anticipate that of more Australians in the years to come.

[1] To cite: Clive Hamilton, 'Public anxieties about the changing climate,' Research paper 1, Climate Adaptation Project, Charles Sturt University, October 2025.

Research Paper 1 explores the nature of public concerns about climate change, including which groups are most and least concerned. It reports, for the first time, on how warm people expect it to become and how insecure they feel about the future in a changing climate.

Summary

Half of Australians are very concerned or extremely concerned about climate change, with women more concerned than men. Worry about climate change is much more strongly correlated with education levels than with age. As expected, Labor and Independent voters are three times more likely to express high levels of concern compared to conservative voters, but contrary to expectations experience of extreme weather events has only a small effect on concern about climate change. Beyond the scientific evidence, climate attitudes are entwined with deeper narratives about group identity and trust in institutions.

When asked about the climate expected in 2050, almost two in five believe Australia will be 'Much hotter'. Another quarter (28%) believe it will be 'Somewhat warmer'. Labor, Independent and Greens voters are much more likely to believe the climate will be much hotter. More than a third of Coalition voters believe the climate will not change at all.

More than half of Australians say climate change makes them feel insecure sometimes or often but around half of conservative voters say they never feel insecure. Feelings of insecurity are much higher among young adults. When respondents were asked about the kinds of insecurity they feel, older Australians are less likely than younger Australians to record feelings of general stress and worry about the future but more likely to worry about the effects of climate change on future generations.

Compared to men, women expect it to become hotter, are more anxious, and feel more insecure due to the changing climate, suggesting values of care make them more open to the scientific warnings of danger.

Levels of concern

The survey first asked respondents how concerned they are about climate change. Demographic and other data allow us to investigate how concerns vary depending on gender, education levels, voting preferences and exposure to extreme weather events.

Table 1 shows that Australians are worried about climate change, with half (48%) saying they are very concerned or extremely concerned.[2] Women (53%) are significantly more concerned than men (42%). The gender difference is more pronounced at each end of the scale, with twice as many men saying they are not at all concerned about climate change. Still, two-thirds of men say they are at least moderately concerned. The gender gap in climate concern is empirically well established in wealthier countries, although it is not apparent in poorer countries.[3] Some studies suggest that the gender difference may be due to socialisation effects, whereby women are more likely to stress attachment, empathy, and care, while men tend to stress detachment, control, and mastery.[4]

Table 1 (Q1) How concerned are you, if at all, about climate change? (n = 1955) %

		Gender		Highest level of education					
	Total	M	F	Less Yr 12	Year 12	Trade qual	College cert	Under grad	Post grad
Not at all concerned	14.0	19.5	9.0	23.4	18.1	23.0	16.5	8.9	9.9
Slightly concerned	13.2	15.3	11.4	14.5	16.5	21.2	13.2	11.3	10.3
Moderately concerned	24.8	23.2	26.8	32.7	24.2	27.8	26.8	24.2	21.4
Very concerned	25.1	23.8	26.0	19.4	24.7	14.8	23.8	26.6	29.0
Extremely concerned	22.9	18.1	26.8	10.0	16.4	13.2	19.6	28.9	29.4
Very or extremely concerned	*48.0*	*41.9*	*52.8*	*29.4*	*41.3*	*28.0*	*43.4*	*55.5*	*58.4*

Notes: Underlined numbers are significantly different from the mean at the 95% level (i.e. very unlikely to differ from the average by chance). Written in full, the education options in the survey were: Less than Year 12; Year 12; Trade qualification/apprenticeship; College certificate or diploma; Undergraduate degree; Postgraduate degree/diploma. The gender options included 'Other term'; a box ticked by 4.4% of the sample.

It is widely believed that young people are much more concerned about climate change than older people and blame them for not caring.[5] Our data do not support this view. The age gap

[2] Almost three quarters (73%) say they are moderately or more concerned, which matches closely the three quarters (74%) of British adults who reported feeling somewhat or very worried about climate change, according to a 2022 survey by the Office for National Statistics (https://tinyurl.com/h8hbp9ka).
[3] Sarah Sunn Bush and Amanda Clayton, 'Facing change: Gender and climate change attitudes worldwide', *American Political Science Review*, 2023, 117(2):591-608.
[4] Aaron M. McCright et al., 'Ideology, capitalism, and climate: Explaining public views about climate change in the United States', *Energy Research & Social Science*, 2016, 21:180-189.
[5] James Gaines, 'Is there a climate generation gap?,' *Anthropocene*, 22 September 2025.

is not wide: 52% of those aged under 40 (and 53% of those 18-29) are very or extremely concerned about climate change while 45% of those over 60 say the same.[6]

Our survey indicates that level of education is much more strongly correlated with climate concern than age. Table 1 shows that the level of concern increases consistently with level of education. Close to 60% of those with undergraduate or postgraduate degrees say they are very or extremely concerned about climate change, compared to only 40% of those with Year 12 education and around 30% for those with less than Year 12. Similarly, less than 10% of those with degrees say they are not at all concerned, while around 20% of those with Year 12 are not at all concerned.

Evidence shows that people with more education tend to express greater concern about climate change because education is strongly associated with higher levels of scientific literacy, environmental awareness, and trust in scientific institutions.[7] Studies suggest that education not only increases knowledge about climate science but also fosters critical thinking skills and a longer-term perspective, both of which make individuals more receptive to understanding climate risks. On the other hand, in the United States and some other English-speaking countries, education doesn't uniformly raise climate concern. Instead, it interacts with political ideology, often intensifying partisan divides.[8]

The data are consistent with other evidence indicating that climate denial[9] tends in Australia to be concentrated among older men with less education.[10] It is also correlated with political conservatism (see below). As in the United States, climate change has become entangled in the culture wars, with conservative support for climate action declining over time despite the scientific evidence strengthening the case for more concern and more action.

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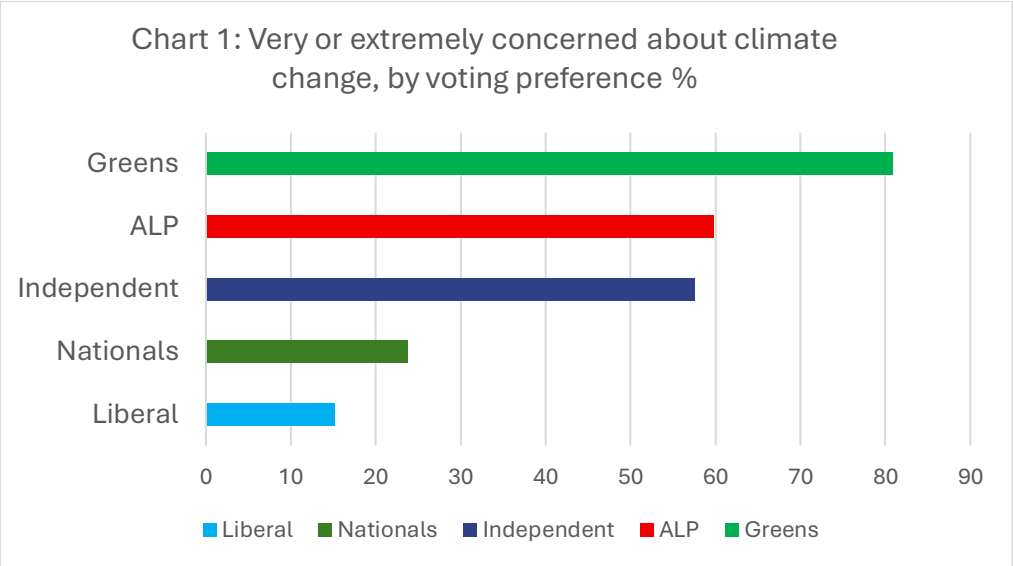
[6] For completeness: 53% of those 18-29 are very or extremely concerned and 46% of those 40-59 feel the same.
[7] Noam Angrist et al., 'The untapped potential of education in the battle against climate change', VoxEU CEPR, 14 July 2023; Anne G. Hoekstra et al., 'The educational divide in climate change attitudes: Understanding the role of scientific knowledge and subjective social status', *Global Environmental Change*, 2024, 86.
[8] Alexandre Morin-Chassé and Erick Lachapelle, 'Partisan strength and the politicization of global climate change: a re-examination of Schuldt, Roh, and Schwarz 2015', *Journal of Environmental Studies and Science*, 2020, 10:31–40; Toby Bolsen and James N. Druckman, 'Do partisanship and politicization undermine the impact of a scientific consensus message about climate change?', *Group Processes & Intergroup Relations*, 2018, 21(3): 389–402.
[9] 'Denial' is a more accurate term than 'scepticism'. Sceptics question claims based on evidence and reason, remaining open to new data. Climate sceptics engage with scientific evidence but may doubt specific conclusions or models. Deniers reject the well-established scientific consensus, often dismissing or ignoring overwhelming evidence. Their rejection tends to stem from ideology or 'motivated reasoning' rather than scientific critique.
[10] Bruce Tranter, 'What do Australians think about climate change?', *AuSSA Insights*, 4 April 2025.

Table 2 shows that among Labor voters, 60% say they are very concerned or extremely concerned while the figure for conservative voters is less than 20% (accounting for other conservative voters, not shown in the table, such as One Nation). Around a third of conservative voters have no concerns at all. Although both progressive and conservative candidates run as Independents, the attitudes of Independent voters overall (expressed in this question and others below) are similar to those of ALP voters. Greens voters express the highest levels of concern, as would be expected. The contrasting levels of concern about climate change across voting preferences are shown starkly in Chart 1.

Table 2 (Q1) How concerned are you, if at all, about climate change? (n = 1955) %

		First preference vote in 2025					
	Total	ALP	Liberal	Nationals	Greens	Indep	Conser-vative
Not at all concerned	14.0	3.8	29.5	36.5	1.1	10.6	36.3
Slightly concerned	13.2	9.0	25.7	15.8	3.9	10.7	22.0
Moderately concerned	24.8	27.4	29.6	23.9	14.3	21.2	25.7
Very concerned	25.1	35.6	12.2	19.3	26.8	33.8	11.5
Extremely concerned	22.9	24.2	3.0	4.5	54.0	23.7	4.6
Very or extremely concerned	*48.0*	*59.8*	*15.2*	*23.8*	*80.8*	*57.5*	*16.1*

Notes: The last column is the weighted average of Liberal, National, One Nation, and Katter voters.



Is seeing believing?

A US study of 16-24-years-olds found that direct experience of an extreme weather event increases the share of those who worry frequently or very frequently about the impact of climate change on their future—from 19% of those not exposed to 42% of those who experienced an event.[11] Overall, however, the evidence is patchy and suggests that experience of extreme weather strengthens concern among those already inclined to worry about it, while those unconcerned or dismissive of climate change more often attribute extreme events to random or unrelated factors.[12]

Our survey was designed to separate, using two different methods, those who have in recent years experienced extreme weather events from those who have not. First, additional respondents were recruited from postcodes that fell within local government areas (LGAs) that had experienced such events since 2019 (before the Black Summer fires). For this purpose, we used a database, maintained by the National Emergency Management Agency, of LGAs that have had emergency funding activated in response to extreme weather events (floods and fires). All the over-sampled postcodes are outside of cities. (Full details are in the technical report).

Of course, not every resident of a disaster-affected LGA is directly affected by the disaster, although the results do show that those in affected LGA's report living through much more flooding.[13] Nevertheless, we developed *a second measure* of exposure to extreme weather events by asking all respondents whether they had personally and directly experienced extreme weather events since 2019. They were asked to nominate which of seven kinds of extreme events they had experienced and how many times (once, twice, or three or more times). A metric was then compiled classifying respondents by their level of exposure, from no exposure to high exposure.[14]

Table 3 shows levels of concern cross-tabulated with our two measures of exposure to extreme weather. Looking first at our metric of exposure to extreme weather events, concern

[11] Ans Vercammen et al., 'Psychological impacts of climate change on US youth,' *PNAS*, April 17, 2025 122 (16) e2311400122.
[12] Cass Sunstein, 'Does catastrophe affect how we think about climate change?' *Financial Times*, 20 July 2025.
[13] In the case of floods, 54% of those in oversampled LGAs have directly experienced one or more in the last six years, while only 27% of those in regular LGAs have. Two or more floods have been directly experienced by 35% of residents in oversampled LGAs as opposed to only 15% in regular LGAs.
[14] Experiences of heat waves and storms with strong winds were given less weight because high proportions of respondents reported three or more of these events and their harms are usually less severe than the other events.

about climate change rises with greater experience of extreme weather events, although perhaps not by as much as expected. The intuition that those who experience a climate disaster will become much more concerned about climate change is not borne out by the evidence.[15] It's more complicated depending, among other things, on attribution of the event to the changing climate and on time frames, with concern initially rising then subsiding. It may also be the case that people with more conservative political views are more exposed to extreme events.

It can be seen in Table 3 that people who reside in LGAs subject to disastrous flooding or bushfires since 2019 do not express more concern about climate change than people who live in LGAs unaffected by such events. In fact, they appear a little less concerned—43% say they are very or extremely concerned compared to 49% in unaffected regions.

Table 3 (Q1) How concerned are you, if at all, about climate change? (n = 1955) %

		LGA affected by EWE		Exposure to extreme weather events			
	Total	Yes	No	None (17%)	Low (32%)	Medium (23%)	High (28%)
Not at all concerned	14.0	16.8	13.3	18.3	12.1	13.0	14.3
Slightly concerned	13.2	15.3	12.7	15.9	14.5	11.3	11.5
Moderately concerned	24.8	24.9	24.8	30.7	26.5	22.1	21.3
Very concerned	25.1	27.1	24.6	20.3	24.1	29.2	26.0
Extremely concerned	22.9	15.9	24.5	14.9	22.9	24.4	26.9
Very or extremely concerned	*48.0*	*43.0*	*49.1*	*37.2*	*47.0*	*53.6*	*52.9*

Notes: EWE – extreme weather event. 'LGA affected by EWE' refers to LGAs that had emergency funding activated by the National Emergency Management Agency for floods and bushfires. Percentages of respondents falling into each exposure category are shown in parentheses.

The LGAs identified as affected by extreme weather events are outside capital cities. Concern about climate change might be expected to be higher in the cities, although evidence from

[15] Ziqian Xia et al., 'A meta-analysis of the relationship between climate change experience and climate change perception,' *Environmental Research Communications*, 2022, 4, 105005; Viktoria Cologna et al., 'Extreme weather event attribution predicts climate policy support across the world,' *Nature Climate Change*, 2025, 15:725–735.

other studies shows that there is little difference between urban and regional Australians.[16] Our survey shows that concern is somewhat higher in cities. For example, in Western Australia, only 13% of Perth residents say they are not at all concerned while the figure jumps to 25% for those living outside Perth. In Queensland, 17% of Brisbane residents express no concern while 22% of those outside Brisbane are unconcerned. At the other end of the scale, 24% of Brisbane residents say they are 'extremely concerned' while only 15% of those outside Brisbane express the same high level of concern. The city-country gap is present in NSW and Victoria although it is narrower.

How warm will it become?

As we will see in subsequent papers, the survey asked respondents many questions about life in Australia in 2050. We began by asking them how warm they believe it will become, an indicator perhaps of how much stress they expect we will be living under in 25 years' time. The results are shown in Table 4. Nearly two in five Australians believe that Australia will be 'much hotter' in 2050. More women than men expect the climate to be much hotter (44% versus 32%).

Table 4 (Q2) Do you believe that by 2050 the climate in Australia will be … (n = 1955) %

		Gender		First preference vote in 2025				
	Total	M	F	ALP	Liberal	National	Greens	Indep
Cooler	1.0	1.2	0.9	0.5	1.4	2.5	0	2.6
About the same	17.4	21.4	13.7	6.4	36.3	41.0	1.7	13.7
A bit warmer	15.2	18.7	12.2	13.8	27.9	23.7	3.3	12.0
Somewhat warmer	28.0	26.9	29.2	33.3	21.7	23.8	28.3	32.0
Much hotter	38.4	31.9	43.9	46.0	12.7	9.1	66.7	39.8
Somewhat warmer or much hotter	*66.4*	*58.8*	*73.1*	*79.3*	*34.4*	*32.9*	*95.0*	*71.8*

Progressive voters are much more likely than conservative voters to believe that Australia will be much hotter in 2050. The difference between ALP voters (46%), Greens voters (67%) and Independent voters (40%), on the one hand, and Liberal voters (13%) and National Party

[16] R.M. Colvin, Frank Jotzo and Kelly S. Fielding, 'Is Australia's urban-regional schism on climate reality or rhetoric?,' *Journal of Rural Studies*, 2024, 112.

voters (9%) on the other, is very striking. The gap narrows somewhat when we add the percentages of those who say 'Much hotter' and 'Somewhat warmer'. A third of conservative voters believe this.

Although not shown in the tables, a steep educational gradient is apparent. Those with less than Year 12 (22%) or Year 12 (32%) are substantially less likely to believe it will be much hotter in 2050 than those with an undergraduate degree (42%) or post-graduate degree (50%). There is also an age effect. Around 45% of those under 40 expect it to be much hotter compared to around 30% of those over 60.

City dwellers are only a little more likely than those in the regions to believe it will become somewhat warmer or much hotter, except in WA where country dwellers appear much more relaxed. In Tasmania, concern about climate change and heating is higher than the national average, especially among those living outside Hobart. Nationally, the highest levels of concern about the effects of climate change are held by residents of the ACT and the Northern Territory.

Feelings of insecurity

Respondents were asked whether they experience feelings of insecurity in the face of climate change. An open-ended follow-up question asked them to describe how they feel insecure. As can be seen in Table 5, one in five Australians say climate change makes them feel insecure often or very often. More than half say they feel insecure sometimes, often, or very often. Compared to men (44%), women (61%) are substantially more likely to feel insecure sometimes or more often. Feelings of insecurity are much higher among younger adults than older adults, with those in their twenties (32%) much more likely to feel insecure often or very often than those over 60 (14%).

We saw previously that concern about climate change declines across age groups, but not steeply. In contrast, feelings of insecurity about climate change decline much more steeply from younger to older adults. Several studies have shown that, although there is only a small generation gap in levels of concern about climate change, younger people feel more intense emotions about it, including fear, guilt and outrage.[17]

[17] Wouter Poortinga, Christina Demski and Katherine Steentjes, 'Generational differences in climate-related beliefs, risk perceptions and emotions in the UK', *Nature Communications*, 2023, 4:229.

Table 5 (Q3) Does climate change cause you to experience feelings of insecurity? (n = 1955) %

		Gender		Age					
	Total	M	F	18-29	30-39	40-49	50-59	60-69	70 & over
Never	24.9	32.1	18.5	19.0	17.9	25.2	24.4	33.0	32.7
Rarely	22.3	24.1	20.9	16.1	19.4	24.0	23.8	26.3	25.9
Sometimes	32.1	28.2	35.6	33.0	36.9	33.0	34.3	27.8	26.4
Often	12.6	10.9	14.2	19.5	14.6	11.4	10.3	7.4	10.4
Very often	8.1	4.7	10.9	12.4	11.2	6.5	7.2	5.4	4.6
Often or Very often	*20.7*	*15.6*	*25.1*	*31.9*	*25.8*	*17.9*	*17.5*	*12.8*	*15.0*

While it is easy to conclude that this is because older people are comforted by the fact that they will not be around for much longer, the evidence indicates it is more complicated. A UK study that found that generational differences are 'mainly in emotional engagement rather than in beliefs about anthropogenic climate change.'[18] Some studies suggest that age-related emotional regulation or resilience may buffer older adults from anxiety.[19] Emotional development from life experience can make climate threats feel less personally urgent, helping older people maintain composure even amidst pressing concerns.

Curiously, those without children appear to feel more insecure than those with children, with 26% of the former saying they feel insecure often or very often compared to 16% of parents. Age may be a confounding factor here as young adults are more likely to feel insecure and are less likely to be parents.

As we might anticipate, those with higher levels of education and who express more concern about climate change feel more insecure. While only 9% of those with less than Year 12 and 18% of those with a Year 12 qualification feel insecure often or very often, 28% of those with undergraduate degrees and 27% of those with postgraduate degrees feel insecure often or very often.

[18] Poortinga et al., 'Generational differences in climate-related beliefs'.
[19] Kimberly Livingstone, Vanessa Castro, and Derek Isaacowitz, 'Age differences in beliefs about emotion regulation strategies, *Journals of Gerontology: Series B*, 2020, 75/2: 316–326.

As Australia warms and extreme weather events become more frequent and destructive, we can expect feelings of insecurity to intensify. Today, a little over half of Liberal and National Party voters profess to never feeling insecure due to climate change. However, around a quarter say they feel insecure sometimes, often, or very often. Among Labor voters, almost two-thirds (63%) say they feel insecure sometimes, often, or very often, while among Greens voters the figure is 87% (with 50% saying they feel insecure often or very often).

Respondents who said they have feelings of insecurity at times (three-quarters of the total) were asked to describe their feelings. Their answers were then grouped into clusters. Previous studies have shown that some people have feelings of dread about the future—especially concerning the safety, well-being, and life chances of their children and grandchildren (explored in Research Paper 2).[20] This has been described as eco-anxiety or climate anxiety. Some studies link insecurity to the anticipated breakdown of stable life patterns, such as reliable seasons, food supply, and economic security. Some report fears about direct personal impacts due to extreme weather while others point to collective risks such as humanity's future, biodiversity loss, and the collapse of social systems.[21]

In Table 6, the kinds of insecurity people nominated in our open-ended question have been grouped and percentages shown.

The most common kinds of insecurity mentioned are: general anxiety about the future (28%); worry about future generations (25%); concerns about the impacts of extreme weather events (24%); and worries about economic effects, including on the food supply (25%). Gender differences are not large. However, older Australians are substantially less likely than those under 40 to record feelings of general stress and worry about the future. On the other hand, they are substantially more likely than younger Australians to worry about the effects of climate change on future generations.

[20] Susan Clayton and Bryan Karazsia, 'Development and validation of a measure of climate change anxiety', *Journal of Environmental Psychology*, 2020, 69, 101434.
[21] Ashlee Cunsolo and Neville Ellis, 'Ecological grief as a mental health response to climate change-related loss', *Nature Climate Change*, 2018, 8:275–281.

Table 6 (Q3a) In a few words, how would you describe those feelings of insecurity? (n = 1457) %

		Gender		Age		
	Total	M	F	18-39	40-59	60+
General stress, anxiety, insecurity about the future, hopelessness	28	28	27	38	25	15
Concern about effects on future generations	25	22	27	17	28	33
Worry about effects on environment, biodiversity etc.	8	5	10	10	8	6
Concerns about impacts of extreme weather events	24	25	24	23	21	28
Disappointment with corporations, government, sceptics	12	12	11	12	11	13
Concerns about effects on food supply, economy, housing, quality of life	25	22	29	22	29	19
Anxiety about social breakdown, health, personal safety, human extinction	10	7	12	11	10	8

Note: Some aggregated groups do not show significance levels.

When we compare the answers people gave to how much warmer they expect Australia to be in 2050 and their level of concern about climate change, the responses across these kinds of insecurity are fairly stable. However, those who expect Australia to be much hotter are a little more likely to express concerns about future generations (32% against the average of 27%) and those who experience feelings of insecurity very often are more likely to express concerns about the effects of climate change on the environment and biodiversity (21% against the average of 8%).

Some implications

Progressive voters are three times more likely than conservative voters to express high concern about climate change and they are much more likely to anticipate a hotter climate in 2050. A sizable minority of Coalition voters express no concern about climate change and expect no change in the climate in 2050. The data reinforce the idea that, for many

conservative voters, climate beliefs have become a political badge or marker of group identity rather than a neutral assessment of risk.

The results confirm a range of studies showing that climate attitudes are intertwined with deeper narratives about trust in institutions, perceived elite *versus* 'ordinary' values, and the symbolic meanings attached to political parties. The substantially higher levels of concern among women suggest that values of 'care' make some more open to the scientists' message about the dangers.

The modest effect of personal exposure to extreme weather revealed by the survey challenges the common assumption that 'seeing is believing.' It implies that once a certain baseline of awareness exists (half the population is already very or extremely concerned), additional lived experiences add little to the overall risk calculus and worry about the future.

This suggests that climate messaging that leans on scientific literacy and appeals to values traditionally associated with women, such as collective well-being and stewardship, may be more effective in raising public awareness of the risks than simply pointing to recent storms or heatwaves.

Survey method summary

The survey, carried out by Roy Morgan Research, had an overall target of 2,000 completes, aiming for a mix of 1,700 completes broadly representative of the Australian population by age, gender, and region, and 300 additional completes from Australians living in areas affected by one or more extreme weather events since 2019 (see below). Non-interlocked quotas were set for the sample based on the distribution of the adult Australian population for each of age, gender and region.

Participants were invited to participate in the survey online via e-mail and SMS with a personalised link. A total of 2,099 respondents completed the survey, reduced to 1,955 after cleaning the data set to exclude poor-quality responses. The survey was carried out between 22 May and 22 June 2025.

To better assess the effects of direct exposure to extreme weather events, additional respondents were sought from Australians living in postcodes that had been affected by extreme weather events since 2019 (before the Black Summer Bushfires). The National

Emergency Management Agency database, which lists severe events (floods and bushfires only), was used to define the areas so affected.

The average interview length for the survey was just under 10 minutes. Participants were given an incentive to complete the survey through a combination of ‘panel points’ redeemable in gift-vouchers and entry to a quarterly prize draw.

Full details of the survey methodology and the questionnaire can be found in the technical report posted on this website.

October 2025