

Public risk perceptions, understandings and responses to climate change in Australia and Great Britain

Interim Report

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Change in Australia and Great Britain: Interim Report**

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Summary statement

This interim report provides an initial look at the national survey findings of a collaborative and cross-national research project by Griffith University (Australia) and Cardiff University (Wales) examining public risk perceptions, understandings and responses to the threat and unfolding impacts of climate change in Australia and Great Britain. Each of these surveys, in addition to shared questions and objectives, had additional and differing objectives, with the Australian survey also examining public perceptions, experience, and responses to natural disasters, and the British survey examining energy policies and futures in the United Kingdom. The Australian national survey was undertaken between 6 June and 6 July of 2010 and involved a geographically and demographically stratified national sample of 3096 respondents. The British survey was undertaken between 6 January and 26 March, 2010 and involved a representative quota sample of 1822 respondents residing in England, Scotland and Wales. This interim report addresses common findings relating to these two interlinked surveys, and in addition provides some additional and preliminary information regarding the Australia-specific questions and findings from the Australian survey exercise. These surveys are distinctive in their cross-national comparative collaboration, in their in-depth nature, in their focus on underlying public understandings and psychological responses to climate change, and in their shared objective of documenting and monitoring important psychological and social changes and impacts in the human landscape relating to global climate change.

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Executive Summary

Principal initial findings

Initial data analyses from the surveys have focused on comparative findings across common items in both the Australian and British surveys.

The overall findings of this collaborative research were particularly striking in a number of respects:

- Despite dramatic differences in geographic regions, climate, climate change exposure, and recent histories of extreme weather events, the findings across most risk perception and concern domains were remarkably similar.
- Public concern levels with respect to the threat and perceived impacts of climate change were very high.
- Australian respondents viewed climate change as a more immediate, proximal, and certain threat to their local region and nation, than was the case for British respondents, for whom the problem was perceived to be more distant, uncertain, and less familiar in terms of anticipated consequences.
- As with the findings from many overseas surveys, a distinctive minority of Australian respondents, approximately 5.8%, could be characterised as being disbelievers or strong sceptics with respect to the reality of current climate change and/or the causal role of human activities and environmental impacts, with these strong views disproportionately influencing overall survey findings. The comparable figure for British respondents who could be characterised as being disbelievers or strong sceptics was 5.1%.

More specific joint findings include the following:

- 74% of Australian respondents and 78% of British respondents believed ‘that the world’s climate is changing’, with 8% reporting ‘not knowing’ in both countries.
- 71% of Australian respondents either ‘strongly agreed’ or ‘tended to agree’ with the statement, “I am certain that climate change is really happening”.
- 90% of Australian respondents and 89% of British respondents believed that human activities were playing a causal role in climate change.
- 54% of Australian respondents and 41% of British respondents believed that they were already experiencing the effects of climate change. Australian respondents provided many examples of direct encounters with what they viewed as evidence of climate change in open-ended survey items.
- 66% of Australian respondents and 71% of British respondents reported that they were ‘very concerned’ or ‘fairly concerned’ about climate change, with an additional 22% and 19% respectively, indicating some level of concern.

- Australian and British respondents were only slightly less concerned with respect to the *personal impacts* of climate change, with 62% of Australian and 60% of British respondents reporting that they were ‘very concerned’ or ‘fairly concerned’.
- A psychological variable of demonstrated importance in the context of climate change is perceived self efficacy, i.e., the extent to which people feel they can engage in actions that could make a difference either in their local or global environment. The survey findings suggest that the majority of both Australian and British respondents feel that despite clear difficulties and challenges, their actions can make a difference, and that the issue of climate change is serious, urgent, and personally relevant.

Taken as a whole, these Australia/Great Britain comparison findings indicate striking similarities, high levels of climate change concern, and strong belief on the part of over 70% of respondents in both countries that human activities are in part responsible for current global climate change. These findings also suggest that media coverage of public perceptions of and responses to the threat of climate change is often very wide of the mark, and that reported declines over the past several years in public concern about climate change and its relative importance as an environmental issue and threat have been overstated.

Australia-specific research findings¹

- 71% of Australian respondents reported that their level of concern about climate change had increased over the past two years.
- 78% of Australian respondents agreed that, “If nothing is done to reduce climate change in the future, it will be a ‘very serious’ or ‘somewhat serious’ problem for Australia”.
- When asked, “How serious a problem do you think climate change is *right now*”, 45% of Australian respondents reported that it was a serious problem.
- Respondent objective knowledge levels about matters relating to the underlying science of climate change and projected impacts were modest, with respondents getting, on average, four to five out of 10 true/false statements correct. These findings are interesting when compared with respondent self-reported knowledge level, with close to 75% of respondents feeling that they knew a reasonable amount about climate change, suggesting that many respondents either overestimated or underestimated their own knowledge levels in the area of climate change.
- The Australian survey findings with respect to perceived interrelationships between climate change and natural disasters are of particular interest. It is clear that the evidence and projected consequences which respondents refer to in the context of their belief and concern about climate change are often related to extreme weather events and natural disasters.
- 37% of Australian respondents reported having had direct personal experience with differing natural disaster events. Overall, public risk perceptions and understandings of the threat of climate change in Australia appear to be strongly influenced and

¹ A number of these specific findings are not reported or discussed in detail in the interim report, but will be fully addressed in the subsequent final report which will be completed and available in July 2011.

informed by knowledge of direct or indirect experience with both acute and chronic natural disasters in the Australian environment.

- 59% of Australian respondents thought that the region where they lived was vulnerable to the impacts of climate change, with two thirds of these respondents indicating that their location was ‘very’ or ‘reasonably’ vulnerable.
- An important and neglected domain in climate change surveys relates to the possible psychological impacts of the threat and perceived environmental consequences of climate change. Australian survey respondents completed a seven-item measure of experienced *psychological distress* with respect to the threat of climate change. 20% of respondents reported feeling, at times, appreciable distress at the prospect and implications of climate change and its consequences.

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Background

The research was initiated as a collaborative undertaking between the Understanding Risk Research Group at Cardiff University and the Psychology and Climate Change Research Group within Griffith University's Climate Change Response Program. This 2010 research undertaking by Cardiff was a continuation of a number of convergent research initiatives addressing climate change and energy futures in Britain (e.g., Bickerstaff, Lorenzoni, Poortinga, Pidgeon & Simmons, 2008; Lorenzoni & Pidgeon, 2006). Coincidentally, there was an opportunity to undertake a comprehensive national survey research project addressing public risk perceptions, understandings, and responses to climate change and natural disaster phenomena within a national Australian context, funded by the Australian Department of Climate Change. The multiple shared objectives of the respective research exercises included documenting public perceptions and attitudes with respect to energy options and climate change considerations, as well as associated public understandings, concerns, and acceptance of policy alternatives. The Australian research also included a specific mandate to examine the nexus between climate change and natural disasters with respect to public perceptions, understandings, and responses. Survey methodologies and instrument items and design were finalised in the early part of 2010, with an agreed set of common questions and items being given a high priority, notwithstanding somewhat different agency and funding body commitments and priorities. The disciplinary base of all researchers was psychology, with a common interest in applying social, health, and environmental psychology to the challenges posed by climate change. The research reported in this interim report relates principally to shared components of these national surveys conducted in Great Britain (GB) between 6 January and 26 March and in Australia between 6 June and 6 July 2010, with these periods roughly corresponding to periods of the main winter months in each country.

While many national surveys of public perceptions, beliefs, and responses to 'climate change' now exist and continue to be undertaken, collaborative international studies are rare. Yet national survey findings and data sets by themselves have limited interpretability and meaning without comparative touchstones and reference points. International collaboration between the Understanding Risk Research Group at Cardiff University and the Climate Change Adaptation Response Program at Griffith University has allowed for useful and meaningful comparisons between two countries in very different parts of the world which nonetheless share many common characteristics with respect to population and societal and cultural contexts, as well as political and energy issues and discourses. While similarities between Britain and Australia allow for sensitive and relevant comparisons, dramatic geographic and climate change exposure differences also allow for meaningful and informative contrasts. The findings reported and discussed in this article evidence many striking similarities and some differences, with a number of these being both unexpected and challenging with respect to prevailing assumptions and conventional wisdom. Such research is invaluable in providing strong external validity and a compelling currency to national survey findings, and equally importantly, in identifying those areas, indicators, and specific

findings that might require serious reflection and qualification with respect to their interpretation and generalisability.

Research and policy contexts

The strong interest in and proliferation of survey research with respect to climate change and energy futures (e.g., Leiserowitz, Smith & Marlon, 2010; Rabe & Borick, 2010; Spence & Pidgeon, 2009; Villar & Krosnick, 2010) reflects the increasingly urgent nature of these intertwined matters, as well as political and policy needs for a more informed appreciation of public risk perceptions, understandings, and responses to media communications, and the relative success of public education and policy initiatives relating to climate change adaptation and mitigation. Using survey data to assess constituency preferences, public support, voting predispositions, and behaviour change has a long history across many domains (e.g., political polling, market research, health psychology), and is increasingly being used in more reflective and strategic ways to explore public understandings of and psychological and behavioural responses to risk communications and social representations with respect to global climate change. More recently, a clear need for sensitive measures and appropriate methodologies for documenting and monitoring important impacts and changes in the human landscape over time has become increasingly evident and urgent, such as in the context of addressing adverse impacts, fostering and monitoring adaptive responding on the part of communities, and with respect to evaluating the appropriateness and effectiveness of mitigation and adaptation policy initiatives (e.g., Brewer, 2008; Reser, 2010). This has led many social scientists engaged in environmental issue-focused survey research to review the value and purpose of existing measures and methodologies, and to refocus their work on a better understanding of ‘public understandings’ as well as on psychological and behavioural responses to myriad and often conflicting risk communications relating to ‘climate change’ (e.g., Roser-Renouf & Nisbet, 2008; Trumbo & Shanahan, 2000).

While considerable survey research has been undertaken in the UK and North America with respect to global climate change, relatively little programmatic or longitudinal survey research has taken place in Australia (see Appendices C-E). Climate change survey questions, where they exist, have often constituted no more than several items in the context of broader survey exercises (e.g., ABS, 2008; Department of Environment, Climate Change and Water NSW (DEECCW), 2009; Hanson, 2010) with some notable recent exceptions (e.g., Ashworth et al. 2009; Ipsos-Eureka Australia, 2010; Leviston & Walker, 2010). Clearly this situation is changing with respect to the increasing numbers and types of surveys relating to this issue, but not, it seems, with respect to programmatic research initiatives with the capacity to measure and monitor important changes in psychological, social and behavioural responses to climate change over time. This ‘state of the survey research’ does not reflect a lack of climate change interest or saliency in the case of Australia. Indeed for the past decade, climate change has been centre-stage in terms of public debate, political controversy, and as a background issue and a source of increasing anxiety (e.g., Flannery, 2005; Gascoigne, 2008; Pittock, 2009; Spratt & Sutton, 2008), with the last six months of 2010 seeing the rolling of a sitting prime minister and the subsequent toppling of a government,

largely or at least partly as a result of the non-recognition of climate change as a profoundly salient public issue and concern (Weller, 2010; Shanahan, 2010a, 2010b).

While both countries' boundaries are defined by their island status, Australia and Britain are vastly different countries in terms of expanse, geography, and location on the planet. The land mass of the United Kingdom including Ireland is 242,900 square kilometres, whereas that of Australia is 7,692,024 square kilometres, roughly 31 times the size of the UK. Population differences, 22 million versus over 59 million, mean that mean population density in Australia is 2.6 people per square kilometre compared with 243 people per square kilometre in the United Kingdom. However, Australia is one of the most urbanised countries in the world, and despite its continental scale and breadth, approximately 77% of Australians live within 50 kilometres of the coast (ABS, 2006a). The UK comprises Northern Ireland, England, Scotland, and Wales, though survey sampling by Cardiff was limited to Great Britain (England, Scotland and Wales). Australia, in contrast, is one country, encompassing an entire island continent.

More critically from a climatic perspective, Australia and the UK occupy very different latitudes and global hemispheres. Britain has a temperate climate and ample rainfall, whereas Australia is the driest inhabited continent, and its diverse climate includes a monsoon climate across much of the northern half of the continent, and both Mediterranean and temperate climates across the southwest and southeast parts of the land mass. These differences make comparisons in environmental risk perceptions and responses particularly interesting and valuable, with obtained similarities being in many ways more interesting than found differences, which might be readily expected given these remarkable geographic and demographic differences, despite a common language and similar political structures, as well as intertwined cultural histories.

Notwithstanding geographic and climatic differences, societal and cultural similarities and global socioeconomic comparisons are highly relevant to cross-national survey findings relating to a phenomenon and risk domain such as climate change, and to meaningful interpretations of found similarities and differences. In these respects, Australia and Britain are indeed similar. Australia was a colony of Britain, with a shared history extending over 300 years. Both Australia and the UK are developed economies, share a formal constitutional monarchy, have a common political and judicial history, and myriad international linkages spanning cultural exchange, education, immigration, residence, trade, and mutually reflective cultural identities. The UK, for example, is the world's 6th largest economy by nominal GDP (and the world's first industrialized country). Australia is the 13th largest global economy, and has the 11th highest per capita GDP. While many features of social and cultural life in Australia and Britain underscore similarities and inform important differences, a key point is that it is exactly these geographic, climatic, and people-environment relations and collective experience differences, yet strong cultural and socioeconomic similarities and inter-linkages which make the present cross-national survey findings particularly interesting and meaningful in the context of global climate change.

What also characterises the Australian geographic, climatic, and cultural contexts, however, is the dramatic presence of the full spectrum of natural disasters, in a continent far more extensive and diverse than the United Kingdom (e.g., Pittock, 2009). As well, Australia is deemed by many to be the inhabited continent most exposed to the potential ravages of global climate change, with a current public discourse and understanding that would appear to see and understand current natural disaster events and impacts as clear manifestations of unfolding climate change (e.g., Garnaut, 2008; IPCC, 2007; Steffen, 2009). Yet there does not exist an adequate database and research program within Australia with which to more closely consider either the nature of public risk perceptions, understandings, and concerns, or the nature and extent of current psychological and social impacts of the perceived threat and consequences of climate change. Notwithstanding the very substantial Australian research investment in the study of biophysical environmental change and impacts, and climate change adaptation and mitigation considerations respecting human settlements and infrastructure (e.g., Department of Climate Change, 2010; Steffen, 2009), scant attention has been paid to establishing a national database and monitoring program addressing important changes and impacts in the human environment. Additionally, very little attention has been paid to more psychological and social considerations relating to public understandings and concerns, psychological responses and motivations, adaptation and coping responses, and impacts on psychological and social wellbeing. This Australian survey research exercise has been undertaken in response to this glaring deficit and clear need, in the face of daunting climate change challenges (e.g., American Psychological Association, 2009; APS, 2010).

The two studies differed in survey presentation. The Cardiff survey was administered via computer assisted face-to-face interviews at respondent residences at geographically stratified sampling points in Britain, whereas the Australian survey was administered on-line to panel respondents residing in demographically and geographically stratified areas with particular population centres designated. Both research studies used highly regarded service providers Ipsos MORI (GB) and Qualtrics (Aus) for survey administration, data collection, and initial processing. Both surveys achieved broadly representative samples aged 15 and older of their respective populations. A substantial review of the literature has examined the relative strengths and merits of traditional survey administration methodologies compared with on-line surveys, with the strong consensus being that well designed and executed web-based surveys typically achieve very comparable if not superior results to conventional best practice (e.g., Birnbaum, 2004; Chang & Krosnick, 2009; Rao, Kaminska & McCutcheon, 2010). The extent, geographic diversity, and logistical challenges which characterise the Australian continent, in the context of a national study of global climate change risk perceptions and responses, meant that a web-based survey was the only practical option for an in-depth survey including multiple rating scales, considered responses, and a number of open-ended qualitative response items. The striking similarities of many findings in this climate change comparison study involving two countries in very different parts of the world, suggest that such administrative differences in the context of these carefully designed and executed collaborative surveys did not substantially affect the survey outcomes.

Respective demographic and geographic profiles

The survey sample sizes were 3096 for Australia and 1822 for Britain, with the respective populations of these countries being 22, 271, 900 (ABS, 2010) and 59, 853, 300 (estimate from 2001 census plus current growth statistics). Proportions of male and female respondents were very similar (Australia 47% male, 53% female; UK 48% male, 52% female). The age profile of Australian respondents was (15 to 24, 7.8%; 25-54, 60%; 55 plus, 31.6%) with the corresponding profile for British respondents being (15 to 24, 15%; 25-54, 49%; 55 plus, 36%), representing proportionally fewer younger respondents but proportionally more respondents ages 55 and over. The Australia census figures for 2006 give a more differentiated population distribution across these age cohorts (13.6%; 42.2%; 22.0%), reflecting the fact that respondents associated with a survey panel such as that used by Qualtrics are somewhat more likely to be of working age than is the case in the general population. Full- and part-time employment status was comparable in the Australian and British samples, 38%/20% and 36%/13% respectively. (Refer to Appendix A).

Of particular importance to both surveys was the nature of respondents' residential locations, as greater geographic proximity and/or general exposure to potential threats and climate change outcomes might be expected to influence risk perceptions and concerns, as well as anticipated or actual climate change responses and adaptations (e.g., Brody, Zahran, Vedlitz & Grover, 2008; Hess, Malilay & Parkinson, 2008). It is noteworthy that 71% of Australian respondents described their residential circumstances as either urban or suburban, a further 17% as 'country town', and 12% as rural or rural residential. Given the largely urban population and coastal demographic distribution of settlements in Australia, these figures are not surprising and closely reflect national figures. The Australian Bureau of Statistics (ABS, 2006b) report that 68% of Australians live in major cities. Figure 1 provides a visual and spatial picture of the geographic and demographic distribution of survey respondents and survey sampling centres. Figure 2 shows the categorisation of Australia into regions reflecting varying degrees of remoteness. Together, Figures 1 and 2 clearly indicate the dramatically different circumstances of rural and remote Australia as compared with Great Britain.



Figure 1. Australian population distribution and survey sampling centres (Geoscience Australia, 2010).

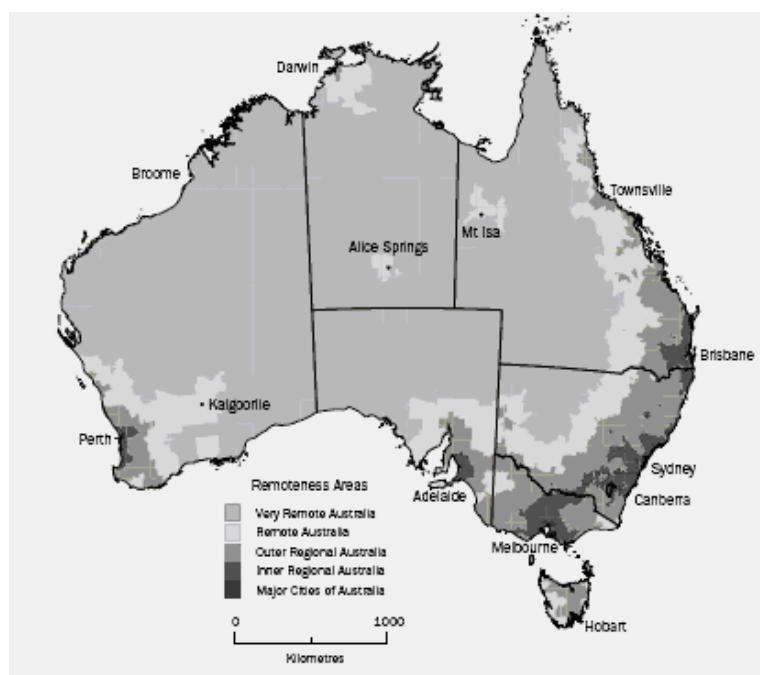


Figure 2. Remoteness areas of Australia based on the 2006 Census of Population and Housing (ABS, 2006B).

The purpose of this interim report is to provide context and detail with respect to some of our principal research findings to date, with particular emphasis placed on those findings of relevance to our collaborative partnership with Cardiff University and their British survey findings. At points it has been useful and/or necessary to expand on salient aspects of the Australian survey and research context, to highlight the distinctive character of this research and climate change context. This interim report will be followed by a final report of the full Australian survey findings scheduled for release in July, 2011. The reported results and observations under each of the following headings are supplemented and informed by reference to a number of tables in the Appendix to this report, in particular, summary Appendix H, which provides descriptive statistics for all survey questions and items other than qualitative survey questions.

Research Findings

Climate change beliefs, risk perceptions, and understandings

Belief that the world's climate is changing

Important initial survey items related to climate change beliefs, risk perceptions, and understandings. Differences between Australian and British responses to the question, “**As far as you know, do you think the world’s climate is changing?**” (#8) were modest, with 73.9% of Australian respondents saying yes, compared with 78.3% of British respondents. 7.8% of Australian respondents provided a ‘don’t know’ response compared with 6.4% of British respondents. Figure 3 shows relative percentage responses for the 2010 Australian and UK surveys, as well as the UK data from a prior 2005 survey using an identical item, and corresponding U.S. survey data for two points in time in 2010 and at one point in time in 2008 (Spence, Venables, Pidgeon, Poortinga & Demski, 2010; Leiserowitz, Maibach, Roser-Renouf & Smith, 2010). These North American findings must be interpreted with an awareness that reference to ‘global warming’ rather than ‘climate change’ can influence responses, and that reported belief in climate change in the United States can have charged ideological and political party identification connotations which are more muted in Australia and the UK (Dunlap & McCright, 2008; Leiserowitz, Smith et al., 2010; Whitmarsh, 2009). These additional North American findings, however, do provide some bases for comparison. These national findings indicate that roughly three quarters of Australian and British residents believe that the world’s climate is changing, with ‘no’ responses accounting for 18.2% and 15.3% of responses respectively. A subsequent survey question asked for extent of agreement with the statement, “**I am certain that climate change is really happening**” (#12a). With the item framed in this way, respondents had to indicate agreement with a very strong

As far as you know, do you personally think the world's climate is changing?

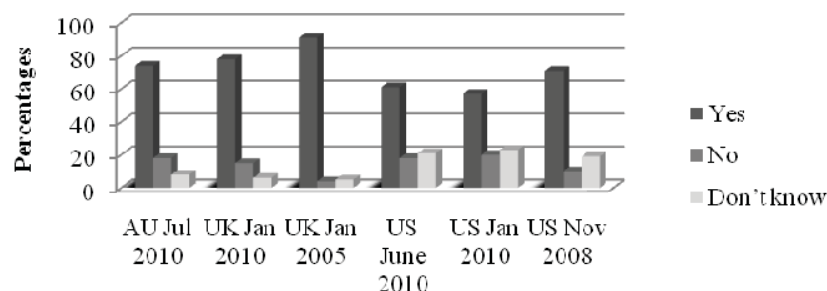


Figure 3. Belief in climate change.²

statement of certainty. Seventy-one percent of Australian respondents rated ‘strongly agree’ (31%) or ‘tend to agree’ (41%) reflecting their belief and/or assessment that climate change is really happening. [As the equivalent British item was worded in terms of being uncertain, a direct comparison was not made].

Disbelief, scepticism, and uncertainty

Given the importance attributed to public beliefs about the existence of anthropogenic climate change, the nature of these climate processes and impacts, the credibility of climate change science and scientists, and relative near term and longer term risk, the two surveys addressed respondent perceptions and beliefs with a number of differing questions. This allowed for a consideration of question framing effects, and for the reasonably unambiguous identification of respondents who could be characterized as de facto climate change disbelievers or strong sceptics. Table 1 summarises relative findings from differing questions relating to beliefs concerning ‘climate change’.

The survey findings by item show what initially appears to be appreciable inconsistency, varying from a 7.6% strong sceptic or disbeliever (combined) count in response to endorsement of either 9a or 9f for item 9 to an 18% strong sceptic or disbeliever response to question 8, for the Australian sample. This demonstrates the powerful framing effects of differing question wording and response formats (Schwarz, 1999; Tourangeau, Rips, & Rasinski, 2000). Notwithstanding that 71.4% of Australian respondents either ‘strongly agreed’ or ‘tended to agree’ with the statement “I am certain that climate change is really happening” (#12a), while only 4.7% strongly disagreed, the actual percentage figure for disbelievers is marginally greater. When an operationalised criterion for attributing strong scepticism or disbelief is applied across these four survey items (8, 9, 12, 14), requiring a consistent disbeliever or sceptical response for each of these items, the total proportion of respondents falls to 1.2%, or 38 individuals. When a less stringent criterion is adopted, requiring a no response to question 8, and a disbeliever or sceptic response to at least two of the three questions 9, 12, and 14, the proportion of survey respondents who could be characterised as disbelievers or strong sceptics becomes 5.8%, or 180 individuals. The comparable figures for British survey respondents were .8% (40 individuals, stringent criterion) and 5.1% (249 individuals, more inclusive criterion) respectively, that is, 5.1% of British survey respondents could be characterised as being disbelievers or strong sceptics. What appears to be the case for disbelievers and strong sceptics is that these views are strongly held and closely associated with self perceptions, world views, and value stances (e.g., Krosnick, 2010; Krosnick & Villar, 2010). The influence of such discrepant and polarised beliefs on survey means and overall statistics is noteworthy.

² The comparative American survey item reported here was worded: “What do you think? Do you think global warming is happening?” (Leiserowitz et al. 2010)

Table 1. Relative findings from differing items relating to beliefs concerning ‘climate change’.³

Q8. As far as you know, do you personally think the world’s climate is changing?		
	Australia	Great Britain
	%	%
Yes	73.9	78.3
No	18.2	15.3
Don’t know	7.8	6.4

Q12a. To what extent do you agree or disagree with each of the following statements about climate change?								
		Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	No opinion	Don’t know
		%	%	%	%	%	%	%
*I am <u>certain</u> that climate change is really happening	Australia	30.8	40.6	12.2	10.1	4.7	0.3	1.2
	GB	24.0	35.0	12.0	22.0	6.0	0.8	0.4

Note. * The British survey framed this item as ‘uncertain’ rather than ‘certain’, hence the scale percentages have been reversed to align with Australian results.

Q9. Thinking about the causes of climate change, which, if any, of the following best describes your opinion?

	Australia	GB
	%	%
a)Climate change is entirely caused by natural processes	4.9	5.6
b)Climate change is mainly caused by natural processes	12.6	12.2
c)Climate change is partly caused by natural processes and partly by human activity	45.8	46.3
d)Climate change is mainly caused by human activity	27.6	24.3
e)Climate change is entirely caused by human activity	4.2	6.5
f)I think there is no such thing as climate change	2.7	2.2
g)Don’t know	1.9	2.5
h)No opinion	0.4	0.4

Q14. When, if at all, do you think Australia/Britain will start feeling the effects of climate change?

	Australia	GB
	%	%
We are already feeling the effects	54.0	41.4
In the next 10 years	9.2	13.5
In the next 25 years	7.5	13.9
In the next 50 years	4.5	10.9
In the next 100 years	2.3	4.9
Beyond the next 100 years	2.6	4.3
Never	5.5	3.6
Don’t know	12.9	7.1
No opinion	1.5	0.3

³ Stringent classification as disbeliever or strong sceptic was determined by highlighted responses to the four questions, with this operationalisation including all respondents who answered ‘no’ to question 8, and selected either ‘a’ or ‘f’ to question 9, either ‘strongly disagree’ or ‘tend to disagree’ to question 12a, and selected ‘never’ in response to question 14. The more inclusive 5.8% figure was calculated on the basis of a no response to question 8, and ‘disbeliever’ or ‘strong sceptic’ responses to two of the three remaining belief questions (9, 12, 14).

Additional items relating to climate change beliefs, risk perceptions, and understandings are shown in Appendix H (#10, 11, 12). These overall results suggest that climate change is seen as a very genuine risk domain, but one that is imbued with very mixed response associations with respect to costs and benefits, media treatment and credibility, perceived scientific consensus, and trust in science and societal resources to effectively manage the climate change threat. What is perhaps most striking about these findings is their overall similarity across countries and the wide spectrum of views represented. Among these items the largest difference was found in reported extent of agreement with the statement, **“I trust the Australian/British government to take appropriate action against climate change”** ($p < .001$) (#12g). Trust in government is clearly lower in Australia. These findings with respect to trust must also be considered in the context of perceived uncertainties with respect to climate change as a phenomenon, likely impacts and severity for particular regions, and scientific consensus (e.g., CSIRO-BOM, 2007, 2009). It is noteworthy that Australian respondents were less uncertain as to what the effects of climate change will be (55.8%) as compared with 69.5% of British respondents (#12j). Australians’ experience with a visibly changing climate and continent and the natural disasters of the past decade has been seen and interpreted by many as clear evidence of the reality of climate change and its unfolding impacts, and as evidenced by the findings of the full report to follow.

Climate change concern

The initial and very direct survey question relating to public concern about climate change was, **“How concerned, if at all, are you about climate change, sometimes referred to as ‘global warming’?”** (#7) (See Figure 4). The mean ratings on this four-point scale were very similar (Australia 2.84; GB 2.92), and indicate that respondents were, on the whole, ‘very’ or ‘fairly’ concerned about climate change, with 66.3% of Australian respondents, for example, giving a ‘very concerned’ or a ‘fairly concerned’ rating response compared with 71% of British respondents. Hence, notwithstanding some modest differences with respect to levels of climate change concern, both Australian and British respondents saw themselves, on the whole, as quite concerned about climate change.

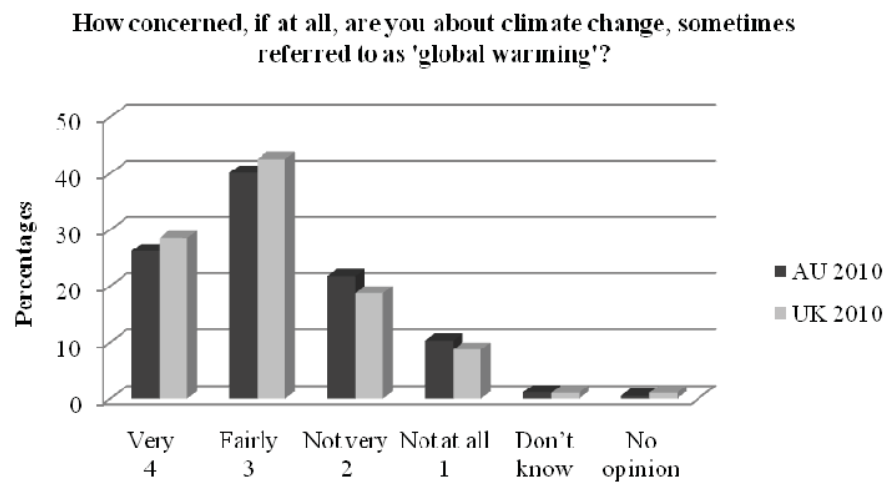


Figure 4. Climate change concern

Additional items directly relating to climate change concern included two statements, one worded in terms of personal relevance and one in terms of societal relevance: **“Considering any potential effects of climate change that might affect you personally [that there might be on society in general], how concerned, if at all, are you about climate change?”** (#16, #17). (see figures 5 & 6).

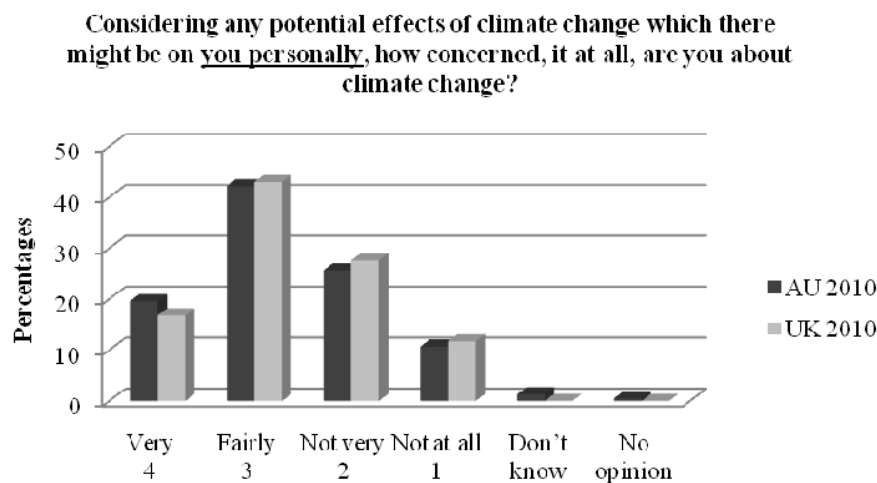


Figure 5. Climate change concern – personal relevance

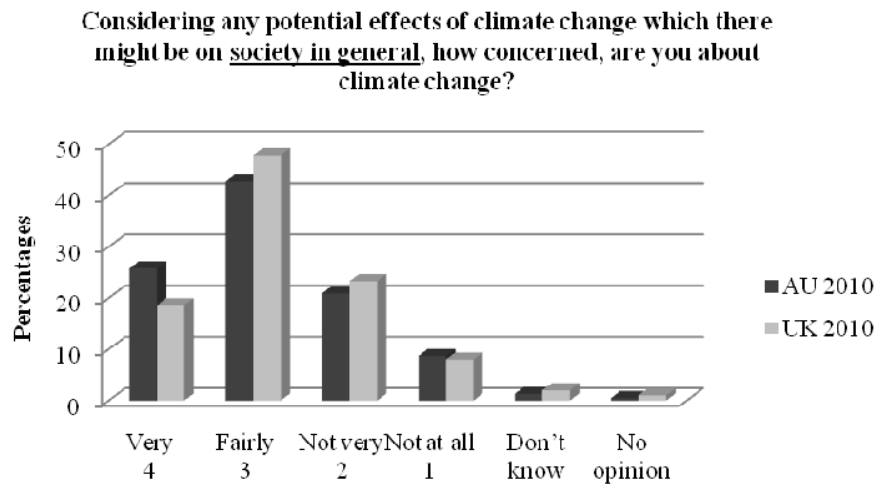


Figure 6. Climate change concern – societal relevance

The mean ratings for Australian and British respondents were 2.72 and 2.66, respectively, with respect to expressed concern about personal impacts, and 2.87 and 2.79 with respect to concern about adverse impacts on society in general. In absolute terms concern levels were quite high, with 61.8% of Australian respondents and 59.8% of British respondents indicating that they felt either ‘very concerned’ or ‘fairly concerned’ about personal consequences, and 68.6% of Australians and 66.4% of British respondents indicating that they were either ‘very concerned’ or ‘fairly concerned’ about the impacts of climate change on society in general. An additional 25.7% and 27.6% of Australian and British respondents indicated some level of concern about the personal impacts of climate change, and 20.9% and 23.3% about the societal impacts, bringing inclusive concern levels to 88% and 90% respectively. It is important to note that these latter items were questions about the personal and societal psychosocial *impacts* of climate change, not the more abstract phenomenon of ‘climate change’. These findings may also reflect the pervasive risk appraisal finding that individuals tend to exhibit a measure of optimism bias with respect to personal adverse consequences in the context of risks generally (e.g., Pohl, 2004; Weinstein, 1980).

General Environmental Concern

A number of items were included in the survey to address general environmental concern. A single question asked respondents to indicate their extent of agreement with the statement, “**I think of myself as someone who is very concerned with environmental issues,**” (#21) (see Appendix H). Clearly the meaning of concern changes here, in part because this becomes in effect a self-perception judgment, and in part because the focal reference is ‘environmental issues’ rather than ‘climate change’. Interestingly the respective mean ratings for this self-ascription scale were essentially identical, 3.49 (Australia) and 3.50 (GB). The Australian survey also included a developed and widely used scale of general environmental concern (#22) (Schultz, 2001) and the results will be addressed in the forthcoming full report.

Perceived causes of climate change and responsibility implications

Public perceptions of the causes of climate change relate to perceptions and understandings of the anthropogenic forcing of climate change. Figure 7 indicates the comparison relative percentages to each of the response options, **“Thinking about the causes of climate change, which of the following best describes your opinion?”** (#9). A remarkable similarity in causal perceptions is evident, with 45.8% and 46.3% of Australian and British respondents choosing the option, **“Climate change is partly caused by natural processes and partly caused by human activity”**, and a further 27.6% and 24.3% selecting the response option, **“Climate change is mainly caused by human activity”**. In contrast to this predominant view, approximately 18% of both Australian respondents and British respondents selected one of the following response options: **“Climate change is entirely caused by natural processes”** or **“Climate change is mainly caused by natural processes”** with this latter response option nonetheless acknowledging some human causal contribution. These findings again indicate strong equivalence across the two national population samples, and a shared perception by an overwhelming majority of respondents (90% and 89%) that human activities are a causal factor in contemporary climate change. It is interesting that the response option, **“I think there is no such thing as climate change”** attracted only 2.7 and 2.2 percent of responses, and the response option **“climate change is entirely caused by natural process”** attracted only 4.9 and 5.6 percent of responses respectively, suggesting that strong scepticism and actual disbelief in climate change characterise a very small proportion (in the context of this item 7.6% and 7.8%) of these national population samples, much less than media coverage might lead one to believe.

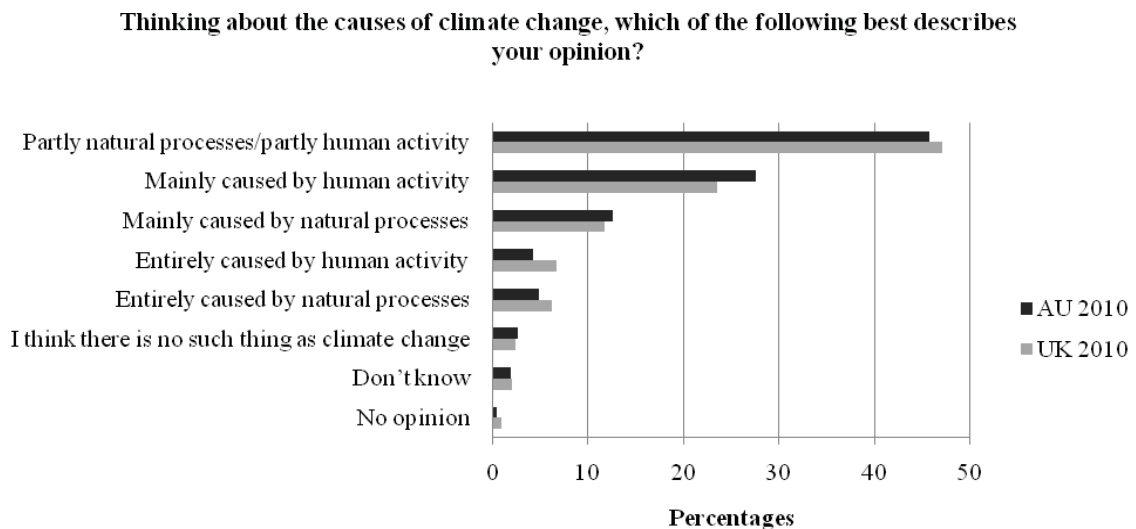


Figure 7. Causes of climate change

Again, it is instructive to compare these findings with the 2010 US survey cited previously (Leiserowitz, Maibach et al., 2010), where the question asked and relative percentage

responses were, “Assuming global warming is happening, do you think it is: caused mostly by human activities (47%); caused mostly by natural changes in the environment (36%); none of the above because global warming isn’t happening (9%); and caused by both human activities and natural causes (volunteered) (6%)”. While the question and response format are not directly comparable, it seems clear that the majority of US respondents in survey reports of similarly worded items and response formats also believed that human activities constituted a contributing cause to current climate change. It is particularly noteworthy that the response format in this widely cited recent study did not offer a response option which covered both ‘human activities and natural changes’ and these had to be volunteered by respondents. This suggests that there might well exist a more pervasive under-reporting of public acceptance of the contributing causal role of human activities in the context of climate change.

Self-efficacy

An important dimension of public response to the threat of climate change in the survey was perceived self-efficacy with respect to this, for many, daunting and global problem, i.e., the extent to which people feel they can engage in actions that could make a difference either in their local or global environment (Bandura, 1997, 2009; Tabernero & Hernández, 2010). Respondents were asked to indicate their extent of agreement with a series of six statements (#13) (see Appendix H). Responses to these questions indicate that respondents by and large felt that it was possible for them to take effective action in their personal lives to counter climate change. These are very heartening findings and suggest that the common stereotype that the public feels overwhelmed and helpless in the face of climate change is far from the case, at least in these two countries. While the similarities between Australian and British responses are, again, much more noteworthy than the differences, the findings suggest that Australian respondents reported feeling somewhat more able to make changes that could make a difference with respect to climate change, and somewhat less likely to agree that, “It is hard to take action against climate change”.

Unfolding impacts and immediacy of climate change: Temporal, spatial and psychological distance

An important item in the survey related to the immediacy of the climate change threat and unfolding impacts. Respondents were asked: “**When, if at all, do you think Australia [Britain] will start feeling the effects of climate change?**” (#14) Figure 8 provides relative percentages across response options.

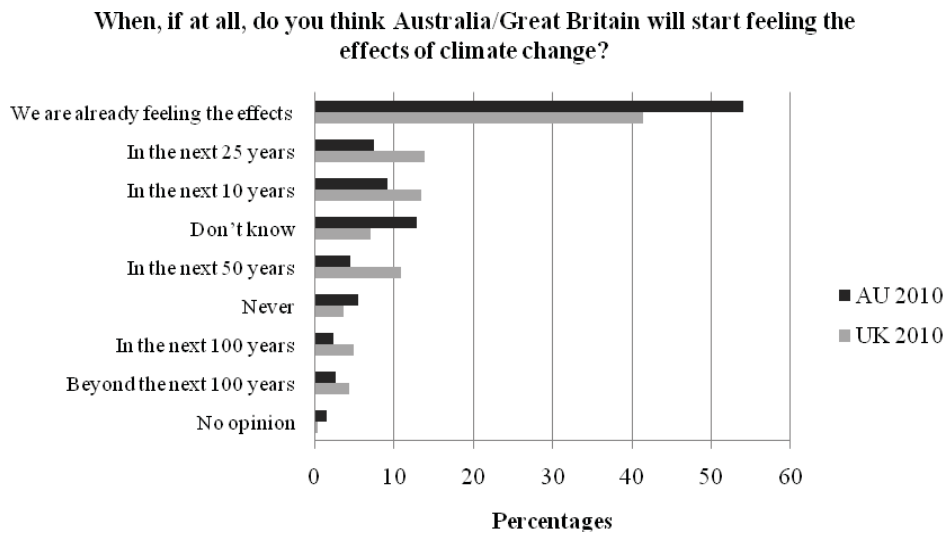


Figure 8. Immediacy of climate change threat and impacts.

The response distribution indicates that Australian respondents were more likely to report that they were already experiencing the effects of climate change, with relative frequencies for the next three response options higher for British respondents. Thus 54% (Aus) and 41% (GB) of respondents believed that they were already feeling the effects of climate change, while a further 17% and 27% of respondents thought that they would be feeling these effects within the next 10 to 25 years. It is noteworthy that 5.5% of Australian respondents opted for the 'Never' response option compared with 3.6% of British respondents. This might suggest that a modest but proportionately larger core group of climate change disbelievers and/or sceptics exists in Australia. The contrast between Australian and British respondents in endorsing the 'Don't know' option to this question is also interesting, with the respective 12.9% versus 7.1% figures indicating that a substantially greater proportion of Australian respondents reported not knowing when the effects of climate change were likely to commence. This could reflect the confusing picture presented by the extreme natural disaster events in Australia over the past few years, including a crippling drought which lasted for up to a decade across extensive areas of Australia, and only ending in late 2009 and 2010, when much of Northeastern Australia was extensively flooded, amplified by confronting and often contradictory media messages. Unlike the international media, Australian media would appear to give proportionally greater coverage to the Australian context and Australian examples when covering the threat of climate change, as compared with global images and examples.

Spatial and temporal distancing: The local and the global

The survey questions examined various aspects of the local/global continuum in terms of risk perceptions, appraisal, perceived exposure and psychological distance (e.g., Uzzell, 2000, 2004) (refer to Figures 9 & 10). These and similar items have been used to explore and document the extent to which people tend to view climate change as a global phenomenon, distant in space as well as time from their own life circumstances (Lima & Castro, 2005;

Uzzell, 2000). In the context of this comparative research it was thought that Australian respondents would be less prone to ‘distance’ the threat and impacts of climate change.

This is one of the few areas of the survey where clear and consistent differences between Australian and British respondents were evident. In each instance the direction of the differences indicated that climate change was seen as a more immediate, proximal threat in Australia than it was in Britain ($p < .01$). This finding makes intuitive sense in that the Australian continent is viewed as being the most exposed occupied continent in the world with respect to the predicted adverse impacts of climate change (e.g., CSIRO-BoM 2007, 2009; DCC, 2010; Steffen, 2009), and there appears to be a very strong perceived nexus between climate change and natural disasters, with natural disaster events in Australia increasingly being seen as manifestations of unfolding climate change (e.g., Reser, Ellul, Steele & Occhipinti, 2011).

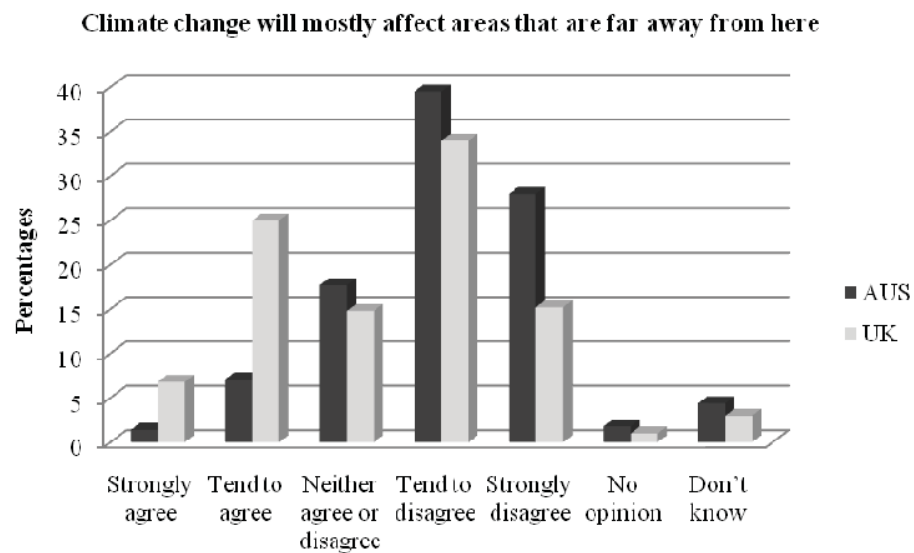


Figure 9. Spatial and temporal distancing of climate change effects

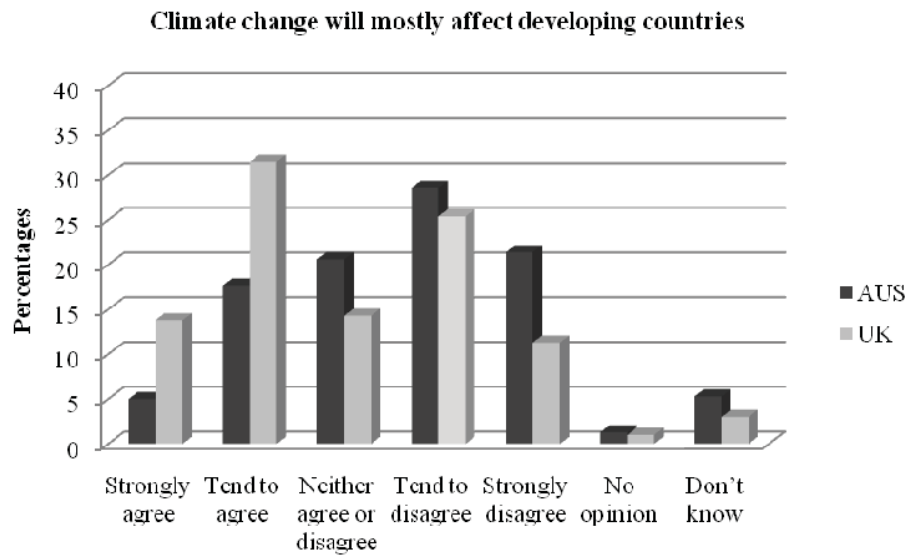


Figure 10. Spatial and temporal distancing of climate change effects

Perceived responsibility and trust

Multiple theoretical and research literatures address causal and responsibility attributions in the context of environmental threat, and more recently climate change, and how these relate to public understandings with respect to anthropogenic forcing, self-efficacy and perceived control, local versus global considerations, and motivational processes, including protection motivation and psychological distancing (e.g., Malka, Krosnick, & Langer, 2009; Lavergne, Sharp, Pelletier, & Holtby, 2010). Additional items and sections of the Australian survey address these matters further. In the context of this interim report, focusing on Australian and UK comparisons, a number of items are relevant. Respondents were asked to indicate the extent to which they perceived responsibility for taking action to combat climate change, **“Which of the following do you think should be mainly responsible for taking action against climate change?”** (#18). These findings are not directly comparable because of differing instructions (Australian respondents were advised that they could tick multiple responses whereas British respondents was asked to indicate a single option) (See figures 11 and 12).

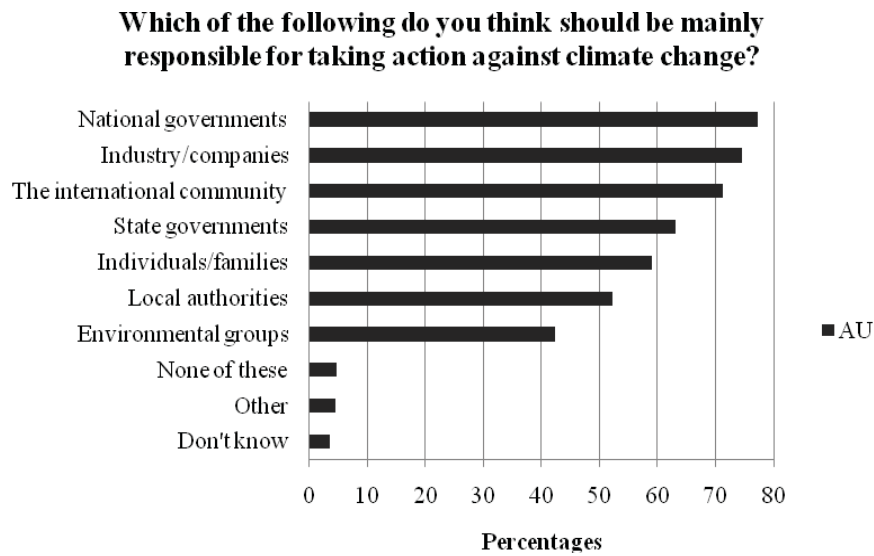


Figure 11. Responsibility for action to combat climate change: Australian sample

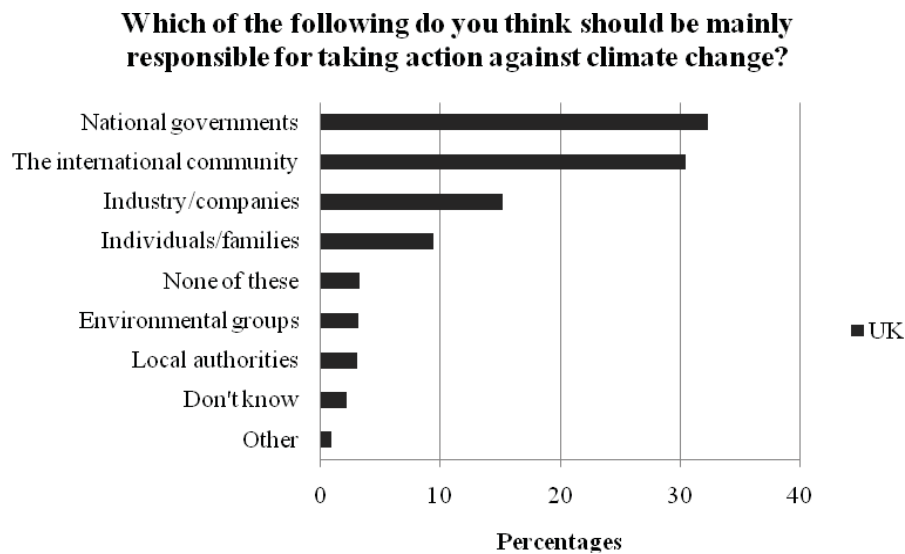


Figure 12. Responsibility for action to combat climate change: UK sample

The overall distribution of responses is quite similar, notwithstanding that Australians could select more than one item. Certainly the initial three response options are strongly similar, taking into account the fact that British respondents were only permitted one option. It is clear that respondents believe that national governments, the international community, and the industrial corporate sector are seen to bear a strong responsibility for taking action to combat climate change. But the Australian multiple response data would suggest that individuals and families are viewed as having almost equal responsibility to take action in the context of climate change. This may be as true of British respondents, but the single response

format provided effectively precluded respondents from endorsing what might have been an almost equally important responsibility attribution relating to individuals and families, and possibly local authorities and environmental groups. Similarly in the case of local authorities, it is likely that multiple option instructions might have provided more similar findings, notwithstanding the decentralised levels of responsibility that characterise the Australian State and local government systems.

It is noteworthy that in response to item #13e British respondents were somewhat more likely than Australian respondents to ‘strongly agree’ or to ‘tend to agree’ with the statement, “**I feel a sense of urgency to change my behaviours to help to reduce climate change**” (GB 41.9%, Aus 35.6%). Extent of agreement with the item f in question 13, “**It is my responsibility to help to do something about climate change**” is of particular interest as over 50% of both Australian (60.1%) and UK (70.5%) respondents indicated that they either ‘strongly agreed’ or ‘tended to agree’ with the statement. A further comparison relates to relative extent of respondent agreement with the statement “**I trust the Australian/British government to take appropriate action against climate change**” (#12). Only 15.7% of Australian respondents as compared with 30.7% of British respondents ‘agreed strongly’ or ‘tended to agree’ with this statement. These findings along with the strong results supporting a widespread belief that human activities are substantially contributing to climate change, shed light on and raise questions with respect to when and how perceived anthropogenic causation is associated with personal responsibility attributions in the case of global climate change.

Climate change and psychological distress

A salient and probable psychological impact of climate change has been that of psychological distress in response to media coverage of the threat of climate change and direct experiences with perceived environmental manifestations of climate change and consequent physical environmental impacts (e.g., Berry et al., 2008; Doherty & Clayton, 2011; Fritze, Blashki, Burke & Wiseman, 2008; Reser et al., 2011). The Australian survey specifically addressed psychological distress in the context of climate change with a seven-item measure designed by the research team (#43). While final analyses of data have not been completed, initial findings are of particular relevance to psychological adaptation and impacts (further research addressing full scale development and validation is currently underway). Averaged results across all respondents indicate moderate levels of reported distress when thinking about and otherwise responding to the threat of climate change. More specifically, when examining each of the items individually, it is clear that a substantial proportion of respondents indicated high levels of distress relating to particular aspects of the climate change threat. A large number of respondents, for example, were worried about what the world will really be like for future generations because of climate change (38%), with a further 24% experiencing some distress each time they see or read media coverage as to the likely impacts and consequences of climate change. Other respondents were upset that there seemed to be so little that they could do to address environmental problems such as climate change (23%). Respondents were less likely to endorse items such as “climate change is affecting my quality of life and my assessment of environmental quality more generally, (9%), or “I feel some

sense of loss because of the climate change impacts that are becoming apparent in my area” (12%).

These results suggest appreciable psychological distress as well as earlier reported genuine concern at the nature and implications of the threat of climate change for many respondents. Initial correlation analyses indicate that this psychological distress in the context of climate change measure correlates strongly with measures of climate change concern ($r = .84$), risk perception ($r = .73$), and psychological adaptation ($r = .78$). This further suggests important mediating roles and outcomes with respect to climate change distress. Structural equation modelling analyses of psychometric scale data are currently underway. It will be important to compare and contrast the results of programmatic national survey and monitoring exercises such as this with more focused psychosocial impact assessment and community health and mental health studies in specific regions with differing notional exposures to the impacts of climate change, extreme weather events, and/or other salient environmental changes.

Comparisons with other survey findings

While the numbers of ‘climate change’ surveys being reported may seem substantial, the reality is rather different, reflecting in part the very different kinds of surveys being undertaken. Appendix C provides a selective listing of Australian surveys which have included and reported at least several items relating to public perceptions and responses to climate change. The most frequently reported surveys are those from organisations such as Australian Newspoll and News.com.au, which are typically limited telephone surveys relating to a small number of newsworthy items, with few specifics provided concerning survey objectives, content, question framings, response format, or sample. There also exist a number of what are now annual national survey exercises in Australia undertaken by research organisations and commercial enterprises which have included some items on climate change embedded within surveys of more general scope and focus. These would include, for example, the ANUpoll, conducted in 2008, 2009, and 2010 with a national random sample of 1200 respondents, and including four climate change questions out of 47 items in their 2010 survey. The frequently cited Lowy Institute Poll has been undertaken annually since 2007, with the 2010 survey including five climate change questions out of a total of 32 questions. Commercial polling companies such as the *Social Research Institute* of Ipsos-Eureka has been running annual climate change focused on-line surveys in Australia since 2007, with their 2010 survey consisting of 22 exclusively climate change-focused items. Similarly, the company *Thermometer Surveys* provides an updated and climate change focused ‘Thermometer Survey Report’ to organisational clients, but without using standardised items or conventional research reporting transparency (Thermometer Survey, 2008). The Australian Bureau of Statistics (ABS) has undertaken several ‘Environmental Views and Behaviour’ surveys which included some climate change items, as do their periodic ‘Environmental Issues’ surveys, but with very few climate change-specific items. The more substantive and research institution-based climate change surveys have been undertaken by CSIRO, Griffith University (NCCARF), University of Queensland (Global Change Institute), and ANU (ANUpoll).

These survey findings overall provide a valuable but very fragmented and disparate set of findings and comparison bases for survey-based climate change research, and there remain appreciable challenges to meaningful comparisons as sample selection, mode of presentation, question framings, response formats, and survey contexts tend to differ substantially across institutions and organizations. As well, the purpose of the majority of these surveys is primarily a reporting of public opinion rather than investigating public understandings, risk perceptions, or psychosocial responses or impacts over time. A serious shortcoming, reflecting the nature and purpose of these surveys, is that they rarely include substantive scales or measures of dispositional or experience-based individual differences. As well, there has not emerged a more standardised convention or agreement for measuring, interpreting, and reporting survey research and findings, and interpretations of similar findings can and do vary substantially. The current status quo in Australia is that there does not exist a reference data base or programmatic research and monitoring institution addressing public risk perceptions, understandings, and responses relating to climate change, and the psychosocial impact of the threat of climate change. Such strategic research could document and explore how these changes in public risk perceptions and understandings might be reflecting or themselves mediating psychological and social/societal adaptation.

Discussion

The modest objective of this interim report has been to briefly highlight current and more salient research findings based on continuing analyses of a very substantial national survey data set. The specific survey items and initial survey findings contained in this report are found in Appendix H, which also provides summary descriptive statistics for all quantitative survey items. A full report is under preparation and will be available in July 2011, addressing both quantitative and qualitative findings, and correlational and inferential statistical analyses, making fuller use of our composite measures and comprehensive data set. Given the recent reports of a number of Australian, UK, and US national survey findings relating to public perceptions of and responses to climate change, it is timely and helpful to make these initial comparison findings available. In the discussion section which follows we address what we feel are some of the more noteworthy findings and issues in front of us as we continue with our data analyses.

Notwithstanding the seeming ever-fluctuating public concern levels with respect to the threat and impacts of ‘climate change’ around the world, there exists a more consistent and coherent evidence base suggesting that public concern about climate change remains quite high, both in Australia and overseas. But the highly charged political context of climate change, both nationally and internationally (e.g., Dunlap & McCright, 2008; Hoegh-Guldberg, Fielding, Head, Laffan, & Western, 2010; Villar & Krosnick, 2020), and the multiple challenges of specification and measurement of attitudinal or belief ‘object’, differing survey item framings and response formats, and non-standardised measurement procedures and scales have ensured that the documentation and monitoring of public risk perceptions and concerns with respect to climate change has been less than satisfactory, and reported findings are rarely comparable. There also exists a considered view that a more general ‘attenuation of risk’

(e.g., Pidgeon, Kasperson & Slovic, 2003) in the context of climate change have taken place over the past several years, especially in countries where the impacts of climate change are perceived to be less evident, with this seeming lessening of concern interpreted as reflecting a number of convergent factors (e.g., oversaturated and sensationalised media coverage, the influence of the ‘climate gate’ email leaks from the University of East Anglia, the problematic glacial melting forecasts made by the International Panel on Climate Change, and the severe northern hemisphere winter of 2009-2010). Recent evidence, however, from North America (Krosnick, 2010; Leiserowitz et al., 2010) suggests this apparent temporary decrease in public concern appears to be returning to more stable levels of high public concern and decreasing uncertainty and scepticism (e.g., Eurobarometer, 2009; Furedi, 2010; Spence, Pidgeon, Poortinga & Venables, 2010). This position is reflected in the following quote from Norhaus & Shellenberger (2009):

Public opinion about global warming, it turns out, has been remarkably stable for the better part of two decades, despite the recent decline in expressed public confidence in climate science. Roughly two thirds of Americans have consistently told pollsters that global warming is occurring. By about the same majority, most Americans agree that global warming is at least in part human-caused, with this majority equally divided between those believing that global warming is entirely caused by humans and those who believe it to be a combination of human and natural causes. And about the same two thirds majority has consistently supported government action to reduce greenhouse gas emissions since 1989. (p.1)

A comparison of broader public perceptions, understandings, and responses to the threat of climate change between Britain and Australia is particularly interesting as climate change concern was thought to be on the wane in Britain according to recent survey findings (e.g., Spence et al., 2010), accompanied by an increasing element of climate change scepticism, Climate change concern in Australia on the other hand had arguably become stronger, attributed, in part, to the nature and intensity and human costs of recent acute (cyclones, bushfires, floods) and chronic (drought, salination) natural disaster events in Australia and the Pacific region over the past few years (e.g., Lowy Institute, 2009; Morrissey & Reser, 2007; Spratt & Sutton, 2008). These considerations invite an expectation that the level of climate change concern in Australia would be quite high and much higher than might be the case in Britain. Indeed in Australia climate change appears to have become a much more evident attribution and explanation for many physical and social environmental changes taking place, and is an ubiquitous part of everyday conversation with respect to everything from the weather, to politics, to the economy, to rural and remote mental health (e.g., Morrissey & Reser, 2008; Reser, 2010).

The survey findings presented here would indicate that levels of climate change concern are in fact surprisingly similar in Britain and Australia, and arguably quite high. A number of convergent explanations for these findings exist. The explanation for very high concern levels in Australia is quite reasonably related to the extreme disaster events and visually dramatic changes taking place to the landscape in various parts of Australia, along with the

saliency of urban water shortages, and a continent-wide and decade long drought which has decimated major river systems and agricultural and pastoral regions. This situation has, of course, been completely altered with the wide-ranging flood events of 2010-2011, and the current dramatic floods and cyclone events of January and February, 2011. The explanation for comparably high levels of concern in Britain is less clear, although several lines of argument and evidence might be advanced. Media coverage of this phenomenon and threat in Britain, as in much of Europe and North America, has been constant, often dramatic, and with the content, images, and representations being largely global, distant in space and time, and with less reference to local environmental changes, events, or impacts (Butler & Pidgeon, 2009; Hulme, 2009; Pidgeon, 2010). This acknowledgement but distancing of the impacts and immediacy of climate change through global media coverage and intertwined processes of social construction and social representation has been addressed by many researchers (e.g., Garcia-Mira, Real & Romay, 2005; Uzzell, 2000, 2004). However, it is highly likely that a threat and risk domain of this magnitude, consequence, and symbolic currency can neither be exorcised nor effectively sanitised through defensive strategies at individual or cultural levels. A more plausible explanation is that global climate change, unlike more specific and identifiable acute weather events and specific threats, is a *de facto* environmental and background stressor, and by nature and definition not always within individuals' immediate focal attention or perceptual field, but essentially constituting a pervasive and background risk domain and continuing source of anxiety, irrespective of geographic location and current objective exposure (e.g., Bell, Greene, Fisher, & Baum, 2001; Evans & Cohen, 1991; Reser & Swim, 2011). Climate change is a quintessentially global phenomenon, environmental threat, and risk domain.

While levels of concern reported by UK respondents are surprisingly similar to those expressed by Australian respondents, it is equally clear that Australian respondents perceived the threat and impacts of climate change as more immediate and closer to home. There was significantly less agreement by Australian respondents that, "Climate change will mostly affect areas that are far away from here" ($p < .001$) and significantly more agreement with the statement that "My local area is likely to be affected by climate change" ($p < .001$). In addition, Australian respondents reported less agreement with the statement that, "Climate change will mostly affect developing countries" ($p < .001$) and more agreement with the statement that "Climate change is likely to have a big impact on people like me" ($p < .001$). This immediacy of the perceived threat and impacts of global climate change in the context of dramatic acute and chronic natural disaster events, and a visibly changing landscape in many parts of Australia is not itself surprising. However, the juxtaposition of very similar and often almost identical general climate change concern levels in British and Australian respondents in the context of very different perceptions of the immediacy and local and personal relevance of the threat of climate change is again striking.

A final consideration in this interim report is that of 'history factors' which might plausibly have influenced these respective survey findings. A number of global and national events and issues might arguably have influenced survey respondents over the course of the two national surveys. These can usefully be divided into natural disaster and extreme weather events, local

and global, and geopolitical events and issues, both national and international. Noteworthy extreme weather and natural disasters events across the world from January 2010 to mid 2010, at which point the Australian survey was undertaken, are summarised in Appendix F. A number of quite dramatic and extensively covered natural disasters occurred in the years immediately preceding this seven month period, which might also have had a residual effect on a survey addressing public perceptions and understandings of climate change. This is even more probable in the case of the Australian survey, which also addressed public perceptions and responses to natural disasters. These global events include, of course, the Asian tsunami (2004), Hurricane Katrina (2005), and the Pakistan earthquake's (2005, 2008), with global media coverage reflecting constantly improving and more graphic and immediate information and communication technologies. A number of these global disasters and extreme weather events received widespread and very dramatic media coverage at the time, such as the Haiti and China earthquakes, the Columbia, Poland, and China floods, the Russia heatwaves and fires, the California bushfires, and severe flooding in India and Pakistan. At issue is whether noteworthy global events might have overly influenced both Australian and British survey respondents, as well as whether differing country-specific events might plausibly account for any survey differences found.

Appendix G highlights those more immediate extreme weather events for Australia in the 18 month period preceding the Australian survey administration, though we should not dismiss the perceived salience of Asian-Pacific regional events. Clearly this was an eventful period, though not that unusual, in the broader Australian context. As well, a pervasive and continuing 'slow disaster' and chronic environmental stressor was that of a nation-wide drought, with many Australian cities facing extreme water shortages, and some states not being declared drought free until the latter part of 2010. Arguably the most noteworthy disaster during this period was the Victorian bushfires leading up to and following Black Saturday, with the extensive media coverage of this seemingly apocalyptic event making this a very salient national tragedy (e.g., APS, 2009; McGourty, 2009). Widespread severe flooding in Queensland and New South Wales during the same period, on the back of severe nation-wide drought, gave the impression of a country under siege by convergent natural disasters. Other Australian extreme weather events preceding this 18 month period would include increasingly severe bushfires, and the devastation of Cyclone Larry in North Queensland (2006). Interestingly Great Britain was also encountering its share of extreme weather events both leading up to and during the 18 month period of the survey administration, experiencing severe flooding events over the preceding few years, an extreme winter in 2008/2009, and serious drought in the summers of 2009 and 2010.

What is particularly compelling about the present findings, and their many similarities, is that they suggest that these country-specific historical factors do not constitute plausible explanations for the differences found, given the far greater number of similarities in the findings. It is also worth noting that while the preceding 18 months had been 'eventful', no major disaster coincided with the actual survey period (i.e., winter is the relatively 'quiet' season). The question of whether global events and issues preceding and at the time of the respective survey administrations might have influenced the survey results remains, but the

overall findings suggest that these high concern levels are more plausibly interpreted as robust and understandable findings reflecting more stable public perceptions, appraisals, and concerns.

At the same time, our research data suggests that 'local' extreme weather events and changing weather patterns can and do inform, influence, and 'localise' public risk perceptions and understandings of climate change. This nexus between 'climate change' and extreme weather events in the context of public perceptions, however, does not necessarily change general levels of concern about climate change, as the present data shows, but rather seems to concretise and localise this global phenomenon and risk domain in particular ways, with clear implications for psychological preparedness and psychological adaptation (e.g., Morrissey & Reser, 2007; Reser & Morrissey, 2008). Ongoing analyses of the current data set, and in particular, extensive qualitative data collected, will hopefully illuminate this perceived interrelatedness between climate change and extreme weather/natural disaster events, and how these public understandings might inform better risk communication and public engagement policies and initiatives.

At the commencement of writing this report in September of 2010, immediately following our initial data analyses, the National Oceanic and Atmospheric Administration (NOAA) was reporting that "the planet had just come through the warmest decade, the warmest 12 months, the warmest six months, and the warmest April, May and June on record". To this date, nine nations had set their all time temperature record in 2010, with the drought, heat wave and widespread fires in Russia receiving extensive media coverage, along with the dramatic floods in Pakistan and China. While these global events might arguably have had a slight influence on a small proportion of late return Australian surveys, in reality the dramatic events characterising mid-2010 were post data collection for both countries.

In addition to extreme weather events and natural disasters, public perceptions and responses to the phenomenon and threat of climate change continued to be influenced by other global and national events, including technological disasters, such as the Gulf Oil Spill (2010), and the increasingly heated political debates, nationally and internationally as the world moved toward the Copenhagen Summit (2009), and Australia and Britain toward decisive changes of government in 2010, with climate change policies and energy futures being very salient political issues and agendas. Clearly direct comparisons between Australia and Great Britain cannot be made with respect to whether political debates in one country were more heated or determining than in the other, and with this potentially influencing participant responses in a national survey such as the one being reported. On balance, this seems unlikely, notwithstanding clear inter-linkages between individual views on climate change and political party affiliation, particularly given the overall similarity of survey findings. This issue, however, will be more closely examined in the context of the forthcoming final report.

Concluding Note

An important and integral part of this research has been to put in place a research program and data base which would allow for the documentation of climate change and natural

disaster adaptation over time, with a particular emphasis on intra-individual psychological adaptation as well as behavioural adjustment and change, and their interdependence (Reser, 2010; Reser & Swim, 2011). A second Australia-specific administration of the national survey is planned for June/July, 2011, with the survey being completed by the same individuals who participated in the initial wave of the survey in 2010. This longitudinal extension of the research utilising a 'within-subjects' design and methodology allows for not only an objective documentation of change at an individual respondent level, but a consideration of the specific roles of psychological adaptation factors and processes which are mediating behavioural adjustment and change (adaptive capacity) and which themselves constitute psychosocial impacts of the threat of climate change and natural disasters (e.g., Reser & Swim, 2011). The extreme weather and natural disaster events of 2010 and 2011 in Australia have also provided for a natural laboratory in the exploration of the roles of direct and indirect experience in the context of perceived physical environmental manifestations and impacts of climate change for many respondents. This opportunity is exceptional in many respects as a very large database and geographically stratified and representative national sample relating to the present research is available for examining interrelationships between objective and subjective proximity and exposure to climate change and natural disaster threat, direct and indirect respondent experience of such events and impacts, and adaptation responses and processes as well as the psychosocial impacts of these extreme weather events. The extension of the research program, contingent on funding, will take place over the 12 month period from July 2011 to June 2012, with a possibility of this longitudinal research continuing over a longer period of time. A further and comprehensive final report of what will have then have been a two year research project would be finalised in June 2012.

Queries relating to this report and research program can be directed to Michelle Ellul m.ellul@griffith.edu.au or Joseph Reser j.reser@griffith.edu.au

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Appendix A: Demographic characteristics of British and Australian Respondents

Characteristic		UK (n=1822) %	AU (n=3095) %
Gender	Male	48	47
	Female	52	53
Age	15-17	3	1
	18-24	12	7
	25-34	14	19
	34-44	18	20
	45-54	17	21
	55-64	14	20
	65-74	13	10
	75 and older	9	2
Employment Status	Working (full time)	36	38
	Working (part time)	13	20
	Unemployed	8	
	Unemployed – seeking work		3
	Unemployed – not seeking work		1
	Retired	27	15
	Looking after house/children	7	8
	Disabled	3	4
	Student	7	6
	Other	*	4
Level of education	No formal qualifications	18	
	Year 10 or less		13
	Year 11		5
	Year 12		17
	GCSE/O-level/CSE	19	
	Vocational qualification	11	
	A-level or equivalent	18	
	College Certificate or Diploma		21
	Trade qualification/Apprenticeship		12
	Bachelors degree or equivalent	19	19
	Postgraduate degree	6	11
	Still studying	1	
	Other	8	1.2
	Don't know	*	

Appendix B: Australian Sample Distribution Across Population Centres

Australian Demographic Statistics, March 2010

Region	Population
New South Wales	7,221,000
Victoria	5,529,400
Queensland	4,498,900
South Australia	1,640,700
Western Australia	2,286,100
Tasmania	507,100
Northern Territory	228,500
Australian Capital Territory	357,700
Australia	22,271,900

Selected Population Centres					
	Population	Sample #		Population	Sample #
New South Wales			Australian Capital Territory		
Sydney	4,399,722	319	Canberra	345,257	82
Albury	53,507	45			
Port Macquarie	42,900	100	Victoria		
Ballina	41,677	77	Melbourne	3,892,419	348
Singleton	23,458	51	Bendigo	100,054	66
Bourke	3,091	34	Shepparton	61,014	24
Total		626	Mildura	49,280	23
			Morwell	22,765	14
Queensland			Bright	358	19
Brisbane	1,945,639	268	Total		494
Gold Coast	497,848	280			
Sunshine Coast	312,801	100	South Australia		
Mackay	167,666	10	Adelaide	1,172,105	311
Townsville	162,730	76	Port Pirie	26,023	6
Cairns	142,001	85	Ceduna	3,731	2
Toowoomba	125,339	72	General state-wide		100
Mount Isa	21,570	16	Total		419
Longreach	3,703	7			
Charleville		3	Tasmania		
Total		917	Hobart	209,287	98
			Launceston	65,222	36
Western Australia			Total		134
Perth	1,602,559	315			
Bunbury	63,202	36	Northern Territory		
Geraldton	35,361	5	Darwin	120,652	37
Albany	34,667	14	Alice Springs	27,481	9
Broome	15,386	7	Katherine	9,912	1
Laverton	757	3	Total		47
Total		380			

Appendix C: Australian Surveys addressing Climate Change

Date	Source	Survey	Method	N
Oct - 2010	Ipsos-Eureka Social Research Institute	Climate change report 2010	(2010) National online survey (2009) National online survey 2007 - 2008	1050 812
June-July 2010	Griffith University	Public risk perceptions, understandings and responses to climate change	National online survey	3096
July-Aug 2010	CSIRO	Baseline survey of Australian attitudes to climate change: Preliminary report	National online survey	5036
June – 2010	ANU poll	Public opinion about science	National telephone survey	1200
March-Aug 2010	The Climate Institute, Auspoll	Climate of the nation. Australians' attitudes towards climate change and its solutions	Four- phase research program which included online questionnaire and focus groups.	-
March - 2010	Lowy Institute Poll	Australia and the world. Public opinion and foreign policy.	National opinion survey 2007-2010	1001
Feb - 2010	Newspoll, The Australian	Climate change	National telephone survey	1200
Dec - 2009	Water in drylands collaborative research program (Widcorp)	Understanding farmer knowledge and attitudes to climate change, climate variability, and greenhouse gas emissions	Multi-mode survey (Victorian farmers)	1503
Nov - 2009	Sweeney Research/NCCARF	Community attitudes to climate change	CATI and national online surveys	3000
Nov - 2009	AHURI Final Report	Environmental Sustainability: Understanding the attitudes and behaviour of Australian households	(593 Brisbane and 601 Melbourne only)	1194
Oct - 2009	Institute for Social Science Research (ISSR)	Political leaders and climate change	National online survey	311
Sept - 2009	CSIRO	Newcastle City Council energymark trial	Mixed method approach - Newcastle	171
Sept - 2009	The United States Studies Centre- University of Sydney	Australians, Americans and climate change.	National telephone survey	800
Sept - 2009	Mobium Group	Living LOHAS3 Report	National survey and qualitative in-depth discussions	2012
Aug - 2009	Ipsos-Eureka Social Research Institute	Climate change report 2009	National online survey	1048
July - 2009	NSW Government. Environment Climate Change & Water	Who cares about the environment in 2009?	NSW-telephone survey plus focus groups.	2003

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Date	Source	Survey	Method	N
Dec - 2008	Carbon Down	Victorian businesses climate change knowledge, attitudes and behaviours	13 Focus Groups, and CATI	1012
Oct-Dec 2008	Institute for Social Science Research (ISSR)	Queensland Youth Environment Survey	Online survey - Queensland	4540
Sept - 2008	ANUpoll The Australian National University	Public opinion towards the environment	National telephone survey	1000
Sept - 2008	Murdoch University	A community survey of levels of support for carbon emissions reduction policies	Questionnaire – Perth	286
Aug-Sept 2008	Thermometer Survey	Our community's response to climate change	National online survey questionnaire and qualitative in-depth group discussion	1606
July - 2008 June - 2007	Australian Bureau of Statistics	Environmental views and behaviour survey	National telephone survey	13,527
March - 2008	CSIRO	Perceptions of low emission technologies: Results from a Brisbane large group workshop	Workshop	60

Appendix D: Selected UK Surveys addressing Climate Change

Date	Source	Survey	Method	N
May - 2010	YouGov/EDF.	Energy survey results	-	4262
Feb - 2010	Populus	BBC climate change poll	National telephone survey	1001
Jan-March 2010	Cardiff University/ Understanding Risk Group Working Paper	Public perceptions of climate change and energy futures in Britain	National survey, face-to-face interviews	1822
March - 2010	Department for Environment Food and Rural Affairs.	2010 Omnibus survey on public attitudes and behaviours towards the environment	National survey, face-to-face interviews	1700
2009 (This survey follows previous surveys from 1986 – 2007)	Department for Environment Food and Rural Affairs.	2009 Survey of public attitudes and behaviours towards the environment	Face-to-face interviews	2009 1772
Nov – 2009	Populus	Times poll	-	-
Sept/Oct - 2009	BBC Cymru Wales/Beaufort Research	Green Wales report	Telephone survey Discussion groups	1004 Six discussion groups
2008 2007 2006	U.K. Department of Transport.	Public attitudes towards climate change and the impact of transport: 2006, 2007 and 2008	Face-to-face interviews	2008 (n=1102) 2008 (n=1095) 2007 (n=1083) 2006 (n=1238)
May - 2008	Ipsos Mori	Public attitudes to climate change, 2008: Concerned but still unconvinced	Face-to-face interviews	1039
June - 2007	Ipsos Mori	Climate change survey	Face-to-face interviews	2031

Appendix E: Selected U.S. Surveys addressing Climate Change

Date	Source	Measure	Method	N
June-July 2010	Leiserowitz, A., Smith, N., & Marlon, J. R.	American's knowledge of climate change	National survey online panel	2030
June 2010	Stanford University, Krosnick, J., & Villar, A.	Stanford global warming poll	National survey telephone poll	1000
Jan 2010	Pew Research Centre	Energy concerns fall, deficit concerns rise. Public's priorities for 2010: Economy, jobs, terrorism	National survey, telephone interview	1504
Dec 2009-Jan 2010	Leiserowitz, A., Maibach, E., & Roser-Renouf, C.	Climate change in the American mind: Americans' global warming beliefs and attitudes in January 2010	National survey online panel	1001
Nov 2009	GfK Roper Public Affairs & Media, Stanford University.	The Associated press-Stanford University Environment Poll.	National survey telephone poll	1005
Sept-Oct 2009	Pew Research Centre	Global warming and public opinion	National survey, telephone interview	1500
Sept-Nov 2009	Muhlenberg College Institute of Public Opinion, Gerald Ford School of Public Policy at the University of Michigan.	The climate of belief: American public opinion on climate change	National telephone survey	988
Sept-Oct 2008	Maibach, E., Roser-Renouf, C., & Leiserowitz, A.	Global warming's six Americas 2009: An audience segmentation analysis	National survey online panel	2164
July 2008	Krosnick, J., & The Woods Institute for the Environment at Stanford University.	ABC News, Planet Green, Stanford University Poll	National survey telephone poll	1000
April 2008	Pew Research Centre.	Global warming and public opinion	National survey, telephone interview	1502
Mar-April 2008	SRIC-BI, Alliance for Climate Protection, Dept of Conservation, The Nature Conservancy.	American climate values survey	-	-
April 2007	Krosnick, J., & The Woods Institute for the Environment at Stanford University.	ABC News, Washington Post, Stanford University	National survey telephone poll	1002
Jan 2007	Pew Research Centre.	Global warming: A divide on causes and solutions	National survey, telephone interview	1708
March 2006	Krosnick, J., & The Woods Institute for the Environment at Stanford	ABC News, Time, Stanford University	National survey, telephone interview	1002

Climate Change Risk Perceptions, Understandings, and Responses

Date	Source	Measure	Method	N
	University.			
July-Aug 2004	Kellstedt, P. M., Zahran, S., & Vedlitz, A.	Personal efficacy, the information environment, and attitudes toward global warming and climate change in the United States	National telephone survey	1093

Appendix F: Global – Representative natural disasters and extreme weather events Jan 2010 – July 2010⁴

Date	Location	Event	Death Toll	Number of people affected
July/August 2010	Pakistan	Severe floods	1,985	18,102,237
June/July	Russia	Heatwave	55,736	*TBI
July	India	Severe floods	98	523,000
July	Benin	Flood	46	831,000
July	Cameroon	Flood	13	3,095
July	Central African Rep	Flood	3	1,585
July	Burkina Faso	Flood	16	133,362
July	Sudan	Flood	36	138,397
July	Southern California	Bushfires	*TBI	*TBI
July	Eastern U.S and Canada	Heatwave	Approx 300	*TBI
July	China	Heatwave, flood	*TBI	*TBI
July	Philippines	Cyclone	146	585,474
June	Brazil	Flood	72	157,000
June	Mexico	Cyclone	22	170,000
June	South America	Cold wave	*TBI	*TBI
June	Ghana	Flood	45	7,500
June	Romania	Flood	26	12,237
June	El Salvador	Cyclone	6	500
June	Ukraine	Flood	6	40,059
May/June	China	Flood/storm	1,691	134,000,000
May	Pakistan	Heatwave	*TBI	*TBI
May	Zaire/Congo Dem Rep	Landslide	46	1,167
May	India	Cyclone	52	*TBI
May	Guatemala	Cyclone	187	397,962
May	El Salvador	Cyclone	10	11,520
May	Honduras	Cyclone	18	24,675
May	Poland	Flood	16	100,000
April	India	Cyclone	114	500,000
April	Colombia	Flood	363	2,217,518
April	Mexico	Earthquake	2	25,232
April	China	Earthquake	2,968	112,000
April	Brazil	Flood	256	74,938
April	Ecuador	Flood	2	6,440
March	India	Heatwave	250	*TBI
March	Iceland	Volcanic eruption	-	-
March	Angola	Flood	7	185,886
March	Zaire/Congo Dem Rep	Flood	*TBI	67,500
March	Madagascar	Cyclone	40	211,611
March	Kenya	Flood	94	*TBI

⁴ To be included (TBI). The accuracy of information is currently being confirmed.

Date	Location	Event	Death Toll	Number of people affected
March	Fiji	Cyclone	*TBI	*TBI
March	Russia	Flood	-	3,250
Feb	France	Cyclone (winter storm)	53	500,079
Feb	Chile	Earthquake	562	2,671,556
Feb	Brazil	Heatwave	32	*TBI
Feb	Haiti	Flood	27	22,085
Jan	India	Cold wave	100	*TBI
Jan	Romania	Cold wave	52	*TBI
Jan	Serbia	Cold wave	3	-
Jan	Bulgaria	Cold wave	3	*TBI
Jan	Haiti	Earthquake	222,570	3,700,000
Jan	Mexico	Flood	41	20,000
Jan	Bolivia	Flood	26	227,860
Jan 2010	Russia	Cold wave	13	*TBI

Appendix G: Disaster/extreme weather events in Australia Jan 2009 – July 2010

Date	Location	Event	Dead	Injured	Property impacts
June 2010	Lennox Head-NSW	Tornado	-	*TBI	Homes damaged or destroyed – 30+
March 2010	Cape Shield NT	Cyclone Paul Category 2	-	*TBI	Minor damage to infrastructure, Disruptions to power, phone and sewerage
March 2010	Mackay and Whitsundays QLD	Cyclone Ului Category 3	1	*TBI	Large areas of sugar cane destroyed. Damage to local infrastructure and boats
March 2010	Perth and Southwest WA	Severe thunderstorms	*TBI	*TBI	Over 150,000 properties lost power
March 2010	West and Northwest Victoria, Melbourne	Severe thunderstorms	*TBI	*TBI	*TBI
March 2010	Western, Southern Qld, Northern NSW	Severe floods	*TBI	*TBI	*TBI
Jan 2010	Cairns Gulf Country	Cyclone Olga Category 1	*TBI	*TBI	*TBI
Jan 2010	Kuri Bay WA	Cyclone Magda Category 3	-	*TBI	Minor damage to infrastructure
Dec 2009	Wallal WA	Cyclone Laurence Category 5	*TBI	*TBI	Considerable damage to properties
Sept 2009	NSW and QLD	Extensive dust storm covering much of the continent	*TBI	Increased demand for emergency services	Severe disruption to flights and ferry services. Road closures. Schools closed
May 2009	South East QLD/ Northern NSW	Severe floods	1	*TBI	*TBI
March/ April 2009	Tamworth - NSW	Severe floods	-	*TBI	Residential and commercial properties damaged
Feb 2009	Victoria	Black Saturday Bushfires	173	*TBI	Homes destroyed – 2,298 Business destroyed - 61
Jan 2009	Onslow WA	Cyclone Dominic Category 2	-	*TBI	*TBI
Jan 2009	Northwest QLD	Severe floods	1	*TBI	Residential and commercial properties damaged

Date	Location	Event	Dead	Injured	Property impacts
Jan/Feb 2009	South Eastern Australia VIC SA TAS NSW	Severe Heatwave	404	Increased admissions to emergency wards and high demand for ambulance services – heat related conditions	Widespread power outages. Disruptions to trains services

Appendix H: Survey Items and Descriptive Statistics

Note. In the Appendix which follows percentage figures refer to the proportion of respondents who have selected a particular rating or response option. Where there is no data provided for British respondents, the survey item was only included in the Australian survey. In virtually all instances the greater the scale rating the greater the indicated agreement, concern, seriousness, etc. In most instances a Mann-Whitney indication of significant difference in distributed rating responses or response option selections (*U*) is provided, in addition to conventional rating scale mean comparisons and significance levels, given the arguable ordinal rather than interval character of some response formats. Given the large samples, effect sizes (indicated by *r*) are more meaningful than significance levels.

Q1. How favourable or unfavourable are your overall opinions or impressions of the following energy sources for producing electricity currently?

3. Neither																
		5. Very favourable		4. Mainly favourable		favourable nor unfavourable		2. Mainly unfavourable		1. Very unfavourable		No opinion/ Don't know		<i>p</i> <	<i>U</i>	<i>r</i>
		%	%	%	%	%	%	%	%	%	%					
a. Biomass, that is wood, energy crops, and human and animal waste	Australia	8.6	28.2	26.7	12.8	5.7	10.0	8.0	3.26							
	GB	23.7	33.8	18.6	9.3	4.7	6.8	3.0	3.71	1565646.0	.001	.22				
b. Coal	Australia	2.0	13.9	24.4	34.4	22.2	0.2	3.0	2.37							
	GB	9.3	26.8	19.0	29.7	13.1	0.5	2.0	2.94	1995882.5	.001	.22				
c. Gas	Australia	9.3	43.8	26.3	14.8	3.7	0.1	2.0	3.41							
	GB	14.1	41.8	20.0	17.8	4.1	0.4	2.0	3.47	2589999.0	.01	.04				
d. Hydroelectric power	Australia	35.4	44.7	11.0	3.4	1.5	1.3	3.0	4.14							
	GB	39.3	36.5	12.6	2.6	1.0	4.9	3.0	4.23	2345125.0	.001	.05				
e. Nuclear power	Australia	11.9	19.1	17.3	16.8	30.9	0.4	4.0	2.63							
	GB	10.4	24.1	20.4	21.2	20.0	1.0	3.0	2.83	2369629.5	.001	.08				
f. Oil	Australia	1.5	9.6	24.7	34.7	26.5	0.4	3.0	2.23							
	GB	5.4	27.5	26.5	27.6	9.9	0.9	2.0	2.95	1694824.0	.001	.31				
g. Sun/ Solar power	Australia	72.5	22.6	2.8	0.7	0.6	0.1	1.0	4.67							
	GB	55.6	32.2	6.2	3.3	0.9	0.4	1.0	4.41	2260942.5	.001	.18				
h. Wind power	Australia	63.7	27.3	5.0	1.8	1.2	0.0	1.0	4.52							
	GB	48.7	33.2	8.6	4.8	3.1	0.6	1.0	4.20	2257721.0	.001	.17				

Q2. From what you know or have heard about using nuclear power for generating electricity in Australia/Britain, on balance, which of these statements, if any, most closely reflects your own opinion?

	Australia %	GB %
5 The benefits of nuclear power far outweigh the risks	20.4	16.2
4 The benefits of nuclear power slightly outweigh the risks	16.0	21.2
3 The benefits and risks of nuclear power are about the same	10.1	17.0
2 The risks of nuclear power slightly outweigh the benefits	13.7	19.5
1 The risks of nuclear power far outweigh the benefits	28.7	18.3
None of these	0.9	1.3
Don't know	10.1	6.6

	M	U	p<	r
Australia	2.84			
GB	2.97	2189553.5	.001	.03

Q3. Do you favour or oppose the construction of nuclear power stations in Australia?

	Australia %
Favour	36.9
Oppose	47.9
Don't know	15.2

Q4. How concerned, if at all, are you about nuclear power? (in Australia)

	Australia %	GB %
4 Very concerned	20.7	16.6
3 Fairly concerned	36.1	38.3
2 Not very concerned	26.8	30.1
1 Not at all concerned	12.6	11.7
Don't know	2.4	1.6
No opinion	1.4	1.6

	M	U	p<	r
Australia	2.67			
GB	2.62	2530408	.03	.03

Q5. To what extent do you agree or disagree with each of the following statements about nuclear power?

	3. Neither							<i>M</i>	<i>U</i>	<i>p</i> <	<i>r</i>
	5. Strongly agree %	4. Tend to agree %	agree nor disagree %	2. Tend to disagree %	1. Strongly disagree %	No opinion %	Don't know %				
a. There are risks to people in Australia/Britain from nuclear power	Australia 22.3	43.1	13.1	13.3	4.6	0.5	2.9	3.68			
	GB 17.0	44.1	15.9	14.7	3.3	1.5	3.5	3.61	2477001.0	.001	.04
b. I feel confident that the Australian/ British Government adequately regulates nuclear power	Australia 7.1	28.7	22.2	22.6	12.7	1.0	5.8	2.95			
	GB 6.6	32.6	21.5	19.7	11.8	1.9	5.7	3.03	2337625.5	.01	.04
c. There are benefits to people in Australia/Britain for nuclear power	Australia 19.4	35.0	16.4	14.9	9.1	0.6	4.4	3.43			
	GB 15.6	44.2	16.5	11.8	6.1	0.8	5.0	3.53	2445437.0	.05	.03
d. I have mixed feelings about nuclear power	Australia 14.7	32.9	17.5	17.1	15.1	1.5	1.3	3.15			
	GB 13.0	39.5	16.3	17.9	10.8	1.2	1.5	3.27	2559630.5	.01	.04
e. I don't really like the idea of nuclear power, but I reluctantly accept that we will need it to help combat climate change and improve energy security (i.e. a reliable supply of affordable energy) in Australia/GB	Australia 7.6	32.9	17.3	18.8	19.4	1.2	2.8	2.90			
	GB 12.7	44.2	14.3	15.6	9.5	2.2	1.5	3.36	2089659.0	.001	.17
f. I don't trust the nuclear industry to run nuclear power stations safely	Australia 21.4	24.4	18.6	19.7	11.9	1.2	2.8	3.25			
	GB 11.5	23.4	21.5	26.7	12.0	1.1	3.8	2.97	2266749.0	.001	.11
g. I have strong opinions about nuclear power	Australia 17.5	23.6	37.9	13.1	3.6	2.2	2.1	3.40			
	GB 17.7	27.0	30.8	17.0	4.4	1.8	1.2	3.39	2619753.5	.93	.00

Q6. How concerned, if at all, are you that in the future...

	4. Not at all concerned	3. Not very concerned	2. Fairly concerned	1. Very concerned	No opinion	Don't know		
	%	%	%	%	%	%	M	r
...electricity will become unaffordable?	Australia	2.0	11.0	41.0	44.0	0.5	3.29	
	GB	2.7	17.7	38.4	39.7	0.6	3.17	.06
... electricity will be rationed?	Australia	6.0	26.0	39.0	25.0	1.1	2.86	
	GB	5.0	25.1	36.4	29.5	1.4	2.94	.05
...Australia/Britain will become too dependent on energy from other countries?	Australia	12.0	29.0	31.0	22.0	1.4	2.67	
	GB	2.2	14.0	35.7	44.8	0.4	3.28	.31
... terrorist attacks will cause interruptions to electricity supplies?	Australia	21.0	41.0	21.0	12.0	2.2	2.25	
	GB	7.0	28.7	35.5	23.5	1.6	2.83	.29
...supplies of fossil fuels (e.g. coal and gas) will run out?	Australia	7.0	18.0	42.0	30.0	0.8	2.97	
	GB	4.3	14.8	38.3	40.0	0.8	3.17	.11
...there will be power cuts	Australia	5.0	24.0	43.0	25.0	1.0	2.91	
	GB	3.5	24.6	41.1	27.7	1.0	2.97	.03

Q7. How concerned, if at all, are you about climate change, sometimes referred to as 'global warming'?

	Australia	GB		
	%	%	M	r
4 Very concerned	26.2	28.5	Australia 2.84	
3 Fairly concerned	40.1	42.5	GB 2.92	.04
2 Not very concerned	21.7	18.7		
1 Not at all concerned	10.3	8.7		
Don't know	1.1	0.9		
No opinion	0.5	0.8		

Q8. As far as you know, do you personally think the world's climate is changing?

	%	%	M	U	p<	r
Yes	73.9	78.3	Australia 1.80			
No	18.2	15.3	GB 1.84	2349657.50	0.00	0.04
Don't know	7.8	6.4				

Q9. Thinking about the causes of climate change, which, if any, of the following best describes your opinion?

		Australia %	GB %
1	Climate change is entirely caused by natural processes	4.9	5.6
2	Climate change is mainly caused by natural processes	12.6	12.2
3	Climate change is partly caused by natural processes and partly caused by human activity	45.8	46.3
4	Climate change is mainly caused by human activity	27.6	24.3
5	Climate change is entirely caused by human activity	4.2	6.5
	I think there is no such thing as climate change	2.7	2.2
	Don't know	1.9	2.5
	No opinion	0.4	0.4

	M	U	p<	r
Australia	3.14			
GB	3.15	2535031.5	.86	.00

Q10. If nothing is done to reduce climate change in the future, how serious a problem do you think it will be for Australia?

	Australia %	M
4	Very serious	40.0
3	Somewhat serious	37.9
2	Not so serious	16.8
1	Not serious at all	5.3

Q11. If nothing is done to reduce climate change in the future, how serious a problem do you think it will be for the world?

	Australia %	M
4	Very serious	49.4
3	Somewhat serious	32.4
2	Not so serious	13.7
1	Not serious at all	4.5

Q12. To what extent do you agree or disagree with each of the following statements about climate change?

	3. Neither										<i>p</i> <	<i>r</i>
	5. Strongly agree	4. Tend to agree	3. Neither agree nor disagree	2. Tend to disagree	1. Strongly disagree	No opinion	Don't know	<i>M</i>	<i>U</i>			
a. *I am certain that climate change is really happening	Australia GB 24.0	30.8 35.0	40.6 35.0	12.2 12.0	10.1 22.0	4.7 6.0	0.3 0.8	1.2 0.4	3.84 3.48	2302054.5	.001	.14
b. There are risks to people in Australia/Britain from climate change	GB 19.1	47.1	42.1	14.4	10.3	5.4	0.5	1.5	3.74			
c. There are benefits to people in Australia/Britain from climate change	Australia GB 1.3 1.5	9.8 16.4	42.1 47.1	26.8 24.7	34.1 34.7	22.2 17.9	2.1 1.4	3.6 3.4	2.30 2.47	2555897.0 2310980.0	.001 .001	.04 .08
d. I have mixed feelings about climate change	Australia GB 8.8	4.4 8.0	31.6 40.0	25.1 18.3	21.1 20.7	15.7 9.9	1.3 1.6	0.9 0.8	2.88 3.16	2320924.5	.001	.12
e. I have strong opinions about climate change	Australia GB 16.4 19.3	28.9 31.9	28.9 31.9	32.7 25.3	16.9 18.3	3.0 4.1	1.4 1.1	0.7 0.1	3.40 3.44	2641369.0	.05	.03
f. My emotions relating to climate change are quite strong	Australia GB 12.9 16.4	25.4 32.6	25.4 32.6	33.5 23.4	20.9 22.3	5.4 3.9	1.4 1.0	0.6 0.3	3.20 3.36	2504480.0	.001	.07
g. I trust the Australian/British Government to take appropriate action against climate change	Australia GB 2.6 5.6	13.1 25.1	13.1 25.1	17.2 16.1	33.7 28.0	30.6 23.1	1.2 0.9	1.5 1.2	2.21 2.62	2202613.0	.001	.16
h. The seriousness of climate change is exaggerated	Australia GB 12.2 12.0	23.6 27.6	23.6 27.6	17.8 15.0	26.0 28.3	17.9 13.9	0.4 0.7	2.2 2.4	2.86 2.93	2587840.0	.07	.02
i. Most scientists agree that humans are causing climate change	Australia GB 13.0 14.5	38.2 42.2	38.2 42.2	23.6 17.1	13.3 16.4	5.5 4.3	1.2 1.4	5.1 4.0	3.43 3.49	2414630.5	.03	.03
j. It is uncertain what the effects of climate change will be	Australia GB 9.8 13.9	46.0 55.6	46.0 55.6	20.1 12.3	15.4 11.3	5.7 3.9	1.1 0.9	1.9 2.2	3.40 3.64	2281965.0	.001	.12
k. I am confident that science will find an answer to climate change before it becomes too big a problem	Australia 2.7	19.1	19.1	29.3	30.2	13.3	1.9	3.3	2.66			
l. There is enough common sense and goodwill in society to prevent climate change having any serious impact	Australia 2.8	15.6	15.6	20.1	34.0	24.0	1.7	1.8	2.37			

Note. *The British survey framed the first item as 'uncertain' rather than 'certain', hence the scale percentages have been reversed in the table to align with the Australian results.

Q13. To what extent do you agree or disagree with each of the following statements about climate change?

		5.Strongly agree %	4.Tend to agree %	3.Tend to disagree %	2.Tend to disagree %	1.Strongly disagree %	No opinion %	Don't know %	<i>M</i>	<i>U</i>	<i>p</i> <	<i>r</i>
a.I can personally help to reduce climate change by changing my behaviour	Australia GB	18.1 17.4	47.1 46.0	17.7 11.5	10.0 16.6	5.4 7.0	0.7 0.7	1.0 0.8	3.64 3.49	2585178.00	0.00	0.05
b.A variety of external factors make it difficult for me to take actions that help to reduce climate change	Australia GB	7.1 14.2	35.2 43.3	28.7 18.2	21.2 17.7	4.5 3.4	1.6 2.2	1.5 1.0	3.20 3.47	2242286.50	0.00	0.14
c.It is hard to take action against climate change even if I want to	Australia GB	5.7 10.5	29.8 44.0	24.9 11.8	31.1 25.2	6.3 6.1	1.1 1.0	1.1 1.4	2.97 3.29	2256482.00	0.00	0.14
d.I personally feel that I can make a difference with regard to climate change	Australia GB	9.5 11.0	38.4 41.6	25.4 15.2	17.9 20.9	6.5 9.9	1.1 0.7	1.2 0.7	3.27 3.20	2671882.50	0.22	0.02
e.I feel a sense of urgency to change my behaviour to help to reduce climate change	Australia GB	8.6 9.8	27.0 32.1	32.6 20.5	20.8 25.5	9.3 10.9	1.1 0.7	0.6 0.5	3.05 3.03	2742516.50	0.96	0.00
f.It is my responsibility to help to do something about climate change	Australia GB	16.4 20.2	43.7 50.3	24.3 13.5	7.9 9.5	5.9 5.4	1.0 0.6	0.8 0.4	3.58 3.70	2515810.50	0.00	0.07
g.I think that climate change is likely to be a serious problem for Britain	GB	21.7	40.3	16.1	14.6	4.3	0.4	2.6	3.62			

Q14. When, if at all, do you think Australia/Britain will start feeling the effects of climate

		Australia %	GB %
1	We are already feeling the effects	54.0	41.4
2	In the next 10 years	9.2	13.5
3	In the next 25 years	7.5	13.9
4	In the next 50 years	4.5	10.9
5	In the next 100 years	2.3	4.9
6	Beyond the next 100 years	2.6	4.3
	Never	5.5	3.6
	Don't know	12.9	7.1
	No opinion	1.5	0.3

change?

	M	U	p<	r
Australia	2.09			
GB	2.48	1848880	.001	.16

Q15. To what extent do you agree or disagree with each of the following statements about climate change?

3. Neither														
	5. Strongly agree		4. Tend to agree		3. Neither agree nor disagree		2. Tend to disagree		1. Strongly disagree		No opinion		Don't know	
	%		%		%		%		%		%		%	
a. Climate change will mostly affect areas that are far away from here	Australia	1.4	7.1	17.7	17.7	39.5	28.0	1.8	4.4	2.09				
	GB	6.9	25.2	15.1	15.1	33.4	15.2	0.9	3.2	2.73	1782804	.001	.26	
b. My local area is likely to be affected by climate	Australia	15.8	44.8	18.4	18.4	10.2	4.6	1.0	5.2	3.61				
	GB	12.7	39.9	16.4	16.4	20.6	6.4	0.5	3.4	3.31	2174787	.001	.12	
c. Climate change will mostly affect developing	Australia	5.0	17.7	20.6	20.6	28.6	21.4	1.3	5.3	2.53				
	GB	13.6	32.2	14.6	14.6	24.8	11.3	0.9	2.5	3.11	1886004	.001	.22	
d. Climate change is likely to have a big impact on people like me	Australia	12.7	32.9	29.4	29.4	13.5	6.0	0.9	4.5	3.35				
	GB	11.0	33.6	19.9	19.9	24.6	7.7	0.6	2.5	3.14	2345238	.001	.08	

Q16. Considering any potential effects of climate change that might affect you personally, how concerned, if at all, are you about climate change?

	Australia		GB		<i>p</i> <	<i>r</i>
	%		%			
4 Very concerned	19.6		16.8			
3 Fairly concerned	42.2		43.0			
2 Not very concerned	25.7		27.6			
1 Not at all concerned	10.7		11.7			
Don't know	1.3		0.5			
No opinion	0.5		0.4			

Australia		GB		<i>p</i> <	<i>r</i>
<i>M</i>	<i>U</i>	<i>M</i>	<i>U</i>		
Australia	2.72				
GB	2.66	2635630.5	.01	.03	

Q17. Considering any potential effects of climate change that there might be on society in general, how concerned are you about climate change?

	Australia %	GB %
4 Very concerned	25.8	18.6
3 Fairly concerned	42.8	47.8
2 Not very concerned	20.9	23.3
1 Not at all concerned	8.7	8.0
Don't know	1.3	1.4
No opinion	0.5	1.0

	M	U	p<	r
Australia	2.87			
GB	2.79	2542147.5	.001	.05

Q18. Which of the following do you think should be mainly responsible for taking action against climate change? (Australia - multiple options). Which one, if any, of these do you think should be mainly responsible for taking action against climate change? (GB - single option)

	Australia %	GB %
Environmental groups	42.4	3.2
Individuals and their families	59.1	9.4
Industry/ Companies	74.5	15.2
Local authorities	52.3	3.1
State Government	63.1	*
National Governments	77.2	32.3
The international community	71.3	30.4
None of these	4.7	3.3
Don't know	3.6	2.2
Other (please specify)	4.6	0.9

Q.19 If you were to vote today, how do you think you would be likely to vote in relation to the following?

	1.Definitely 2.Probably 3.Probably 4.Definitely													
	vote against %	vote against %	vote in favour %	vote in favour %	I would not vote %	No opinion %	Don't know %	<i>M</i>	<i>U</i>	<i>p</i> <	<i>r</i>			
a.Whether to build new nuclear power stations in Australia/Britain	Australia GB	26.6 26.0	21.2 20.0	23.3 24.9	17.8 16.6	2.1 6.7	1.6 2.1	7.3 3.7	2.42 2.57	2294185.5	.001	.05		
b.Whether to build new wind farms in Australia/Britain	Australia GB	1.2 4.9	3.1 6.8	23.8 29.5	68.3 52.2	0.7 3.0	0.9 1.3	1.9 2.3	3.66 3.42	2271087.0	.000	.14		
c.Whether to build new coal fired power stations in Australia/Britain	Australia GB	23.4 17.7	37.9 32.5	19.4 26.3	4.7 9.8	1.8 6.4	2.8 2.8	9.9 4.6	2.12 2.54	1813518.5	.000	.18		
d.Whether to spend taxpayers money on Australian/British projects designed to tackle climate	Australia GB	9.9 7.1	12.2 13.4	37.7 41.0	29.7 27.2	2.1 4.9	2.2 2.8	6.1 3.7	3.02 3.10	2358068.0	.085	.02		

Q.20 To what extent do you agree or disagree with the following statements?

3.Neither														<i>r</i>
		5.Strongly agree %	4.Tend to agree %	3.Neither disagree %	2.Tend to disagree %	1.Strongly disagree %	No opinion %	Don't know %	<i>M</i>	<i>U</i>	<i>p</i> <			
a.I am prepared to greatly reduce my energy use to help tackle climate change	Australia	18.0	46.2	16.9	12.0	5.6	0.5	0.8	3.60					
	GB	15.1	49.8	16.1	12.1	5.1	0.8	1.0	3.58	2701030.0	.43		.01	
b.I am prepared to pay significantly more money for energy efficient products	Australia	3.6	19.6	20.7	29.7	24.6	0.5	1.3	2.47					
	GB	8.0	36.2	17.5	22.7	13.2	0.9	1.6	3.05	1993924.5	.001		.23	

Q21. To what extent do you agree or disagree with each of the following statements?

	3.Neither										<i>M</i>	<i>U</i>	<i>p</i> <	<i>r</i>
	5.Strongly agree	4.Tend to agree	3.Neither agree nor disagree	2.Tend to disagree	1.Strongly disagree	No opinion	Don't know							
	%	%	%	%	%	%	%							
a.I think of myself as someone who is very concerned with environmental issues	Australia	13.8	41.0	27.7	13.2	3.2	0.6	0.4	3.50					
	GB	16.4	40.0	22.3	15.9	4.1	0.9	0.4	3.49	2733160.5	.51	.01		
b.Being environmentally friendly is an important part of who I am	Australia	14.3	41.3	28.1	11.5	3.7	0.7	0.4	3.51					
	GB	17.7	41.5	20.3	15.5	4.3	0.5	0.2	3.54	2686739.0	.07	.02		
c.I identify with the aims of environmental groups such as Greenpeace and Friends of the Earth	Australia	11.0	30.5	28.4	16.9	9.7	1.9	1.5	3.17					
	GB	14.1	39.3	21.6	14.7	6.8	1.8	1.7	3.41	2302774.0	.001	.11		

Q22. I am concerned about environmental problems because of the consequences for _____

	7. Extremely concerned					1. Not at all concerned					<i>M</i>
	%	%	%	%	%	%	%	%	%	%	
Plants	24.9	24.0	22.8	15.3	5.8	3.9	3.2				5.22
Me	16.9	25.9	24.3	16.9	6.5	4.9	4.5				4.97
People in the community	17.5	25.7	26.3	16.4	5.9	4.0	4.2				5.04
Marine life	36.9	28.4	18.5	8.7	3.0	2.1	2.3				5.72
My lifestyle	10.0	18.1	26.9	23.5	9.9	5.9	5.7				4.54
All people	23.1	26.6	23.0	14.6	4.7	4.0	3.9				5.21
Birds	29.2	27.4	21.7	11.6	4.4	2.7	2.9				5.46
My health	22.1	26.9	21.6	14.7	5.6	4.5	4.6				5.14
Children	40.7	25.6	14.3	9.5	3.3	2.8	3.7				5.68
Animals	26.3	27.6	18.6	9.1	3.1	2.8	2.5				5.67
My future	18.7	25.7	23.2	17.0	5.7	4.4	5.3				5.00
Future generations	45.4	24.9	13.0	7.3	3.3	2.6	3.5				5.80

Q23. How concerned are you that each of the following environmental threats might directly affect you, your family, or your local environment in the foreseeable future?

	6.Very concerned							1.Not at all concerned			M
	%	%	%	%	%	%	%	%	%	%	
Bushfires	26.9	25.7	20.6	10.2	9.9	6.7					4.29
Cyclones	16.9	19.7	21.4	15.4	14.6	12.0					3.73
Floods (Coastal & Inland)	20.1	24.3	22.2	14.6	11.1	7.7					4.05
Sea level rise	20.9	23.3	21.4	13.7	10.8	10.0					4.00
Drought	38.1	30.7	17.7	6.9	4.1	2.5					4.84
Heatwaves	32.6	30.3	19.0	8.8	5.8	3.6					4.64
Water scarcity	49.6	28.2	12.0	5.3	2.9	2.1					5.10
Health threats relating to environmental changes/conditions	22.9	30.5	24.9	10.4	6.8	4.5					4.39
Species extinctions (e.g., biodiversity/habitat loss)	38.0	28.2	17.9	8.1	4.4	3.3					4.77
Threatened environmental quality and sustainability (e.g., land degradation, salinity, erosion, urban development)	35.8	32.7	18.5	7.4	3.2	2.5					4.83
Severe storm activity	26.7	32.7	21.8	9.3	6.0	3.5					4.54
Technological disasters (e.g., power plant accidents)	28.9	26.2	22.2	11.2	8.0	3.5					4.46
Impacts of climate change	27.6	28.4	22.2	9.3	6.7	5.7					4.44

Q24. How concerned are you that each of the additional issues and threats may adversely affect you or your family in the foreseeable future?

	6. Very concerned					1. Not at all concerned					<i>M</i>
	%	%	%	%	%	%	%	%	%	%	
Global financial crisis	26.9	33.7	21.2	9.8	5.2	3.3					4.57
Unemployment	24.1	29.9	21.4	11.4	7.6	5.7					4.35
Terrorism	20.1	22.3	24.0	16	11.2	6.5					4.05
Population growth pressures and developments	28.1	29.7	23.4	10.9	4.8	3.0					4.56
Serious health problems	24.1	32.2	25.5	9.9	5.7	2.6					4.51
International conflicts and security threats	20.3	26.5	27.2	14.8	7.3	4.0					4.26
Crime	31.4	31.1	23.2	8.4	3.9	1.9					4.72
Family pressures/crises	21.5	28.2	26.6	12.9	7.0	3.9					4.32
Natural disasters (e.g., bushfires, cyclones, floods, storms, drought)	26.9	31.1	23.3	10.3	5.8	2.7					4.55
Impacts of climate change	24.5	27.5	22.8	10.9	7.8	6.6					4.30

Q25. How important is the issue of climate change to you personally?

	%	<i>M</i>
Extremely important (6)	18.1	4.14
	29.6	
	24.9	
	10.9	
	8.8	
Not at all important (1)	7.7	

Q26. How much do you feel you know about climate change?

	%	<i>M</i>
A lot (6)	8.1	4.07
	27.6	
	37.8	
	17.1	
	8.0	
Nothing (1)	1.3	

Q27. How much do you trust what different sources say about the environment?

	6. Completely				1. Not at all			
	%	%	%	%	%	%	%	%
Scientists	8.8	40.5	30.0	11.6	6.1	3.0		
Media	0.3	4.2	21.7	26.0	27.9	19.8		
Government	0.6	7.6	27.3	26.8	21.2	16.4		

Q28. How much agreement do you think there is among scientists that climate change is happening?

	%	<i>M</i>
Nearly all agree (6)	8.5	3.61
	22.5	
	26.8	
	17.4	
	13.4	
Considerable disagreement (1)	11.4	

Q29. Please answer each of these questions in terms of the way you generally feel when being in or thinking about the natural environment.

	6.Strongly agree			1.Strongly disagree			<i>M</i>
	%	%	%	%	%	%	
I often feel that I am a part of nature	14.8	25.6	29.7	17.1	9.2	3.7	4.09
I often feel close to the natural world around me	14.8	27.1	28.6	17.0	9.0	3.6	4.11
I often feel a personal bond with things in my natural surroundings, like trees, wildlife or the view on the horizon	16.8	26.5	25.6	15.6	10.7	4.9	4.08
I often feel connected to nature	14.9	26.5	27.1	16.8	10.5	4.3	4.05
My own welfare is linked to the welfare of the natural world	21.2	27.1	25.5	14.9	7.7	3.6	4.28
I recognise and appreciate the intelligence of other living things	32.6	35.7	19.8	7.4	2.8	1.6	4.83

Q30. In the following statements, natural environments refer to natural areas that are familiar to you and which you may have visited and spent some time in regularly or occasionally (e.g., national or state parks, coastal areas, woodlands, rivers, mountains, lakes, countryside and rural areas).

	6.Strongly agree					1.Strongly disagree				
	%	%	%	%	%	%	%	%	%	%
I frequently engage in activities that are located in the natural environment	16.2	26.8	26.5	15.8	10.4	4.4				
My employment is such that I am often working or traveling outdoors in natural settings	5.7	7.3	13.1	15.5	23.0	35.3				
I have resided for part of my life in the country	32.4	19.4	12.7	7.3	11.2	17.0				
I often spend time with family and friends relaxing in the natural environment	17.3	26.5	25.2	14.7	11.1	5.2				
I prefer to spend my time in the country rather than the city	33.6	21.9	18.7	12.2	8.6	5.2				

Q31. How would you rate the condition of the natural environment in the world today?

	%	<i>M</i>
Excellent (6)	1	3.44
	11.9	
	38.6	
	30.9	
	14	
Very poor (1)	3.7	

Q32. How serious a problem do you think climate change is right now?

	%	<i>M</i>
Very serious (6)	19.4	4.10
	25.2	
	24.8	
	13.7	
	10.2	
Not serious at all (1)	6.7	

Q33. How would you rate the condition of the natural environment in your own local region of Australia?

	%	<i>M</i>
Excellent (6)	6.0	4.12
	32.0	
	38.5	
	16.3	
	5.7	
Very poor (1)	1.6	

Q34. What actions are you currently taking to reduce your carbon footprint? (Please tick any that apply)

	%
Using less electricity	79.6
Using compact florescent light bulbs	82.8
Using less water	79.7
Buying energy from renewable sources/hydro/wind/solar power	17.9
Driving less	48.4
Using less petrol	48.4
Buying/using smaller/fuel efficient car	34.0
Carpooling	9.8
Walking/bicycling/scootering	40.3
Reducing travel/vacation travel	24.1
Using trains/buses/subways/other public transport/mass transit	25.9
Recycling	88.2
Buying local food/organic food/growing own food	39.9
Buying carbon offsets	5.8
Reducing air travel	17.8
Nothing	2.8
Other (please specify)	3.9

Q35. What do you think are the main reasons why you are taking these actions?

Currently undergoing analysis (qualitative data)

Q36. Why do you think you are not taking more actions than you are to address climate change? What are the main reasons for you? (Please tick all those that apply for you)

	%
Not necessary/not worth it	8.9
Lack of interest/awareness/motivation	10.5
Don't think it's necessary	13.0
Too expensive	52.7
Don't believe climate change is happening	10.3
Too inconvenient/too much effort	15.9
Too big a problem for me/for one person/for individual action to have any impact	16.6
Don't think it'll do any good	10.6
Don't know what to do	14.8
No opinion	8.4
Other (please specify)	14.9

Q37. Please click the response that best indicates your level of agreement for each statement below.

	6.Strongly agree		1.Strongly disagree		<i>M</i>
	%	%	%	%	
I believe my actions have an influence on climate change	9.3	22.2	32.7	16.2	3.77
I believe my actions have a positive influence on how I am feeling and thinking about climate change and environmental problems generally	11.6	31.8	32.5	13.4	4.16
My actions to reduce the effects of climate change in my community will encourage others to reduce the effects of global warming through their own actions	6.3	20.8	29.2	19.9	3.56
Human beings are responsible for global warming and climate change	18.9	25.5	23.2	12.4	4.01
Humans have little control over the forces of nature such as climate change	12.0	18.8	19.8	21.2	3.54
I believe that climate change is inevitable, no matter what we try and do to stop it	8.3	13.8	17.7	28.0	3.26

Q38. How much of the information provided in the stories written and broadcast by news organisations would you say is accurate?

	%	M
Most of it (6)	1.5	3.15
	10.0	
	31.2	
	26.3	
	20.5	
Very little of it (1)	10.4	

Q39. How closely are you following news about the environment these days?

	%	M
A great deal (6)	8.9	3.79
	24.3	
	28.3	
	19.8	
	13.3	
Not at all (1)	5.5	

Q40. How often do you find yourself thinking about the issue of climate change?

	%	M
A great deal (6)	6.5	3.54
	20.2	
	28.2	
	18.9	
	18.5	
Not at all (1)	7.8	

Q41. Please indicate whether you think the following statements are true or false. If you do not know, just click on "Don't know", rather than asking someone else.⁵

	TRUE %	FALSE %	DON'T KNOW %
The projected average sea level rise provided by the IPCC for the remainder of this century (2010-2099) is between 18-59 cm's	35.5	10.2	54.3
Australia is one of the most exposed nations with respect to projected impacts of climate change	44.3	24.1	31.6
Climate change will increase the risk in Australia for diseases transmitted by water and mosquitoes over the next 100 years	39.8	23.3	37.0
Globally, the current burning of fossil fuels accounts for 80-85% (CO2) emissions added to the atmosphere	47.1	15.0	37.9
Methane is emitted mainly from fossil fuels	16.9	49.8	33.3
Climate change is mainly caused by the hole in the ozone layer	20.6	57.8	21.6
Australia produces about 5.5% of the planet's carbon emissions	23.4	17.8	58.7
Australia's average temperature has increased by approximately 1°C from 1910 to 2002	59.4	12.9	27.6
The change in global temperature for the last 100 years is greater than for the last 1000 years	46.8	14.9	38.3
The number of weather-related disasters around the world has doubled since the mid 1990s	47.4	15.6	37.0

Q42. How certain are you about the correctness of the answers you have given to the above true/false statements?

⁵ The highlighted text indicates the correct responses to the knowledge statements.

	%	M
Certain (6)	10.6	3.82
	24.4	
	27.8	
	17.4	
	13.3	
Uncertain (1)	6.4	

Q43. Please indicate the extent to which each of the following statements reflects your own response to the threat of climate change.

Climate Change Risk Perceptions, Understandings, and Responses

	6.Strongly agree				1.Strongly disagree				<i>M</i>
	%	%	%	%	%	%	%	%	
I experience some distress each time I see or read media coverage of the likely impacts and consequences of climate change	5.6	18.0	27.6	17.7	19.2	11.9			3.37
At times I find myself thinking and worrying about what the world will really be like for future generations because of climate change	12.9	24.7	22.9	13.9	14.5	11.1			3.74
I experience some guilt over the fact that my family and friends' lifestyles and consumption patterns are in part responsible for the unfolding impacts of climate change	5.1	16.4	22.7	18.9	19.9	16.9			3.17
It upsets me that there seems to be so little that I can do to address environmental problems such as climate change	6.0	16.8	26.3	20.3	17.8	12.9			3.34
At times I feel some personal responsibility for the problems and unfolding impacts of climate change	2.8	9.4	21.4	19.9	23.8	22.6			2.79
The threat of climate change is affecting my quality of life and my assessment of environmental quality more generally	1.7	7.7	19.2	23.1	27.3	21.1			2.70
I feel some sense of loss because of climate change impacts that are becoming apparent in my local area	3.1	9.0	18.0	22.9	26.4	20.7			2.77

Q45. Please indicate the extent to which each of the following statements best describes your own response to the threat of climate change.

	6.Strongly agree %				1.Strongly disagree %			
I have changed the way I think about the seriousness of environmental problems because of climate change	7.4	23.5	26.4	16.8	15.8	10.1		
Increasingly I find myself less likely to attend to media reports, articles and discussions about the nature or impacts of climate change	8.2	17.7	22.9	23.2	19.2	8.7		
I have seriously thought about alternative places to live because of the increasingly evident impacts of climate change	4.0	7.0	10.2	11.0	25.5	42.2		
Climate change has forced me to change the way I think about and view how we live in and use our natural environment in Australia	9.0	22.0	24.7	14.3	16.6	13.2		
I have often discussed my thoughts and feelings about climate change with others over the past several years	11.1	22.3	20.6	15.1	17.9	13.0		
I tend to think differently these days about what is acceptable and sustainable and not acceptable with respect to consumer produces and packaging, and consumption in general	18.0	31.0	23.8	12.2	8.9	6.0		
When considering the challenges of climate change it is important to look for things that I can address and change in my everyday life	18.8	30.4	23.7	12.6	7.9	6.7		

Q46. Which of the following statements best describes how you feel about climate change?

	%
The issue is overwhelming and I feel helpless	6.8
I am frustrated that not enough is being done	25.1
I am hopeful that if we take action now, we can stop it	34.6
I am tired of hearing about it and I want to see some action taken	33.5

Q47. Have you experienced any noteworthy changes or events in your local natural environment over the past ten years which you think might be due to climate change?

	%
Yes	35.7
No	64.3

Q48. Can you briefly indicate what these changes or events were or are?

Currently undergoing analysis (qualitative data)

Q49. Have you directly experienced any other noteworthy environmental changes, circumstances, or events elsewhere in Australia or the world which you think might be due to climate change?

	%
Yes	24.5
No	75.5

Q50. Can you briefly indicate what and where these circumstances or events were?

Currently undergoing analysis (qualitative data)

Q51. Overall, how much do you think climate change is influencing the frequency and intensity of weather events like storms and droughts?

	%	<i>M</i>
A good deal (6)	19.3	4.14
	28.6	
	22.9	
	11.5	
	10.9	
Not at all (1)	6.8	

Q52. Have you ever experienced a natural disaster warning or natural disaster impact situation?

Yes	37.4
No	62.6

Q53. If yes, please indicate the type of event(s) and the approximate number of times you may have experienced such an event?

	Cyclone		Bushfire		Drought		Flood		Other (please specify)	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Experienced the event on one occasion	233	7.5	283	9.1	193	6.2	222	7.2	108	3.5
Experienced the event twice	170	5.5	167	5.4	134	4.3	162	5.2	43	1.4
Experienced the event three times	87	2.8	55	1.8	84	2.7	73	2.4	16	0.5
Experienced the event four times	37	1.2	13	0.4	21	0.7	33	1.1	4	0.1
Experienced the event five times or more	132	4.3	75	2.4	103	3.3	131	4.2	15	0.5

Q54. Overall how much property damage did you experience in this or these situations?

	%	<i>M</i>
Considerable damage (6)	2.9	2.71
	4.4	
	5.0	
	4.1	
	8.4	
No damage (1)	12.5	
Not applicable	62.6	

Q55. Overall how much anxiety and stress did you experience in this or these situations?

	%	<i>M</i>
Considerable stress (6)	7.0	4.12
	10.8	
	7.9	
	5.4	
	4.2	
No stress (1)	2.1	
Not applicable	62.6	

Q56. How vulnerable do you think the region where you live is to natural disasters (e.g., floods, droughts, cyclones, and bushfires)?

	%	<i>M</i>
Very vulnerable (6)	15.0	3.78
	22.5	
	22.2	
	13.9	
	18.2	
Not vulnerable (1)	8.2	

Q57. How vulnerable do you think the region where you live is to the impacts of climate change?

	%	<i>M</i>
Very vulnerable (6)	10.4	3.72
	22.6	
	26.1	
	18.1	
	14.6	
Not vulnerable (1)	8.2	

Q58. There have been a number of films, television mini-series, and documentaries addressing climate change over the past few years. (Please indicate which of the following you may have seen)

	Yes %	No %	No response %
The Day after Tomorrow (Commercial film)	51.3	45.6	3.2
An Inconvenient Truth - Al Gore	29.6	66.3	4.2
Burn Up Canadian (ABC mini-series 25 April and 2 May, 2010)	1.0	92.0	7.0
Six Degrees (National Geographic documentary)	6.8	86.8	6.4
The 11th Hour (Narrated by Leonardo DiCaprio)	6.5	86.8	6.8
Catalyst (ABC program about Antarctica 29 April 2010)	22.1	72.3	5.6
State of the Planet (BBC David Attenborough documentary series)	18.4	76.2	5.5
Earth 2100 (ABC mini series)	5.6	87.9	6.5
Home (You Tube)	1.4	91.6	7.0
Not Evil Just Wrong (Commercial film)	0.5	92.4	7.1
The Great Warming (Narrated by Keanu Reeves & Alanis Morissette)	2.9	90.1	6.9
Age of Stupid (Commercial film)	1.0	91.8	7.2
Everything's Cool (Documentary film)	0.5	92.2	7.2
No Impact Man (Documentary film)	0.8	91.5	7.7
Other (please indicate any other films, documentaries or mini-series you have watched (undergoing analysis)			

Q59. Please indicate the extent to which you agree or disagree with each of the following statements.

	6.Strongly agree					1.Strongly disagree					<i>M</i>
	%	%	%	%	%	%	%	%	%	%	
Climate change will have a noticeable negative impact on my health (over the next 25 years)	6.2	15.4	28.8	18.5	18.9	12.2					3.35
Climate change will have a noticeable negative impact on my economic and financial situation (over the next 25 years)	11.6	28.5	25.9	13.8	12.8	7.3					3.90
Climate change will have a noticeably negative impact on the environment in which my family and I live	13.9	28.1	25.8	13.0	12.0	7.3					3.97
	High risk %					No risk %					
In your opinion, what is the risk of climate change exerting a significant impact on public health in your state?	7.5	22.6	30.4	18.7	13.8	7.0					4.02
In your opinion, what is the risk of climate change exerting a significant impact on economic development in your state?	11.2	30.5	28.1	14.5	10.1	5.6					4.13
In your opinion, what is the risk of climate change exerting a significant impact on the environment in your state?	15.3	32.0	24.9	12.1	9.9	5.8					3.95

Q60. In the last Australian census conducted during the 2007/2008 financial year people were asked about their level of concern about climate change. Has your level of concern about climate change increased, decreased or remained the same since 2007/2008?⁶

	%	<i>M</i>
Increased substantially (6)	7.5	3.95
	19.2	
	44.3	
	21.9	
	4.3	
Decreased substantially (1)	2.9	

Q61. If your views have changed at all could you briefly explain why and how they have changed?

Currently undergoing analysis (qualitative data)

Q62. Is there anything you would like to say about your views on climate change or natural disasters which the survey has not addressed?

Currently undergoing analysis (qualitative data)

⁶ In point of fact the ABS survey item relating to climate change concern levels was not included in the census survey but in a separate survey 'Environmental Views and Behaviour 2007-2008'.

