

#ClimateCriminals: Discursive constructions of climate change prior to and during Black  
Summer

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## Abstract

The 2019-20 Australian bushfire season, colloquially termed Black Summer, was the most catastrophic bushfire season in Australian history. While 33 people and over one billion animals died, and 17 million hectares of land burned, it was climate change that dominated public discourse. Numerous studies have examined the role of extreme weather events in shaping the public's climate change perceptions yet scant few have taken a discursive approach. This study attempted to address this paucity by collecting, analysing, and comparing Australian Tweets posted before and during Black Summer. Using the statistical analysis program R and its package Rtweet (Kearney, 2019), 2,181 Tweets were collected within the time period of 25<sup>th</sup>-31<sup>st</sup> August 2019 and 16,184 Tweets were collected within the time period of 5<sup>th</sup>-11<sup>th</sup> January 2020. A framework analysis was conducted to compare the key climate change frames present in the discourse across both time periods. This revealed a sharp increase in *political* and *media and ideology* frames during Black Summer, and driving these increases were themes of blame and accountability. A discursive psychological approach was employed to explore the way these themes were constructed by the public across political, media, and individual spheres. It was found that the public consistently directed blame at individual actors such as Prime Minister Scott Morrison, while also managing a discursive repertoire which focused on the ideological forces behind climate change inaction. This study broadens the understanding of how the public make sense of climate change in regard to a catastrophic extreme weather event.

## **Declaration**

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

Joseph Laranjeira

September 2020

### **Contribution Statement**

In writing this thesis, my supervisors and I collaborated to develop the research project, specific research questions of interest, and the appropriate methodology. I conducted the literature search and completed the ethics application. Under guidance from my supervisors, I developed the R code required for data collection. My supervisor coded a small sample of data to ensure inter-rater reliability. I was responsible for all analysis and thesis write-up.

## Chapter 1: Introduction

### 1.1 Black Summer

The 2019-20 Australian bushfire season, colloquially termed Black Summer, was the most catastrophic bushfire season in Australian history. The season, starting in September 2019, was unprecedented in terms of its extent and intensity (NSW Department of Planning, Industry and Environment, 2020). Thirty-three people lost their lives as a result of these fires, including 9 firefighters, and conservative estimates suggest that over one billion animals were killed (Richards et al., 2020). Over 3,000 homes were lost, and 17 million hectares of land were burned, a size larger than the entirety of England (Richards et al., 2020). Australia's past catastrophic bushfires, Black Saturday 2009, and Ash Wednesday 1983, while more deadly, had a combined burned area of just over 600,000 hectares (Richards et al., 2020). As the fires peaked on January 1<sup>st</sup>, 2020, the nation's capital, Canberra, recorded the lowest air quality in the world, scoring an air quality index reading of 7,700, more than 38 times above the hazardous cut-off (Remeikis, 2020).

The intensity of Black Summer was set against the backdrop of a rapidly warming climate. In 2019, global surface temperatures were the second warmest on record (Hausfather, 2020). This occurred despite the absence of a major El Niño event, a weather system generally associated with sustained periods of warming and reduced rainfall (Hausfather, 2020). Record highs were also reached for global sea levels and atmospheric greenhouse gas concentrations (Hausfather, 2020). Australia suffered through its hottest year on record, with the annual national mean temperature 1.52°C above average, comfortably eclipsing the previous record of +1.33°C in 2013 (BOM, 2019). This significant warming was coupled with a severe lack of rainfall. 2019 was also Australia's driest year on record, with nationally averaged rainfall 40% below average (BOM, 2019).



These factors helped create widespread severe fire weather, culminating in the nation's highest ever Forest Fire Danger Index score (BOM, 2019). The Bushfire and Natural Hazards Cooperative Research Centre provides the nation's seasonal bushfire outlooks. Their August 2019 outlook was stark, suggesting that "the east coast of Queensland, New South Wales, Victoria and Tasmania, as well as parts of southern Western Australia and South Australia, face above normal fire potential" (Bushfire & Natural Hazards CRC, 2019, p.1). They noted that south eastern Queensland and New South Wales faced heightened risk due to their successive years of dangerously dry conditions.

While the bushfires were occurring, media reports began to draw a clear link between their intensity and anthropogenic climate change (Burgess et al., 2020). This consequently led to intense public scrutiny of Australia's political action on climate change, with the general public discourse asserting that the bushfires were a direct result of a sustained lack of leadership (Burgess et al., 2020). The present study will therefore investigate how the public made sense of climate change in relation to the bushfires.

## **1.2 Bushfires and Climate Change**

Unlike rising temperatures and sea levels, climate change has a less obvious causal link to bushfires, one that requires dedicated modelling. While climate change is not responsible for lighting each individual fire, it is contributing to the conditions that increase the likelihood of severe bushfire seasons. Kirchmeier-Young et al. (2019) argue that over 95% of the probability for the observed maximum temperature anomalies are due to anthropogenic factors. This leads them to conclude that in the case of the Canada wildfire season of 2017, climate change caused the high fire weather to be 2-4 times more likely (Kirchmeier-Young et al., 2019). They also state that anthropogenic climate change increased the area burned by a factor of 7-11 (Kirchmeier-Young et al., 2019). There is a clear and

established link between increased atmospheric CO<sub>2</sub> and higher temperatures and reduced relative humidity. Studies have been able to subsequently show that these conditions resulting from the increase in CO<sub>2</sub>, also lead to enhanced fire danger and more severe fires (Hope et al., 2019; Lewis et al., 2020).

The scientific link is extremely clear, and those with firsthand experience in the industry, former Australian fire and emergency service leaders, have commented publicly on that link (Emergency Leaders for Climate Action, 2019). Of greater interest to this study, however, is whether the general public are also cognisant of this. In January 2020, with Black Summer still underway, the Australia Institute conducted a poll measuring climate change beliefs in the midst of a bushfire crisis. They found that 47% of respondents reported to be “very concerned” about climate change, which was up 10 percentage points from July 2019 (The Australia Institute, 2020). They also found that 67% of participants believe that climate change has made bushfires worse (The Australia Institute, 2020). John Shine, president of the Australian Academy of Science, noted that in January 2020, the academy website experienced a 30% increase in visits with their most visited page being “What is Climate Change?” (Shine, 2020).

### **1.3 Extreme Weather and Climate Change**

A growing body of literature is mounting to suggest the public are incredibly perceptive to changes in local temperature and the implications of these changes on the overall climate. On one end of the spectrum, fluctuations in local temperature can cause people to reassess their belief in climate change, with this holding true for extended periods of wet weather as well as hot (Egan & Mullin, 2012; Taylor et al., 2014a; Taylor et al., 2014b). Hence when a community experiences firsthand the damaging effects of an extreme weather event, they are especially primed to turn to climate change. This is evidenced in

numerous studies, with people experiencing heightened risk perceptions and increased concern for climate change after an extreme weather event (Capstick & Pidgeon, 2014; Demski et al., 2017; Konisky et al., 2016; Spence et al., 2011). Weber (2015) concluded that when it comes to climate change perception, seeing-is-believing evidence can often trump statistical information.

A truly global phenomenon, survey data from 24 countries further confirms that increased concern and willingness to engage in climate related actions is correlated with personal experience (Broomell et al., 2015). Data from South Australia highlights the importance members of the community place on local landmarks and intrinsic landscapes. It was found that perceptions of climate change risk were driven by the values people place on the landscape, with biodiversity areas of top concern (Raymond & Brown, 2010). This is particularly salient given the Black Summer bushfires affected huge proportions of national parks, for example the greater Blue Mountains area, of great value to the locals.

This evidence is important in establishing that the public actively link climate change with extreme weather events. It cannot, however, provide insight into the ways in which members of the public make sense of climate change in relation to these events. Perception studies such as The Australia Institute (2020) poll do not tell us how or why the public rationalise that climate change has made bushfires worse. These nuances require more nuanced research. For this, a qualitative approach that can explicate the ways in which the public make sense of climate change in relation to extreme weather events, such as bushfires, is required. Utilising discourse analysis (Potter & Wetherell, 1987) will help clarify these nuances and provide insight into the ways in which extreme weather events can heighten public attention on to climate change.

#### **1.4 Discursive Psychology**

Discursive psychology (DP) is a social constructionist and non-cognitivist approach to social psychology (Augoustinos et al., 2014). DP is fundamentally juxtaposed by the positivist and realist epistemology of mainstream social psychology. Taking discourse to be central to everyday life, DP uses talk and text to define the nature of the world under description, with its central theoretical tenets asserting the constitutive and functional nature of discourse (Edwards & Potter, 2001). Specific approaches to DP vary greatly, ranging from analysis of fine-grained details of the text through to critical discourse analysis (van Dijk, 2001) which focuses on the ideological frameworks that are present throughout social contexts. Wetherell's (1998) synthetic approach combines these approaches, allowing for the simultaneous analysis of both situated discursive practices and the broader ideological underpinnings shaping public discourse.

Furthermore, DP emphasises the rhetorical and contextually fluid aspects of language. Billig (1996) maintains that rhetoric should be viewed as an ever-present, pervasive feature of the interaction and sense-making practices of people. Discourse is put together in inherently argumentative ways for the purposes of asserting particular versions of reality. This focus on the inherently argumentative and rhetorical nature of discourse is particularly fitting when approaching the highly debated topic of climate change.

### **1.5 Discursive Psychology and Climate Change**

There is a substantial body of literature that has explored the way climate change is represented discursively. The large majority of studies focus on how these representations are made in media and political spheres (e.g., Brüggemann & Engesser, 2014; Jaspal & Nerlich, 2014; Kurz et al., 2010). Furthermore, scant few studies have been conducted on the discourse surrounding climate change and its link to extreme weather events. Studies which do investigate this typically focus on the communication of media, scientists, and

stakeholders (e.g., Janković & Schultz, 2017; Painter et al., 2020; Sippel et al., 2015). While these studies are illustrative of the ideological underpinnings of climate change communication, a growing body of literature is mounting that instead examines the discursive and sense-making practices of non-elite actors. Notably, Hanson-Easey et al. (2015) employed a semi-structured focus group approach to demonstrate how the issue of climate change is understood by laypeople and ultimately made contingent on social, financial, and political factors. Similarly, Jaspal et al. (2012) turned to online reader comments to examine how social representations of climate change were constructed in the wake of ‘climategate’.

These two studies are useful in highlighting how members of the general public talk about climate change. Neither of them, however, examine the impact of extreme weather events. This is not an anomaly, as there is a clear deficiency in the literature regarding the role of extreme weather events in shaping laypeople’s representations of climate change. There is a substantial literature of survey data measuring the public’s perceptions of climate change in relation to extreme weather, yet these same connections tend to not be investigated discursively. Moreover, the media reporting at the time which drew a clear link between the bushfires and a lack of political leadership on climate change (Burgess et al., 2020), suggests that issues of accountability and blame may be essential features of climate change discourse during periods of extreme and dangerous weather events. However, to date, no research has explored how the public discursively manage extreme weather in relation to climate change.

## **1.6 Twitter and Climate Change**

Rather than use traditional polling methods or focus groups, researchers are now turning to social media, particularly Twitter, to accurately capture the sentiment and discourse of laypeople. The first comprehensive literature review on social media communication and climate change found 28 of 35 articles were predicated on Twitter data

(Pearce et al., 2018). This is an even more impressive proportion given that the total number of active Twitter users (326 million) is dwarfed by that of the bigger social media platforms such as Facebook (2.271 billion), YouTube (1.9 billion) and Instagram (1 billion) (Kemp, 2019). Despite Twitter not being as popular as these other platforms, it separates itself in terms of the content of the communication. Twitter and its users are less focused on keeping in touch with friends and more concerned with providing opinions and observations about what is happening “among all the things, people and events you care about” (Stone, 2009). This lends itself particularly well to observational research.

A seminal study by O’Connor et al. (2010) paved the way for a raft of research into the determination of public perception through Twitter data. The study compared several survey results with sentiment word frequencies found in Tweets from a dataset of one billion Tweets from 2008-2009. They were able to find numerous high correlations, leading them to emphasise the potential for Twitter data to substitute and supplement traditional polling methods (O’Connor et al., 2010). This study gave researchers confidence that Twitter data can accurately capture public sentiment, and since then, Twitter data has been used regularly to examine climate change perception and extreme weather event reaction.

Sisco et al. (2017) found that considerably more Tweets referencing climate change were found immediately after an extreme weather event than prior. Numerous studies have identified the potential for people’s Twitter use to function as sensors for changes and extremes in local temperature (Kirilenko & Stepchenkova, 2014; Kirilenko et al., 2015). In particular, Kirilenko et al. (2015) was able to effectively map geographically high proportions of climate change related Tweets with local temperature anomalies. They were able to conclude that Twitter is a valuable asset for the public to communicate their climate change concerns during and after extreme weather events.

These Twitter studies, similar to the perception studies listed earlier, are extremely useful in highlighting the presence of an effect, yet their quantitative nature does little to explain how the public interact discursively. This is an overarching theme in the literature, with the Pearce et al. (2018) literature review suggesting future studies take a more qualitative approach. Roxburgh et al. (2019) addressed this gap by collecting Twitter data in an attempt to characterise the climate change discourse of laypeople during three extreme weather events in the United States. This study in particular, is useful in highlighting clear discursive frames present on social media and provides a broad snapshot of the ways that people discursively engage with the issue of climate change during and after extreme weather events. Using a framework analysis adapted from O'Neill et al. (2015) which highlighted 12 distinct discursive frames<sup>1</sup>, Roxburgh et al. noted a considerable absence of *contested science* and *uncertain science* frames, leading them to conclude that extreme weather events cause a shift in the balance of coverage on Twitter away from denier perspectives (Roxburgh et al., 2019). The study did not, however, have a neutral point of comparison to truly see how these extreme weather events shaped the climate change discourse. Furthermore, they only conducted a rudimentary analysis; highlighting frames without examining deeper the discursive practices being employed. Hence a study which extends upon these conclusions in a more critically discursive manner is required.

### **1.7 The Present Study**

As discussed, few studies have taken a discursive approach to the impact of extreme weather events on laypeople's climate change representations. This study attempted to address this paucity in the literature by examining the discourse of everyday Australians on

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<sup>1</sup> Settled science, extremes, uncertain science, contested science, political or ideological struggle, economic, role of science, opportunity, morality and ethics, health, security, unclear.

Twitter several months prior to and again during, the Black Summer bushfire crisis of 2019-

20. Specifically, this study aimed to:

1. Compare the key frames present in the discourse on climate change during Black Summer to an earlier neutral time period in August 2019.
2. Discursively explore the way key themes were constructed by the public across political, media, and individual spheres.



## Chapter 2: Method

### 2.1 Data Collection

This study employed Twitter's Premium Search Tweets API: Full Archive. The statistical analysis program R and its package Rtweet (version 0.6.9; Kearney, 2019) were then implemented as the interface for data collection. A fork was also employed to circumvent an issue in the original software programming (Taylor, 2019).

As this study had a strict focus on the discourse within Australia, Tweets were collected only if they were posted from within Australia or from user profiles linked to Australia. Not all Twitter users choose to have location associated with their Tweets or profile, hence there is the possibility that Tweets were hidden from the search despite them coming from within Australia or from Australian users. While considerable international attention was given to the Black Summer bushfire season, it was not pertinent to this study.

The terms "climate change", "global warming", "#climatechange" and "#globalwarming" were used for the search. For a Tweet to be returned it needed to only contain one of these terms. Before discussing the rationale behind the word choices, it is important to first note how hashtags are used on Twitter. Hashtags are typically used to index keywords or topics, with a hashtag symbol (#) placed before the word or phrase. They are often used to summarise the key point behind the Tweet, with certain popular hashtags becoming convention when discussing a particular point, as is the case with #ClimateChange. In studying climate change discourse on Twitter, Hamed et al. (2015) found #ClimateChange to be the most frequently used hashtag, thus making it an obvious search term. The differences in public perception and use of the terms "climate change" and "global warming" have been well documented, with conservatives and sceptics consistently preferring the use of the latter (Schuldt et al., 2011; Whitmarsh, 2009). This also holds true for Twitter users,

with Jang and Hart (2015) finding that “climate change” was used more frequently by believers, whereas “global warming” was adopted by sceptics. Therefore, in order to accurately capture differing opinions within the discourse, “#globalwarming” was used in the search in conjunction with “#climatechange”. Not all Twitter users utilise hashtags, hence the two terms were also searched for within the text of the Tweets.

This study aimed to evaluate how Black Summer shaped the discourse on climate change in Australia, hence a before and during comparison approach was utilised. The selected time periods were August 25<sup>th</sup>-31<sup>st</sup> 2019 and January 5<sup>th</sup>-11<sup>th</sup> 2020. Black Summer ran from September 2019 to March 2020 (Richards et al., 2020). Therefore, the ‘before’ period was chosen to be the final week of August 2019, thus setting it as close as possible to the official start of the bushfire season. Given the nature of social media and the ever-changing global affairs in 2020, there was concern that attention paid to the bushfires would reduce rapidly over time. It was therefore important that information was garnered from during the season also, rather than in the aftermath. January 2020 saw the most amount of media attention paid to the bushfires, and with that also the highest number of climate change related articles (Burgess et al., 2020). 64% of all Australian media articles concerning Black Summer published in January 2020 also discussed climate change in some capacity (Burgess et al., 2020). This peaked on January 8<sup>th</sup> with 72% of articles referencing climate change (Burgess et al., 2020). Hence the ‘during’ period was chosen to be the week with this crucial date at its centre.

The most active period for Twitter users is 11am-3pm with a peak at 1pm (Sysomos, 2019). Therefore, the searches were run from 9am-5pm for each day. However, Retweet requires entry in UTC, resulting in minor discrepancies across time zones. It was decided that the 9am-5pm time period would apply for AEST in August and AEDT for January, therefore accurately capturing the more densely populated and more heavily affected eastern states.

This meant that Tweets posted from alternative time zones were returned from slightly outside the 9am-5pm window. The searches were run such that each day was a new search.

It was decided that Retweets would be omitted from the search. Retweets posted without comment are often used to affirm the content of the Tweet, without the user having to create an original Tweet in order to express themselves. In this instance, multiple Retweets of the same Tweet could indicate the continued affirmation of the message. However, the prevalence of Retweets is often heavily skewed by Tweets from high-profile users, particularly so in climate change related studies, with Kirilenko and Stepchenkova (2014) finding that 0.4% of users were responsible for 50% of all Retweets. This study strived to critically analyse the public discourse and therefore sought to collect as many original Tweets as possible from non-elite actors, without the presence of Retweets. The search was also limited to English-language Tweets only.

The collected data corpus was far too large to analyse completely, hence a random sample of 500 Tweets was collected from the corpus for both the August and January periods. The subsequent analysis was performed on the dataset consisting of those Tweets only.

## **2.2 Analytic Approach**

Data analysis was conducted in two stages, with an initial framework analysis then informing a subsequent discourse analysis.

The initial framework analysis was informed by the tenets of classical content analysis (Leech & Onwuegbuzie, 2008). Defined as the “objective, systematic, and quantitative description of the manifest content of communication” (Berelson, 1952, p.489), classical content analysis and subsequently framework analysis focuses on the frequency of codes/frames to determine prevalence. Conducted across the two time periods discussed earlier, the aim was to compare the major discursive frames present during Black Summer to

the earlier neutral time period in August 2019. The framework analysis itself was adapted from Roxburgh et al. (2019) which was in turn adapted from O'Neill et al. (2015). The analysis involved starting with the frames used by Roxburgh et al. and upon familiarisation with the data, tailoring those frames with the addition of frames original to this study.

A discursive psychological approach was employed for the second part of the analysis. This social constructionist and non-cognitivist approach prioritises the constitutive and functional nature of discourse (Edwards & Potter, 2001). In keeping with Wetherell's (1998) synthetic approach, the analysis was conducted with a focus on both situated discursive practices and the wider ideological systems that have shaped the way climate change is understood and communicated in the social and political spheres. This analysis also drew on the tenets of rhetorical psychology (Billig, 1996), therefore providing the framework to explore the inherently rhetorical nature of the social media discourse around climate change. Aiding this rhetorical focus, fact construction (Potter, 1996) played a central role in this analysis, allowing for the examination of how the links between bushfires, climate change, and the role of government and media, were managed. The primary aim for this final analysis was to explore how the key themes were discursively managed by laypeople during Black Summer, with a particular focus on how they were directed towards politicians, the media, and other Australians in general.

### Chapter 3: Analysis and Discussion

In total, the dataset for the August 2019 time period contained 2,181 Tweets and the dataset for the January 2020 time period contained 16,184 Tweets. This alone is evidence of the clear increase in attention paid to climate change during Black Summer. This effect mirrors the findings of Sisco et al. (2017) that extreme weather events produce an increase in Tweets referencing climate change. However, as mentioned, the sheer size of the data corpus meant analysis in totality was beyond the scope of this thesis. Hence, the analysis presented hereafter was conducted on the random samples of 500 Tweets each for both time periods. Each Tweet is presented in full, inclusive of any spelling and/or grammatical errors.

#### 3.1 Part One: Framework Analysis

As shown in Table 1, the framework analysis focused on 15 distinct discursive frames. To ensure reliability, an independent rater coded the first 100 Tweets for each time period. Highlighted in Table 1, a percentage agreement score, and a corresponding Cohen's Kappa ( $\kappa$ ) were then calculated for each frame. For all of the major frames discussed hereafter, both percentage agreement and their  $\kappa$  values were very high, highlighting the reliability of the coding framework.

The most prevalent frame was *political*, highlighting the obviously political nature of both the bushfires and climate change. Similar to Roxburgh et al. (2019), the *settled science* and *contested science* frames featured heavily, highlighting the public debate around climate change science and its consensus. The conclusion drawn by Roxburgh et al. that extreme weather events cause an observable shift away from denier perspectives replicates the findings in the perception literature which consistently demonstrate that the public show increased concern for climate change and willingness to support climate action in the wake of an extreme weather event (e.g. Capstick & Pidgeon, 2014; Demski et al., 2017; Konisky et

al., 2016). This effect was also observed in this study. Moving from August to January, there was a clear increase in the *settled science* frame, combined with a clear decrease in the *contested science* frame, once again highlighting the potential for extreme weather events to impact upon the public's climate change representations.

The biggest and most notable increases occurred within the *political* and *media and ideology* frames. In particular, the *political* frame experienced a very large increase, as an already highly political issue became even more so. Qualitatively, what was being observed was the public directly calling into question the roles of the media, politics, and specific politicians in firstly addressing climate change and consequently exacerbating the effects of Black Summer. While not present in the framework analysis, the overarching theme present across multiple frames within January was accountability. The discourse showed a clear anger within the public, and this was manifested as attitudes of blame and the overwhelming need for specific people or groups to be held accountable. Discussions around accountability were barely present within the discourse during the August time period, making it clear that accountability is central to understanding how Black Summer affected the discourse. This cannot be explicated properly through the narrow scope of a framework analysis. Hence, the subsequent discourse analysis will expand upon these findings by examining the ways in which blame and accountability were discursively managed by the public during the January time period.

**Table 1***Discursive Climate Change Frames Used in This Study*

(Adapted from O'Neill et al., 2015, p.381, &amp; Roxburgh et al., 2019, p.55).

Frame	Description	August		January	
		Number of Tweets	Percentage of Agreement (κ)	Number of Tweets	Percentage of Agreement (κ)
Political	Focuses on the role of politics and/or political leaders in addressing climate change.	108	89.85 (.57)	180	89.97 (.79)
Settled science	Emphasis on the science of climate change and the broad expert consensus. May include criticism of those promoting contrarian views.	50	89.05 (.32)	78	88.65 (.56)
Contested science	Climate science is explicitly contested. The idea that climate change is occurring or is primarily driven by anthropogenic actions is challenged.	58	92.26 (.75)	40	90.19 (.59)
Extreme weather	Emphasis on the links between climate change and extreme weather events. Attributing increase in the frequency and intensity of these events to climate change. Also includes challenges to the idea that climate change is influencing extreme weather.	19	90.59 (.13)	63	79.16 (0.00)

Frame	Description	August		January	
		Number of Tweets	Percentage of Agreement (κ)	Number of Tweets	Percentage of Agreement (κ)
Environmental impacts	Discusses the impacts climate change is having on the environment.	60	91.76 (.62)	17	95.16 (.64)
Call for action	A plea for urgent action on climate change on an individual, political, or global scale.	37	93.83 (.29)	36	91.70 (.53)
Adaptation	Highlights the need to adapt in response to climate change. Could be discussing innovative technology or lamenting major projected societal changes.	51	92.85 (.24)	17	95.74 (.39)
Media and ideology	Focuses on ideology, rather than climate science. Links are made between climate change and the happenings in the media sphere.	15	95.82 (.54)	44	93.30 (.43)
Human aspect	Discusses the role of individuals and/or communities in contributing to climate change response.	27	95.8 (0.00)	22	91.2 (.19)
Pessimism	Focuses on the consequences of climate change and their supposed inevitability.	24	95.40 (.58)	18	94.79 (-.02)
Economic	Emphasis on the economic implications of climate change or climate change action.	15	96.29 (.50)	16	98.84 (.70)



Frame	Description	August		January	
		Number of Tweets	Percentage of Agreement (κ)	Number of Tweets	Percentage of Agreement (κ)
Uncertain science	The existence of climate change is not explicitly contested, but uncertainty in the science, impacts, and solutions may be raised.	14	99.03 (.72)	12	95.93 (0.00)
Role of science	Focuses on the role science plays in society, rather than the science itself.	10	97.52 (.25)	2	100 (1.00)
Morality	Moral or ethical arguments are invoked.	4	95.43 (-.02)	3	95.31 (.23)
Unclear	The principal frame cannot be determined or does not align with any of the above definitions.	92	72.10 (.22)	59	85.68 (.15)

## 3.2 Part Two: Discourse Analysis

The framework analysis revealed that the notions of blame and accountability were central to how the public made sense of climate change in relation to the bushfires. Consequently, the analysis hereafter contains Tweets solely found in the ‘during’ time period in January. Most notably, blame and accountability were directed towards politics, the media, and the Australian public in general. Within those three spheres, blame and accountability were managed in a number of ways, and these will be explored further.

### 3.2.1 Political Accountability

#### 3.2.1.1 Blaming Scott Morrison

When holding public figures accountable, Twitter provides a unique opportunity to communicate with previously unreachable politicians. By simply placing an ‘@’ symbol in front of someone’s Twitter handle, they will be notified of the Tweet, and everyone reading it will instantly understand who the Tweet is directed to. Throughout the Tweets found in this study, a number of politicians were singled out, but no individual experienced this more than Prime Minister Scott Morrison. The face of the incumbent government and someone who has a poor record in taking climate change seriously (see: Cain, 2019; Murphy, 2017), Morrison’s image was only tarnished further by his poorly received holiday to Hawaii in December 2019 while the bushfires were peaking. This led to intense media and public scrutiny, thus making him the focus of a large number of Tweets.

#### Tweet 1

@abc730 @reardon\_shaun @mjrowland68 @ScottMorrisonMP Yeah, Naaaah @ScottMorrisonMP You have demonstrated your gross incompetence repeatedly and the fact that you REFUSE to effectively address #climatechange and stop any new #fossilfuel projects shows this is simply just more empty spin and bullshit to save your own backside.

Tweet 1 was replying to an interview in which Morrison attempted to legitimise his actions during Black Summer in response to the interviewer directly questioning his leadership up until that point. The poster responded by explicitly rejecting Morrison's explanation. The Tweet opens with "Yeah, Naaaah", colloquial language embedded within the Australian vernacular. The "Yeah" suggests that Morrison's proposition has been received, and the "Naaaah", with added a's suggests vehement disagreement with this proposition. The poster then goes on to use the highly emotive "gross incompetence" in combination with the capitalisation of "refuse", which is commonly accepted in online data to represent elevated volume. In this way, the poster's response demonstrates anger. The use of the term "refuse" also implies that Morrison's lack of action is deliberate. It suggests that he has a choice to act but refuses to do so. The use of "refuse" right after "gross incompetence" constructs two versions of Morrison – one who is simply not competent to deal with climate change, and one who is deliberately refusing to deal with climate change. Both constructions emphasise his accountability through directly blaming him for not acting on climate change and prioritising his political career over effective policy. The latter is done via a common criticism of politicians, and one which is present often throughout this analysis, whereby the poster calls Morrison's character into question by asserting that he is more interested in "empty spin and bullshit" to appease voters than legitimately addressing the issue of climate change.

### Tweet 2

@ScottMorrisonMP Asking respectfully on behalf of quiet & loud Australians:

Please act on #ClimateChange

Not lip service, not obfuscation, not acknowledgement.

Real Action

-Transition from coal to renewables

-Commit to emissions reduction

Let #AustralianBushfireDisaster not be your only legacy

The poster begins this Tweet directed at Morrison by “asking respectfully”. This is followed by the straightforward “Please act on #ClimateChange”. The poster is simply, respectfully, asking the Prime Minister to act. The striking lack of emotion present within this Tweet holds considerable rhetorical power and seeks to legitimise its content by presenting it as calculated rather than emotional. “Quiet and loud Australians” is a play on the ‘quiet Australians’ expression used heavily by Morrison in the wake of his Liberal-National Coalition’s unexpected victory in the recent 2019 Australian federal election. In Morrison’s words, his “miracle” victory can be credited to these quiet Australians who decided it was time to speak up and be counted (Murphy & Martin, 2019). Tweet 2 combines these quiet Australians with “loud Australians” to imply that they are speaking on behalf of everyone. This consensus warrant (Potter, 1996) implies that this issue, and Morrison’s inaction, is nationally recognised and corroborated by all. A three-part list (Jefferson, 1990) is employed as a list of things that Morrison should not do. In doing so, the implication is that Morrison is guilty of doing all of these things when addressing climate change. Like Tweet 1, these are other common criticisms directed towards career politicians, that their action taken on important issues simply involves superficial, public “lip service” while little is done behind the scenes in terms of meaningful policy. The three-part list increases the comprehensiveness of the argument, highlighting numerous instances where Morrison has not acted adequately, helping to develop a criticism of Morrison generally (Potter, 1996). By first highlighting what would be and has been insufficient, the following recommendations for what “real action” looks like are made more impactful. They have a clear focus on transitioning away from coal and reducing the nation’s greenhouse gas emissions. Despite this being posted while the

bushfires were still occurring, the two recommendations make no mention of the bushfires themselves or Morrison's performance during the crisis. Furthermore, stating that the bushfire "disaster" could be Morrison's "only legacy" if action is not taken on climate change, first implies that he is somewhat culpable for Black Summer, and second, that a new legacy can be forged if appropriate action is taken. This highlights that at the heart of this issue is climate change, and Morrison's path to redemption simply requires appropriate climate change action.

### Tweet 3

@ScottMorrisonMP another day, another lie. Not a single fire in VIC started by arsonists. Gospers Mountain in NSW started by dry lightning. It's obviously much easier to blame invisible boogie men than to accept responsibility for climate change. #LiarFromTheShire

Tweet 3 first attempts to establish Morrison's character. "Another day, another lie" presents Morrison as a liar. The poster goes on to provide details of two specific instances where the fires were not started by arsonists, hence providing supporting evidence of Morrison's lies in suggesting arsonists were to blame. This Tweet also highlights Morrison's stringent efforts to avoid accepting responsibility for Black Summer. The use of "much easier" again serves to construct Morrison's character negatively. It suggests that he is not just a liar, but also the kind of person who takes the 'easy' option of avoiding responsibility. The poster asserts that through Morrison blaming "invisible boogie men" (arsonists), he is avoiding "responsibility for climate change." This final statement makes clear that at the heart of this issue is climate change once again. By Morrison creating these "boogie men" who started the fires and can therefore take the unwanted spotlight away from him, he is not only avoiding responsibility for the bushfires themselves, but for climate change more generally.

### 3.2.1.2 Blaming Government

Directing blame at the government as a whole for Black Summer was managed on a number of levels, ultimately rooted in the Liberal-National Coalition's continued inaction on climate change. The public attempted to explicate why this has been the case, leading to discourse around the ideology behind the party.

#### Tweet 4

Disgraceful. Inaction against climate change will have dire and deadly consequences for us all. The road the government is taking us down will lead to disaster. I fear for my children. What sort of world will they inherit because we did nothing?

A highly emotive Tweet, the user employs extreme-case formulations to increase the persuasiveness of their message. Opening with “disgraceful” before asserting that “dire and deadly consequences” and “disaster” are imminent, Tweet 4 makes it clear that it is government inaction on climate change that is responsible. This extreme language is coupled with a fear for not future generations broadly, but the user's children specifically. They are acknowledging the potential for climate change to worsen, causing future unprecedented bushfire seasons, and it will be their children rather than them who will experience this. It also establishes the threat as imminent and not as some far-off event for future generations broadly, but for specific people who are already alive – their children. The poster is also managing conflicting dialogues within the same overall message. Firstly, stating that it is the government leading us toward disaster implies that the voting public can do little to stop them. That they, the user included, are merely subject to the decisions made without their input. The following sentences, however, evoke fear for the world that future generations will inherit because “we” the public did nothing to prevent climate change. This highlights a

contrast between who bears responsibility. At first, it is the government, but this then switches to a collectively shared “we” that the poster is presumably a member of.

#### Tweet 5

Imagine if Australia had been at the forefront of climate change action. Imagine if Australia had been pleading with the international community to take emission reduction seriously. Imagine what impact we would have been able to have as the world watches #AustraliaBurn

Like Tweet 4, central to Tweet 5 is Australia’s lack of climate change action. The poster repeatedly asks the reader to “imagine” how different things would be had Australia been “at the forefront of climate change action” and “pleading with the international community to take emission reduction seriously.” Central to this is the concept that the world is watching “Australia burn”, presenting a unique opportunity for the nation to have a positive “impact” by being leaders in tackling climate change. The final sentence suggests that if Australia had been active in addressing climate change, then discussing climate change in the context of the bushfires would have been highly impactful. In Tweet 5, this is seen as a missed opportunity. Australia has lost its chance to leave a lasting positive impact and instead, the world has had to focus on Australia’s shortcomings, rather than promote positive change in the future through a global focus on its successes.

Tweets 4 and 5 commented on the repeated inaction demonstrated by the government on a national level. Central to the reason for this continued inaction is the ideology behind the incumbent Liberal-National Coalition. The major conservative party within Australia, their recent history has made no secret of their lack of desire to tackle climate change, a finding that is consistent with research that demonstrates climate change denial is a pervasive feature of conservative political ideologies (e.g., McCright & Dunlap, 2011; Oreskes & Conway, 2010). Starting with former Prime Minister John Howard whose approach was to conflate the

issue of climate change with economic stability (Alcorn, 2020), this ideology has permeated through the Coalition and the wider public for many years since, helped along by Tony Abbott before settling with current leader Scott Morrison. This ideology is cited below as criticism for Australia's poor record on climate change policy.

#### Tweet 6

@infinite8horizo @potcalling The entire LNP government are anthropogenic climate change deniers. Don't just focus on Morrison. Whoever replaces him after they change leaders (yet again) will be just as bad, just as corrupt, just as selfish and just as beholden to the minerals council.

LNP stands for the Liberal-National Party, a state-level political party in Queensland. It is often mistakenly used interchangeably with the Liberal-National Coalition, as evidenced by its use in combination with Morrison who is not involved with the LNP. Hence, it is assumed that this poster is referring to the Coalition. Tweet 6 treats the entire Coalition government as made up of interchangeable politicians. Through an extreme case formulation (Potter, 1996), this poster asserts that they are all “anthropogenic climate change deniers”, and this narrow focus on Morrison as the key figure to be held accountable is misguided. This Tweet attempts to speak to the ideology behind the party, claiming that yes, Morrison's position on climate change is troubling, but it is symptomatic of the party he belongs to and will be present long after he is gone. The criticisms of Morrison and the broader party are amplified with the repetition of the two words “just as”. This highlights that the real issue is not Morrison or whoever replaces him, but the ideology of the party itself, which will unfalteringly deliver “corrupt” leaders “beholden to the minerals council.” This Tweet also takes it as inevitable that Morrison will be replaced, commenting on the perceived volatility of the Liberal Party after excessive changes in leadership in recent years. Hence, Tweet 6 asserts that the public must do more than just hold Morrison accountable, and instead blame



the entire Coalition government and their ingrained ideology seemingly at odds with climate science.

This entrenched refusal by the Coalition to appropriately address climate change was made more prominent in November while the bushfires were occurring, with Deputy Prime Minister Michael McCormack labelling the case for climate change as “the ravings of some pure enlightened and woke capital city greenies” (Doran, 2020). This rhetoric was further supported in December when Morrison expressed his disappointment that the public were conflating the crisis with Australia’s emission reduction targets (Pandey, 2020). Yet, in January, with the bushfires and subsequent media reporting peaking, Morrison and his government softened their stance on climate change, explicitly stating that its impact on the environment and extreme weather events is not a topic of contention (Doran, 2020). Morrison went on to discuss the need for the continued reduction in carbon emissions and further adaptation measures in the future. This change in stance, however, was not always well received, with the public quick to point out the inconsistencies present.

#### Tweet 7

If they've "always" seen the connection between climate change and #AustralianFires, but repeatedly fought to stymie Australian and international efforts to reduce CO2 emission, doesn't that mean they've deliberately done so against the best interests of the Australian people?

<https://t.co/GAGo9mAuuS>

In Tweet 7, the user attends to the inconsistency in the government’s position on climate change and its effect on extreme weather events. Not allowing the government to publicly save face on the issue, this Tweet asserts that if it were true that they have always been aware of the connection, then they can no longer claim ignorance or denial when defending their lack of appropriate policy. Tweet 7 takes this further by claiming that it is not

merely inaction that has plagued Australia’s efforts in tackling climate change, but the government’s “repeated” stymieing on a national and international level. Consequently, it logically follows that the government’s efforts to limit progress in emissions reduction have been done with the full knowledge that doing so exacerbates the effects of climate change and bushfires. This, claims the poster, is deliberately “against the best interests of the Australian people.” The overall message of this Tweet is that by backflipping on their original position, the government have opened themselves up to further criticism that their past indiscretions on climate change are of a more sinister nature. This idea that the government has wilfully acted contrary to the public’s best interests is developed further in the Tweets below which discuss the notion of criminality.

### **3.2.1.3 Climate Criminals**

While many Tweets blamed the government for their incompetence in dealing effectively with climate change, a number of Tweets cast the government as deliberately stymieing action, as seen in Tweet 7. Taking this further, a common theme to emerge was that of constructing the government’s behaviour as ‘criminal’. Indeed, this theme was so prevalent that #ClimateCriminals emerged during this time.

#### Tweet 8

@BorisJohnson @Qldaah @ScottMorrisonMP Climate change has been ignored and kicked down the road in this country for far too long. It seems criminally negligent that this is so. We are beholden by the mining/coal industry and they infiltrate our policy and government representatives. It’s WRONG

Tweet 8 refers to the government as being criminally negligent in their approach to climate change action. The notion of criminal negligence implies that the government has not engaged in a reasonable standard of conduct. This claim therefore asserts that any reasonable and moral government would acknowledge the disastrous effects of climate change, and act

accordingly in an attempt to minimise these effects. Yet, as Tweet 8 claims, the Australian government has instead “ignored” and “kicked [climate change] down the road”. The presence of “for far too long” implies that it is not only the current government that is to blame, but successive governments. Tweet 8 goes on to provide reasoning as to why this continues to occur, that inaction on climate change is due to the government appeasing the “mining/coal industry”. The Tweet concludes with the blunt capitalisation of “wrong”. The capitalisation serves two purposes – it suggests force, and also has a moral implication. It implies a breach of moral and ethical conduct that is criminal in nature, and it is the government’s negligence along with their relationship with the “mining/coal” industry where the breach occurs. This emphasises the extreme nature of the government’s inaction, taking the issue away from one of ideology or difference of political positions, to one that should be understood in the context of criminal behaviour.

#### Tweet 9

#DearYourMajesty We, the people of Australia, need your help into sacking this Prime Minister and the entire Liberal Government for their criminal negligence on Climate Change. @ScottMorrisonMP #AustraliaOnFire #australiafire #NotMyPrimeMinister #berejiklianbushfires <https://t.co/n1sAflyV8p>

In Tweet 9, the Queen is called upon to intervene and remove Morrison and his party from government. A consensus warrant (Potter, 1996) is employed as the user speaks on behalf of “we, the people of Australia”. The poster is appealing to the Queen’s perceived power to take power away from the present government at the request of the Australian people. This highlights the extreme and criminal nature of the government’s action, which consequently requires extreme consequences. This extreme and criminal nature is emphasised through the act of requesting the Queen’s “help”, an extreme act in itself, one which is befitting of the extreme nature of the negligence. Of particular interest, is the hashtag “#NotMyPrimeMinister”. This hashtag allows the poster to distance themselves from the

current government and consequently their policy decisions and stance on climate change. This helps assert that the government's views are not representative of the wider public and adds support to the sacking claims.

### Tweet 10

In business any CEO would be out the door! But were expected to swallow the bull these #LNPClimateCriminals produce? They play acted to support their rejection of #ClimateChange & they have cost the lives of #RealAustralians Even you #babyboomers must reject #ScuMo now #auspol

Tweet 10 makes a comparison to the corporate world by claiming that CEOs of businesses are held to a higher standard than the Prime Minister. Had a CEO acted as poorly as Morrison throughout a crisis, they would have unquestionably been “out the door”. Yet, when it comes to the leader of the country, the public are “expected to swallow the bull” the government (“climate criminals”) produce. This suggests that the public have no power to remove their leaders and are beholden to their decisions. The poster makes explicit that it is the government's continued rejection of climate change that has cost the lives of “#RealAustralians”. It is the government that is to be held accountable, and it all stems from not just their inaction on climate change, but their outright refusal of climate change. Highlighting the loss of human lives further supports the claims of criminality by making the government responsible for human deaths. The use of “real” to describe the Australians tragically killed during Black Summer highlights the divide between politicians and the general public. Tweet 10 positions Morrison (“#ScuMo”) as indefensible, such that even those seen as his biggest supporters (“#babyboomers”) must surely reject him. The use of “ScuMo” is a deliberate attempt to deride Morrison through a wordplay on his nickname ‘ScoMo’ and ‘scum’. The final sentence is constructed in such a way that implies that

rejection of Morrison should be self-evident. It suggests that his behaviour is so morally reprehensible and destructive that no one could possibly support him now.

### **3.2.2 Media Accountability**

Of the Tweets directed to the media, the focus was on the media's role in providing accurate information to the Australian public. Coupled with this was the desire by the public to keep the spotlight on those they deemed should be held accountable for the bushfires and the lack of climate change policy preceding them. Hence, when the public observed reporting that opposed their representations of reality, they took to Twitter to voice these concerns publicly. Central to this, was the perceived disinformation being spread by Rupert Murdoch's News Corp. Murdoch and/or News Corp were often explicitly singled out, with the discourse focusing on the vested interests and possible corruption present.

#### Tweet 11

Media participate in disinformation when they do not question the climate change deniers and vested interests who see more \$ in maintaining status quo <https://t.co/FAwqo4Z0rY>

#AustraliaBushfiresDisaster #AustraliaBurns #BushFireCrisisAustralia

Tweet 11 was written in response to an article discussing Murdoch's influence on the media landscape during Black Summer (Cave, 2020). The article highlights the disinformation occurring within the Murdoch media empire in regard to diverting blame away from the current government and towards "greenies" and arsonists. This would be disinformation in the literal sense, implying Murdoch is purposefully deceiving the Australian public. The poster of Tweet 11 suggests that disinformation is broader than that, and also encompasses the avoidance of calling out misinformation. It is therefore the role of the media to not only report the truth, but to also question and condemn falsities. The chief propagators of climate change denial and those the media should be calling out, the user

continues, are those with vested interests profiting from the continuation of the status quo. As shown in Tweet 12 below, for some, Murdoch is the embodiment of these climate change deniers.

### Tweet 12

Would it not be in the interest of the murdoch mining industry to steer information away from climate change, fire damage and pollution, politicians deliberately not representing people in their electorates and suppressing tax evasion? #bushfiresAustralia #bushfires @GuardianAus

Supporting the claims made in Tweet 11, Tweet 12 provides justification for why media disinformation on climate change and bushfire reporting is occurring. The Tweet is structured as a rhetorical question to emphasise the factuality of the claim. The user describes Murdoch and his media empire as the “Murdoch mining industry”, implying his vested interests are so great that they cannot be separated from his role in the media, that they are a single entity. It is treated as obvious that the reporting at the time uncoincidentally benefited Murdoch’s supposed pro-mining agenda. Murdoch himself is being held directly responsible for the reporting done by his staff, suggesting that his personal agenda permeates throughout all facets of News Corp. Tweet 12 ultimately asserts that Murdoch has complete control over the content published by his media outlets. This concept is contrasted by Tweet 13 below, which attempts to hold individual journalists accountable for their reporting.

### Tweet 13

Those spreading the disinformation are just as guilty as those corrupt politicians resisting action on climate change. Every journo needs to consider how history will remember them. #auspol #bushfires #burnNewsCorp #AustraliaFires #AustraliaBurning <https://t.co/3It1Gwz7MT>

Tweet 13 asserts that those within the media spreading disinformation are to be held equally accountable as the “corrupt politicians” resisting climate change action. This notion

of “guilt” echoes the criminal sentiment of earlier Tweets. Equating them to “corrupt politicians” implies that it is corruption that is behind Australia’s lack of appropriate policy and the media’s inadequate reporting. Rather than solely hold Murdoch accountable, this Tweet highlights the responsibility of all journalists to not wilfully deceive the public. Imploring them all to “consider how history will remember them” invokes the idea that change will inevitably occur, and those who historically resisted that change will be remembered poorly. It also suggests that in the aftermath of Black Summer, the public will remember the actions of the media and specific journalists and continue to hold them accountable. Tweet 13 also links to the same article as Tweet 11, and the hashtag “#burnNewsCorp” indicates the poster’s agreement with the content of the article. This suggests that the entirety of News Corp is guilty of spreading disinformation. It also highlights the extreme nature of the disinformation that the poster is suggesting has occurred, that such an extreme response in burning News Corp is deemed appropriate.

### **3.2.3 Individual Accountability**

The final sphere in which blame and accountability were directed was the Australian voting public. The Tweets presented below highlight the responsibility of individual Australians to firstly accept the reality of climate change and call out those who oppose it, and secondly, to elect a government whose views align with this reality. Whereas the preceding Tweets had a focus on the perceived failings of the incumbent government, the following Tweets focus on the failings of the public in delivering said government.

#### Tweet 14

@LofayPeter @ted\_tedtaylor3 @ItaButtrose Here’s the problem Peter. People denying climate change encourage weak politicians to support them to gain their votes. In the end climate change

deniers deliver governments who make the problem worse. In time as more people realize this people will vilify them. Like I did.

Tweet 14 asserts that accountability lies with the Australian public who are responsible for delivering governments. It states that climate change inaction stems from the deniers in the public, and the policy decisions made by politicians merely mirror public sentiment. These politicians are described as “weak” by the poster, implying that they are changing their beliefs in order to win public approval. This construction of certain politicians as “weak” positions them as less powerful than the voting public. Hence, rather than focus on these “weak” politicians and hold them responsible, the poster goes on to direct blame toward the climate change deniers who precede them. It is these deniers in the public who are the cause of the problem, and it is them whom others have to “vilify”. Recent polling shows that climate change deniers are in the minority (The Australia Institute, 2019) and this has historically always been the case (Capstick et al., 2015). Yet, this Tweet asserts that it is individual deniers, and not politicians or larger social forces, that are to blame. Furthermore, the poster offers a solution whereby more people “realize” this dysfunctional dynamic between politicians and climate change deniers, and “vilify” the deniers. This constructs the problem and solution as resting solely in the behaviour of individual citizens. Tweet 14 demonstrates a feature in the discourse in which individuals are prioritised over politicians, the media, and social forces more generally, as the focus of accountability and potential solutions.

#### Tweet 15

@TomSteyer Hey Tom mate, we own our own Australian failures to respond to climate change. Voting's compulsory here so there's no excuse. It's up to us as individuals to demand accountability from our leaders. Thanks for thinking of us down here.



Whereas Tweet 14 implied that individual people are responsible for climate change inaction, Tweet 15 is more focused on the Australian collective. The poster highlights the need for Australia to “own” its climate change “failures”. This Tweet invokes democracy as playing a central role, particularly with compulsory voting in Australia. It states that “there’s no excuse” in a democracy where everyone votes. This implies that firstly, democracy works, and secondly, that all Australian adults must be held accountable as they all must vote. Hence, the only explanation is that they have been voting incorrectly. The poster reinforces the idea that it is the voting public who are responsible, thus positioning politicians as beholden to the views of the public, as opposed to the mining industry as mentioned earlier or other vested interests. Tweet 15 goes on to assert that individuals are responsible for demanding accountability from their leaders, implying that in the spirit of democracy, the leaders will listen. The use of words like “our” and “us” highlights the social identity of the user, who is speaking as an Australian rather than as an individual. While this Tweet appeals more to the Australian voting collective, “it’s up to us as individuals” suggests that it is individuals within that collective that are responsible for demanding accountability. Like Tweet 14, this serves to take responsibility away from politicians or “leaders” and place it solely within the domain of the voting public.

### Tweet 16

This was the paradox of the election. Even though the LNP went the scare campaign route (franking credits, boats, etc), it was the ALP and Greens presenting a scarier reality. That climate change is real. As a nation we decided that was too much to face, so we went on pretending.

Tweet 16 focuses on the pre-federal election campaigning done by the major political parties – the Coalition (LNP), Labor (ALP), and Greens. The user highlights the contrast in tactics, the “paradox of the election”, with the Coalition apparently employing a “scare campaign” to dissuade the public from voting for the other two parties. On the other hand,

Labor and the Greens publicly accepted the harsh reality of climate change through their proposed action to mitigate it. This, claims the poster, presented a “scarier reality” for Australians. By voting for Labor or the Greens, the public would have to accept this reality. This constructs the voting public as acting deliberately to prevent climate change policy, directly analogous to how the government were constructed through claims of deliberate inaction. Therefore, the public are positioned as being active participants in Australia’s lack of political action on climate change. Tweet 16 identifies two groups to be held accountable – the Coalition for their poor approach to climate change, and more importantly, the Australian public for electing them on the basis of this well publicised approach.

## Chapter 4: Conclusion

This study examined the public discourse on climate change prior to and during the Black Summer bushfire crisis of 2019-20. The data corpus consisted of Tweets collected from August 25<sup>th</sup>-31<sup>st</sup> 2019 and January 5<sup>th</sup>-11<sup>th</sup> 2020. The analysis primarily explored the ways in which Black Summer affected the public discourse, with a focus on how the notions of blame and accountability arose and were managed. In doing so, the specific rhetorical strategies employed by members of the public were examined, with specific reference to how they constructed their versions of reality as accurate accounts of why the bushfires occurred.

The initial framework analysis compared the discursive frames present across the two time periods. This revealed a sharp increase in *political* and *media and ideology* frames during Black Summer. Central to this increase were themes of blame and accountability. During Black Summer, the public discourse was centred around these themes which were barely present in August. In particular, blame and accountability were directed towards government, the media, and the Australian public.

Pervasive across all of these spheres was the singling out, and naming of, prominent individuals. Given such complex and nuanced topics as climate change policy and a bushfire crisis, sections of the public still maintained a critical focus on the actions of individuals. This occurred most commonly with Prime Minister Scott Morrison. Morrison was positioned as incompetent (Tweet 1), a liar (Tweet 3), and guilty of “lip service” and “obfuscation” (Tweet 2). These served to establish Morrison’s questionable character, thus highlighting that any shortcomings in his approach to climate change are not just political errors, but symptomatic of him as a person. Hence when he was subsequently held accountable for not just Black Summer, but for climate change more generally, these accusations held more weight. The other notable figure mentioned was Rupert Murdoch. Murdoch and his News Corp were

explicitly highlighted as being responsible for spreading disinformation and contributing to a media landscape whereby attention is diverted away from climate change. Central to these claims were notions of corruption and vested interests of the so-called “Murdoch mining industry” (Tweet 12). This highlighted the need for not just journalists to be held accountable, but for Murdoch specifically for his perceived role in controlling media narratives. Even within the domain of the Australian public, it was individual responsibility that was continually highlighted. The notion that “it’s up to us as individuals” (Tweet 15), places accountability for political inaction squarely on the shoulders of all individuals within the Australian voting public.

These themes of blame and accountability were maximised in conjunction with the notion of criminality. The government’s continued lack of action on climate change was positioned as not just incompetence, but as criminal behaviour. The term “criminal negligence” (Tweets 8 & 9) was used often to describe the government’s climate change approach. These extreme case formulations highlight the extreme nature of the perceived negligence. All of this suggests that the government should not just be held accountable in a political sense, but in a criminal sense also – that they are somehow criminally responsible for their negligence.

The finding that the public discourse following a catastrophic bushfire season was heavily centred around themes of blame and accountability corroborates prior research. While not having a specific focus on climate change, the Whittaker and Mercer (2004) discourse analysis following the Victorian bushfires of 2002-03 found the discourse to be dominated by notions of blame, particularly towards political spheres. This is mirrored by the present study, which found the politicisation of climate change to often be discussed in terms of government responsibility and failed leadership.

The public also managed discursive repertoires revolving around conservative political ideology. This was particularly focused on the ideology of the incumbent government, the Liberal-National Coalition, with it seemingly being at odds with appropriate climate change policy. The entire party were positioned as “anthropogenic climate change deniers” (Tweet 6), as ideology was highlighted to make sense of the government’s lack of climate change action. These links between conservative ideology and climate change denial have been well documented in the literature (see: McCright & Dunlap, 2011; Oreskes & Conway, 2010). These, however, are instances of academics perceptive to this relationship. Notably, this study highlights that the public also reference this relationship, and regularly cite ideology as a contributing influence on government policy, media reporting, and individual actions.

Limitations to this study include limitations inherent to Twitter data. While O’Connor et al. (2010) found a great deal of overlap between the content of Tweets and public sentiment measured via polling, inferring attitudes and beliefs of an underlying population can be problematic as user bases are often not representative of that population (Kirilenko & Stepchenkova, 2014; Ruths & Pfeffer, 2014). This is evidenced through studies that suggest that Twitter is an active site of contestation over climate change, with a higher ratio of deniers found on Twitter than traditional polling methods indicate (Fownes et al., 2018). Furthermore, the study was limited by the deductive approach taken to the framework analysis. While the framework analysis was adapted from two established studies, had the scope of the present study allowed for an inductive approach, perhaps more nuanced differences within the discourse would have been observed.

This study examined a previously underexplored area of public discourse – how the public make sense of climate change in the wake of an extreme weather event. This area is still heavily understudied, and Twitter presents as an invaluable resource for wide-scale

discourse analysis of non-elite actors. The sheer size of the data corpus coupled with the relatively small number of Tweets analysed in this study, means there is significant scope to revisit the data and conduct a total analysis.

The literature is well established that the public show an increase in concern for climate change following extreme weather events, and this was mirrored through the initial framework analysis. The subsequent discourse analysis was able to explicate how and why this tends to occur, with novel findings suggesting blame and accountability are central components. The public overwhelmingly highlighted the role of individuals in exacerbating climate change and consequently Black Summer, and whether that be Scott Morrison, Rupert Murdoch, or individuals within the Australian public, all were held accountable.

## References

- Alcorn, G. (2020). Coalition was hesitant to take action on climate change 20 years ago too, cabinet papers show. *The Guardian*. <https://www.theguardian.com/australia-news/2020/jan/01/coalition-was-hesitant-to-take-action-on-climate-change-20-years-ago-too-cabinet-papers-show>.
- Augoustinos, M., Walker, I., & Donaghue, N. (2014). *Social cognition: An integrated introduction* (3<sup>rd</sup> Ed.). Sage.
- The Australia Institute. (2019). *Climate of the nation 2019*. <https://www.tai.org.au/content/climate-nation-2019>.
- The Australia Institute. (2020). *Polling – Bushfire crisis and concern about climate change*. <https://www.tai.org.au/content/concern-about-climate-escalates-bushfire-crisis-continues-climate-nation-polling>.
- Berelson, B. (1952). *Content analysis in communicative research*. Free Press.
- Billig, M. (1996). *Arguing and thinking: A rhetorical approach to social psychology* (2<sup>nd</sup> Ed.). Cambridge University Press.
- Broomell, S. B., Budescu, D. V., & Por, H-H. (2015). Personal experience with climate change predicts intentions to act. *Global Environmental Change*, 32, 67-73.
- Brüggemann, M., & Engesser, S. (2014). Between consensus and denial: Climate journalists as interpretive community. *Science Communication*, 36(4), 399-427.
- Bureau of Meteorology (2020). *Annual climate statement 2019*. <http://www.bom.gov.au/climate/current/annual/aus/>.

- Burgess, T., Burgmann, J. R., Hall, S., Holmes, D., & Turner, E. (2020). *Black Summer: Australian newspaper reporting on the nation's worst bushfire season*. Monash Climate Change Communication Research Hub.
- Bushfire and Natural Hazards CRC (2019). Australian Seasonal Bushfire Outlook: August 2019. *BNHCRC Hazard Note*, 63, 1-4.
- Cain, T. N. (2019). Scott Morrison's challenge at Pacific Islands Forum in Tuvalu is to deliver on climate change. *ABC News*. Retrieved from <https://www.abc.net.au/news/2019-08-15/scott-morrison-pacific-islands-forum-climate-change-challenge/11415832>.
- Capstick, S. B., & Pidgeon, N. F. (2014). Public perception of cold weather events as evidence for and against climate change. *Climate Change*, 122, 695-708.
- Capstick, S., Whitmarsh, L., Poortinga, W., Pidgeon, N., & Upham, P. (2015). International trends in public perceptions of climate change over the past quarter century. *WIREs Climate Change*, 6(1), 35-61.
- Cave, D. (2020). How Rupert Murdoch is influencing Australia's bushfire debate. *The New York Times*. <https://www.nytimes.com/2020/01/08/world/australia/fires-murdoch-disinformation.html>.
- Demski, C., Capstick, S., Pidgeon, N., Sposato, R. G., & Spence, A. (2017). Experience of extreme weather affects climate change mitigation and adaptation responses. *Climate Change*, 140, 149-164.
- Doran, M. (2020). Prime Minister Scott Morrison argues for 'comprehensive' inquiry into bushfire crisis. *ABC News*. <https://www.abc.net.au/news/2020-01-09/morrison-argues-for-wide-ranging-inquiry-into-bushfire-crisis/11856180>.



- Edwards, D., & Potter, J. (2001). Discursive psychology: Introduction. In A. W. McHoul & M. Rapley (Eds.). *Talk in institutional settings*. Continuum International.
- Egan, P. J., & Mullin, M. (2012). Turning personal experience into political attitudes: The effect of local weather on Americans' perceptions about global warming. *The Journal of Politics*, 74(3), 796-809.
- Emergency Leaders for Climate Action. (2019). *Australia Unprepared for Worsening Extreme Weather*. <https://www.climatecouncil.org.au/emergency-leaders-climate-action/>.
- Fownes, J. R., Yu, C., & Margolin, D. B. (2018). Twitter and climate change. *Sociology Compass*, 12(6), e12587.
- Hamed, A., Ayer, A., Clark, E., Irons, E., Taylor, G., & Zia, A. (2015). Measuring climate change on Twitter using Google's algorithm: Perception and events. *International Journal of Web Information Systems*, 11(4), 527-544.
- Hanson-Easey, S., Williams, S., Hansen, A., Fogarty, K., & Bi, P. (2015). Speaking of climate change: A discursive analysis of lay understandings. *Science Communication*, 37(2), 217-239.
- Hausfather, Z. (2020). State of the climate: How the world warmed in 2019. *Carbon Brief*. <https://www.carbonbrief.org/state-of-the-climate-how-the-world-warmed-in-2019>.
- Hope, P., Black, M. T., Lim, E-P., Dowdy, A., Wang, G., Pepler, A. S., & Fawcett, R. J. B. (2019). On determining the impact of increasing CO<sub>2</sub> on the record fire weather in eastern Australia in February 2017. In S.C. Herring, N. Christidis, A. Hoell, M.P. Hoerling & P.A. Stott (Eds.), Explaining extreme events of 2017 from a climate perspective. *Bull. Amer. Meteor. Soc.*, 100(1), S111-S117.

- Jang, M., & Hart, S. (2015). Polarised frames on “climate change” and “global warming” across countries and states: Evidence from Twitter big data. *Global Environmental Change, 32*, 11-17.
- Janković, V., & Schultz, D. M. (2017). Atmosfear: Communicating the effects of climate change on extreme weather. *Weather, Climate, and Society, 9*(1), 27-37.
- Jaspal, R., Nerlich, B., & Koteyko, N. (2012). Contesting science by appealing to its norms: Readers discuss climate science in the *Daily Mail*. *Science Communication, 35*(3), 383-410.
- Jaspal, R., & Nerlich, B. (2014). When climate science became climate politics: British media representations of climate change in 1988. *Public Understanding of Science, 23*(2), 122-141.
- Jefferson, G. (1990). List construction as a task and resource. In G. Psathas (Ed.), *Interaction Competence*. University Press of America.
- Kearney, M. W. (2019). Rtweet: Collecting Twitter Data. R package version 0.6.9.  
<https://cran.r-project.org/package=rtweet>.
- Kemp, S. (2019). Digital in 2019: Australia Report. *We are Social, Hootsuite*.  
<https://wearesocial.com/au/digital-2019-australia>.
- Kirchmeier-Young, M. C., Gillett, N. P., Zwiers, F. W., Cannon, A. J., & Anslow, F. S. (2019). Attribution of the influence of human-induced climate change on an extreme fire season. *Earth's Future, 7*, 2-10.
- Kirilenko, A. P., & Stepchenkova, S. O. (2014). Public microblogging on climate change: One year of Twitter worldwide. *Global Environment Change, 26*, 171-182.

- Kirilenko, A. P., Molodtsova, T., & Stepchenkova, S. O. (2015). People as sensors: Mass media and local temperature influence climate change discussion on Twitter. *Global Environment Change, 30*, 92-100.
- Konisky, D. M., Hughes, L., & Kaylor, C. H. (2016). Extreme weather events and climate change concern. *Climate Change, 134*, 533-547.
- Kurz, T., Augoustinos, M., & Crabb, S. (2010). Contesting the 'national interest' and maintaining 'our lifestyle': A discursive analysis of political rhetoric around climate change. *British Journal of Social Psychology, 49*(3), 601-625.
- Leech, N. L., & Onwuegbuzie, A. J. (2008). Qualitative data analysis: A compendium of techniques and a framework for selection for school psychology research and beyond. *School Psychology Quarterly, 23*(4), 587-604.
- Lewis, S. C., Blake, S. A. P., Trewin, B., Black, M. T., Dowdy, A. J., Perkins-Kirkpatrick, S. E., King, A. D., & Sharples, J. (2020). Deconstructing factors contributing to the 2018 fire weather in Queensland, Australia. In S.C. Herring, N. Christidis, A. Hoell, M.P. Hoerling & P.A. Stott (Eds.), Explaining extreme events of 2018 from a climate perspective. *Bull. Amer. Meteor. Soc., 101*(1), S115-S121.
- McCright, A. M., & Dunlap, R. E. (2011). Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environmental Change, 21*(4), 1163-1172.
- Murphy, K. (2017). Scott Morrison brings coal to question time: What fresh idiocy is this? *The Guardian*. <https://www.theguardian.com/australia-news/2017/feb/09/scott-morrison-brings-coal-to-question-time-what-fresh-idiocy-is-this>.

- Murphy, K., & Martin, S. (2019). Scott Morrison credits ‘quiet Australians’ for ‘miracle’ election victory. *The Guardian*. <https://www.theguardian.com/australia-news/2019/may/19/scott-morrison-credits-the-quiet-australians-for-miracle-election-victory>.
- NSW Department of Planning, Industry and Environment (2020). *Understanding the effects of the 2019-20 fires*. <https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/fire/park-recovery-and-rehabilitation/recovering-from-2019-20-fires/understanding-the-impact-of-the-2019-20-fires>.
- O’Connor, B., Balasubramanyan, R., Routledge, B. R., & Smith, N. A. (2010). From tweets to polls: Linking text sentiment to public opinion time series. *Tepper School of Business*. Paper 559.
- O’Neill, S., Williams, H. T. P., Kurz, T., Wiersma, B., & Boykoff, M. (2015). Dominant frames in legacy and social media coverage of the IPCC Fifth Assessment Report. *Nature Climate Change*, 5, 380-385.
- Oreskes, N., & Conway, E. M. (2010). *Merchants of Doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to climate change*. Bloomsbury Publishing.
- Painter, J., Osaka, S., Ettinger, J., & Walton, P. (2020). Blaming climate change? How Indian mainstream media covered two extreme weather events in 2015. *Global Environmental Change*, 63, 1-10.
- Pandey, S. (2020). Australia softens climate change rhetoric as bushfires, and voters, rage. *Reuters*. <https://www.reuters.com/article/us-australia-bushfires-politics/australia-softens-climate-change-rhetoric-as-bushfires-and-voters-rage-idUSKBN1ZE0GK>.

- Pearce, W., Niederer, S., Ozkula, S. M., & Querubin, N. S. (2018). The social media life of climate change: Platforms, publics, and future imaginaries. *WIREs Climate Change*, *10*(2), e569.
- Potter, J. (1996). *Representing reality: Discourse, rhetoric and social construction*. Sage.
- Potter, J., & Wetherell, M. (1987). *Discourse and social psychology: Beyond attitudes and behaviour*. Sage.
- Raymond, C. M., & Brown, G. (2010). Assessing spatial associations between perceptions of landscape value and climate change risk for use in climate change planning. *Climatic Change*, *104*, 653-678.
- Remeikis, A. (2020). Canberra chokes in world's worst air quality as city all but shut down. *The Guardian*. <https://www.theguardian.com/australia-news/2020/jan/03/canberra-chokes-on-worlds-worst-air-quality-as-city-all-but-shut-down>.
- Richards, L., Brew, N., & Smith, L. (2020). *2019-20 Australian bushfires – frequently asked questions: A quick guide*. Parliament of Australia.
- Roxburgh, N., Guan, D., Shin, K. J., Rand, W., Managi, S., Lovelace, R., & Meng, J. (2019). Characterising climate change discourse on social media during extreme weather events. *Global Environmental Change*, *54*, 50-60.
- Ruths, D., & Pfeffer, J. (2014). Social media for large studies of behaviour. *Science*, *346*(6213), 1063-1064.
- Schuldt, J. P., Konrath, S. H., & Schwarz, N. (2011). “Global warming” or “climate change”? Whether the planet is warming depends on question wording. *Public Opinion Quarterly*, *75*(1), 115-124.
- Shine, J. (2020). *Statement regarding Australian bushfires*. Australian Academy of Science.

- Sippel, S., Walton, P., & Otto, F. E. L. (2015). Stakeholder perspectives on the attribution of extreme weather events: An explorative enquiry. *Weather, Climate, and Society*, 7(3), 224-237.
- Sisco, M., Bosetti, V., & Weber, E. U. (2017). When do extreme weather events generate attention to climate change? *Climatic Change*, 143(1-2), 227-241.
- Spence, A., Poortinga, W., Butler, C., & Pidgeon, N. F. (2011). Perceptions of climate change and willingness to save energy related to flood experience. *Nature Climate Change*, 1, 46-49.
- Stone, B. (2009). What's Happening? [Blog post].  
[https://blog.twitter.com/en\\_us/a/2009/whats-happening.html](https://blog.twitter.com/en_us/a/2009/whats-happening.html).
- Sysomos. (2019). *Inside Twitter: An in-depth look inside the Twitter world*.  
<https://sysomos.com/inside-twitter/>.
- Taylor, K. (2019). *Update README.md*.  
<https://github.com/kevintaylor/rtweet/commit/a0f758b447ca9aef6843954462917412c7dd5194>.
- Taylor, A., Bruine de Bruin, W., & Dessai, S. (2014a). Climate change beliefs and perceptions of weather-related changes in the United Kingdom. *Risk Analysis*, 34(11), 1995-2004.
- Taylor, A. L., Dessai, S., & Bruine de Bruin, W. (2014b). Public perception of climate risk and adaptation in the UK: A review of the literature. *Climate Risk Management*, 4(5), 1-16.
- van Dijk, T. A. (2001). Critical discourse analysis. In D. Tannen, D. Schiffrin, & H. Hamilton (Eds.), *Handbook of Discourse Analysis*. Blackwell.

Weber, E. U. (2015). What shapes perceptions of climate change? New research since 2010.

*WIREs Climate Change*, 7(1), 125-134.

Wetherell, M. (1998). Positioning and interpretive repertoires: Conversation analysis and

post-structuralism in dialogue. *Discourse & Society*, 9(3), 387-412.

Whitmarsh, L. (2009). What's in a name? Commonalities and differences in public

understanding of "climate change" and "global warming". *Public Understanding of*

*Science*, 18(4), 401-420.

Whittaker, J., & Mercer, D. (2004). The Victorian bushfires of 2002-03 and the politics of

blame: A discourse analysis. *Australian Geographer*, 35(3), 259-287.