

“YOU NIBBLE AWAY AT THE EDGES”: A QUALITATIVE ANALYSIS OF CLIMATE JOURNALISM PRACTICE IN AOTEAROA NEW ZEALAND

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Abstract

Anthropogenic climate change is a wicked problem and the nature of the climate discourse propagated through media outlets is one key component in shaping how the public understand and act upon its causes and ramifications. This study draws on journalism practice theory and related approaches to analyse semi-structured interviews from early 2020 with 10 journalists who consistently cover climate change in Aotearoa New Zealand. It describes and contextualises CJ practice in relation to the negotiation of journalistic responsibilities within media, climate and Covid-related arenas. The analysis finds that the journalists seek to provide accurate, contextualised, holistic stories, to aim for fair and diversified representation, to ensure fresh and regular coverage, maintain an emotional awareness, make coverage interesting and relevant without sacrificing the above principles, and be responsive to audience needs and feedback. Discursive challenges include representing—and visualising--the perspectives of frontline communities without stereotyping, explaining the science in fresh ways, and regularly communicating the vast and overwhelming nature of climate change. The analysis situates CJ within a journalistic space to elucidate the relationships between the symbolic capital and material resources at the journalists' disposal, and those present within CJ when understood nationally. National trends show numbers of reporters, editorial legitimacy of CJ and science communication expertise increasing, but the landscape is highly variable between organisations, with a few individuals driving much of the change. Areas of friction between climate reporting and media logic reveal a high degree of similarity with findings from other Anglo-Saxon countries. Climate connections are not consistently integrated within general journalism despite climate change being considered increasingly newsworthy and unavoidable. The early months of the Covid-19 pandemic highlighted the financial precarity of both the journalism industry and the journalists' daily routines and held CJ issue attention implications.

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Purpose: **To understand how the habitus of climate journalism practice in New Zealand:**
a) can be described and contextualized, and
b) can be oriented in relation to comparable scholarship and situated within an emerging CJ space?

Theory: The study uses journalism practice as an overarching framework. It also draws on:

- Role orientations
- Media logic
- Journalistic spaces (AN EXTENSION OF Bourdieusian field theory)

Method: Qualitative, inductive data analysis based on grounded constructivist theory and Semi-structured interviews with 10 climate journalists working in NZ

Result:

- The journalists seek to provide accurate, contextualised, holistic stories, to aim for fair and diversified representation, to ensure regular and fresh coverage, maintain an emotional awareness, make coverage interesting and relevant without sacrificing the above principles, and be responsive to audience needs and feedback.
- Discursive challenges include representing—and visualising--the perspectives of frontline communities without stereotyping, explaining the science in fresh ways, and regularly communicating the complex and overwhelming nature of climate change.
- Situating CJ within a symbolic and material journalistic space, numbers of reporters, editorial legitimacy of CJ and science communication expertise are increasing nationally, despite inconsistency between organisations, where most change is driven by a few individuals.
- Climate connections are not consistently integrated within general journalism despite climate change being considered increasingly newsworthy and unavoidable, showing friction with the media logic of rounds or beats.
- The Covid-19 pandemic brought material precarity and issue attention dynamics into focus.

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Terminology and Organisations

Notes on Terminology

I follow a recent CJ production literature review in defining the journalism profession as a practice that “gathers, evaluates, selects, and presents news and information, generates original content guided by journalistic criteria, and/or following editorial principles and distributes them via technical media to a (potentially) wide range of general and specialist audiences” (Schäfer & Painter, 2021, section 1.2). Climate journalism (CJ) can then be classified as journalism concerned with climate change impacts, causes, mitigation and adaptation (ibid.), although in practice, I am guided by how the climate journalists I interview characterise the field.

Aotearoa New Zealand’s Parliament declared a climate emergency in 2020. Such declarations align with overwhelming scientific evidence (IPCC, 2018). Equally, indigenous knowledge highlights the importance of climate action discussions being grounded in holistic, long-term climate justice frameworks, including validating indigenous knowledge as evidence in its own right (e.g. Kawharu, 2010; Totua, 2020; Hikuroa, 2020). In this thesis, I choose to refer to climate journalism solely to clarify that the subject under discussion is the broad sweep of climate-related journalism, regardless of its explicit references or lack thereof to climate emergency, climate crisis, climate justice or other framings. For convenience, I refer to the interviewees as “climate journalists”, even if this is not in fact their role title, as explained in the [Methods](#) section. As is standard in NZ, I refer to a subject-based, usually specialised area of reporting as a round, equivalent to a beat in American English (Ingram, 2008).

A list of abbreviations follows. Given the NZ-specific nature of this study and the importance of organisational context, I then provide some key information on the media organisations mentioned, followed by a glossary of the Māori terms used.

Alphabetical list of abbreviations

ANT: actor-network theory

CCN: Covering Climate Now

CJ: climate journalism

NZ: Aotearoa New Zealand

NZ Geo: New Zealand Geographic

List of NZ Media Organisations

An alphabetical index of the news organisations mentioned in this thesis.

Carbon News

Carbon News is a specialised online daily climate news service. It is independently, editor-owned and operated. It is subscription-based and aimed primarily at a business and industry audience (About Carbon News, n.d.).

The Conversation

The Conversation is an online news site publishing commentary and analysis by academic experts including for free distribution under a Creative Commons licence. It operates across various countries including NZ (About The Conversation, n.d.).

Newshub

Newshub is a daily news digital, radio and TV news brand of Discovery Inc (Newshub, Wikipedia, n.d.).

Newsroom

Newsroom is an editor-owned in-depth news website founded in 2017 (Murphy & Jennings, 2019).

New Zealand Geographic

New Zealand Geographic (*abbreviated to NZ Geo*) is a bimonthly magazine with in-depth photographed stories on NZ culture, nature and scientific research. It is independently, publisher-owned by Kowhai Media Ltd. It employs a publisher and editor and commissions freelance contributions (About NZ Geo, n.d.).

NZ Herald

The NZ Herald is NZ's largest circulation daily newspaper, delivered throughout Auckland and elsewhere in the North Island, and also an online news site. It is a brand of NZME, a publicly-owned company listed on the NZ and Australian stock markets which also operates a large tranche of NZ's commercial radio (Newstalk ZB). Some of the NZ Herald's content is subscription based (New Zealand Media and Entertainment, Wikipedia, n.d.).

RNZ

Radio New Zealand (RNZ) is New Zealand's Government-funded public broadcaster, whose obligations are governed by a Charter. It operates primarily in radio and also maintains an online presence. RNZ Pacific is a division of RNZ which broadcasts to the Pacific Islands (About RNZ, n.d.).

The Spinoff

The Spinoff is a magazine-style news site focusing on current affairs analysis, and also includes a content agency. It is independently publisher/worker-owned and was founded in 2014 (The Spinoff, n.d.).

Stuff

Stuff is one of New Zealand's two largest digital and print news publishers, along with the NZ Herald. It owns numerous print newspapers and magazines and an online news site. It employs 900 staff (400 journalists). As of May 2020 (during the interview period for this research), it is independently-owned by its CEO, prior to which merger discussions with its main rival NZME had been ongoing (Myllylahti & Hope, 2020).

TVNZ

TVNZ is NZ's largest television broadcaster and digital TV service. It is state-owned but commercially funded (About TVNZ, n.d.).

Glossary of Māori Terms

Definitions reference the Māori Dictionary except where otherwise noted.

Iwi (plural same): a Māori tribe or people. Iwi are made up of hapū, kinship groups who share ancestry and are from the same land area (Taonui, 2005).

Kaitiakitanga: relationships based on reciprocity and stewardship between people, and toward the land and environment (Kawharu, 2010).

Marae and **urupā:** a Marae is a place where tangata whenua, (Māori) people of the land, have sovereignty. It is “the focal point where values of stewardship and management in relation to the environment and to people are grounded” (Kawharu, 2010, p. 221). The site typically includes a courtyard, meeting house and other buildings, as well as an ancestral burial ground or urupā.

Maramataka: the Māori lunar calendar based on star constellations, indicating the start of the new month and suitable times for fishing and planting.

Mātauranga Māori: “Māori knowledge — the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices”.

Pākehā: New Zealander or person living in NZ of European descent. Sometimes refers to white people more broadly (Ranford, n.d.).

Tikanga: Māori customs, protocol. “The customary system of values and practices that have developed over time and are deeply embedded in the social context”.

Waitangi Tribunal: “a standing commission of inquiry. It makes recommendations on claims brought by Māori relating to legislation, policies, actions or omissions of the Crown that are alleged to breach the promises made in the Treaty of Waitangi” (Waitangi Tribunal, 2020).

1 Introduction

Climate change is a classic “wicked problem” (Incropera, 2016; Rittel & Webber, 1973) due to its long-term, complex, morphing, often invisible, multi-pronged nature. The authoritative and consensus-based International Panel on Climate change has established that human-caused greenhouse gas emissions are driving unsustainable levels of global warming, accelerating sea level rise, glacial melting, ocean acidification and increasing the frequency and severity of extreme weather events (IPCC, 2018). The scope and severity of climate impacts on ecosystems, land use, energy use, and people cannot be overstated. Climate change compounds existing inequities and its impacts fall most heavily on those who have contributed least to the problem (Office of the High Commissioner for Human Rights, 2016). The magnitude of the problem can be paralysing (Stoknes, 2015). Governments, industries, institutions, communities and individuals grapple with its far-reaching implications while campaigning movements, often youth-led, mobilise to catalyse long-stagnating action at all levels of society (e.g. Fridays for Future, 2019).

Within this crowded landscape, the nature of the climate discourse propagated through media outlets continues to be one key component in shaping how the public understand and act upon climate change, even as other sources of information proliferate (Happer & Philo, 2015; Andi, 2020). Journalism, after all, exists to serve the public (Kovach & Rosenstiel, 2014) and has been described as “the sense-making practice of modernity” (Hartley, 1996, p. 33). In addition to understanding how the public respond to climate journalism (CJ), a large international body of research examines the factors shaping the production of climate news (reviewed by Schäfer & Painter, 2021), how that media content is framed, and attention to climate change compared to other subjects (the latter two areas reviewed by Painter & Schäfer, 2018). These areas of CJ production, content and reception are interconnected (Olausson & Berglez, 2014).

This thesis focuses on CJ in Aotearoa New Zealand (NZ). NZ is a high-income country of five million with strong geopolitical ties to the Antarctic and Pacific, very high agricultural emissions per capita, large indigenous communities and a middling record on climate action (World Bank, n.d.; Statistics New Zealand, 2020a; Ministry for the Environment, 2021; Climate change Performance Index, 2021). The country’s social, news and climate context is covered in detail in the next chapter. NZ has a small but growing body

of research on CJ, particularly from a content analysis perspective as reviewed by Salmon et al. (2017). Production-wise, Bourk et al. (2017), examining TV reporting, find that news is produced in line with the scientific consensus on climate but with a high tendency towards economic controversy framing, underpinned by a commercial ratings imperative. Science and climate journalist Jamie Morton (2020) has also written a commentary exploring the roles of CJ and the day-to-day challenges reporters face. My research adds to this nascent field through the qualitative analysis of in-depth, semi-structured interviews on CJ practice.

This study focuses on the perspectives of journalists who consistently cover climate change (climate journalists), as they are both practitioners of CJ and observers of the contextual factors (whether discursive, symbolic or material) that CJ operates within. Understanding a practice is complex, as it collectively evolves through both how it is carried out and talked about, and includes facets as diverse as ideas, experiences, routines, preferences and context (Schatzki, 2001; Witschge & Harbers, 2018). As such, interviews are one component which can further an understanding of a practice, which I draw on by conducting semi-structured interviews with 10 climate journalists working in NZ. The interview analysis helps to describe, contextualise and make sense of the country's CJ practice and lends itself to comparisons with international scholarship. **I group this non-exhaustive CJ exploration into three domains covering journalist responsibilities, media context, and climate and Covid social context, while orienting the findings in relation to existing research and situating their symbolic and material aspects within a journalistic space** as theorised by Örnebring et al. (2018).

The body of this thesis proceeds in six subsequent sections. First, I provide an overview of Aotearoa NZ's social, media and climate context. This is followed by a literature review of relevant CJ research in NZ and internationally. I then introduce the theoretical underpinnings I draw from in the thesis—broadly, journalism practice, role orientations and journalistic spaces—before describing my research question and analytical structure in depth. Next, I lay out the methods, including on the sample, data collection, coding and analysis. The findings are then presented and analysed. Finally, the discussion interprets the research in a wider context, exploring its contribution to the literature, limitations and areas for future investigation.

2 Aotearoa New Zealand

CJ production research is of considerable social relevance in arguably any country. I choose to study NZ's CJ landscape based on my familiarity with the country's social, political, journalistic and cultural context. This chapter briefly situates NZ's social, news media and climate landscapes in an international context.

2.1 Social Context

Aotearoa New Zealand (NZ) is a high-income colonised island nation in the South Pacific (World Bank, n.d.), whose indigenous people (Māori) and the Crown signed its founding treaty in 1840. As in other colonised nations, the effects and implications of colonialism and imperialism remain strong, including in the structure and practices of Government, and also in research practice (Tuhiwai-Smith, 2007). The government is elected democratically in a three-year cycle. From 2008-17, the centre-right National Party led the Government, while the centre-left Labour Party has held a majority of power since late 2017 (New Zealand Parliament, 2020).

While the country has an international reputation for being politically progressive, it also followed Chile, the UK and others in adopting neoliberal economic reforms in the 1980s (Larner, 1997; Marcetic, 2017). The effects of the shift towards deregulation and a weakened welfare system are still felt today, with the wealth gap being slightly above the developed country average (Rashbrook, 2020). The country of five million is highly multicultural with the most prevalent ethnicities as at 2018 to the nearest percent being European (70%), Māori (17%), Asian (15%) and Pacific Islander (8%) (Stats NZ, 2020a, 2020b).

2.2 News Media Landscape

2.2.1 Landscape and Funding

In NZ, media ownership is split between Government-owned, independent, private equity and share-holder arrangements (Te, 2021). Myllylahti and Hope (2020) provide an overview of NZ's media funding and models. Of the state-owned companies, RNZ, which primarily provides audio and increasingly digital content, is the country's only media provider with a public service mandate. Funding for the country's public service media is consistently the second lowest in the developed world per capita after the US (Bunce, 2019). Māori Television's purpose is to promote and protect Māori language and culture and there is no mandated public service role for Government-owned TVNZ. In 2020, NZ had more media outlets that were or became independently owned than at any point in the past decade (ibid),

and three of these were able to expand due to increased reader revenue. However, most of NZ's media remains under considerable economic pressure, losing advertising revenue to Google and Facebook, a situation exacerbated by the Covid-19 pandemic. Three major media companies were unable to pay dividends to their shareholders in 2019 (Myllylahti & Baker, 2019) and approximately 637 jobs were lost across the industry in 2020 (Myllylahti & Hope, 2020).

In addition to profit-making pressures of private equity ownership models, NZ has a small media market (smaller population means less income from citizens is likely) and is relatively isolated from other countries (Ireland for instance shares considerable content production costs with the UK) (Bunce, 2019). The proportion of social and political news coverage has dropped precipitously over the past two decades, and international news coverage, including in covering the Pacific Islands (Robie, 2014) is especially poorly resourced (Bunce, 2019).

2.2.2 Journalist and Newsroom Demographics

The journalist workforce approximately halved between 2006 and 2018 (Smellie, 2019). In line with international trends, nine in ten NZ journalists reported an increase in profit-making pressures over the past five years to 2016, and almost as many noted decreasing time available for stories (Hollings et al. 2016). However, levels of personal autonomy in story selection remained high, lower than those of US journalists and comparable to those in other English-speaking and Scandinavian countries (WJS Editorial autonomy, n.d.). As at 2016, three in five NZ journalists were generalists, a rate comparable to Sweden or Ireland, (WJS Journalists in the Newsroom, n.d.). The most common rounds in NZ were "economy/business" (16.0%) and sport (14.0%) (Hollings et al. 2016, p. 1). In contrast, the number of fulltime science reporters nationally ranged from one to three between 2011 and 2016 where others were parttime or occasional (Salmon et al. 2017). As of 2020, there are more science, environment and climate reporters than at any point in the past but no complete list exists (see Science Media Centre, n.d. for a partial list).

Although there is a Māori news industry which is strong in broadcasting, Māori are poorly represented in mainstream news, particularly in print journalism (Godfery 2018). At least two Māori journalists have publicly described a challenging environment including being perceived as less valuable by their employers (Forbes, cited in Bunce 2019, p. 55), and contending with relentless online trolls as a Māori woman (Lloyd in Matata-Sipu, 2020).

Māori, Pacific and Asian reporters are also very poorly represented in journalism education (Hannis, 2017).

2.2.3 Trust in Journalism

During the pandemic, an international survey (not including NZ) showed trust in news organisations to be higher than in news from social media, and a majority of respondents in all countries felt the media had helped them to understand what was happening and what action they should take (Nielsen et al. 2020). However, NZ journalists appear to face low levels of public trust around this time. A July 2020 survey showed just under a quarter of the public trusted journalists and politicians, while the vast majority trusted many groups of frontline workers (Research New Zealand, 2020). In contrast, an earlier survey, carried out during the first week of NZ's Covid-19 lockdown, found 53% of New Zealanders mainly trust the news, in contrast to ratings of 40%, 38% and 32% for the UK, Australia and the US respectively (Myllylahti & Treadwell, 2020).

2.3 Climate Change NZ Context

At the end of 2019, NZ's gross greenhouse gas (GHG) emissions stood at 26% higher than 1990 levels with agricultural (mainly methane) emissions, and the energy sector—especially transport-- being the primary contributors (MFE, 2021). Despite contributing to 0.17% of overall global emissions, NZ's 2017 output ranked as the sixth-highest rate of per capita GHG emissions among a group of 43 mostly industrialised countries thanks to its agricultural emissions (ibid). For nine years between 2008-17, NZ's centre-right government focused on “fast follower” climate change rhetoric, and policy progress languished during this period (Barrett et al. 2015; Hall, 2020). The Climate Change Performance Index, which ranks 57 countries and the EU which collectively account for over 90% of GHG emissions, considered NZ to be a medium-performing country for the first time in 2021 (CCPI, 2021). Previously, it had ranked as low-performing and the change was due to strong renewable energy use and pledges, including the phase-out of coal by 2030.

In terms of public perception, as summarised by Crawley (2021), surveys carried out between late 2017 and early 2019 in both NZ and Europe show that the vast majority of respondents see climate change as real, but also as less important than other priority issues like healthcare or poverty. Most New Zealanders consider climate change to be a distant threat in relation to their daily lives and are not personally taking action on it (1.5 Project, 2020). As is the case across the Anglo-Saxon countries (Smith & Mayer, 2019), New Zealanders are fairly polarised in their preferences for and against climate policy change

(McLachlan, 2020). In a survey of 55,000 Stuff readers, calls for urgent, radical action outstrip those opting for a cautious approach, but both of these orientations are more popular than retaining the status quo (ibid.). NZ also has an active campaigning base of climate action, climate justice, environmental, human rights and Iwi-led NGOs (New Zealand Climate Action Network, n.d.). The country's School Strike for Climate movement made international news (e.g. Reuters Staff, 2019) during the September 2019 strike actions for mobilising 3.5% of the country's entire population.

On current national and global emissions trajectories, NZ is vulnerable to climate impacts. Keeping with global trends, intensified warming, more sea-level rise, and an increase in frequency and severity of extreme weather events are projected for the country (MFE, 2020). NZ's first National Climate Change risk assessment points to 43 risks affecting coastal and indigenous ecosystems, social and community well-being, exacerbated inequities and financial losses, among others (ibid.). For Māori, who collectively are already socio-economically disadvantaged, many coastal marae (focal sites for community practices and relationships to ancestors and land), are directly impacted by the risks of flooding and sea level rise (Parahi, 2018).

The Labour-led government in power since late 2017 has framed NZ's policy response to climate change as a whole-of-government effort to show leadership in transitioning to a low emissions economy. The main policy mechanisms are an emissions Trading scheme and the wide-ranging *Climate Change Response (Zero Carbon) Amendment Act 2019* which was supported by all major political parties (The Spinoff, 2019). The Zero Carbon Act is modelled off of similar UK legislation and requires all greenhouse gas emissions except biogenic methane to be at net zero levels by 2050, along with mandating the need for five-yearly carbon budgets, climate change adaptation policy and an independent Climate Change Commission (MFE, n.d.). The question of how, and to what extent, NZ's almost entirely agricultural methane emissions should be reduced is complex, and remains largely unresolved and politically fraught (e.g. Walls, 2019). Overall, as Hall (2020) argues, NZ's climate policy lacks both leadership and the requisite urgency.

The Government's climate policy responses are driven primarily by Western science frameworks. On the other hand, a mātauranga Māori (Māori traditional knowledge) understanding centres the practice of kaitiakitanga which is a socio-environmental ethic of stewardship and reciprocity (Kawharu, 2010; Meduna, 2019). This philosophy can provide a grounding for climate models and adaptation approaches which centre and collaborate with

frontline Māori communities, and resource local community-led solutions (Deep South Science Challenge, 2008; King et al. 2008; Hikuroa, 2020).

NZ provides climate aid primarily in the Pacific (Ministry for Foreign Affairs and Trade, n.d.) though Oxfam NZ (2020) analysis finds its levels of funding to be very low per capita. The country is also heavily involved in climate-related Antarctic research (Antarctica New Zealand, n.d.). The country's proximity and relatively easy flight access to Antarctica elevates the region's economic and diplomatic role. As Salmon et al. (2017) argue, this may in turn bolster awareness of climate-related Antarctic research among the NZ public in part through its prominence in science journalism.

3 Climate Journalism Literature Review

If journalism is notorious for straddling interconnected actors, context and themes, climate-specific practice and discourse only adds another layer of complexity. This chapter zones in on the guiding forces for journalists' day-to-day work by discussing journalism practice, norms, roles and responsibilities, before placing these in the context of sociological media logic and institutional accounts. After this deep dive into CJ production, CJ content analyses and reception—specifically audience relationships—are both also explored, following the call of Olausson and Berglez (2014) to make the links between all three areas explicit. The content section includes background on framing and issue attention along with two further areas of literature selected for their relevance to the interview discussions, namely representation of indigenous communities and youth campaign movements. NZ-specific studies are emphasised where they exist, and where they do not, I tend towards studies in other Western countries, in recognition that media landscapes around the world are heterogeneous.

3.1 *Journalism Roles and Responsibilities*

3.1.1 **General Journalistic Roles**

Journalism roles literature is extensive and considers how journalists think about and perform their craft, how certain patterns are or become normalised and (ideally, though not always) the contexts within which roles are enacted. A large-scale analysis drawing on the survey responses of 20,638 journalists in 67 countries shows the most frequent normative roles mentioned to be informer, watchdog, educator, reporter, investigator and monitor (Standaert et al. 2019). Hanitzsch and Vos (2018) also argue that normative role conceptions have clustered so strongly around political life in democratic Western countries that they have failed to adequately account for functions primarily associated with daily life, including consumer needs, identity and emotion.

In NZ, the most recent Worlds of Journalism survey (Hollings et al. 2016, p. 2) found almost all reporters agreed that “Report[ing] things as they are” was important in their work, while two thirds also aimed to “Let people express their views”, “Be a detached observer” and “Provide analysis of current affairs. Three in five agreed they sought to “Provide information people need to make political decisions” and “Monitor and scrutinise political leaders”.

3.1.2 Climate Journalism Norms and Roles

Studies specifically about CJ roles are still relatively scarce, but yield similar trends as those about science and environmental journalist roles, no doubt because it is mainly these journalists who are reporting on climate. Most studies come from high income, high emissions countries. While one decade-old US survey found science and environmental journalists' role perceptions to show no marked variance from the profile of a general reporter (Sachsman et al. 2008), Brüggemann and Engesser (2014) find that a small core of specialised, prolific climate reporters are likely to have an outsized impact as agenda-setters within a wider community of reporters who sometimes cover climate change. In particular, the regular reporters are more likely to place importance on analysis, interpretative, investigation and criticism roles, as well as highlighting (legitimate, not sceptic-based) scientific uncertainty. van Eck et al. (2019), study climate change bloggers, including sceptics, and find a variance in both importance placed upon, and operationalisation of, traditional journalistic norms as measured by Boykoff and Boykoff (2007) namely dramatisation, novelty, personalisation, authority order and balance. Non-climate-specific interviews from 2010 with US and UK science journalists showed traditional reporting, conduit, agenda-setter and watchdog roles remaining important in addition to the roles of curator, convener, public intellectual and civic educator (Fahy & Nisbet, 2011).

The educational remit of CJ links into many other roles, sometimes theorised as a “knowledge-based journalism” framework (Patterson, 2013; Donsbach, 2014; Nisbet & Fahy, 2015). Through contextualising expert knowledge production, proactively seeking dialogue with readers and expanding the range of policy options under consideration by the public, the aim of such a framework is to better inform the audience on politically polarising, scientifically-rooted issues, and provide a brokering function within scientific knowledge debates (Nisbet & Fahy, 2015). In the case of climate reporting, this is linked with a prominent interpretative or explanatory role of making a topic largely based on abstract scientific projections and conceptions of (un)certainly relevant for everyday people (Tandoc Jr & Takahashi, 2014; Morton, 2020), including assessing and contextualising the weight of evidence (Dunwoody, 2005). Hackett (2017) also suggests that public-oriented collaborator and facilitation roles could foster solutions-oriented motivation among the public. CJ is notorious for the temporal challenges it poses. Hackett (2017) and journalists Hertsgaard and Pope (2020) both warn against overreliance on the short-term, easily-visualised and abundant coverage of dramatic impacts of climate-exacerbated disasters. They

encourage journalists to engage in analytical examination of the underlying systems and structures fuelling climate-related inequality (ibid.). This could take the form of what Hackett (2017) calls a radical role, centring climate justice and other counter-hegemonic frames, though Hackett's radical role conception also openly encourages advocacy of systems-level campaign participation. Beyond a shift in role perception, such deeper work also benefits from a paradigm shift at a newsroom level towards 'slow journalism', prioritising critique and complexity over news cycle churn (Gess, 2012; Craig, 2016).

3.1.3 Journalism Responsibilities

More research has focused on existing norms and role perceptions but there is some recognition that discussion needs not only to interrogate how journalism *is* practised, but also how people consider it *should*, responsibly, be practiced. I thus prefix the discussion of an objectivity norm with some context from US journalists and authors Kovach and Rosenstiel who, in their book's 2014 edition, lay out 10 elements which they posit are central to practising journalism responsibly. They argue that these elements arise from the needs of the publics that journalists serve. The principles they put forward posit that news coverage should be founded on story-telling which is significant and interesting, comprehensive and proportional. They cover journalism's obligations to the truth, to verification, to independence, to citizens, and, importantly for this discussion, to personal conscience. Kovach and Rosenstiel describe journalism as an "act of character" (p. 271) with a burden of responsibility falling to the individual reporters and their organisations to use their best moral and ethical judgement. They also clarify that organisations should make space for questioning and constructive critique from both the journalists who work there and from the public, and interviews by Canella (2021) reinforce the need for more open conversations within news organisations about power dynamics, framing, transparency and objectivity.

While agreed-upon methods and principles remain central to journalism, the idea that truly objective content or genuinely neutral observers exist has been debunked repeatedly (e.g. Raven Wallace, 2019). However, the question of objectivity of journalistic output still figures prominently as a professional norm, even as scholars and journalists in the climate arena consider it to have multiple and sometimes conflicting and outdated definitions, or reorient it to focus on objectivity of methods (Fahy, 2017; Shipley Hiles & Hinnant, 2014). Many scholars and journalists suggest that striving for a neutral observer status is untenable and call for paradigms and norms which are not contingent on constantly redefining the objectivity of journalistic output (Ward, 2009; Stephenson, 2012; Howarth, 2012; Vine,

2017; Hackett, 2017). Indeed, through content framing and journalist surveys in five countries, Brüggemann and Engesser (2017) posit that CJ norms are shifting from a focus on objectivity and balance to the interpretive role discussed above. Meanwhile, climate bloggers consider that truth is a core norm, but that this is defined by a combination of objectively-verifiable content, transparency and honesty (van Eck et al. 2019). Also, impartiality is still seen as central for US environmental journalists (Shipley Hiles & Hinnant, 2014), while NZ journalist Morton (2020) additionally embraces campaigning on social issues as a role of particular relevance to the climate round. He ties this role back into the temporal challenge of keeping abreast of policy decisions with long-term ramifications in NZ's three-year electoral cycle, assisting everyday people in understanding the relationships between the options under consideration and climate science. Indeed, this political advocacy role is perhaps the only evident way in which Morton's commentary on CJ roles in NZ differs from the rest of the international literature explored here.

Regarding involving one's personal conscience, climate journalist Atkin (2020) talks about becoming a moral arbiter as well as an information gatherer. Still, climate journalists also discuss the unease they feel in being perceived to eschew neutrality norms or be advocates in exercising their conscience (Stephenson, 2012; Atkin, 2020; Shipley Hiles & Hinnant, 2014). This kind of pushback became visible when NZ journalist Phil Vine (2017) switched from mainstream news to working as a journalist for Greenpeace and received uneasy and public questioning from his former colleagues for continuing to lay claim to being a journalist in his new position (ibid.). Some journalists contended that NGO journalism was an unacceptable form of divided loyalty, asking Vine if he had moral misgivings and suggesting his work may now be perceived as less trustworthy. Even though Vine sees objectivity as a flawed and outdated ideal, he simultaneously believes it may be useful to differentiate the intentional perspectives of NGO journalism by transparently giving that form of journalism a label (e.g. advocacy journalism).

3.2 Climate Journalism Sociology

3.2.1 Media Logics

Media logics is a normative approach for explaining the institutionalised practices which in large part structure the rules by which news is produced, the technological or medium-specific aspects and the commercial rationales it exists within (Asp, 2014; Esser, 2013). The nature of these logics is challenging to empirically map or verify due to a proliferation of contexts they take place within and the public, though far from a homogenous

group, holds increasing forms of power as well as discussed in [3.4](#) (Brants & van Praag, 2015). Still, journalists, including freelancers, work within structures and systems which have a bearing on any individual reporter's position, access to resources, agency and influence (Schultz, 2007; Örnebring et al. 2018; Sjøvaag, 2020). The media organisation or newsroom remains a key structure for many, whose management is typically understood as perpetually in flux, grappling with financial, and usually commercial decisions which impact everything from brand and revenue model to numbers of employees, work conditions and journalists' levels of perceived autonomy (Franklin, 2014; Rusbridger, 2018; Reich & Hanitzsch, 2013).

As summarised by Brüggemann (2017) climate reporting does not fit neatly into many news production logics. First, explaining scientific uncertainty and modelling in accessible terms is challenging for a discipline intent upon presenting easily understood, relevant and impartial information. Second, the causes and whole-of-society impacts of climate change do not map well onto existing rounds. Even in stories where climate change is not the main focus, it is often an important layer of context (Morton, 2020). Third, the transnational nature of climate change makes the subject ill-suited to local, national or international news categories. Finally, it spans enormous time scales while news coverage is typically based on short-term timeliness values. Indeed, a wide-ranging European study finds reporting is influenced more by short-term weather pattern deviations than longitudinal scientific climate change accounts (Pianta & Sisco, 2020).

Interviews with Swedish environmental journalists about climate coverage suggest that journalists describe their approaches to climate reporting with multiple orientations to media logic (Berglez, 2011). Berglez describes media logic stylistically in relation to news values and journalistic norms, as well as from an issue framing perspective. The observations categorised as inside a media logic paradigm suggest that any issue can be styled journalistically with enough creativity and that working out how to do so for climate change is a good challenge. Outside of media logic, journalists discuss the difficulty of squaring the complicated and vast topic of climate science into journalistic conventions without unfaithfully simplifying it on the one hand, or losing audience on the other. Beyond media logic, journalists discuss whether the climate round can transform that logic by being carried across all reporting areas rather than being siloed and about the potential for it to spawn more cross-border and global coverage. The journalists do not appear to identify with a singular approach to dealing with the friction between climate reporting and media logic, with most articulating various positions inside, outside and beyond media logic throughout the

interviews. The study clarifies that journalists are constantly balancing a range of difficult-to-reconcile aspirations and perceived or actual limitations outside their control.

3.2.2 Structural Relationships

Sociologically-oriented CJ studies try to make sense of a multiplicity of actors, relationships, norms, power dynamics, capital, material conditions and social context which have a bearing on news production discourse and processes. Figueroa (2017), studying US environmental journalists, uses a hierarchy of influences model (Reese & Shoemaker, 2016) as a basis to focus on the relationships between journalistic ideology, individual work routines and organisational structure. He observes the beneficial effects of networked relationships such as environmental and science journalists working within the same organisation, the benefit of organisational reputational capital when individual reporters are chasing sources, and the scope for personal ideology or role perception to influence stories. Other studies focus on the material and cultural power imbalances in the media industry and their impacts upon individual journalists by drawing from critical political economy theory and cultural industries (for theoretical explanation, see Hardy, 2014 and Hesmondhalgh, 2013 respectively). Climate-specific research from the US, UK and Australia summarised by T. Gibson (2017) suggests that outlets with politically conservative corporate ownership have been more likely to provide a platform for climate sceptics than their counterparts, aided by the political and ideological national cultures they are embedded in and the tendency for audience echo-chambers to develop in which commercial incentives may also dominate. Brüggemann and Engesser (2017) similarly find that small numbers of prolific climate sceptic columnists are responsible for much of the climate denial coverage in Western countries, typically enabled by national elite voices and the presence of a climate denial lobby in combination with a right-leaning media outlet. This minority of vocal climate sceptic columnists also exists in NZ's mainstream media, and, although much of the more conservative ideological and media ownership context is not applicable in NZ, journalist Morton (2020) notes that the funded climate lobby did somewhat polarise climate discourse in the early 2000s. Exemplifying the networked relationships between news producers, organisational management, policy and content, it took an internal complaint by journalist Veronika Meduna to prevent NZ's public broadcaster RNZ from dedicating an entire programme to climate sceptics, and to bring about internal guidance on covering asymmetrical debates (ibid.).

The large Anglo-Saxon countries have also seen layoffs among specialists generally, for which science and environment were no exception, combined with the rise of more niche climate blogs, leaving climate coverage within mainstream organisations to overworked general news reporters likely to rely on, rather than analyse or critique, the PR messaging they encounter (T. Gibson, 2017). T. Gibson et al. (2016) investigate the impact upon US environmental reporters of reducing the resourcing available to them, or forcing them into generalist or freelance roles. They found the journalists to come up with strategies to adapt to the change of circumstances, such as increasing the amount of localised climate reporting, incorporating climate coverage into their general news reporting and using their existing bases of contacts to continue to cover the round as freelancers. Internationally, a US study found that science communication training, when tailored to meet journalists' needs, improved their contextualising of stories, presentation of uncertainty, discernment of source credibility and confidence covering scientific issues (Menezes, 2018).

In NZ, these trends towards decreased resourcing for specialised reporting are less clear-cut, even though the NZ journalism workforce halved between 2006 and 2018 (Smellie, 2019). Nationally, absolute numbers of science, environment and/or climate specialists are increasing (Morton, 2020), although the picture is more complex when broken down by organisation (see [6.2.2](#)).

3.3 Climate Journalism Content Analysis

3.3.1 Content Framing and Issue Attention

News content is a dependent variable, features of which, such as frames, vary according to explainable properties of news production (Reese & Shoemaker, 2016). Examining content framing is key to understanding how an issue is portrayed, and in what proportion particular framings recur. Issue attention and framing are an important complement to production research because research suggests that the framing of climate coverage employed by journalists impacts upon public perception. For instance, one NZ study analysing public comments on climate opinion pieces concluded that climate action can be delegitimised by framings of a minority of climate action advocates disrupting a (majority) status quo, because this framing places the status quo in a position of greater moral authority (Crawford et al. 2019). Studies have shown climate framing to be shaped in part by journalistic news values such as novelty, dramatisation and personalisation (e.g. Boykoff & Boykoff 2007; Molek-Kozakowska, 2018), and possibly also the journalist's reporting round (McCluskey, 2008). One study describes journalists as sitting on a "frame setting" to "frame

sending” continuum: outputting their own cognitive frames (influenced by their background and social factors) at the frame setting end, and parroting the frames of other actors at the sending end (Brüggemann 2014).

The fundamental structures driving climate change have changed very little over time while climate-related impacts become more frequent and severe, so issue attention, as well as issue fatigue among the public, are particularly relevant to CJ. Issue attention to topics of long-term relevance tends to wax and wane over time (Schmidt et al. 2013), and issues including climate coverage can also be displaced due to competition with other subjects such as gloomy economic forecasts (Djerf-Pierre, 2012). A transnational literature review finds that globally, climate change coverage is generally increasing compared to levels in the early 2000s, is increasingly political rather than only scientific, receives more attention than other contested scientific topics, and tends to peak episodically, especially in line with COPs, the release of IPCC reports or national political controversies (Painter & Schäfer, 2018). These trends also hold for NZ, at least across print outlets (Boykoff et al. 2021). Of the sources measured, coverage globally in September 2019 reached levels only surpassed once almost a decade before, and peaked in NZ, thanks in part to the climate school strikes and the first week highlighted by Covering climate Now (CCN), a global initiative where media organisations partner to improve CJ quantity and quality to which all of NZ’s mainstream media organisations signed up (Katzung et al. 2019; Covering Climate Now About, n.d.; Crewdson, 2019a). In early 2020, Covid-19 coverage initially pulled attention away from practically all other topics worldwide including climate coverage, though since September 2020, the quantity of climate content has started to recover notably (Nacu-Schmidt et al. 2020).

Climate change frames are broadly similar across Western countries, particularly regarding the aforementioned COPs and IPCC reports (Painter & Schäfer, 2018). In NZ, a 2017 literature review of framing studies, where sampling is unevenly spread but goes back to 1988, concludes that print and television journalists consistently portray the existence of anthropogenic climate change in line with the scientific consensus, avoid apocalyptic framing and cover controversies arising from responding to climate change as political or social issues (Salmon et al. 2017). For instance, Chetty (2015) examines newspaper articles from 2009-10 and finds that political actors (33%) and academics (20%) were the most common sources, with an emphasis on political, individual and technological forms of climate action. Bourk et al. (2017) examining television coverage from 2012—which is highly commercially-funded--

conclude it is aligned with the scientific consensus while being highly domesticated and emphasising agricultural and economic impacts. They suggest a number of contextual factors shaping this framing including its geographical isolation, the centre-right National government's "fast follower" climate rhetoric and the country's concentrated media landscape at that time. More recently, another form of influence on CJ framing may come from the newsroom collaboration *Covering Climate Now* week's, which broadly aims to focus on particular ways of telling climate stories, for instance the April 2020 week focused on solutions-based coverage (CCN, 2020).

3.3.2 Indigenous Representation and Climate Justice

Journalists are highly unlikely to represent the interests and concerns of all parts of society when newsrooms are not as diverse as that society (Mellinger, 2013; Lee, 2019), or when journalists consider their audience in monolithic or monocultural terms (Glasser et al. 2009). Those already marginalised or living in vulnerable situations or geographical areas face disproportionate impacts from climate change, and this includes indigenous people, low-income communities, racial and other minorities, disabled people, migrants, rural workers, women, children and older people (OHCHR, 2016).

Studies on media representations of indigenous communities, which examine Anglo-Saxon countries along with Sweden, find that indigenous people tend to be portrayed without agency as victims of climate change, with minimal wider or historical context about colonisation and marginalisation (Belfer et al. 2017; Roosvall & Tegelberg, 2013). When traditional knowledge is discussed, it is often side-lined or only seen as significant if it can be corroborated by scientific findings (ibid.). In NZ, the disproportionate impacts, including health impacts, of climate change on Māori communities have traditionally gained little attention in mainstream media coverage (Belfer et al. 2017; Harrison et al. 2020).

Exploring Pacific Peoples and Pacific Islands representation specifically, media narratives in large Anglo-Saxon countries tend to focus on drowning islands whose residents are vulnerable victims in danger of becoming "climate refugees" (Shea et al. 2020, Dreher & Voyer 2015). Such frames, possibly fuelled by dramatisation norms (Boykoff & Boykoff, 2007), "undermine the desire of SIDS [Small Island Developing States] communities to be seen as proactive, self-determining, and active agents of change" (Dreher & Voyer, 2015, p. 58) who are "drawing on traditional values of interconnection and mutual solidarity to inform adaption strategies, mitigation efforts and disaster responses" (Hayward et al. 2020, p. 3). In the early 2000s, NZ media representations of Pacific Peoples were mapped as furthering

stereotypes of unmotivated, unhealthy and criminal people (Loto et al. 2006). Scholars have strongly encouraged communicators to pay attention to the terminology and framing preferred by Pacific peoples themselves (Raela, 2017; Finnie, 2018), and to explore greater use of *talanoa* journalism as a grassroots, community-based framework for incorporating indigenous Pacific customs and practices within CJ (Robie, 2014). Raela (2017) also highlights that Pacific broadcasters themselves bring an irreplaceable perspective to storytelling, especially about their communities, and in NZ are significantly under-represented in journalism education, newsrooms (particularly in management positions), and media governance roles.

Climate justice is another relevant frame in this discourse, locating the unevenly distributed impacts and harms of climate change as intrinsically connected to the structural causes of social and environmental inequity (Gardiner, 2012; Klein, 2019). These causes include colonialism, consumerism and economic modelling predicated upon infinite growth (ibid.). While climate justice frames of solidarity and responsibility are often evoked in opinion or editorial articles, studies suggest that evoking them does not translate into naming the injustices caused or what redress could look like (Roosvall, 2017; Rhaman, 2016). A US-based guide on equitable climate coverage asks journalists to examine whether their stories rely on assumptions or problematic narratives about underrepresented people or whether a community perspective or angle is missing (The Solutions Project, n.d.).

3.3.3 Youth and Campaigners

The global Fridays for Future Movement (known as School Strike for Climate, in NZ), originated by Swedish high school student Greta Thunberg in 2018, is a useful lens through which to consider how the perspectives of youth on the climate crisis, including intergenerational aspects, are being filtered through the media. The youth-led movement mobilised around the need for faster and bolder evidence-based political action, to align with the Paris accord (Fridays for Future, 2019). Strikers and researchers distinguished between quantity of coverage, often high, and quality, where media in the US, Canada, Sweden, Germany and elsewhere often avoided tackling the movement's root demands by questioning legitimacy of skipping school, infantilising strikers or framing Thunberg as an inspiring saviour (Eide & Kunelius, 2021; Jacobsson, 2020; Bergmann, 2019; Kalla, 2019). In addition, hyper focus on the School Strikes movement risks overshadowing those, especially in the Global South, who live on climate frontlines and who also may campaign or respond to climate change in other ways which gained less visibility (Walker, 2020).

3.4 Journalist-Public Relationships

Until the early 2000s, research mainly theorised news media's audience as either a recipient of news or a product which itself reproduced media consumption logics, albeit recognising journalism's reliance upon information about its audience expectations in order to be a viable undertaking (Loosen & Schmidt, 2012). With the rise of digital news, blogging and social media, frameworks which look past those binary relationships have become more prominent, generally understanding journalists, citizens and politicians to operate in a networked public sphere driven by a high level of unpredictability, where the previously subordinated audience or public are increasingly powerful (Castells, 1996; Heinrich, 2012; Brants & van Praag, 2015).

While the potential for more collaborative, reciprocal and engaged forms of journalism is often called for in the literature, efforts to trial these methods tend to be project-based rather than ongoing and their effectiveness is difficult to gauge (Ferrucci et al. 2020). Until recently, research has prioritised public engagement regarding the interpretation of news, involving audience understanding of, and feedback on, already existing content (Engelke, 2019). That said, initiatives which explicitly solicit public input to inform climate coverage are emerging. As one survey of 15,000 New Zealanders by media outlet Stuff demonstrates, consumers want and expect journalists to educate them on the environmental and climate impacts of the more micro-level choices they make in their daily lives (Crewdson, 2019b). Overall, respondents to the survey wanted accessible, relatable content, hopeful and solutions-based stories, more emphasis on the farming sector especially stories about how it is adapting, future forecasts and better integration of climate coverage throughout the news—in addition to collecting climate coverage in one place (*ibid.*). The ABC, Australia's public broadcaster, ran a multifaceted engaged journalism project inviting questions from the audience on climate change which would be answered by subject experts, as well as hosting events based around the most popular of these (Nettlefold & Pecl, 2020). A follow-up survey indicated that audience members, half of whom were at most occasional ABC listeners, overwhelmingly found the events relevant and highly trusted the information presented, with an emphasis on having learned about local climate trends. The reporters involved indicated that having audience questions answered in these accessible ways was helpful, with the project framing successfully avoiding polarisation, and bringing the broadcaster closer to a topic with both wide community appeal and particular interest to a hard-to-reach younger audience (*ibid.*). in a NZ initiative, newsrooms Stuff and The

Conversation collaborated in order to collect and respond to specific climate-related questions from readers, headlining the articles with those questions (Stuff, n.d.). One of the editors involved, interviewed for this thesis, notes this project was successful enough to be continued for longer than anticipated (see [6.1.7](#)). Projects like these three show that extending audience relationships in creative ways can, if feedback is actioned, yield targeted, relevant insights which would be highly unlikely to flow from reliance on web analytics and social media comments alone.

4 Theory and Research Aims

This thesis is rooted in a long sociological tradition of studying how journalism works in given social contexts (Schudson & Waisbord, 2005; Schudson, 2019). It seeks to describe, contextualise and provide partial explanation for the range of factors which, according to the analysis of the journalist interviews, constitute or influence CJ practice in NZ. The thesis is grounded in Witschge and Harbers' (2018) approach to journalism practice, while also drawing on role orientations theorising set forth by Hanitzsch and Vos (2017), a raft of related CJ literature outlined in the previous chapter, and the concept of journalistic spaces elaborated by Örnebring et al. (2018). I briefly outline these theories before explaining my research question and mode of responding to it.

4.1 Journalism Practice

Practice theory (PT) has its roots in a range of anthropological and sociological disciplines and can broadly be regarded as a space “where scholars exchange ideas on how to theorize practice to help organize empirical research and thus our understanding of the world in which we live’ (Ahva, 2017, p. 1525). Building on the work of Schatzki (2001) and as set forth in the domain of Journalism Studies by Witschge and Harbers (2018, p. 111), journalism practice can be understood as “an ongoing process of bottom-up, collective negotiation of practitioners (both through the performance of an activity and the discourse on it) that is not only determined by abstract rational ideas and goals, but also by specific contextual and material conditions, normative preferences, habitualized routines, and subjective experiences”). Specifically, journalism practice (p. 110):

- (i) includes both the interrelated sayings and doings that constitute a practice;
- (ii) asks for a bottom-up definition of what the practice entails, based on how actors categorize, understand, and enact the practice;
- (iii) acknowledges the dynamic nature of practices where sayings and doings impact one another;
- (iv) introduces a nuanced and holistic view on the role of materiality.

A practice is “an array of understandings, rules, ends, projects, and even emotions” (Schatzki, 2005, p. 481). As such, practices are both patterned and inherently dynamic, and change can come about through either how a practice is understood or through its activities

over time. Journalism practice, for Witschge and Harbers (2018), is interested in examining the tensions and incongruences bringing about this flux, while paying attention to the contexts normative understandings are negotiated, and operate, within. These contexts are multifaceted; they are “arenas or broader sets of phenomena as part of which something – a building, an institution, an event – exists or occurs” (Schatzki, 2005, p. 467–468).

Practice theory, unlike a substantial body of prior scholarship, does not take a singular democratic role of journalism for granted, nor does it assume a certain degree of organisational homogeneity centred on the physical newsroom (Witschge & Harbers, 2018). It is interested in the people and practices which actively shape how we understand journalism. An increasingly popular approach in journalism studies which PT partly deviates from is actor-network theory (ANT) (Latour, 2005), which focuses on the causes and consequences of interactions rather than the structures organising them. ANT gives primacy to materiality insofar as actants can be either human or non-human, the latter in journalism for instance including professional ideals (e.g. autonomy), symbolic constructions (e.g. ratings), and material artefacts (e.g. newsrooms, tweets) (Domingo et al. 2015). PT, in contrast, recognises the crucial role of this sort of material context, but holds that it always exists in relation to human agency.

One concept which can be used to more concretely describe the sayings which constitute a practice--which are the object of this study--is Bourdieu's (1977) notion of habitus. This refers to a combination of structural conditions and people's motivations gained through lived experience within a field. Bourdieu elaborates on the concept of habitus as being “an endless capacity to engender products – thoughts, perceptions, expressions, actions – whose limits are set by the historically and socially situated conditions of its production” (ibid. p. 95). Habitus, then, rejects both unpredictable randomness as well as reductionist or over-simplified explanations.

4.2 Journalism Role Orientations

Journalistic roles provide the orientations through which journalists think about and carry out their craft, and as such are a central component of journalism practice. For Hanitzsch and Vos (2017), roles can be explained according to normative ideas (what journalists should do), cognitive orientations (what they want to do), professional practice (what journalists really do), and narrated performance (what they say they do). In practice, many—if not most—authors make only one distinction: between role conception or perception on the one hand and enactment or performance on the other (Tandoc Jr &

Takahashi, 2014). Hanitzsch and Vos posit a more comprehensive, discourse-based set of processes in which roles are internalised, enacted, reflected upon, normalised, and negotiated.

4.3 Journalistic Spaces

The *journalistic spaces* model set forth by Örnebring et al. (2018) draws both from Bourdieusian *field theory* and materialist perspectives in aiming to understand the metaphorical space within which journalists individually manoeuvre. It is constituted by three axes, namely journalistic capital, access to resources and material security. Journalistic capital is a symbolic resource understood as part of field theory, which understands journalism is a field constituted by a combination of endogenous and exogenous forces (forces from within and from outside respectively), which are referred to as forms of capital (Bourdieu, 2005). The endogenous cultural capital—equivalent to journalistic capital in this case—is concerned with “the effects that the people engaged in this microcosm exert on one another” (ibid. p. 33). Journalistic capital includes journalist dispositions, skills, normative roles, epistemological (knowledge-related) frameworks, and journalism ethics (Hanitzsch, 2007). It exists in relation to exogenous political, economic and other forms of capital (Vos, 2016). The second axis of the journalistic space concerns the relative degree of access to economic, managerial, collegial, and technological resources which the journalist has at their immediate disposal (Örnebring et al. 2018), to which I would also add the resource of time. The third deals with the journalists’ financial, contractual and working conditions security. In this model, these axes are interlinked, but can operate separately of each other, and thus do not necessarily correlate when any one of them is especially high or low (ibid.). This model, building on field theory, spotlights the fluid boundaries of journalistic work. It helps to highlight the raft of different conditions and power dynamics that journalists work within while sharing similar normative orientations.

4.4 Research Question

This thesis examines CJ production as a form of journalism practice, where habitus is the means by which practice, as conceived of by its practitioners, comes into being. It seeks to answer the following research question:

Analysing the perspectives of climate journalists, how can the habitus of CJ practice in NZ:

a) be described and contextualized, and

b) be oriented in relation to comparable scholarship and situated within an emerging CJ space?

4.5 Deconstructing CJ Practice

In seeking to provide a scaffolding which would provide some categorical clarity to the data, while not circumscribing categorical divisions which the data did not adhere to, I considered using Reese and Shoemaker's hierarchies of influence model (1996, 2016). This model groups influences into five levels of analysis, namely the individual journalists, their work routines, organisations, institutions and social systems. However, this grouping proved unworkable. For instance, individual responsibilities had a strong audience relationship component, the resourcing of frontline community coverage spanned across levels, and a loose peer network of science journalists could not be located within this structure. I thus sought to begin with the central component of negotiating responsibilities, and to place those in context. This exercise clarified to me the fluid nature of practice and the importance of following the data.

I structure the analysis of CJ practice into three sections as follows:

a) The journalists' responsibilities (i.e. ethical cognitive role orientations), and the nuances and challenges of enacting them;

b) News media contexts—whether editorial, organisational, network, collaborations or media industry;

c) Climate change and Covid-19 pandemic contexts.

In this ambit, the first section examines which responsibilities the journalists highlight and how they reflect upon and negotiate them. In principle, “responsibilities” is functionally very similar to cognitive orientations (Hanitzsch & Vos, 2017) or Kovach and Rosenstiel's (2014) description of elements of journalism. In my data collection, the lines between normative ideas and cognitive orientations are blurry, but I use the term responsibilities, rather than cognitive orientations, as both a more familiar word for crafting questions to journalists, and as a means to focus on the principles-based dimensions, including ethical ones, that the journalists say are important to their work. These dimensions are instrumental in shaping story selection and framing (Brüggemann, 2014).

Roles, especially their enactment do not exist in a vacuum, but instead in relation to many forms of context—individual, organisational, political, economic, technological, news event-based, and so on (Hanitzsch & Vos, 2017). For CJ, the context of climate-related

discourse, dealing with the ideas used to communicate climate change and how they are legitimated and changed inside and outside of journalism, is also relevant (van Dijk, 2012).

The media context (conditions, norms, shifts, limitations), and social context, limited here to climate and Covid crisis response discussions form backdrops and contingencies within which journalists seek to enact their responsibilities. More broadly, these contextual elements aid in understanding the frameworks and constraints CJ practice operates within, how some of these vary between organisations, and how they have changed over time. The media context domain outlines the key themes from the data analysis which come from within media organisations and wider systems. Not all factors have direct or day-to-day influences on the reporting of the journalists, but all have a bearing on the CJ space in NZ. The space encompasses how CJ is practised, whose responsibility producing CJ is considered to be, how it is resourced and so on. Outside the media sphere, there are any massive number of social and political contexts which might be examined. I focus here on contexts relating to the phenomenon of climate change, namely its impacts and public orientations to the issue. A section about the impact of Covid-19 is also included, as the magnitude but also immediacy of this particular crisis provides an interesting comparative case (cf. Kunelius, 2020).

As foregrounded in the CJ [literature review](#), I draw from a range of relevant NZ and international studies both in CJ and journalism more broadly in aiming to orient CJ practice in NZ in relation to existing scholarship. Studies on roles and CJ's orientation to media logic are especially relevant here. Equally, taking into account the discursive particularities of the phenomenon of climate change, structural explorations of media systems, content analyses examining issue attention and framing, and research exploring journalist-public relationship all provide useful comparative insight. The analysis makes reference to the reproduction, friction or transformation of media logics when possible, as described in [3.2.1](#) (Berglez, 2011), although this is complicated by the heterogeneity of applicable logics within this sample—which vary according to organisational funding models, mediums, length, production cycles and so on.

I situate the findings within an emerging CJ space, which exists in relation to its close cousin science journalism, as well as an all-encompassing journalistic space (Örnebring et al. 2018) by elaborating on this model's three axes of journalistic capital, access to resources and material security. There is precedent for a SIMILAR climate discourse-based field division in CLIMATE content analysis studies, examining the fields of transnational climate discourse,

COP climate summit representations and climate risk respectively (Kunelius & Eide, 2012; Neff, 2020; Sonnet, 2010).

5 Methods

5.1 Sample

In this study, I interviewed 10 journalists who consistently report on and/or edit climate-related stories within NZ media. In the absence of any publicly available listings of climate journalists, I searched online and asked journalists in the field for recommendations. Consistency of climate coverage is complex to measure. Story counts do not do this justice because some publications publish fewer more in-depth stories while others publish more often and/or shorter, less resource-intensive items. Stories may not be headlined by a climate change reference but nonetheless contextualise climate change further down. As such, the sample selection involved ensuring evidence of either regular, or in-depth, climate-related coverage, which could include editing of it, over at least the past twelve months as at April 2020. I also sought a cross-section which represented a range of roles, publications including across varied audiences, mediums, and experience in the field. Throughout this study, I use the shorthand of climate journalists to refer to the interviewees, while keeping in mind that for most, is not synonymous with their more broadly defined roles.

The final sample involves 10 journalists, all of whom agreed to be identified in this research and consented for their demographic information to be shared. Demographics are summarised in [Table 1](#).

With one exception (Braae), the journalist's role descriptions are associated with climate change or science and/or environmental journalism. The journalists work in print, digital and radio. Many work across multiple mediums and story lengths, with a predominance of longer analytical and feature writing. Four journalists have editorial roles and all four oversee the production of climate stories, while three (Gibson, Hallett, and Meduna as a freelancer) report directly on climate themselves. All journalists except Tahana have held previous journalism roles in NZ, many of them relevant to their climate work, and in the interviews they draw from the breadth of these experiences.

At the time of interviewing, the journalists, with the exception of Warne who freelances, are employed by seven outlets. Here is an overview of those outlets. RNZ is NZ's state-funded public broadcaster, which is primarily radio-based and also distributes audio and digital content online and through podcasts (About RNZ, n.d.). RNZ Pacific is a separate division within RNZ whose mandate is to broadcast to the Pacific Islands (ibid.). Stuff and the NZ Herald hold a duopoly over much of NZ's digital and print news landscape (Myllylahti & Hope, 2020). As of 25 May 2020, stuff is independently owned, having prior to that been slated for a merger with the NZ Herald's publicly-traded parent company NZME (ibid.). Publisher and worker-owned digital daily magazine outlet The Spinoff is a more recent arrival, founded in 2014 (The Spinoff About/contact, n.d.). Non-profit accessible academic analysis site The Conversation is the only outlet where the NZ component is part of an international presence under the Australian edition, and its writers are specifically field experts as opposed to journalists more broadly (about the Conversation, n.d.). Daily industry climate specialist Carbon News and long-form magazine *New Zealand Geographic* (NZ Geo) are both independently owned and are the smallest outlets of the seven on employee numbers. While both employed two people as at early 2020, NZ Geo also commissions freelancer journalists and photographers for each issue (interviews with Hallett and White, 2020). While all outlets except RNZ take member donations, only the NZ Herald and Carbon News have content behind a paywall (Subscribe Carbon News, n.d.; Myllylahti & Hope, 2020).). All outlets except RNZ Pacific and Carbon News serve a general NZ audience. In the results, where the outlet or role is relevant to a journalist's comments, I indicate these directly (also see the full [List of Organisations](#) mentioned in this thesis).

Four of the ten journalists have formal journalism education, half have scientific or environmental training, and one studied politics and international relations. In the interviews,

many also refer to expertise and experience acquired on the job. The length of time they have spent in journalism varies from four years to approximately four decades.

Table 1: Sample demographics and media organisations

Source: information from journalists interviewed and other sources provided in the full [List of Organisations](#)

Profile	Roles (current/previous)	Organisation (description, mediums)	Audience
Alison Ballance Pākehā (NZ European) MSc Zoology. Entered journalism 1980s	Producer of <i>Our Changing World</i> : produces weekly, half-hour science, environment and medical research programme. Previous roles include producing and directing wildlife TV documentaries; science and environment programmes for RNZ; and preparing science communications for Govt organisations.	RNZ National. State-funded public broadcaster covering radio and digital.	General
Alex Braae Pākehā (NZ European) Post Grad Dip. Journalism. Entered journalism 2010s	Staff writer analysing current affairs. Produces a daily news round-up email. Previously journalist for commercial radio station Newstalk ZB.	The Spinoff. Online magazine covering current affairs analysis.	General
Eloise Gibson Pākehā (NZ European) Post Grad Dip. Journalism, Master's in Science Writing, Environmental law studies. Entered journalism 2000s	Climate editor for Stuff directing coverage nationally and reporting daily news and analysis. Previously reported for the NZ Herald (mainly business and environment) and Newsroom (environment).	Stuff. Large news website and 49 print newspapers and magazines. Became independently owned by CEO May 2020.	General
Adelia Hallett Pākehā (NZ European) Environmental science studies. Entered journalism 1980s	Editor, managing Carbon News and filing climate news stories. Previous roles include various news reporting, magazine and radio roles and communications for environmental organisations.	Carbon News. A small on-line daily news service aimed primarily at business	Industry
Veronika Meduna European Microbiology studies. Entered journalism 1990s	Science, environment and health editor for The Conversation editing and commissioning articles written by academics for a general audience. Also freelances both in NZ and internationally. Previous roles include founding producer/host of RNZ science and environment programmes <i>Our Changing World</i> and <i>Eureka</i> , science feature writer for local daily newspaper The Press.	The Conversation. A news site publishing commentary and analysis by academic experts under creative commons.	General
Charlie Mitchell Pākehā (NZ European) No formal training Entered journalism 2010s	National correspondent for Stuff filing mostly long-form features of national interest on the environment and climate change. Previous roles include community news reporter at Stuff and Christchurch environment reporter for the local newspaper, The Press.	Stuff. Large news website and 49 print newspapers and magazines. Independently owned by CEO from May 2020.	General

Profile	Roles (current/previous)	Organisation (description, mediums)	Audience
<p>Jamie Morton Pākehā (NZ European) Post Grad Dip. Journalism. Entered journalism 2000s</p>	<p>Science writer developing science, environment, climate and tech stories for the NZ Herald newspaper and website. Previously reported on many other rounds at the NZ Herald.</p>	<p>NZ Herald. News website and NZ's largest daily newspaper owned by publicly traded NZME.</p>	<p>General</p>
<p>Jamie Tahana Māori Degrees in politics and international relations. Entered journalism 2010s</p>	<p>Reporter for RNZ Pacific, with a primary focus on climate reporting. No previous roles.</p>	<p>RNZ Pacific. An audio and digital division of RNZ.</p>	<p>Pacific</p>
<p>Kennedy Warne Pākehā (NZ European) Marine biology studies. Entered journalism 1980s</p>	<p>Freelance journalist, writing feature-length science and environment stories primarily for NZ Geo and National Geographic. Previously co-founder and editor of NZ Geo till 2005.</p>	<p>Long-form print and digital magazines.</p>	<p>General</p>
<p>Rebekah White Pākehā (NZ European) Post Grad Dip. Journalism. Entered journalism 2010s</p>	<p>Editor of NZ Geo including commissioning and editing stories and associated photography Previously NZ Geo deputy editor, and editor of photography and consumer research magazines.</p>	<p>Bimonthly print and online magazine featuring in-depth photographed stories on NZ society and environment. Independently-owned.</p>	<p>General</p>

5.2 Data Collection and Analysis

I conducted the 10 interviews between 29 April and 23 June 2020. Most interviews lasted approximately one hour, varying in length from half an hour to an hour and a half. Interviews were semi-structured and wide-ranging. Questions covered the journalists' background, factors involved in finding and deciding upon stories, stories they were proud of, stories with high audience engagement, their roles and responsibilities, constraints on their reporting, media industry impacts, journalist networks, Covering climate Now weeks impacts and participation, strengths and gaps in NZ climate coverage and workforce, impacts of major news events including the Christchurch terror attack and the covid-19 pandemic, impacts of campaigning movements on reporting, and changes in climate reporting in NZ looking back a decade and forward a decade. The full list is available in [Appendix A](#). Not all questions were relevant to all interviewees.

I audio-recorded and transcribed all material and then analysed it broadly within constructivist grounded theory methodology (Charmaz, 2014; Belgrave & Seide, 2019). To facilitate coding and sorting, I segmented the data by dividing the question responses by point or argument and transferred the segmented data into an Excel spreadsheet. This yielded 486 rows of data. This involved an initial thematic coding of each row of data, and then focused iterative coding to tease out both further themes and larger categorical groupings while in conversation with the literature (Charmaz, 2014).

I initially considered analysing *deductively* for journalist roles, strategies to keep climate change in the news, ethical dilemmas posed by journalist work and networks and communities influencing them. Realising there was a breadth of thematic groupings that could be overlooked this way, I instead first analysed the data following a general inductive approach (Thomas, 2006), before bringing it into conversation with practice theory and other literature. I consequently reoriented the categories to focus on journalist responsibilities, media contexts, and climate and Covid-related contexts.

5.3 Limitations

5.3.1 Sample

The sample is limited by the lack of video or television reporters interviewed. To the best of my knowledge no science, environment or climate video or television reporters worked within mainstream news organisations at the time of interviewing, but it was my oversight not to reach out to one independent video agency who did. However, the interview

analysis makes comparisons with the NZ television climate production and content analysis study by Bourk et al. (2017).

Pākehā (white NZ European) journalists are over-represented in the sample per capita, and no journalists working in Māori media were interviewed. This is limiting and is also a reflection of the current demographics of NZ's CJ landscape.

5.3.2 Use of theory

The interviews in this thesis, it must be stressed, cannot, and do not aim to, constitute a holistic description of a journalistic practice in and of themselves. They are discursive but not ethnographic, or to use Schatzki (2001)'s words, they are a good example of the sayings, but not the doings, and the sayings from one particular type of actor at that. Even the choice of sayings is influenced by the questions asked, and the information journalists choose to disclose. In recognition of the analytical tendency to impose more coherence onto interview narrative accounts than might exist (Lamont & Swidler, 2014), I provide relevant context in which a theme was raised, for example where a responsibility was raised when discussing a story a journalist was proud of.

The journalistic spaces framework is intended as a heuristic tool which seeks to clarify the differing types and levels of resources available to journalists (Örnebring et al. 2018). The analysis of an emerging CJ space here is preliminary, taking into account that, within the journalism practice focus of this study, the symbolic and material resources mapped are only those made explicit in the interview.

5.3.3 Questions and scope of analysis

The focus on journalistic responsibilities crystallised in the analysis phase. A range of responsibilities are drawn from both an open-ended question asking about roles and responsibilities, as well as other parts of the interview, but follow-up questions probing orientations to specific responsibilities for instance as drawn from the literature (cf. van Eck et al. 2019) were not asked. Thus, the journalists' orientations to a given responsibility may not be fully captured by the interviews and the number of journalists discussing a given responsibility is an imprecise metric. Overall, there is considerable theme-based overlap between journalists from which the responsibilities section can draw.

As a single researcher shaping the questions asked and undertaking a necessarily subjective qualitative data analysis process, I acknowledge the presence of my own biases, interests and oversights, and also that Being Pākehā (white NZ European) impacts my worldview. Two elements I neglected to ask about are NZ's strong Antarctic ties, including

within the science media landscape, and reporting on the politically contested terrain of NZ's high agricultural emissions, which as a few journalists noted is a challenging and increasingly politically controversial area. The vast and complex area of a shifting digital information and misinformation ecosystem, including the role of social media platforms and the strength of public trust in journalism, are other critical components of the wider socio-technological and discursive context within which climate journalism operates (Andi, 2020; Olteanu et al. 2015; Morton 2020). I opt not to canvas them within this climate-specific study, but where journalists bring them up, this is noted (see [6.2.1](#)).

6 Results: Analysis of Interviews

6.1 Journalist Responsibilities

This section is organised around the conceptions of journalistic responsibilities spoken to, and the nuances and challenges of enacting them in practice. These responsibilities can be understood as one form of journalistic capital relevant to a CJ space. One interview question specifically asked the journalists about what roles and responsibilities they felt they had when covering climate (including editing climate stories where applicable), but, in analysing inductively, many of the themes emerge from other sections of the interview, such as discussions on stories they were proud of, decision-making processes, stories that received high audience engagement and questions about representation.

6.1.1 Provide Accurate Information

Practically all journalism revolves around a core function of finding and presenting accurate information (Porlezza, 2019). The journalists approach the issue from various angles, but all make clear that this is a core function of CJ also, especially within the ambit of science reporting.

There is a strong consensus in NZ that journalists and newsrooms should avoid reporting on climate denial (see [6.2.3](#)). When asked about ethics in the context of climate change reporting, Braae uses the need for accuracy and truth-telling as a repudiation of false balance:

If the balance is between people who think climate change is happening and climate change isn't happening, then that balance is not important and doesn't need to be part of any ethical decision-making I don't think. Because to consider it a question of balance I would argue breaches another part of the ethical decision-making around what you cover and how you cover it and that is, am I putting across information which is true? Accurate? I feel like giving the reader information which is true and accurate I would argue is a higher ethical consideration than giving the reader information that has some sort of artificial filter of balance put over it.

Climate is also a round where, as Meduna points out, verifiable evidence is central but can take many forms beyond Western science:

For example, the maramataka [[Glossary](#)], the Māori calendar of looking at star constellations and when they appear in the sky and being able to link that with certain environmental events... That calendar has become a climate change tool, because if you knew that when this star appears this tree would normally be flowering, and now it's flowering sooner... It's a Mātauranga- [[Māori traditional knowledge--glossary](#)] based tool, but that's equally evidence for me, in terms of having something you know there's lots of observation behind it, lots of confirmation, lots of checking and re-checking behind it.

Here Meduna complicates the notion that evidence belongs to a singular tradition or framework and as such, determining what qualifies as evidence, and actively interrogating and reporting upon forms of evidence from mātauranga Māori and other indigenous frameworks becomes a conscious component of the accuracy and evidence-based function of reporting. Journalists emphasise that picking out which information is verifiable or misleading, and the legitimacy of sources, is complex in the climate round, benefitting from experience gained in the area over time (see [6.2.4](#)).

A key part of reporting accurately on Pacific Island communities involves avoiding stereotypes (Shea et al. 2020, Dreher & Voyer 2015), and this is discussed by Tahana and Warne. Warne speaks to the role of giving agency to Pacific communities in order to represent them accurately.

[When reporting in Kiribati:] I went out of my way to describe what I saw, and people there said that they didn't want to be considered helpless victims, and the helpless victim narrative was the one that was peddled. People for years have been saying that the islanders are queueing to leave, and it's not true, they're not. They haven't left, they have no intention of leaving. There's this unfortunate overlay of what the west might expect, with reality.

Overall, the journalists discuss accuracy in terms of using their judgement to avoid false balance and be evidence-based and also to consider how stories are framed. Assessing accuracy can be understood as a challenging analytical process which is negotiated for each

story, and is connected to an informational role of reporting things as they are, which was the most popular role within a survey of NZ reporters generally (Hollings et al. 2016). There conceptions of accuracy do not specifically address how objectivity is understood, suggesting in doing so that accuracy is not contingent on having a shared understanding of this term. A US climate change study showed such an understanding to be lacking, where the environmental journalists interviewed agreed on more specific aspects including the need for fact-based and impartial stories (Shiple Hiles & Hinnant, 2014).

6.1.2 Make Connections, Add Context

The idea of contextualising or connecting previously siloed parts of the climate conversation to each other comes up repeatedly in the interviews.

In describing stories they are proud of, Tahana, Braae, Morton, Gibson and White all reference some aspect of making connections across silos and/or shifting the public conversation. Tahana discusses the challenge of disconnects between local perspectives from the Pacific Islands on the one hand, and the scientific and political arenas where climate negotiations and discussions are playing out on the other. Braae describes a story involving the concerns of a group of locals from a small town, whose income is heavily reliant on farming, about planting up productive farmland with carbon-absorbing pines at the cost of local jobs. He explains that it explored the more difficult territory of moving beyond the science to understanding how major policy proposals will affect people's lives. Braae also writes a daily news round-up newsletter where he chooses three issues to focus on, and he reports being more likely to include those which may be, for instance, primarily business or politics stories but which intersect with climate.

Continuing on the theme of connecting varied areas of climate discourse, Morton describes a wide-ranging feature he wrote just before the Paris COP, which "laid out basically the whole gambit from the emissions trading scheme, problems with carbon credits, right through to the direct environmental impacts people were going to be able to expect in the next decades". He was proud of connecting the human and policy aspects within the climate conversation. Equally, the story Gibson picks as her proudest brings together focus on local government, planning and resource consent expertise and climate risk projections to shed light on some apartment block planning decisions failing to account for flooding risk. She received feedback that people "thought that that investigation changed the conversation a little bit in New Zealand", which speaks to a public service or public discourse-shaping role. From a natural standpoint, one story White picked out was about the impact of the shrinking

alpine zone which used to provide a safe habitat for certain native species in the South Island. The piece zoned out to the whole-of-ecosystem implications, avoiding the trap of viewing climate consequences in isolation to each other, or over-focusing on specific aspects without wider context.

These connections can tie into an accountability mechanism, although despite the potential for political accountability from many of the examples above, this role is only explicitly discussed by Morton and Gibson. Morton, at the NZ Herald, finds industry and political power monitoring to be highly important but adds that carrying out such a role is challenging because of the reader interest imperative he works within (see [6.1.6](#)). Gibson (Stuff) connects accountability and context in both the political and research domains.

Holding the Government to account and whether it's doing enough, and what it is doing and whether it is doing what it said it would, is a big part of it. ... Part of it is even questioning the science as well. Just saying "Okay so you're saying methane's no big deal, why is that and are you getting any funding from Beef and Lamb New Zealand?"

From a scientific standpoint, most journalists discuss the importance of linking research findings to their implications for the country or for people's lives. Similarly, White and Tahana both find it is important for journalists to frame climate change holistically, making connections between, for instance, melting glaciers or fresh water policy, and wider biodiversity and ecosystem implications. Meduna, formerly at RNZ, contrasts the work of the broadcaster's daily newsroom and the weekly programme she worked on to note that the scientific angles, as compared to the political or legal ones, had a particular need for wider context.

In sum, the journalists hold the notion of telling more connected climate stories in high regard, drawing out perspectives which appear to be side-lined in public discourse. Connecting the dots can help to uncover new ways of viewing an issue which extend beyond singular subject areas such as science or politics, leading to an agenda-setting function within the public arena as happens in other countries (Brüggemann & Engesser, 2014). This role demands a significantly more holistic and detailed understanding of issues covered, and for Berglez (2011), shows that traditional siloed media logic does not make room for this and that it thus sits beyond this logic while holding the potential to transform it, at least in the

case of CJ. As for the science, an explanatory role of making research and other developments not previously curated for wider consumption accessible comes through strongly (cf. Fahy & Nisbet, 2011; Tandoc Jr & Takahashi, 2014).

6.1.3 Provide Regular and Fresh Coverage

CJ is notorious for being a round in which continuous coverage is both important and, usually, challenging. Hallett and Meduna highlight the importance of cumulative coverage as a public service. In Hallett's case at Carbon News, this is for an industry-based audience with a need for regular updates.

Subscribers have access to all our databases, something like 18,000 stories there. I've written a quarter or a third or something like that. It's not prize-winning... it's cumulative. It's useful information for our readers.

Also connected to temporality is the observation from three journalists that they will sometimes craft a climate feature out of deciding on a topic to explore and finding a way into it, rather than starting from the current news cycle. Equally, as Meduna points to, extreme weather events in themselves can increasingly be viewed in a longer-term context as well.

... conversations like that for people for whom it's not just that one particular cyclone, it's their knowledge that we've always had cyclones but they're getting worse, they're getting to be a different thing to deal with. And they're worried because they know they'll be more of that.

For the longer-form journalists particularly, Climate coverage presents the challenge of finding fresh, impactful ways into the subject, which go beyond predictable tropes and dense science that most people are likely to tune out of (Stoknes, 2015). When asked about areas that the journalists felt were under-covered, such as ocean warming and acidification, some specifically cited the difficulty of finding a way into the story as the reason why that was the case. They note that it is increasingly easy to find stories on many topics with inherent climate relevance, but, in White's words, "the difficult thing is weaving it into the story so that you don't end up with a paragraph beginning 'and here's how it's threatened by climate change'". White, who at NZ Geo edits long-form features, believes that explaining how climate change is affecting species across ecosystems is one of the best ways into the topic currently, speaking to the desire to find unexpected entry points that readers can learn from (cf. Morton, 2020).

... you don't think of the hilltops as being a victim of climate change. The main impact of climate change that people think exists are sea level rise, glaciers melting and more storms, whereas in fact it's pervasive across ecosystems.

A related challenge, particularly for photographic magazines including NZ Geo, is finding compelling and non-stereotyping climate visuals. Warne, who co-founded and previously edited the magazine, notes that throughout the 90s and early 2000s, despite considering climate a subject of limited but growing interest, lack of visuals was the main reason the publication produced minimal climate coverage. White notes that this process can be resource-intensive, providing an example of a story which yielded great visuals but involved stationing a photographer in Antarctica for six weeks. While disaster coverage is a guaranteed source of visuals and a useful hook, Warne cautions upon over-reliance on it which may sacrifice longer-term, more contextualised narratives (see [6.3.1](#)). At its best, disaster coverage can act as a way into a more extensive story. For instance, Morton led into a feature weaving policy changes with climate impacts people would be feeling in the coming decades with the case of a Northland man who got caught in a climate-exacerbated flash flood and almost drowned.

In sum, some journalists speak to the public service dimension of regular coverage, including coverage reflecting the longitudinal rather than episodic reality of climate change (cf. Brüggemann, 2017). Such an orientation is important for combatting the dangers of episodic, decontextualised news reporting, such as demonstrated by a European study by Pianta & Sisco (2020) showing that short-term weather pattern deviations had a greater influence on reporting than longitudinal scientific climate change accounts.

A key challenge is attempting to engage readers by avoiding predictable story lines on a topic whose systemic causes and consequences are relatively unchanging, within the financial resources available to the publication. Interview analysis with an international sample of climate bloggers (van Eck et al. 2019) reaches practically identical conclusions in terms of characterising the traditional novelty norm in this more nuanced way, where the angle, rather than the phenomenon, often provides the originality. The journalists use inventiveness to package existing information in unexpected and educational ways, a nuanced skillset also identified as central in interviews with Swedish environmental journalists (Berglez, 2011). The NZ journalists consider relevant and non-stereotyping climate visuals useful hooks, at their best, but notoriously hard to come by. NZ television executives'

perspectives from 2013 when climate coverage was extremely scarce also indicate that a lack of NZ-specific visuals was considered a key challenge, where the overriding consideration was a ratings bottom line (Bourk et al. 2017).

6.1.4 Aim for Fair, Diversified Representation

The vastness of climate change as a subject area brings with it a huge range of perspectives in terms of how to act on it, and the journalists discuss making an effort to cover that range proportionally and carefully. In determining which governmental or political perspectives on climate change she would report on, Gibson (Stuff) speaks to the need for political impartiality, combining this with scientific context.

... there is a huge scope for political variability for what you do about the fact that climate change is happening. so we are quite careful to allow the whole scope of those views to come out in our coverage. So if a politician says "well sure I acknowledge that climate change is happening, but I don't think we should do anything if it's going to come at the cost of this particular industry" or whatever, we wouldn't kind of not put that in. ... there's still a role for science there in that you can test what the politicians are saying against what the IPCC models show, or if their policies were to come into practice, what effect that would have on the country and on the climate.

This stance overlaps with the agreement about the need for impartiality and political neutrality among US environmental reporters (Shipley Hiles and Hinnant 2014). Gibson also notes that there is a tendency to focus reporting on the consequences of particular policies or actions, which needs to be balanced with reporting on the human cost of a lack of action. In terms of comparing multiple perspectives within a single story, Meduna finds the publication-specific constraint from the Conversation of having each piece written from a single academic's perspective to be journalistically limiting.

Regarding reporting on diverging perspectives, Braae also finds the perception of fairness from those whose perspectives are included to be important, and points to a facilitative role for CJ, commenting in relation to a story he wrote on a plan for productive farmland being planted with non-native pines:

No one is going to be entirely happy with everything you write, if they at least think it's fair I think that's kind of important. There were definitely some readers who were

much more climate-focused who read the story and perhaps commented on one of our social channels about being angry at this particular group for what they were going about saying. And we can't really control how people are going to react necessarily. but I think one of the good things about that is that it did make different people aware of the views that different groups in society have to their own.

US environmental journalists also echo this point (Shipley Hiles and Hinnant, 2014), even though their conceptions of fairness are varied and traverse covering sceptic territory not relevant here.

In relation to climate campaigning movements, journalists discuss efforts to avoid homogenising the perspectives within them. Despite protesters often being stereotyped as troublemakers, Mitchell has found young climate campaigners to be highly knowledgeable while White notes they can be good at articulating future-focused visions and policy priorities. Tahana speaks to the overlooking of indigenous perspectives, using an example from the Madrid climate talks where practically all media went to the press conference with Greta Thunberg, and he instead profiled a range of indigenous campaigners.

Gibson, too, speaks to moving away from the prevalence of a singular, establishment view.

I think the other thing I've become really aware of since starting this job at Stuff is there are a lot of activist groups and groups full of different voices who feel like only one type of person is being heard. They feel like the establishment is being heard and even, I guess the old school environment groups that have been around for a long time. Not always, but often their spokespeople are men of a certain age, which doesn't mean that they don't have great ideas but... I don't know, I've had a lot of people calling out journalists for really not listening enough to young people, people from different cultures.

Another facet to fairness, as explored by Braae, is the privacy and ethical issues that may arise with increased coverage of children and younger teens generally, spotlighted by the school Strike movement. Using the example of a story where he interviewed a 15-year-old who had been suspended from school for protesting on climate, he queries the murky relationship between the fact that the protester on the one hand wanted the media attention, and on the other may risk greater exposure to cyber bullying and online harassment as a result. This dynamic comes more sharply into focus the younger the subject is, particularly when protesting without a guardian present.

Asked (not specifically in the context of representation) which types of sources they keep in contact with for stories, the journalists referred most commonly to scientists and scientific research institutes, followed by Government, as well as talking to a variety of people generally. Mentioned less frequently were local government, business lobby groups, climate action NGOs and local impacted communities.

In short, most of the journalists speak to the need for fair and diversified representation, which in practice means making a conscious effort to seek out and fairly convey a wide range of perspectives, especially marginalised ones, to avoid homogenising movements or groups, and take other ethical considerations like children's privacy into account. This is partly captured by the facilitation role explored by Nisbet and Fahy (2015) within a knowledge-based journalism framework. It is a more proactive but complementary take on "let people express their views" and "be a detached observer", two roles which came in second in aggregate importance after "report things as they are" in the NZ data from the Worlds of Journalism study (Hollings et al. 2016, p. 2). These responsibilities appear not to be mapped in CJ practice or production scholarship yet, and indeed they are not CJ-specific by their nature. However, the need for attention to them in this context is apparent from CJ content analyses on representations of marginalised perspectives (Belfer et al. 2017; Shea et al. 2020; Dreher & Voyer, 2015). In practice, most of the journalists' regular source relationships are scientific and governmental, as also reflected in a 2009-10 content analysis (Chetty et al. 2015). Even so, other sources and ways into stories are often drawn upon by these same journalists as story examples throughout this chapter attest to (see [6.2.5](#)), and a similar trend towards diversification of sources is observable internationally (Schäfer & Painter, 2021).

6.1.5 Foster Emotional Awareness

The journalists raise the need for an awareness of how stories trigger or appeal to emotions in various forms.

Morton and Mitchell characterise dramatic or unjustifiably doom-laden stories as misleading in their own right. Mitchell talks about a kind of emotional monitoring as a form of journalistic integrity.

I guess the harder thing for climate change is getting across how serious and urgent it is in a way that keeps your journalistic integrity, so you're not fear mongering necessarily but you're also conveying the seriousness of the situation, without seeming partisan or hysterical or anything like that. That's usually at the top of my mind when I'm writing something on climate it's more just like making sure I'm not over hyping it or under hyping it and just trying to be true to the factual basis I guess.

Some journalists also speak to monitoring tone from an awareness of their audience's likely emotional reactions. Meduna and Braae note that an awareness of a likelihood of reader fatigue or sense of lethargy has to be accounted for, which ties into discussions about the challenge of climate change stories being, or being perceived to be, predictable (see [6.1.3](#)) or too insurmountable a problem. Arguing that the fundamental issue at play is psychological barriers to climate action (Stoknes, 2015), Warne suggests coverage should appeal more regularly to moral, rather than scientific, arguments, such as intergenerational responsibility. Whether the physical environmental manifestations of climate change trigger a sense of grief or not is also highly subjective. White talks about using context to create emotional resonance, considering that while various climate-related losses such as the melting of glaciers might have a particular emotional toll for some people, they will not for everyone, and as such an understanding of why they are problematic becomes necessary. Finally, three journalists express hope that solutions coverage will increase over time, White, Meduna and Morton seeking to cover forward-thinking people and groups to posit more hopeful visions of both actions people can take and what a more climate-friendly future could look like.

In short, tone and emotion-related aspects play an important role in reporting on climate change (Morton, 2020), both from an accuracy or integrity point of view in representing climate science, as well as in empathetically engaging and empowering the audience on such a complex and overwhelming topic (cf. Moser, 2016). CJ scholarship does

not appear to have examined this phenomenon in much detail yet, but it can be understood as evidence of the particular necessity those tasked with communicate the vast, overwhelming topic of climate change are obliged to consciously engage with, in order to help their stories resonate, on an emotional level (cf. Stoknes, 2015).

6.1.6 Make Stories Interesting and Relevant

All the journalists conceive of audience interest as a necessary bottom line, most of them less from a commercial imperative than from a pragmatic or public service one. For instance, Braae describes balancing out the omnipresent public interest nature of climate stories with reader interest in terms of aiming for maximum impact per story.

So I guess one of the things you are trying to do with balancing those two factors up is figuring out both how you get the information across in a way that people are going to be interested in continuing to read it, and also making sure that the actual information you're taking the time to get across, is it actually crucial information about climate change to convey to people. So you're focusing on getting the most impact that you can can for the science itself, with how you balance those two judgements out.

Most journalists discuss the generally unfriendly format of scientific research and the challenges inherent in making it appeal to a general audience while not distorting it. Ballance explains that IPCC reports are difficult to cover in an interesting or meaningful way, partly because every word is a fought-over compromise, partly because public understanding of scientific uncertainty is lacking, and partly because many news reporters work to a bite-sized format which does not allow for deeper exploration. Morton also raises the tension between carrying out a political accountability role within the limits of general readership interest. Other components raised include avoiding sensationalism and not relying on misguided stereotypes like visuals of drowning islands. Meduna and Balance note that sound-rich audio is desirable in boosting interest from a radio perspective.

Audience relevance is complicated by the disjunct between who mainstream media audiences tend to be and who is most affected by climate change. White articulates this concern When asked about a vision of climate reporting in a decade's time.

I suspect that it's going to be much the same as today. A bunch of journalists trying to make something that predominantly affects under-privileged people relevant to the

middle-class people who are the main consumers of their media. It's still going to be a hard sell because it's not going to affect all aspects of society equally.

This divergence calls into question whether mainstream commercial publications, due to their dominance and reach, have a duty to connect more with under-served portions of NZ, and/or understand the roots of distrust these communities may have with mainstream media, as Stuff (2020) for instance has been mapping through its Tā Mātou Pono investigation. While 8.1% of the country's population are Pacific peoples, Morton and Mitchell observe that current lack of resourcing of Pacific coverage across the media is likely to be hampered, in part, by lack of audience interest, whether perceived or actual. Indeed, Tahana finds that the fact that his employer RNZ Pacific has a mandate for a Pacific, rather than NZ audience, is liberating. White also worries that increased coverage of the Pacific, especially if it continues to focus disproportionately on sinking islands, could further a deceiving sense of distance between New Zealanders and climate impacts, particularly because of the NZ-specific visuals being less compelling. Another interesting counterpoint is the NZ study on climate-related TV reporting by Bourk et al. (2017) in which story relevance appeared to be interpreted with the same domestic lens but even more narrowly, such that short broadcast items focused solely on negative impacts of climate change on farming practices or economic activity.

Most of the journalists discuss the benefit of stories with human angles. Some of these relate to people taking climate action or how people will be impacted by policy, and many angles involve a combination of tangible, direct and current impacts to people living in New Zealand (or the Pacific in Tahana's case) on climate-exacerbated events. For instance, Mitchell describes a story he was proudest of involving a small South Island town where a lot of low-income households are heavily impacted by coastal erosion.

I got to speak to a lot of ordinary regular people who are dealing with this quite serious problem. It sticks out for me because climate change can be quite abstract and hard to communicate in some ways, but in that story, it was very real, it was very tangible. I remember one of the people I'd spoken to, a wave had come through her backyard just the week before and hit her house.

However, understanding, crudely, whether such tangible, direct-impact stories are best at propelling audience engagement is less clear-cut. Meduna (RNZ, The Conversation,

freelance), Gibson (Stuff) and Tahana (RNZ Pacific) find that personal stories do connect especially well to their audiences. However, at the NZ Herald, Morton has found detailed, well-explained science communication stories to rate better than ones with human interest angles, despite being unsure why. Across the interviews, journalists give examples of a breadth of stories which either rated well or attracted considerable engagement. They included local and personal direct-impact accounts (RNZ Pacific, Stuff, The Spinoff), science--usually illustrated or interactive--about climate impacts, glaciers and paleoclimate (NZ Herald, The Conversation, Stuff), policy (Carbon News), entrepreneurial sustainable community solutions (Carbon News), grouping New Zealanders by climate perspectives (Stuff), and academics answering audience climate questions directly (The Conversation/Stuff collaboration). All else being equal, engaging visuals and attention to layout seemed to have an impact.

Of those with access to engagement metrics, some journalists observe them from time to time but almost all do not rely heavily on them, or only engage with them in the context of direct audience feedback (see [6.1.7](#)). It is difficult, for instance, to establish to what extent highly-rating stories placed on the homepage of a news site can attribute a boost to that placement. The concept of audience engagement itself, as Meduna notes, is a fuzzy one, because increased social media commenting and discussion might be more meaningful than total readership numbers alone (which may for instance be boosted by content-sharing partnerships). For the magazines and radio journalists, where digital stories are not the primary format, tracking engagement is even more complex.

In sum, the journalists portray attracting audience interest as critical, discussing the need not to distort climate research, in particular, while making it interesting within length and other constraints. This is a curatorial balancing act of meeting the demands of climate communication within a prescribed format which is also identified in Berglez' (2011) Swedish analysis. Relevance is connected to stories within an NZ context which emphasise tangible and direct impacts upon people. The subjects of stories attracting audience engagement are wide-ranging, but quantitative engagement, though sometimes monitored, is seen as an unreliable proxy for relevance. While it is likely that the NZ public, somewhat isolated as NZ geographically is from most of the world, may indeed interpret relevance with this strong domestic focus, the fact that journalists feel obliged to filter climate coverage through this lens may limit the visibility of the transnational nature of climate change, as discussed further in [6.3.1](#).

6.1.7 Engage with Audience Needs and Interaction

Four journalists discuss various forms of audience needs and feedback which they keep in mind or sometimes directly respond to. Forms of interaction varied. In 2019, Stuff undertook an open survey of climate coverage audience preferences (detailed in [3.4](#)) and to its surprise received 15,000 responses instead of the expected 1000 (Crewdson, 2019b). At Carbon News, Hallett tries to directly address her specialised audience's needs, as opposed to just interests, in the climate policy and business-related areas, the founding and maintaining of the publication itself being in service to this. For instance, in relation to engagement metrics, she notes that what she hears her audience are interested in (i.e. human-interest stories) diverges from what the metrics say more people read perhaps from commercial necessity (i.e. policy). At The Spinoff, Braae says both quantitative (metrics) and qualitative feedback is taken into account, particularly on proportion of coverage, noting that an absence of comments is a likely indication of general disinterest.

Another approach to using audience interaction to shape coverage involves soliciting questions on any aspect of climate change or taking climate action, and producing stories which answer selected queries directly. This was the aim of a Q&A series called Climate Explained which was a partnership between Stuff and The Conversation (Stuff, n.d.). Meduna, who instigated it, found it surprisingly successful. She says it was “a nice bridge between the reader interest and more scientific aspects”, with stories receiving “incredible readership”, including throughout educational institutions. Reporters at the Australian Broadcasting Corporation similarly found a localised question-seeking initiative to yield promising results and helped reach audiences which were not current ABC listeners (Nettlefold & Pecl, 2020).

Overall, the journalists who discuss audience interaction and feedback consider these to be dynamic processes to be responsive to, with metrics playing a limited role within this landscape (see [6.1.6](#)). Directly and specifically addressing audience questions has similarities to a facilitative dialogue-broker role as conceived by Nisbet and Fahy (2015), except for Climate explained which centres a singular expert response, and thus is also connected to being educational and advisory. Both this initiative and the Stuff survey belong to an increasing trend, which extends beyond CJ, of more reciprocal and networked relationships between journalists and the publics they serve (Heinrich, 2012; Brants & van Praag, 2015).

6.2 Media Contexts

This section examines the material and discursive implications of media industry, organisational and editorial contexts framing CJ practice in NZ. These contexts come in various forms including conditions, norms, shifting practice and limitations. The analysis draws on a wide range of questions about CJ workforce and discourse trends, strengths and gaps, as well as questions on responding to major news events, and editorial roles and influences

6.2.1 Journalism Industry and Job Security

The journalists observe that the media industry's instability is the backdrop that most reporters, including climate reporters, live under. The fact that all journalists bar the newest have held a plethora of previous roles may also be in part a result of this instability (see [Table 1](#)). In terms of job security or the ability to get commissioned, some journalists are more impacted than others, where the larger organisations and those seeking freelancer work are bearing the brunt. The journalists' own situation and life stage are also factors. The interview period coincided with particularly visible conversations in the media about journalism instability in light of the Covid lockdown, as magazines went out of business, and hundreds of media professionals, journalists among them, were laid off across the country (Myllylahti & Hope, 2020). NZME who own the NZ Herald, and Stuff were also on the cusp of a possible merger which in the end did not proceed, but which added an extra layer of uncertainty on top of the Covid pandemic (ibid.). While at Stuff, Mitchell did not personally feel impacted in day-to-day reporting, colleague Gibson felt that the precarity has a long-term impact both on who can afford to become a journalist, and who remains in journalism.

And I think also as long as there's talk about mergers and take-overs and things, probably every science reporter is wondering, well would I be the one they would keep, or would they keep all of us? ... I do think that uncertainty probably drives quite good journalists into non-journalism roles, because they think, if I go into PR for a university or go and work for a crown institute doing comms, I'll have job security. I'll get paid more and I won't have to constantly think about whether I'm still going to have a job in a year's time. So I do think it's quite corrosive to keeping, you know, the age of people who you want to keep are the people who've been doing it for a long

time and who are experienced and who are really good, but often those people are the age where they have children and mortgages, and they can't afford to be thinking about being made redundant the whole time.

Gibson's comments point to the dynamics involved in understanding the consequences of poor material security (Örnebring et al. 2018), speaking to the risks of losing the more specialised knowledge and extensive networks which the journalists build through covering a particular round over years or decades. Such concerns for CJ are visible throughout many Anglo-Saxon countries (T. Gibson et al. 2016; Gibson, 2017).

Ballance, working at public broadcaster RNZ, describes the organisation as being in a comparatively secure position because of its government funding. That said, that source of funding, which does pale in comparison to other countries of comparable size (Bunce, 2019), did not prevent a 2016 restructure, in which RNZ cut its science, environment and medical programme down to half an hour from an hour and reduced its staffing accordingly, consequently ending the presenter role which Meduna held there. A merger with state-owned but commercially-funded TVNZ has also been slated (McCullough, 2020) in which, as Meduna points out, the survival of even the existing half-hour science and environment programme is not guaranteed.

The smaller outlets report being buffeted less by short-term instability currently. Hallett notes that subscription-reliant Carbon News has in the past gone through large financially challenging periods impacted by the global financial crisis and political disinclination towards climate action in NZ (see [2.3](#)), while White observes that having a NZ owner has put NZ Geo in a comparatively stable position as it comes with recognition of the magazine's national cultural value.

Looking ahead, the journalists make clear that the future of climate reporting, the future form of the media industry and the public value placed upon journalism are intimately connected. Meduna (The Conversation) and Morton (NZ Herald) talk to the sense of futility that working around the prevalence of misinformation dissemination via social media and public under-valuing of journalism can engender. Gibson (Stuff) says the fundamental question about the future of climate reporting is how journalism is funded.

So much is going to ride on how we're getting paid. Is it an advertising model, is it a sponsorship model, is it reader subscriptions or donations or is it government

ownership? I don't think that would change what a good science journalist would write about climate change but it will probably change the platforms, how many science journalists are left, are there more of us, are there fewer, there is *a lot* up in the air.

Overall, while the journalists can accrue field-specific expertise across a range of roles, the lack of job security over the medium term poses a risk to CJ insofar as the networks and expertise built up in the area over time are concerned. The resiliency of organisational funding models and personal factors have a bearing on whether journalists can afford to remain in their jobs. Some key questions about the survival of CJ are more systemic, involving cultural norms about the perceived value of journalism, along with regulatory aspects impacting how viable advertising is as a revenue stream, as well as the funding and structure of public media.

6.2.2 Specialist Reporter Numbers and Capacity

Nationally, the number of specialist reporters employed by mainstream news organisations whose remit includes climate coverage—most of whom are science reporters—has improved markedly in the past few years. Morton, who has been in journalism since the mid 2000s, situates this sharp proportional increase nationally with country-wide journalist numbers, which declined by nearly half between 2006 and 2018 (Smellie, 2019), and attributes the shift to rising public demand for climate action generally.

I can't think of any other time in all my years of journalism that there has been so many reporters covering climate change and doing such a good and comprehensive job of it. And that's quite remarkable given the state of the media at the moment and the fact that we are under more pressure than we ever have been, and we're worried about our jobs on a daily basis.

The proportional increase in capacity for coverage suggests this trend is highly intentional. The journalists characterise the increased capacity for coverage as heading—some note belatedly—in a positive direction. However, the level of resourcing continues to differ dramatically between organisations, and is still comparatively minimal across radio and TV. Two large media outlets who did not employ a climate journalist nor someone who regularly produces climate news as part of any role—namely Newshub (digital, radio, TV),

TVNZ (TV, digital), are not represented at all in this study. Public broadcaster RNZ has remained unwilling to employ a specialist science, environment and/or climate correspondent, a decision over which two journalists explained that two of their previous RNZ colleagues had left the organisation. Part of the improvement in capacity for digital stories can be attributed to two more recently-created analytical digital outlets: The Spinoff in 2014 (The Spinoff, n.d.) and Newsroom in 2017 (Murphy & Jennings, 2019), both of which cover climate change daily (Newsroom) or fairly regularly (The Spinoff).

However, the biggest climate reporting shift has come indisputably from Stuff. In a move singled out and widely praised by the journalists interviewed, in 2020 the large (national and regional, digital and print) organisation created the country's first mainstream, ring-fenced climate desk. Staffed by climate-specific editor Eloise Gibson and climate reporter Olivia Wannan, the commitment came as part of a wider push by Stuff to prioritise climate coverage and best practice throughout its whole organisation (Boucher, 2020). It grew out of a 2018 commitment to "disturb our collective complacency. With insistent, inconvenient [climate] coverage" (Crewdson, 2019b). While Stuff's financial situation no doubt played a part in making such a move possible, the organisation was still on unstable ground given that its ownership was being negotiated during this period (NZX, 2019). The fact that a climate desk was created regardless, in addition to Mitchell's pre-existing environment and climate National Correspondent role suggests that management priorities were a predominant factor in making this happen.

Capacity-wise, the most obvious advantage of ring-fenced climate journalists is the sheer volume of climate content they are able to produce, without the competing demands of even wider remits. Indeed, even between two of them at stuff, Gibson still says they are unable to cover everything. This can be contrasted with journalists with a wider scope of coverage including Morton (NZ Herald) and Ballance (RNZ), both of whom, when interviewed, held wider, science-based remits and were the only reporters at those outlets with those roles. Balance:

My major constraint is just a practical one, that I'm one person presenting a half hour radio show. Within the other imperative I described of trying to cover all of the people who do research within New Zealand, cover the full extent of the topics ... I am just limited by what I can achieve in a week. ... RNZ is a small organization and we don't have the resourcing to[have a climate change editor]. ... We can barely cover science

as a topic, let alone have a specialist whose focus is on climate change. Climate change has to come within other people in the newsroom doing their general rounds. Or people like me trying to make sure it gets picked up as part of my program even if it's not explicitly a series or a story about climate change.

The contrast between Stuff's deliberate emphasis on creating a climate desk, and RNZ's arrangement where a theoretically specialised position still covers an enormous scope, is stark (see [6.2.7](#)).

Another capacity factor comes into play when contrasting the continuing urgency of the climate round with both issue attention dynamics and prominent, major news events, especially unexpected ones. At the NZ Herald, Morton's remit covers science, the environment, climate change and technology and he is the only reporter on this round. When Covid started to dominate the news, he was obliged to pivot to focus on that.

To be fair, climate coverage at the *Herald* has really suffered the last few months, just because it's usually me who usually does it. I've just been swept onto this. I would have a hard time, frankly, pitching climate stories every day for the bosses who are expecting me to cover COVID-19, because we don't have an army of other journalists like Stuff does, it's just me at the *Herald*, so I've got to be covering contact tracing, vaccines, mutations, there's a million science angles to this and there aren't many other people who can pick that up at my shop.

Taking into account that climate coverage will continuously be needed and that unexpected news events will always occur, whether or not the journalist is ring-fenced is another factor in understanding the impact of these disruptions. When the March 2019 Christchurch terror attack occurred, and also during Covid-19, Ballance's programme was not automatically subsumed by these new pivots due to her separation from RNZ's newsroom. Similarly, NZ Geo, with its long-form focus and bimonthly production cycle, is generally not impacted by such events. Sheer numbers of reporters matter, too. Continuing with the terror attack example, Newsroom, despite being a much smaller outlet in terms of staff numbers, had three reporters, including Gibson at the time, working on the science/environment/climate round, which meant that, with the exception of the immediate

aftermath, it was possible to retain the reporting on this round while still covering the terror attack in depth. Geographical location is another factor. Mitchell at Stuff, when the organisation had not yet introduced its climate desk, noted that the Christchurch-based newsroom he was part of needed, understandably, to focus exclusively on the terror attack for weeks.

A wider question is the extent to which this shift in focus when a news-dominating crisis or event comes up is inevitable or should be compensated for. Several journalists, and not just at RNZ which has a legal obligation to do so, point to the media's duty to ensure the public is well-informed during a crisis or unexpected news event. As Braae notes, at the time of the Christchurch terror attack, it was a tragedy of enormous national significance which was necessarily going to drive the historic climate school strikes which were happening that day out of the news spotlight. Morton draws a parallel with events including the Whakaari White Island volcanic eruption in late 2019, where 24 people were killed or presumed dead when the volcano exploded:

... the Kaikoura earthquake, the White Island disaster, the rugby World Cup. All these things come along and take over the news agenda and you've just got to learn to live with the fact that no one is going to want to read about climate change when a whole bunch of people have just been killed on a volcano.

If this inevitability rationale holds water in the short-term, the Covid-19 pandemic tests its viability in the long-run.

To summarise, the increasing capacity—including financial resourcing—for climate coverage mostly among more specialised reporters is considered promising, with the rise in numbers also appearing to buck the trend in other Anglo-Saxon countries of such expertise being defunded (T. Gibson, 2017). However, the national picture may obscure the high levels of variance between organisational contexts, especially in the case of organisations not included in this study due to an absence of climate reporters. The journalists' capacity to cover climate is varied and impacted by factors ranging from the scope of the round and whether the journalist is ring-fenced or not, to the number of reporters covering a given round at an organisation, and their geographical location. These factors must be viewed in the context of news agendas where resourcing can at any time become needed for a previously unforeseen news event at short notice. They impact the proportion of climate news produced,

the discursive ramifications of which also must be viewed in relation to issue attention dynamics (cf. Djerf-Pierre, 2012; Schmidt et al. 2013).

6.2.3 Editorial Legitimacy and Direction

Beyond numbers of reporters and capacity, additional factors provide implications about the extent to which editors, and probably managerial staff above them in the larger organisations, lend legitimacy to climate coverage. The most frequently explicitly mentioned of these was acceptance of the scientific consensus about anthropogenic climate change cementing over the past decade or so. Sometimes this acceptance was referred to in general terms across the country's media or journalism landscape, other times with specific reference to mainstream editors. Bourk et al. (2017), carrying out interviews in 2013, finds this scientific acceptance to also be present for NZ television executives. While many newsrooms have introduced policies to reject running climate denial, some journalists noted, frustratedly, that, despite those policies, denial does still get an occasional airing by some talkback radio hosts and opinion columnists. Apart from this caveat, journalists spoke about the acceptance of the core climate science positively. Sampling as far back as 1988 (Bell, 1991), multiple NZ content analysis studies have highlighted the predominance of accurate portrayals of climate science throughout the media (summarised by Salmon et al. 2017), so it is interesting that this long-established framing measure did not always equate with a lack of pressure on journalists to avoid false balance (see [3.2.2](#)).

In terms of what this editorial legitimacy shift looks like in practice, numbers of specialists employed would be one contributing measure (see [6.2.2](#)). Another could be described as a cultural shift. Tahana, who has worked within RNZ Pacific for the past four years, notes a marked improvement in terms of legitimacy over this period.

I've only been in RNZ 4 years but even then there's been a drastic shift of the importance given to it or the weight that would be on a lead interview or who you would speak to ... I doubt RNZ would have sent someone to the cop talks 10 years ago whereas they did it now. It helped we got a funding grant for that but it was seen as one to apply for so that's good.

At Stuff, editorial backing of climate coverage has translated in practice to resourcing and increasingly regular coverage. Mitchell, whose Environment and climate role pre-dates the development of the climate desk, notes that considerable time and energy goes into large

projects and interactives, spurred by editorial demand for that kind of coverage. The increase in regularity of coverage is also illustrated by his comparison of the first and second Covering Climate Now (CCN) weeks. These focused weeks of global coverage are designed to help newsrooms commit to boosting the quantity and quality of climate coverage (CCN, n.d.), and the first of these, in September 2019, belonged to the month with the most media attention on climate change globally in nearly a decade (Katzung et al. 2019). At Stuff, this first week fell about half a year before Stuff's establishment of a climate desk, while the second fell three months in, and Mitchell explains that even in that short time, regular climate coverage has been normalised at the outlet.

Particularly the first [CCN week], Stuff did quite a lot for that. I had a piece that was specifically designated for that. ... After that, we had Climate reporting as a daily sort of thing. I had a piece the last one we did [in April 2020], but we report very regularly on the topic now so we don't really need a designated week. ... We treat every week like that now.

For The Spinoff and NZ Herald, Braae and Morton observed an editorial-level benefit to the CCN weeks in terms of creating more intentional climate coverage across their organisations, though The Spinoff did not participate in the second one. Gibson said that digital outlet Newsroom, where she was working during the first CCN week, produced in-depth coverage which may eventually have run anyway but was targeted at that week. The Conversation also participated. The journalists from RNZ, Carbon News and NZ Geo) either did not participate in any of the weeks themselves or did not know of a particular impact for their publication.

In terms of autonomy over story selection, all the journalists interviewed, including the editors, report high or fairly high levels of autonomy. Generally, the reporters find their editors provide constructive guidance. Braae (The Spinoff):

Generally it's a case of, I guess with a feature especially... it doesn't so much start with a specific pitch or angle for a story; it starts with a conversation with an editor about why you find a particular group or a particular issue interesting. and then they might give some direction about whether or not they think that's a particularly interesting area to look into, or whether they have ideas about where that story could

be taken. It goes back and forth quite a few times before you actually think "right, this is the particular story that I'm trying to do and this is the way that I'm going to do it."

At their best, editors can help journalists to explain complex subjects in accessible ways without distortion. White (NZ Geo) sees this as a key part of her remit, and Morton (NZ Herald), too, speaks to the potential benefits of editors distilling how a story could be angled for broader appeal.

As Morton has experienced, attempts from generalist editors to bolster coverage appeal can also have distorting impacts, nudging story selection or focus to be skewed towards over-emphasis on the impacts of what climate action from individuals can achieve in the bigger picture. He says his editor has asked for more solutions-focused reporting targeting, for instance, "a mum in her 40s reading the *Herald* in Auckland thinking 'all right, what can I actually do myself? Should I not drive in the car this morning?'" Morton says those stories are important but "it's a complex thing because that can risk making people feel personally responsible for the future when a lot of the change that needs to take place is actually at the policy level or among a relatively small number of companies". Thus, editorial judgement, whether based on research or perception, about audience preferences, may influence the proportion of coverage weighted towards different ambits of climate solutions away from political or corporate accountability, which may be less interesting to a general audience but which play a more pivotal role in emissions reductions (Heede, 2014). Meduna, too, speaking longitudinally rather than about her *Conversation* role in particular, has from time to time felt constrained by the less specialised knowledge of her superiors having influence over her coverage. She characterises this as par for the course, "a restraint I've placed on myself by staying at the coal face of journalism, of making Stuff, reporting on Stuff".

As climate editor at Stuff with a background in climate reporting (and environmental law) herself, Gibson, on the other hand, is aiming to shift towards more structural sorts of coverage, partly as a result of the political calendar.

Partly there's only so many stories you can write about the consumer stuff, and partly, we've kind of got to the limit of what the consumer side can do now and we need to be writing about, there is an election coming up there's a climate change commission now, New Zealand is revising its NDC [Nationally Determined Contribution] under

the Paris agreement. so all that stuff seems to me to be more important at the moment.

I don't know if readers agree but will find out.

As an editor, especially within a large news organisation, Gibson has considerable agency over the balancing of reader interest aspects with accounting for the practical and factual logistics of where significant climate-related decisions are happening, helping to legitimise this more proportional form of CJ at Stuff. White, who has a science journalism background, also has control over keeping climate change on the agenda for NZ Geo, integrating across their coverage as well as producing one or two climate-specific features out of their 24 stories per year.

In short, editorial acceptance of the scientific consensus about human-caused climate change is now well-established, despite the highly variable levels of organisational capacity and resourcing provided to climate coverage (see [6.2.2](#)), and there is a trend towards greater editorial legitimacy across many organisations in terms of proportion and prominence of coverage. This aids in the mainstreaming of climate coverage. The high levels of autonomy the journalists report in terms of story selection can be viewed in context of the varied discursive impact editorial direction can have on coverage focus, depending on the degree to which the editor' holds or legitimates science journalism and climate knowledge. Beyond examining how climate sceptic voices reach the media, studies exploring more subtle distorting or conversely beneficial impacts of editorial direction seem to be less frequent, though in the ambit of science journalism, Amend et al. (2014) demonstrate that it is important to investigate which frameworks for story production resonate with different audiences in practice.

6.2.4 Science Communication and Specialised Knowledge

The tendency for science journalists to specialise and to bring a keen awareness of science communication to the climate round is beneficial, with Braae, Gibson, Morton and White expressing the sense that science communication is a burgeoning and strong field in NZ, thanks to increasing numbers of skilled specialists and informal networks between journalists helping to share knowledge. White has proactively arranged meet-ups for the science journalists in a bid to create community, noting that science communication was not part of her journalism education and that many science journalists are freelancers, so sharing knowledge is difficult. Morton says the science journalists tend to talk on social media and are a collegial group, not prone to the same kinds of rivalry and competitiveness he has seen in other rounds. The networking seems to centre around the longer-form science and

environmental communication aspects, as Braae, Hallett and Tahana, with less scientifically-focused orientations, report occasional networking, but not being connected into that same community.

Gibson, Hallett and Ballance, with half a century of reporting experience between them, note that specialist positions are important because of the expertise and experience built up within the area over time. This is true of science expertise as well as developing strong analytical and verification skills across a breadth of different information sources.

Gibson:

I think that [more specialists] would help because it takes quite a lot of rigour to cover climate really well because you're going to get conflicting stories about what emissions targets mean and whether they're enough... Whether electric vehicles are actually harming the climate. You're going to get thrown a lot of stuff, and you need quite good evidence and analysis skills to cut through all of that.

An investigative story Gibson worked on while at in-depth outlet Newsroom, uncovering the failure to factor in sea-level rise into apartment block planning, is one of many examples which illustrate the need for a range of specialised skillsets. Without her previous environmental lawyer training, Gibson says she would not have been able to read the planning decisions or have the same knowledge about the council hierarchies in charge of the different areas.

In short, the utility of the experience and skillset of the science reporters built on the job and within informal networks is visible within CJ. Outside of organisational containers, it provides another kind of scaffolding for specialised journalism practice where skills constituting science journalism capital are shared. It is notable that part of the need for the networks appears to arise from a shortage of science communication training in journalism education which, as Menezes (2018) empirically observes, can be of tangible benefit when designed around the journalists' needs).

6.2.5 Coverage Scope and Siloes

Most of the reporters both in this sample and in NZ generally who consistently cover climate change have come to the round from a scientific and/or environmental standpoint, whether due to their personal interests, prior training, job descriptions, or a combination of the three. In terms of specialist positions, this also appears to be the case internationally

(Berglez, 2011; Brüggemann & Engesser, 2014; Gibson, 2017), which is likely a hang-over from the centrality of scientific modelling in initially understanding the phenomenon of climate change, and also it historically being pigeon-holed as an environmental advocacy issue (cf. Vine, 2017). Freelance mostly environmental reporter Warne says that “the exclusive deployment of science journalists to the climate beat has had the unfortunate problem or effect of scientising the whole thing, when it’s really a human life, human hopes, human dreams, human inter-generational responsibility type of issue”. A review of content analysis research finds that it is political, not scientific, frames which predominate in NZ (Salmon et al. 2017), although this does not account for story depth.

In any case, the need for non-specialised journalists, especially daily news reporters, to consistently integrate references to climate change into their stories when relevant is a particularly recurrent theme throughout the interviews. Journalists speak to this giving the round greater legitimacy or being perceived as mainstream rather than, in Hallett’s words, “off to the side”. Gibson points out that the fact that scientists are increasingly confident in attributing the increasing frequency and severity of extreme weather events to climate change should help general news reporters make those links, while Morton suggests newsroom policy may be needed to cause a shift. White notes that science communication training opportunities are scarce and that more training for generalists who cover science-based topics including climate from time to time is also important, particularly considering the high amount of churn in newsrooms. Indeed, Bourk et al. (2017), examining 2012 NZ television coverage of climate change, found that proportionally, the quantity of climate coverage was very low, additionally observing a lack of scientific context within the stories.

The mainstream disjunct between short-form breaking news and making climate connections is illustrated by an example from Braae about covering protests calling for climate action.

... if there is a protest that is disrupting the normal flow of someone's life somewhere, for example some of the Extinction rebellion ones or blockades and stuff that would put up on roads, those stories are covered all the time by all sorts of news outlets. But they are often covered more in the sense of covering a protest rather than covering climate change as it were. So the news report is about Lambton Quay being closed because 50 people have linked their arms and sat down in the middle of an

intersection, and often in the straight news reporting of it, there isn't then that next step of: 50 people are sitting on Lambton Quay, also, by the way, the

Intergovernmental Panel on Climate Change says that we need to change x y z.

At Stuff, Gibson's recently-created editorial role is aiming to help bridge this gap and to boost local climate coverage. The idea is that there is one journalist per newsroom which feeds into a climate network that Gibson facilitates, which she says is aiding in finding local stories she would not spot from Auckland, such as a regional one about why many users of foodbanks are not focused on climate change. This geographical dimension is salient given that most—if not all—of NZ's climate journalists cover the entire country.

Organisational structure can also play a role in avoiding pigeon-holing climate coverage. At The Spinoff, Braae describes the employed (as opposed to freelance) journalists as generalists, including himself, but they still manage to cover much of the round between them. Then they commission specialised freelancers to supplement this. He says the outlet tries to account for the breadth of climate coverage, splitting it up into “much more climate science Focused stuff, and much more social and political and economic implications of climate change-focused stuff, on different tracks”. Such a model may work more easily for organisations which, like The Spinoff, focus more on analysis and less on breaking news, but the principle that climate coverage is not confined to a single specialised area may be more transferrable. Relatedly, Meduna, as science, environment and health editor at The Conversation, is pleased that the publication now lists climate as a separate round to science and environment, because even without a ring-fenced reporter covering it, it provides an indication that climate intersects with all areas of media. The comments from the journalists, when combined with content analyses, suggest that most reporters do not avoid climate coverage per se if a news event explicitly mentions it, but that the proactive contextualising of other stories and making links to climate change is missing.

Additionally, examples from the journalists interviewed who cover climate change primarily from a lens outside of a scientific round demonstrate a plethora of ways into climate stories as well as reasons why such coverage is helpful. Braae (The Spinoff) considers himself a generalist and entered into climate reporting via reporting on protests and “fringe politics”. He discusses a story he is proud of about a group of farmers from a small town, who said they were not climate deniers, but who were concerned about a part of the Government's climate policy where productive farmland would be used for planting pines.

... it involved being in a place where not a lot of journalists were particularly looking at through a climate change lens. It took into account the fact that we might know exactly what the Scientific Solutions to climate change are, but we don't necessarily know how to turn scientific changes into social and political policy that won't leave people behind. ... I think it moved into that conversation, which is a much more difficult conversation than we are putting too much carbon into the atmosphere, we need to put less carbon into the atmosphere or we're going to die, as it were.

Tahana (RNZ Pacific), who entered the round primarily from a foreign politics perspective, meanwhile, speaks to indigenous perspectives being consistently under-reported, using two examples. In one, at the 2019 Madrid COP, media from around the world flocked to Greta Thunberg's press conference, while Tahana tracked down a range of indigenous voices which he could give a platform to. The other came from a trip to Tuvalu for the Pacific Islands Forum (which also includes NZ and Australia) where climate change was the key topic of discussion. He approached an 80-year-old on a beach who was from Tuvalu's largest atoll Vaitupu, and who lent a seasonal, indigenous perspective to observing climate change in action, which was not at all contingent on knowledge of, or access to, climate science, and in a sense the more valuable for it. In the industry domain, Carbon News editor Hallett says that the key reason for founding the publication was business audience needs not being met. For instance, she discusses a particularly well-read story about the incoming 2017 Government's climate plans, where she read a book Climate Change Minister James Shaw referred to in a key speech, and synthesised that for her policy and business-oriented audience.

In short, climate change disturbs the media logic of dividing journalism into general news and specialised rounds (Berglez, 2011; Brüggemann, 2017). If CJ is slowly gaining legitimacy nationally with increased numbers of specialists (6.2.2) and editorial importance placed upon it (6.2.3), embedding CJ across news organisations seems to be the next frontier for covering this whole-of-society phenomenon, as already happens at some organisations, and where Stuff's appointment of a climate editor holds the potential for influence in this area. The journalists and their organisational contexts suggest that discursively mainstreaming climate considerations may involve a range of measures including science communication training, newsroom policy, and more editors and managers prioritising climate coverage across domains. Internationally, the *BBC* and Norway's multimedia public

broadcaster *NRK* demonstrate efforts in these areas (Oslo Met conference presentations, 2020, 10-95 minutes). Equally, story examples from journalists indicate the current and potential discursive breadth of the round, and how stories beyond a scientific domain can have strong public interest, equity and audience needs orientations.

6.2.6 Coverage of Frontline Communities and Countries

Journalists recount various pervasive challenges regarding the resourcing of representative coverage of marginalised groups in relation to their cultural perspectives and the disproportionate climate impacts they contend with (OHCHR, 2016). Meduna, Mitchell and Tahana speak to the problematic lack of diversity within NZ's mainstream news ecosystem. Ethnic, racial, gender, disability and other forms of proportional population representation within news organisations, especially senior management, are consistently lacking around the world (Cherubini et al. 2020), even though journalists consistently acknowledge that a more diverse newsroom is one factor likely to increase the quality and range of perspectives represented in news and attract more diverse audiences (Berlemont, 2016). Editorial prioritisation is a factor in these decisions, as it can be in deciding which stories to commission. For instance, one journalist notes that, as a freelancer, getting mātauranga Māori stories published has been easier in recent years than it used to be.

Another component discussed about representing Māori and Pacific communities with respect involves gaining their trust. The roots of distrust in mainstream media by Māori run deep due to long histories of often racist and otherwise demeaning coverage (documented in e.g. Stuff's 2020 *Tā Mātou Pono* investigation). One journalist describes how their publication approached a coastal community which is embarking on the challenging journey around managing the need for relocation of their marae and urupā (community focal point and ancestral burial grounds, [Glossary](#)) due to sea level rise risks. A couple of requests to document that process over time, one made by a journalist approaching members of his own iwi (tribe/people), were both declined.

For Pacific Islands coverage, the journalists link its low levels and overly repetitive story lines to factors including resourcing—both reporter numbers and funding for travel to the islands—along with editorial and individual journalist prioritisation, and perceived audience interest. Only RNZ and TVNZ have Pacific correspondents, and in-depth Pacific reporting otherwise tends to be limited to one-off, NGO-funded trips. Tahana at RNZ Pacific, the only reporter in the sample regularly covering the region, explains that an awareness of cultural context is a key element of reporting in these communities. The unreliability of

phone, Skype, or lack of English language access within local communities is compounded by less awareness around, for instance, what interview requests are for and the role of journalism. In this context, shoe-leather reporting in the islands, particularly when starting out, is an integral part of gaining local perspectives, including ones which go beyond stereotypes of drowning paradise. He elaborates on the example from the previous section about a Tuvaluan local perspective, noting that he was able to cover it better because of being in Tuvalu for two weeks as opposed to the more typical couple of days.

It sounds so vain but it added depth to the stories I filed. It gave a local perspective to the international talks, compared to many who are so under the pump that they barely left the conference centre. By the time I got back from Tuvalu and recovered sleep, that was about when the world oceans report came out, so it was nice to tie his example even more within that document. A state document suddenly had life breathed into it.

In speaking to the ways in which the Vaitupu resident observes changes in the landscape, Tahana connects having adequate time for on-the-ground coverage with the benefits of presenting a more nuanced story about climate community impacts, and the ways that such stories also serve to place both scientific and diplomacy discussions within that context. Tahana describes the Pacific as “one of the more ignored regions of the world, or neglected at least”, despite the inseparability of climate discussions from the region’s politics and biodiversity (e.g. Costi & Renwick, 2020). Tahana notes that even with limited resources, journalists could improve Pacific Islands coverage by regularly following island media outlets, looking to NZ sources of Pacific research and keeping in mind that Pacific politicians are also readily accessible and often keen to have a platform.

To summarise, a confluence of factors including representative employment practices, cultural understanding among editors and journalists, socio-historical distrust among the public, and organisational and individual choices about resource prioritisation all have a bearing on the coverage of frontline communities. A news networks perspective (Domingo et al. 2015) could help to map the complex and contingent relationships, between news producers’ decision-making, funders, transnational geographical and cultural contexts, indigenous communities trust in media, and so on.

6.2.7 Sustaining Climate Coverage and Driving Change

Although the topic was not specifically canvased, the journalists' comments allow for some observations about sustaining climate coverage and the drivers of change within the round.

Most journalists would like to see more climate specialists employed across the country, especially, as two noted, in the press gallery. However, the journalists' perspectives on the degree of viability for this shift vary. Meduna, Ballance and Hallett, all of whom work or have worked at the public broadcaster RNZ at various points, paint a picture of resistant management, particularly when it comes to being persuaded to introduce any specialist science, environment or climate roles, an issue over which at least two journalists have left the broadcaster. Additionally, its current newsroom editorial expectations may not be well-suited to a specialist reporter being able to build up skills and networks over time in a position, because at present Ballance notes newsroom reporters spend considerable time on stories outside their specialist area. Ballance is also reluctant to advocate to management for a specialist position on account of its current youth, Māori and Pacific audience outreach priorities which are taking precedence. Morton (NZ Herald), similarly, would love to see a climate reporter at every mainstream media outlet, but he conceives of this possibility as highly unrealistic, belonging to "an ideal world where the media wasn't fighting for its existence and we had really well staffed newsrooms like we did 20 years ago".

At least in RNZ's case, though, Meduna considers the lack of the organisation's science, environment and climate resourcing to be more about priorities and less about funding.

In that small group of specialist correspondents, they're still sticking to the old traditional rounds of economics, education, politics. They still stick to having 10 people covering sport but one person in the newsroom covering science environment, health, all of that together. ... And then the internal stuff about how hard it is sometimes to convince the higher-ups to recognize climate change. I don't know how long I've been talking about that it should be just as important as business reporting and sports reporting.

Hallett shares similar concerns about prioritisation. Her experience running the country's only specialised climate outlet, Carbon News, contrasts the profit-driven business logic of mainstream media outlets with the moral imperative to find a way to ensure climate

coverage happens. Founded in 2008, it immediately faced an extremely difficult financial period which Hallett says was a result of the combination of the global financial crisis and a right-leaning government. However, Hallett persisted over the years out of a public service sense that the daily, wide-ranging industry-focused climate reporting the outlet was uniquely producing was too important to sacrifice. Until Gibson and Wannan's appointments at Stuff in early 2020, Hallett and her late husband were the only specialised climate-specific reporters at any outlet in the country.

The only reason Carbon News exists is because my husband and I make it exist. We just keep doing it. We don't have anyone over us saying 'no those stories aren't selling, go do something else'. It certainly hasn't been profitable. ... If I had other mainstream news bosses above us it would never have happened. From a business point of view, the sensible thing probably would have been to shut up shop. But not from a moral point of view. That's why journalists aren't good businesspeople.

While Hallett pushes back against the norm dictating the dominant role of financial viability to emphasise the role of morality and public service. This is not synonymous with ignoring financial realities. Carbon News charges a \$600 NZD/year subscription fee (Carbon News, Subscribe), high enough to effectively narrow her possible market to those financially well-off, even though Hallett would prefer to be able to make all content freely available.

Similar to Hallett's push against the financial grain in creating Carbon News, Morton and Meduna both note that the steps taken to prioritise quality climate coverage at Stuff, pre-dating the creation of a climate desk, can be attributed mainly to the persistence of a single managing editor, Patrick Crewdson. That said, Mitchell's observations about the increasing regularity of climate coverage at Stuff ([6.2.3](#)) and Gibson's establishment of a regional network of reporters seeking climate stories ([6.2.5](#)) suggest that this editorial push may have played a key role in normalising coverage throughout Stuff more broadly. Meduna notes a worrying divide between a core of committed journalists and editors, who push hard for consistent and quality climate coverage because they believe it needs doing, and a wider culture shift towards embedding such a perspective into NZ journalism's ecosystem.

Within mainstream, there's good people pushing for it, but it does feel it does come at their cost, their exhaustion really.

White, relatedly, predicts that a trend of particularly committed journalists driving the round will be a decisive factor in sustaining it. Climate coverage, she believes, is, and will continue to be, “driven by journalists who think that it’s important, not by public interest or clicks on their stories”.

Organisational hierarchies come into focus in regards to disrupting the status quo in a structural and longer-term sense. The contrast between the steps that Stuff, as a commercial company, and RNZ, the public broadcaster—even if an underfunded one (Bunce, 2019)—have—or have not—taken to bolster climate coverage are indicative of the breadth of influence which a managerial level beyond the journalists’ control holds over the present and future of climate reporting in NZ, in particular its financial resourcing. While Hallett’s experience with Carbon News models an escape route from the limits of being beholden to an impeding decision-making hierarchy in terms of funding climate news, it has equally brought with it long periods of financial precarity. White, too, has decision-making power over the subjects and resource prioritisation for stories in her editorial role, so far with more financially stable working conditions. The sense that quality climate coverage may be driven more by committed individuals suggests that these comparatively specialised journalists hold a more similar perspective of climate coverage than that which exists within the upper echelons of the larger news organisations structurally. However, the fact that such a separation is not visible in various medium and larger organisations (Newsroom, The Spinoff, The Conversation, Stuff, *see 6.2.2 and 6.2.3*) highlights other possibilities where climate coverage is an area with organisational backing.

6.3 Social Context: Climate and Covid

This section canvases climate change and Covid-related context and trends, beyond media systems, within which climate stories are produced. I specifically ask about climate campaigning movements and the impacts of covid-19, and outline additional aspects surfacing from the interview analysis.

6.3.1 Climate Visibility and Complexity

The journalists discuss a number of ways in which climate change is becoming, or will become, more traditionally newsworthy in a greater range of domains, but also more complex to cover well. Some note that mass climate civil disobedience, in particular through the School Strike for Climate movement, is at the forefront of bolstering public demand for climate action, a shift also borne out in surveys (e.g. 1.5 Project, 2020) where the expectations of younger demographics should carry increasing weight in the coming years.

For Hallett, whose publication Carbon News is business-focused, this shift is already a trend which she covers in terms of younger people being less trusting of businesses which have poor climate records.

Most journalists did not feel the School Strike for Climate or Extinction Rebellion campaigning movements had an impact on their day-to-day reporting, but their comments suggest the school strikes might have more subtle, long-term impacts. In NZ, mass protests have not been common in recent years, so, as Braae notes, School strike for Climate's large-scale youth-led political action is inherently newsworthy, whereas he characterises Extinction Rebellion's actions as more of a continuation of climate action media stunts. Mitchell meanwhile finds the strikes provided general motivation to diversify who he talks to for stories.

The availability of climate angles that conform to traditional event-centric news values can also lead to overly simplified stories. For instance, in relation to the school strikes, Meduna observes that coverage centred on Greta and covered the event as a fad.

Greta initially, and obviously not just her, but for a long time everything was hung onto her. She was covered as the person making it all happen. That's true, but the fact that hundreds of thousands of people came into the street and at some point it became not just school strikers; it became family, it became everybody watching on the streets. It was still portrayed as a movement somebody sparked out of some interest, rather than saying this is climate change, which is affecting us all, and it seems the most natural thing that we should be marching in the street because otherwise nothing's going to happen. It was still covered at a distance.

Research from comparable high-emissions countries similarly finds stories over-emphasising Thunberg's role, or her youth, in comparison to the striker's demands, in Sweden, Germany, the US, Canada and elsewhere (Eide & Kunelius, 2021; Jacobsson, 2020; Bergmann, 2019; Kalla, 2019). Meduna's critique points to the ease of telling particular stories over others, rather than taking the opportunity to dig into the strikers' demands, which, from Morton's perspective, provided ample fodder for substantive and human-interest climate stories the world over.

Another form of complexity which manifest as climate becomes more newsworthy involves the coverage of extreme weather events (cf. Hertzgaard and Pope, 2020). On the one hand, some journalists note that the increase in these events, effectively in seeing scientific predictions play out and scientists become more confident discussing them, should make climate change a much more tangible phenomenon, easier to grasp for the public. On the other hand, as Tahana and Warne note, this news-making trend for climate change is set to continue in increasingly challenging ways for NZ in the political arena, especially considering the country's various responsibilities to Pacific Islands and, if a sufficient range of other measures are not in place to prevent it, forced displacement and higher incidence of disease epidemics in the Pacific. Warne and Ballance worry that an increase in such devastation brings with it the kinds of drowning island stereotyping risks which studies have observed in other Anglo-Saxon countries (Shea et al. 2020, Dreher & Voyer 2015). Warne:

It's candy, this kind of disaster journalism. It delivers, it gets clicks. ... As a journalist, you nibble away at the edges of the subject, trying to find new ways to tell those stories, with more humanity, less drama, less binaries between the victim and perpetrator, trying to feel your way into another space.

Warne and Ballance note that the risk for the public tuning out is high and that, however much more directly impactful, visible, and tangible certain aspects of climate change may be, it is no time for complacency from a journalism standpoint. Indeed, when asked about which aspects of climate felt under-covered in NZ, the list was long and varied, with a slight political emphasis. It spanned economists and non-scientific future forecasting, psychological perspectives, international climate displacement, climate diplomacy and foreign policy, scientific uncertainty, the emissions Trading scheme, and ocean acidification. The transnational aspects of climate coverage would appear to be particularly poorly served given that, as summarised by Bunce (2019) most of NZ's international news content comes from news wire services, and the overall proportion of international content is very low, while the journalists simultaneously identify a strong need for localised content to bolster coverage relevance (see [6.1.6](#)).

While most of the journalists are varying degrees of hopeful that climate solutions coverage will increase in the next decade, Meduna also worries that defensiveness or delay tactics will become more prominent if the government of the day cracks down on regulating

methane emissions, which are typically responsible for almost half of NZ's gross emissions (MFE, 2021).

Twenty years ago we had the denial focussing on CO₂ and asking all those fundamental questions again and again and again. There is a similar thing happening now on methane. It's not the same pure denial saying it's not happening, but whether we have to account for it in the way we do, and whether we have to take it as seriously as I think we should. Agricultural emissions are very tightly linked with people in jobs living off the land producing the food we all need. So it's easy to become defensive and argue that we can't stop doing agriculture, and doing it differently is too big a deal. So I'm bracing myself a little bit for another rough patch, if New Zealand were to introduce something to regulate agricultural emissions.

In NZ, the controversy and relevance to many farmers, rural communities and industries is practically guaranteed to keep the subject in the news, but again, the way in which the story is covered is not assured, and NZ has particularly high per capita agricultural emissions when compared internationally (MFE, 2021).

The interviews show that real-world climate happenings (Schudson, 2019) are viewed less through the lens of their day-to-day impacts and more via longitudinal changes. set to make the climate round simultaneously more newsworthy and more complex to cover responsibly. These happenings are marginally contingent on the impacts of emissions increases, and in larger part involve actors responding to ballooning ramifications of these through increasing youth-led public demand for climate action, conflict in the agricultural space, the messaging from scientists, and national and foreign policy decisions. The journalists' habitus, in a longer-term sense, could be described as being attuned to the inevitability of climate coverage as a long, changeable game in which they take a proactive, self-reflective role. As Moser (2016) notes, more research is needed in the wider climate communication field into engaging people on climate change in a sustained and sustainable way.

6.3.2 Influences of the Covid-19 Pandemic

For context, when the Covid pandemic ramped up in NZ in March 2020, the government opted for a Covid elimination strategy underpinned by strict lockdowns as

needed. NZ's first and longest-lasting lockdown took place between 26 March and 13 May, and the journalist interviews were conducted between 29 April and 23 June. The comments that follow are as such reflective of this relatively early stage within the Covid-19 pandemic.

When the lockdown hit, NZ's entire media ecosystem suffered considerably as a result of advertising revenue drying up among other factors, heightening uncertainty for its employees even while audience numbers rose (Myllylahti & Hope, 2020). Journalists had to pivot to remote working, needing to avoid stories requiring travel, almost overnight. At The Spinoff, Braae explains that the entire newsroom, which previously did not focus on breaking news, switched to a shift system, noting the pandemic was a humbling reminder of the unpredictability of journalism. Hallett observed that Carbon News, which is entirely dependent on subscriptions for revenue, was economically impacted but not as badly as with the GFC in 2008, while White reported NZ Geo landing in a particular stage within their magazine production cycle which minimised the extent of disruption.

Across the media landscape, Covid gained the lion's share of audience attention for what Braae, Meduna and Ballance all estimated to be around a month, before it felt as if a sense of Covid stories fatigue was setting in. For Gibson and her colleague Wannan who started their new climate desk positions at Stuff about a month before the lockdown hit, being journalists suddenly ring-fenced to cover climate change during this period came with its challenges in terms of attracting audience attention. Because their roles were so new, they were in the process of establishing climate reporting initiatives. A new climate video series and podcast both had to be put on hold, while a magazine supplement, whose planning predated the lockdown, and a weekly newsletter, went ahead, despite the fact that, in Gibson's words, "Covid sucked a lot of the oxygen out of what could have been something that generated a bit more buzz". As such, Covid presented an audience distraction challenge underpinned by a logistical one because of the project launch dates being locked in.

Due to capacity constraints, writing climate stories in those initial months was a difficult proposition for a journalist like Morton, who is the NZ Herald's only dedicated science writer (see [6.2.2](#)). While Morton found the second Covering climate Now week, landing in April, an inconvenience as a result, he says it nonetheless provided a good opportunity to compare people's propensity to act between the shorter-term Covid-19 pandemic and long-term climate crisis. He also notes that, even while Covid seems to have exacerbated the public's mistrust of journalists on the one hand, as they watch how the daily press function for the first time, science stories are simultaneously in the spotlight and hopes

that this public interest in scientific angles, and the focusing of newsrooms to “really good meaty substance” will endure.

That said, Meduna, Ballance and Warne all note that there is no roadmap for harnessing the momentum of the Covid crisis as a way of furthering the urgency and prominence of the climate round, and as such the pandemic risks being primarily a distraction. This is certainly the case in the Pacific. Even as Cyclone Harold left wide-spread destruction in the region in its wake in April, the Pacific had already been pummelled by the economic effects of tourism ceasing. Tahana (RNZ Pacific) notes that, outside of the cyclone, many usual sources of climate stories dried up.

The publication of reports were delayed, meetings where pacific leaders would often make the strong statements were cancelled, pertaining to climate change. The bait for stories hasn't been there. ... The long-term trend of climate change absolutely happened through it but activist events or report publishing or conferences or the general things that nudge the story along and along have all been postponed or cancelled.

Tahana's comments point to the complex interplay between climate change as phenomenon, and climate change as news story bait where external influences play a decisive role. However, beyond the most obvious angles, about emissions impacts of massively reduced travel for instance, Tahana and Mitchell also give examples of covering the complex ways in which Covid and the climate crisis feed off of each other. Tahana was looking into how the Pacific intended to rescue its aviation-reliant, and thus emissions-intensive, tourism industry which is the backbone of the region's economy. Mitchell was investigating the consequences of bypassing environmental safeguards in the Government's rush on so-called shovel-ready infrastructure spend.

The early days of the Covid pandemic had the effect of making the material contexts in which the journalists carry out their trade, in all their precarity, come clearly into focus. While all managed to hold onto their jobs and continue producing journalism, the funding models of their organisation, how their organisation reacted to the pandemic, the scope of their round, the degree to which their plans were travel-reliant, and the (trans)national context they were working in (NZ vs the Pacific) were factors which, usually consigned to the background, were now key determinants of impact. If in on paper a journalist ring-fenced to

cover climate would receive the least CJ disruption, there too was no escape from Covid's news cycle and audience interest domination, highlighting the discursive impacts to the climate round. While Covid provides for story angles at the nexus of the two crises, there is uncertainty as to whether climate coverage could or would be made to benefit from positive ramifications of the public health emergency such as public interest in scientific expert advice or viewing the impact of collective action. Longer-term, perhaps as summed up by Braae (The Spinoff), the impact of Covid will lie in becoming, like the climate crisis, an event whose tentacles and impacts intersect with everything else.

The big editorial decisions that come into where there's a connection there [between climate and Covid] is the fact that if you were writing a story right now about what the future looked like, and didn't include some sort of consideration of Covid-19, it would kind of be a worthless story. We know that there's going to be some effect on pretty much everything and we don't know how that's eventually going to shake out.

7 Discussion

Amidst the ever-increasing prominence and devastation of climate impacts worldwide, the rise in youth-led mobilisations for climate action and a global public health crisis, this study qualitatively analyses the habitus of CJ practice in NZ based on the reflections of 10 journalists who consistently cover climate change. It is situated within a national context of relative geographical isolation coupled with geopolitical ties to the Antarctic and Pacific, the country's high agricultural emissions and the significant 2017 shift from a right-leaning government under which climate action stagnated to a left-leaning more proactive one (Hall, 2020). The study uses habitus as a conceptual tool for encapsulating the experiential aspects of CJ practice and understands the journalists' responsibilities (i.e. ethical cognitive role orientations) as a central component of this practice. These responsibilities inherently exist in relationship with other media-based and social contexts, be they symbolic, discursive or material, which are themselves dynamic and in flux (Mellado et al. 2020). To make sense of how this landscape comes into being, I situate the journalists' capital, access to resources and material security within a CJ space, which operates in relation to scientific and wider journalism spaces (Örnebring et al. 2018). I also orient it in relation to its friction with established media logics (Brüggemann, 2017) and other CJ content and reception context.

The analysis finds that in order to cover climate responsibly, the journalists seek to provide accurate, contextualised, holistic stories, to aim for fair and diversified representation, to strive for regular and fresh coverage, maintain an emotional awareness, to make coverage interesting and relevant without sacrificing the above principles, and to be responsive to audience needs and feedback. There is a high degree of consistency between journalists in regard to their focus on the set of responsibilities analysed. The prevailing and unifying daily challenge faced by these journalists is discursive and can be summarised as negotiating the art of public oriented climate communication, grounded in the confluence of the responsibilities they identify, including the notable difficulty of visualisation for those reporting within mediums requiring it.

In the context of a journalistic space, together, the journalists' responsibilities, combined with the skills and knowledge-base of the climate journalists, can be understood as forms of CJ capital. For those working under editors, it appears this capital is largely respected in terms of the journalists' high autonomy in their daily work, and, though some journalists note occasional challenges regarding coverage proportion or framing arising from general editors possessing less science or climate-specific knowledge. The skills base for

science communication is considered strong despite a lack of institutional backing for its development.

Regarding similarities with journalism generally, a high degree of overlap with Kovach and Rosenstiel's (2014) 10 elements of journalism can be identified, with the exception of emotional awareness which is particularly prominent in the climate domain (Stoknes, 2015; Moser, 2016), along with the need to deliberately find fresh ways to regularly cover climate. These two exceptions speak both to the public-oriented communication challenge of an unforgivingly vast and overwhelming phenomenon, as well as the media logic discrepancy of squaring aspects of its long-term nature with the speed of news cycles and expectations, as also identified by Brüggemann (2017). The emphasis on finding locally-relevant angles also poses a challenge for depicting the transnational nature of climate change.

Aiming to bring these responsibilities into conversation with the role labels used in most literature, a combination of overlapping informational, explanatory (context), interpretive (drawing out links and implications), educational, curation (packaging information) and facilitative (varied perspectives) roles come through. Overlaps with both general journalistic roles, and a knowledge-based journalism framework as presented by Nisbet and Fahy (2015), are evident. In a variation on the role of providing information people need to make political decisions, which Hollings et al. (2016) find most NZ journalists consider important, a wider audience advisory or empowerment role about helping people to stay engaged on climate change and understand the options for taking action, is also present. A monitoring power role is less commonly discussed, which may result from factors such as the varying role of the organisations within the media landscape, science journalism's focus on explanatory and interpretive stories (e.g. Brüggemann, 2017), a lack of time or financial resources, or audience disinterest (perceived or actual).

While generally not inhibiting their daily work, the journalists' access to resources including time capacity varies considerably. It is contingent upon factors including the breadth of the journalist's round and whether that coverage area is shared between multiple journalists at the organisation, whether their round is ring-fenced or more prone to being subsumed by news agenda fluctuations, the influence they have to guide coverage within their role, and managerial interest in resourcing in-depth climate stories. The national picture is of steady improvement to the longitudinal picture for climate reporting in terms of increasing numbers of reporters and editorial legitimacy for the round. However, such

improvement tends to be driven by the efforts of a small number of individuals and is not evident across all organisations. On the financial and job security front, CJ is considered as being subsumed by the overall journalism space generally, in terms of how it is impacted long-term by the precarity of organisational funding models, the threat of restructures and redundancies, and public (de)valuing of journalism. The early months of the Covid-19 pandemic brought the topic of material security, as well as the journalists' daily routines, sharply into focus. It also held issue attention implications for the climate round regarding Covid's domination of the news cycle, along with framing opportunities to link the two crises.

Discursively, the climate arena is conceived of as increasingly newsworthy, unavoidable and complex, bolstered by rising youth-led public demand for climate action. Ensuring the experiences and perspectives of frontline indigenous communities, along with other affected groups such as rural communities, are represented while avoiding stereotyping is considered especially challenging within a journalism landscape which is historically and presently disproportionately Pākehā (NZ-European) -dominated and low on trust with effected communities, predisposed towards low levels of resourcing for international coverage, and weighted—via the journalists' job descriptions—towards more scientific and less community-focused coverage. Additionally, furthering the extent to which all journalists consciously seek to make climate connections in their stories means both moving away from the conception of climate exclusively being assumed to be a scientific or environmental phenomenon, as well as going beyond the media logic of subject areas which are tidily encompassed by rounds. The climate journalists themselves actively make such links, and some organisations are taking steps towards pursuing more integrated coverage.

While recognising the limitations to this research as discussed in [5.3](#), this study contributes to a growing body of scholarly research and journalistic accounts about producing and practising CJ in NZ and internationally (e.g. Bourk et al. 2017; Morton, 2020; Boykoff & Boykoff, 2007; Berglez, 2011; Brüggemann & Engesser, 2017). It advances the field's research in four ways.

First, it intentionally takes a sample which attempts to capture something of the diversity of organisational and other settings within which CJ is regularly produced in NZ as at 2020, including outside of the science journalism arena, allowing a focus to crystallise on the shared discursive phenomenon being reported on, in concert with the diverging contexts within which that reporting is done. Second, in framing the analysis, it argues that a focus on

journalistic responsibilities (cf. Kovach & Rosenstiel, 2014) assists in widening the purview of cognitive role orientations (Hanitzsch & Vos, 2017) to make space for the negotiation of principles-based ethical standpoints which often appear to be dealt with separately from role discussions but which are core to discussing CJ (cf. Ward, 2009; Stephenson, 2012).

Third, insofar as it is possible to do so based on these interviews, this research situates CJ practice within a journalistic space (Örnebring et al. 2018) in order to provide a heuristic for synthesising the symbolic and material conditions which, together with the climate-related discursive negotiations, constitute CJ practice. Positioning CJ within a journalistic space and exploring the discursive and media logic challenges identified provide a means of elucidating the responsibilities, skills and experience shaping the quality of CJ discourse, and also the myriad influences affecting the quantity and proportion of climate angles and connections throughout the NZ journalism landscape. Finally, this research, building on Bourk et al. (2017) and Morton (2020), provides a case study of the relatively under-researched area of CJ practice within NZ, which can serve to inform and strengthen CJ practice moving forward.

Identifying three additional areas for research, first, the analysis has shown that a thorough understanding of the perceived barriers and enablers to more incorporation of climate journalism across the country's journalism landscape would be useful, including the perspectives of journalists and editors who rarely or have never covered the topic. Indeed, the need for such research is likely to be equally applicable in any high-emissions country. Second, investigating journalists' approaches and challenges for covering the increasingly topical and politically fraught area of agricultural emissions would contribute to a richer understanding of CJ in NZ. Finally, it would be useful for another country-specific climate study to determine whether the theoretical approaches used together in this study are beneficial for comparative purposes and how they can be refined. The list of CJ responsibilities identified can provide a starting point for international comparison with similar high-income, high-emissions countries.

In conclusion, I wish to thank the journalists interviewed in this research. Analysing your experiences and perspectives is key to understanding the drivers, trends, strengths and limitations shaping CJ practice in NZ, while providing a basis for international comparison and learning. I hope this foundation can serve journalists, media professionals, researchers, policy-makers, campaigners and everyone across Aotearoa NZ and beyond working to create a planet where ecosystems and people can thrive for generations to come.

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Appendix A: Interview Questions

Introduction

- Tell me about your background before journalism and how you got into climate reporting
- Describe your role, what kinds of stories do you mainly cover, how does climate coverage fit in?
- What are the areas you have most expertise/confidence in?

Climate reporting

- Where do the ideas/tips for stories that you personally cover most often originate from?
- Specifically, which kinds of (human) sources and/or communities do you tend to keep in touch with for story ideas?
- Walk me through a typical decision-making process for you covering a story. Which factors are uppermost in those decisions?
- Tell me about one climate story you covered that you are particularly proud of or found rewarding and why.
- Tell me about one climate story you produced or from your outlet that got good engagement from the audience. Why do you think it resonated?
- What kinds of people, networks and communities do you turn to for guidance or support when mulling over challenging decisions?
- How does the uncertainty about the means of survival of most news organisations, and about the media industry generally affect the climate reporting you and/or your organisation can do?
- Are there other factors constraining your or your outlet's ability to continually produce quality climate reporting? How do you get around them?
- What do you think journalists covering climate change in NZ do well?
- What areas of climate coverage/framing are under-reported in NZ? What's preventing the coverage?
- Do you think more specialist reporters in NZ covering climate change would be useful, are there areas of expertise missing? Is it about upskilling everyone?

Influences on climate reporting

- The School Strike/Fridays for future and Extinction Rebellion movements have cast climate civil disobedience into the public spotlight. What effect do you think they have had on climate reporting more broadly?
- Do you think those movements have had a bearing on the kind and/or amount of climate reporting you personally do?
- For those who participated in the Covering Climate Now week 16-23 Sept 2019:
- Did the existence of this explicitly named week affect how, or how much, you covered climate change?
- If you/your organisation didn't--or perhaps couldn't--sign up, why was that?

- What about the April 2020 Covering climate week, did you know about it and participate?

Terror attack

- In the week before March 15 last year, the week leading up to the school strikes and terror attack, which if any climate angles were you writing about during that week?
- Did you have any stories you had intended to publish on the Friday afternoon or in the days and weeks after the terror attack, that got delayed or abandoned as a result?
- How/did your reporting focus shift when the terror attack happened?

Covid-19

- Explain the ways in which covid-19 has affected the way you work, new constraints and perhaps opportunities, and what sorts of stories you cover currently.
- How has Covid-19 affected your climate reporting?
- Has the Covid-19 pandemic impacted the climate framings/angles you are now interested in or given you new climate story ideas?

Ethics and responsibility

- What responsibilities do you consider you have as a journalist whose role involves climate coverage?
- What ethical issues regarding climate coverage are uppermost for you right now?
- Are there responsibilities or ethical issues which are more pronounced here in NZ, for instance around Pacific Island coverage?

Looking back and forward

- Thinking back a decade or to when you started reporting if later, any reflections on how covering climate change has changed? Or perhaps hasn't?
- Across the country, how do you envision climate reporting in 2030, what is there more of? Less of?

Any other comments?