

Behind the Green Screen:
Critiquing the Narratives of Climate Change Documentaries

by

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B.A. (Hons), University of Victoria, 2017

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Abstract

As the climate crisis continues unabated, documentary films have become an increasingly popular medium through which to communicate its causes and impacts. Such films are an easily accessible form of mass media that has the potential to reach wide-ranging and large audiences, and often star popular celebrities. However, few academic studies have examined climate change documentaries and considered the ‘story’ of climate change that such films create. The lack of critical engagement with climate change documentaries is significant as it suggests the narratives of such films have been left largely unexamined despite their importance as a form of popular environmental communication. In this thesis, I use content analysis and narrative analysis to examine how 10 popular climate change documentaries tell the ‘story’ of climate change and produce specific ‘imaginative geographies’ about regions that are particularly vulnerable to climate change. Though I note throughout my analysis that there are several moments of rupture in which counter-narratives emerge, the dominant discourse throughout these 10 films is one that generally reinforces Western science and technocratic modernity as the solution to climate change, and racialized ‘Others’ as its passive victims. Understanding how climate change documentaries construct their narratives and select their specific topics of focus provides important insight into how popular ‘imaginaries’ regarding the climate crisis have been produced.

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Chapter 1: Introduction

Introduction

The scale and severity of climate change, a crisis that is almost unimaginable in its urgency and scope, is difficult to articulate in a single opening sentence. At present, the Intergovernmental Panel on Climate Change estimates that limiting warming to even 1.5°C above pre-industrial levels will require global net anthropogenic CO₂ emissions to decline by roughly 45% from 2010 levels by 2030 (IPCC, 2018). At present, approximately 1°C of warming above preindustrial levels has occurred, bringing with it disastrous impacts that have affected more vulnerable populations the most (IPCC, 2018). In an effort to articulate the severity of the climate crisis, I offer a list of events related to climate change that have occurred during my time in the master's program at the University of Victoria, a bleak roadmap of my time in graduate school which I could easily populate further:

1. Towards the end of my first semester in the fall of 2018, the Camp Fire starts in Northern California and becomes the deadliest and most destructive wildfire in the state's history. In total, 85 people are killed, and the presence of hot, dry conditions following a period of drought is connected to climate change (Goss et al., 2020).
2. Just after reading break in my second semester, Cyclone Idai hits the eastern coast of Africa and the resulting flooding kills over 1,000 people across Madagascar, Mozambique, Malawi, and Zimbabwe. The severity of the flooding is attributed to a drought intensified by climate change (*After the Storm*, 2020). In Mozambique, 1.85 million people are displaced, where only six weeks later Cyclone Kenneth makes landfall (Chapungu, 2020).

3. A week before I return to university for my second year and begin writing this thesis, Iceland holds a funeral for Okjökull glacier, the first glacier in the country to lose its classification as a glacier due to significant melt that was attributed to climate change (France-Press, 2019). A week later, Category 5 Hurricane Dorian hits the Bahamas, killing at least 70 people and leaving over 250 missing (Rolle, 2019). Its slow-moving nature and difficult to forecast movements made it more deadly, characteristics whose amplification are linked to climate change (Schwartz, 2019).
4. As I work on my literature review in late 2019, forest fires in Australia intensify and will eventually burn over 40 million acres, kill at least 33 people, and kill or displace 3 billion animals (Richards et al., 2020; Sullivan, 2020). Simultaneously, the Horn of Africa receives 300% above average rainfall, killing over 280 people due to flooding and landslides. Events in Africa receive significantly less news coverage. These concurrent severe events are linked to a strong Indian Ocean Dipole made more extreme by climate change (“Indian Ocean Dipole,” 2019).
5. In early August 2020, a few weeks before the start of my final semester, news breaks that the Milne Ice Shelf, the last fully intact ice shelf in the Arctic region above Canada, has collapsed into the Arctic Ocean. The region had been experiencing “record breaking temperatures” during the summer (Mueller, 2020).
6. As I write this sentence, Hurricane Delta is making landfall on the Louisiana coastline, the sixth major storm to threaten the state this year. The storm is the 25th named storm of this year’s hurricane season, with storms becoming more powerful due to warmer oceans (Milman, 2020). When I returned to this section to finalize

edits, Hurricane Zeta had just made landfall in New Orleans, leaving 80% of the city without power (Freedman et al., 2020).

Yet, other than the smoke from the wildfires currently raging in the Western United States that I have felt in my lungs and seen out my window intermittently over the last few months, I have experienced these events almost exclusively through the media. My understanding of the climate crisis and those it affects has largely been through a screen, mediated by creators of virtual content. While this is increasingly not the case, the ‘wicked’ nature of climate change means that this is how people, particularly affluent and non-racialized populations in urban areas in the Global North, experience climate change (Hawkins & Kanngieser, 2017). The climate crisis is often referred to as a ‘wicked problem’, meaning it is highly complex, the scope of both the problem and its (potential) solution(s) are very broad and abstract, and there is little margin for error in eventual attempts to address it (Head, 2008; Incropera, 2016). Hawkins and Kanngieser note the “global cartography (and temporality)” that generally separates those who have contributed to climate change from those who will experience its worst and most immediate effects (2017, p. 2). Thus, perhaps more so than with other issues whose severity may be more immediately tangible regardless of geographical location, communication surrounding the climate crisis is an essential part of ensuring an appropriate response. Boykoff highlights the “Lorax-like” role of media in that it must ‘speak for the trees’ and articulate the urgency and relevancy of environmental issues to the broader public (2009, p. 433).

Some environmental communication scholars argue that environmental problems are not only materially produced, but also socially and discursively constructed (Cox & Depoe, 2015). Dunaway argues that “media images do not simply illustrate environmental politics, but also shape the bounds of public debate by naturalizing particular meanings of environmentalism”

(2015, p. 1). Boykoff adds to this point, suggesting that “coverage certainly does not determine engagement; rather, it shapes possibilities for engagement” (2011, p. 2). Critical scholars of climate change media argue that media sources should not be viewed as mirrors for reality, but rather as “active rhetorical agents” with the ability to shape how the public comes to understand, and care about, climate change (Dunaway, 2015a, p. 1; Boykoff, 2011a; Manzo, 2012). Media is a crucial way through which the public interprets complex climate science, and thus it is hugely influential in shaping popular discourse surrounding the climate crisis (Boykoff, 2011a).

The climate change documentary is an increasingly popular way for the public to engage with a variety of political and social issues, including the climate crisis (Holland, 2020; van Munster & Sylvest, 2015). Such films are an increasingly easily accessible form of mass media that has the potential to reach wide-ranging and large audiences (Bieniek-Tobasco et al., 2019). In 2007, *An Inconvenient Truth* won an Academy Award and led to Al Gore co-receiving the Nobel Peace Prize alongside the Intergovernmental Panel on Climate Change (Pearce & Nerlich, 2018). The Nobel committee explained that this choice was due to “their efforts to build up and disseminate greater knowledge about man-made [*sic*] climate change, and to lay the foundations for the measures that are needed to counteract such change” (*The Nobel Peace Prize 2007*, 2014). The film remains one of the top grossing documentaries of all time over a decade later, and is seen as a “cultural event,” which alongside the increasing accessibility of streaming platforms and rising public interest in the issue has led to an increase in the production and popularity of climate change documentaries (Pearce & Nerlich, 2018, p. 214; also, see Bieniek-Tobasco et al., 2019; van Munster & Sylvest, 2015). The participation of high profile celebrities such as Don Cheadle, Leonardo DiCaprio, and, most recently, Zac Efron, in the production and promotion of such films has also increased their visibility (Boykoff & Goodman, 2009).

Despite the growing relevance and influence of such films, climate change documentaries have been given little attention by critical scholars in comparison to other forms of media (Bieniek-Tobasco et al., 2019; Carvalho, 2019; Comfort & Park, 2018; Schäfer & Schlichting, 2014). The lack of critical engagement with climate change documentaries is significant as it suggests the narratives of such films have been left largely unexamined, despite their claims to portray reality and objective ‘truth’. A documentary film is one that seeks to tell “a story about real life, with claims to truthfulness” (Borum Chattoo, 2018, p. 681). The ‘wicked’ nature of climate change means that many viewers of such films will not have firsthand experiences of climate change, and their understandings of the issue will be shaped almost entirely by the media they choose to consume. This is often further reinforced by the potential physical distance between viewers of such films and the climate change impacts being documented on screen – regions such as the Arctic or Pacific island nations, which are geographically removed from the Western audiences of such films, are experiencing severe impacts more immediately (Hawkins & Kanngieser, 2017; IPCC, 2018). Thus, the ‘truth’ of a documentary film viewed on YouTube or Netflix may be the viewer’s only ‘direct’ engagement with the causes and consequences of the climate crisis, actively contributing to opinions and understandings that the public both takes for granted and acts upon (van Munster & Sylvest, 2015). Therefore, understanding how climate change documentaries construct their narratives and select their specific topics of focus provides important insight into how popular ‘imaginaries’ regarding the climate crisis have been produced.

Theoretical Framework

Within my research, I take the position that not only are climate change documentaries instrumental in informing the public about the science and politics of the climate crisis, but they

also actively *produce* these discourses. In doing so, I take up a poststructuralist position that asserts discourses play an active role in shaping the world by producing subjects, reinforcing societal power structures, and establishing ‘regimes of truth’ (Lorenzini, 2015; Rose, 2016b). This stance asserts that systems of language and other forms of representation are inseparable from systems of power, and reality is actively shaped by those representations (Boykoff, 2011a; Minca, 2009). Such an approach has particular salience within the context of documentary films, as there is an underlying tension between the idea of objectively portraying reality and the biases and positionality of the creator of the non-fiction work (Holland, 2020). I draw upon this poststructuralist approach by engaging with the concept of ‘imaginative geographies’.

Originating from Edward Said’s (1977, 1979a) work on Orientalism, imaginative geographies are performative cultural constructions of regions or cultures that are ‘distant’ (either physically or culturally) or different from those doing the ‘imagining’ (Gregory, 2011). Imaginative geographies construct ‘ours’ in opposition to ‘theirs’, acting as “constructions that fold distance into difference through a series of spatializations” (Gregory, 2004a, p. 17; Said, 1977). Thus, distance and space are not static or neutral descriptive concepts, but rather social constructions that actively participate in “the formation of social relations and their changes over time” (Warf, 2020, p. 1381). Hoelscher explains that such imaginaries “are real not because imaginative geographies accurately depict the world but rather because they reflect and reinforced people’s imagination of the world in tangible and concrete ways” (2006, p. 245). Within the context of climate change, scholars have considered how imaginaries are constructed using both media narratives and policy interventions regarding adaptation and mitigation, and how these imaginaries stratify the world by race, region, and vulnerability (Chaturvedi & Doyle, 2015; Farbotko, 2010; Mikulewicz, 2020; Narang, 2015). The lens of imaginative geographies

emphasizes the role of stories in reinforcing certain understandings of the world, and the role of geography as a tool of power. Furthermore, the implied focus on narrative fits with my interest in how documentary films not only frame specific regions, but construct and legitimize certain narratives about their past, present, and potential future. As Emily Cameron emphasizes, “the performance of inscription of stories over time and in different places contributes to the sedimentation of those same networks” (2015, p. 180).

Research Questions and Objectives

The main objective of my research is to critically analyze the narratives in popular climate change documentaries, with two intended outcomes. First, to examine the narratives in such films to better understand how they explain the ‘story’ of climate change to the viewer, and construct narratives of care and responsibility for those experiencing climate change impacts. I am particularly interested in how different iterations of care and responsibility emerge in the narratives within climate change documentaries, and the ideologies and cultural beliefs that are embedded in such narratives. The lens of responsibility, while simultaneously recognizing differing culpabilities in the creation of an injustice, has the potential to reproduce paternalistic power dynamics and further widen the divide between those who are ‘responsible’ and those who they are ‘responsible for’ (Noxolo et al., 2012; Sylvestre et al., 2018). What stories do these films tell us in order to motivate climate action, and what consequences do these stories have? My second objective is to consider how these narratives reinforce or construct particular imaginative geographies about different global regions experiencing climate change impacts. Authors who have written about the imaginative geographies of climate change have noted how discourses often uphold the superiority of Western science over other ways of knowing (Farbotko, 2010; Mikulewicz, 2020), or cultivate urgency through imaginaries of fear

(Chaturvedi & Doyle, 2010; Korf, 2007). I have articulated these interests in the following two research questions:

1. How do documentary films construct narratives that make the viewer feel care and responsibility for the impacts of climate change?
2. How do those narratives produce ‘imaginative geographies’ about different global regions and the broader systems of power and inequality that have created the climate crisis?

To answer these questions, I selected 10 documentary films that had a large viewership, due to a theatrical release or release on a popular streaming platform such as Netflix or Amazon or on a major television network, for analysis. In order to analyze each film and address my research questions, I utilize a mixed-methods approach, consisting of screen time tabulations for different regions, content analysis, and narrative analysis. Reissman notes that combining narrative analysis with “category-centered models” of analysis, such as coding, allows for distinct insights that are gleaned from the different approaches of each method (2008, p. 12).

Significance of Research

The present study takes an interdisciplinary approach, engaging with work from the broader ‘meta-field’ of environmental communication along with the subfields of moral geographies and film geographies. Within the last decade, there has been a general recognition that in a time of increasing environmental crisis, environmental communication should expand its focus to examine media praxis within broader political, social, and discursive systems of power (Anderson, 2009; Comfort & Park, 2018; Cox, 2015; Hansen, 2015; Lester, 2015). As Hansen puts it, “research needs to be pushed considerably further in terms of unpacking how visualization and the construction of visual meanings serve to bolster and privilege particular ideological views and perspectives on climate change over others” (2015, p. 388). Furthermore, there has been increasing recognition of the lack of attention that has been paid to film in

particular within existing scholarship (Comfort & Park, 2018; Cox & Depoe, 2015; Hansen, 2015; J. Smith et al., 2018).

A recent systemic literature review of over 500 peer-reviewed environmental communication studies on media found that only 4.3% of the reviewed works focused on film (Comfort & Park, 2018). Much of the existing research on climate change documentaries focuses on audience reactions to such films, and how they affect individuals' behaviour following the viewing of climate change documentaries (Bieniek-Tobasco et al., 2019). By engaging with the topic of climate change documentaries in this thesis, I respond to the general recognition that this increasingly popular form of mass media has been significantly understudied (Bieniek-Tobasco et al., 2019; Hansen, 2015).

Within the discipline of geography, there is also a notable lack of engagement with such films, whether by those within the subdisciplines of film geographies or otherwise (Comfort & Park, 2018; Holland, 2020). Film geography has a rich history of critically engaging with cinema as a powerful geopolitical actor rather than simply a form of entertainment, an approach I extend to the specific medium of climate change documentaries. Furthermore, I bring together the fields of moral geographies and film geographies in order to consider the ways in which the question of how individuals and societies come to care about others is fundamentally a spatial one, which is intertwined with issues of representation and power.

As highlighted above, the media acts as a crucial link between the public, the scientific community, and decision makers and Boykoff argues “the multifarious contributions that mass-media makes to public discourse deem it worthy of careful reflection and scrutiny” (2011a, p. 2). This study not only considers what discursive constructions emerge within popular documentaries, but also provides insight into how those constructions are implicated in and

reinforced by larger systems of power. Such inquiry is particularly relevant given the continued rise of streaming platforms, suggesting that film and television will play an increasingly important role as a platform to inform the public about current issues (Borum Chattoo & Jenkins, 2019). A longstanding assumption that I held well into my undergraduate studies is that any media that emphasizes the severity of climate change and proposes solutions is valuable and benevolent. However, I am increasingly cognizant of the fact that stories have consequences, and cinematic narratives may instead reinforce harmful global power dynamics that must be critiqued and ultimately dismantled in order to ensure an equitable climate future.

Structure of Thesis

This thesis is divided into six chapters. In Chapter 2, I engage with the wealth of literature in the field of environmental communication in order to take stock of existing research on climate change documentaries to better situate my research within a broader multidisciplinary context. Following this, I consider how geographers have grappled with the question of “how far should we care?” and other debates within the field of geographies of responsibility and care (Smith, 1998a, p. 15). Finally, I discuss the origins of the concept of imaginative geographies and its relevance to the climate crisis as an introduction to the theoretical framework I introduce in the next chapter.

Chapter 3 consists of my theoretical framework and research methods. I begin by situating my analysis within the broader framework of poststructuralism and further explain the relevance of imaginative geographies to my specific research interests. I elaborate on the role of discourse in the construction of societal power dynamics to further explain my theoretical approach. While I am not explicitly undertaking a critical discourse analysis, clearly outlining my definition of discourse is helpful in differentiating my approach from other potential

frameworks such as semiotics or critical realism. Following my discussion of theory, I elaborate on my methods, beginning with an explanation of how I selected the 10 films for analysis. Next, I explain the mixed-methods approach I have chosen to utilize, which consists of systematic content analysis of screen time and on-screen subjects, and narrative analysis.

In Chapter 4, I begin by providing an overview of the results of my narrative analysis that considers the large structure of the plot of each film. This involves examining the narrative progression and broader themes within each film, offering important context for the regional analysis to come while also providing insight into the discourses of responsibility with which the films align. Following the structural analysis, I will examine the results of my content analysis, which involved coding of speaking-role subjects in each film.

Chapter 5 provides an overview of the results of my regional analysis, providing a brief discussion of the recurring visual imagery, speaking-role subjects, and narrative themes featured in eight global regions. The initial discussion will be primarily descriptive and describe general observations regarding the portrayal of each region across all 10 films. This brief overview will be followed by a more in-depth discussion of narrative and visual themes and patterns which emerge across multiple films about specific regions, thus constructing stories and specific discursive imaginaries about certain places. Following Chapter 5, I conclude by summarizing the main findings of the thesis and potential future research directions in Chapter 6.

Chapter 2: Environmental Communication, Film Geographies, and the Ethics of Care: A Review of the Literature

Introduction

The interdisciplinary nature of my research necessarily requires an interdisciplinary literature review. I begin by situating my research interests within existing literature in the field of environmental communication and take stock of existing research on climate change documentaries. The interdisciplinary nature of environmental communication and its increasing interest in the political and ethical implications of its topic of study provide a helpful framing for this initial step. Environmental communication, at its simplest, considers “the link between communication practices and environmental affairs” (Pleasant et al., 2002, p. 197). It is simultaneously a subdiscipline of communication studies, born out of risk and science communication studies and critical rhetorical theory, and a ‘meta-field’ which contains within its umbrella a multitude of disciplines, united by an interest in communications about human-nature relationships (Anderson, 2015; Comfort & Park, 2018; Cox & Depoe, 2015; Milstein, 2009; Pleasant et al., 2002). While an interdisciplinary field such as environmental communication is broad in its methods and interests, many scholars within the field ascribe to a normative perspective which recognizes the urgent circumstance of global environmental degradation that their work is situated within. Environmental communication simultaneously provides an interdisciplinary ‘container’ for my research that has allowed me to establish what research exists on climate change documentaries, and an urgent call to action regarding its relevance and necessity.

My review of the field of environmental communication highlighted a noticeable absence of research on climate change documentaries within the discipline of geography. The unique

perspective that geographical theory offers for analysis of climate change documentaries is largely unexplored. Viewing this as both a challenge and an opportunity, I designed my research questions around two areas of study relevant to geography that emphasize the spatial nature of issues of power, ethics, and responsibility. Geographers have spent considerable time and effort grappling with how best to articulate and act upon ethical responsibilities to those who are spatially distant. I will begin by examine the historical origins of moral geographies and then focus on how different geographers have grappled with the question of “how far should we care?” in the context of an increasingly globalised world (Smith, 1998a, p. 15). The literature review will examine different approaches within the field of geographies of responsibility, and how critiques have changed and shaped the field over time. It will conclude with a discussion of how geographies of responsibility have been, or could be, applied to the unequal causes and effects of the climate crisis, and opportunities for further engagement with the topic. A later section on imaginative geographies will give further thought to the ways in which certain narratives of concern and subsequent calls to action may actually reinforce specific discourses that obfuscate the global systems and power dynamics that led to climate change in the first place, and thus hinder the actions required to address its root causes.

Environmental Communication

Environmental communication’s exact classification remains ambiguous due to its multidisciplinary and interdisciplinary nature. Despite this “eclectic multidisciplinary structure,” literature that falls within environmental communication has a uniting focus on the influence of communication on human-nature relations (Soule, 1985, p. 727, as cited in Cox, 2007, p. 12; Anderson, 2015; Milstein, 2009). Cox and Depoe (2015) highlight that environmental problems are both physically *and* socially created, the former through human intervention in bio-physical

processes, and the latter through discursive choices. Environmental communication seeks to understand how communication practices shape human-environment relationships, and how they can be improved for the benefit of social and ecological systems (Anderson, 2015; Cox, 2007; Cox & Depoe, 2015). What makes a discussion of environmental communication literature relevant to my own research is its recent acceptance of explicit normativity and embrace of multidisciplinary research as a strength when tackling complex problems.

A Crisis Discipline?

Rapidly accelerating global environmental degradation and the lack of an adequate societal response has instigated a further intradisciplinary conversation regarding the ethical role of environmental communication (Cox, 2007; Milstein, 2009; Peterson et al., 2007). In the inaugural issue of *Environmental Communication* in 2007, Robert Cox posed three questions to his peers: “Does environmental communication have an ethical duty? That is, should it be considered a crisis discipline? And, if so, are we acting like one?” (Cox, 2007, p. 10). Cox explains the concept of a ‘crisis discipline’ within the context of conservation biology, which is mission-oriented with the explicit and urgent purpose of preserving planetary biodiversity. Michael Soulé, the founder of the Society for Conservation Biology, argues that “ethical norms are a genuine part of conservation biology, as they are in all ... crisis-oriented disciplines” (1985, p. 727, as cited in Cox, 2007, p. 6). Cox argues that a similar normative orientation is what gives environmental communication a unique purpose and perspective that differentiates it from the disciplines from which it originates. He posits that environmental communication has similarly arisen at a moment of crisis, with the equally urgent mandate of improving transparency and comprehension of environmental issues to ensure they are understood by the public and policy makers, and an appropriate response is deployed (Cox, 2007). The crux of Cox’s argument is that

“social communication, more than natural biological changes alone, determines a civilization’s course when confronting environmental decline” (2007, p. 14). Therefore, Cox suggests, environmental communication scholars should recognize and embrace their ethical duty to protect and advocate for the environment through contributions to normative theory (Cox, 2007; Heath et al., 2007).

The response to Cox’s argument was robust and diverse, but the need to consider the ethical obligations of the field was largely accepted, if not always the explicit label of ‘crisis discipline’ (Heath et al., 2007; Killingsworth, 2007; Peterson et al., 2007; Senecah, 2007). Within the last decade, there has been a general recognition that in a time of increasing environmental crisis, environmental communication should expand its focus to examine communication praxis within broader political, social, and discursive systems of power (Anderson, 2009; Comfort & Park, 2018; Cox, 2015; Hansen, 2015; Lester, 2015). Moser highlights that within climate change communication research in particular, “there has been a shift from viewing media mainly as new sources, leading influencers, and crucial for a public debate towards seeing them increasingly as political actors in their own right” (2016, p. 351). The ultimate goal of environmental communication research is to improve the human response to environmental issues that threaten both human society and planetary wellbeing (Anderson, 2015; Cox, 2007; Milstein, 2009). The increasing relevance and urgency of this mandate can be seen in the continuing rise of the subfield of climate change communication within environmental communication more broadly (Comfort & Park, 2018; Moser, 2015, 2016).

Visual Media and Environmental Communication

There is increasing recognition of the lack of attention that has been paid to visual communication within existing scholarship (Comfort & Park, 2018; Cox & Depoe, 2015;

Hansen, 2015; Moser, 2010; Smith et al., 2018). This is a noticeable trend within the broader field of science communication as well, with both environmental and science communication research still focusing primarily on print media (Comfort & Park, 2018; Hansen, 2017; Schäfer & Schlichting, 2014). Hansen argues that “research needs to be pushed considerably further in terms of unpacking how visualization and the construction of visual meanings serve to bolster and privilege particular ideological views and perspectives on climate change over others” (2015, p. 388). Doing so allows for the consideration of how visual environmental communication contributes to “the wider social, political, and cultural construction and understanding of the environment or of climate change more specifically” (Hansen, 2017, p. 2). This is particularly salient for visual media pertaining to climate change, which is often seen as a temporally and spatially abstract process. Visuals are recognized as an “effective vehicle for meaning-making” as images are “a powerful way to ‘bear witness’ to climate change” (O’Neill et al., 2013, pp. 413–414; Doyle, 2007; Smith et al., 2018).

Feature-length Films

Existing research on visual communication practices related to environmental and climate change largely focus on television broadcast news (Debrett, 2017; Sedlaczek, 2016, 2017; J. Smith, 2017; J. Smith et al., 2018) and static imagery in print media (Boykoff & Boykoff, 2007; Hansen, 2017; Manzo & Padfield, 2016; Meisner & Takahashi, 2013; O’Neill et al., 2013). Feature-length films, both documentary and narrative cinema, remain understudied within environmental communication. This is surprising given the large audiences such films attract. *Before the Flood* (2016), narrated by Leonardo DiCaprio, has reached 60 million viewers, while *An Inconvenient Truth* (2006) remains one of the top grossing documentaries of all time more than a decade after its release (Bieniek-Tobasco et al., 2019). Such films are generally effective

because they are highly accessible, entertaining, and frequently star popular celebrities who attract attention to the issue (Borick & Rabe, 2010; Lin, 2013; Yeo et al., 2018). Even fictional films such as *The Day After Tomorrow* (2004), which is highly inaccurate scientifically, increased awareness and concern about climate change in audiences (Sakellari, 2015). However, a recent systemic literature review of over 500 peer-reviewed environmental communication studies on media found that only 4.3% of the articles focused on film (Comfort & Park, 2018). Within climate change communication research on media, attention to film is even more limited (Schäfer & Schlichting, 2014).

Within the small body of research on the topic, three films feature prominently: *The Age of Stupid* (Bryant, 2010; Howell, 2011; Sakellari, 2015; Weik von Mossner, 2014), *An Inconvenient Truth* (Bartlett, 2009; Beattie et al., 2011; Jacobsen, 2011; Johnson, 2009; Lin, 2013; Mellor, 2009; Nolan, 2010; Rosteck & Frenztz, 2009), and *The Day After Tomorrow* (Hammond & Breton, 2014; McGreavy & Lindenfeld, 2014; Sakellari, 2015). This trend is not surprising as these three films were commercially successful and received significant media attention (Sakellari, 2015). *The Day After Tomorrow* (2004) is a blockbuster thriller, while *The Age of Stupid* (Armstrong, 2009) and *An Inconvenient Truth* (2006) are both documentary films (both of which are included within my analysis). Much of the research on these three films centres on behavioral psychology, and whether their messaging promotes increased concern about, and action on, climate change by audience members (Sakellari, 2015). Scholars have also used these films as case studies to examine how effective fear-based messaging is at engaging the public on climate change (Bartlett, 2009; Howell, 2011; O'Neill & Nicholson-Cole, 2009). Other common foci within research on climate change films include the use and effectiveness of 'iconic' imagery (such as the polar bear), and the impact of celebrity voices in climate change

advocacy (Born, 2018; Boykoff et al., 2010; Boykoff & Goodman, 2009; Manzo, 2010; O'Neill & Nicholson-Cole, 2009).

Geography and Climate Change Films

The field of study which focuses on visual communication pertaining to climate change is small, and the body of research which focuses on cinematic portrayals of climate change is even more limited. Engagement with climate change films in the discipline of geography is also fairly limited, though it does exist. Despite the critical orientation of film geography and its interest in geopolitics, most interest in climate change films has come from outside of film geography. This should not be overly surprising; film geographies exists as a relatively new subdiscipline and climate change documentaries have only gained widespread popularity in the last two decades. In this regard, the dearth of attention can be construed as a significant opportunity to expand geographical inquiry. Three examples provide insight not only into how geographers have engaged with this topic, but also highlight the significant possibilities for further engagement.

Steig (2007) considers the scientific accuracy of *An Inconvenient Truth*, and how relevant these details are to the overall success of the film's messaging. Using his expertise as a glaciologist and geochemist, Steig highlights specific details in the film which are incorrect, and instances in which accurate information is contextualized inappropriately. While much of the paper focuses on this fact-checking process, Steig concludes by highlighting that the response to climate change is ultimately decided through decision-making based on morality and ethics, not scientific fact. Steig asserts that "how alarmed we should be that the Greenland ice sheet is likely to disappear depends on a value judgment about our responsibility to future generations" (2007, p. 8). In response to critiques of the accuracy and integrity of popular climate change films, Manzo (2017) seeks to establish how to quantify the 'usefulness' of such texts. Manzo examines

five climate change films, considering their scientific accuracy, whether they are fiction or non-fiction, who they star, their trustworthiness, and rhetorical construction in her analysis.

Ultimately, Manzo concludes that ‘teachability’ and ‘integrity’ are the most important criteria for establishing usefulness. The latter requires honesty and transparency on the part of the films, while the former refers to their content and the narrative techniques through which it is made accessible and engaging. Finally, Daniels and Endfield consider the narrative techniques employed by *An Inconvenient Truth*, noting the parallels to theological “enlightenment entertainment” (2009, p. 221). The authors highlight the use of personal anecdotes by Al Gore and the similarities between his slideshow presentation and evangelical sermons, such as “spectacular special effects, and rapt audience” (Daniels & Endfield, 2009, p. 221).

Future Directions for Geography and Film

While the examples of engagement by geography with climate change films is limited, the existing examples provide important insights, and potential new directions, for research. Steig (2007) highlights the necessity to consider the moral framing of arguments in climate change films, while Manzo (2017) provides a variety of approaches and foci for analysis. Only Daniels and Endfield explicitly reference the unique positionality of geography as a discipline within environmental communication research. They ask, “how have the truths of climate change been told as situated stories, plotted in space and time?,” reminiscent of the urgings by moral geographers to integrate geographical concepts into ethical debates that I discuss later in this chapter (Daniels & Endfield, 2009, p. 217). Visual analysis methodologies recognize three sites of meaning-making within visual media: production, audience, and the text (in this case film), which contain three ‘modalities’: technological, compositional, and social (Rose, 2016c). Manzo (2017) and Steig (2007) focus mainly on the social modality of the film itself: asking how it is

useful to an audience. While Daniel and Endfield's discussion of *An Inconvenient Truth* appears only briefly in a broader discussion about climate narratives within the context of historical geography, it is helpful in that it differs notably from the first two studies. The authors consider the film's composition and how it constructs its arguments, rather than the effects of those arguments. There is significant opportunity to further explore the other sites of meaning-making and modalities of climate change documentaries through a geographical lens.

There is also a notable subscription to a realist ontology within existing research on climate change film in geography. Both Manzo (2017) and Steig (2007) consider how accurately films portray the 'real world', and don't emphasize the discursive power of media to influence reality and our perceptions of it. Only Daniels and Endfield allude to the possibilities this approach provides, asking:

How are climate change scenarios envisaged, pictured in terms of maps, diagrams and landscape images? What are the ideologies of such images, and what do they reveal and conceal? What do climate change narratives mean for publics in specific places and what are their effects; how do they matter? (2009, p. 217).

Given the poststructuralist leanings of many film geographers and the discipline's ongoing interest in geopolitics, this dearth provides a clear opportunity for future engagement. Baldwin (2012) offers a glimpse of this potential through an analysis of the film *Climate Refugees* (2010) (included in my analysis) and how it conceptualizes 'environmental citizens' and 'climate refugees'. Baldwin considers how the film and other discourses surrounding climate change migration construct imaginaries that create 'eco-colonial' narratives and actively *produce* racial divides and biases. This paper and the theoretical origins of the 'imaginative geographies' that it refers to will be discussed further following an introduction to moral geographies.

How Far Should We Care? A Spatialized Understanding of Responsibility and Care

It is now space rather than time that hides consequences from us (Berger, 1974, p. 40)

Many scholars have worked through what it means to be responsible for others, and how (or if) we are meant to care for them. Their work in this realm provides helpful context to consider how certain documentaries attempt to prompt action on climate change. For this is clearly the goal of such films: five of the films being analyzed in this thesis offer calls to action before the credits roll, providing on-screen lists of directives or a URL the audience can later follow in order to find out how to get involved. Two more films have associated websites where viewers can go to ‘take action’ or explore suggested actions and solutions. An intended outcome of climate change documentaries is not only to make the viewer *care* about the impacts of climate change but take enough *responsibility* for its causes or the dangers of inaction that they will take one or many of the mitigating actions suggested to them. Complexities regarding the concept of ‘responsibility’ have long been of interest to geographers, particularly regarding how spatiality and distance influence one’s inclination to ‘care.’ The climate crisis and its ‘wickedness’ provide a clear example of this dynamic: its effects significantly vary spatiotemporally, and there is a clear inequity in both its causes and consequences. Furthermore, for the regions and socio-economic classes of the world which are largely responsible for the emissions which have created the crisis, its worst effects are often made tangible only through media, as experienced by the ‘distant Other.’ The lens of responsibility, while simultaneously recognizing differing culpabilities in the creation of an injustice, has the potential to reproduce paternalistic power dynamics and further widen the divide between those who are ‘responsible’ and those who they are ‘responsible for.’

Moral Geography's Beginnings

How to care for a 'distant Other' has been a topic of philosophical quandary since at least ancient China, when Confucius and Mozi put forth opposing theories of love as a relational concept and a universal concept, respectively (Smith, 1998b). Within geography, this area of research has sparked earnest debate over foundational concepts in the discipline, including place versus space, the local versus the global, and particularism versus universalism. Moral geographers argue that morality is an explicitly geographical topic of study, given that place and distance are understood as factors in one's ability to care¹ for 'distant Others' (Laliberté, 2015; Noxolo et al., 2012). Some of earliest iterations of moral geographies began with Immanuel Kant, and centred on cataloguing different cultural norms through "descriptive anthropology" (Popke, 2009, p. 437). This framework was soon applied to a form of environmental determinism that advanced a "moral discourse of climate," which considered the relationship between a culture's physical environment and its moral code (or supposed lack thereof) (Popke, 2009, p. 437). While these theories were being weaponized within the global colonial projects of the 19th century, the first conceptualizations of geography as an indicator of moral responsibility were simultaneously being considered by anarchist geographers. Peter Kropotkin put forth a theory of 'mutual aid,' and argued for the recognition that "from our earliest childhood, that we are all

¹ Geographies of care can be understood to encompass two vastly different foci of research, examining both larger questions of care relating to social justice and global inequity, as well as considering health and social care. The latter field focuses on both the formal care sector, including healthcare and hospice care, and voluntary and informal care-work outside of institutional structures (Lawson, 2007; Massey, 2004; Milligan & Power, 2009; Popke, 2006). According to Milligan et al., within this context care geographies can be understood as "a relational framework that examines health, care-giving and the receipt of care in relation to the places in which it occurs" (2007, p. 63). Research is largely place-specific, dealing with diverse topics such as place making and drop-in centres (Conradson, 2003a), the spatiality of hospice care (Brown, 2003), disability geographies (Dyck, 1998), and the home as a site of healthcare (K. England, 2010). The aforementioned broader approach to geographies of care and responsibility will be the focus of this literature review. Rather than conceptualizing care as formal or informal practices within a health and labour context, care is understood here as "the proactive interest of one person in the well-being of another" (Conradson, 2003b, p. 51). The specific concept of an 'ethic of care' was put forth by Gilligan in 1982 (Simola et al., 2010). It is a feminist approach to morality developed in response to the more abstract and theoretical idea of 'justice'; an ethic of care is grounded in daily life and tangible action (Tronto, 1993).

brethren, whatever our nationality” (1885, p. 943). As will be discussed shortly, the complicated tension between these simultaneous avenues of inquiry, one of paternalistic control and one of emancipatory justice, still reverberates within moral geographies today.

A renewed interest in morality and normative geographical theory began in earnest in the 1970s, in response to the dominant positivist approach of geography’s quantitative revolution (Popke, 2010; Smith, 2000a). This area of study gained popularity, ultimately culminating in what David Smith refers to as geography’s ‘moral turn’ in the late 1990s (Laliberté, 2015; Olson, 2014; Smith, 1997, 2000b). This ‘turn’ involved “rethinking traditional questions of moral philosophy through the geographer’s conceptual lens of space” (Dyer & Demeritt, 2009, p. 48).

Geographies of Responsibility: Early Iterations

David Smith, David Harvey, and Stuart Corbridge were at the forefront of the initial move by geographers towards a further engagement with ethics and morality, with a particular interest in conceptualizing a universal understanding of social justice (Lester, 2002). While the approaches of each theorist may differ (Harvey utilizing a Marxist perspective, while Corbridge engages with post-Marxism), they are all motivated in their work by an increasingly globalised world, which has produced the parallel consequences of increasing connectivity and increasing inequality. Smith in particular produced a significant body of work regarding the interface of geography and morality, with an explicit interest in “the spatial scope of beneficence” (Smith, 1998a, p. 16; also, see Smith, 1997, 1998b, 1999, 2000b, 2000a, 2000c).

Smith argues that morality and geography are deeply intertwined, and spatiality is intimately connected to how individuals and societies develop moral obligation to, and an ability to care for, others. Within his writing are two parallel assertions which exemplify his unique approach to moral geographies. First, Smith argues that to a certain extent, universal

understandings of morality do, or should, exist. He asserts that too much emphasis on the local and particular can create a “critically impotent form of moral relativism” and a “context-sensitive universalism” is the pathway forward (Smith, 2004, pp. 198, 201). Smith uses the example of gentiles in Nazi-occupied Europe to argue this point. He notes that while many people who helped Jews hide or escape were motivated by personal connections to those they assisted, many were also motivated by universal values and feelings of common responsibility (Smith, 1998a; 1999). Thus, he argues, a universal sense of responsibility that extends to all human beings clearly exists and should be utilized in order to transcend proximal particularism. Second, Smith, alongside Corbridge, advocates for an approach to moral geographies that allowed more affluent global regions to take responsibility for global inequity and to assist the ‘distant stranger’ or ‘distant Other’ (Corbridge, 1993; Corbridge, 1994, 1998; Smith, 2002). When defining key terms in his question “how far should we care?,” the *we* is taken to mean “those of us in the advantaged parts of the world looking outwards with the luxury of philosophical deliberation” (Smith, 1998a, p. 16). Through these two key ideas, Smith grapples with the opposing forces of universalism and particularism in an effort to envision a universal morality which can transcend distance and localized particularities, yet did not impose cultural prescription on the ‘distant Other’ (Lester, 2002; Smith, 1998a; 2004).

The Distant is Here: Rethinking Responsibility and Care

Critical geographers were quick to point out the inherent power dynamics found in this ‘top-down’ approach to responsibility and care (Laliberté, 2015; Noxolo et al., 2012). These scholars argue that such an approach necessitates that *someone* declare what exactly a global morality will look like, raising questions of who is in the position to do so, and what power dynamics are embedded in that process (Noxolo et al., 2012; Sparke, 2007). Laliberté notes that

“even when done subtly, this privileging of the position of the responsible actor uses geographic distinctions to separate those in the position ‘to help’ from those who supposedly ‘need help’” (2015, p. 59). While both Smith and Corbridge recognized the potential for cultural prescription in their arguments and explicitly worked to avoid ethnocentrism, their explanations of how a universal morality would emerge were decidedly vague (Lester, 2002). The early 2000s saw alternative iterations of responsibility emerge, including a special issue of *Environment and Planning A* (2003), which examines justice and responsibility through a feminist ethic of care, and a special issue of *Geografiska Annaler B* (2004a) on relational responsibility. In *Geografiska Annaler B*, Doreen Massey offered a significant intervention in the field which shifted geographies of responsibility towards a more context-specific, relational approach.

Massey, who later elaborates on her arguments in the ground-breaking book *For Space* (2005), reconceived of responsibility as a relational, power-conscious practice, rather than a hierarchical imagining of justice. Using London, England as a case study, she asks the question, “what is, in a relational imagination and in light of the relational construction of identity, the geography of our social and political responsibility?” (2004b, p. 6). Massey agrees with Corbridge and Smith that dominant Western conceptualizations of care and responsibility ascribe to a territorial “Russian doll geography” (2004b, p. 9). That which is familiar and closest to us is cared for first and the most, with decreasing concern with increasing physical distance. However, her first argument is to challenge the dominant dichotomic paradigm within geography which views place as ‘meaningful’ and ‘grounded,’ and the victim of the encroachment of globalisation and ‘abstract’ space (Massey, 2004b).

Massey argues it is this type of thinking that necessitates a top-down understanding of responsibility, as the contrast between local/place/meaningful and global/space/abstract

inherently prevents one from developing a relationship of care with someone who occupies those abstracted distant spaces. Instead, it must be recognized that “the distant [is] implicated in our ‘here’” through relational understandings of space and place (Massey, 2004b, p. 10). This acknowledgement requires a recognition of the power dynamics embedded within our globalised world, and a further recognition that ‘place’ is not always the victim of globalisation, but at times (in the case of London), its master. Returning to the London case study, Massey suggests that capitalist globalism often allows for the abstraction of personal or societal responsibility, with its forces conceptualized as ‘up there,’ rather than the result of tangible actions (or inaction). Therefore, even though ‘we’ are apparently responsible for the ‘Other,’ ‘we’ are not implicated in the inequity that our responsibility is intended to rectify (Laliberté, 2015). This can be seen in the London Plan, an urban development strategy for the city first published in the early 2000s. She notes that the plan highlights London’s role as a competitive global city, yet doesn’t critically engage with the power dynamics and consequences of that positionality (Massey, 2004b). Massey provides a variety of examples of how London could have done the latter, including supporting fair trade associations, supporting international trade unions, and highlighting the work of locally based non-governmental organizations. Her ultimate goal, rather than policy reform, is to put forth a theory of collective responsibility and posit a geographical imagination that is rooted in a recognition of “structural complicity to injustice” (Sylvestre et al., 2018, p. 755). In Massey’s own words: “we are responsible to areas beyond the bounds of place not because of what we [as individuals] have done, but because of what we are” (2004, p. 16).

Critiques

The relational approach to care and geographies of responsibility is not without its critics, who argue that the unidirectional flow of power and agency which this approach still inherently

endorses needs to be recognized and critically interrogated (Barnett & Land, 2007; Noxolo et al., 2012; Sin, 2010; Sylvestre et al., 2018). Noxolo et al. (2012) note that responsibility in and of itself is a tenuous framing, as responsibility has clear boundaries which are often set by the state, and can be denied, withdrawn, or passed on to others. The authors use the example of the wars in Iraq and Afghanistan to highlight this danger, citing the United States' framing of their acts as the result of a 'responsibility' to bring democracy and development to the region. Noxolo et al. (2012) argue that a framework of responsibility must allow for the rejection of the claim of responsibility by those we suggest we are responsible for. This recognizes the agency of the party who we claim to be responsible for (often a country or region in the Global South which has been submitted to colonial occupation), a consideration which has often been overlooked within responsibility discourse (Barnett & Land, 2007; Korf, 2007; Noxolo et al., 2012).

Sin (2010) also highlights this imbalance, noting that a sustained relationship of responsibility implies that the Global South is "deemed to be incapable of eradicating its problems, poverty, and the lack of sustained development, and therefore needs the privileged 'North's' assistance and resources" (p. 987). By ascribing responsibility to the privileged, this approach "(re)produces the distant 'other' as a passive, receiving subject" that is subordinate to a paternalistic 'carer' (Sylvestre et al., 2018, p. 755). In her exploration of volunteer tourism, Sin ultimately questions "whether a caring relationship can also be an equal relationship" (2010, p. 991). Sylvestre et al. similarly assert that "these forms of responsibility for an agency-less 'other' have tended to (re)produce, rather than deconstruct, dominance, exclusion, and violence" (2018, p. 755).

Another important critique of certain approaches to geographies of responsibility and care ethics concerns the perspective from which the topic is approached, and unconscious biases

regarding who is the centre, and who occupies periphery. Raghuram (2016) observes that while care ethics engage with a globalized world, they are implicitly theorized through a homogenous perspective originating from the Global North. The values and worldviews that create the very foundations for definitions of care and responsibility may vary so wildly between cultures as to be unrecognizable to each other (Koschade & Peters, 2006; Pickerill, 2009).

Through this ‘unsettling’ of care ethics and geographies of responsibility, these authors remind us that such processes are contested, complicated and ever changing, and grappling with their complexity may require uncomfortable reckonings with our own positionality. Who is the ‘centre,’ and who is the ‘distant Other’? Who made that decision? What unseen processes allow for these assumptions to continue unchallenged? It is important to note that none of the works reviewed here suggest that the principles of geographies of responsibility should be rejected, nor the call to ‘care,’ entirely. Rather, they argue that the power dynamics which allowed global inequity to arise must be critically interrogated, and one’s privilege and the structures which perpetuate it must be fully examined. Furthermore, one must consider how a decision to care may in fact exacerbate the inequities one seeks to eliminate. Responsibility and relationality must be contextualized within a broader politics of separation, difference, and inequity. Ultimately, as both these critiques show and Noxolo et al. directly attest, “there is no pure space within and from which responsibility can be enacted” (2012, p. 422).

Climate Change and Responsibility

These approaches to caring and responsibility, and the critiques of power dynamics embedded within them, can be identified within narratives surrounding climate change. The ‘top-down’ approach to responsibility remains prominent, with nations more susceptible to climate change often being painted as one-dimensional ‘victims’ (Farbotko, 2010; Høeg & Tulloch,

2019). This positioning denies these regions agency and resiliency, while simultaneously positioning the Global North as a saviour here to help. Perhaps no better example of this exists than a prominent Ugandan youth activist, Vanessa Nakate, recently being cropped out of a photo of four white young activists at the 2020 World Economic Forum by the Associated Press so as to centre Greta Thunberg – the agency of Nakate is denied and she is relegated to an off-camera African ‘victim’ that white Western activists now both speak for and come to the aid of (Nakate, 2020).

Controversies and debates related to allocating responsibility for climate change based on the location of emissions are abundant, often taking centre-stage in global negotiations related to climate policy (Liverman, 2009). The imbalance between causes and consequences of climate change, and thus who needs to take the most urgent and significant actions to mitigate further warming is a central focus of climate justice (Burnham et al., 2013). The climate justice movement recognizes not only that certain populations are more vulnerable to climate change while simultaneously being less culpable for its effects, but also that they should have a more significant voice in decision-making surrounding solutions (Schlosberg & Collins, 2014). The concept of temporality is also considered within discourses surrounding climate change and responsibility, and the idea of ‘historical responsibility’ emphasizes how the actions and emissions of countries in the past must be considered when establishing current international responsibilities for climate action (Bou-Habib, 2019). Noxolo et al.’s concerns regarding the potential to abdicate responsibility is embodied by the USA and Australia’s simple refusal to ratify the Kyoto Protocol (though Australia eventually ratified it in 2007), and the USA’s later withdrawal from the Paris Agreement. These few examples provide clear evidence that the debates within moral geographies are relevant to discussions of climate change and its necessary

responses. Further consideration of narratives of climate change within the context of moral geographies provide productive opportunities for understanding how care and responsibility are produced globally.

Where is the Distant? Locating Imaginative Geographies

Just as none of us is outside or beyond geography, none of us is completely free from struggle over geography, that struggle is complex and interesting because it is not only about soldiers and cannons but also about ideas, about forms, about images and imaginary. (Said, 1994, p. 7)

Research surrounding moral geographies and geographies of care and responsibility has been critiqued for being too abstract and failing to engage with its subjects of study beyond theoretical discussion (Jazeel & McFarlane, 2010). My own interest in the field is not answering Smith's question "how far should we care?" or offering my own definition of morality and responsibility. Instead, I am concerned how different iterations of care and responsibility emerge in the narratives within climate change documentaries, and what the consequences of those discourses may be. Other interdisciplinary fields, including the very aptly named 'distant suffering studies' have given extensive consideration to how media influences our ability to care for the Other (Chouliaraki, 2006, 2010, 2015; Chouliaraki & Orgad, 2011; Silverstone, 2013). Much of the research in this field engages with media portrayals of conflict (Haavisto & Maasilta, 2015; Zhang & Luther, 2019) and natural disasters (Joye, 2009, 2015; Kyriakidou, 2014). Interestingly, despite the explicit engagement with spatiality in its title, some argue that *distant* suffering studies conversely fails to fully engage with the geographical implications of its foci (Doboš, 2018, 2019). Doboš observes that "they in no way ignore it, but conversely they are not perceptive enough of it," in that space is a "passive phenomenon in the background of the analyzed matter" (2018, pp. 768-769). Media coverage of the Syrian War is provided as a case study of how different 'spacetimes' can alter media coverage of suffering (Doboš, 2018). Doboš

argues that news about Syria produced before the rise of the Islamic State cultivates pity towards civilian suffering because the civil war is framed as the Other trying to become more ‘civilized’ – more like ‘us.’ In turn, news coverage produced after the Islamic State gained prominence erases the complexities of the region and returns to the trope of the distant and violent Other which now places the West at risk of suffering. Thus, Doboš argues that critical engagement with how distance is *produced* is required in order to fully understand the power of media representations. The concept of ‘imaginative geographies’ is put forth in order to further consider the performative nature of spatio-temporality and the notion of relational space.

Edward Said’s (1979) conceptualization of ‘imaginative geographies,’ first articulated in his critiques of Orientalism, engages with the interplay of representation, power, culture, and distance. Drawing on the poststructuralist writing of Foucault and Gramsci’s concept of cultural hegemony, Said emphasizes the power and “radical non-innocence” of representations, and how they socially constitute specific geographies about ‘the Orient’ and ‘the Occident’ (Gregory, 2011, p. 370; also, see Dawson, 2013). Said stresses the power representations hold to turn “distant facts” into “Western fictions” that reinforce a specific narrative that upholds the superiority and geopolitical domination of the West over the East (Schwartz, 1996, p. 30; also, see Gregory, 2004a; Said, 1977). Imaginative geographies construct ‘ours’ in opposition to ‘theirs,’ acting as “constructions that fold distance into difference through a series of spatializations” and create specific perceptions and understandings of the world and how it is ordered (Gregory, 2004a, p. 17; also, see Said, 1977; Yusoff & Gabrys, 2011). Within the context of the socially constituted Orient, these imaginaries were ultimately utilized to justify colonial domination of distant Others by constructing that distance (Baldwin, 2012). Thus, these geographies do more insidious work than to just differentiate ‘ours’ from ‘theirs’ and ‘near’ from

‘far.’ They can also lay the groundwork for justified appropriation of the ‘far,’ thus making it ‘ours’ (Gregory, 1995b). Said’s initial critique of Orientalism focuses heavily on the role of European literary history and academia in the construction of the Orient. Imaginative geographies are produced and legitimized through a “system of representations,” including classical literature, public institutions, and travel writing (Said, 1979b, pp. 202–203). Thus, there is a reliance on ‘expert’ knowledge and historical contextualization to assert the legitimacy and truth of these discourses, as these imaginaries created a “self-reinforcing archive” of legitimacy and truth (Gregory, 2011, p. 371).

Said’s writings are deeply connected to his own experiences and personal history. He was born in Jerusalem, in what was then British-occupied Mandatory Palestine, from where he later fled along with hundreds of thousands of other Palestinians in 1947, and recognizes escalating conflicts in the region during the late 1960s as a source of his own political radicalization (Li, 2011). He remained a staunch critic of Israel throughout his life; one of the most iconic images of Said depicts him throwing a rock at an Israeli guardhouse. Thus, Said’s entire life has been imbricated with questions of empire, control, and territory. While his self-stylization as an ‘exile’ despite his privileged upbringing has drawn criticism, Said’s writings on Orientalism and imaginative geographies were undeniably foundational to the field of postcolonial studies and demonstrating the relevance of geography to critical theory more broadly. Inevitably, Said’s theorizations have not been without criticism. Not surprisingly, some of the loudest critiques came from those within the field of Orientalism coming to the defense of their work, while others refer specifically to Said’s Middle Eastern case studies (Güven, 2019; Mart, 2010). While I will not address those critiques, other more relevant responses to Said’s work will be discussed both later in this chapter and in my theoretical framework.

Beyond the Orient

Said posits that the first iterations of Orientalism arose from French and English interest in predominantly Islamic Middle Eastern regions, but following WWII, the United States emerged as a new centre of empire (Said, 1979a). Derek Gregory has taken up the latter field of study, building on Said's work to consider the 'colonial present' and how imaginative geographies have once again been deployed to justify the United States' 'War on Terror' in Afghanistan, Palestine, and Iraq (Gregory, 2004b). Gregory is the best known and most prominent proponent of Said's work, and has continued to expand theory related to imaginative geographies and its application in current geopolitical contexts. Gregory has extended Said's postcolonial critiques further into the realm of poststructuralism. He emphasizes the performative nature of these discourses: "we might think of imaginative geographies as fabrications, a word that usefully combines 'something fictionalized' and 'something made real,' because they are imaginations given substance" (Gregory, 2004b, p. 17).

While Said's imaginative geographies are specific to the Middle East, the relevance of the concept of imaginative geographies has been extended beyond explicitly colonial and imperial projects. One notable development within the field is Maria Todorova's conceptualization of 'Balkanism' which highlights how Said's Orientalism in fact essentializes and homogenizes the *West* and demonstrates how the Balkans were constructed as an imaginary unique from Orientalist discourse (Todorova, 2009). Other scholars have considered the role of imaginative geographies in geopolitical projects such as humanitarian intervention (Orford, 2003) and international development (Escobar, 2011). Orford (2003) argues that narratives of humanitarian intervention locate the site of intervention as distant from the intervening 'international community,' thus allowing the latter to also distance itself from its culpability for

the unrest in which it is now intervening. The genocides in Yugoslavia and Rwanda are given as examples in which the international community's actions (strict IMF policies leading to economic collapse), and failure to act (waiting to intervene until after the genocide), respectively, are erased. Instead, they are constructed as absent (thus, distant and nonculpable in a 'local' crisis), until arriving as "a heroic saviour" (Orford, 2003, p. 85). There is a clear parallel here regarding the climate crisis and intervention by the Global North in 'helping' the Global South transition to low emission technologies despite being the main cause of the need for an urgent transition due to their high emissions.

Some authors have specifically considered the role of popular media in the production of such imaginaries, particularly surrounding Hollywood blockbusters and video games related to conflict (Bialasiewicz et al., 2007; Dalby, 2008; Loyo, 2019). Thus, Said's theory has been extended significantly beyond his original Middle Eastern case study and the realm of postcolonialism, and into critical theory and geopolitical thinking more broadly. 'Imaginative geographies' has been applied to various contexts to show how distance and geography are socially constructed to create specific geopolitical imaginaries in service to those doing the imagining.

The Imaginative Geographies of Climate Change

In addition to the consideration of imaginative geographies within more recent geopolitical events such as the 'War on Terror,' scholars have begun to consider how similar spatialized power dynamics emerge in narratives around climate change. This research has considered how imaginative geographies are constructed using both media narratives and policy interventions regarding adaptation and mitigation. Some of this work aligns closely with Said's original, historically contextualized approach to imaginative geographies and uses a postcolonial

framework to formulate its critique. Such work often highlights how expert knowledge about the effects of, and necessary responses to, climate change predominantly originates in Western countries yet concerns the Global South, thus reproducing a paternalistic and dualistic mentality of colonial policy (Chaturvedi & Doyle, 2010; Farbotko, 2010; Korf, 2011; Mikulewicz, 2020). In their critique of discourses surrounding climate change adaptation in Bangladesh, Chaturvedi & Doyle (2010) highlight how the production of difference between the Global North and South is ongoing and imbued in colonial thinking. They assert: “Bangladesh *begins* as a climate problem, simply by being perceived as a nation-state which *exists* in the global South” (Chaturvedi & Doyle, 2010, p. 207, emphasis in original). Chaturvedi & Doyle argue that discourses surrounding ‘climate migrants’ and ‘climate refugees’ produce a global ‘geopolitics of fear’ surrounding the threat of large-scale international migration, which then shape global *and* local responses to climate change in Bangladesh.

Elsewhere, Chaturvedi & Doyle have noted that despite the universalizing discourse of climate change as a global problem, most responses have actually led to the “thickening” of borders (2015, p. 111). Crucially, they ask “whose ‘fear’ is likely to dictate the process [of creating new international refugee definitions and protocols] and decide the outcome”? (Chaturvedi & Doyle, 2015, p. 128). Korf (2011) similarly considers how narratives surrounding ‘climate wars’ caused by global scarcity construct a dangerous and violent Other, which reproduces theorizations of environmental determinism regarding equatorial cultures. Korf emphasizes how these narratives erase the culpability of the Global North in causing climate change and conditions of scarcity, and conveniently disregard the violent conflicts such nations are embroiled in throughout the globe.

Narang (2015) and Farbotko (2010) consider the imaginative geographies surrounding sea level rise and the small island nation of Tuvalu. Similar to Chaturvedi & Doyle (2010), Narang considers how imaginative geographies of fear and alarmism have shaped both local climate change response policies in Tuvalu, and global perceptions of the nation as a passive victim. Small islands are often referenced frequently in global conversations about climate change but their voices and priorities are rarely included, leaving Tuvalu to be simultaneously centred and marginalized in climate change narratives (Narang, 2015). These narratives are embedded within existing imaginative geographies surrounding small island nations as being removed from “mainland modernity” (Farbotko, 2010, p. 52). Farbotko cites media representations (including a scene from *An Inconvenient Truth*) to show how Tuvalu has been further distanced from the rest of humanity in the context of the climate crisis, thus becoming an expendable (but newsworthy) call to action. Tuvalu thus becomes a ‘island laboratory’ or ‘canary in the coalmine’ where the effects of climate change can be witnessed, but are only concerning in-so-far as they can be learned from, or used as a cautionary tale, in order to incite action to save the rest of the planet.

The emphasis on the future is an important (and necessary) motif throughout climate change narratives, which offers a unique approach to theorization surrounding imaginative geographies. Baldwin (2012) posits an innovative and important distinction between imaginative geographies of the climate migrant and climate change more generally, and the postcolonial imaginaries Said originally posited. Baldwin once again highlights the importance of history to imaginative geographies: the Other is framed as pre-modern, crude and barbaric, juxtaposed with the civilized colonizer who is thus justified in their domination. However, Baldwin suggests that the performative nature of discourse surrounding migration, climate change, and race is found not only in the reiteration of the colonial past, but rather speculation on a “future-conditional”

which is “*yet-to-come*” (2012, p. 634, emphasis in original). Thus, to Baldwin the climate migrant is a ‘virtual subject’: “that which is real but not actual, or that which has the quality of being absent but present” (2012, p. 635). Thus, identity is not built in opposition to a present Other, but rather the *potential* for certain bodies or regions to become mobile, different, and dangerous through a future expression of race. Baldwin uses the film *Climate Refugees* (2010) as a case study to demonstrate how the predominantly white ‘expert’ is juxtaposed with (and thus distanced from) the simultaneously helpless and dangerous, but always racialized, climate migrant.

It is important to note here that none of the research cited here denies the severity of climate change or that it has profoundly uneven causes and consequences. Rather, it seeks to highlight that common narratives surrounding climate change, and who is deemed to have the expertise to formulate such opinions, are problematic and will likely exacerbate that inequity. Such work demonstrates how regions that are particularly vulnerable to climate change are often simultaneously constructed as violent and uncivilized *and* helpless and lacking agency. The production of ‘expert knowledge’ and the continued privileging of positivist science over local knowledge serves to further legitimize certain imaginative geographies. Thus, the Global North is both removed from climate change’s causes and morally and intellectually distant from the uncivilized Other that it must now assist, all while remaining *physically* distant from the most severe impacts of climate change.

While each of the authors cited here use the concept of imaginative geographies as a way to critique current systems, many also highlight how they can be utilized to offer new narratives and to achieve climate justice (Dawson, 2013; Korf, 2011; Mikulewicz, 2020). Dawson (2013) contemplates how ‘imaginative counter-geographies’ can be utilized to forge meaningful

solidarity across the constructed North-South divide, demonstrating that imaginative geographies are not simply a source of critique but also a starting point for hope. Said has been criticized for how his critique of Orientalism produced a dominant Occident and passive Orient, thus reproducing both the binary he sought to critique and erasing the acts of resistance and agency occurring within colonized territories for centuries (Farbotko, 2010; Young, 2004). Said took up this criticism and engaged more thoroughly with topics of resistance and subjects of empire in a follow-up book, *Culture and Imperialism* (1994). He acknowledges that “what I left out of *Orientalism* was that response to Western dominance which culminated in the great movement of decolonization all across the Third World” (Said, 2004, xii, as cited in Dawson, 2013, p. 37).

Gregory has highlighted how the performative nature of imaginative geographies is a source of opportunity, asserting “every repertory performance of the [colonial] present carries within it the twin possibilities of either reaffirming and even radicalising the hold of the [colonial] past on the present or undoing its enclosures” (Gregory, 2004a, p. 19). The latter of these possibilities is what Dawson (2013) engages with, asserting that North-South divides are arbitrary divisions, and thus barriers to true climate justice, and that Said’s imaginative geographies remind us that distance is in fact “political practice” (2013, p. 34). Careful to avoid a call to universalism that would erase the complexities and forms of solidarity being advocated for, Dawson asserts that unifying sources of struggle and solidarity can be found more readily in class divides than lines of latitude. Dawson provides examples of transnational organizing around climate justice, such as The World People’s Conference on Climate Change and the Rights of Mother Earth. Dawson argues that it should be the contribution of critical scholars to “[articulate] the conditions under which such forms of solidarity become possible” (Dawson, 2013, p. 48). Korf and Mikulewicz similarly argue that there is a need for critical scholars to

push back against dominant climate change narratives and “oppressive imaginative geographies” in order to undo often taken-for-granted power dynamics and challenge oppositional thinking (Korf, 2011, p. 39). I would add here that such scholarship is but a small contribution to the struggle compared to the tireless bravery of water and land defenders and climate activists on the ground around the world, but a deeply important contribution nonetheless.

Conclusion

This chapter began with an overview of existing work related to climate change and media, demonstrating the significant opportunity for further engagement with the spatial complexities of the climate crisis and narratives surrounding it. Following this, I considered how geographers have grappled with the question “how far should we care?,” tracing the pathways through which responsibility and morality have been made spatial. I discussed the complex power dynamics embedded within that question, ultimately arriving at the realization that I must first ask “who decides what is far?” before answering my initial question. Using the concept of imaginative geographies, I have asserted that distance is socially constituted, and that expert knowledge and representations, such as film, play an instrumental role in both creating and upholding our understandings of space. The global scale of climate change represents an important opportunity to further explore how these imaginaries legitimize specific power dynamics, and how they, in turn, can be used to identify and dismantle them. Documentary films, a trusted source of information about climate change, present an important field of study in which to engage with topics of representation, morality, and space.

Chapter 3: Poststructuralism and the Imaginative Geographies of Documentary Films: Theory and Methods

Introduction

Documentaries are a “slippery category”; they purport to portray non-fictional material, yet contain the biases and positionalities of their makers, and often portray regions or issues that are not directly familiar to the viewer (Holland, 2020, p. 1). This complicated relationship between fact and fiction, and representation and reality, requires careful consideration when choosing a theoretical framework and methodological approach to analysis. Furthermore, it is necessary to situate oneself within the myriad of approaches to media and film analysis and possible theoretical standpoints they offer. To do so, I return to the concept of imaginative geographies that I discuss in Chapter 2 and explain how it further informs my theoretical framework. I discuss how poststructuralism frames my understanding of the performative power of film, and how film geography as a subdiscipline has grappled with that debate. Then, to conclude this chapter, I will introduce the mixed-methods approach to my analysis, which involves a critical approach to content analysis and narrative analysis.

Theoretical Framework

My theoretical framework draws on the poststructuralist leanings of certain research within the subdiscipline of film geography and is informed by the concept of imaginative geographies. Gregory’s (1995b) insistence on the performative nature of imaginative geographies is helpful in explaining the power of discourse and the relevance of critical analysis of texts, and therefore informs my theoretical framework for this study. I am particularly interested in how popular media from the Global North portrays the climate crisis locally and globally, and how documentary films construct distance by creating imaginative geographies of fear, or foster

solidarity by avoiding the duality of ‘us’ and ‘them.’ Imaginative geographies provide a helpful framework through which to consider the geopolitical implications of popular media. Gregory explains that Said saw imaginative geographies as “*discursive formations*, tense constellations of power, knowledge, and spatiality” (Gregory, 1995a, p. 29, emphasis added). As discussed in the previous chapter, specific imaginative geographies are constituted when certain “material forms” work together to create a “self-reinforcing archive”; such discourses can be found within, produced by, or further legitimized by narratives found within documentary films (Gregory, 2011, p. 371). While Said was instrumental in demonstrating the interplay of geography, power, and discourse, Gregory has continued to stress how geographical thought has been complicit in violence (Gregory, 1995b; Warf, 2020). While Said and Gregory’s discussions of imaginative geographies are rooted in postcolonialism, I hope to emphasize its poststructuralist tendencies and the other geopolitical contexts to which it can also be applied. I have chosen to engage with imaginative geographies as a framework through which to consider the power of documentary films for four reasons:

1. There is an explicit focus on spatiality and how discourses and certain narratives construct distance and difference. The ‘wicked problem’ of climate change is so wicked precisely because of the diffuse spatial and temporal nature of both its effects and consequences. A critical focus on how distance is produced and thus political provides a helpful lens through which to consider climate change discourses.
2. The role of media representations, from classical literature to documentary films, in constructing specific regimes of truth (or discursive violence) is well recognized within the literature on imaginative geographies. Recent works on the imaginative geographies of climate change provide tangible examples of the material effects of discourse and

helps to address critiques regarding the relevance of a poststructuralist approach to media analysis (Baldwin, 2012; Farbotko, 2010; Mikulewicz, 2020).

3. There is a recognition of the power dynamics imbued in the production of imaginative geographies, and how certain forms of knowledge are privileged as valid over others. The privileging of 'expert knowledge' constructed at a distance from the subject matter can be seen just as clearly in the creation of policy and media by those in the Global North about climate change in the Global South as in Said's critiques of Orientalism.
4. Imaginative geographies are interested in the stories that reinforce certain imaginaries, and this focus on narrative fits with my interest in how documentary films not only frame specific regions, but construct and legitimize certain narratives about their past, present, and potential future. As Emily Cameron emphasizes, "the performance of inscription of stories over time and in different places contributes to the sedimentation of those same networks" (2015, p. 180).

Discourse

In order to further articulate the nuances of this approach, I will also engage in a discussion of discourse and its importance in the context of my analysis. The concept of discourse is relevant here largely due to its connections with Michel Foucault. Foucault's emphasis on the performative power of discourse to legitimize certain understandings of truth aligns with my research interests and creates a bridge between film geographies and imaginative geographies. While I am not explicitly undertaking a critical discourse analysis, clearly outlining my definition of discourse is helpful in differentiating my approach from other potential frameworks such as semiotics or critical realism. 'Discourse' is defined here as interrelated texts, ideas, and concepts through which subjects and objects are given meaning. As Rose explains, discourse

refers to the “groups of statements that structure the way a thing is thought, and the way we act on the basis of that thinking” (Rose, 2016b, p. 187; also, see Hajer & Versteeg, 2005; Phillips & Hardy, 2002). The following three points offer key assumptions which inform my definition and understanding of discourse, and thus the power of documentary films and other texts:

1. Discourse is productive: discourses play an active role in shaping the world by producing subjects, reinforcing societal power structures, and establishing ‘regimes of truth’ (Lorenzini, 2015; Rose, 2016b).
2. Discourse is diffuse: The power of discourse does not flow only vertically or follow hegemonic order, making everyday discourses found in texts potential sites for reinforcement or resistance of power structures (Daldal, 2014).
3. Discourses have consequences: These discourses are powerful not only because they are productive but because they have *material effects*, with consequences for both social and environmental justice (J. England, 2004).

My understanding of discourse and its unique power is further informed by theoretical debates within one subfield of geography with which my research aligns: film geography. The ‘crisis of representation’ which swept the social sciences in the 1990s had a profound impact on film geography and resulted in multiple responses from film geographers, including one that emphasizes the productive power of cinematic narratives (Lukinbeal, 2020). As the broader field of geography, a discipline of maps and representation, struggled with whether it was possible to accurately represent social reality, film geography found itself undergoing epistemological upheaval as it considered the real-reel binary (Lukinbeal & Zimmermann, 2006). The real-reel binary describes a microcosm of the crisis of representation that was specific to film, namely: does the ‘reel’ (that which is on screen) accurately represent the ‘real’ (an off-screen reality), or

is it actively constituting its own celluloid reality (Aitken & Zonn, 1994; Lukinbeal, 2009)? One view that emerged from this ‘crisis’ was a recognition of the power of discourse and the stance that on-screen representations construct and reinforce structures of power rather than simply mirror reality or provide entertainment. As Lukinbeal & Zimmerman argue, “film is not a representation of reality, but rather ‘film (re)produces a virtual space’” (Clark, 1997, p. 9 as cited in Chris Lukinbeal & Zimmermann, 2006, p. 317). Within this approach, the influence of Foucault’s interpretation of discourse as powerful through its productivity is clear; texts are not viewed as simply on-screen mimics of reality, but rather as powerful world-builders. Such understandings of film argue that systems of language and other forms of representation are inseparable from systems of power, and reality is actively constructed by those representations (Minca, 2009).

An immediate criticism of this stance is that such an abstract approach to understanding the world removes one’s ability to adequately acknowledge the ‘real effects’ of discourse (Clarke, 2006). However, a poststructuralist approach to understanding reality does not, or should not, necessarily discount one from recognizing injustice and inequality as urgent and tangible. The third aspect of my definition of discourse emphasizes this point: certain discourses have power, and thus should be critiqued, precisely *because* they have consequences. England (2004) engages with this critique in her analysis of a documentary film about drug users in Vancouver’s Downtown Eastside. England argues that alongside the recognition of the constitutive power of visual discourse to construct and influence reality, there must be a simultaneous recognition of the material effects those discourses have. When spaces and subjectivities are constituted through texts, power dynamics that may perpetuate injustice are also created or reinforced, and individuals, communities, or ecosystems may suffer the consequences. While Jean Baudrillard is

known as occupying one of the most extreme positions of the broader postmodernist movement, his essay *The Gulf War did not take place* (1991) provides a helpful example of this relationship between the ‘real’ and ‘reel’. Baudrillard’s controversial essay argues that the Gulf War had not been a war, but rather a carefully constructed media spectacle and ideological exercise by the American military, of which the outcome was predetermined and inevitable (Cresswell, 2013; Merrin, 1994; Noth, 2003). However, and crucially, Baudrillard does not deny the *material effects* of the war; he does not posit that the significant casualties experienced by Middle Eastern civilians did not happen, merely that the spectacle of a just war did not (Merrin, 1994). This example showcases the knife’s edge upon which such a theoretical perspective walks; critiquing the concepts of objective truth and reality, while avoiding abstraction so extreme as to deny the lived experiences of those who have been oppressed. Indeed, Foucault was such an advocate for the critical interrogation of discourse precisely because of the potential for injustices borne out as a result of its power and the uncriticized legitimacy it can construct for oppressive institutions.

The complexities presented by theoretical debates within film geography have particular salience for documentary films which are understood to document ‘reality’ rather than scripted plots created only for entertainment. Within England’s (2004) analysis of a police-commissioned documentary film about the Downtown Eastside, she argues that the film’s narrative has the potential to ‘invisibilize’ and dehumanize the drug users, primarily Indigenous women, that it portrays. As England maintains, “although the boundary between discourse and everyday life is fluid, complex, and often disrupted, it is important to trace these connections, particularly when discrimination and oppression are at work” (2004, p. 296). England’s research and the concept of imaginative geographies show the performative power of discourses embedded within broader narratives, and thus the importance of critically engaging with them.

Critiques

I would like to briefly discuss two critiques of imaginative geographies before delving into my methods. First, Stephens (2011) provides an important warning about the usefulness of imaginative geographies, arguing that “we are too easily led to the conclusion that what is needed is better representations of ‘others’ in the world, as just as enlightened, cultured, reasoned as ‘us’” (2011, p. 2). Stephens argues that in trying to challenge imaginative geographies, it is possible to simply recreate and thus legitimize the binary of us/them. There is certainly a danger of paternalism in writings about imaginative geographies and particularly in considerations of how to subvert them, and critiques of these potentialities is important. However, I would argue that the entire point of identifying problematic binaries of ‘us’ and ‘them’ is to ultimately break down that binary, rather than replicate it in another form. Dawson (2013) offers an clear example of how the framework of international climate justice has been utilized to foster global solidarity and produce ‘imaginative counter-geographies’. Better representations of the Other aren’t what is needed, but rather to explode the existing categories used to establish distance and difference, and instead critically interrogate systems of power that construct this binary (and ask what forms of meaningful solidarity these arbitrary categories are preventing us from forging).

The second point I wish to discuss is a critique I don’t want to respond to, so much as sit with. Young (2004), in a critical analysis of dominant postcolonial theory, highlights Said’s complicity in “the coercive structures of knowledge that he is describing” (p. 167). Said himself acknowledges this, asking,

how the production of knowledge best serves communal, as opposed to factional, ends, how knowledge that is non-dominative and non-coercive can be produced in a setting that is deeply inscribed with the politics, the considerations, the positions, and the strategies of power. (Said, 1984, p. 15 as cited in Young, 2004, p. 168)

There is undeniably a limit to the usefulness (and radicalness) of most work produced in academic institutions. I am a white woman, in a *profoundly* white discipline, now responding to a white male author's critique. Acknowledging this positionality is important but is not a panacea to the uncomfortable hypocrisy it illuminates. I do not have a tidy response to Young's writings and the broader critiques of academia and critical theory it invokes, but I don't wish to lapse into cynicism either. As highlighted in the previous chapter, critical theory does have a place within work surrounding climate justice and justice of all forms, but it is important to reflect on one's privilege and positionality within these struggles. In her writings on the imaginative geographies of the Arctic, Emily Cameron emphasizes that:

It is crucial that we pay close attention both to our own ambitions and desires as scholars. Who and what is legitimated in these reimaginative efforts, and on what terms? To what extent is this desire for a more just and nuanced imaginative landscape a *white* desire? (2015, p. 174)

I believe that recognizing the power of texts and the discourses they produce is important, and that doing so within a framework that acknowledges how our world has been shaped by specific imaginaries is valuable. At the same time, a self-reflexive acknowledgement of the limits of academic critique and the role one plays in the systems of power in question is essential.

Methods

In order to analyze each film and address my research questions, I utilize a mixed-methods approach, consisting of screen time tabulations for different regions, content analysis, and narrative analysis. Screen time tabulations and content analysis provide a quantitative and systematic technique to identify patterns and themes within each film, while narrative analysis allows us to investigate the methods of storytelling that produce those themes and the discourses that underpin them. Reissman notes that combining narrative analysis with "category-centered

models” of analysis, such as coding, allows for distinct insights that are gleaned from the different approaches of each method (2008, p. 12). Both content analysis and narrative analysis were developed for use with written texts, a trend which continues in their current application, though both have been applied to visual analysis. Given this context, it is important to be intentional and critical when engaging in the analysis of texts that contain both linguistic and visual elements.

Film Selection

Selection Criteria

In order to establish the film selection criteria, I undertook a brief literature review to determine best practices for film searches and selection, and to find appropriate databases to search for such films. Selection criteria varied according to the topic and scope of each study, but included random sampling (Ramasubramanian, 2005), selecting top-grossing films in a particular time period (Bell et al., 2005; S. M. Smith et al., 1999), selecting critically acclaimed films (Hammer, 2010), and utilizing targeted search criteria pertaining to specific subject matter (Freeman & Valentine, 2004; Gharaibeh, 2005). These studies also identified multiple online databases to use as sources for films, which I utilized during the search process. I used a purposive sampling technique in order to ensure selected films would be relevant to the goals of the research questions. I selected 15 films to provide a diverse range of producers, directors, and narrators, along with a variety of geographical foci and subject matter within the broader topic of the climate crisis. Of the 15 films originally selected, five were excluded for reasons discussed below, leaving 10 films for analysis.

Film selection criteria were as follows:

1. The release date must be between the years 2006 and 2019. The year 2006 was selected as the beginning of the date range because it is the year *An Inconvenient Truth* (which is

included in the sample) premiered. *An Inconvenient Truth* is widely recognized as a “cultural event” which pushed the climate crisis into the public discourse in an accessible and highly successful manner for the first time (Pearce & Nerlich, 2018, p. 214).

2. The film must focus on the climate crisis, not exclusively on other issues relating to environmental degradation (e.g. ocean pollution, coral bleaching, or animal agriculture). These topics may be discussed in the selected films but cannot be the focus.
3. The film must focus on multiple geographical regions, not one specific area, in order to allow for the comparison of portrayals of different global regions within and between films.
4. The film must focus on the causes and impacts of the climate crisis, not just potential solutions.
5. The film must recognize the climate crisis as scientific fact and an ongoing global reality rather than engaging in climate denial by putting forth arguments refuting or challenging this. There are several ‘documentaries,’ largely spurred by the release and subsequent success of *An Inconvenient Truth*, that discuss the impacts of climate change, but either downplay their anthropogenic cause, or deny them outright.
6. The film must have been released on a platform that would allow widespread viewership (i.e. theatrical release and/or be available on Netflix, Amazon Prime, or released on a major television network).
7. The film must be in English.²

Search Process

Initial searches were conducted using the online film databases Box Office Mojo (<https://www.boxofficemojo.com/>), the Internet Movie Database (<https://www.imdb.com/>), and Netflix (<https://www.netflix.com/>) as they provide comprehensive lists of documentary films

² While non-English language films were initially accepted within the selection criteria and were easily found using online databases, it was difficult to establish their popularity, critical reception, and distribution methods, and thus they were not included for analysis. An ongoing lack of focus on non-English language and foreign films has been noted by environmental communication scholars (Comfort & Park, 2018; Schäfer & Schlichting, 2014) and was something I had hoped to avoid perpetuating. However, being able to establish context regarding both the production and audience/critical reception of each film is important to the focus of my research.

organized by topic and theme, and are commonly used among film researchers (Freeman & Valentine, 2004; Hammer, 2010; Ramasubramanian, 2005). Initial film selections were found using curated lists of films which focused on environmental issues and the climate crisis on Box Office Mojo and the Internet Movie Database. After the thematic lists were exhausted, searches were conducted using the key words “climate change,” “global warming,” “climate,” “climate crisis” in each database. Word of mouth recommendations were also used to supplement this list. Further searches were undertaken using the online academic databases, Film Index International (ProQuest) and WorldCat, the results of which were largely duplicate results or non-English language films which were later excluded from the sample.

This process led to the selection of 48 films to be considered for inclusion based off of keywords in their titles and plot summaries. Further evaluation was undertaken once this list was established, which involved reading detailed plot summaries, watching film trailers, and reading reviews of the films. Following this process, 33 films were removed from the list after establishing they did not fit within the selection criteria. Initially, 15 films were selected for analysis, though *The Great Warming* (2006) and *Everything's Cool* (2007) were later removed from the list because it was not possible to easily obtain copies for viewing despite a theatrical release, thus disqualifying them from the inclusion criteria. *The Age of Consequences* (2016), *Living in the Future's Past* (2018), and *Ice on Fire* (2019) were also later removed due to a lack of focus on the global impacts of climate change that was not apparent in the initial selection process. The finalized list of 10 selected films is shown in Table 1 below. A brief summary of each film can be found in Appendix A.

Title	Year of Release	Director	Country of Origin	Running time	Initial release platform
<i>An Inconvenient Truth</i>	2006	Davis Guggenheim	United States	1hr 33min	Theatrical release
<i>Global Warming: What You Need to Know</i>	2006	Nicolas Brown	United States	1hr 28min	Discovery Channel
<i>The 11th Hour</i>	2007	Leila Conners Petersen & Nadia Conners	United States	1hr 22min	Theatrical release
<i>The Age of Stupid</i>	2009	Franny Armstrong	United Kingdom	1hr 24min	Theatrical release
<i>Climate Refugees</i>	2010	Michael Nash	United States	1hr 20min	Limited theatrical release, streaming platforms, targeted screenings
<i>This Changes Everything</i>	2015	Avi Lewis	Canada/United States	1hr 27min	Theatrical release
<i>Before the Flood</i>	2016	Fisher Stevens	United States	1hr 30min	Theatrical release & National Geographic Channel
<i>How to Let Go of the World and Love All the Things Climate Can't Change</i>	2016	Josh Fox	United States	2hr 3min	Theatrical release/HBO premiere
<i>Time to Choose</i>	2016	Charles Ferguson	United States	1hr 31min	Theatrical release
<i>An Inconvenient Sequel: Truth to Power</i>	2017	Bonni Cohen & Jon Shenk	United States	1hr 36min	Theatrical release

Table 1. Films selected for analysis

Screen Time Tabulation

I began my analysis by timing the amount of screen-time devoted to different global regions, along with noting what specific geographical locations within those regions are mentioned in dialogue and narration. Locations must be explicitly identified and named (either through verbal identification, or labels on-screen) in order to be attributed to a specific global region, to avoid bias that might result from my familiarity with certain locations or landmarks above others. Scenes under ten seconds were not included in the screen-time tabulation count because of difficulty identifying specific locations in brief cut-scenes. The outcome of this

process is an approximate tabulation of the amount of time (counted in minutes, or where necessary, seconds) that each film focuses on each region, along with the tally of the number of times a region is mentioned. The former was then compared to the total run-time of the film in question in order to produce a percentage of screen-time devoted to each geographical region. When appropriate, I also note what regions are not discussed, as absence is also a form of discourse that can have significant consequences (Rose, 2016c). These regions were delineated using categories created by the Intergovernmental Panel on Climate Change (IPCC) in 2014 (Field et al., 2014). The regions are as follows: Africa, Europe, Asia, Australasia, North America, Central & South America, Polar Regions, and Small Islands (the specific countries within each region can be found in Appendix B).

Critiques could be made of my decision to use broad geographical categories that erase the specificities of countries and regions and their experiences of climate change. There are inequities between countries in a region as large as ‘Europe’ or ‘Asia’, and such large areas can easily include a significant variety of geopolitical intricacies and differing vulnerabilities to climate change. The IPCC uses these categories because they offer a scale at which broad-scale phenomenon can be modeled, but important regional variations can still be identified, and regional political issues such as adaptive capacity, political cooperation, and migration can be considered (Field et al., 2014). My own reasoning for the use of these categories is twofold. First, necessity: the use of larger ‘container’ categories allowed me to classify and compare over 20 hours of footage. While the categories themselves are broad, I note particularities within them; I document what specific countries, cities, or regions are included within the large regional categories of my screen time count, and note what locations are given the most attention. This allows me to identify important patterns while working with data at a manageable scale. Second,

the potential condensing of specificity is of interest to me within my analysis – what countries, cities, or landmarks are used to represent an entire region? What geopolitical complexities are erased in that process? In considering how travel photography is implicated in the production of imperialist imaginative geographies, Schwartz highlights how iconic imagery has the effect of “fragmenting the way in which the world is perceived,” and *reducing* geographical knowledge, rather than expanding it (1996, p. 33). This process has been highlighted in climate change discourses before, such as the installation of the polar bear as iconic imagery that represents the climate crisis, while simultaneously condensing complex ecosystems and cultures that have existed in the Arctic for millennia down to a single species (Born, 2018). Furthermore, there is no scale other than the local that will avoid some generalizations and some loss of specificity; even within a single country or city, climate change is experienced differently depending on racialized identity, class, and gender (Burnham et al., 2013).

Content Analysis

Content analysis is a methodologically rigorous form of textual analysis, which involves “a systematic reading of a body of texts, images, and symbolic matter” in order to identify patterns, themes, and biases (Berg & Lune, 2012; Krippendorff, 2004b, p. 3). It was popularized during World War II as a method through which to analyze mass media journalism and propaganda, and remains an important method of quantitative analysis for samples containing large amounts of data (Krippendorff, 2004b; Rose, 2016a). It is an appealing method of analysis for my purposes because of this suitability for processing large amounts of visual or written material, and its potential for “making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (Krippendorff, 2004b, p. 14).

Critical Content Analysis

A common critique of content analysis is that it examines texts in isolation and cannot be truly critical because of the abstractive nature of its quantitative approach (Budd, 2006; Waitt, 2005). I would argue that if content analysis is undertaken using a suitable framework, it is in fact well-suited to producing self-reflexive and nuanced data through critical analysis.

Krippendorff, a prominent scholar in the field of content analysis, argues that “texts, messages, and symbols never speak for themselves,” and a consideration of context is in fact expected, and certainly required, in order for the results of content analysis to be significant (2004a, p. 25).

Rose (2016a) supports this assertion, suggesting that the analyst is entirely in control of how superficial their research methods and subsequent analysis are, and that content analysis can fit within her requirements for a critical methodology if conducted with intention. My research questions and interest in the construction of geopolitical imaginative geographies offer a critical framework for both my data collection and analysis. Within the specific context of my methodology, content analysis also provides us with a method through which to identify patterns and themes in large amounts of data, which will then be examined in-depth using qualitative methods.

Research Design

Content analysis entails four main steps: selecting a sample; creating coding categories; coding texts; and analyzing the results (Rose, 2016a). I have previously discussed the selection process by which the 10 films being analyzed have been selected, and will begin at the second step.

Coding Categories

The coding process begins with determining the units of analysis. These can vary from single key words or sentences to more interpretive units such as “dispositions” or “messages” extrapolated from large sections of the text (Bryman, 2001; Dumay & Cai, 2014; Krippendorff, 2004c). Each coding category must be exhaustive (all topics of interest to the coder must be included), exclusive (there must be no overlap between the categories), and enlightening (the categories must produce results that are of interest to the analyst’s research aims) (Rose, 2016a). I coded both the narrators and on-screen speaking role subjects, viewing the roles they played as distinct but equally important and relevant. I coded on-screen speaking role subjects in order to explore whose voices are highlighted within different regions, asking, is there a reliance on scientific experts to discuss climate change impacts, or are local experiences and voices centred? I also wanted to examine how people experiencing climate change were portrayed: are they victims in need of saving, or individuals with agency and resilience? The specific aims of my research questions were used to create each coding category, which were also informed by a literature review of relevant studies (Borum Chattoo, 2018; Garrison, 2011; O’Neill, 2013; Ramasubramanian, 2005; Wozniak et al., 2015). Multiple iterations of the coding framework were created, with the categories ultimately being refined to ensure that each category was clearly defined, and to ensure consistent and replicable coding. As in the screen time tabulation, each global region was coded separately to allow for comparison of the portrayal of different regions between and within each film.

My analysis initially included coding categories beyond on-screen subjects with speaking roles, but the varying editorial and stylistic choices among the selected films made coding in this manner challenging. In some instances, fast cuts between scenes while uninterrupted narration

continued across multiple short scenes made it difficult to distinguish between unique scenes in certain films, while others used extended continuous shots that involved several minutes of footage. Documentaries also present a unique challenge for coding in this manner due to the common practice of integrating footage of interviews into and between scenes which breaks up a narrative sequence into a large number of scenes. As a result, delineating consistent and clear coding units became difficult. I integrated some of the themes and topics that I had planned to analyze using content analysis into my narrative analysis.

I coded the films' narrators and all characters with speaking roles, excluding characters featured in brief re-used news clips or B-roll (such as footage of news anchors or politicians), or characters whose on-screen appearance was not relevant to the narrative or was too brief to accurately code. Characters were coded for their racialized identity, gender, and the region they were speaking about, and were then further divided into two broad categories, local subjects and non-local experts (scientists or other authority figures who speak to the causes and impacts of climate change, but are not from the region being discussed). Non-local experts were further divided into categories originally created by O'Neill (2013) that I adapted for increased specificity: (a) scientist/researcher, (b) celebrity, (c) political figure/policy makers, (d) business leaders, and (e) other.

I divided local subjects into four subcategories: 'heroes' (those who are presenting specific solutions or are involved in climate change mitigation or adaptation efforts), 'victims'³ (those whose dialogue focuses on the negative impacts of climate change or fossil fuel resource extraction that they have personally experienced), 'villains' (those who are portrayed

³ A note about language here: the term 'victim' in particular can have negative connotations and may be seen as denying agency to the people or culture it describes. This is not my intention. The 'hero,' 'victim,' and 'villain' categorizations were used in anticipation of the narrative analysis due to their pervasive use in narrative analysis frameworks (Arnold, 2018c; Fløttum & Gjerstad, 2017).

contributing to, benefiting from, or indifferent to their role in causing or perpetuating climate change), and ‘local experts’ (individuals who speak to the causes and impacts of climate change, and are from the region being discussed, but are not speaking exclusively about their personal negative experiences of change). The category of ‘victims’ was further subdivided into speakers who only recount a specific experience with climate change impacts (personal) and speakers who supplement their experience with the explicit inclusion of additional context or place-based knowledge (analytical). A final ‘other’ coding category was added for individuals who are from the specific location they are speaking about, but don’t fit into one of the above categories or could be coded as multiple categories due to a narrative arc. Characters were coded according to how they are portrayed in each film – even if further research about a ‘victim’ established that they were actually a ‘hero,’ they would be coded according to their portrayal and dialogue in the film.

Coding the Texts

Coding was undertaken using a spreadsheet which contained each of the coding categories (Appendix C). To ensure that the coding was replicable and consistent, several coding tests were undertaken. These consisted of coding a 20-minute segment of a film, and then re-coding the segment after a period of time had passed and comparing the results. Categories were adjusted according to the results of these tests, with categories that were not being coded consistently changed or removed.

Narrative Analysis

Narrative analysis is “a family of methods for interpreting texts that have in common a storied form” (Riessman, 2008, p. 11). This ‘family’ recognizes the importance of stories to social organization and human understanding of the world, and thus the power narratives hold

(Pinnegar & Daynes, 2007; Riessman, 2008). Narratives can be a vehicle through which discourses are reinforced, or contested (Souto-Manning, 2014). A narrative contains both a “sequence” and a “consequence”; it is a specific way of disseminating information that has a storyline or plot that culminates in a resolution that may include a lesson or moral (Cronon, 1992; Fløttum & Gjerstad, 2017; Riessman, 2008). Narratives not only “transport” information through a storied vehicle, but also tell us how to make sense of the events they describe and imbue them with meaning (Paschen & Ison, 2014, p. 1086; also, see Cronon, 1992). Cronon (1992) asserts that even the seemingly innocuous act of describing a series of events chronologically inevitably culminates in a narrative – someone still has to select which events are important enough to include. Thus, narrative analysis asserts that the stories that surround us in daily life should be carefully examined, with consideration given to who chose the events and actors to include, what has been left out, and the underlying assumptions (and discourses) the narrative rests upon (Cronon, 1992; Reinsborough & Canning, 2010; Riessman, 2008). The importance of engaging with narratives in the context of climate change media is succinctly described by Fløttum & Gjerstad: “narratives also define problems, indicate causes and possible solutions as well as *moral responsibilities*” (2017, p. 2, emphasis added).

It is important to pause here and make a distinction between two forms of narrative analysis: that which focuses on narrative as the *product* of analysis, and that which focuses on a narrator or existing narrative as the *object* of analysis. The former refers to analysis related to the narratives created through the analysis of interviews and ethnographic accounts undertaken by the researcher (Kwan & Ding, 2008; Pinnegar & Daynes, 2007; Riessman, 2005; Savin-Baden & Niekerk, 2007) whereas the latter (of interest here) considers narratives embedded within existing texts, such as books, media coverage, or film.

Research Design

Narrative analysis is increasingly recognized as an important tool within climate change communication studies, but research and methods are “somewhat all over the place with no clear analytical framework” (Arnold, 2018a, p. 43). When creating my own framework for narrative analysis, I drew from three existing narrative analysis frameworks to create a two-step process that examines both the structural and regional narratives in each film. Structural narrative analysis refers to a consideration of particular characteristics of a narrative, such as its segments (or plot), setting, and characters (Arnold, 2018b; Parcell & Baker, 2017). Like Arnold (2018b), I recognize the need to extend my analysis beyond only the form of the narrative and consider its purpose and content. My regional analysis involves considering how specific global regions fit within the larger ‘story’ of each film, and how they are positioned within a broader narrative of climate change.

Fløttum and Gjerstad (2017) adapt and expand the Narrative Policy Framework (NPF) and Adam’s five-part narrative structure in order to investigate a variety of non-fictional texts related to climate change policy. Their case studies involve considering the ‘macro-structure’ of the narrative’s plot (presence of initial situation, complication, reaction, resolution, and final situation) and how text ‘micro-structure’ works to identify the heroes, villains, and victims within them (Fløttum & Gjerstad, 2017; Parcell & Baker, 2017). Reinsborough and Canning’s Narrative Power Analysis (NPA) argues that “all power relations have a narrative dimension,” and identifying those narratives is the first step to disrupting and deconstructing hegemonic power relations (2010, p. 20). NPA interrogates five elements of a narrative (conflict, characters, imagery, foreshadowing, and assumptions) in order to identify points of intervention where it can be critiqued. Jackson (2015) examines how a ‘glacier-ruins narrative’ is constructed within five

arts and humanities works, including a documentary film. Jackson argues that popular discourses focus on the “presupposed future extinction” of glaciers, thus creating a public perception of glaciers as lost causes with a predetermined fate (2015, p. 483). While the analytical framework within Jackson’s research is less explicit than that of Reinsborough and Canning or Fløttum and Gjerstad, its analysis of how popular media can create a deterministic narrative that shapes public perception and action regarding climate change is highly relevant here.

Structural Narrative Analysis

The first step in my analysis is to map the plot of each film according to an adapted five-part narrative which draws from the narrative segments described in NPA, NPF, and the five-part narrative structure (Table 2).

Narrative Power Analysis (Reinsborough & Canning, 2010)	<i>Assumptions</i> Existing beliefs that are necessary to believe the narrative is true.	<i>Characters</i> Subjects, protagonists, narrators.	<i>Conflict</i> The defining problem of the story.	<i>Foreshadowing</i> Vision of the future, hints regarding how the conflict will be resolved.	<i>Imagery</i> Visuals used to reinforce the narrative.
Narrative Policy Framework (Fløttum and Gjerstad, 2017)	<i>Setting</i> “facts which are taken for granted ... basic historic events, nation-state boundaries” (2017, p. 5)	<i>Characters</i> Heroes, villains, victims.	<i>Plot</i> “temporal succession of events” (2017, p. 5)	<i>Moral</i> “the policy solution” (2017, p. 5)	
Five-part narrative structure (Fløttum and Gjerstad, 2017)	<i>Initial situation</i> Beginning point of narrative.	<i>Complication</i> Problem related to climate change.	<i>Reaction</i> Proposed actions to address the conflict.	<i>Resolution</i> Implementation of the reaction.	<i>Final Situation</i> Resulting or desired effect of the reaction.

Table 2. Comparison of structural components of narrative analysis frameworks.

The table describes the segments that each existing framework highlights within their analysis in order to breakdown narratives into their constitutive parts. Drawing from these three frameworks, I then created four segments that I used in order to map the overarching narrative found within each film: setting/context, conflict/complication, reaction/intervention, and

resolution/moral. In order to allow for easy comparison and consistency between the films, I created categories for each of the segments (Table 3).

Setting/Context: Starting point for narrative and context provided for the emerging conflict	Conflict/Complication: Problem that must be addressed with an intervention	Reaction/Intervention: The proposed response to the conflict that has arisen	Resolution/ Moral: Prediction for the future based on the interaction of the conflict and reaction
<p><u>Individual</u>: climate change is caused by negative individual actions and behaviours such as overconsumption and greed.</p> <p><u>Systemic</u>: climate change is caused by larger societal forces (such as capitalism or neoliberalism) that cannot be addressed with individual actions.</p>	<p><u>Economic</u>: climate change represents a threat to the global economy.</p> <p><u>Existential</u>: climate change represents a threat to the continued existence of humanity as we know it.</p> <p><u>Security</u>: climate change creates a security threat and the potential for conflict.</p> <p><u>Environmental</u>: climate change threatens the natural world.</p>	<p><u>Technological</u>: climate change can be addressed using technology.</p> <p><u>System Change</u>: large scale transformative change (i.e. changing our economic system, large scale government intervention) is needed to address climate change.</p> <p><u>Individual Actions</u>: small lifestyle changes are sufficient to address climate change.</p> <p><u>Policy</u>: laws and legislation can address climate change.</p>	<p><u>Hope</u>: the worst effects of climate change can still be avoided.</p> <p><u>Doom</u>: climate change is unavoidable and will worsen.</p> <p><u>Opportunity</u>: some effects of climate change cannot be avoided, but we can learn and grow as a global society in the aftermath.</p> <p><u>Uncertainty/Unknown</u>: the future is still undecided, with many variables preventing an accurate prediction of what will unfold.</p>
<p><u>Global</u>: all of humanity is complicit in the individual or system causes of climate change.</p> <p><u>Unequal</u>: some regions/cultures/countries are more to blame for climate change than others.</p>	<p><u>Universal</u>: climate change creates a “universal human frailty”(Gergan et al., 2020, p. 91)</p> <p><u>Unequal</u>: vulnerable populations will be impacted first or more severely, exacerbating existing inequities.</p>		

Table 3. My structural narrative analysis framework.

I used Arnold’s (2018a) overview of common climate change ‘stories’ to inform my categories, drawing specifically from Verweij et al. (2006) and Ney & Thompson (2000). This exercise allowed me to describe the plot and key actors found within each film, which enables comparison between films, and facilitates identifying patterns in the narrative structure of the 10

documentaries. This approach also allows me to still engage with the broader narratives of a film even if it does not focus on specific regions for a significant period of time. Furthermore, it allows me to consider how different regions fit (or are absent) within the broader narrative of a film. For example, do films that focus on hope for the future and solutions exclude certain regions?

Regional Narrative Analysis

While the previous step provides us with the broader ‘story’ of climate change within each film, this analysis delves deeper into how specific regions fit into that story. I return to the same categories utilized above but use them to inform key questions to be applied to each of the eight global regions identified in the screen time tabulation. In order to structure this aspect of my analysis, I drew from the work of Jackson (2015) and Reinsborough and Canning (2010). Jackson (2015) uses narrative analysis to identify how glaciers are portrayed in arts and humanities scholarship, and to locate and identify the presence of the ‘glacier-ruins narrative’ in each. Similar to my own interests, Jackson is interested in how these narratives depict the future and fate of glaciers and has concerns about how a narrative of unavoidable ruin will affect someone engaging with the piece in question. As noted earlier, the analytical methods employed are not explicitly stated, but Jackson discusses how visual and linguistic elements of each text work together to craft a specific narrative about the glacial melt due to climate change. Reinsborough and Canning (2010) use guiding questions in order to establish how different narratives engage with the categories they identify, which is also how I have structured my narrative analysis (Table 4).

Characters: How are subjects from different regions portrayed in the film?

- Are personalized stories about experiences of climate change in different regions shown on screen, or only broad descriptions of impacts and statistics?
 - *Who is humanized by the narrative and who is 'Othered'?*
- Who is given speaking roles and who are only shown on-screen?
- Who is identified by name?
- Are nuances between racialized groups, genders, and classes within the regions identified or discussed?
- Are residents of the region shown engaging with and fighting for their futures (agency), or accepting of inevitable climate change impacts (passive)?

Setting: How does the film situate each region within a broader context?

- Are existing inequities (positive or negative for the region) identified?
- Are other sources of vulnerability (i.e. Polar amplification, ongoing conflict) noted?
- Is historical context provided to explain why a region is wealthy/impooverished/involved in a conflict, etc.?
 - *Does the narrative draw attention to or ignore existing factors that may make a region more vulnerable to the impacts of climate change?*

Conflict/Complication: What impacts of climate change/fossil fuel resource extraction is the region experiencing?

- Does the film focus on external impacts (how changes in a specific region will affect other parts of the world) or internal impacts (how impacts will affect communities or ecosystems located in the region)?
 - *Does the film create a hierarchy of concern by emphasizing the risks to certain regions over others?*
- Who (or what) is blamed for the impacts occurring?
 - *Are climate change impacts decontextualized from their causes, or situated within a broader context?*

Reaction/Intervention: What response is proposed for the climate change/fossil fuel resource extraction impacts the region is facing?

- Is a response proposed, or are impacts presented without a possibility for resolution?
 - Is mitigation, adaptation, or both proposed as a response?
 - *Is the region an expendable warning to other more important regions, or an inherently important/valuable place that should be protected (Farbotko, 2010)?*
- Who is positioned as responsible for implementing a solution/response?
 - *Are global inequities noted and addressed?*

Resolution/Moral: What is the future of the region according to the film?

- Does the film portray the fate of the region as predetermined and inevitable, or uncertain due to the possibility of mitigation (Jackson, 2015)?
 - *Do we need to care about the region, or is its fate sealed?*

Table 4. Guiding questions for regional narrative analysis.

The questions within the table are guiding questions that help to focus my analysis of each region to be relevant to my research questions, but will not necessarily all be answered individually.

Italicized questions iterate the connection between the guiding questions to my research interest and theoretical framework. Janney (2010) emphasizes that visual and audio components of a film work together and should not only be considered as separate pieces. Therefore, in addition to the guiding questions provided in Table 4, I also considered the following questions:

1. What kind of music accompanies dialogue and imagery? What emotions does it invoke?
2. What imagery accompanies dialogue or narration about specific regions?
 - a. Are there reoccurring images or themes that occur in specific locations more than others?

What kind of descriptive language is used to describe characters and events (i.e. ‘refugees are *swarming*’ vs. ‘migration is increasing’, or ‘cities are *drowning*’ vs. ‘increased sea level rise affects coastal urban areas’)?

Conclusion

Within my analysis, I have applied a theoretical framework that recognizes the discursive power of documentary films to produce specific ‘imaginaries’, which is informed by the poststructuralist origins of film geographies. This framework was instrumental in taking a critical approach to a quantitative method such as content analysis and informed the approach I took to my narrative analysis. My specific methods include a screen-time count, content analysis, and narrative analysis performed at two scales. This mixed method approach allowed me to identify themes and patterns within and across films, while my theoretical framework provided a critical lens through which to consider those findings. The following two chapters present the results of my analysis, as contextualized by my research questions and theoretical framework.

Chapter 4: Structural Narrative Analysis and Speaking-Role Subject Analysis

Introduction

Establishing how each film identifies the causes and consequences of, and solutions to, the climate crisis provides the ‘story’ of climate change that the film seeks to impart to the viewer. Prior to considering how narratives of climate change vary spatially, it is important to first establish how each of the 10 documentaries aligns itself within the “discursive battleground” that is the politics of climate change more broadly (Paprocki et al., 2019). This chapter first offers an overview of the results of my structural narrative analysis. This involves examining the narrative progression and broader themes within each film, offering important context for the regional analysis, and providing insight into the discourses of responsibility with which the films align. Following the structural analysis, I examine the results of my coding of speaking-role subjects in each film. This addresses an aspect of a narrative equally important to the events described: the characters. Arnold notes that characters, including a story’s narrator, are “part of the design that constitutes a plot and represents ideological positions” (2018b, p. 63).

Contextualizing the Story: Structural Narrative Analysis

Table 5 provides a summary overview of the results of my structural narrative analysis. Each aspect of the table is discussed individually for the films under consideration using the narrative framework I described in the previous chapter. The setting or context of each film is the starting point of its narrative, and consists of the context provided for the emerging conflict. In this case, it is a consideration of how the films conceptualize the causes of climate change and how they can be attributed spatially.

Film	Setting/Context Starting point for narrative and context provided for the emerging conflict		Conflict/Complication Problem that must be addressed with an intervention		Reaction/ Intervention The proposed response to the conflict that has arisen	Resolution/ Moral Prediction for the future based on the interaction of the conflict and reaction
<i>An Inconvenient Truth</i>	Individual	Unequal (United States)	Existential & Environmental	Universal	Policy & Technological & Individual Action	Hope
<i>Global Warming: What You Need to Know</i>	Individual	Unequal (United States, China)	Existential & Environmental	Universal	Technological & Individual Action & Policy	Hope & Uncertainty
<i>The 11th Hour</i>	Systemic (“corporate economic globalization”)	Unequal	Existential & Environmental	Unequal	Technological & Individual Action & System Change	Hope & Uncertainty
<i>The Age of Stupid</i>	Systemic (capitalism)	Unequal (Western nations)	Existential	Unequal	Individual Action & System Change & Policy	Doom & Uncertainty
<i>Climate Refugees</i>	Individual	/	Existential & Security (United States & Europe)	Unequal	Technological & Individual Action	Hope & Uncertainty
<i>This Changes Everything</i>	Systemic (capitalism)	Unequal (not spatialized by country)	Existential & Environmental	Unequal	System Change	Hope & Opportunity
<i>Before the Flood</i>	Systemic (corporate interests & the fossil fuel lobby)	Unequal (United States & China)	Existential & Security & Environmental	Unequal	Technological & Individual Action & Policy	Uncertainty
<i>How to Let Go of the World and Love All of the Things Climate Can't Change</i>	Systemic (corporate interests & the fossil fuel lobby)	Unequal (not spatialized by country)	Existential & Environmental	Unequal	System Change	Doom & Opportunity
<i>Time to Choose</i>	Systemic (corporate interests & the fossil fuel lobby)	Unequal (United States, China, Indonesia)	Existential & Environmental	Unequal	Technological & Individual Action	Hope
<i>An Inconvenient Sequel</i>	Systemic (government inaction & the fossil fuel lobby)	Global	Existential & Security	Universal	Technology & Policy	Hope

Table 5. Results of structural narrative analysis.

The conflict or complication portion of the narrative consists of the threats that the climate crisis presents for the planet, and whether these threats are universal or have unequal impacts. The reaction or intervention portion of the narrative refers to the solutions that the films offer to the conflict, or how they posit that the climate crisis can be prevented from worsening. Finally, the resolution or moral of the story considers how each film conceptualizes the future, based on the reaction or intervention it puts forth.

Setting & Context

The ‘setting’ of the narrative consists of underlying assumptions and contextual information that underpin the story. As noted in Chapter 1, Boykoff argues that media coverage “certainly does not determine engagement; rather, it shapes possibilities for engagement” (Boykoff, 2011b, p. 2). Establishing how climate change documentaries situate the causes of the climate crisis is important as this will influence who (or what) is seen as responsible for the resulting impacts, and where efforts to create change should be directed. The majority of films analyzed in this study recognize larger systemic causes for the climate crisis than individual behaviours or actions. Both *The Age of Stupid* and *This Changes Everything* explicitly name capitalism as the root cause of the climate crisis, while five other films discuss the role of corporate interests and the fossil fuel industry in actively preventing or discouraging climate action. Corporate greed and government inaction due to corporate influence and lobbying are common themes, with *An Inconvenient Sequel* focusing extensively on how the Republican Party has hindered climate action in the United States. These films frame certain powerful factions of society as the ‘villain’ as they are perpetuating the climate crisis in pursuit of increased wealth despite their awareness of its worsening impacts and public calls for action and change.

An Inconvenient Truth, *Global Warming: What You Need to Know*, and *Climate Refugees* each focus on consumer behaviour and overpopulation (without connecting the former to broader systemic or cultural issues) as the root causes of climate change. In *Climate Refugees*, Dr. Stephen Schneider asserts, “people like to blame big business. ‘Oh, it’s that oil company with a couple of X’s in its name who had record profits.’ Well, it’s true they had record profits. But who bought their stuff?” (Nash, 2010, 00:50:33). Another expert suggests, “the problem is there are six and a half billion people in the world,” while *An Inconvenient Truth* identifies population growth as one of the causes of “a collision between our civilization and the Earth” (Guggenheim, 2006, 1:01:04; Nash, 2010, 00:05:18). Narrator Tom Brokaw offers an almost identical claim in *Global Warming: What You Need to Know*: “the 6 and a half billion people on our planet have collectively become a force of nature on a collision course with our climate” (N. Brown, 2006, 01:02:43). These quotes suggest it is our mere presence on the planet that is problematic and obscures unequal patterns of consumption and other inequities. A focus on individual behaviour also obfuscates larger forces that may stifle efforts to challenge or exist outside of capitalist systems.

Almost all the films argue that regardless of whether the climate crisis is caused by individual decisions or systemic causes, globally not everyone is equally responsible. *This Changes Everything* is careful to avoid a dichotomy regarding specific regions or countries as causes of climate change, and journalist and narrator Naomi Klein instead draws attention back to what she perceives as the root issue while considering the air quality in China (Lewis, 2015, 1:12:13):

This smog, much of it is from factories making goods for my home and yours. And now there’s so much pollution it isn’t just a threat to China, it’s a threat to life on earth. So maybe it’s not east versus west, maybe it’s all of us against the logic of domination and growth at any cost. Capitalism versus the climate.

Within other films, the United States, China, and India are frequently identified as the source of the majority of global emissions. It is usually noted that China is ‘the factory of the world’ (*How to Let Go, Before the Flood*) and some of its high emissions can be attributed to the manufacturing of goods for Western countries, while India is framed as seeking to address widespread poverty and inequity through fast economic growth (Fox, 2016; Stevens, 2016). Meanwhile, the United States’ high emissions are commonly linked to rampant consumer culture and the influence of the fossil fuel industry on the government and society (Senator James Inhofe’s climate denial and large financial contributions from the fossil fuel lobby are invoked in four films). This context connects high emissions to a larger systemic problem that creates inequity and externalities for countries outside of the Global North. A Chinese policy analyst in *How to Let Go* says this outright, arguing that “through the development of renewable energy, we can work on the bigger problem—the problem that caused all this in the first place [emphasis added]—political, social, and economic inequality” (Fox, 2016, 1:30:45). *Before the Flood* also highlights global inequity when Leonardo DiCaprio is scolded for his optimism regarding American action and the possibility of a market-based solution by Sunita Narain in India (Stevens, 2016, 00:36:51):

DiCaprio: Look I, there is no way I don’t agree with you, how can you argue that? You’re absolutely correct and I think yes, it’s a very difficult argument to present to Americans that we need to change our lifestyle, and I would also argue that it’s probably not going to happen. So, we are dependent, if we want to solve the climate crisis, on the fact that hopefully renewables like solar and wind will become cheaper and cheaper and cheaper the more money we funnel into them, the more we invest into them and ultimately it will solve that problem. But I...you’re shaking your head, obviously.

Narain: I’m shaking my head Indian-style which means no.

DiCaprio: Right.

Narain: Who will invest, Leo? Let's be real about this, who will invest and how will you invest in it? We are doing more investment in solar today; China is doing much more investment in solar today than the U.S. is. What is the U.S. doing which the rest of the world can learn from? You're a fossil-addicted country, but if you are seriously disengaging it's something for us to learn from. And it will be leadership that we can all hold up to our government and say listen if the U.S. can do it and the U.S. is doing it, in spite of all their pressures, we can do it as well. The sad part of it is, it's just not happening. And people like me, we are rich enough to withstand the first hit of climate change but it's the poor of India, it's the poor of Africa, it's the poor of Bangladesh, who are impacted today by what I believe is the first signs of climate change.

However, not all films provide this context, identifying whole countries to be at fault without a nuanced discussion of cause or contributing factors. *Time to Choose* discusses the high emissions of China without this context, but it does later praise the steps the country is taking to move towards renewable energy at a faster pace than the United States. *Global Warming: What You Need to Know* refers to China and India as “energy consuming industrial giants” and repeatedly emphasizes their large populations before noting the United States’ rising emissions and political inaction (N. Brown, 2006, 1:03:54). Interestingly, the original *Inconvenient* film squarely points the blame at the United States while *An Inconvenient Sequel* focuses on “an Indian problem” and rising emissions and populations in “the developing world,” despite the film’s simultaneous emphasis on Republican skepticism of climate science (Cohen & Shenk, 2017). In the intermediary time between the release of the two *Inconvenient* films, emissions from countries like India and China have increased substantially. Despite this, the emphasis on Indian emissions is overt and lacks nuance regarding the context for this rise in emissions.

Conflict/Complication

Existential Threat

Perhaps unsurprisingly, the main focus of all of the films is how climate change will affect human society. The films seek to cultivate concern and spur action by emphasizing the

danger the climate crisis presents to the viewer and the world they know. Four films reference the potential for the destruction of human civilization entirely. Only the *Inconvenient* films and *Global Warming: What You Need to Know* invoke universalism rather than emphasizing the unequal vulnerability that exists across different regions, classes, and racialized identities. The majority of the 10 documentaries acknowledge that certain regions and countries are more vulnerable and will be impacted first, and speakers or narrators within six of the films identify climate change as a moral issue because of this inequity. However, multiple films also often use vulnerable regions that are already experiencing significant impacts to emphasize that all of humanity will eventually be in danger if no action is taken. The impact of Hurricane Katrina on the Louisiana coast is invoked as a “prologue” (*The 11th Hour*), “sample” (*Climate Refugees*), or a “taste of what was to come” (*The Age of Stupid*). Small island nations such as Tuvalu are mentioned frequently (e.g. *Climate Refugees*: “what’s happening in Tuvalu I think is a lesson to us in more ways than one”), along with less frequent mentions of low-lying but highly populated areas like Bangladesh or Miami that are particularly vulnerable to sea-level rise (or seemingly unpopulated regions like the Arctic). Such framing diminishes the impacts that the regions in question have experienced, reframing them as teachable moments for the rest of the world and a warning for what is to come. Such regions are essentially frozen in the ‘conflict/complication’ aspect of the narrative, meaning they are only discussed in the context of the impacts they are experiencing, thus excluding them from possible solutions and considerations of the future because their utility in the narrative is to act as a warning to regions and communities that can avoid a similar fate.

Environmental Consequences

Several films also emphasize the ongoing and potential environmental impacts of climate change as well as the intrinsic value of the species and ecosystem at risk. In *How to Let Go*, filmmaker Josh Fox reflects, “we’ll lose 30% to 50% of the species on the planet. That’s a lot of goodbyes. How do you even begin to grieve?” (Fox, 2016, 00:37:22). In *The 11th Hour*, David Suzuki argues that “the tragedy is not the imminent or potential extinction of humankind but the enormous extinction crisis that we’re causing right now” (Conners & Conners, 2007, 00:53:07). Many of the films emphasize the potential for environmental damage by drawing attention to select charismatic megafauna at risk. For example, *Before the Flood* focuses on narwhals and orangutans, *Time to Choose* discusses the muriqui monkey, and *Global Warming: What You Need to Know* showcases three polar bear cubs who are “likely to become another statistic ... of a species on its way to extinction” (Brown, 2006, 00:28:34). The intrinsic value and beauty of the natural world is also emphasized as being at risk, particularly within the context of the potential loss of iconic landscapes like Glacier National Park in the United States.

National Security

Three films tell stories that emphasize the threat to national security of large-scale migration (mainly for the United States) caused by worsening climate change impacts. This approach reframes climate change impacts in other regions as worthy of concern and action because of the fear it invokes about migrants and refugees (who become a dehumanized ‘security threat’), rather than the impacts that led to migration in the first place (White, 2016). *Climate Refugees* uses large red arrows to show the hypothetical movement of future climate refugees, portraying the movement of vulnerable people as an ominous force of nature (Figure 1). Even within films that do not emphasize national security as a central concern, migration is often

discussed with a focus on scale, emphasizing the thousands or millions of climate refugees that could come to the United States and other Western nations. In footage of climate refugees across all films, individuals shown on screen are racialized, yet the experts and narrators on screen discussing their movement are predominantly white. *How to Let Go*, a film which is notable for how it centres Indigenous voices and marginalized communities, still refers to “Syrians and Mid-East refugees swarming across European boundaries” and “streaming inland” across the world (Fox, 2016, 00:29:27, 1:00:28).



Figure 1. Red arrows depict the movement of refugees in *Climate Refugees* (screenshot by the author).

Thus, climate refugees become a threat alongside the climate crisis, rather than vulnerable to its impacts and deserving of care and concern. The relationship between racialized identity and positionality in the films will be discussed in the following section on speaking-role subjects in the film.

Reaction/Intervention

The narrative arc of all 10 of the films move from an explanation of the problem and its causes and impacts into a discussion of proposed responses to the climate crisis. Some of the films spend only a brief amount of time on this latter aspect of the narrative arc, while others

(such as *Time to Choose* and *This Changes Everything*) devote much of their screen-time to responses rather than impacts. The need to transition away from fossil fuels to renewable energy sources is emphasized by all films. Some argue this must be one step within a larger project of total societal change, while others suggest embracing new energy technologies without system change will be sufficient.

Incremental Change

The majority of the documentaries argue that making changes within our current system will create the changes necessary to solve the climate crisis. Many of the films, particularly those which are older, advocate for making changes on an individual level. Other films argue for action through policy, either on a global scale such as the Paris Agreement or hypothetical future international agreements, or policy measures localized to a city or national scale. Before the credits roll, *An Inconvenient Truth* asks the viewer, “are you ready to change the way you live?,” and then offers steps to take such as recycling, and buying energy efficient appliances and hybrid vehicles (Guggenheim, 2006, 01:29:40). *Global Warming: What You Need to Know* showcases small changes a family could make “without making any drastic changes in their lifestyle” (01:23:17). The final moments of *Climate Refugees* push for technological solutions and individual behavioural changes, emphasizing that such measures are inexpensive and will not require significant lifestyle changes or sacrifices (Nash, 2010, 01:16:17):

Do what you can today. What can you do today? Can you buy an energy efficient light bulb? Can you buy two or five? Do that. Can you put some weather stripping around your doors and windows? Good. Do that. Can you buy an energy saving thermostat? Good. Do that. Can you ride a bike when weather and fitness permit? Absolutely. Do that. Is there public transportation near you? Yes. Do that. Home gardening, home composting. All those things that I mentioned are dirt cheap. Very inexpensive, every single thing I said, and you will save money from that. And then if you want, if you enjoy the fruits of your labor and the money that you’re saving, maybe then you wanna move up the ladder and buy a solar oven. Maybe you then wanna buy a rain barrel to collect your rainwater. Lots

of electricity is used to pump water around California and anywhere. So, you can bit by bit save electricity. You can save water. You can do all these things by doing ‘em in the right order,’ by starting small and doing something today. But we must all act now.

System Change

Before the Flood and *How to Let Go* both note that emissions targets set by the Paris Agreement are insufficient and may actually be a step backwards from previous international agreements. Only three of the films explicitly argue that large-scale change to global economic and social systems needs to occur in order to prevent the worst impacts of the climate crisis. As mentioned, *This Changes Everything*’s central premise is the need to reject capitalism in order to address climate change, and it advocates for widespread direct action alongside other measures. *The 11th Hour* offers a similar critique without explicitly naming capitalism, arguing that beyond technological fixes, a global focus on growth need to be addressed as “the problem is fundamentally a cultural problem” (Conners & Conners, 2007, 00:45:28). *How to Let Go* argues that “you can’t divorce energy from the rest of the system, from the rest of the model” when seeking solutions (Fox, 2016, 01:01:29).

Interestingly, some of films that identify the causes of the climate crisis as systemic do not advocate for solutions that challenge the systems they critique. In *Before the Flood*, DiCaprio laments his past naiveté, noting “it boiled down to simple solutions like changing your light bulb. It seemed like a positive thing at the time, you know. Changing your lightbulb” (Stevens, 2016, 00:17:11). Despite this, the film ultimately concludes that a carbon tax is the “silver bullet for climate change,” though market-based solutions such as this do not actually address the underlying causes of climate change that the film identifies (Stevens, 2016, 00:59:47). *The 11th Hour* also emphasizes the need for change at a societal level, yet it offers sustainable design as its main response without fully engaging with the corporate greed and government inaction it

explicitly identifies as impeding climate action. Similarly, *The Age of Stupid* emphasizes the inherent problems of capitalism and the legacy of other systems such as colonialism. The film ultimately offers a ‘carbon rationing’ regime that recognizes that “equity is the only option morally, and also practically as the developing countries won’t sign up for anything less” (Armstrong, 2009, 1:14:00). However, the proposal of this “binding international agreement” fails to engage with how the systems it identifies as root causes of the problem may hinder such a solution (Armstrong, 2009, 01:13:07). However, the film emphasizes the need for action on an individual and system level that strives for equity, which may be more important than the logistics of the broader solution it proposes.

Ultimately, these inconsistencies may speak more to the ‘wicked’ nature of the climate crisis than to any hypocrisy on the part of these three films. At the same time, they also speak to an aversion to an overt political call for systemic change that challenges our current economic and societal models. Generally, the 10 films emphasize the need for multiple solutions, thus implying the need for systemic change even if it is not explicitly acknowledged. Throughout the films, the focus is largely on mitigation rather than adaptation, except in certain regions such as Miami, Florida, and small island nations, where adaptation is positioned as the only pathway forward.

Resolution/Moral

The majority of the films offer hope for the future, with varying levels of optimism regarding the extent to which climate change’s worst impacts can still be avoided. Two films acknowledge that a certain level of warming is unavoidable, but the upheaval caused by a global crisis and the necessary response is an important opportunity to reimagine global relations with each other and the environment. In the final moments of *This Changes Everything*, Naomi Klein

asks, “what if global warming isn’t just a crisis? What if it’s the best chance we’re ever going to get to build a better world?” (Lewis, 2015, 01:26:10). Two films conclude with confident statements, asserting: “the climate crisis can be solved” (*An Inconvenient Truth*), and “we can stop climate change” (*Time to Choose*). This hope for the future seems to be spatially selective, as many of the films have argued that certain highly vulnerable regions such as the Arctic and small island nations are already facing significant impacts, and their fate is inevitable regardless of future action.

Only two films operate from the premise that catastrophic climate change will not be avoided. *The Age of Stupid* is set in a hypothetical 2055 in which sufficient mitigative action was not taken, and the entirety of the world has been made uninhabitable. The opening scene shows famous landmarks such as the Sydney Opera House and the Taj Mahal in ruins, a refugee camp in the ice-free Arctic, and finally the narrator’s lonely home in a ‘global archive’ that contains artifacts and preserved animals. The intention of the film’s fictionalized future is to spur action during our current ‘age of stupid,’ but the closing scene of the film shows a group of landowners in England working to prevent the construction of 10 wind turbines. This is followed by a sped-up montage of increasingly severe climate change impacts leading up to the archivist’s apocalyptic present day, and a final question on a black screen: “the end?” (Armstrong, 2009).

How to Let Go does not take this same fearmongering approach, yet it still asserts that the worst impacts of climate change can’t be avoided. Following a dizzying montage of a selection of experts explaining climate change’s increasing severity (sometimes using the metaphor of the Four Horsemen of the Apocalypse), the narrator confides (Fox, 2016, 00:36:58):

I would love for this to be the part of the movie where I say, “Everything’s going to be okay.” I can’t do that. Here’s what we know—the fires, the droughts, the floods, the hurricanes, the tornadoes—they’ll get worse.

The ultimate message of *How to Let Go* is that individuals and communities must fight for what they love and what makes the places they care about unique, as the viewer saw the activists that Fox has met throughout the film do, regardless of the climate impacts that are already unavoidable. The prevailing sentiment at the conclusion of the majority of the films, however, is uncertainty regarding the future. Many of the films note that the world has all the necessary technology and information needed to take significant action that needs to be urgently undertaken, but it is a question of whether it will happen in time to prevent climate change from accelerating further.

Summary and Key Points

This discussion of my structural narrative analysis has considered how each of the 10 films crafted their own ‘story’ of climate change, examining the narratives they construct starting from the political context they provide through to the future resolution they imagine. Many of the films, particularly those released in the last decade, identify climate change as a moral issue due to its unequal causes and effects. The majority of the films highlight that certain countries are more responsible for high levels of emissions than others, and some of these films further stratify this divide, noting that responsibility is also divided by class or related to societal structures. The dominant narrative (with some exceptions) throughout the 10 films is one that recognizes unequal vulnerability to climate change impacts through space and time, acknowledging that already vulnerable populations will be impacted first. Most films also stress that this is not only a human problem, cultivating concern for the biodiversity loss that is already occurring and will worsen by pointing out both the scale of the ongoing extinction event and using specific case studies of charismatic megafauna.

Many of the films create conflicting narratives of responsibility: they identify systemic causes for the climate crisis, but ultimately push the responsibility for action back onto the viewer through individual behaviour change, or by advocating for policy changes that still rely on economic and government structures that they have just identified as fundamentally incompatible with the bold action required. It should be noted here that I am not expecting a 90-minute film to provide a detailed proposal for how to solve the climate crisis or reorder our social and economic systems. As noted above, the seeming mismatch of large-scale problems with small-scale solutions in many of the films drives home the ‘wicked’ nature of the climate crisis and the significant barriers that have hindered action. Furthermore, many of the films do propose important behaviour changes and innovations that would play an important role in a large-scale response to the climate crisis and thus implicitly foster widespread systemic change. However, it is also reasonable to hope that they would take the opportunity to push back against the systems that they themselves have established to be deeply flawed and ultimately dangerous, and to more explicitly condemn the industries they identify as largely culpable for the crisis.

Time to Choose emphasizes that “most” fossil fuel reserves must stay in the ground “forever unused” in order to avoid catastrophic climate change, and that “we have to take on the richest companies, the richest industries, and the richest individuals, in the history of the world” but suggests no explicit intervention more drastic than a cap and trade program (Ferguson, 2016, 00:39:10). In *An Inconvenient Sequel*, Gore highlights how American democracy has been ‘hacked’ by corporate interests, yet he offers Lyndon Rive of SolarCity the opportunity to be the “corporate hero of Paris” while negotiating at COP21 (Cohen & Shenk, 2017, 1:14:52). Only one film even mentions ending fossil fuel subsidies, and this is only a passing mention in the text on screen at the end of *Before the Flood*.

It is also worth noting here that the words ‘fossil fuels’ and ‘energy’ appear nowhere in the Paris Agreement, suggesting this is part of a broader issue within media and mainstream discourses surrounding climate solutions that is not unique to these films (Carvalho, 2019). Both *How to Let Go* and *This Changes Everything* push back against this discourse, emphasizing the need for direct action and arguing that the causes of climate change should not be seen as spatialized nationally, but instead as systemic problems largely orchestrated by powerful industries. While *How to Let Go* concludes with a more abstract call to action, *This Changes Everything* provides examples of grassroots energy cooperatives in Germany, frontline Indigenous activists in “Blockadia” physically blocking fossil fuel projects, and advocates for shutting down the oil sands in Alberta. Ultimately, all the films argue that it is the responsibility of everyday people to take action to prevent runaway climate change, but they differ in whether they link those actions to large systemic movements or argue individual behavioural changes will be sufficient. The lack of more radical and justice-oriented perspectives in many of the films may be partially explained by who is telling the story, and thus shaping “possibilities for engagement” (Boykoff, 2011b, p. 2).

Who’s Telling the Story? Narrators and Speakers

This section of my discussion examines the findings of my coding of the speakers in each of the documentary films. I begin by discussing the 10 narrators and how they engage with the films’ viewers, followed by the other speaking-role subjects (speakers) in each film.

Narrators

Each of the analyzed documentaries follows a similar approach, with singular narrator providing voice-over narration throughout the film, and often appearing on-screen to deliver monologues or conduct interviews. A narrator is an important characters within a narrative

because even if a narrator positions themselves as outside of the story they operate in a role of authority and “interpretational sovereignty” (Arnold, 2018b, p. 63). Table 6, below, offers an overview of the narrators in each of the 10 films. The only film in which the viewer does not see the narrator or learn their name is *Time to Choose*. Many of the narrators offer their own personal reflections on their experiences, confiding to the camera (and thus the viewer) the lessons they have learned. After a conversation about community solar power on the Great Wall of China in *How to Let Go of the World and Love All the Things Climate Can't Change (How to Let Go)*, filmmaker Josh Fox looks to the cameraperson and says, through tears, “I wanted to stay at home and, like, hang out in my house and not be bothered. So stupid to think that way, in a way, you know?” (Fox, 2016, 01:35:44). Journalist and activist Naomi Klein begins much of her narration in *This Changes Everything* with phrases like ‘I realized’ and ‘I wondered,’ giving the viewer insight into her own perspective on what is being shown on screen (Lewis, 2015). The *Inconvenient* films take this dynamic even further, with the films revolving around former Vice President Al Gore’s political and personal journey regarding climate change advocacy following the end of his political career (the viewer is frequently reminded of his contentious loss to Bush in 2000). The ‘climax’ of *An Inconvenient Sequel* occurs when Gore personally intervenes in order to ensure India agrees to certain terms in the Paris Agreement, seemingly singlehandedly ensuring it is a success. These narrators are the viewer’s guide to the issues and regions shown on-screen, and the viewer learns alongside them as they travel the world and are told about climate impacts and potential solutions.

Given the important role these narrators play in the films’ narratives, it is important to note that eight of the 10 films are narrated from a very specific positionality: someone who is white (n=9), male (n=9), and from the Global North (United States (n=8), Canada (n=1),

England (n=1)) (Table 6). The only film which is narrated by a person of colour is *Time to Choose*, but the viewer does not engage with the narrator beyond his voice; Oscar Isaac’s name only appears in the credits and the viewer never sees his face or hears him speak in first person. Thus, there is no racial diversity among the on-screen narrators, and almost no gender diversity. Furthermore, most of the narrators are also in positions of significant privilege (such as being a well-established actor or journalist, or career politician). As a result, the viewer is guided through these films from a very narrow and specific perspective, yet this positionality is rarely addressed by the films head on.

Title	Narrator	Nationality	Gender	Racialized identity
<i>An Inconvenient Truth</i>	Al Gore	American	male	white
<i>Global Warming: What You Need to Know</i>	Tom Brokaw	American	male	white
<i>The 11th Hour</i>	Leonardo DiCaprio	American	male	white
<i>The Age of Stupid</i>	Pete Postlethwaite (playing “The Archivist”)	English	male	white
<i>Climate Refugees</i>	Michael Nash	American	male	white
<i>This Changes Everything</i>	Naomi Klein	Canadian	female	white
<i>Before the Flood</i>	Leonardo DiCaprio	American	male	white
<i>How to Let Go of the World and Love All the Things Climate Can’t Change</i>	Josh Fox	American	male	white
<i>Time to Choose</i>	Oscar Isaac*	Guatemalan American	male	person of colour (Guatemalan-Cuban)
<i>An Inconvenient Sequel: Truth to Power</i>	Al Gore	American	male	white

*not shown on screen or identified within the film.

Table 6. Results of coding film narrators

Leonardo DiCaprio does reflect on the fact that his “footprint is probably a lot bigger than most peoples” in *Before the Flood*, but *The Age of Stupid* does not explain how and why a white British man was chosen as ‘the archivist’ for all of humanity following planetary climate

breakdown (Stevens, 2016, 00:39:43). This lack of self-reflexivity is further exemplified by the film, *An Inconvenient Sequel: Speaking Truth to Power*. At no point is there a consideration of whether Al Gore, former Vice President of the United States, multimillionaire, and son of a United States senator is perhaps the ‘power,’ rather than the ‘truth.’

Speaking-role subjects

The racial and gender disparities of speaking-role subjects in the documentary films follow similar trends as identified when coding the narrators. Of the total coded speakers (n=301), 76% (n=228) are male and 59% (n=178) are white (Table 7). Within the category of ‘non-local experts’ (film subjects who are positioned as highly knowledgeable about a specific topic related to climate change but are not from the region they are speaking about or are speaking about global phenomenon), 86% of speakers (n=107) are men.

Speaker Category	Men	Women	White	Racialized identities (B, I, &/or POC)	
non-local expert	107 (86%)	17 (14%)	107 (86%)	17 (14%)	
local subjects	victims (total)	12 (24%)	19 (24%)	12 (24%)	19 (24%)
	personal	12	19	2	39
	analytical	15	5	10	9
	heroes	36 (74%)	13 (26%)	17 (35%)	32 (65%)
	villain	20 (95%)	1 (5%)	17 (81%)	4 (19%)
	local expert	28 (66.6%)	14 (33.3%)	16 (38%)	26 (62%)
Other	10 (71%)	4 (29%)	9 (64%)	5 (36%)	
Total	228 (76%)	73 (24%)	178 (59%)	123 (41%)	

Table 7. Results of coding speaking role subjects in films

Gender parity is only approached in the category of ‘victims’ (speakers whose dialogue focuses on the negative impacts of climate change or fossil fuel resource extraction that they have personally experienced). The category of ‘victims’ was further subdivided into speakers who only recount a specific experience with climate change impacts (personal) and speakers who supplement their experience with the explicit inclusion of additional context or place-based

knowledge (analytical). The former category was the only coding category in which women outnumbered men (61% of speakers in the category were women). In all other categories, men significantly outnumber women, as is also the case in all 10 films. Thus, women are only prominently featured when they are speaking about their personal negative experiences of climate change.

A similar pattern can be seen in the results from coding the racialized identity of speakers: within the category of non-local experts, 86% (n=107) of speakers are white, and 73% (n=91) are white men. Similarly, 51% (n=63) of non-local experts are white academics or scientists, with only six of those 63 speakers being women (across all 10 films, only one Black woman and one woman of colour were coded as non-local experts). The category of 'villain' is also predominantly white (84%) and male (95%). Examples of villains include English landowners who oppose the construction of a windfarm near their properties (*The Age of Stupid*), and an executive who works for Suncor, a crude oil energy company based in Fort McMurray (*Before the Flood*). Thus, white men are simultaneously presented as the objective 'experts' on climate change and its enablers or beneficiaries. These two categories are connected through their physical and emotional distance from the effects of climate change, which are experienced and responded to within the films largely by Black and Indigenous communities and communities of colour.

Within the 10 coded documentaries, there were only three films that had a majority of speakers who were racialized (one of these was *An Inconvenient Truth*, which only features three on-screen subjects (Al Gore and two unnamed Chinese scientists) that fit my criteria for subject coding). On-screen subjects coded as 'heroes' and 'local experts' are predominantly racialized subjects (65% and 62%, respectively). Examples of heroes include solar technology innovators

in China, along with Indigenous community leaders opposing resource extraction projects in Montana (these categories are also highly gendered: 67% of ‘local experts’ and 73% of ‘heroes’ are men). Within the category of ‘victim,’ 76% of speakers are also racialized. This in and of itself is not necessarily problematic, since it is broadly recognized that the effects of climate change are felt unequally, and it is Black and Indigenous communities and communities of colour who experience the worst effects, in both the Global North and South. However, the common pattern of contrasting the racialized victim with the almost exclusively white ‘expert’ creates a problematic hierarchy of knowledge, authority, and race which needs to be interrogated.

Summary and Key Points

Both the narrators and other speakers who are positioned as being authorities on climate change are predominantly white. White Western experts are thus positioned as those who *understand* climate change, while racialized groups (and particularly women) are those who climate change *happens to*. An interesting example of this can be found in *Before the Flood* and its accompanying website. Leonardo DiCaprio visits “the middle of the Arctic” near Baffin Island, and talks with Dr. Enric Sala, a National Geographic Explorer-in-Residence, and Jake Awa, an Inuk man from Pond Inlet, on the sea ice (Stevens, 2016, 00:13:44). Both Awa and Sala discuss observed changes in the area. Awa appears only briefly in the scene and speaks to his personal and community observations of how the sea ice has changed, while Sala describes the role that the Arctic plays in global climatic systems and discusses the local narwhal population. The *Before the Flood* website includes a page where you can “learn more about the experts featured in the film” (*The Experts*, 2019). Sala is included, Awa is not. Crucially, these racialized power dynamics occur across different global regions, but also within them. This can be seen in depictions of climate impacts in the United States in on-screen coverage of Hurricane Katrina;

footage of Black New Orleanians on rooftops and in floodwaters (including footage of dead bodies) provides the background for white voices in four films who calmly discuss the disaster's causes and the worsening storm events it foreshadows.

'Victims' are also the only category in which speakers are frequently unidentified. Excluding scenes in which subjects are not named to protect their safety, six of the 10 films include dialogue from victims who are not identified by name. In five of those instances, the speakers are Black, Indigenous, or people of colour. *Climate Refugees* frequently invokes the experiences of nameless racialized victims (often while soft piano music plays in the background and footage is slowed down for a dramatic effect) followed by matter-of-fact analysis by white experts. An excerpt from the film's transcript shows this dichotomy (Nash, 2010, 00:47:21):

Male Liuzhou resident (unnamed – dubbed translation): Giant flood destroyed our rice fields. We have nothing to eat, no house to sleep in. This tent is my home. The storm came at night. It was quickly higher than our rooftop. I swam to my daughter's home, but it was gone. Their bodies have never been recovered. I used to feed the village with my rice fields. Now I give them empty rice bowls. I am a failure to my own people. Just a failure to my own people.

Newt Gingrich: Well, I, I think first of all if you talk about carbon loading of the atmosphere, you have a much easier conversation because it's so clearly visible that it's happening in terms of scientific data.

This anonymity dehumanizes those shown on screen, and is sharply contrasted with the named experts, whose academic or professional accolades and institutional affiliations often flank their names on-screen when they speak.

These problematic hierarchies of race and gender have implications for how discourses of responsibility and concern are produced. Feminist scholars have noted how certain dualisms that uphold Western modernity also emerge in discourses surrounding science, development, and climate change (Harding, 1998, 2008; Tuana, 2013). Women are often viewed as emotional

while men are portrayed as rational; racialized Others are simultaneously victims to be pitied and case studies for the white Western expert. The unproblematized over-representation of white male Western voices in the 10 films exemplifies Haraway's (1988) 'god-trick,' since these speakers are positioned as objective and impartial information sources who provide a 'view from nowhere,' yet are imbued with the privilege and biases of their highly specific positionality. As I have previously established, the majority of the documentaries do emphasize the unequal causes and impacts of the climate crisis, but the perspectives heard on-screen are predominantly white voices in positions of authority (politically, socially, or as holders of 'expert' knowledge) from Western nations. The absence of voices outside of this archetype is particularly noticeable in discussions of potential solutions and just pathways forward. An ironic example of this can be found in *Climate Refugees*, when Yvo De Boer muses (Nash, 2010, 00:18:43):

What sometimes worries me about this process is that it's, it's all about people in suits. People in suits in conference centres talking about a global policy response. And the human face of it isn't, isn't evident in those negotiations, isn't clear enough.

While speaking, De Boer is wearing a suit and is the Executive Secretary of the United Nations Framework Convention on Climate Change, a framework tasked with orchestrating a global policy response.

The representation of racialized speakers in the categories of 'hero' and 'local expert' pushes back with an important counter-narrative, emphasizing the agency and knowledge of racialized communities who are facing the impacts of the climate crisis and implementing solutions. Though notably, only four of the 10 films analyzed even depict 'heroes' from regions outside of Europe or North America, and in only two films are the 'heroes' from North America members of racialized communities (*This Changes Everything* and *How to Let Go*). This shows that dominant narratives within the films surrounding climate action are both racialized and

spatialized, upholding white Western voices and expertise over others. This constructs an imaginative geography in which the racialized Other is distanced from the objective Western expert, who rarely interrogates or acknowledges their own positionality.

Moments of Rupture: Counter-Geographies

Within the films analyzed here, there are notable exceptions to this white, Eurocentric discourse. *This Changes Everything* and *How to Let Go* both centre non-white and non-Western voices and advocate for changes and solutions that exist outside the technocratic and policy-focused solution paradigm. Though they are both narrated by white Western voices, the two films offer a glimpse of an ‘imaginative counter-geography’ that pushes back against the dominant discourse. One of the most impactful examples within the two films are the Pacific Climate Warriors in *How to Let Go*, a grassroots coalition of climate justice advocates from Pacific Island nations. While other films mainly show Pacific Islanders in the context of loss—recovering belongings after a flooding event, or sheltering indoors during a violent storm—the Pacific Climate Warriors in *How to Let Go* assert, “we are not drowning! We are fighting!” The film shows them blockading a coal port in Australia, preventing a tanker from leaving port (and ultimately shutting down all port traffic for the day) using a flotilla of kayaks and canoes (Figure 2).



Figure 2. Depictions of the Pacific Island Warriors in *How to Let Go* (screenshots by the author).

The Warriors demonstrate an alternate perspective that pushes back on preconceived expectations regarding their agency and resilience that is depicted in other portrayals of inhabitants of small island nations.

There are other films that offer brief moments of rupture. For example, *Time to Choose* showcases Grameen Energy, a not-for-profit energy company started by a Bangladeshi entrepreneur providing off-grid solar energy to rural communities in Bangladesh. This narrative pushes back against the common portrayal of Bangladesh as a highly vulnerable victim of climate change, for whom the only option is mass migration due to coastal inundation (Chaturvedi & Doyle, 2010). Leonardo DiCaprio's exchange with Sunita Narain (mentioned earlier in this chapter) in *Before the Flood* also offers an important alternate perspective on how American leadership and technocratic solutions are perceived outside of the West. Narain highlights the prevalence of American exceptionalism and ongoing inaction, asking DiCaprio, "What is the U.S. doing which the rest of the world can learn from?"

Conclusion

This chapter has considered how 10 documentary films construct a story of climate change and who is enlisted to tell that story. The first section of my analysis has shown that the 10 films centre a white, Eurocentric viewpoint and uphold Western scientific expertise. Critical scholars have noted the dominance of white Western voices in conversations regarding climate futures. Chakrabarty highlights why centering these voices is problematic, even in contexts where unequal responsibility regarding the causes of climate change is clearly recognized:

It means that our debates remain anchored primarily in the experiences, values, and desires of developed nations, that is, in the West (bracketing Japan for the moment), even when we think we are arguing against what we construe to be the selfish interests of 'the West' (2017, p. 35).

Chakrabarty urges us to consider “who sets the terms of the discourse” (2017, p. 35), while Mikulewicz similarly emphasizes that “the West’s tight grip on climate science (produced predominantly in Europe and North America) . . . [is] an arguable vestige of imperial control” (2020, p. 6). While the majority of the films do emphasize that the climate crisis is fundamentally a moral problem due to its unequal causes and effects, they still primarily centre white “objective” experts over the lived experiences of communities and regions who are the most vulnerable. By reproducing this discourse, these films strengthen its legitimacy, contributing to the “self-reinforcing archive” that reinforces this narrative (Gregory, 2011, p. 371).

The films also largely fail to fully critique the systems they identify as the cause of the climate crisis, such as the fossil fuel industry or capitalism. While they identify these systems as culpable, they often fall short of calling for them to be dismantled or radically altered, and instead endorse technocratic or policy-based solutions that still rely on Western expertise and intervention. As Tuana notes, “the ‘Global North’ is depicted as having agency and assigned responsibility both for causing the problem of climate change, but also for responding to it with technological and policy solutions” (2013, p. 26). Thus, many of the documentaries analyzed here contribute to a global imaginary that is gendered and racialized in its depictions of knowledge and agency. While there are brief moments of rupture that push back against this prevailing discourse, this imaginary upholds white Western science and modernity as the solution to climate change, while failing to adequately address how those same systems and identities are culpable in the creation of the crisis in the first place.

Chapter 5: Geographical Imaginaries of Climate Change: A Regional Analysis

Introduction

While the previous chapter examined the broader ‘stories’ of climate change that each of the 10 documentaries constructs, this chapter considers how different regions are portrayed and situated within those broader narratives. The first section provides a brief discussion of the locations, speaking-role subjects, and recurring visual imagery featured in eight different regions. The initial discussion is primarily descriptive and describes general observations regarding the portrayal of each region across all 10 films. I discuss whether a dominant narrative or theme emerges in the portrayal of each region that is common across multiple films, or if a particular country or region is featured frequently. I also consider the results of my coding of speaking-role subjects within the context of those narrative constructions. This overview is followed by a more in-depth discussion of three case studies. These address narrative and visual themes and patterns which emerge across multiple films regarding three specific regions, thus constructing stories and specific discursive imaginaries about them. The three regions to be considered are Africa, polar regions, and small island nations.

Regional Analysis: Descriptive Results

Across the 10 films, 58% of screen-time consists of footage in which the location is identified, and the scene lasts longer than 10 seconds (Table 8). It should be noted that while I only used scenes over 10 seconds to establish the screen-time count below, I include dialogue and imagery in scenes shorter than 10 seconds in my discussion of the region (my reasoning for timing clips that are 10 seconds or longer is discussed in Chapter 3). Of that time, more than half

is devoted to North America and Asia. A full breakdown of the screen-time devoted to each region in all 10 films can be found in Appendix D.

Region	Screen time % of total (HH:MM:SS)	# of films present	Locations portrayed (when countries, cities, or regions specified)
North America	19.5% (2:57:19)	10	United States (New Orleans, LA ; Galveston, TX; New York City, NY ; Reno NV; Washington, DC; Boone County, WV; Foster City, CA; California, Miami FL ; Carthage TN; Silicon Valley, CA ; Georgetown TX; Pennsylvania; Utah; Power River Basin, MT; Northern Cheyenne Indian Reservation, MT, Pine Ridge, SD; Boulder, CO) Canada (Fort McMurray, AB ; Beaver Lake Cree First Nation, AB; Rocky Mountains, AB)
Asia	13.9% (2:06:43)	9	Indonesia (unspecified, Sumatra); Bangladesh (Dhaka); China (Qingtu Lake, Guangxi province, Beijing , Shouzhou Shanxi Province, Ningxia Hui Autonomous Region, Solar Valley Dezhou , Great Wall of China, ‘Northern China’); India (New Delhi , Haryana, Mumbai, Sompeta); The Philippines (Tacloban City); Jordan, Syria
Europe	7.2% (1:05:18)	8	France (Paris); France/Italy (Mont Blanc); England (Cornwall, Buckinghamshire); Netherlands (Amsterdam); Greece (Halkidiki); Germany; Norway
Central & South America	4.1% (0:37:27)	5	Argentina (Ushuaia); Brazil (Curitiba, Atlantic Forest); Ecuador (Sarayaku); Peru (Marañon/Amazon River); Patagonia
Polar Regions	3.9% (0:35:28)	8	United States (Shismaref, AK.); Canada (Baffin Island, NU, Churchill MA); Greenland (Kangerlussuaq, Kangilerngata Glacier, ‘Swiss Camp’); Iceland Antarctica ; North Pole sea ice
Africa	3.5% (0:32:10)	5	Tanzania (Mt. Kilimanjaro region); Sudan (Darfur); Kenya (Nairobi) Nigeria (Makoko, Niger Delta); Zambia (Shangombo District)
Small Island Nations	3.2% (0:32:01)	5	Tuvalu ; Kiribati (Abaiang); Palau (Bablomekang); Vanuatu; Tokelau
Australasia	1.6% (0:14:38)	2	Australia (Newcastle; New South Wales)
The Oceans	0.8% (0:08:30)	7	Great Barrier Reef
Global/Other*	42.1% (6:24:29)	n/a	

Locations in bold appear in multiple films.

*includes footage where the location is not identified, interviews with speakers in unspecified locations/black backgrounds, regional footage clips under 10 seconds, and scenes discussing global topics (i.e. the greenhouse effect).

Table 8. Regional analysis of the 10 documentary films.

Within North America, the dominant focus is urban areas in the United States, while coverage of Asia largely focuses on China, and to a lesser extent Indonesia and India. Europe receives the third highest amount of screen-time, with predominantly Western European

countries shown on screen. Central and South America, polar regions, Africa, small island nations, and Australasia receive significantly less screen-time, and combined they account for only 16.3% of total screen-time. Australasia receives the lowest amount of screen-time, appearing in only two films, and accounting for 1.6% of total screen-time. Similar patterns can be found in the distribution of speakers spatially (Table 9).

Regions	Speaking-Role Subjects (n=301)							REGIONAL TOTALS
	Non-Local Experts	Local/Resident					Local Expert	
		Victim		Hero	Villain	Other		
		Personal	Analytical					
Africa	4	4	0	2	0	2	1	13
Europe	0	0	1	4	5	1	4	15
Asia	5	17	2	14	3	2	19	62
Australasia	1	0	1	0	0	0	0	2
North America	3	5	10	20	10	7	14	69
Central & South America	4	1	0	5	1	0	2	13
Polar Regions	7	1	0	0	0	0	2	10
Small Islands	2	3	6	3	0	0	0	14
The Ocean	5	0	0	0	0	0	0	5
Global/unclear	93	0	0	1	2	2	0	98
CATEGORY TOTALS	124	32	19	49	21	14	42	301

Table 9. Results of coding speaking-role subjects.

Of the 172 speaking-role subjects who are from the region they discuss in their dialogue, 57 are from Asia and 66 are from North America. This is not necessarily surprising: China, the United States, and India are the largest national emitters of greenhouse gases globally (Friedlingstein et al., 2019). The emphasis on these three countries suggests a strong focus on the causes of the climate crisis in the films rather than the consequences, as regions experiencing faster warming and more severe current impacts such as polar regions, Africa, and small island nations receive significantly less screen-time. The remainder of this section provides a brief

overview of the depictions of each region across the 10 films and consider where each region is situated in the ‘story’ of climate change that the films produce.

Central and South America

Despite the small amount of screen-time that the Central and South America region is afforded (4.1% or roughly 38 minutes) and the fact the region is only given screen-time in 50% of films, there is variety in the countries and locations portrayed, and a recurring narrative about the region does not emerge across multiple films. Depictions of Central and South America vary significantly across the 10 documentaries, with countries within the region at times being positioned as a cause or victim of, and solution to, the climate crisis. Both urban and rural communities are depicted; in *Time to Choose*, the city of Curitiba is put forth as a leader in sustainable design, while Sao Paulo is noted for its recent vulnerability to water scarcity. The glaciers of Patagonia are provided as an example of increasing glacial retreat around the world in two films. Deforestation of the Amazon is mentioned in three films and is discussed in the context of the problem it poses for global carbon sequestration, the biodiversity loss it causes, and the threat it poses to local communities’ livelihoods. Thus, the forest is positioned at times as having both global and local, as well as ecological and cultural, importance. *Global Warming: What You Need Know* focuses on the forest’s role as a carbon sink and highlights that “the Amazon is under attack by loggers, farmers, and drought” (Brown, 2006, 00:18:02), with other films also noting high levels of deforestation occurring in the region. *How to Let Go* similarly emphasizes that “protecting the Amazon from deforestation and oil drilling has got to be at the top of any climate list” due to its role as a global carbon sink, but also showcases multiple Indigenous communities across South America resisting various forms of resource extraction projects (Fox, 2016, 00:52:15).

Josh Fox notes that “Latin America is also the most dangerous place in the world to be an environmentalist, with hundreds of human rights and environmental defenders being murdered in the last several years” (Fox, 2016, 00:41:26). This quote alludes to a discourse of erasure which may be at play within other films’ depiction of Central and South America. While 69% of speakers who focus on Central or South America are from the region, representing ‘heroes’ (n=5), ‘local experts’ (n=2) ‘victims’ (n=1), and villains (n=1), four of those ‘heroes’ are featured in *How to Let Go*. Many of the films that do portray the region don’t discuss direct action and political advocacy for Indigenous and environmental rights, two tactics which have a rich history in both Central and South America. Thus, while the films largely avoid contributing to a specific narrative or imaginary surrounding Central and South America, the majority of the films focus on technology and policy-based solutions that predominantly arise from Western countries or China.

Australasia

The region which received the least screen-time across all 10 films was Australasia, which only appeared in scenes longer than 10 seconds in two films, and both scenes pertained to Australia. This may feel particularly surprising in our current moment given how news of bushfires across Australia dominated news coverage in late 2019 and early 2020, making international news due to their scale and severity. The majority of screen-time for the region occurs in *How to Let Go*, when the Pacific Island Warriors occupy the Port of Newcastle in order to prevent coal ships from leaving the port. *Global Warming: What You Need to Know* discusses worsening bushfires in New South Wales, interviewing a firefighter (the only local speaking-role subject from the region) who calls the worsening fires “an enemy he no longer recognizes”

(Brown, 2006, 00:12:13). Both the high emissions and worsening drought in the country are mentioned in passing in other films, but predictions for the future are not discussed.

Polar Regions

Locations in polar regions appear in eight films but make up only 3.9% of screen-time, and imagery and narratives about the region have strong commonalities across all films.

Locations in both Antarctica and the Arctic appear, with the main focus being icesheets and sea ice; most footage is shot on glaciers or sea ice. Recurring imagery focuses on melting ice (both close up shots of water dripping and imagery of melt water rushing into moulins), collapsing ice sheets, and aerial images (both animated and live action). Scientists or researchers in these environments are another common visual theme. Speaking role subjects for polar regions are significant because it is the only region in which non-local experts (n=7) outnumber local speakers (n=3). All three local speakers are Indigenous, and two are coded as ‘local experts’ while one is a ‘victim.’ Of the six films that show people in Arctic regions, four show only scientists and researchers, with *Before the Flood* briefly featuring an Inuk man alongside a scientist, while *Climate Refugees* focuses on an Inupiaq community in Alaska and interviews one of its members.

Within the broader narrative of the films, discussion of polar regions occurs almost exclusively within the ‘conflict/complication’ aspect of the narrative, with a strong emphasis on how the melting of polar ice will affect highly populated coastal regions, rather than potential local ecosystem or cultural impacts. Future projections for the region predominantly fall within the narrative of ‘doom,’ even within films that have a hopeful future narrative overall, and mainly discuss how much sea level rise the melting of the Greenland and Antarctic icesheets will

cause. Only *Before the Flood* discusses the possibility of a future for the region (Stevens, 2016, 1:20:56):

Dr. Piers Sellers: ... You know, if we stopped burning fossil fuel right now, the planet would still keep warming for a little while before cooling off again.

Leonardo DiCaprio: So, you're saying that if we do the right thing, we're gonna heat up, or we're gonna...

Sellers: It'll turn off, then it'll start cooling again.

DiCaprio: Would that Arctic ice sheet start to then increase again?

Sellers: Once the cooling started, yeah.

DiCaprio: So there really is a possibility to repair this trajectory that we're on?

Sellers: Absolutely.

Local impacts of climate change are discussed in the context of how they will affect polar bear populations in *Global Warming: What You Need to Know* and *An Inconvenient Truth*. *The 11th Hour* and *An Inconvenient Truth* mention in passing the human impacts of climate change (Gore in *An Inconvenient Truth*: "this woman's house has had to be abandoned"), while only *Climate Refugees* acknowledges that the Arctic is "a highly cultured landscape that has a lot of meaning and significance for the people" (Nash, 2010, 00:37:43).

Africa

The continent of Africa has screen-time in five of the 10 films, representing 3.5% of total screen-time. Spatially, five countries are represented, with the Niger Delta and Lake Chad both appearing in two films. Recurring imagery of the regions includes informal settlements (such as refugee camps or slums) and children. The ways in which climate change impacts are being exacerbated by existing factors such as systemic poverty, resource scarcity, or corruption are

highlighted in each of the five films. Both *The Age of Stupid* and *Time to Choose* discuss rising inequality and environmental degradation in the Niger Delta due to the activities of multinational oil companies, but mainly focus on local government corruption rather than the role of foreign corporations. *Climate Refugees* focuses on how water stress and resulting conflict are worsened by climate change (“it’s highly unstabilizing in an already unstable part of the world”), and how this will result in increased migration that Europe must “defend” itself against.

In total, 30% of speakers who discuss the region are non-local experts, which is the third highest percentage after polar regions (70%) and Australasia (50%). Of the nine speakers who are from the region, four are ‘victims,’ while a fifth, Oronto Douglas, was classified as ‘other’ because his depiction in *Time to Choose* falls under the category of ‘local expert’ until his death due to stomach cancer is disclosed, which the film implies is linked to resource extraction in the Niger Delta, thus also making him a ‘victim.’ Two films also focus on how solar power in Zambia and Kenya can be used to address poverty and mitigate climate change, but solutions to inequality and the negative effects of oil extraction in the Niger Delta are not discussed.

Europe

The continent of Europe appears in eight films, with the third highest amount of screen-time devoted to it after Asia and North America. Western European countries are predominantly the focus of on-screen discussions of the region, with Paris appearing in two films when it hosted COP21. Interestingly, it is the only region where *only* local subjects have speaking roles and is thus able to ‘speak for itself’ as there are no non-local experts who focus on Europe exclusively. Of the 15 speakers who discuss the region, 33.3% (n=5) are villains, but four of those speakers are from one film (*The Age of Stupid*). Heroes (n=4) and local experts (n=4) also feature prominently, but there are still a comparatively small number of speakers from the region as

compared to Asia or North America. This suggests that Europe exists in the films as more of a concept or ideal than a real place, in that it is largely discussed by the narrator in the context of climate solutions being implemented in the region.

Climate change impacts in the region are mentioned briefly in six films, often in passing, but most scenes about Europe focus on renewable energy technologies that countries in the region have implemented. Imagery of these technologies is a recurring visual theme for the region. Seven films invoke the transition of European countries towards renewable energy, but only *This Changes Everything* and *Before the Flood* explain what led to the transition, citing large-scale mobilization by German and Swedish citizens, respectively, as the reason for government action in those countries. Thus, Europe is firmly in ‘reaction/intervention’ portion of the films’ narratives and is often invoked at the end of films as a source of hope and example of what the future could look like.

Small Island Nations

Scenes depicting small island nations (SINs) occur in five films and make up the second lowest percentage of screen-time at 3.2%, followed only by Australasia. Despite this low percentage of screen-time, five nations are portrayed on screen. Regardless of this geographical diversity, the narrative themes and visual imagery are largely consistent across all locations. Recurring visual imagery include people and animals walking in flooded streets and homes, aerial images of small islands, and high tides. Of the 12 speakers from the region, most were coded as ‘victims’ (n=9), while three were ‘heroes’ (all three of which were from the same film, *How to Let Go*). Following this trend, scenes pertaining to SINs occur almost exclusively within the ‘conflict/complication’ aspect of the films’ narratives, with high tides, storm surges, and salination of fresh water currently making the islands uninhabitable offered as a warning of

climate change's most immediate and worst effects. Adaptation through migration is discussed in four films, but the general consensus is that "things won't get better" (*Global Warming: What You Need to Know*) and "these people are going to go under water" (*Climate Refugees*). Only *How to Let Go* deviates from this narrative by showcasing the Pacific Climate Warriors, who assert, "we are not drowning! We are fighting!" (Fox, 2016, 01:07:06). The dominant narrative regarding small island nations is similar to that of polar regions, in that the future of the region is seemingly predetermined and inevitable and is useful as a warning to other global regions which can avoid a similar fate.

North America

The region of North America receives the most screen-time of all coded regions and appears in all 10 films. Canada appears in three films (with Fort McMurray appearing twice), while Mexico is not included in any of the films. Thus, the vast majority of footage focuses on the United States and features 13 states. Recurring locations include New York City (with a focus on Hurricane Sandy), New Orleans (with a focus on Hurricane Katrina), and California (with a focus on renewable energy technologies). The United States is included in all aspects of the films' narratives. Many films highlight the country as a top global emitter and reluctant political actor due to the influence of the fossil fuel industry and partisan beliefs. Climate impacts in the country are also discussed in all 10 documentaries. Miami is mentioned in multiple films as an example of American vulnerability to climate change (*An Inconvenient Sequel*: "Miami, in terms of assets at risk, is the number one city at risk in the entire world for sea level rise" (00:17:47)). Hurricane Sandy or Hurricane Katrina are discussed in eight of the 10 films. The role of the United States in the 'reaction/intervention' aspect of the films' narratives is also prominent; but examples provided largely focus on state or local level action or the actions

of private companies. Renewable energy technologies in California are highlighted in three films, while direct action by civilians is mentioned in *This Changes Everything* and *How to Let Go*.

Of the 69 speakers coded to North America, 66 speakers were coded as being from the region, while only three non-local experts discuss locations within North America. In total, 30% of the local speakers were coded as ‘heroes’ (n=20), 23% as ‘victims’ (n=15), 21% as ‘local experts’ (n=14), and 15% as villains (n=10).⁴ Within the category of heroes, there are two clear subcategories: four films showcase white male business leaders (such as Elon Musk) or political figures (such as former Governor of California Jerry Brown), while two films highlight the work of Black and Indigenous activists. Along with the variety of narrative roles the region is depicted in, speaker coding shows a relatively even distribution of speakers, suggesting a nuanced depiction of the region. This is not particularly surprising given that nine of the 10 films were produced in the United States.

Asia

Asia appears in nine of the 10 films, with the second highest amount of screen-time following North America. Within the region, seven countries are depicted, but the majority of screen-time is devoted to China; China receives screen-time in eight films and is discussed in all 10. Most locations in Asia are discussed in the context of resource extraction or climate impacts they are experiencing, such as deforestation in Indonesia, more severe storms such as Super Typhoon Haiyan in the Philippines, and sea level rise in Bangladesh. Air pollution in Beijing is

⁴ Interestingly, eight of the 10 ‘villains’ portrayed are from Canada (though seven are from one film). There are two possible explanations for this. First, newsclips were not coded, thus eliminating some footage of American government officials or fossil fuel executives from coding. Second, *Time to Choose* noted that they requested interviews from American fossil fuel executives and lobbyists but were denied, and it is possible other films had similar experiences.

also a common topic of focus in the ‘conflict/complication’ aspect of films’ narratives. The high emissions of India and China and their continued use of coal is emphasized in multiple films, though several acknowledge that there is a larger geopolitical context for their high energy usage. India’s fast-paced economic growth and increasing consumption of coal is discussed across multiple films, and only *This Changes Everything* discusses community-level resistance to such projects. India is predominantly portrayed as a source of emissions without a thorough discussion of the geopolitical context of its increased coal consumption and thus a ‘villain,’ though severe flooding events the country has experienced are mentioned in multiple films.

China is portrayed as a leader in renewable energy in multiple films due to its rapid uptake of solar and wind energy, with two films noting an increase in grassroots activists pushing for better environmental policy across the country. China’s portrayal across many films is similar to that of the United States in that it features prominently throughout the ‘story’ of climate change as both a victim, hero, and villain. In *This Changes Everything*, Naomi Klein sums up the complex narrative regarding China that is common across multiple films: “So, is China a model when it comes to climate change? Clearly not. More like a battlefield. On one side solar panels, on the other side smog” (Lewis, 2015, 1:11:27). This nuanced portrayal of China was somewhat surprising to me given the adversarial relationship between China and the United States that is often depicted in mainstream media and that most of the films are American. The need for both India and China to address their high emissions is emphasized when discussing the future of the region and of the planet in multiple films, uncertainty regarding the future being a prominent theme for all countries portrayed.

The dominance of China continues in the results of speaker coding for the region, with the majority of ‘victims,’ ‘heroes,’ and ‘local experts’ being Chinese. Like the coding results for

the United States, this suggests a nuanced depiction of the region, and the lack of ‘villains’ may suggest a recognition across the films that some of the causes of high emissions from the region are larger systemic forces rather than decisions made by powerful individuals. Interestingly, all three of the ‘villains’ from Asia are from India, suggesting a less sympathetic portrayal of the country than that of China. Another interesting trend within the speaker coding is that of the 19 ‘victims’ from Asia portrayed in the films, the majority are unnamed (n=13), though two are identified as anonymous to protect their identity. No other global region has such a large percentage of nameless speakers.

Imaginative Geographies of Climate Change: Regional Case Studies

While the previous section provided a descriptive overview of depictions of the different analyzed regions, this section of my discussion considers specific regional case studies and how the 10 documentary films reinforce or construct certain imaginaries about them. While many interesting themes and observations emerged from my analysis, my research questions are specifically interested in how films make us care about the *impacts* of climate change globally. Essentially, I am interested in how the 10 films make us care about the consequences of climate change. Furthermore, I am interested in how depictions of the climate crisis in different global regions create or reinforce specific imaginaries about those locations and their broader geopolitical context. Thus, this section of my discussion focuses on case studies of regions that are positioned as uniquely vulnerable to the climate crisis, or where the impacts of climate change are the main focus of their depictions within the 10 documentary films. In Chapter 4, I addressed how vulnerability is racialized and gendered globally, and how narratives of ‘victims,’ ‘villains,’ and ‘heroes’ fit within a specific imaginary. While my analysis of all eight global regions held interesting findings, I recognize that space, time, and scope limit my ability to fully

engage with these concepts and findings within this thesis. Thus, I have chosen to conduct an in-depth discussion of three regional case studies.

Across the eight regions in my analysis, three regions were constructed as uniquely vulnerable: the continent of Africa, polar regions, and small island nations. While the impacts of climate change on other global regions were also portrayed, these three regions were positioned almost exclusively in the ‘conflict’ portion of the films’ narratives that focused on impacts and consequences, rather than solutions. Despite the presence of spatial variation within the regions and the portrayal of multiple countries and locations, narratives about the regions were essentially uniform regardless of the specific country portrayed on-screen. This differs from portrayals of countries such as the United States or China, whose narratives focused on climate change causes, impacts, and solutions within the countries.

The three regions each have a significant body of literature regarding their depiction in popular media and policy discourses. Particularly within the context of climate change, much has been written on how polar regions (particularly the Arctic) and small island nations are positioned within the global discussion of impacts, vulnerability, and the future (Bravo, 2009; Christensen & Nilsson, 2017; Farbotko, 2010; McNamara & Farbotko, 2017; Narang, 2015; Raffan, 2014). Media coverage of Africa has been the subject of criticism for decades, often with a focus on how the continent is portrayed in media outlets from countries in the Global North (Jarosz, 1992; Larsen & Jensen, 2020; Musarò, 2013; Njambi & O’Brien, 2018; Nothias, 2018; Opio, 2020). The existing body of literature regarding discourses surrounding these three regions suggests that specific imaginaries about them have already been established, identified, and critiqued. Indeed, the prevalence of specific depictions of the regions in multiple films that span a decade affirms the existence of a “self-reinforcing archive” circulating in various discursive

forms (Gregory, 2011, p. 371). Gregory and Said note that imaginative geographies are constructed as juxtapositions of a centre and a periphery. Thus, in order to consider how certain regions are positioned as distant, the ‘centre’ of the films’ narrative world must be established.

Who is ‘We’? Orienting Our Narrative Compass

The passage to universalism in ecological or planetary terms without a redress of how that humanity was borne as an exclusionary construct, coterminous with the enslavement of some humans and the genocide of others, remains a questionable traverse (Yusoff, 2018, p. 53)

It is important to first orient our narrative compass to confirm who and where is the ‘centre’ in these imaginaries, against whom the distant is juxtaposed and the Other is adversely constructed. Considering the positionality of the narrators and speaking-role subjects and the country of origin of the films is relevant when establishing this. As noted in Chapter 4, seven of the 10 films are narrated by white American men, with an eighth narrated by a white English man. Nine of the films were produced in the United States, while the tenth originates from England. Furthermore, most of the global or regional ‘non-local experts’ are white academics from the Global North, which is an indication of the type of knowledge and expertise the filmmakers view as trustworthy, legitimate, and objective. This information alone makes the perspectives of the films fairly clear, but it is also helpful to first consider who the narrators are telling their stories to – the use of ‘we’ is prevalent throughout the films’ narratives, both in calls to action and in claiming responsibility for the climate crisis’ causes (Table 10).

While some of the documentaries, such as the *Inconvenient* films and *Climate Refugees*, explicitly speak to an American audience, the others seek to appeal to a universal human ‘we,’ making their perspective less immediately obvious.

<i>Time to Choose</i>	We can stop climate change (1:30:05).
<i>An Inconvenient Sequel</i>	And there's a hunger for information about what's happening, why it's happening, and how we can fix it (00:21:57).
<i>Global Warming: What You Need to Know</i>	We may not be able to stop global warming but we can slow it down and make the changes less extreme (01:02:19).
<i>Before the Flood</i>	I just want to know how far we've gone, how much damage we've done, and if there's anything we can do to stop it (00:13:21).
<i>This Changes Everything</i>	When I do make myself look, I feel like I'm seeing that old story reaching its crescendo. for centuries we've been treating nature as a beast we have to break, and then forced to do our bidding (00:06:13).
<i>The Age of Stupid</i>	What state of mind were we in, to face extinction, and simply shrug it off (00:04:52)?

Table 10. Prevalence of universalism in calls to action and establishment of responsibility.

Though most of the films highlight imbalances between countries that have caused climate change and those feeling the most extreme effects, the persistent use of 'we' when discussing responsibility may leave the viewer to ask: who is 'we'? As has been established, the identities of the narrators and the resulting positionality of the voice of the films' narratives originate from a very specific worldview. Regardless of whether the filmmakers and narrators intend (or recognize) this to be the case, the 'we' within each film is not universal, but rather a Western white 'we.' Wynter refers to how the "referent-we" put forth in universalizing discourses surrounding climate change does not represent humanity as a whole, but rather the bourgeois neoliberal ruling class of '*homo oeconomicus*' (Wynter & McKittrick, 2015, p. 24). Baldwin (2012) highlights how this positionality is juxtaposed against that of the climate refugee in the film, *Climate Refugees*:

The film's protagonist is possessed of qualities one would associate with whiteness, for instance, spatial mobility, a habit of perception that allows him to observe the social world from an elevated, detached position (Haraway's (1991) 'God-trick'), and a fealty for American exceptionalism. So, too, the film's other agents – scientists, legal and policy experts, and various US politicians – are exemplars of modern whiteness, possessed of reason, compassion and foresight (2012, p. 632).

As highlighted in my discussion of speaking-role subjects in the films, many of these same qualities and juxtapositions exist across the 10 films. Baldwin's explanation of how this positionality is contrasted with that of the climate refugee is important to consider prior to discussing the first region I consider, Africa:

In contrast, the film's antagonist, the so-called 'climate refugee', bears all the marks of blackness: its mobility is said to be out of place; its mobility threatens; it is nameless and, perhaps above all, it is non-modern (2012, p. 632).

"Some Dark Corner of Africa"

Just as Massey noted the tendency of stories of progress to situate different places as "ahead or behind in the same story" (1999, p. 7), postcolonial scholars have noted how "colonial power operates by displacing the subaltern into an anterior time" (Baldwin, 2012, p. 631). Across many of the films, certain countries in Africa are constructed as 'premodern' by emphasizing their poverty, government corruption, and inaction on climate change. Despite the depiction of different countries, the themes are the same: poverty, instability or violence. They are simultaneously positioned as lacking agency and therefore requiring assistance or leadership from Western countries, and as a threat. Parts of Africa also represent the spectre of climate wars, geopolitical instability, and mass migration. Many films note Africa's unique vulnerability to climate change as a continent, but do so in a way that reinforces colonial imaginaries that construct the continent as "lessor—less developed, less modern, less technologically advanced, less stable, less capable of self-governance" (Tuana, 2013, p. 26). *Time to Choose* notes Nigeria's "lagging development" and *Climate Refugees* refers to Darfur as "hell" while *An Inconvenient Truth* refers to Darfur and Niger as "tragedies" (Ferguson, 2016, 00:42:02; Nash, 2010, 00:58:22; Guggenheim, 2006, 00:37:05). The immediate framing of locations in Africa as underdeveloped and impoverished is explicit and common across multiple films: *Time to Choose*

introduces the city of Makoko in Nigeria by noting “over 100,000 people live here without government, sanitation, or electricity” (Ferguson, 2016, 00:41:18). *How to Let Go* contextualizes the Shangombo District by calling it “one of the poorest districts of the country of Zambia” and noting it has “no electricity, no power plants, no power lines, no electric light” (Fox, 2016, 1:47:43). *How to Let Go*, which presents the only narrative about Africa that somewhat pushes back against this imaginary by showcasing a local community leader working on a solar energy project, still refers to Zambia as “a dark corner of Africa” (Fox, 2016, 01:48:03). This inevitably invokes Joseph Conrad’s *Heart of Darkness* and other written accounts such as *In Darkest Africa* and *The Dark Continent*, which contributed to the production of dominant colonial imaginative geographies of Africa (Jarosz, 1992; Larsen & Jensen, 2020).

Despite spatially variable regions, thematically the films focus on the same issues, and most depictions of the region fall within ‘conflict’ in the broader narratives of the films. This creates a unidimensional imaginary regarding Africa that erases difference between and within countries or regions. This rhetoric is further enforced by the speaking-role subjects the films focus on and the imagery of local people they use. Almost 50% of the small number of speakers from the region were coded as ‘victims’ and their vulnerability is centred by the films’ visuals and the narrators’ framing (Figure 3). In *Climate Refugees*, an unnamed Sudanese woman begs in an interview, “please, please just take a look at Sudan. God willing, many organizations will help us” while the camera lingers on a pile of dried goods with the American flag and “US AID” stamped on them (Nash, 2010, 00:58:10). Two films highlight the agency of people who are implementing solar energy projects in their communities (though one project is largely discussed by the white Canadian founder), while the other films that include speaking-role subjects are characterized by a focus on poverty and their experiences of conflict. Conflict in the continent is

discussed in four films, thus framing parts of Africa as simultaneously vulnerable *and* dangerous. Korf (2011) has noted how a focus on violence and ‘climate wars’ in equatorial zones is reminiscent of discourses surrounding environmental determinism that posit such regions are inherently violent because of their climate.



Figure 3. Visuals used to depict African nations and speakers from the region. Clockwise from bottom left: *Time to Choose*, Layefa Malini in *The Age of Stupid*, *Time to Choose*, and *Climate Refugees* (screenshots by author).

Migration from the continent due to worsening climate impacts and ongoing conflicts is also discussed. In *Climate Refugees*, Yvo De Boer asks (Nash, 2010, 00:30:29):

At the moment, Europe is spending millions to defend itself against immigration from Africa. Where are those 250 million people going to go? Can they be stopped at the borders of Europe? And what are they going to do to, to try and get in anyway?

This framing views refugees and migrants as an irrational force of nature or threat, firmly positioning them as ‘Other’ to Europe.

It is important to note here that I am not questioning the scale or severity of the humanitarian crises occurring in Darfur, or the inequity caused by resource extraction activities within the Niger Delta. Nor am I denying that the continent of Africa faces unique challenges

relating to the climate crisis. However, focusing exclusively on poverty and corruption feeds into a longstanding geographical imaginary that has plagued Western representations of Africa for decades if not centuries, positioning the continent as “the world’s universal Other” (Larsen & Jensen, 2020, p. 324; Musarò, 2013; Nothias, 2018). The prevalence of this narrative has been noted by scholars who have analyzed Hollywood films as well (Evans & Glenn, 2010; Njambi & O’Brien, 2018; Opio, 2020). The tendency of Hollywood blockbuster films such as *Black Hawk Down* (2001), *The Constant Gardener* (2005), *Blood Diamond* (2006) (which ironically stars Leonardo DiCaprio), *The Last King of Scotland* (2006), or *Beasts of No Nation* (2015) to focus on conflict, poverty, and disorder reinforces an imaginary in which life in Africa is an “inhospitable nightmare” and reinforces a narrative of ‘Afropessimism’ (Njambi & O’Brien, 2018, p. 365). Afropessimism is “the consistently negative view that Africa is incapable of progressing, economically, socially, or politically” (Evans & Glenn, 2010, p. 14). Crucially, Evans & Glenn note that part of the discourse of Afropessimism is that “Africa’s problems are not seen discretely, as challenges with particular causes,” they are decontextualized historically and politically (2010, p. 26).

A similar trend can be found in the documentaries I analyzed: context for Africa’s increased vulnerability and lower adaptive capacity is only discussed in two films. Only *The Age of Stupid* highlights the legacy of colonial violence and resource extraction in the region, noting “but when it came to stuff worth pinching one continent had it all: ivory, copper, cotton, rubber, wood, tin, gold, diamonds, and people” (Armstrong, 2009, 00:29:43). *How to Let Go* explains that parts of the continent are experiencing accelerated warming and related impacts (Fox, 2016, 00:26:50):

Fox: I also learned that two degrees is not just a limit, it’s an average.

Petra Tschakert: It's an average, right? But it combines the temperature data we have from thousands of stations for a year. Desmond Tutu said for Africa, a two degree target means three degrees warming, 3.5, four degrees warming. And he says, "If you agree to two degrees, you agree to cooking our continent." In daily temperatures of 45, 48 degrees Celsius, agricultural life in a rural community would cease.

Thus, the continent's vulnerability is repeatedly emphasized, but a nuanced and contextualized discussion of factors that have contributed to this vulnerability is largely absent from the narrative surrounding the continent, creating an imaginary in which these are inherent characteristics of the region (Opio, 2020). As Chimamanda Adichie notes in her TED Talk, "start the story with the failure of the African state, and not with the colonial creation of the African state, and you have an entirely different story" (Adichie, 2010). In her writings on climate justice and representation in the Global South, Tuana explains that "the problem is that while the rhetoric reflects certain truths, it plays into and perpetuates systematic prejudices about these countries embedded in the ontology of Western modernity" (2013, p. 26).

The discursive framing of countries in Africa across multiple films is made even more apparent when it is juxtaposed with another region: Western Europe. In *Time to Choose*, a montage of wind turbines against blue skies and pastoral fields fades into a dark image of a child in Nairobi stoking a fire, while the narrator says, "but there are over a billion people in the world who have never had electricity at all" (Ferguson, 2016, 00:33:10) (Figure 4). Again, while I am by no means denying the significant socio-economic inequity present in Kenya, *Time to Choose* carefully selects footage of Nairobi which fits a narrative that highlights poverty and darkness, juxtaposed against the bright, blue skied modernity of Western Europe. While countries in Europe are mentioned in passing in discussions of climate impacts, their most consistent portrayal is as an almost utopian example of what a world powered by renewable energy could look like.



Figure 4. Contrasting imagery of Europe and Kenya in *Time to Choose* (screenshots by author).

When discussing this necessary energy transition, eight films highlight nations in Western and Northern Europe as examples of places where this transition has already taken place. Imagery of blue skies, pastoral scenery, and wind turbines or solar panels are common visual themes across the films during such segments (Figure 5). This imagery is in stark contrast to the dark and muted tones which pervade imagery of nations in Africa, constructing difference through both visual and narrative patterns.

Time to Choose emphasizes that energy infrastructure will have to transition to renewables in the next 50 years, and notes how “in Western Europe, the transformation has already begun,” while *Before the Flood* offers Germany as “proof” that scaling up renewable energy is possible (Ferguson, 2016, 00:32:34; Stevens, 2016). *Global Warming: What You Need to Know* claims “the way of the future is here” when discussing a carbon sequestering program off the coast of Norway (Brown, 2006, 01:06:40). It is an exciting, aspirational, and hugely encouraging portion of many of the films that provides a hopeful anecdote to the dire projections and seemingly impossible timelines for change that many of the films put forth.

The move towards renewable energy by many European nations is inspiring and positive, but the pathways leading to this transition are only touched on in two films. Only *Before the Flood* and *This Changes Everything* emphasize that large-scale renewable energy uptake in Sweden and Germany, respectively, resulted from mass mobilization of the public.



Figure 5. Imagery of renewable energy in Europe. Clockwise from bottom left: *How to Let Go*, *This Changes Everything*, *Time to Choose*, and *Before the Flood* (screenshots by author).

Before the Flood highlights how Sweden’s plan to become “the world’s first fossil fuel-free nation” resulted from an “enormous uprising among people” (Stevens, 2016, 01:08:52). In *This Changes Everything*, Naomi Klein explains that “this didn’t happen because the government just saw the light. In fact, the German government still pushes austerity and polluting policies both at home and elsewhere. This shift had a very different cause. The people” (Lewis, 2015, 01:17:32). *The Age of Stupid* showcases the other end of this dynamic by focusing on local opposition that is successful in vetoing a small-scale wind farm in England, thus reinforcing the uphill battle such large-scale initiatives face. Thus, the five other films construct an imaginary which depoliticizes and decontextualizes technology-based solutions implemented in Europe, but highlights its modernity. As Massey notes:

The stories of progress (from tradition to modernity), of development, of modernisation, the Marxist tale of evolution through modes of production, many of our current stories of ‘globalisation’ ... all these share a geographical imaginative which re-arranges spatial differences in temporal sequence. The implication is that places are not genuinely different; rather they are just ahead or behind in the same story: their ‘difference’ consists only in their place in the historical queue (1999, p. 7).

The depiction of Europe as an aspirational future potentiality is juxtaposed with other nations, particularly those in Africa, who are shown to be ‘behind’ in this linear model of development.

“A Modern-Day Atlantis”: Small Island Nations

The imaginative geographies of small island nations and climate change have been written about extensively, and it has been noted that the region is often framed as “‘most vulnerable’, ‘sinking’, ‘drowning’, ‘doomed’ and so on” (McNamara & Farbotko, 2017, p. 18). The dominant narrative that emerges from their depiction in the 10 climate change documentaries I analyzed aligns with this discursive construction. In *Climate Refugees*, Michael Nash reflects on his visit to Tuvalu as his plane takes off: “it’s unsettling leaving these people here. These people are going to go under water. And that poor grandmother ... is probably gonna have to swim for her life” (Nash, 2010, 00:24:50). In *Global Warming: What You Need to Know*, Tom Brokaw claims Tuvalu is “in danger of becoming a modern-day Atlantis” and “many of these small island countries will simply vanish into the sea” (Brown, 2006, 00:34:28). Prevailing imagery of small island nations emphasizing both the isolation and fatalism is embodied in these quotes. The islands are often shown using aerial footage that shows “God’s doodles on the surface of the ocean,” visually reinforcing that the viewer should understand them to be remote and vulnerable (Fox, 2016, 02:01:43) (Figure 6). Walker has similarly noted the use of aerial imagery to create a “fictive” documentary space of “island smallness” (2015, p. 68).



Figure 6. “God’s doodles” Clockwise from bottom left: *How to Let Go*, *An Inconvenient Sequel*, *Before the Flood*, and *How to Let Go* (screenshots by author).

The second, and even more prevalent, visual portrayal of small island nations is of people (often children) or homes inundated by sea water (Figure 7).



Figure 7. “A modern day Atlantis” clockwise from bottom left: *An Inconvenient Truth*, *An Inconvenient Sequel*, *Before the Flood*, *Global Warming: What You Need to Know* (screenshots by author).

Farbotko (2010; Farbotko & Lazrus, 2012; McNamara & Farbotko, 2017; Ransan-Cooper et al., 2015) has written extensively about how such visuals construct a ‘spectacle’ in which Pacific nations are constantly in crisis, and already in the process of inevitably disappearing; adaptation through migration is discussed in multiple films as the only pathway forward. This can be contrasted with the hopeful messaging many of the films put forth about the possibility of still preventing the climate crisis’ worst effects, thus suggesting small island nations are seen as separate from the rest of the world, and excluded from hopeful climate futures.

In his only mention of the region in *An Inconvenient Truth*, Gore explains that melting ice in Antarctica is “why the citizens of these Pacific nations have all had to evacuate to New Zealand” (Guggenheim, 2006, 00:54:34). He then shows two images of a flooding and unnamed community, and following this passing mention, continues to explain how the melting of the Greenland and Antarctic icesheets could affect densely populated urban areas. At the time of *An Inconvenient Truth*’s release, and at present, there is no such nation that has fully relocated elsewhere. Yet Gore’s brief and vague comment constructs a world in which these nations have no future, because they are already gone. As McNamara and Farbotko (2017) explain, what is problematic about these imaginaries is not necessarily that the science is incorrect, but that they are externally imposed and as a result construct a deterministic narrative of vulnerability. If a nation’s submersion is seen as inevitable, then pursuing local adaptation measures and a global reduction in greenhouse gas emissions becomes less urgent (Ransan-Cooper et al., 2015). It also frames Pacific islanders as passive victims, as can be seen in *Global Warming: What You Need to Know* when Tom Brokaw laments that, “like most residents, Hilia Vavae, Tuvalu’s senior meteorologist, can only watch helplessly as her country drowns” (Brown, 2006, 00:35:24).

Another common narrative surrounding small island nations is that not only is their fate inevitable, but it is important mainly because of the lesson such a loss would provide for the rest of the world. *Climate Refugees* articulates such a narrative in this telling exchange (Nash, 2010, 00:21:36):

Michael Nash (narrator): Last year, this used to be an island filled with trees and life. Now it's become part of the vast ocean. *It's almost as if the island really never existed* [emphasis added].

Andrew Simms: What's happening in Tuvalu, I think, is a lesson to us in more ways than one. On one hand, the fact that an island whose highest point of land above sea level is just a few meters, the fact that civilization has survived on these shards of land in the remote ocean for so long is a testimony to human resilience and the ability to meet your needs in extreme circumstances. *But now they are a lesson to us about how little things need to change before we shift beyond the point of being able to hold onto our ways of life and our livelihoods* [emphasis added].

Farbotko (2010) refers to this discourse as 'wishful sinking': these nations are important only in so far as their submersion creates motivation for the rest of the world to save itself from a similar fate. Any feelings of a responsibility to act to prevent climate change are thus not motivated by a desire to prevent these islands' submersion, but rather to prevent a similar fate from happening to more familiar and proximal locations. Thus, they are rendered "expendable to the onward sweep of both climate activism and its opponent, capitalist modernity" (Farbotko, 2010, p. 58).

"This is How You Stop a Wave"

Only *How to Let Go* offers a counter-narrative that pushes back against this prevailing imaginary that foregrounds the vulnerability and expected loss of small island nations. After an initial introduction to the Pacific Climate Warriors, a coalition of activists from small island nations ("Who are not drowning. Who are fighting.") in Australia where they blockade a coal port, Josh Fox visits two countries, Vanuatu and Tokelau. While in both countries he does acknowledge climate impacts (Vanuatu had just been hit by a tropical cyclone, while sea level

rise is encroaching on Tokelau), this is not the focus of these segments. In Vanuatu, Fox takes part in a community storytelling project that seeks to “integrate climate science with traditional democratic knowledge” (Fox, 2016, 01:43:25). Ultimately, he muses (Fox, 2016, 1:46:19):

It does seem like even though this is one of the poorest places on earth, a place that we might consider, quote-unquote, underdeveloped, that in the developed world, we were the ones who were underdeveloped. Underdeveloped in democracy, in generosity and taking care of your fellow man. Underdeveloped in the link between metaphor, story, dance and governance. Underdeveloped in the ways that matter.

In this realization, he identifies and rejects the linear story of development that Massey critiques, and highlights the need for the acknowledgement of a multiplicity of forms of knowledge and governance. Suliman et al. have similarly noted the need to recognize “other ways of moving through a warming world” that exist outside of externally imposed imaginaries and climate futures for Pacific islanders (2019, p. 299).

Next, Fox visits Pacific Climate Warrior Mika Maiava in Tokelau, a scene which is most striking because of the lack of depictions of immediate climate change impacts that are so prevalent within imagery of small island nations. The sequence shows inter-island ferries, wind turbines, homes, roads, and other infrastructure, none of which are inundated with high tides or storm surges. Perhaps most importantly, the film, in its depictions of both Tokelau and Vanuatu, highlights *joy* and moments of normalcy outside of crisis. Momentarily, this imaginative counter-geography fades when Maiava discovers that the tree under which his father’s placenta has been buried has been lost to sea level rise and he weeps, saying, “this must be how it feels like—what’s going to happen to us. I don’t want in the future to be showing my island like this—like, ‘That’s where I used to live.’” After a brief moment, his sombre mood passes. Fox remarks on this, and the following exchange occurs (Fox, 2016, 01:56:39):

Fox: You don’t seem depressed.

Maiava: No, no. Because the thing is that, we—we feel more like warriors. We're not depressed because we can do something about it. You see? There's a difference between, like, have no choice and having a choice. We have a choice.

Fox: I came to meet you because I wanted to meet people who had no choice.

(laughter)

Maiava: We have the biggest choice there is. It's actually to fight and keep the things that—that we have. You can't just sit there and say, "We're gonna drown, we're gonna drown, we're gonna drown."

Fox: Right. Because it makes you paralyzed, in a way.

Maiava: Yeah, yeah, it—well, you're not doing yourself a favor.

This exchange is revealing in that Fox admits his internal imaginary regarding small island nations aligned with the dominant discourse through his admission that he wanted to meet "people who had no choice," but this was challenged by his lived experiences in the region. Fox concludes that the actions of the Pacific Climate Warriors are "how you stop a wave," both metaphorically and literally, through both fierce hope and direct action. This emphasizes the need for imaginative counter-geographies that push back against prevailing discourses that are actively shaping public understandings of climate impacts in small island nations.

"A Canary in the Coalmine": Polar Regions

While depictions of Africa and small island nations focus largely on how climate change impacts will affect the regions' vulnerable populations, discussions of polar regions barely acknowledge a living presence at all and instead focus on the physical landscape.⁵ Depictions of Arctic regions focus mainly on large-scale sea ice melt and how it will affect other global

⁵ Depictions of Antarctica are less frequent than those of Arctic regions and will not be the focus of this section.

regions, and construct polar landscapes as a frozen laboratory for research rather than an Indigenous homeland and culturally significant area with over 4 million inhabitants. Arctic regions (and Arctic ice in particular) achieve an almost meme-like quality in multiple films, repeatedly acting as a symbolic representation of climate change and the consequences of inaction so far. In *An Inconvenient Sequel*, images of dripping ice, large icebergs, and ice sheets serve as the background for the opening and closing credits, while in the opening lines of *This Changes Everything*, Naomi Klein asks, “what is it about those vanishing glaciers and desperate polar bears that make me want to click away? Is it really possible to be bored by the end of the world?” (Lewis, 2015, 00:00:54). *Climate Refugees* similarly opens with an on-screen quote which states, “addressing the changes in the Earth’s climate is not simply about saving polar bears and preserving the beauty of mountain glaciers. Climate change is a threat to our national security” (Nash, 2010, 00:03:37). Later in *An Inconvenient Sequel*, Al Gore delivers a monologue about a personal and collective failure to act to prevent the climate crisis from worsening while standing in front of torrential meltwaters from a glacier in Greenland. He muses, “it’s not happening fast enough” as the water rushes by, a physical embodiment of the time that is passing and quickly running out (Cohen & Shenk, 2017, 00:13:38). These films use symbolic imagery associated with the Arctic to convey the urgency of climate impacts and responses elsewhere in the world, relegating polar regions to a metaphor.

While polar regions appear in eight of the 10 films, the main focus of such scenes is on how melting ice will impact highly populated coastal regions further south. The melting of Arctic ice is positioned as an inevitability (Dr. Box in *Before the Flood*: “if climate stays at this temperature that it’s been in the last decade, Greenland is, is going away” (00:17:44)), and important mainly because it will have effects elsewhere. In *An Inconvenient Truth*, Al Gore asks,

“but what does it mean to us, to look at a vast expanse of open water at the top of our world that used to be covered by ice? We ought to care a lot, because it has planetary effects” (note the past tense, suggesting that this region is already gone) (Guggenheim, 2006, 00:43:51). Similarly, in *Global Warming: What You Need to Know*, Tom Brokaw explains, “the potential extinction of a species such as a polar bear is just one reason to worry about melting ice. About 10 percent of the Earth’s surface is covered by ice, most of that in the polar regions, but if enough of that ice melts, the seas will rise dramatically, and the results will be calamitous” (Brown, 2006, 00:30:23). Four films note that the Arctic is, in fact, warming faster than the rest of the world due to polar amplification. However, this is not brought up in order to emphasize the unique risks the region faces internally, but rather what it means for sea level rise elsewhere; in four films, discussion of sea ice melt in the Arctic is followed by an immediate transition to a discussion of sea level rise in Florida. This framing creates a hierarchy in which the local effects of climate change in Arctic regions are less important than those occurring in locations that may be more familiar to the viewer, essentially erasing local impacts, and thus the *very existence* of the local, from the discourse surrounding Arctic climate change.

In two films, the Arctic is referred to as a ‘canary in the coalmine,’ further reinforcing the idea that any impacts in the region are important only insofar as they warn the rest of the world of coming disaster. This metaphor originates from a practice which involved bringing the sensitive birds into mine shafts in order to watch for a sudden change in air quality. If the canary collapsed or even died, the miners would know the shaft was unsafe and evacuate. In this application, the loss of the Arctic is acceptable insofar as it warns ‘us’ of the true severity of climate change, thus reinforcing an imagery in which the Arctic is a deprioritized periphery. Imagery also contributes to the construction of a region that is remote and seemingly

uninhabited: footage of the region focuses almost exclusively on ice, and particularly ice that is melting (Figure 8).



Figure 8. Depictions of the Arctic. Clockwise from bottom left: *The 11th Hour*, *An Inconvenient Sequel*, *How to Let Go*, *Before the Flood* (screenshots by author).

This positioning repeats in multiple films. *How to Let Go* refers to the Arctic as “the top, where the ice is,” while Al Gore in *An Inconvenient Truth* refers to Greenland as a “big chunk of ice” (Fox, 2016, 00:23:04; Guggenheim, 2006, 00:47:14). Only three films show footage from the Arctic that is not shot on sea ice or a glacier, and only one film shows imagery that is not shot during winter: *An Inconvenient Truth* shows three still images of pine trees and buildings that have been destabilized by melting permafrost in an unnamed location. Thus, in this geographic imaginary the Arctic is defined exclusively by ice, yet that ice is quickly melting. Does this mean the Arctic will no longer exist? Who does this matter to, and why? Jackson (2015) refers to this as the ‘glacier-ruins narrative,’ in which a future without ice is predetermined and unavoidable, and frames frozen landscapes purely as a site of loss.

“The Ice Has Stories to Tell”

In the construction of the Arctic that these films create in which ice is constructed as the central feature of the region, human and non-human inhabitants are almost entirely invisible. *Before the Flood* discusses the narwhal population near Pond Inlet and *Global Warming: What You Need to Know* discusses a polar bear population in Manitoba, though it is emphasized that the population is in decline. Dr. Nick Lunn, a representative of the Canadian Wildlife Service, laments that he “might be the last person working on this population and be known as a polar bear historian” (Brown, 2006, 00:28:43). Similarly, *An Inconvenient Truth* highlights how disappearing sea ice has impacted polar bear populations, showing an animated polar bear, that Gore insinuates will ultimately drown, struggling in the open water at “the top of our world” (Guggenheim, 2006, 00:43:56) (Figure 9).

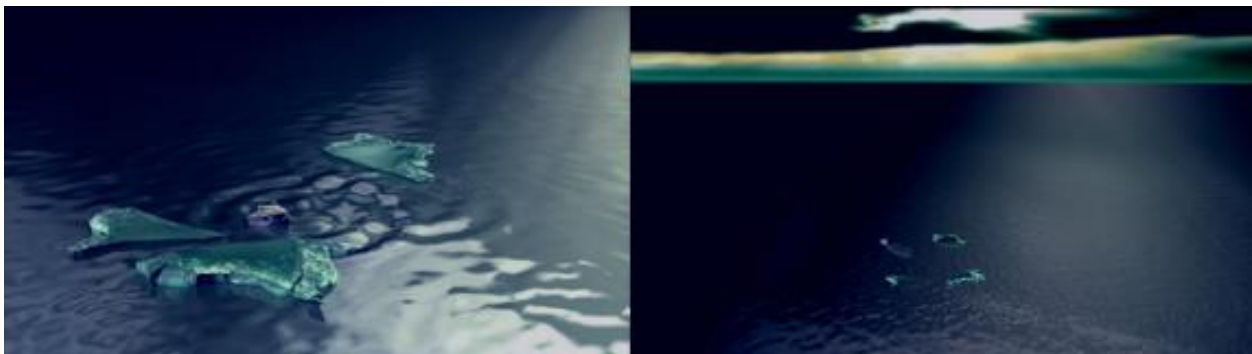


Figure 9. An animated polar bear struggles to find stable ice in *An Inconvenient Truth* (screenshots by author).

The eight films all rely heavily on either the narrators’ descriptions of the region or non-local experts to explain changes occurring; only three people from the region have speaking roles and only two films actually show people in the context of their territory or home communities. In *Before the Flood*, an Inuk hunter from Pond Inlet is briefly shown on the sea ice with DiCaprio, while *Climate Refugees* features inhabitants of Shismaref, Alaska. Interestingly, *Climate Refugees* is the only film that alludes to the fact that the Arctic has been occupied since time

immemorial and shows footage of community members of all ages along with historical images of the town. As Peter Schweitzer notes, “it’s a highly cultured landscape that has a lot of meaning and significance for the people. And, you know, it contains the bodies of their ancestors” (Nash, 2010, 00:37:43). This is a notable departure from the other films, in which the Arctic is an empty icescape, or recently inhospitable: *An Inconvenient Truth* shows a photo of a damaged home and Gore explains, “this woman’s house has had to be abandoned” (Guggenheim, 2006, 00:40:58). Other than this brief mention, the only other people shown in the region in the films are seven non-local experts who are white male scientists (Figure 10). This further reinforces the imaginary in which the Arctic is distanced from urban centres further South and exists largely as a laboratory for climate research benefiting the rest of the world.

We learn about the Arctic largely through the voices of white male scientists, who focus, unsurprisingly, on the rate of melt occurring where they conduct their research. Not only does this further reinforce the notion that the region is unpopulated except by transient scientists, it also further supports the problematic idea that such a place can only be understood through the lens of white, male, Western expertise. This invokes colonial renderings of Arctic regions, both centuries old and ongoing in the context of oil and gas exploration, that posit the region as *terra nullius*: vast and empty, and a blank slate for exploitation (Baldwin et al., 2011; Yusoff & Gabrys, 2011). In *An Inconvenient Truth*, Gore emphasizes the importance of ice as a form of archive regarding historical atmospheric gases, stating “the ice has stories to tell us” (Guggenheim, 2006, 00:17:49). He thus anthropomorphizes the ice while simultaneously erasing any local human presence from the landscape who could potentially share their lived experience of change in the area. This is the dominant imaginary that is constructed about Arctic regions across the films.



Figure 10. Scientists on ice. Clockwise from bottom left: *An Inconvenient Truth*, *The 11th Hour*, *An Inconvenient Sequel*, and *Before the Flood* (screenshots by author).

It can be seen as an ‘Arctic warning’ about the fate of the rest of the world, a canary whose fate is guaranteed, an icy laboratory for Southern scientists, and a global threat due to the sea level rise its demise will unleash. Within this complicated narrative, local populations and impacts are entirely erased, with ice (melting, always melting) the only important feature of the landscape. The melting of the Arctic is thus depoliticized locally, as no one is there to experience its effects, and concerns about any unequal impacts of the melting landscape are focused elsewhere, further South.

Conclusion

This chapter began by providing a descriptive overview of how different global regions are portrayed across 10 climate change documentaries. This exercise allowed me to consider how different countries and regions are situated within the broader ‘story’ of climate change that each film constructs. China and the United States emerged as key actors within many of the films, with significant screen-time and dialogue from a variety of speakers afforded to both countries.

Generally, the two countries were not situated as adversaries but rather two countries with high emissions that need to make significant changes in order to prevent worsening climate impacts at home and in other global regions. Drawing on Chapter 4, it is apparent that newer films are more likely to recognize the role externalities from the Global North play in the high level of greenhouse gases China emits. Both the U.S. and China are constructed as active agents that have significant influence over the future of the planet. Other countries in North America and Asia, such as Canada and India, featured less prominently in the 10 documentaries. India was largely constructed as a ‘villain,’ in that high emissions from the country were the subject of critique in multiple films. Many countries, such as Mexico and Russia, were absent from the films entirely.

Central and South America as well as Australasia received significantly less screen-time than North America and Asia, and a common narrative about either of the regions did not emerge across multiple films. Australasia was discussed in the context of bushfires and heatwaves in Australia but did not feature prominently. Future research on climate change documentaries should take note of whether this changes following the 2019/2020 fire season in the country and the high level of international media attention it received. Coverage of South America largely focused on the Amazon Rainforest, discussing ‘heroes,’ ‘victims,’ and ‘villains’ in the region. Europe was predominantly situated as a ‘hero,’ with a focus on renewable energy technology already in use in the region.

The regions of Africa, small island nations, and polar regions were selected as case studies for a more in-depth discussion of the imaginaries the films produce about them because a clear and cohesive narrative about each region emerged across multiple films. They are also uniquely vulnerable to climate change: polar regions and parts of Africa are actually warming

faster than the rest of the world, while small island nations are mainly at risk due to sea level rise and contamination of freshwater (Holland & Bitz, 2003; Lennard et al., 2018; Mataka et al., 2009). The imaginaries which many of the 10 films selected for analysis construct about the three regions make it easy for the viewer to see themselves as removed or ‘distant’ from them.

In scenes pertaining to small island nations, the physical remoteness of the regions is emphasized, while residents of Africa are shown as impoverished victims, mobile migrants, or violent ‘Others.’ In polar regions, inhabitants are rarely depicted at all. The vulnerability of these regions is not up for debate and is not what I seek to critique, nor am I interested in the authenticity or ‘accuracy’ of depictions of these regions. My concern is how this vulnerability is conceptualized and situated within a broader ‘story’ of climate change and how global futures are narrated. As I have established, I understand these films as important not because they do or do not portray reality accurately, but rather their portrayals contribute to the production of a certain understanding or ‘imaginary.’ Furthermore, the presence of similar discourses in films that exist across a decade is significant as “the performance of inscription of stories over time and in different places contributes to the sedimentation of those same networks” (Cameron, 2015, p. 180). This ‘inscription’ can also be conceptualized as the “self-reinforcing archive” of discursive knowledge to which Gregory refers (2011, p. 371).

This chapter has considered how different regions are positioned within 10 films’ ‘story’ of climate change, which has shown that urban areas in Western nations are positioned as a ‘centre’ to which other regions act as a ‘periphery’, reinforcing earlier findings regarding the Eurocentric lens many of the films ascribe to. Furthermore, narratives regarding climate impacts in vulnerable regions are externally imposed by voices from the ‘centre’, denying such regions agency and a hopeful climate future.

Chapter 6: Conclusion

The pleasure of film lies partially in its ability to create its own cinematic geography, but so too does its power (Hopkins, 1994, p. 47).

Introduction

Within this thesis, I have considered how 10 documentary films tell the ‘story’ of climate change, and how responsibility for, and vulnerability to, the climate crisis is constructed through space and time. My own interest in climate change documentaries doesn’t arise from a strong interest in film, but rather an interest in how prevailing discourses are constructed and disseminated, and a recognition that such films circulate widely and engage large audiences. I was reminded of this as I watched *Global Warming: What You Need to Know* on YouTube and scrolled to the comment section. More than a decade after the film’s release, I was reading comments ranging from one month to a year old from students about how they were watching the film for chemistry and science class. Documentary films are powerful not only because they purport to be factual, but because they impart that knowledge by telling an engaging (perhaps not in the case of *Global Warming: What You Need to Know*, according to the comment section) story (Borum Chattoo & Jenkins, 2019). Depending on the subject matter, they also may offer the viewer a way to travel through space and learn about ‘distant’ places they may never see except on screen. Climate change documentaries are perhaps somewhat unique as they also allow the viewer to travel through *time* by communicating possible climate futures (Yusoff & Gabrys, 2011). Thus, such films are engaged in “a future-oriented meaning construction process” (Riley et al., 2016, p. 16). In my consideration of this ‘construction process,’ I was particularly interested in how such films lead us to care about climate change and feel responsible for taking

action to prevent it from worsening. What stories do they tell the viewer in order to impart the urgency and severity of the climate crisis? Who are the characters in these stories? Most importantly, what power dynamics, biases, and ideologies are inevitably bound up in such an endeavour? To me, these are invariably geographical questions, given how the impacts and causes of climate change are unequal and vary over space and time. Therefore, these are also questions related to the imagination, as distance can be actively constructed depending on how a story is produced and told.

Recognizing the clear connection of these interests to the discipline of geography, in Chapter 2 I engaged with various debates within the discipline about how care and responsibility should be conceptualized in an increasingly interconnected global context. Prominent geographers from David Harvey to Doreen Massey have grappled with this question, as articulated by David Smith, “how far should we care?” (1998a, p. 15). Postcolonial and decolonial scholars have also pointed out the inherent power dynamics and implied consent of such a question, and how it disregards whether ‘we’ have considered if the ‘Other’ wishes to be cared for in the first place (Noxolo et al., 2012; Raghuram, 2016; Sylvestre et al., 2018). Digging deeper into the spatial dimension of these debates, I then considered how we decide what is ‘far,’ and how distance is actively constructed, rather than a static form of measurement. To do so, I engaged with the concept of ‘imaginative geographies,’ and how one’s understanding of the world is produced and legitimized through a “system of representations” that includes literature, popular discourse, government policy, and the media (Said, 1979b, pp. 202–203). In the context of climate change, scholars have noted how imaginative geographies of fear are prevalent, and that regions that are particularly vulnerable to climate change are often simultaneously constructed as violent and uncivilized *and* helpless and lacking agency, and that these

constructions are often racialized (Chaturvedi & Doyle, 2010; Korf, 2011). The production of ‘expert knowledge’ and the continued privileging of positivist science over local knowledge often serves to further legitimize certain imaginative geographies that construct such distance and echoes colonial hierarchies of knowledge and power (Baldwin, 2012; Mikulewicz, 2020).

In Chapter 3, I further engaged with the idea of imaginative geographies and how their performative nature constructs distance and difference, rendering spatiality as both an instrument and object of power. In particular, I employed a poststructuralist framework to consider how imaginative geographies are constituted when certain “material forms” work together to create a “self-reinforcing archive,” and assert that such discourses can be found within, produced by, or further legitimized by narratives found within documentary films (Gregory, 2011, p. 371). Following the establishment of this theoretical framework, I outlined the three-part mixed-methods approach I used for my analysis, consisting of content analysis, narrative analysis, and tabulations for how much screen-time eight different regions received in all 10 films. Narrative analysis recognizes the role stories play in social organization and human understanding of the world and allows for distinct insights that are gleaned from the different approaches of each method when combined with “category-centered models” of analysis, such as coding (Riessman, 2008, p. 12).

In order to construct their specific imaginaries of climate change and climate futures, each of the films employs cinematic narratives, using a story arc and a cast of characters, which I examined in Chapters 4 and 5. The results of my coding of speaking-role subjects and narrators in the films revealed a clear pattern across most of the films regarding racialized identity and gender. In total, 59% of speakers across each film were white, 76% were male, and every narrator that is seen on-screen is white, while only one narrator is a woman. Within the category

of ‘non-local expert,’ which consisted of the interviewed subjects who were asked to share their expertise on global phenomenon or regions they were not a resident of, 75% of speakers were white (predominantly American or British) men. Across all 10 films, only one Black woman and one woman of colour were coded as non-local experts. Conversely, the only category in which women represented the majority was a sub-category of ‘victims’ which I coded for when on-screen subjects provided an emotional personal anecdote about how they had been impacted by a climate change impact, in which 61% of speakers are women. Similarly, within the same category of ‘victims,’ 94% of speakers are Black, Indigenous, or people of colour. Thus, white, male, Western subjects are positioned as both the objective experts who understand the science behind the impacts the viewer sees on screen, and frequently the narrator whose subjectivity the films’ stories are understood through. This exemplifies Donna Haraway’s (1988) ‘god-trick,’ as white male voices are positioned as objective and impartial information sources who provide a ‘view from nowhere,’ while operating from a positionality of privilege.

As part of my structural narrative analysis, I considered how each film contextualizes the climate crisis within a broader political context, what impacts they emphasize, and how they conceptualize possible solutions and future scenarios. While the films overwhelmingly recognized the unequal causes and consequences of the climate crisis and the moral implications of this inequity, they also communicate conflicting narratives of responsibility. The majority of them identify systemic causes for the climate crisis, such as capitalism, corporate influence on the government, and the fossil fuel lobby, but generally do not posit solutions that address these fundamental issues that they themselves have identified. Crucially, the lack of more radical and justice-oriented perspectives in many of the films may be partially explained by who is able to set the terms of the discourse, which in the case of these films is a largely homogenous white,

Western subjectivity, which is deeply rooted in the systems the film identifies as problematic (Chakrabarty, 2017). This adhesion to a Eurocentric worldview that prioritizes a specific form of modernity and (white) identity is further illustrated by three case studies I undertook in my regional narrative analysis.

The regions of Africa, small island nations, and polar regions were selected as case studies because consistent narratives about them emerged across multiple films, and their vulnerability to climate change was repeatedly emphasized. Narratives surrounding small island nations and polar regions are deterministic, with severe impacts that ultimately lead to the destruction of the two regions situated as inevitable. The viewer is told that small island nations are a “modern day Atlantis,” while the Arctic is conflated with the rapidly melting ice it holds, suggesting it will cease to exist as melting accelerates. However, the viewer is not told to care or feel responsible to take action because of these dire situations; rather, the positioning of these realities as inevitable instead *depoliticizes* the inequities (in impacts, in emissions) that led to them in the first place. In their discussions of Tuvalu and glaciers, respectively, Farbotko (2010) and Jackson (2015) argue such narratives are problematic because they actively limit our societal and political willingness and capability to take action. If something is inevitable, what is to be done? Collectively we can only learn from it and move on. And that is what the viewer is told to do by many films: the impacts facing small island nations and polar regions are also framed as a ‘lesson’ or ‘canary in the coalmine’ for the rest of the planet. Rather than viewing the seemingly unavoidable destruction of these unique regions and cultures (when their existence is acknowledged) as an ethical failure or call to action against the industries and governments that allowed this to happen, many of the films frame this as a warning for the rest of humanity, who can still be saved. As Gregory notes, “imaginative geographies produce not only a series of

spacings between ‘us’ and ‘them’” but they also produce “a vast grey area in which indifference is folded into indistinction” (2004c, p. 803). Thus, these regions as situated as not only physically removed, but politically and morally removed from other planetary ecosystems and cultures (particularly urban areas), as their continued existence is seemingly valued less.

My analysis of discourses surrounding Africa is where the specter of the colonial context in which Said first posited Orientalism and imaginative geographies emerged most clearly. Other authors have noted how cinematic portrayals of the continent often focus on violence, poverty, corruption, and war, and depict it as ‘primitive’ (Larsen & Jensen, 2020; Njambi & O’Brien, 2018; Opio, 2020). Such an imaginary simultaneously constructs a region that is dangerous, but also lacking in the capacity or agency to address its seemingly unending problems, and is firmly positioned as ‘Other’ to a civilized and technologically advanced West (Larsen & Jensen, 2020). One can see the five films which include footage of countries in Africa as feeding into this “self-reinforcing archive” which has a long colonial legacy (Gregory, 2011, p. 371). *How to Let Go* attempts to offer a counter-imaginary through the only narrative that does not involve a white protagonist or depiction of conflict, yet still awkwardly uses the phrase “some dark corner of Africa” (Fox, 2016, 01:48:03). Nigeria is shown as corrupt and violent in *The Age of Stupid* and *Time to Choose*, while Darfur is a chaotic “hell” in *Climate Refugees*, all with the insinuation that such conditions can only worsen as the climate crisis accelerates. Such narratives have been critiqued as the re-emergence of a form of environmental determinism, or what Hulme (2011) refers to as ‘climate reductionism,’ in which the behaviours and destinies of certain (often equatorial) cultures are directly tied to their physical environment. Such imaginaries are dangerous first because of how they position vulnerable people as a threat, further distancing them from a Western audience, but also in how they negate the agency of on-screen individuals

and communities. Furthermore, they construct places that are not familiar as densely populated urban centers as ‘Other,’ juxtaposing their differences rather than identifying commonalities.

Though I note throughout my analysis that there are several moments of rupture in which counter-geographies emerge, the dominant discourse throughout these films is one that generally reinforces white Western science and modernity as the solution to climate change, and racialized ‘Others’ as its passive victims. This has the effect of constructing ‘eco-colonial’ narratives that suggest that the life of the ‘periphery’ is valuable only in the context of how it affects the ‘centre’ (Baldwin, 2012; Farbotko, 2010). Carvalho (2019) has similarly noted the prevalence of technocratic and apolitical narratives regarding climate change in mainstream media discourses. She also highlights the importance of media in shaping public perceptions and understandings of the climate crisis and its solutions, and thus the value of critically interrogating what stories are both present and absent in their coverage. Discourses are powerful because they have material effects by legitimizing certain understandings of truth. Thus, I am not interested in the accuracy of climate change documentaries and how well they portray an off-screen world, but rather how they are active participants in the production and further sedimentation of structures of power and particular realities. The repetition of specific power hierarchies and subject positionalities in these 10 films, that have been released over the course of a decade, is an example in and of itself the “self-reinforcing archive” of knowledge that Gregory attests is central to the construction and legitimization of imaginative geographies (2011, p. 371).

Contributions and Limitations

I am increasingly convinced that making human sense of climate change needs the distinctive intuition and skills of the geographer (Hulme, 2007, p. 6).

Documentary films are an increasingly popular and accessible medium through which members of the public become informed about climate change, yet they have not received the

same attention as print or television broadcast media by critical scholars. This thesis contributes to the field of climate change communication, and environmental communication more broadly, by engaging with a form of climate change media that is notably understudied at present (Comfort & Park, 2018). Furthermore, I bring together the fields of moral geographies and film geographies to consider how spatiality is both constructed and implicated in the stories that documentary films tell us, and how racialized and gendered positionalities are positioned within such narratives. I also extend existing discussions of how imaginative geographies of climate change are constructed by media, policy, and popular discourse to consider the role of the documentary film in these ‘truth regimes’ that these imaginaries produce. My focus on how distance and spatiality within media discourses are socially constructed demonstrates there are exciting opportunities for further engagement with climate change documentaries by geographers.

This study also has relevance outside of the specific academic disciplines I engage with. As stated previously, my interest in climate change documentaries originates not from an interest in film, but a recognition of the large audiences that such films garner. The climate crisis is one of, if not the most, urgent challenges that humanity faces, and as has been established, it is a crisis that will affect the most vulnerable first and most severely. Therefore, it is crucial to not only critically interrogate popular discourses surrounding the crisis and its proposed solutions, but also consider who is setting the terms of those discourses and whose voices and needs are being silenced or marginalized. Examining how popular discourses talk about climate change is essential to ensuring that the solutions that are discussed and (hopefully) implemented are equitable.

Limitations

There are several limitations to this project. Some speak to larger topics of discussion within academia, while others pertain to the practical limits of a master's thesis. First, my decision to keep my theoretical framework and research positioned largely within my home discipline of geography inevitably has limited the perspectives and literature that I engaged with as a result. However, I do feel that this was a valuable exercise to bring together the fields of geography that I discuss above, and to fully engage with the role of spatiality in climate change discourses. I also view my own positionality as a limitation, and return to Young (2004) to elaborate upon this, who asserts, "what Orientalism demonstrates above all is the deep complicity of academic forms of knowledge with institutions of power" (p. 166). Particularly within the field of geography, which has a long history of 'seeing' for the state and aiding in imperial and colonial projects, this is certainly true (Best, 2009; Braun, 2002; Wainwright, 2013). There is an undeniable irony in my critiques of the dominance of the white Western expert, given that I am a white Canadian woman who is undertaking this project in order to receive a degree that will 'prove' my expertise. Ultimately, I see this as a potential limitation of most critical scholarship, as do many others (Blomley, 2007; Castree, 2000; Fuller & Kitchin, 2004; Peake & Sheppard, 2014). As I move forward from this project, I hope to be self-reflexive, aware of when and why I take up space, and consider what necessary actions I should take to champion climate justice (and justice of all forms) both within and outside of academia.

The limited time I had to complete this project and its large global scope meant that I was not always able to engage with all my findings as thoroughly and completely as I would have liked. Some of the more micro-scale aspects of my analysis pertaining to linguistics and individual speaking-role subjects were ultimately excluded due to a lack of time and space.

Future projects that focus on multiple films may benefit from selecting a case study region or country to focus on in order to narrow their scope. As mentioned in Chapter 3, my content analysis was not as in-depth as I would have liked as the unique structure of documentary films made implementing clearly defined coding units difficult. Given that I had multiple other forms of analytical content to engage with, I ultimately decided to limit my coding efforts to focus on only speaking-role subjects, whereas I had hoped to code visual and narrative patterns as well. A more robust content analysis would have provided me with helpful quantitative data to integrate into my narrative analysis and left me with a stronger mixed-methods analysis. The input and perspective of a second coder could have been beneficial in order to test inter-coder reliability and to potentially assist me in addressing the issues I faced with my coding units. Undertaking a more in-depth quantitative analysis of climate change documentary films is one of many opportunities for further engagement with the medium, which I will now discuss.

Future Directions

Given the lack of attention that has been paid to climate change documentaries within academic scholarship, there are many exciting opportunities for future research. This is particularly true given that, with the continued rise of video streaming platforms, the relevance of documentary films (alongside social media) as an information source will likely continue to grow. Since there is a dearth of literature on climate change documentaries, future directions for study are bountiful, but I will highlight a few areas of interest to me here. There has been a strong focus on U.S. and European-based media within studies on environmental and climate change communication (Comfort & Park, 2018), with my own research being no exception. An examination of how documentaries made outside of Western countries frame the causes and consequences of the climate crisis would provide an interesting future avenue for research. While

many of the films discussed here were screened and promoted outside of North America and Europe, and thus are still influential outside of these two regions, they likely exclude a variety of discourses on climate change that are being expressed in media throughout the world. Expanding the temporal and spatial lens of research could also present an interesting opportunity. Given that *An Inconvenient Truth* represents a “watershed moment in public understanding of climate change,” an examination of documentary films prior to the release of *An Inconvenient Truth* in the mid-2000s could provide insight into how the messaging of climate change documentaries have changed over time (Dunaway, 2015b, p. 259).

Another interesting approach would be to consider how narratives in non-mainstream or alternative media films (e.g. ‘indie’ documentaries) differ from the films discussed here. While I have established the importance of mainstream media discourses to shaping public opinions, considering how films that are not connected to large production companies or television channels depict the climate crisis may provide insight into how power is disseminated through media and society. This is related to another potential avenue for research; given that there has been significant attention paid to the audience responses to such films, and here I have conducted textual analysis, more attention to the site of production would also be valuable. Existing comparative research of this nature is limited but does reveal important differences in how alternative media discourses conceptualizes the climate crisis (Carvalho, 2019). Engagement with the creators of such films and their perspectives and motivations would also be a fruitful avenue of research. There are clearly many potential future directions for research related to climate change documentaries, and it is my hope that this understudied form of media will be increasingly given the attention it deserves.

Before the Credits Roll: Final Reflections and Remarks

Perhaps instead a better way forward is to acknowledge the sheer uncertainty of the future; that regardless of what is imagined, the future is made and remade each day. This is not a case for settling for uncertainty, but rather, an encouragement to continue renovating the cultural imaginary of the future into something that does not necessarily have to absolutely include a world without glaciers (Jackson, 2015, p. 489).

While providing a list of recommendations or suggestions for documentary films going forward seems like a logical way to conclude this thesis, I am reticent to do so. I remain cognizant of Young's (2004) critiques of Said and the complicated relationship between power, justice, and academic critique. To criticize climate change documentary films for relying too heavily on white Eurocentric academic voices and values, and then offer my recommendations moving forward as someone firmly within that positionality, seems counterproductive to the findings of my research. That being said, the need for imaginative counter-geographies that challenge current power structures and seek to explode and reorder our relationship to the planet and each other is in no way my own revelation. Indeed, the need for increased diversity of voices across a multitude of spaces is certainly not a new finding either. As just one example, a recent analysis of Oscar-nominated documentary films over a ten year period showed that 91% of producers and 87% of directors were white, and 58% of producers and 75% of directors were men (Borum Chattoo, 2018). While I have identified narrative trends in 10 documentary films that hold up notions of white supremacy and a need to maintain the status quo of capitalist modernity, these narratives have also been noted and critiqued across mainstream media more generally, particularly by communities and cultures who have long been fighting against the power of colonialism, imperialism, capitalism, racism, sexism and other oppressive structures. Black and Indigenous activists and climate activists of colour, Vanessa Nakate included, have been vocal about the whiteness of environmentalism and climate activism more specifically and

its portrayal in popular media (Curnow & Helferty, 2018; Green 2.0, 2019; Hermes, 2020; Humi, 2019; Jones, 2020; Nakate, 2020; Toomey, 2018).

Suliman et al.'s call to recognize "other ways of moving through a warming world" applies to forms of resistance, mitigation, and adaptation, but also challenges us to consider what voices, forms of knowledge, and worldviews are viewed as legitimate (2019, p. 299). The inclusion of non-white directors, narrators, and experts in documentary films and other forms of climate change communication is important, but it is equally necessary to consider what systemic barriers and entrenched power dynamics need to be dismantled in order to make such spaces not only inclusive, but safe and welcoming. Looking more carefully at the media that informs our understanding of the 'distant,' and in doing so, actively constructing what is near and what is far, is also an important step in a fight towards justice. Within the context of the climate crisis, a crisis which has clear and unequal causes, and starkly disparate consequences across space and time, this is particularly salient. Heeding my own findings, I end with words that are not my own, but rather the final section of a poem written by Kathy Jetñil-Kijiner in collaboration with Aka Niviâna of the Marshall Islands and Kalaallit Nunaat (Greenland), respectively, titled Rise (2018):

You think you have decades
before your homes fall beneath tides?
We have years.
We have months
before you sacrifice us again
before you watch from your tv and computer screens waiting
to see if we will still be breathing
while you do nothing.

My sister,
From one island to another
I give to you these rocks
as a reminder

that our lives matter more than their power
that life in all forms demands
the same respect we all give to money
that these issues affect each and every one of us
None of us is immune
And that each and every one of us has to decide
if we
will
rise

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Appendix A

Plot Summaries of the 10 Films Selected for Analysis

Title	Narrator	Summary
<i>An Inconvenient Truth</i>	Al Gore	<i>An Inconvenient Truth</i> focuses on former US Vice President Al Gore and his campaign to educate the public about climate change. The film shows Gore giving his slideshow presentation about the causes and impacts of climate change to a studio audience and is interspersed with anecdotes about his personal life, including his failed run for president and the death of his sister.
<i>Global Warming: What You Need to Know</i>	Tom Brokaw	<i>Global Warming: What You Need to Know</i> features Tom Brokaw and scientists across the planet describing the impacts of climate change and the science behind them. Released in the mid-2000s, the film’s focus is establishing that climate change is real and human-caused, and explaining how it is affecting various ecosystems and cultures.
<i>The 11th Hour</i>	Leonardo DiCaprio	<i>The 11th Hour</i> is narrated by Leonardo DiCaprio and also features over 50 scientists, activists, political leaders, and other speakers. The film is mainly comprised of interview clips and does not devote a large amount of time to discussing specific regional impacts of climate change. This film is less plot-driven than other films.
<i>The Age of Stupid</i>	Pete Postlethwaite (playing “The Archivist”)	<i>The Age of Stupid</i> is set in 2055 in a hypothetical future where runaway climate change has not been avoided. An unnamed ‘archivist’ guides the viewer through archival footage from the beginning of the 21 st century, following six characters from India, Iraq, the United States, England, Nigeria, and France in order to showcase the causes and consequences of climate change and the global dependency on oil which led to the climate crisis.
<i>Climate Refugees</i>	Michael Nash	<i>Climate Refugees</i> considers the human impact of climate change through the lens of national security. Michael Nash, the narrator, travels to countries including Bangladesh and Sudan to examine how climate change is exacerbating and creating humanitarian crises and increased migration. The film also features politicians and scientists who discuss the geopolitical consequences of increased migration due to climate change.

Title	Narrator	Summary
<i>This Changes Everything</i>	Naomi Klein	Based on Naomi Klein’s book of the same name, <i>This Changes Everything</i> follows Klein as she visits seven communities across the planet who are fighting the encroachment of fossil fuel extraction infrastructure. The film is explicitly critical of the capitalist system, and showcases activists who are fighting for system change while simultaneously working to protect their communities.
<i>Before the Flood</i>	Leonardo DiCaprio	<i>Before the Flood</i> follows Leonardo DiCaprio on a global journey following his appointment as a United Nations Messenger of Peace. DiCaprio meets with climate scientists, environmental activists, and prominent leaders including President Barack Obama and the Pope. The film uses the painting <i>The Garden of Earthly Delights</i> as a metaphor for humanity’s struggle with climate change, concluding with DiCaprio’s speech at the United Nations where he tells global leaders there is still time to prevent the fiery Hell the painting’s final panel depicts.
<i>How to Let Go of the World and Love All the Things Climate Can’t Change</i>	Josh Fox	As the lengthy title suggests, <i>How to Let Go</i> follows Josh Fox as he visits communities already being impacted by the climate crisis and fossil fuel resource extraction and learns about how they are responding. The film also features climate scientists and environmental activists who discuss the societal and scientific causes of the impacts he witnesses. The film operates from the assumption that the climate crisis will significantly worsen, and considers how relationships to the planet and each other can be strengthened in spite of this.
<i>Time to Choose</i>	Oscar Isaac	<i>Time to Choose</i> depicts the impacts of the climate crisis and the role of fossil fuel resource extraction and the industrial food system in the crisis. It also offers hopeful messaging regarding the future and showcases individuals and innovations working to transform those systems and offer sustainable alternatives.
<i>An Inconvenient Sequel: Truth to Power</i>	Al Gore	<i>An Inconvenient Sequel: Truth to Power</i> revisits former US Vice President Gore and his slideshow within the context of the 2016 presidential election and COP21 in Paris. The film depicts Gore travelling to different states and countries that are experiencing the effects of climate change and discusses his slideshow and the training program which teaching activists how to host similar presentations. The primary focus of the film is on COP21 and what it depicts as the key role Gore played in the negotiations leading to the ratification of the Paris Climate Agreement.

Appendix B

Countries Included in the Eight Global Regions Used in My Analysis

Region	Countries
Africa	Continental Africa and Madagascar
Europe	“The European region includes all countries from Iceland* in the west to the Russian Federation (west of the Urals) and the Caspian Sea in the east, and from the northern shores of the Mediterranean and Black Seas and the Caucasus in the south to the Arctic Ocean in the north” (Field et al., 2014, p. 1274). *see note in the Polar Regions section
Asia	Armenia, Azerbaijan, Bahrain, Georgia, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Palestine, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen, Mongolia, Russia (East of Urals), Hong Kong Special Administrative Region, Macao Special Administrative Region, Japan, North Korea, People’s Republic of China, South Korea, Taiwan, Brunei, Indonesia, Lao People’s Democratic Republic, Malaysia, Myanmar, Papua New Guinea, The Philippines, People’s Republic of Cambodia, Singapore, Thailand, Timor-Leste, Vietnam, Afghanistan, Bangladesh, Bhutan, India Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
Australasia	The “lands, territories, offshore waters, and oceanic islands of the exclusive economic zones of Australia and New Zealand” (Field et al., 2014, p. 1377).
North America	Canada (excluding regions about the Arctic Circle), Mexico, and the United States (excluding regions about the Arctic Circle).
Central & South America	Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, the Falkland Islands, French Guiana, Guatemala, Guyana, Honduras, Nicaragua and Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela.
Polar Regions	While the IPCC previously defined Polar Regions as “the area within the Arctic Circle (66°N), and the Antarctic as the continent with surrounding Southern Ocean south of the polar front, which is generally close to 58°S”, this report embraces a “degree of flexibility when describing the polar regions in relation to particular subjects” (Field et al., 2014, p. 1572). Similarly, I do not follow the former strict definition, and instead consider how a location is portrayed within a film. For example, Churchill Manitoba is considered part of the Arctic in my analysis due to its depiction in <i>Global Warming: What You Need to Know</i> , despite technically being in a subarctic climate. I also include Iceland in this category despite it being in the European region in the Field <i>et al.</i> ’s report.
Small Islands	“Sovereign states and territories located within the tropics of the southern and western Pacific Ocean, central and western Indian Ocean, the Caribbean Sea, and the eastern Atlantic off the coast of West Africa, as well as in the more temperate Mediterranean Sea” (Field et al., 2014, p. 1618).
The Ocean	All oceans excluding polar oceans.

Appendix C

Table Used for Coding and Screen-Time Count

	SCREEN -TIME	SPEAKING-ROLE SUBJECTS						
	Screen- time (hh:mm:ss)	Non-Local Experts	Local/Resident					Local Expert
			Victim (Personal)	Victim (Analytical)	Heroes	Villain	Other	
Africa								
Europe								
Asia								
Australasia								
North America								
Central & South America								
Polar Regions								
Small Islands								
The Ocean								
Global/ unclear								
TOTALS								

Appendix D

Screen-Time Count Results for the 10 Documentary Films

	Ice on Fire (1:33:40)	An Inconvenient Sequel (1:36:05)	Time to Choose (1:31)	Age of Stupid (1:24)	An Inconvenient Truth (1:33:07)	The 11th Hour (1:21:35)	GW: WVNTK (1:27:31)	This Changes Everything (1:26:46)	Before the Flood (1:30:17)	How to Let Go... (2:03:06)	Climate Refugees (1:19:45)	total time
Africa	0:00	0:00	7:58	8:52	1:02	0:00	0:00	0:00	0:00	6:12	8:06	32:10
Europe	16:23	22:30	1:09	20:56	0:40	0:00	1:30	15:23	2:47	0:23	0:00	1:05:18
Asia	0:00	10:23	21:40	13:13	3:26	0:00	4:01	17:22	14:24	24:55	17:19	2:06:43
Australasia	0:00	0:00	0:00	0:00	0	0:00	4:55	0:00	0	9:43	0:00	14:38
North America	32:15	24:11	17:30	11:32	13:41	2:49	15:00	35:52	17:34	25:16	7:14	2:57:19
Central & South America	3:03	0:00	6:23	0:00	0:40	0:00	9:24	0:00	1:30	19:30	0:00	37:27
Polar Regions	12:14	7:10	0:34	0:00	9:11	0:38	7:40	0:00	5:42	1:45	2:18	35:28
Small Islands	0:00	0:16	0:00	0:00	0	0:00	2:10	0:00	2:46	21:56	4:53	32:01
The Ocean	0:00	0:58	0:25	0:00	2:55	1:25	0:12	0:00	2:25	0:10	0:00	8:30
Global/uncategor ized	29:45	33:32:00	35:21	29:27	1:01:32	1:16:43	42:39	18:09	43:09		39:55	6:24:29