

# The Rhetoric of Climate Change Documentaries and their Strategies to Impact Public Opinion within the Public Policy Process

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**Abstract.** *Public policies result from argumentative processes in which individuals collectively alter or maintain the rules under which they live in. We seek to understand how documentaries apply different rhetorical strategies to impact public opinion and, thus, generate a favorable environment for the promotion of policies to deal with climate change. Using the rhetorical approach and the Multiple Streams Model as our theoretical framework, we conduct a rhetorical analysis of two movies (“Before the flood” and “How to let go of the world and love the things climate can’t change”). We identify hypotheses about the relationship between the elements of persuasion employed by each movie and their strategies to impact the actors who influence public policy processes for climate change, in particular by contributing to the emergence of a public mood that is perceived by government officials and elevates the topic into the governmental agenda. Our qualitative and exploratory analysis suggests that documentaries simultaneously affect the problem stream (with arguments more centered around ethos and logos), describing the science behind the causes and consequences of climate change with the assistance of visual tools, and the political stream (with arguments more reliant on pathos), instilling a sense of moral responsibility in the audience with emotional arguments rooted, for instance, in ideas of family and war, while devoting less time to the proposal of solutions.*

**Keywords:** *Agenda-setting; rhetoric; public opinion; climate change; documentary, science communication.*

## Introduction

Climate change represents one of the biggest threats to mankind. The scientific consensus over the severity of the problem and its anthropogenic

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causes is overwhelming (Maibach, Myers and Leiserowitz 2014). Nonetheless, current efforts to address climate change are still modest and insufficient (Rogelj, et al. 2016).

Accordingly, it is worth studying the reasons behind the lack of ambitious public policies to diminish greenhouse gas emissions (Tol 2017). It is particularly interesting to analyze how different actors, especially public opinion and the media, can contribute to the debate on this subject in order to create a favorable environment for the proposition and implementation of climate policies. Indeed, there is a remarkable and profuse production of audiovisual content, fictional and non-fictional, trying to increase the level of concern over such a threat (see, for instance, Spoel, et al. 2008).

Thus, we seek to analyze how documentaries about climate change attempt to convince their audiences about the severity of the problem and the necessity for public policies. With that goal, we conduct a rhetorical analysis of two movies: “Before the flood” (BTF) and “How to let go of the world and love all the things climate can’t change” (HTLG), both released in 2016. By systematically comparing these cases, we can conjure some hypotheses over the relationship between the elements of persuasion employed in each movie and their possible impact on the public opinion within public policy processes to deal with climate change.

The following sections offer a brief literature review of the public policy process and the Multiple Streams Model, the role of non-governmental actors in governmental agenda-setting and the relevance of rhetoric. Next, we present the method employed, rhetorical analysis, and our case studies. The following section shows the results for each movie, highlighting segments deemed representative of each element of persuasion. The discussion, then, explores the different ways documentaries seek to influence their audiences and, consequently, the public policy process with regard to climate change. Lastly, we present the hypotheses identified from this exploratory exercise, which should be further assessed in future inquiries.

## The public policy process and the Multiple Streams Model

Public policies are the result of the political process, the “activity through which people make, preserve and amend the rules under which they live” (Heywood 2007, 4). It is difficult to characterize public policy as a single concrete phenomenon or specific decision (Hill 2012); it is more appropriate to consider them as “a course of action or inaction” (Hecl 1972) or as a “web of decisions” (Easton 1953).

Although desirable, it is not necessarily true that the public policy process occurs in orderly fashion and with clear goals (Hill 2012). Anyhow, for analytic purposes, it is still useful to evaluate the public policy process as being composed of different stages (Easton 1953).

In this sense, it has become convention to describe the public policy process as composed by the stages of agenda-setting; policy formulation; decision-making; and evaluation (eventually followed by termination) (Jann and Wegrich 2007). The stages are not discrete and there is a great deal of feedback between them (Hill 2012).

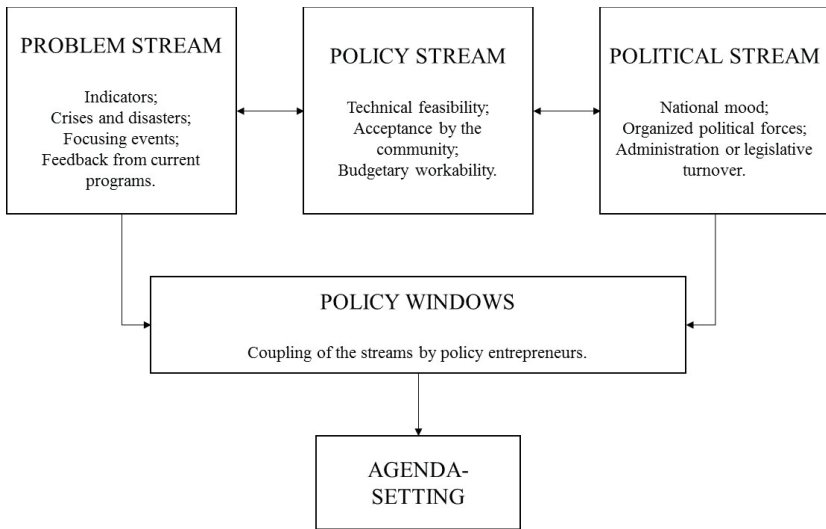
Here, we pay more attention to the agenda-setting stage, in which certain issues start to be identified or prioritized as problems worthy of public policy (Hill 2012). This definition of problems is also “object of political dispute” (Farah 2018, 61). Hence, studies on agenda-setting are concerned with understanding the reasons through which an issue receives more or less attention from the public and government (Pralle 2009). In democratic systems it is possible to identify at least three agendas:

- Public agenda: a set of issues of greater importance for citizens and voters;
- Governmental agenda: issues being discussed within governmental institutions, such as legislative bodies and regulatory agencies; and
- Decision agenda: a limited set of issues over which government members are about to make a decision (Pralle 2009, 782).

Within this field of research, the Multiple Streams Model, proposed by John Kingdon in 1984, has been amply used, particularly in order to understand how certain issues arise to the governmental agenda (Capella 2006, Cairney and Jones 2016). The Multiple Streams Model possesses high “intuitive appeal”; facilitates the identification of universal issues about the construction of public policies; uses easy-to-employ concepts; and is highly flexible, harnessing more than 12,000 citations since its publication (Cairney and Jones 2016).

In the conception of the model, Kingdon considers the public policy process as composed of four stages (agenda-setting; alternatives specification; the choice of an alternative; and implementation) (1995, 3). The model, however, focuses primarily on the first stage, understanding that changes in the governmental agenda result from three streams coming together, as represented in Figure 1.

In the problem stream, Kingdon analyzes how issues get defined as problems and how some problems become recognized as worthy of attention. In the policy stream, several proposals “float”, are revised and recombined until a small list of feasible solutions (in technical, budgetary and political terms) emerge for serious consideration. Finally, the political



**FIGURE 1. THE MULTIPLE STREAMS MODEL**

Source: Capella (2006).

stream is affected by factors such as turn-over in the executive and legislative branches, changes in the national mood, and campaigns by interest groups (Kingdon 1995).

These streams are considered independent from each other but converge during critical moments, opening windows of opportunity for policy changes. This independence between problem, policy, and political streams is criticized by some authors (Mucciaroni 1992), nonetheless, it still presents a useful way to analyze the agenda-setting process (Hill 2012).

Furthermore, for our purposes it is more important to discuss the internal dynamics of both problem and political streams. Indeed, policy windows “are opened either by the appearance of compelling problems or by happenings in the political stream” (Kingdon 1995, 20).

In this sense, for Kingdon, issues are social situations that while noticed, do not demand actions and responses. Any situation only becomes a problem when policy-makers start to believe that they need to do something about it (Capella 2006). The motives behind this change may be: the evolution of indicators (such as consumer prices and infant mortality rates); discrete events (crises, disasters and symbols); and the feedback (monitoring) of existing government programs (Kingdon 1995, 90; 94-95; 100).

In the political stream, a national mood<sup>2</sup> or climate is perceived by people within and close to the government, affecting public policy agendas and results (Kingdon 1995, 146). Additionally, the balance between organized political forces, interest groups that support or oppose certain public policies, is also noticed and one side can benefit if people believe it has superior political resources, such as the capacity to mobilize the electorate (150-151). Lastly, the turnover of government personnel, both in the legislative and the executive, and changes in jurisdictional boundaries<sup>3</sup> produce or inhibit certain items in the agenda (153).

## The role of non-governmental actors in governmental agenda-setting

Actors within and outside of the government participate in the public policy process. For instance, Schmidt (2008) makes a distinction between players actively and directly engaged in the conception of public policy, the *policy actors*, and those who are involved in public persuasion processes, the *political actors*. Here, we focus our attention on participants of the public policy process that do not hold formal governmental positions, such as interest groups, academics, researchers, and consultants; elections-related participants (political parties, campaigners); mass media; and public opinion.

With regard to the last two, Kingdon describes mass media as indirectly affecting the governmental agenda by influencing public opinion and, then, the politicians, by amplifying certain events rather than originating them. Public opinion, has a restrictive character, limiting more than promoting the ascension of certain items. Indirectly, how politicians perceive the national mood also influences the governmental agenda (Kingdon 1995, 67-68). For instance:

*[...] there might be instances in which [governmental officials] feel the public at large virtually directs them to pursue a course of action. [...] Public opinion can have either positive or negative effects. It might thrust some items onto the governmental agenda because the vast number of people interested in the issue would make it popular for vote-seeking politicians (Kingdon 1995, 65).*

- 2 Although it is hard to define “national mood”, superficially it can be characterized by the notion that a “large number of people out in the country are thinking along certain common lines” (Kingdon 1995, 146).
- 3 For instance, changes in the attributions of regulatory agencies.

With regard to mass media influence on public opinion, Soroka (2002) summarizes the main hypotheses about this relationship, noting that the media has greater impact when the issue is: i) not lived directly by the individuals; ii) concrete (instead of abstract); iii) salient for a short period of time; and iv) related to dramatic events and conflicts.

The heightened focus provided by the media may divert the attention of different groups towards a given issue and increase the prominence of some issues already in the agenda (Capella 2006). Moreover, how the media describes, categorizes, or frames an issue also affects the applicability of certain constructs by the audience and facilitates the connection between different issues and people's mental schema, preferences and value systems (Lakoff, 2004 as cited in Iyengar 2005, Scheufele and Tewksbury 2007), depending on the relevance and uncertainty that each person attributes to an issue (Table 1).

**TABLE 1. NEED FOR ORIENTATION AND MEDIA INFLUENCE ON PUBLIC OPINION**

	<b>Low uncertainty (about the issue)</b>	<b>High uncertainty (about the issue)</b>
<b>Low relevance (attributed to the issue)</b>	Low need for guidance. Little or no attention to the media.	
<b>High relevance (attributed to the issue)</b>	Moderate need for guidance. Simple monitoring of the media.	High need for guidance. Anxious consumption of information from the media.

Source: elaborated by the authors from McCombs (2002).

Heightened coverage of a topic may also change how politicians perceive its importance, but it does not affect how they rank their priorities, given that politicians are constantly “bombarded” about several issues from various sources (Cook, et al. 1983). Frequent reports about an issue may also cause audiences to (publicly) position themselves regarding the topic (McCombs 2002).

Climate change is an issue that most individuals experience indirectly, through media reports (Lin 2013). Increasing levels of relevance of such a topic and high uncertainty (with regard to its impacts) tend to be associated with a bigger influence of the media on public opinion and, consequently, on policy-makers. In this regard, visual representations, such as those in movies, are closer to direct experience than written language (Barry 1997).

## The importance of rhetoric within the public policy process

Several issues compete simultaneously for attention in the governmental agenda. Therefore, different players try to frame each topic in ways that are consistent with their interests and beliefs as well as generate consensus, increase concern and instigate processes of social mobilization (VanDeveer 2013).

In this sense, the Multiple Streams Model and similar approaches highlight the importance of ideas, values and worldviews to the choices of each individual and, consequently, to the public policy process (John 2003). Likewise, starting in the 1990s, the so-called “argumentative turn” begins to devote more attention to the roles of argumentation and deliberation as relevant tools to understand the ways in which different actors develop and present their ideas related to the construction of public policies (Fischer and Forester 1993), especially with the goal of convincing their listeners (Martin 2015).

This focus on the argumentative character of the public policy process reinforces the importance of rhetoric (Rydin 2003), particularly for those trying to better understand the dynamics of governmental agenda-setting and the relationship between the general public, politicians and the media. It also helps to identify, analyze and understand the different persuasion strategies employed within public debates regarding complex issues, such as climate change (Gottweis 2007, Fischer e Gottweis 2012, do Sol Osório 2020).

Here, we understand rhetoric as being “the study of discursive techniques functioning to provoke or increase the support of minds to the theses which one presents for approval” (Perelman and Olbrechts-Tyteca 2002, 5) or more simply, and following the Aristotelian tradition, as the “art of discourse” (Mazzali 2008).

Aristotle is the most important philosopher of classic rhetoric and in his tradition the concept of rhetoric presents three elements of persuasion:

- *Ethos*: associated with the character of the speaker, his/her authority and credibility;
- *Pathos*: seeks to interact with the emotions of the audience, reinforces the relevance of feelings and the necessity of taking the emotions of others into consideration in politics; and
- *Logos*: related to the argument itself and that seeks (or appears to seek) the demonstration of truth (Aristotle 2005, Gottweis 2007).



Persuasion via *logos*, although based exclusively on rationality, does not pursue to be convincing in isolation (Aristotle 2005). It can also provide support for arguments based in emotions, ensuring that passionate appeals are not ignored by the listeners (Rydin 2003). The audience profile tends to influence both the intensity with which the speaker's *ethos* manifests itself and the manner in which the emotions highlighted in the discourse are transmitted to that audience (Aristotle 2005).

In this respect, the manifestation of rhetoric requires a speaker, an audience to which he/she addresses him/herself, and a "media" through which they find each other. This media can be visual and based on images, merely spoken or written; television and cinema derive their power from the combination of rhetorical effects from the use of image, music and spoken word (Meyer 2007, 22).

## Methods

Ours is an exploratory, most-similar, case study of two documentaries about the same subject, conceived and released in similar environments. Case studies can be performed solely via document analysis (Bowen 2009). Indeed, in the field of rhetoric such an approach is pursued by Rydin (2003) and do Sol Osório (2020). Hence, through a rhetorical approach, we evaluate the three elements of persuasion employed by each movie with the goal of influencing and convincing their audiences and, consequently, creating an environment (or mood) conducive to the proposal of policies to deal with climate change.

Methodologically, the rhetorical approach enables a better understanding about which issues are considered (or not) in the debates over public policy processes, especially in the agenda-setting stage. It also allows us to analyze the discourses used with regard to public policies to deal with climate change (Barry, Ellis and Robinson 2008, do Sol Osório 2017, 2020).

The notion of rhetoric remains mostly linked with persuasion focused on *logos*. With regard to analyses of public policy processes, although more attention has been given to the relevance of rhetoric recently, little work has been done in the application of such recognition in the practice of analyzing public debates (Gottweis 2007, do Sol Osório 2020). For instance, Spoel et al. (2008) and Aaltonen (2014) identify the rhetorical means present in non-fictional films about climate change, albeit not seeking to generate hypotheses regarding agenda-setting processes.

Even though the three elements of persuasion are present, with different weights, in all communication efforts (Gottweis 2007), isolated analyses



of each element make it possible to observe how an argument is developed relying more heavily on them (do Sol Osório 2017).

Here, we examine the following movies: “Before the flood” and “How to let go of the world and love all the things the climate can’t change”. The first one, directed by Fisher Stevens and presented by National Geographic, follows the actor Leonardo DiCaprio while he travels to experience the impacts of climate change and talk with political leaders “fighting to combat inaction” (BeforetheFlood.com 2018).

The second, directed and presented by Josh Fox, distributed by HBO, follows Fox himself traveling through twelve different countries, recognizes that it “may be too late to stop some of the worst consequences” of climate change and asks what are those things that this threat may not destroy (HowToLetGoMovie.com 2016).

**TABLE 2. DESCRIPTIVE INFORMATION ABOUT THE CASES**

Movie	BTF	HTLG
Duration	96 min.	127 min.
Release date	October 21, 2016	April 20, 2016
Country (production)	United States of America	United States of America
Language	English	English
Highest award	Hollywood Film Awards (2016): Documentary of the year	Environmental Media Awards, USA (2016): Best documentary
Audience score (on IMDb)	8.3/10 (22.813 evaluations)	7.0/10 (321 evaluations)

Sources: BeforetheFlood.com (2018); HowToLetGoMovie.com (2016); IMDb (2019a, 2019b).

Although each movie could be considered as a single communication piece, our analysis is made on the most representative segments for each persuasion element. These segments were identified independently by six researchers (plus the authors) specialized in the fields of climate change or communication. Each researcher was presented with definitions of the elements of persuasion and classification efforts were based on their main uses, as represented in Table 3.

**TABLE 3. ELEMENTS OF PERSUASION AND THEIR MAIN USES**

<i>Logos</i> (logic and the appeal to reason)	<ul style="list-style-type: none"> <li>• Arguments by induction and deduction (enthymeme: can draw a conclusion from the stated or implicit premises);</li> <li>• Data;</li> <li>• Evidence/examples (e.g. historical).</li> </ul>
<i>Ethos</i> (perceived character of the speaker)	<ul style="list-style-type: none"> <li>• Construction of the speaker's image: credibility, reliability;</li> <li>• Expertise;</li> <li>• Reputation;</li> <li>• Deference;</li> <li>• Self-criticism.</li> </ul>
<i>Pathos</i> (emotion and mobilization of the audience)	<ul style="list-style-type: none"> <li>• Appeals aimed at arousing emotions in the audience, such as: love; fear; anger; courage; sympathy; compassion.</li> <li>• Apocalyptic language;</li> <li>• Religious elements and imagery;</li> <li>• Reinforces feelings of imminent crises and the need for action in favor or against of something.</li> </ul>

Source: adapted from Higgins & Walker (2012) and do Sol Osório (2020).

Transcripts were obtained from BTF script and HTLG English subtitles. The joint analysis of both cases allows us to postulate hypotheses about persuasion strategies, their impact on public opinion and, more broadly, on the public policy process for a complex and global problem such as climate change.

## Results

In several moments, both movies seek to inform their audiences about the causes and consequences of climate change. In others, they try to convince the public on the importance of immediate action to deal with the problem. Here, we analyze those instances that can be mostly identified as relying on each element of persuasion. For example, the mere choice of interviewees already allows us to infer that these individuals are regarded by the filmmaker as credible sources who lend more authority to the ideas exposed in the documentary. Nonetheless, it is possible to distinguish the segments in which the *ethos* of the interviewee is central to the argument from those in which this element has a secondary role.

## BTF

Regarding the element *ethos*, a major concern in BTF is to ensure the audience that its narrator, Leonardo DiCaprio, has the necessary credibility to

talk about climate change, for instance, highlighting that the actor has long been concerned about environmental issues:

*I didn't grow up around nature at all [...] my escape every weekend was the Natural History Museum. And from a very young age, I became fascinated with species that had become extinct. [...] I remember the anger that I felt, reading all these stories about how explorers and settlers would just wipe out an entire species, and [...] decimate the ecosystem forever (Leonardo DiCaprio, 07m29s).*

*When I was 25 years old, I remember being asked to participate in this huge event in Washington for Earth Day. [...] (Leonardo DiCaprio, 16m21s).*

Not only does the movie show DiCaprio as being environmentally conscious, it also demonstrates that he is well-acquainted with powerful individuals. When meeting Barack Obama and John Kerry, then President and Secretary of State of the United States of America (US), Leonardo is cordially and informally greeted with expressions such as: “Leo. How you doing, man?” (John Kerry, 01h02m55s) and “Hey man. Good to see ya.” (Barack Obama, 01h11m55s). This proximity with the highest leadership of the US executive power, not portrayed in encounters with other interviewees, reinforces the narrator’s *ethos* as a worthy representative to act as spokesperson for climate action, at least before certain audiences.

Concerning the element *pathos*, the movie starts with DiCaprio narrating his first visual memories and briefly describing his relationship with his father through the exhibition of a black and white picture of the actor, still a baby, in the father’s lap (00m49s). Fifteen other mentions to family ties are similarly discussed in BTF, such as these following interviews:

*I was saying to my, to my son [...] it's very sad but probably for you kids, to see snow will be a super eccentric adventure. A few people will be able to see snow in the future (Alejandro González Iñárritu, filmmaker, 55m24s).*

*[...] in addition to just the sadness that I would feel if my kids can never see a glacier, the way I saw when I went up to Alaska [...] that's the romantic side of it. That's the side that takes a walk with my daughters and I wanna be able to, them to see, or my grandkids, I want them to see the same things as I saw as I was growing up (Barack Obama, then President of the US, 01h14m34s).*

By referring to familial images and associating climate change impacts with a feeling of sadness, the movie tries to bring forth a sense of responsibility in the audience and a notion of commitment between generations, increasing concerns about the world bequeathed to the viewers' children and grandchildren. These segments may reflect the filmmakers' intentions of depicting the planet and the human race as "one big family", a *pathos*-based analogy commonly found in politically charged environmental communications (Murphy 1994).

With respect to the element *logos*, the use of audiovisual tools enables the explanation of complex phenomena with the assistance of images, in a simpler and intuitive manner. At the beginning of BTF, during a visit to a climate station in Greenland with the climatologist Prof. Jason E. Box, the melting of ice due to climate change is demonstrated with the extension of a hose:

*Well, this is all melted up now, this was a hose that went down 30 feet, and now it's melted out. [...] So this entire length is the thickness of ice that has melted throughout all of lower Greenland in the past 5 years. That's hundreds of cubic kilometers of ice that's now no longer stored on land. It's gone into the sea over here (Prof. Jason E. Box and Leonardo DiCaprio, 18m36s).*

This conversation happens while Prof. Box holds one extremity of the hose and DiCaprio, holding the other end, walks away from the climatologist, leaving the hose fully extended. The interaction ends with the open frame of both men distant from one another, allowing the spectator to visualize the relationship of cause and effect with regard to climate change.

Similarly, the explanation of how carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) differ in their global warming potential, done by Dr. Gidon Eshel, professor of environmental physics at Bard College, is assisted by the use of animation representing molecules from both gases (52min15s).

Lastly, in the final third of the documentary, one finds a passage heavily based on all elements of persuasion. A segment starts with an animation of Earth seen from space (01h15m47s) and a sequence of images from National Aeronautics and Space Administration (NASA) facilities (01h16m14s), as well as the voice of Dr. Piers Sellers, astronaut and Director of NASA's Earth Science Division, not yet presented to the audience:

*I knew intellectually how the earth's system works, 'cause that's what I've been doing for 20 years. [...] But when you're up there in orbit, and you can see 1,200 miles in any direction, I mean, let me tell you. It's kind of a revelation (01h16m16s).*

The interviewee is a scientist, member of a prestigious institution, with direct experience on space missions and who actually saw the planet from space. Thus, his credentials are presented in a compelling way to the audience. Next, Dr. Sellers offers additional information about himself:

*[...] just before Christmas I got told I got pancreatic cancer. Stage 4, so it's also elsewhere in me, not just in one place. [...] You know, it's a very small chance of survival. So, uh, that's really motivated me to think about what's important to do, and what can I contribute in the time I have left (01h17m39s).*

Consequently, there is an emotional component for the astronaut's apprehensions about climate change, one that tends to garner compassion from the public. Then, Dr. Sellers describes how NASA simulates climate change impacts around the globe, employing an argument, assisted by images, concerned with demonstrating truth by itself:

*So this is a model simulation of the earth, now, we have about 20 satellites that are dedicated to looking at the earth, every day. One looks at clouds, one looks at the sea surface temperature, OCO looks at carbon dioxide in the atmosphere. All this information comes in, and this is the tool we use to do climate simulation (01h18m04s).*

The visual impact of the simulation presented by the astronaut is summarized by DiCaprio, again trying to appeal to viewers' emotions: "This is like a great piece of art" (01h18m47s).

## HTLG

With regard to *ethos*, arguments based on this element are commonly employed in the movie before or at the beginning of interviews with people with diverse backgrounds, in order to justify their presence in the documentary and showcase how important are their opinions. For instance, the conversation with Dr. Michael Mann (24m01s) starts with the following description (written in white letters in front of a black background): "Michael Mann; Director, Earth Systems Science Center, Penn State; Co-author IPCC Report 2007; Co-winner 2007 Nobel Peace Prize".

Subsequently, one of the scientists interviewed in HTLG also uses an *ethos*-based argument, albeit a religious and moral one, when referencing the archbishop Desmond Tutu, another Nobel Peace Prize winner.<sup>4</sup> The

4 In 1984, for his opposition to the Apartheid regime in South Africa.

archbishop's moral authority, particularly with regard to Africa, is used to reinforce the necessity of ambitious targets in order to prevent extreme impacts on that continent:

*Desmond Tutu said for Africa, a two degrees 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" (Petra Tschakert, associate professor of geography at Penn State and IPCC volunteer, 27m03s).*

Regarding the element of *pathos*, several instances along the movie make reference to the notions of war and fighting; in total, there are thirty-three mentions to words like "war/warrior" and "fight/fighter". Right at the beginning of HTLG, the screenwriter/director/narrator Josh Fox brings forth the idea of the quarrelsome relationship between local communities and the oil industry:

*A new community is fighting off mountaintop removal or long-wall mining, or open-pit mining for coal, or tar-sands extraction for oil, or offshore drilling, and, of course, fracking. Seems like almost every corner of the globe is under siege by new and more and more extreme forms of energy extraction. (02m12s).*

Further ahead, Fox explains his motivations behind the movie when he asserts: "I needed to find the people who'd found this place, this place of despair, and who'd gotten back up" (38m14s). Hence, the desire to fight emerges out of a feeling of despair. Accordingly, the segment starting at 01h03m08s highlights the idea of a war against the causes and consequences of climate change by showing the "unprecedented" encounter of the "Pacific Climate Warriors", "fighters" from twelve island-nations in the Pacific Ocean, exposed to the risks of sea level rise.

A noteworthy moment occurs when a group of men in traditional regional costumes perform a ceremonial dance and one of them blows a war horn (01h04m37s). In anticipation of a "battle" to obstruct the trajectory of a coal ship. The creation of warlike scenarios is a common strategy to mobilize people towards a unified goal (Buchanan 1978).

After one of the boats used by the "climate warriors" is damaged, one of its crew members returns to shore crying and is promptly comforted by his colleagues (01h12m46s). In reply, another warrior screams, beating on his chest: "Stay calm and stay strong!" (01h13m10s). These events inspire the audience by exemplifying how it is possible to turn feelings of fear and despair into tranquility, self-confidence, and strength, even in the face of adverse conditions.

Concerning the element *logos*, the movie devotes substantial time so that people affected by the causes or consequences of climate change can present their viewpoints. In one of these instances, an Amazonian community leader in Peru develops a *logos*-based argument with regard to oil exploration in the region, clearly establishing a relationship of cause and effect:

*Before the oil companies came in our ancestors ate healthy fish. They weren't at risk of getting sick. Now we eat our fish and get sick. [Then] For us, oil means death, destruction of the Amazon, and the squashing of our rights as indigenous peoples (Ander Ordoñez Mozombite, environmental monitor, 44m17s).*

In another part of HTLG, Fox visits Huang Ming, CEO and founder of Hi-min Solar, a solar energy company, to discuss how investments in renewable sources offer alternatives to minimize climate change. In one sentence, Ming presents a rare argument based on economic logic:

*Josh Fox: How did you get the money to start [Hi-min Solar]?*

*Huang Ming: There's market, there's money" (01h27m25s).*

Towards the end of the documentary, one finds a segment when the three elements of persuasion are jointly used. Fox follows Mika Maiava, spokesperson for the "Pacific Climate Warriors", whose leadership in the fight for the survival of the pacific island-nations had been demonstrated previously (01h06m38s until 01h14m55s). The duo decide to visit the tree where the placenta from Mika's father had been buried, according to the local traditions:

*When you are born, the first thing that comes out of the hospital room, it's the placenta. And they dig the ground and put it in there. And they plant a coconut tree on top of it. [...] So your connection to the land is never lost (Mika Maiava, Tokelau/Samoa, 01h52m33s).*

After a sequence of images of Mika joyfully dancing and presenting his family, he and Josh arrive at their destination and encounter the area already covered by sea level rise and compromised by coastal erosion:

*It's very emotional. [...] standing here and looking at it and we are always talking about that we're going to drown and the sea level rising and*



*everything [...] I mean, just this is what's going to happen if we're not going to do anything about climate change (Mika Maiava, 01h55m24s).*

Thus, the speaker's character, leader of a community already affected by climate change, the emotional associations between the speaker, his father and the land in which they live, and, lastly, the visual example of the consequences of climate change, constitute an argument that simultaneously employs all elements of persuasion.

## Discussion

Given the exploratory nature of this paper, our analysis of the results allows us to identify some hypotheses about the way in which documentaries can employ different rhetorical strategies to impact the public opinion and, thus, influence the public policy process, particularly with respect to climate change.

A rhetorical approach, such as the one conducted here, highlights that public policy discussions and arguments are not primarily centered around scientific rationale and logic. Other means of persuasion (*ethos* and *pathos*) are frequently used and need to be taken into consideration within public policy processes (Gottweis 2007, do Sol Osório 2020).

A rhetorical strategy may be deemed successful when it helps to define, consolidate or modify the parameters and framings of the public debate, for instance, by pressuring specific actors to accept the definition given to a problem or instigating them to publicly position themselves regarding a topic that was not previously on their agenda (Martin 2015).

Documentaries, thus, may stimulate the public opinion to become more vocal about climate change (Spoel, et al. 2008) and to further intensify a general "mood" that is perceived by governmental officials as well as highlight climate change as a problem worthy of attention, hence, affecting public policy agendas and results. It is, however, improbable to measure the direct impacts of a single communication piece on the governmental agenda and, thus, in public policy processes (do Sol Osório 2020).

Regarding the relation between the documentaries and the Multiple Streams Model, both movies are more focused and active on the problem and political streams. In the problem stream, the visual aspects of communication via documentary allow the filmmakers to present extreme weather events, exacerbated by climate change, and indicators that can help the audience to see such an issue as a problem. The segment in BTF where DiCaprio and Prof. Box extend a hose to measure the ice melting is a visual

representation of all the scientific arguments in the movie: climate change is real, is already happening and is primarily man-made.

Indeed, arguments to elevate climate change to the status of a problem tend to rely more heavily on *ethos* and *logos*, given the need for data and factual support. Moreover, they involve more direct and explicit forms of communication in which a scientist, preceded by his credentials, presents indicators that may convince the public about the severity of climate change, usually with the assistance of the narrator, maps and other visual elements.

Arguments more focused on the political stream try to generate/promote a sense of urgency so that climate change may rise in the public agenda and be perceived by governmental actors. Additionally, they attempt to assign responsibilities to the audience. BTF repeatedly reminds the viewer about the commitment between parents and children in order to motivate behavioral change, thus ensuring that future generations are not deprived from meaningful experiences. HTLG aims to create a moral equivalent to war, in which “warriors” against the causes and consequences of climate change are glorified and the audience is implicitly invited to share their concerns about the problem. These arguments are more centered around the element of *pathos*, although reinforced by the speakers’ character (influential politicians, scientists, community leaders).

The movies pay less attention to the policy stream. BTF mentions the importance of global accords and ambitious policies, but devotes a single segment to a specific public policy proposal: carbon pricing. Curiously, the economics professor N. Gregory Mankiw is the only expert not personally interviewed by DiCaprio. Other suggestions to deal with climate change in both movies (changing diets and community solar projects) are not necessarily dependent on public policies.

Beyond the movies themselves, it is also relevant to investigate how the argumentative strategies employed by each documentary relate to the goals explicitly mentioned by the filmmakers in other communications, specifically in the press releases available in their respective websites.

For the producer/narrator, Leonardo DiCaprio, and the director, Fisher Stevens, BTF was motivated by a focus on immediate actions to deal with climate change as well as the desire to elevate the topic during the 2016 American presidential elections:

*“Time is not a luxury we have,” said DiCaprio. “I didn’t want the film to scare people, or present them with statistics and facts that they already know, but to focus on what can and must be done immediately so that we can leave our planet a livable home for future generations. We are quickly running out of time.”*

*Getting the word out about climate change took on even more urgency for Stevens when his first son was born in 2013. “I was very concerned about the world for him”. The upcoming national elections in the U.S. also figured into the filmmakers’ decision to make Before the Flood, and to complete it by the fall of 2016 (BeforetheFlood.com 2018).*

For Josh Fox and the HTLG crew, the documentary seeks to educate and encourage local communities in the “fight” against fossil fuels:

*The film is about the power that local communities have in determining their own climate and energy solutions democratically. More than just a film, HOW TO LET GO is intended to be a launchpad for education and action in communities. The ‘Let Go and Love Tour’ will help communities lead a renewable energy revolution, one community at a time (HowToLetGoMovie.com 2016).*

With regard to BTF’s electoral concerns, the construction of DiCaprio’s *ethos* as close to political leaders from the Democratic Party may ward off viewers not identified with this party while strengthening the connections with its sympathizers. This rhetoric consolidates existing bonds between people with similar political beliefs and cultural backgrounds, and has smaller chances of turning the national mood with regard to the topic.

Additionally, the movie dedicates little time to the impacts of climate change within the US (see Table 4). Conversely, DiCaprio’s previous fame and visibility may help to attract the attention of laypeople who normally would attribute low levels of relevance to the issue and, consequently, not require nor seek much orientation about it.<sup>5</sup>

HTLG has fewer aspirations attached exclusively to the American outlook, something underlined by several segments in other languages, only subtitled in English. The visits to different communities, supported by the *ethos* of local leaders affected by climate change, offer examples to other groups. Although the documentary also characterizes climate change as a noteworthy problem, it transfers knowledge and lends courage so that other “warriors” may lead similar efforts.

Therefore, possible difficulties in directly influencing the public agenda and the national mood tend to be higher for BTF than to HTLG. The call to “war”, based on the emotional appeals and character of the interviewees in the second movie, needs to be effective over a smaller target-audience (local community leaders) for the film to achieve its goals. Alternatively, the

5 Although plausible, this hypothesis is not tested here and does not relate to the argumentative strategies employed in BTF.

construction of persuasive arguments to broad and heterogeneous target-audiences (the American electorate and individuals concerned with future generations) presents a harder challenge.

Finally, in the context of a global problem, but local decision-making processes, the two documentaries follow their narrators as they travel to several countries (see Table 4).

**TABLE 4. LIST OF COUNTRIES VISITED (SEGMENT DURATION)**

<b>BTF</b>	<b>HTLG</b>
United Nations, New York, US (03m00s)	Pennsylvania, US (03m03s)
Alberta, Canada (02m15s)	New York, US (08m58s)
Arctic Circle, Canada and Greenland (06m33s)	Washington, DC, US (02m22s)
Florida, US (03m06s)	Iceland (02m06s)
Beijing, China (04m15s)	Amazon forest, Peru (13m46s)
New Delhi, India (06m03s)	Amazon forest, Ecuador (05m59s)
South Pacific Islands, Kiribati & Palau (02m46s)	Utah, US (04m45s)
Bahamas, Caribbean (02m30s)	Australia (11m48s)
Sumatra, Indonesia (04m09s)	China & Mongolia (25m50s)
Ushuaia, Argentina (01m36s)	Vanuatu (06m01s)
Nevada, US (02m45s)	Zambia (05m36s)
Paris, France (02m18s)	Samoa (05m04s)
Washington, DC, US (10m37s)	New York, US (02m58s)
Vatican, Rome, Italy (02m34s)	

Source: elaborated by the authors.

Both films spend more time demonstrating the impacts of climate change (or the action of fossil fuel companies) in developing countries. BTF devotes only 09m30s to show ice melting in the Arctic Circle and flash floods in Florida. HTLG starts discussing pest proliferation in Pennsylvanian forests, the consequences of hurricane Sandy in New York and offers few images of glaciers in Iceland; these segments amount to mere 17m00s of almost two hours of movie.

Remaining excerpts in developed countries are dedicated to conversations with climate scientists and politicians (in Washington, DC, for instance) and to present the causes of climate change, from oil extraction in Canada (BTF) to coal mining and transportation in Australia (HTLG).

Consequently, intentionally or not, the filmmakers make explicit one of the characteristics that make climate change a problem of difficult solution: while its consequences affect the entire planet, though in unequal

ways, decision-making processes happen at the local level, whether behavioral (change of individual habits) or political (voting decisions).

By devoting considerable portions of their movies to the global effects of climate change, the filmmakers contribute to elevate the issue to the status of a problem worthy of public policies. However, simultaneously, they distance their audiences, especially in the US, from the consequences of this problem and, thus, diminish their movies' influence on the political stream.

Even though segments about climate change impacts are supported by universal *pathos*-based arguments, highlighting the responsibilities that “parents have towards their children” (BTF) or the need to “fight” against fossil fuels (HTLG), the geographic distance between the public and the events portrayed may limit the effectiveness of the message being transmitted. Indeed, individual direct experience appears to be one of the factors to increase risk perception with regard to climate change (Whitmarsh 2008).

## Concluding remarks

There is an apparent gap in the literature with regard to the way in which the science and, more broadly, the issue of climate change is communicated to the general public and how this communication relates to the public policy process. Most articles studying science communication fail to thoroughly consider the public policy process (see Spoel, et al. 2008) and those devoted to policy-making fail to explore the function of different communication strategies and their possible impacts on relevant actors, such as public opinion, within these processes (see Pralle 2009).

In this sense, the present article sought to understand how documentaries can contribute to create a favorable environment, through different persuasion strategies, for the promotion of policies dealing with the causes and consequences of climate change. The different uses of each element of persuasion by filmmakers can affect public opinion, thus collaborating to a national (public) mood that is perceived by government actors and, consequently, thrusting climate change into the governmental agenda. We note, in addition, that documentaries are appropriate to elevate issues to the status of problems by visually presenting events and indicators that relay to the audience how relevant the topic is.

In effect, the characterization of climate change as a problem more often relies on the *ethos* of experts and arguments attempting to demonstrate truth (*logos*); it also occupies large portions of both movies analyzed here (BTF and HTLG). The remainders of both films are dedicated to the creation of a moral imperative for climate action, including through persuasion

strategies based on apocalyptic images of destruction (*pathos*). The filmmakers try to instill a sense of responsibility in the audience, whether as parents responsible for their children (BTF) or as warriors who should not refrain from fighting against fossil fuels (HTLG).

The qualitative and exploratory character of the research, based on the rhetorical analysis of both documentaries and their relationship with the public policy process, with the problem, policy and political streams, presently allows us to identify some hypotheses about the links between persuasion strategies and the agenda-setting stage of the public policy process to deal with climate change (Table 5).

**TABLE 5. HYPOTHESES (H) ABOUT RHETORIC AND AGENDA-SETTING FOR CLIMATE CHANGE**

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<b>H1:</b> Arguments focused on the problem stream are more centered around <i>ethos</i> and <i>logos</i> .
<b>H2:</b> Arguments focused on the political stream are more centered around <i>pathos</i> , often supported by <i>ethos</i> .
<b>H3:</b> The more geographically distributed the audience, the more difficult the construction of arguments based on <i>pathos</i> and <i>ethos</i> .
<b>H4:</b> Descriptions of the global effects of climate change influence the problem stream, but not the political stream.
<b>H5:</b> Documentaries about global issues affect more intensely the problem stream.

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Source: elaborated by the authors.

Our approach contributes to further the notions of rhetoric beyond those exclusively focused on *logos* and to broaden the scope of argumentative analyses regarding public policies and debates on climate change. Future endeavors can test these hypotheses by employing other research methods, such as interviews and questionnaires about the movies analyzed here, and/or increase the number of cases investigated, for instance, with the selection of documentaries in similar environments but with different approaches and arguments towards their target-audiences as well as track the recognition of a film within policy contexts in specific jurisdictions.

With regard to the possible tactics to be adopted by prospective filmmakers, a more localized character, with narrative and framings more focused in specific regions and publics, instead of short segments in various locations, may facilitate both the selection of interviewees with more effective *ethos* and the use of emotional appeals more familiar to a restricted audience.

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## Dokumentinių filmų apie klimato kaitą retorika ir strategijos, darančios įtaką visuomenės nuomonei viešosios politikos procese

### Santrauka

Viešojo politika ir jos kryptys atsiranda dėl argumentuotų procesų, kurių metu asmenys kolektyviai keičia arba palaiko taisykles, pagal kurias gyvena. Šiame straipsnyje siekiama suprasti, kaip dokumentiniuose filmuose taikomos skirtingos retorikos strategijos, siekiant paveikti viešąją nuomonę, ir taip sukuriama palanki aplinka skatinant politikos priemonėmis spręsti nagrinėjamas klimato kaitos problemas. Taikant retorinį požiūrį ir kelių srautų modelį kaip teorinę sistemą, atlikta dviejų filmų („Prieš

potvynį“ ir „Kaip paleisti pasaulį ir pamilti dalykus, kurių klimatas negali pakeisti“) retorikos analizė. Tyrimo hipotezėse kalbama apie santykį tarp kiekvieno filmo argumentavimo elementų ir jų strategijų, kaip paveikti veikėjus, turinčius įtakos viešosios politikos procesams klimato kaitos srityje, ypač prisidedant prie viešosios nuotaikos atsiradimo, kurį suvokia vyriausybės pareigūnai ir įtraukia į vyriausybės darbotvarkę. Mūsų kokybinė ir tiriamoji analizė rodo, kad dokumentiniai filmai vienu metu veikia problemos srautą (argumentai labiau orientuoti į etosą ir logotipus), pagrindžiantį klimato kaitos priežastis ir pasekmes, pasitelkus vaizdines priemones, ir politinį srautą (labiau argumentuotą), įkvėpdamas auditorijai moralinės atsakomybės jausmą emociniais argumentais, įsišaknijančiais, pavyzdžiui, šeimos ir karo idėjomis, kartu mažiau laiko skiriant sprendimų pasiūlymams.

**Reikšminiai žodžiai:** darbotvarkės nustatymas, retorika, viešoji nuomonė, klimato kaita, dokumentika, mokslo komunikacija.