



Disinformation network on *YouTube*: The 2019 Amazon Wildfires

Rede de desinformação no *YouTube*: as queimadas na Amazônia em 2019

Red de desinformación en *YouTube*: los incendios en la Amazonía en 2019

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Abstract

Between August and October 2019, the Amazon rainforest gained significant prominence in the press and on social media due to the wildfires ravaging the world's largest tropical forest. The release of data by INPE (National Institute for Space Research), which indicated an increase in wildfires and deforestation, damaged the Brazilian federal government's image (Bolsonaro administration) regarding its environmental policies. In response, the government adopted retaliatory measures against INPE and other environmental protection agencies. In this context, *YouTube* played a central role in disseminating (dis) information about environmental crimes in the Amazon and other biomes, becoming a battleground for actors seeking to influence public opinion and establish ideological positions. This study mapped and analyzed the disinformation network concerning the Amazon that formed on *YouTube* between August and October 2019, as well as the strategies employed by its agents. Through Controversy Mapping, this research identified the primary actors involved in the Amazon debate and the arguments they advocated. The results demonstrate that disinformation was used as a rhetorical weapon by far-right channels aligned with the Bolsonaro government to protect the administration's image and undermine environmental protection institutions and legislation. Furthermore, it was found that disinformation predominated among the most-viewed videos. Such a scenario highlights the limitations of *YouTube*'s moderation policies in combating the spread of false information and reinforces the urgent need for digital platform regulation in Brazil.

Keywords: Amazon rainforest; Deforestation; Disinformation; Wildfires; *YouTube*.

Resumo

Entre agosto e outubro de 2019, a Amazônia ocupou posição de destaque na imprensa e nas mídias sociais devido aos incêndios que assolavam a maior floresta tropical do mundo. A divulgação de dados do INPE (Instituto Nacional de Pesquisas Espaciais), que apontavam o aumento das queimadas e do desmatamento, afetou a imagem do governo federal brasileiro (administração Bolsonaro) em relação às políticas ambientais. Em resposta, o governo adotou medidas de retaliação contra o INPE e outros órgãos de proteção ambiental. Nesse contexto, o *YouTube* assumiu um papel central na disseminação de (des) informações sobre os crimes ambientais na Amazônia e em outros biomas, tornando-se palco de disputas entre atores que buscavam influenciar a opinião pública e demarcar posições ideológicas. O presente estudo mapeou e analisou



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a rede de desinformação sobre a Amazônia que se formou no *YouTube* entre agosto e outubro de 2019 e as estratégias utilizadas por seus agentes. Por meio da Cartografia de Controvérsias, este estudo mapeou os principais atores envolvidos no debate sobre a Amazônia e os argumentos por eles defendidos. Os resultados demonstraram que a desinformação foi utilizada como arma retórica por canais de extrema-direita alinhados ao governo Bolsonaro, visando proteger a imagem do governo e enfraquecer instituições e legislações de proteção ambiental. Constatou-se também que a desinformação predominou entre os vídeos mais visualizados. Tal cenário evidencia as limitações das políticas de moderação do *YouTube* no combate a disseminação de informações falsas e reforça a urgência de uma regulamentação para as plataformas digitais no Brasil.

Palavras-chave: Amazônia; Desinformação; Desmatamento; Queimadas; *YouTube*.

Resumen

Entre agosto y octubre de 2019, la Amazonia ocupó una posición destacada en la prensa y en las redes sociales debido a los incendios que asolaban la mayor selva tropical del mundo. La difusión de datos del INPE (Instituto Nacional de Investigaciones Espaciales), que señalaban el aumento de las quemadas y de la deforestación, afectó la imagen del gobierno federal brasileño (administración Bolsonaro) en relación con sus políticas ambientales. En respuesta, el gobierno adoptó medidas de represalia contra el INPE y otros organismos de protección ambiental. En este contexto, *YouTube* asumió un papel central en la diseminación de (des)información sobre los crímenes ambientales en la Amazonia y en otros biomas, convirtiéndose en un escenario de disputas entre actores que buscaban influir en la opinión pública y delimitar posiciones ideológicas. El presente estudio mapeó y analizó la red de desinformación sobre la Amazonia que se formó en *YouTube* entre agosto y octubre de 2019 y las estrategias utilizadas por sus agentes. Por medio de la Cartografía de Controversias, este estudio identificó a los principales actores involucrados en el debate sobre la Amazonia y los argumentos que defendían. Los resultados demostraron que la desinformación fue utilizada como arma retórica por canales de extrema derecha alineados con el gobierno de Bolsonaro, con el fin de proteger la imagen del gobierno y debilitar las instituciones y legislaciones de protección ambiental. Se constató también que la desinformación predominó entre los vídeos más vistos. Tal escenario evidencia las limitaciones de las políticas de moderación de *YouTube* para combatir la propagación de información falsa y refuerza la urgencia de una regulación para las plataformas digitales en Brasil.

Palabras clave: Amazonía; Desinformación; Deforestación; Incendios forestales; *YouTube*.

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Introduction

In August 2019, the Amazon rainforest became a central topic in public debate due to a significant increase in wildfires recorded by the monitoring programs of the National Institute for Space Research (INPE). Although the use of fire in previously deforested areas is common during the dry season, August 2019 stood out as the month with the highest number of fire hotspots since 2010, according to data from the INPE's Wildfire Program (2025). The visibility of the episode was amplified both by the magnitude of the fires and by their symbolic and political impacts, associated with the preservation of the world's largest tropical rainforest, a region central to global agendas on climate change, biodiversity, and indigenous rights.

One of the most emblematic events of this period was the "Day of Fire" in the state of Pará, when farmers coordinated fires in forested areas to pressure the federal government to relax environmental enforcement (G1, 2019). This episode, occurring during the first year of the Bolsonaro administration (2019-2022), highlighted the relationship between the surge in wildfires and a federal administration marked by the dismantling of environmental policies. Among the measures adopted were the institutional weakening of agencies such as IBAMA (Brazilian Institute of the Environment and Renewable Natural Resources) and ICMBio (Chico Mendes Institute for Biodiversity Conservation), attempts to pass less stringent environmental protection legislation, and a systematic discourse delegitimizing science and institutions like INPE (Brant, 2019).

The dissemination of deforestation and wildfire data sparked widespread repercussions in the national and international press (Silva et al., 2023), intensifying polarization around the Amazon. In this context, *YouTube* solidified itself as an arena for the circulation of (dis)information about ongoing environmental crimes. As one of the largest video platforms in the world, with over 2 billion monthly active users (YouTube, 2023), and the second most accessed in Brazil (We Are Social & Hootsuite, 2023), *YouTube* became a strategic space for ideological disputes during the wildfire crisis. Denialist narratives found widespread dissemination on the platform, especially in content associated with far-right views, which used *YouTube* to attack environmental policies, scientific institutions, and international organizations (Dündar et al., 2022; Allgaier, 2019).

While some channels denounced the environmental destruction, another segment sought to minimize the problem and protect the image of the government and allied sectors, such as agribusiness and mining. On one side, scientific actors and environmental organizations denounced the advance of environmental destruction and its global climate risks; on the other, government authorities, parliamentarians, and digital influencers aligned with the government questioned the credibility of scientific data, downplayed the severity of the fires, and accused international press of threatening Brazilian sovereignty.

This narrative dispute reinforced a false dichotomy between environmental preservation and economic development, frequently mobilized to justify the flexibilization of environmental regulations. The protection of the Amazon rainforest began to be presented as an obstacle to economic growth and job creation, disregarding evidence presented by the World Bank (2023) which points to the incompatibility between deforestation, sustainability, and Brazil's competitive integration into global value chains.

Given this scenario, this article analyzes the disinformation network surrounding the Amazon wildfires on *YouTube* in 2019, identifying the main actors and arguments present in the most viewed videos on the topic. For this purpose, we employ the Controversy Mapping method (Venturini, 2012) to map the flows of (dis)information and the rhetorical strategies employed to influence public opinion.

Different forms of disinformation

According to Wardle (2018), disinformation can be defined as a deliberate lie strategically used to cause harm or obtain political, economic, or social advantage. To understand this phenomenon, we draw upon the studies of Wardle and Derakhshan (2017), which detail various types of disinformation that will be used in this study to analyze the disinformation network about the Amazon rainforest on *YouTube*.

The typology systematized in Table 1 constitutes the analytical basis adopted in this study for identifying the discursive strategies present in the disinformation network about the Amazon rainforest on *YouTube*.

The role of algorithms in the formation of digital bubbles

Algorithms are one of the central elements for personalized content recommendation on digital platforms. They utilize browsing data and demographic profiles to determine which content is displayed to users, functioning as invisible mediators in the curation of information (Gillespie, 2014b). Although content personalization makes



Table 1 - Types of disinformation

TYPES OF DISINFORMATION	DESCRIPTION	EXAMPLE
Fabricated Content	Completely false information, intentionally created to deceive.	A fabricated news story claiming that a person or institution is responsible for a crime.
Manipulated Content	Alteration of real information or imagery to distort its meaning.	An edited video to make it appear that someone said something they never stated.
Imposter Content	Information that appears to come from a trusted source but is forged.	A website imitating journalistic aesthetics to publish false news.
False Context	True information presented in a false or misleading context.	A photo of an old protest being shared as if it were current.
Misleading Content	Use of true information to induce incorrect conclusions.	A real graph, but visually manipulated to exaggerate a problem.
Satire or Parody	Humorous invented content that can be interpreted as real. Or misleading content that uses humorous language to spread disinformation.	Humorous sketches that include misleading narratives in satirical contexts to spread false information.

Source: Adapted from Wardle and Derakhshan (2017) and Wardle (2018)

the user experience more tailored to their preferences, it also generates significant side effects, such as the “filter bubbles” (Pariser, 2012). This phenomenon is characterized by the isolation of individuals within homogeneous informational environments, reducing exposure to divergent perspectives and undermining the pluralism of ideas. Such a dynamic not only intensifies social polarization (Jamieson; Capella, 2008) but also consolidates mistaken ideas, making users more vulnerable to manipulation and limiting critical capacity.

Furthermore, algorithms, which are essentially computational procedures for problem-solving (Russel; Norvig, 2013), operate on digital platforms under a market logic oriented towards user retention, serving mainly the interests of advertisers (Tufekci, 2019). Thus, platforms prioritize content that generates greater engagement, regardless of its veracity, exposing users to continuous flows of false or distorted information (Gillespie, 2018).

Actor-Network Theory for the Study of Disinformation

Actor-Network Theory (ANT) introduced new perspectives to the Social Studies of Science and Technology by overcoming the traditional sociological distinction between nature and culture, through the “principle of generalized symmetry” (Callon, 1986), which attributes equal importance to humans and non-humans in explaining social phenomena. According to Callon (2004), the stability of societies depends on both values and technologies, highlighting the fundamental role of non-humans in the organization of socio-technical realities. Over time, ANT has also proven useful for investigating social phenomena in digital environments, where actions are mediated simultaneously by human subjects and technical apparatuses (Lemos, 2013c).

This study, which analyzes disinformation about the Amazon rainforest on *YouTube*, is situated within this environment of networks and flows mediated by digital technologies. To conduct the investigation, we adopted the Controversy Mapping (CM), a methodology associated with ANT that allows for the operationalization of theoretical assumptions for the analysis of social phenomena. CM seeks to map the traces left by the actors (actants) that compose a network, revealing the underlying interests of the different collectives involved in disputes for the hegemony of ideas or technologies (Latour, 2012).

CM proves particularly suitable for mapping socio-technical disputes in digital environments, as it allows for tracking how certain discourses are articulated within complex networks and how actors construct their strategies of action (Venturini, 2010).

Mapping controversies about the Amazon rainforest on YouTube

For the application of Controversy Mapping (CM), we followed the seven recommendations proposed by Venturini (2012):

1. Listen to the voices of the actors more than one’s own presumptions;



2. Observe the controversy from the most varied points of view;
3. Adjust descriptions and observations recursively;
4. Create adaptable, redundant, and flexible descriptions;
5. Do not restrict observation to a single theory or methodology;
6. Attribute to each actant a visibility proportional to its weight in the network;
7. Simplify complexity respectfully.

To minimize bias in data selection, we adopted quantitative criteria: videos that reached more than 500,000 views were analyzed. The analysis mapped all arguments presented in the videos, considering the various perspectives in the debate about the Amazon wildfires. Descriptions of the actors and their strategies were reviewed with each discovery, allowing for a dynamic representation of the network. The visibility of actors was proportional to their influence in the controversy, with the characteristics and strategies of the most relevant actors being described in greater detail.

Data Collection

Through the *YouTube Data Tools*, it was possible to reconstruct the network formed around the Amazon rainforest on *YouTube*. Developed by Bernhard Rieder (2015) within the scope of the MACOSPOL project (*Mapping Controversies on Science for Politics*), this tool enables the systematic extraction of information about platform videos, facilitating the creation of digital cartographies focused on *YouTube*.

The collection was carried out on 17 December 2020, according to the following parameters:

- **Collection mode:** Video List
- **Search query:** “Amazônia”
- **Language:** Portuguese (PT)
- **Region:** Brazil (BR)
- **Timeframe:** 01 August 2019 to 31 October 2019
- **Sorting criterion:** Number of views

With these search parameters, it was possible to collect data from 923 vídeos¹, which together totaled 79,996,867 views by the collection date.

Qualitative Analysis Method

The mapping of arguments present in the videos was guided by the Content Analysis method proposed by Bardin (2011), structured in three stages:

1. **Pre-analysis:** The initial screening involved the initial sample of 923 videos. The first filter considered the reach criterion, selecting videos with over 500,000 views, which reduced the sample to 33 videos. Then, a second thematic filtering was performed, retaining only videos addressing wildfires and deforestation, totaling a final sample of 24 videos (Table 2).
2. **Material Exploration:** Through the analysis of the 24 videos, we mapped 134 arguments², which were later grouped into 34 more comprehensive arguments. Arguments with three or more occurrences were classified as information or disinformation based on fact-checking and information triangulation, using sources such as government documents, journalistic material, and data from scientific institutions (Table 3).
3. **Interpretation:** This stage focused on the strategies adopted by the actors and the role of *YouTube* in disseminating disinformation. This phase corresponds to the final section of this article.

Analysis Corpus

Table 2 presents the corpus selected during the pre-analysis stage, listing data from the 24 videos, distributed across 21 channels.

¹ The dataset for the 923 videos can be accessed at: <https://figshare.com/s/bb9d47e2eb08843f87ce>

² Data regarding the argument mapping process can be accessed at: <https://figshare.com/s/ead3ec002e1aff078d0e>



Table 2 - Most viewed videos about the Amazon wildfires published on YouTube between August and October 2019

LABEL	VIDEO TITLE	CHANNEL	DATE	VIEWS
V1	QUEIMADAS NA AMAZÔNIA e o DIA ESCURO - Entenda o Caso!!	Você Sabia?	21/08/2019	3,307,989
V2	Entenda o Desmatamento na AMAZÔNIA de um jeito SIMPLES	Canal Nostalgia	27/08/2019	3,123,812
V3	E Se a Amazônia for INVADIDA ?	BRAZIL GRAPHICS	28/08/2019	2,711,501
V4	AMAZÔNIA - ANITTA ME ACUDA!!!	Nando Moura	12/09/2019	2,338,507
V5	POR ISSO ESTÃO DE OLHO NA NOSSA AMAZÔNIA Vejam quanto ouro encontrado nessa calha / GOLD BRAZIL	Garimpeiro Solitário	03/09/2019	2,050,123
V6	Veja por que estão de OLHO na Amazônia. Quase QUEIMOU o APARELHO	Adriano - Pedras Preciosas	04/09/2019	1,232,473
V7	Fábio Rabin - Amazônia / Bolsonaro e os filmes	Fábio Rabin	25/08/2019	1,058,402
V8	Coronel Chrisóstomo diz que quem tentar entrar na Amazônia 'vai levar pau' e perde a paciência com..	Folha Política	03/09/2019	978,363
V9	Pronunciamento do Presidente da República sobre as queimadas na Amazônia	Planalto	23/08/2019	957,974
V10	A malandragem de Macron com a Amazônia	Os Pingos nos Is	24/08/2019	918,959
V11	TÃO QUEIMANDO A AMAZÔNIA - Ep.1390	Cadê a chave?	20/08/2019	863,232
V12	Botando fogo na amazônia	MAIONESE	23/08/2019	816,817
V13	Macron, Bolsonaro, mitos e fatos sobre a Amazônia	Morning Show	23/08/2019	765,374
V14	Live a Amazônia!	Canal do Tom Cavalcante	04/09/2019	760,724
V15	Fogo na Amazônia - DESCONFINADOS (Erros no Final)	Canal Desconfinados	29/08/2019	756,550
V16	A Amazônia Está Pegando Fogo	Mamaefalei	21/08/2019	747,166
V17	Lula: "Quem está tocando fogo na Amazônia são os milicianos do Bolsonaro"	CartaCapital	06/09/2019	731,381
V18	FRANÇA foi INVADIR a AMAZÔNIA azul e se LASCOU (Felipe Dideus)	Vamos falar de História ?	30/08/2019	720,743
V19	Anitta e os melhores memes da Amazônia	Daniel Alvarenga	23/08/2019	693,777
V20	O QUE NINGUÉM TE CONTOU SOBRE A AMAZÔNIA - Pastor Carlos Cardozo	ADORADORES NA NET	29/08/201	671,813
V21	Bolsonaro publica vídeo impressionante de aviões das Forças Armadas na Amazônia e ministro rebate	Folha Política	24/08/2019	662,552

V22	ASSISTA: GENERAL MOURÃO CAUSA IMPACTO EM PRONUNCIAMENTO - AMAZÔNIA, CORRUPÇÃO, CHINA, BOLSONARO	Ficha Social	28/09/2019	586,292
V23	General Heleno humilha Macron sobre Amazônia, dá lição para a França e defende Bolsonaro	Folha Política	27/08/2019	516,863
V24	11 Gafes Sobre A Amazônia	Mamaefalei	24/08/2019	516,578

Source: Author. The access links to the videos in this table are available at: <https://figshare.com/s/36996660d2d43d0fd2b7>

Among the channels listed in Table 2, the *Folha Política* channel stands out with three videos, followed by *Mamaefalei* with two. The remaining channels feature only one video each. Together, the 24 videos totaled 28,487,965 views, representing 35.61% of the total views from the initial sample of 923 videos.

Map of arguments presented in the analyzed videos

From the 24-video sample, 20 arguments concerning the Amazon wildfires with more than three occurrences were identified.

Table 3 - Frequent arguments about the Amazon wildfires

ARGUMENT	OCCURRENCES	CLASS	TYPE
A1 - Wildfires in the Amazon rainforest are common during dry seasons.	9	Information	-
A2 - Countries, NGOs, indigenous demarcations, and international institutions threaten Brazil's sovereignty and should not opine on the country's environmental governance.	8	Disinformation	Fabricated Content
A3 - National and international mainstream media has a globalist bias and provided poor coverage of the Amazon wildfires.	7	Disinformation	Fabricated Content
A4 - Developed countries cannot criticize Brazil's environmental policy because they destroyed their own forests and carry out activities harmful to the environment.	7	Disinformation	Misleading Content
A5 - Leaders and celebrities shared incorrect images about the Amazon wildfires.	7	Disinformation	Misleading Content
A6 - Wildfires were more denounced in 2019 because the Government cut funding for foreign NGOs and indigenous groups.	6	Disinformation	Fabricated Content
A7 - The Bolsonaro Government's Environmental Policy is detrimental to Brazilian diplomacy and economy.	6	Information	-
A8 - There is international interest in the Amazon's wealth.	6	Disinformation	False Context
A9 - In 2019, Amazon wildfires were larger than the average of previous years.	5	Information	-
A10 - Developed countries use the environmental agenda to justify the internationalization of the Amazon rainforest and relativize the sovereignty of other countries.	4	Disinformation	Manipulated Content
A11 - A predatory culture towards the environment negatively affects Brazil's foreign trade.	4	Information	-
A12 - Brazil is an example of environmental preservation and use of renewable energies.	4	Disinformation	False Context
A13 - Young people (mainly) are deceived by environmentalist discourse and do not have sustainable daily practices.	4	Disinformation	Fabricated Content



A14 - The 2019 wildfires were not above the average of the last 15 years.	4	Disinformation	Fabricated Content
A15 - Amazon humidity plays an important role in regulating global climate, rainfall patterns, and economic activities.	3	Information	-
A16 - The Bolsonaro Government has a denialist posture towards science and feeds conspiracy theories.	3	Information	-
A17 - The "Day of Fire" was a coordinated action by incendiary farmers.	3	Information	-
A18 - Brazil has advanced environmental legislation, but laws are not enforced.	3	Information	-
A19 - Macron denounced Amazon wildfires to promote himself.	3	Disinformation	Misleading Content
A20 - MST (Landless Workers' Movement) and land grabbers are the main responsible for deforestation and fires.	3	Disinformation	Fabricated Content

Source: Author

In Table 3, it is observed that the 20 mapped arguments appeared 99 times in the analyzed videos, with 36 occurrences of information and 63 of disinformation. The most recurrent argument is A1, which addresses the frequency of fires in the Amazon rainforest. According to INPE monitoring, controlled burns are common during the annual dry seasons in Northern Brazil. However, in 2019, there was a significant increase compared to previous years: 89,178 fire hotspots were recorded, a growth of approximately 30% compared to the 68,345 hotspots observed in 2018 (INPE, 2025). August 2019 presented the worst monthly fire index since 2010, which drew international community attention to the environmental crisis in the Amazon rainforest (Silva et al., 2023).

The categorization of disinformation types highlights the strategies employed by information manipulators on *YouTube*. In this sense, **fabricated content** predominated (A2, A3, A6, A13, A14, A20), inventing causal relationships, such as the claim that wildfire reports were retaliation for federal funding cuts to NGOs (A6) or attributing responsibility for the fires to the MST (A20). Another frequent strategy is the production of **misleading content** (A4, A5, A19), which distorts facts to create partial narratives, such as selective criticism of developed countries (A4) or the unfounded accusation against Emmanuel Macron (A19). **False context** contents (A8, A12) also stood out, which inserts inaccurate information into seemingly valid contexts, such as the claim that Brazil would be an "example of preservation" (A12) or the supposed threat of Amazon rainforest internationalization (A8).

Characterization of sample channels

In Table 4, to fill the "Content Type" column, exploratory research was conducted (Gil, 2002), aiming to collect information to profile the investigated channels. Information was obtained from the official channel descriptions and other videos published by them.

Table 4 - Information about sample channels

CHANNEL	TOTAL VIEWS	DISINFORMATION	INFORMATION	CONTENT TYPE
Você Sabia? (V1)	3,307,989	-	A1, A11, A16	Curiosities
Canal Nostalgia (V2)	3,123,812	A5	A7, A11, A16, A17	Pop Culture & Science Communication
BRAZIL GRAPHICS (V3)	2,711,501	A8, A9	-	Military / Nationalist
Nando Moura (V4)	2,338,507	A2, A3, A5, A6, A12	A1	Political Activism / Satirical Humor
Folha Política (V8, V21, V23)	2,157,778	A2, A3, A4, A6, A8, A13, A18	A1, A7	News / Political Activism
Garimpeiro Solitário (V5)	2,050,123	A8	-	Artisanal Mining
Mamaefalei (V16, V24)	1,263,744	A5, A6, A19	A7, A11, A15	Political Activism / Satirical Humor



Adriano - Pedras Preciosas (V6)	1,232,473	A4	-	Artisanal Mining
Fábio Rabin (V7)	1,058,402	A5	-	Humor
Planalto (V9)	957,974	A2, A4, A10, A13	A1	Government
Os Pingos nos Is (V10)	918,959	A2, A3, A4, A5, A10, A12, A13, A18, A19	A1, A14	Opinion Journalism
Cadê a chave? (V11)	863,232	A4, A18	A1, A7, A11, A14, A15, A16, A17	Technology and Pop Culture
MAIONESE (V12)	816,817	-	A11	Humor
Morning Show (V13)	765,374	A2, A3, A4, A5, A8, A9, A10, A19	A1, A7, A14, A15	Opinion Journalism
Canal do Tom Cavalcante (V14)	760,724	A2, A3, A8	-	Humor
Canal Desconfinados (V15)	756,550	A6, A12	A1	Political Humor
CartaCapital (V17)	731,381	A3	A7	Journalism
Vamos falar de História? (V18)	720,743	A9	-	Military / Nationalist
Daniel Alvarenga (V19)	693,777	A3, A5, A6, A12, A13	-	Political Activism / Satirical Humor
ADORADORES NA NET (V20)	671,813	A2, A6, A8, A9	-	Religious
Ficha Social (V22)	586,292	A2, A4, A10	A1, A17	News / Political Activism

Source: Author. Note: Total views include only the sample videos.

In Table 4, it is evident that humor is a widely used rhetorical strategy by militant right-wing channels, such as *Daniel Alvarenga*, *Desconfinados*, *Nando Moura*, and *Mamaefalei*. These channels used humor as a form of mockery to delegitimize political adversaries and minimize the environmental crisis. This approach suggests that humor can make misleading content more acceptable to the public and more difficult to contest.

The channels *Os Pingos nos Is* and *Morning Show*, from the *Jovem Pan* network, lead in the number of disinformational arguments. These two channels exemplify how traditional media can also disseminate disinformation by adopting an aggressive and highly opinionated tone, as seen in videos V10 and V13. Furthermore, the fact that disinformative narratives are broadcast by traditional outlets increases their legitimacy and expands their reach.

The channels *BRAZIL GRAPHICS* and *Vamos Falar de História?*, which focus on exalting the Brazilian Armed Forces, disseminated the idea that international criticism of deforestation was part of a campaign against national sovereignty, diverting focus from the Amazon wildfires. The religious channel *Adoradores na Net* incorporated conspiracy theories in its video (V20), associating French President Macron's criticisms of the wildfires with the idea of a "new global order" led by the Antichrist. This indicates that disinformation can be amplified by religious beliefs, making it even harder to discredit.

Due to their support for the Bolsonaro government - which is widely recognized as far-right (Duarte, 2023; Löwy, 2020; Piovezani, 2021) - as well as their adoption of aggressive discourse and attacks on human rights, nine channels can be classified as far-right: *Folha Política*, *Planalto* (which, as an institutional channel, conducted the official communication of the Bolsonaro government), *Morning Show*, *Nando Moura*, *Mamaefalei*, *Daniel Alvarenga*, *Desconfinados*, *Os Pingos nos Is* and *Ficha Social*. The channels *Nando Moura* and *Mamaefalei* supported Bolsonaro's election but broke with the former president during his term. These nine channels not only disseminated environmental disinformation during the Amazon rainforest crisis but also promoted systematic attacks on democratic institutions and political opponents (MPF, 2023; Intercept, 2018).

Final Considerations

The results of this research demonstrate the predominance of disinformative content on *YouTube* regarding Amazon wildfires and deforestation. The 63.63% proportion of disinformative arguments reveals a concerning scenario, given the urgency of climate change and the need for access to reliable information for



public policy formulation. The findings corroborate previous studies highlighting the strategic use of digital platforms to promote political agendas in contexts marked by disinformation and extremism, especially on the right of the political spectrum (Benkler et al., 2018; Ribeiro et al., 2020; Silverman, 2015).

The analysis demonstrated that disinformation was used as a rhetorical strategy by far-right channels aligned with former president Jair Bolsonaro, aiming to protect his government's image, weaken scientific institutions, and undermine environmental legislation. The Amazon rainforest is often represented by these channels as an "underutilized" economic resource, whose preservation is seen as an impediment to national development. This narrative legitimizes the interests of sectors such as mining and agribusiness while discrediting environmental policies and scientific knowledge that point to the socio-environmental risks of this predatory exploitation model (Rajão et al., 2020).

Most of the disinformative arguments mapped share an attempt to shape public opinion through scientific denialism, minimizing the severity of the fires, questioning official data, and downplaying the impact of human actions on the forest. This denialism articulates with the far-right conception of nationalism, which associates the defense of national sovereignty with the unrestrained exploitation of the Amazon rainforest for economic development.

The federal government itself contributed to the dissemination of disinformation and scientific denialism by publicly questioning INPE data (Angelo, 2019) and attributing, without evidence, responsibility for the wildfires to NGOs and indigenous peoples (Maia, 2019). These official statements, amplified by far-right channels on *YouTube*, reinforced narratives that criminalize indigenous peoples, environmentalists, and social movements, presenting them as internal enemies or obstacles to progress.

The data analysis indicated two particularly concerning trends on *YouTube*: the algorithmic favoring of extremist content, which tends to generate greater engagement, and the fragility of the platform's moderation policies, which are unable to contain the circulation of misleading and conspiratorial videos. This combination contributed to the promotion of narratives that denied the severity of the wildfires, spread conspiracy theories about the internationalization of the Amazon rainforest, and reinforced unfounded accusations against indigenous populations and non-governmental organizations.

This dynamic demonstrates how digital platform algorithms also act as agents in the propagation of disinformation, configuring a communication ecosystem in which misleading content achieves broad visibility. Furthermore, the opacity of recommendation algorithms hinders platform auditing and accountability (Amadeu, 2019), while users are exposed to information bubbles that tend to reinforce pre-existing beliefs (Pariser, 2012). Examples such as the COVID-19 pandemic, where digital platforms were widely criticized for favoring anti-scientific discourses (Massarani et al., 2021), demonstrate that this problem transcends environmental issues, revealing a structural pattern with profound impacts on public debate and democracy.

The negligence of digital platforms in content moderation emerges as a central element of the current informational crisis. *YouTube*, for example, not only fails to demonetize channels that disseminate disinformation (Machado, 2020) but also boosts them through its recommendation algorithms (Gillespie, 2018). Given this scenario, advancing regulatory debates that consider platform responsibility in the circulation of denialist and extremist discourses has become urgent. It is suggested that future research deepens the analysis of mechanisms for algorithmic transparency and more effective moderation policies for digital platforms.

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