

Ideology in Climate Change News: A Scoping Review

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ABSTRACT

This study aims to map and analyze the existing literature on ideology in climate change news, focusing on the geographical distribution of studies, methodological approaches, prevailing themes, and the interaction between media and political discourse. The review seeks to identify gaps in current research, particularly concerning under-represented regions and ideological framings in developing nations, to lay the groundwork for future investigations in this field. The ideological framing of climate change news plays a crucial role in shaping public perception and influencing policy discussions. However, most current studies predominantly focus on developed countries, especially the United States, while neglecting perspectives from developing regions. Although some research investigates ideologies in climate change news, there remains a limited understanding of how these ideological narratives differ among countries. This scoping review addresses these gaps by synthesizing existing evidence and proposing areas that require further investigation. The inclusion criteria for this assessment are designed to ensure a thorough and rigorous examination of ideology in climate change news, restricting the evaluation to original research published in peer-reviewed journals. The findings indicate that the ideology in climate change news is closely linked to politics but varies significantly across different countries. For example, in Finland, modern media, nationalism, and responsibility for carbon emissions are increasingly interconnected. In contrast, studies on climate change news in the United States primarily focus on the impact of partisanship on ideology. Overall, there is a limited body of literature related to ideologies in climate change news, with most articles acknowledging an incomplete sample and focusing on a single country. Future research should expand to a more cross-cultural context and employ more comprehensive and advanced content analysis methods.

Keywords: scoping review, ideology, climate change, COP

INTRODUCTION

The accumulation of greenhouse gas emissions is threatening the Earth's surface. To address climate change promptly, it is essential to engage in political and societal efforts. Understanding the beliefs and attitudes of different social and political groups can help navigate the political landscape and address distant, often intangible policy options related to climate change.

The news media serve as a crucial source of information about the politics of climate change and play a major role in shaping public perceptions of this issue [4]. Various media outlets present diverse perspectives on politics and climate change. There has been a notable increase in environmental research in the communication discipline. The term "climate change" is the most frequently used keyword in environmental communication research, underscoring its importance in this field [8]. Despite this growth, studies related to ideological perspectives are still limited. Given the increasing significance of climate change as a threat to global well-being, it is a pivotal moment for communication scholars to engage the public [6]. Therefore, it is timely to review the focus of climate change ideological research. A systematic examination can reveal the areas that require more attention and shed light on future research directions [5].

In their study on scoping reviews, [1] identify four main reasons researchers might conduct such reviews.

The goals include evaluating the scope and nature of research activities, determining the need for a systematic review, summarizing and disseminating research findings, and identifying potential gaps in the existing literature. This article utilizes an in-depth review methodology to assess research findings and draw conclusions from current literature. This approach can help identify gaps in the evidence base where research is lacking and highlight the relevance of conducting a systematic review.

METHODS

The methodology for this scoping review follows the five-stage framework established by [1], which emphasizes a systematic and transparent process. This methodology not only facilitates the replication of the search strategy but also enhances the reliability of the study's findings. The five stages of the [1] framework include: (1) identifying the initial research questions, (2) identifying relevant studies, (3) selecting the studies for review, (4) charting the data, and (5) summarizing and reporting the results. This review synthesizes studies on the ideology present in climate change news. It is also guided by the principles of the PRISMA extension for scoping reviews and the JBI guidelines.

Scoping review research questions

This review focuses on exploring the ideologies reflected in climate change news across various media platforms. To ensure a comprehensive range of literature related to this topic was captured, the following initial research questions were posed:

1. What ideological perspectives are commonly represented in climate change news across different countries?
2. What ideological perspectives are present in UN climate change news?
3. What methodologies have been used to analyze ideological framings in climate change news, and what are their strengths and limitations?

Identifying relevant studies

According to [1], using a broad definition of key terms when conducting searches is advisable to gain a comprehensive understanding of the available literature. Key concepts and search terms were selected to capture literature related to various ideological perspectives, ideologies across different countries, and the methodologies employed in the studies. A news specialist and university researcher in the field contributed to improving the keywords. His input was valuable in refining the key search terms and identifying the most relevant databases likely to yield the desired results. Table 1 outlines the descriptive key search terms created to facilitate the search.

Table 1 Keywords for search terms

Search terms
("climate change" OR "global warming" OR "environmental crisis") AND ("News" OR "media discourse" OR) AND (Ideology)

To comprehensively identify primary studies, we established specific inclusion and exclusion criteria. While the review focused on literature published between 2020 and 2024, we also included relevant studies from 2019 as supplementary material. A complete list of these criteria is provided in Table 2.

Table 2 Inclusion and exclusion criteria

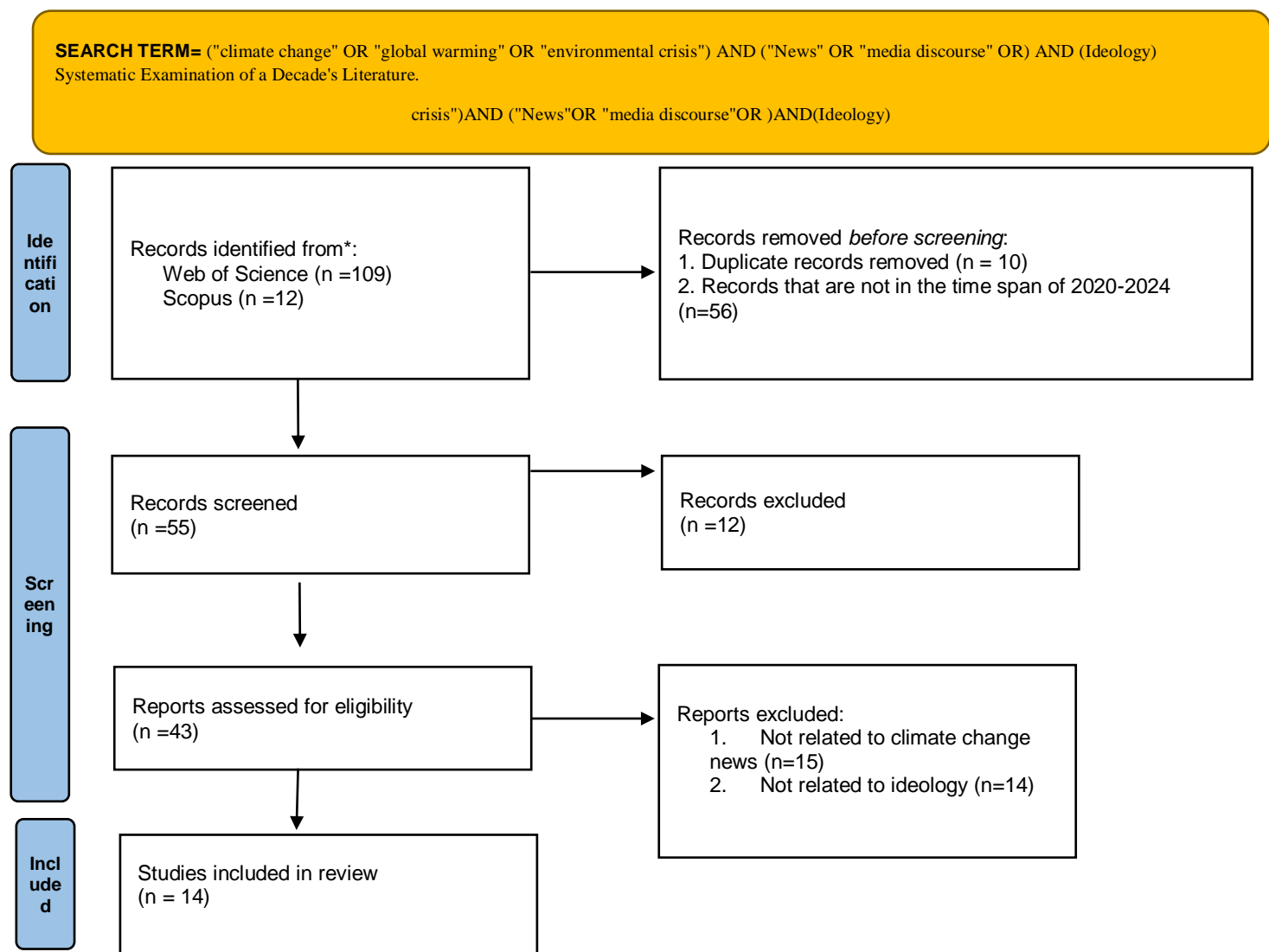
Criterion	Inclusion	Exclusion
Time span	2020-2024	Studies outside the time span
Language	English	Non-English studies

Type of article	original research, published in a peer-reviewed journal	Articles that were not original research or peer-reviewed
Study Focus	the ideology in climate change news	others
Topic Relevance	Studies on public perceptions, scientific communication, or education without media ideology focus.	Studies on public perceptions, scientific communication, or education without media ideology focus.

The databases Scopus and Web of Science were searched. Additionally, a manual examination of the reference lists from the identified articles was conducted. The literature evaluation was completed in December 2024, following a two-month period.

Selecting relevant studies

Using the key search terms, 121 articles were identified. According to the inclusion and exclusion criteria, articles that did not fall within the specified time frame were removed. A review of the abstracts revealed a large number of irrelevant articles, particularly those that only briefly mentioned climate change. Additionally, a substantial number of articles were excluded from the search due to duplication in the two databases. Ultimately, 14 articles were included in this review. The PRISMA Statement [17] guided the article selection process. The article selection procedure is illustrated in Fig. 1.



Note: Search process was done on 31 Dec. 2024

Fig.1 PRISMA flow diagram for article selection

Data charting and collation

The fourth stage of [1] scoping review framework involves charting selected articles. For each article, we created summaries that included the author, year of publication, location of the study, research methods, and key findings. A detailed list of the studies included in this review is presented in Table

Table 3 The summary of the articles

Title	Authors	Year	Location	Methodology	Main findings
The moderating role of interest in politics and news consumption in the relationship between political ideology and beliefs about science and scientists in the United States	[13] Bruce W Hardy, Meghnaa Tallapragada	2021	U.S.	This study analyzed data from three nationally representative surveys in the U.S. to explore the relationship between political ideology and beliefs about science and scientists. It also examined how political interest and news consumption influence this relationship while controlling for various sociodemographic factors.	<ol style="list-style-type: none"> 1. Political ideology is closely linked to individuals' beliefs about scientists and science, with liberals generally holding more positive views than conservatives. 2. The consistency of the results across three nationally representative surveys adds confidence to the findings, despite some limitations in the available variables. 3. The relationship between political ideology and beliefs about science is influenced by interest in politics and news consumption, with the positive correlation being stronger among liberals compared to moderates and conservatives.
Coal versus coral: Australian climate change politics sees the Great Barrier Reef in court	[18] Claire Konkes, Cynthia Nixon, Libby Lester, Kathleen Williams	2021	Australia	A combination of content analysis, critical discourse analysis, and semi-structured interviews.	<ol style="list-style-type: none"> 1. This paper analyzes how the Australian news media portrayed public-interest environmental litigation aimed at addressing climate change, focusing specifically on the 2015 case initiated by the Australian Conservation Foundation (ACF) against the Carmichael coal mine. 2. The media coverage predominantly framed the ACF's legal challenge as merely an "activist tactic," rather than viewing it as a genuine effort to halt a large project and reform Australia's environmental laws. 3. The selection of sources and quotes used by journalists contributed to this framing, which in turn diminished the urgency of addressing climate change.

Title	Authors	Year	Location	Methodology	Main findings
Carbon footprint nationalism': re-conceptualizing Finnish nationalism and national pride through climate change discourse	[25] Juha Ridanpää	2022	Finland	Critical discourse analysis.	<ol style="list-style-type: none"> 1. The media in Finland has developed a narrative that combines the moral discussion about responsibility for carbon footprints with a nationalistic perspective and a sense of national pride. 2. The media has connected the myth of ancient Finnish roots to the current conversation about climate change, fostering a new form of national pride. 3. The media has employed banal nationalism as a framework for discussing carbon footprint responsibility, intertwining it with concepts of national responsibility and pride.
Categorizations of developed and developing countries in UN news on climate change	[27] Guofeng Wang, Ming Liu, Yihang Xin	2022	UN	<ol style="list-style-type: none"> 1) Collect English-language UN news articles on climate change from the UN News website, covering the period from 2015 to 2020. 2) Apply Latent Dirichlet Allocation (LDA) topic modeling to identify the main themes within the collected corpus. 3) Analyze the linguistic patterns and representations of "developed countries" and "developing countries" in the corpus using AntConc software. 	<ol style="list-style-type: none"> 1. The UN news on climate change portrays developed countries as financial supporters and developing countries as recipients of those funds. 2. This representation of developed and developing countries reflects the post-World War II world order and the UN's core value of humanitarianism. 3. To address the issue of inadequate financial support for developing countries, it is suggested that provisions for assistance be included in the Nationally Determined Contributions of developed countries.
Major Media Outlets and Climate Change Action: Comparing US Media Coverage of the Green New Deal	[2] Shumaila Bhatti, Bridget Jones, Saahitya Uppalapati, Silje Kristiansen	2021	U.S.	A quantitative study.	<ol style="list-style-type: none"> 1. Fox News displayed considerably more negative coverage of the Green New Deal (GND) compared to CNN, which offered a more balanced or positive perspective. 2. Fox News emphasized doubts about the feasibility and cost of the GND, employing skeptical and exaggerated language, while CNN took a different approach. 3. Both media outlets showed signs of politically polarized coverage regarding the GND.

Title	Authors	Year	Location	Methodology	Main findings
Political ideology and information technology in government online communication	[11] Nic Depaula	2022	U.S.	Qualitative analyses of the discussions related to important topics, policies, and issues.	<p>1. The political ideology of the agency administrator influenced the information and communication provided by the EPA. The more liberal McCarthy administration focused more on climate change and environmental protection, while the more conservative Pruitt administration did not prioritize these topics as highly.</p> <p>2. The differences in information sharing were more noticeable on Twitter than on the EPA's website, likely due to the fast-paced nature and popularity of social media.</p> <p>3. There were indications that the EPA under the Pruitt administration may have experienced a form of "regulatory capture," where the agency's communications and priorities shifted away from its core mission of environmental protection and began to align more closely with the interests of regulated industries.</p>
Ideological biases in social sharing of online information about climate change	[7] Tristan J B Cann, Iain S Weaver, Hywel T P Williams	2021	U.S.	Identifying clusters of densely interconnected URLs shared by similar users through community detection on bipartite networks.	<p>1. There is a strong correlation between political ideology and beliefs about climate change, with right-wing skeptics and left-wing environmentalists forming distinct clusters within the information-sharing network.</p> <p>2. The information-sharing network displays a polarized structure, featuring a large left-wing environmentalist cluster and a smaller right-wing skeptic cluster.</p> <p>3. This polarized structure of the network remains consistent over time, even with changes in specific users, articles, and news sources being shared.</p>

Title	Authors	Year	Location	Methodology	Main findings
Polarization vs consensus-building: How US and German news media portray climate change as a feature of political identities	[26] Robin Tschötschel	2021	Germany and the US.	a two-stage qualitative coding approach to analyze a corpus of news articles from six different media outlets in Germany and the US.	<ol style="list-style-type: none"> 1. There is a strong correlation between political ideology and beliefs about climate change, with right-wing skeptics and left-wing environmentalists forming distinct clusters within the information-sharing network. 2. The information-sharing network displays a polarized structure, featuring a large left-wing environmentalist cluster and a smaller right-wing skeptic cluster. 3. This polarized structure of the network remains consistent over time, even with changes in specific users, articles, and news sources being shared.
Is There a "Green Moral"? How Young People's Moral Attributes Define Engagement with Narratives about Climate Change	[10] Edson Capoano, Alice Dutra Balbé, Pedro Rodrigues Costa	2024	Brazil and Portugal	<ol style="list-style-type: none"> 1. Collect tweets about environmental news using a Twitter API tool and filter them for relevant keywords. 2. Analyze the moral foundations expressed in the comments using the Moral Foundations Dictionary. 3. Conduct an online survey utilizing the Moral Foundations Questionnaire, adapted for environmental issues. 	<ol style="list-style-type: none"> 1. The moral attributes of Care/Harm and Authority/Subversion played a significant role in shaping the environmental debate on Twitter among young people in Brazil and Portugal. 2. In individual responses, the moral attributes of Care/Harm and Fairness/Cheating were the most prominent among young people in Brazil and Portugal. 3. Political ideology influenced how individuals perceived environmental issues, with left-leaning individuals showing greater concern for the environment, particularly through the moral attributes of Care/Harm and Fairness/Cheating.

Title	Authors	Year	Location	Methodology	Main findings
Unpacking the right-populist threat to climate action: Poland's pro-governmental media on energy transition and climate change	[28] Piotr Żuk, Kacper Szulecki	2020	Poland	A qualitative analysis approach that combines discourse analysis based on Ernesto Laclau's framework with rhetorical and eristic analysis to examine right-wing populist discourse on climate and energy policy in Poland.	<ol style="list-style-type: none"> 1. Right-wing populist discourse in Poland presents climate action and the clean energy transition as threats to national sovereignty and the interests of the "true Polish people." 2. This discourse shifts the discussion on climate change and energy policy from a scientific and rational perspective to one dominated by ideology, conspiracy theories, and unfounded myths. 3. Environmentalists and advocates for clean energy are depicted as "enemies within" who prioritize foreign interests over the well-being of Polish national interests.
A Comparative Analysis of American and Chinese News Media Coverage of Climate Change Issues over the Period 2007-2015	[17] Won Y Jang, Edward Frederick, Eric Jamelske, Wontae Lee, Youngju Kim	2021	China and the U.S.	Quantitative content analysis	<ol style="list-style-type: none"> 1. The Chinese news agency Xinhua published more stories about climate change than the U.S. news agency AP during the period from 2007 to 2015. 2. The two news agencies framed climate change differently: AP was more likely to focus on domestic politics, consequences, and current weather, while Xinhua more frequently highlighted international relations and economics. 3. AP utilized a broader range of sources, including environmental groups, academics, citizens, and industry representatives, whereas Xinhua relied more heavily on government sources.

Summarizing and reporting findings

The findings are summarized and presented in the fifth stage of [1] scoping review framework.

FINDINGS

This scoping review included 14 articles analyzing climate news discourse from nine countries and the United Nations. Among these countries, six were developed, and three were developing. Notably, the U.S. climate news discourse was the most prominent, appearing in eight articles, while the climate news discourse from the other countries and the United Nations each appeared in only one article. There was a significant lack of literature from developing countries. In this section, we aimed to present the articles relevant to our initial research questions. These articles discussed various topics, including the different ideological perspectives presented in different countries, the ideological frameworks in UN climate change news studies, and the methodologies employed in these analyses.

The ideological presentation of climate change news in different countries

Research on climate change news coverage across various countries reveals significant variations in framing

and narratives. The theories of climate change were first noted in media coverage during the 1970s; however, social and political attitudes toward these theories have transformed over time. Climate change has emerged as a critical geopolitical issue and is a complex collection of power dynamics and knowledge.

According to recent research [16], political orientation substantially impacts perspectives regarding climate change in the United States. Liberal and conservative political ideologies primarily influence how climate change is covered in the media. Left-leaning and right-leaning news outlets in the United States often exhibit political parallelism, resulting in divergent and politically polarized coverage of climate-related issues. This polarized media coverage has, in turn, affected public opinion on the matter, leading to a politically divided electorate [2]. Additionally, the structure of this polarization has persisted over time [7]. Research shows that political ideology correlates significantly with beliefs and evaluations of scientists and science, with liberals generally holding more positive views than conservatives in the U.S. [11]. The divide between conservatives and liberals has led to a media focus on debates surrounding climate change, criticism of policies, and the potential negative impacts on the climate associated with maintaining economic output.

In other developed countries, the ideological positions of conservative news outlets, such as those in Australia and elsewhere, have resulted in a noticeable silence on the issue of climate change. In Finland, nationalist ideologies combined with a sense of national pride have also influenced public discourse regarding climate change. Consequently, the news media serves as a critical source of information about climate change politics and plays a significant role in shaping public perceptions of the issue.

In developing countries, news coverage of climate change is also often linked to political ideology. For example, in Poland, right-wing populist rhetoric has prioritized national interests and energy independence over international cooperation on climate change. In China, media narratives align closely with government positions, emphasizing the economic implications and costs associated with addressing climate change.

Overall, ideological perspectives in the news coverage of UN climate change issues have also been observed, with varying frameworks and narratives emerging across different countries.

The ideological perspectives in the UN climate change news

The UN climate change news report clearly distinguished between developed and developing countries. Developed countries were depicted as the dominant, responsible agents, expected to provide financial and technological support to developing countries, which were portrayed as vulnerable and reliant. This representation reflects the existing post-World War II world order, where industrialized nations have held a dominant position. It also aligns with the UN's core value of humanitarianism, which emphasizes that the developed world should assist the developing world.

The methodologies to study the ideologies in climate change news

Half of the 14 articles reviewed utilized qualitative analysis methods, while the other half employed quantitative research methods. The qualitative research methods involved a combination of various theories. For example, a mix of content analysis, critical discourse analysis, and interviews was used to examine climate change news. Critical discourse analysis can also be utilized independently, as “ideology” is one of its primary focuses. A qualitative coding approach was employed to identify political identities and various groups. To compare different climate change news reports, [13] was applied. This model illustrates how different countries' governments and power structures can exert varying influences on their media systems, resulting in distinct framing by the two news agencies. Thematic and frame analyses were particularly prevalent in studies focused on news reporting about climate change [21].

On the other hand, quantitative content analysis was used to identify key themes in coverage and to explore the relationship between politicization and science. Statistical methods were employed to examine differences in coverage between media outlets and to analyze the information-sharing network. Questionnaires were utilized to investigate environmental issues. Additionally, correlation analysis was performed to evaluate the

association between political ideology and environmentalist or skeptic climate perspectives, revealing a significant relationship.

DISCUSSION

In this section, we summarize and present our discoveries to provide a comprehensive overview of the current understanding of the ideologies surrounding climate change news. Additionally, we aim to identify significant gaps in the existing literature.

The focus of ideologies in climate change news

Significant variations in the ideological focus and framing of climate change news coverage have been observed across different nations. Generally, the dominant ideology within a society influences how news discourse is formulated, and this discourse reinforces the existing ideologies. The construction of group categorization is inherently infused with ideology.

In UN news reporting, climate change is often depicted as a complex issue that encompasses environmental, economic, and socio-political elements. It is portrayed as a common challenge that requires collaboration between developed and developing countries. Furthermore, the relationship between these two groups is often framed as a dichotomy between financial benefactors and fund receivers.

The alignment between news media and government discourse varies from country to country. In the United States, the politics surrounding climate change are highly polarized, exacerbating preexisting divisions. In Latvia, reports primarily focus on recognition and international cooperation regarding climate change, with the media only partially reflecting official political narratives that emphasize the opportunities presented by climate change. In contrast, China's media often relies heavily on government sources and propaganda when reporting on climate change. While U.S. media also draws from government sources, it tends to seek opinions and perspectives from a broader range of sources.

The gaps in the present studies

Currently, climate change communication research mainly focuses on public knowledge and beliefs regarding the issue. This indicates that most studies aim to identify the factors influencing public engagement and understanding of climate change, as well as the elements that shape beliefs in its validity and ways to alter those beliefs. Our scoping review revealed that there are still relatively few articles analyzing ideology in climate change news, and even fewer that examine this aspect in the context of developing countries. Policies, research, and communication regarding climate change are often dominated by developed countries, which leads to a neglect of studies from developing nations.

Furthermore, many of the articles reviewed mentioned the limitations of their samples, often focusing on a single country. Future research should expand to include a more cross-cultural context and employ more detailed and sophisticated content analysis methods. Additionally, further studies are needed to conduct comparative content analyses of different partisan media outlets.

CONCLUSION

A search of the Web of Science and Scopus databases over the past five years shows that studies on the ideology in climate change news have been relatively limited. Most existing research focuses on developed countries, particularly the United States, while largely overlooking climate change news in developing countries. This imbalance emphasizes the need for greater inclusivity in future research to better understand global ideological perspectives.

Regions such as Africa, South Asia, and Latin America play significant roles in climate governance yet remain

underexplored in the literature. Including studies from these areas could provide a more diverse and comprehensive understanding of how climate change is framed and discussed worldwide.

In United Nations climate change discussions, developed countries are often seen as the primary providers of climate funding, leading to the expectation that they should take on a more significant role in climate governance. While the ideological focus of research may vary across different countries' climate change news, most studies are closely related to political factors. Future research should actively seek to include studies from underrepresented regions to address these gaps. This approach would ensure a more balanced and inclusive perspective on the ideological dimensions of climate change news, contributing to a richer, more nuanced understanding of how climate change is framed across diverse sociopolitical and economic contexts.

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