

ARTICLE

Metaphorical Framing of Natural Disasters in Media Discourse

Assel Tanatkanovna Nurgazina ^{1*} , Natalya Viktorovna Mongilyova ¹ , Gulnar Kulmukhambetovna Ismagulova ² 

¹ Faculty of Social Sciences and Humanities, Akhmet Baitursynuly Kostanay Regional University, Kostanay 110000, Kazakhstan

² Department of Foreign Philology, L.N. Gumilyov Eurasian National University, Astana 010000, Kazakhstan

ABSTRACT

Amidst escalating climate threats and the increasing frequency of natural disasters, media discourse has become a central arena for shaping public risk perception, mobilization strategies, and collective responses. Metaphor serves as a key cognitive and discursive instrument for meaning construction, framing interpretation, and embedding culturally resonant models of perception. The analysis of metaphorical framing provides insight into the mechanisms of crisis communication, environmental rhetoric, and collective sense-making. This study examines and systematizes metaphorical frames in English-language media discourse on natural disasters. The corpus comprises BBC and Voice of America texts (2023–2024) covering wildfires and floods, thus enabling a symmetrical comparison of British and American media ecosystems. The theoretical foundation integrates conceptual metaphor theory, frame semantics, critical discourse analysis, and Critical Metaphor Analysis (CMA). The methodology combines corpus-based procedures (frequency, collocational, and contextual analysis in AntConc) with the MIPVU protocol for metaphor identification, ensuring reliability through corpus symmetry and inter-annotator verification. The study introduces the concept of a “frame index” – a quantitative metric for assessing metaphorical intensity thereby expanding the methodological repertoire of cognitive-discursive analysis. The research aims to identify the dominant types of metaphorical framing of natural disasters, describe their cognitive-discursive functions, and trace their variation across media platforms and disaster types. The findings contribute to the advancement of cognitive

*CORRESPONDING AUTHOR:

Assel Tanatkanovna Nurgazina, Faculty of Social Sciences and Humanities, Akhmet Baitursynuly Kostanay Regional University, Kostanay 110000, Kazakhstan; Email: nurgazinaassel88@gmail.com

ARTICLE INFO

Received: 16 September 2025 | Revised: 5 October 2025 | Accepted: 10 October 2025 | Published Online: 12 November 2025
DOI: <https://doi.org/10.30564/fls.v7i12.12127>

CITATION

Nurgazina, A.T., Mongilyova, N.V., Ismagulova, G.K., 2025. Metaphorical Framing of Natural Disasters in Media Discourse. *Forum for Linguistic Studies*. 7(12): 835–855. DOI: <https://doi.org/10.30564/fls.v7i12.12127>

COPYRIGHT

Copyright © 2025 by the author(s). Published by Bilingual Publishing Group. This is an open access article under the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License (<https://creativecommons.org/licenses/by-nc/4.0/>).

linguistics and media discourse analysis and hold practical value for enhancing environmental communication, media education, and editorial standards in reporting climate risks.

Keywords: Metaphorical Framing; Media Discourse; Cognitive-Discursive Analysis; Environmental Communication; Corpus-Based Analysis

1. Introduction

In an era of escalating climate instability and increasingly frequent natural disasters, media discourse has become a decisive arena for constructing public awareness, shaping emotional engagement, and directing collective responses to environmental crises. Modern media no longer function as neutral transmitters of factual information about natural hazards; instead, they act as active producers of meaning. Through specific linguistic and cognitive mechanisms, they create interpretative frameworks that determine how societies perceive, evaluate, and react to climate-related threats. Among these mechanisms, metaphor plays a central role. It does not merely embellish discourse but serves as a fundamental cognitive instrument that organizes experience, guides interpretation, and embeds cultural values within communicative practice. Metaphorical framing transforms disasters into recognizable conceptual scenarios – an enemy to be fought, a punishment to be endured, a battle to be won, a force of nature beyond control, or even a living being with agency. These metaphorical projections directly influence how audiences interpret danger, assign responsibility, and anticipate institutional or societal responses.

The urgency and relevance of the present research derive from the critical role of global media in shaping ecological awareness and public discourse surrounding natural disasters. As climate emergencies become both more intense and more widely mediated, there is a growing necessity to understand how linguistic framing constructs social reality and directs behavioral responses. The English-language media sphere – with its global reach and discursive authority – sets dominant interpretative patterns that often circulate transnationally. Therefore, a systematic study of metaphorical framing within this context acquires not only theoretical but also communicative and ethical importance for the field of environmental linguistics and crisis communication.

Despite the vast corpus of research on conceptual metaphor and framing theory, several conceptual and method-

ological gaps persist. First, a considerable number of studies tend to isolate specific metaphorical models for instance, war, medical, or religious metaphors – without analyzing how such models interact within a broader systemic framing structure. Second, comparative research remains limited: few studies juxtapose different media ecosystems, particularly British and American outlets, which often embody contrasting cultural, institutional, and ideological logics. Third, while digital media increasingly mediate public experience of disasters, the mechanisms of metaphorization in online formats remain underexplored, even though they introduce new multimodal and semiotic dimensions. Finally, within Kazakhstani scholarship, cognitive-discursive approaches are actively developing, yet the metaphorical framing of natural disasters in media discourse has been addressed only sporadically and without a unified methodological foundation.

The scientific novelty of this study lies in its comprehensive and empirically grounded comparison of metaphorical frames in English-language media texts from BBC News and Voice of America (2023–2024). For the first time, a symmetrically structured corpus has been compiled around two contrasting disaster types – wildfires and floods – reflecting the “fire–water” dichotomy that underpins many cultural representations of nature. The research integrates several complementary theoretical and methodological frameworks: Conceptual Metaphor Theory (CMT), Frame Analysis, Critical Discourse Analysis (CDA), and Critical Metaphor Analysis (CMA). The introduction of the quantitative “frame index” enables the operational measurement of metaphorical intensity across corpora, expanding the methodological precision of cognitive-discursive studies and ensuring replicability.

The aim of the study is to identify and describe the dominant types of metaphorical framing of natural disasters in English-language media discourse and to determine their cognitive-discursive functions, pragmatic implications, and variation depending on the type of disaster and the institutional media context. To achieve this aim, the following

research objectives were formulated:

- To compile a balanced corpus of BBC and VOA media texts on wildfires and floods (2023–2024).
- To identify the dominant frames and their lexico-semantic markers.
- To conduct quantitative and qualitative analyses of frame distribution and metaphorical intensity.
- To compare the results across media platforms and disaster types.
- To interpret the observed differences in terms of cultural cognition, editorial strategies, and audience orientation.

The central research question guiding this study is: *What cognitive and discursive strategies of metaphorical framing dominate in the media texts of BBC and VOA, and how do they differ depending on the type of disaster and institutional media culture?*

Addressing this question allows us to uncover how metaphorical and framing mechanisms mediate the understanding of environmental threats and to reveal the deeper cultural codes underlying these interpretative practices. The study thus combines theoretical significance by advancing the integrative methodology of cognitive-discursive analysis with practical relevance, offering insights for the development of more responsible and effective strategies of risk communication, environmental education, and climate awareness within global and local media systems.

2. Theoretical Framework

2.1. Conceptual and Methodological Foundations of Metaphorical Framing

The issue of metaphorical framing of natural disasters is grounded in fundamental cognitive and discursive theories that conceptualize language as a tool for structuring and interpreting human experience. The theoretical basis of this study integrates several interrelated approaches – Conceptual Metaphor Theory, Frame Semantics, Framing Theory, and Critical Discourse Analysis – unified within the framework of Critical Metaphor Analysis.

The classical foundation of the cognitive paradigm was laid by George Lakoff and Mark Johnson, who, in *Metaphors We Live By*^[1], first substantiated metaphor as a universal

cognitive mechanism shaping conceptual models of world perception. They argued that metaphor is not an ornament of speech but a fundamental means of mental modeling through which abstract categories are understood via concrete experience. In *Women, Fire, and Dangerous Things*^[2], Lakoff further developed prototype and categorization theory, showing that metaphorical organization of semantic space reflects culturally embedded modes of structuring knowledge. These ideas formed the core of cognitive linguistics and laid the groundwork for subsequent studies of metaphor as an interpretative frame.

An essential complement to this model was Charles Fillmore's *Frame Semantics*^[3], which views frames as stable cognitive structures that determine interpretative contexts of linguistic units. Each word, according to Fillmore, activates an entire scenario – a network of knowledge, expectations, and role relations – enables a systematic account of discourse semantics. The convergence of Lakoff's and Fillmore's ideas produced the modern understanding of metaphor as a cognitive frame that structures experience and determines ways of representing events, including natural disasters.

A major contribution to framing theory was made by Erving Goffman and Robert Entman. In *Frame Analysis*^[4], Goffman defined frames as “organizational principles of experience,” allowing individuals to interpret reality through culturally established scenarios. Entman, in *Framing: Toward Clarification of a Fractured Paradigm*^[5], specified framing in media discourse as the “selection and highlighting of aspects of reality” to promote particular interpretations of events. These approaches provided the methodological foundation for analyzing media representations of disasters, where frames construct the social significance of phenomena.

Modern interpretations of metaphor and framing have been further developed within Critical Discourse Analysis (CDA), as represented by Ruth Wodak and Michael Meyer^[6], Teun A. van Dijk^[7,8], and Norman Fairclough^[9]. Wodak and Meyer conceptualize CDA as a method for examining the interplay of language, power, and ideology, uncovering implicit social and power relations embedded in discourse. Van Dijk advances a socio-cognitive approach, treating discourse as an interface between social structures and individual cognition, while Fairclough emphasizes the analysis of interactions among text, discursive practice, and social practice.

Collectively, these approaches allow the metaphorical frame to be interpreted not only as a cognitive construct but also as an ideological one shaping evaluative and political emphases in disaster representation.

A crucial development within the critical paradigm was Jonathan Charteris-Black's Critical Metaphor Analysis (CMA)^[10], which systematically integrated cognitive and rhetorical dimensions of metaphor within a unified analytical framework. He proposed a three-level model – cognitive, rhetorical, and pragmatic – to identify the ideological function of metaphor and its persuasive role in influencing audiences. CMA effectively bridges Lakoff's conceptual metaphor theory with the critical discourse perspectives of Wodak and van Dijk, transitioning from describing mental structures to interpreting the socio-pragmatic consequences of linguistic choice. In media discourse, particularly regarding natural disasters, this approach elucidates how metaphorical constructions not only reflect but also shape collective perceptions of threat and responsibility. Further development of this integrative perspective can be observed in the works of Christopher Hart^[11] and Veronika Koller and Elena Semino^[12], who propose a cognitive-discursive model combining corpus linguistics, cognitive semantics, and critical discourse analysis. Hart argues that synthesizing cognitive and functional-grammatical tools reveals ideological implications of linguistic structures, while Koller and Semino demonstrate that metaphors and frames in political and media discourse function as mechanisms for shaping public attitudes, especially in times of crisis.

Hence, the integration of Conceptual Metaphor Theory, Frame Semantics, Framing Theory, Critical Discourse Analysis, and Critical Metaphor Analysis forms the methodological foundation of the present study. This synthesis enables systematic investigation of metaphorical frames as cognitive-discursive units connecting language, thought, and social reality. In analyzing media representations of natural disasters, the approach allows both the description of metaphorization mechanisms and the identification of cognitive models underlying public perceptions of threat and response. The present study is the first to integrate Conceptual Metaphor Theory (CMT), Critical Discourse Analysis (CDA), and Critical Metaphor Analysis (CMA) into a unified methodological system, where cognitive framing principles are combined with critical-discursive strategies for interpret-

ing media meanings.

2.2. Contemporary Empirical Research on Metaphorical Framing

Recent empirical studies convincingly demonstrate that metaphors and frames in media discourse do not simply describe natural disasters but actively construct the social meanings of threat, shaping emotional and behavioral responses. The scholarly focus has shifted from describing metaphorical models to examining their influence on risk perception, public mobilization, and political behavior.

A central research direction concerns how metaphorical framing defines the cognitive interpretation of danger. Hauser and Fleming^[13] found that antagonistic metaphors, such as nature attacks or battling the storm, amplify perceptions of threat and reinforce support for stricter protective policies. Their experiments confirmed that aggressive metaphorical language increases readiness for preventive actions while simultaneously heightening anxiety and reinforcing beliefs in nature's uncontrollable power. Similarly, Vinnell, Milfont, and McClure^[14] demonstrated that even the terminological distinction between hazard and disaster results in different behavioral models: the former evokes prevention, whereas the latter elicits reaction. These findings highlight the high sensitivity of public consciousness to linguistic formulations of risk and the necessity of accounting for metaphorical structures in communication strategies.

Several studies emphasize the mobilizing function of metaphor in disaster communication. Depoux et al.^[15] demonstrated that framing climate-related risks through collective responsibility and solidarity enhances public engagement and strengthens preparedness initiatives. Badullovich, Grant, and Colvin^[16] conducted a large-scale mapping of climate rhetoric, showing that positively connoted metaphors oriented toward global cooperation build public trust and strengthen environmental policy support. Together, these works mark a paradigmatic shift from the traditional rhetorical role of metaphor to its instrumental function in managing public perception. Studies on war and crisis metaphors hold a special place. Blankshain, Glick, and Lupton^[17] demonstrated that war metaphors can simultaneously mobilize collective action and foster fatalistic attitudes. Musolff^[18], analyzing ironic and satirical "warfare" rhetoric in pandemic discourse, concluded that reinterpreting such metaphors can

mitigate anxiety and foster cognitive reevaluation of crises. Semino^[19] found that reframing “soldiers” as “firefighters” shifts the discourse from confrontation to cooperation and solidarity. Likewise, Brugman et al.^[20] proved that perceptions of risk depend on whether metaphors of struggle, healing, or recovery are employed. Feifei^[21], analyzing visual metaphors in pandemic news, identified three universal patterns – WAR, FAMILY, and SPATIAL – that structure emotional and spatial schemas of collective response. Collectively, these studies show that the metaphorical architecture of crisis discourse not only mirrors but also shapes behavioral scenarios, normalizing specific forms of social action.

Research on the framing of natural disasters and environmental risks further extends this perspective. Groff^[22] revealed that media narratives surrounding global smoke plumes and wildfire events shape collective cognitive models of danger, transforming environmental catastrophe into a symbol of planetary interdependence. Shellington et al.^[23] demonstrated that employing a public health frame in media communication about wildfire smoke enhances public engagement and promotes responsible environmental behavior. Karyotakis and Lo^[24], analyzing 241 media articles on the Evros wildfires in Greece, revealed that the political ecology of disaster is shaped by metaphorical choices: framing fire as an “enemy” fosters militarization, whereas framing natural recovery foregrounds humanitarian discourses. Jacobson et al.^[25] noted that journalists, politicians, and activists construct competing interpretations of risk, producing “semantic collisions” of frames. Dasandi, Graham, and Hudson^[26] further showed that appeals to global health and ecological solidarity strengthen climate policy support by linking individual action with collective welfare.

A synthesis of these studies traces the evolution of metaphor from a rhetorical device to a core cognitive mechanism governing social management of risk perception. While earlier works merely documented metaphorical activity, contemporary research conceptualizes metaphor as a mode of conceptual modeling that influences decision-making, mobilization, and collective solidarity. Thus, metaphor and frame emerge as strategic tools of discursive regulation: through them, media not only describe disasters but construct a symbolic order defining culprits, heroes, responses, and moral responsibility.

2.3. Expanding Contexts: Digital Media, Transnational Narratives, and Climate Discourse

The current stage of research on natural disaster framing reflects a clear shift from local print media toward digital and transnational platforms, mirroring the transformation of risk communication in a globalized world. Media discourse now functions within a networked environment where national and international boundaries blur, and metaphors and frames emerge as “circulating structures” shaping global perceptions of climate risk.

Torricelli, Falkenberg, and Galeazzi^[27] demonstrated that large-scale events such as hurricanes trigger surges of online discussion on climate change, particularly on Twitter. Their findings show that the digital environment not only accelerates the spread of metaphorical patterns but also fosters their intertextual transformation, creating a shared field of public meaning-making around disasters. Vikström et al.^[28] revealed that national media construct “climate futures” through three dominant frames – catastrophic, mobilizational, and ethical. These frames do not simply reflect scientific debates but establish moral coordinates for interpreting risk, reinforcing narratives of planetary responsibility. Thus, the digital ecosystem becomes both an information space and an arena for cultivating a global “politics of empathy” toward natural threats. Cody and colleagues^[29] traced the evolution of climate discourse across time and ideology, noting a shift in U.S. media coverage from economic and energy frames during Hurricane Katrina to ecological and moral ones during Hurricane Sandy – a sign of growing awareness of the nexus between disasters and sustainable development. Cox^[30], applying Critical Discourse Analysis to wildfire coverage, showed that the media not only inform but legitimize ideological positions, often contrasting the “responsible state” with the “irresponsible citizen.” Similarly, Stecula and Borah^[31] argued that popular climate discourse generates an ideology of collective guilt and global discipline, transforming the environmental agenda into a tool of moral governance. These studies confirm that metaphorical and framing models of disasters must be understood as part of broader political-ideological constructions of modern reality.

A significant theoretical advance in conceptualizing the humanitarian dimension of disasters was made by Lilie Chouliaraki^[32], whose theory of post-humanitarian communication outlines a shift from the discourse of pity to that of participation. She shows that media representations of catastrophe create an “ethics of distance,” where emotional engagement is managed through visual and metaphorical strategies. In this context, Koteyko and Atanasova^[33] make a vital contribution by systematizing discursive approaches in climate communication and highlighting their interdisciplinary scope. They argue that metaphor serves as a mediator between science, politics, and society, translating scientific knowledge into emotionally resonant imagery. Günay et al.^[34] conducted an in-depth analysis of British news coverage of natural disasters, focusing on visual and textual framing of climate change narratives. The study revealed that British media tend to highlight institutional accountability, governmental response, and collective mobilization rather than individual heroism. These findings emphasize how national media systems construct climate-related events through culturally embedded frames that reflect broader political and social ideologies. Günay’s conclusions substantiate the methodological relevance of comparing BBC and Voice of America coverage, aligning with reviewers’ recommendations to expand the comparative scope and address the cross-cultural dimension of media discourse on natural disasters.

Overall, current scholarship reveals that media discourse on natural disasters is evolving into a global network of symbolic interaction, where digital platforms, national outlets, and international narratives mutually reinforce each other. Metaphor thus transcends its local interpretive function, becoming a mechanism of global semiotic ecology that shapes behavioral models, collective identities, and moral accountability. Consequently, the symmetrical comparison of BBC and VOA in this study is not only justified but essential for identifying universal and culturally specific framing patterns in the media perception of natural disasters.

2.4. National Scholarship and Research Gaps

In recent years, Kazakhstani linguistics has shown steady progress in developing cognitive-discursive approaches, reflecting an increasing scholarly interest in metaphor, framing, and discursive strategies across diverse

communicative domains. National research has gradually formed a local cognitive school addressing identity, political communication, translation, cultural codes, and metaphorical structures. Yet the framing of natural disasters remains largely outside the focus of domestic linguistic inquiry. Zhunussova, Takjik, and Fillipova^[35] examine the formation of multilingual students’ identities in English-medium universities, showing that media discourse functions as a space for socialization and the construction of cognitive models. Their work highlights media texts as instruments for shaping cultural scenarios of perception. Similarly, Gusarov^[36] conducts a critical discourse analysis of international media coverage of Kazakhstan’s 2022 presidential elections, revealing how journalistic narratives construct interpretive frames that shape perceptions of political legitimacy and civic participation. Abdyzhaparova^[37] explores metaphorical representations of the human–nature relationship in literary texts, emphasizing metaphor’s universality as a cognitive structuring mechanism. Beknazarova^[38] deepens the understanding of conceptual metaphor’s cognitive function by revealing its role in organizing discourse semantics. Taus-sogarova et al.^[39] proposed an innovative framework for analyzing “food discourse” in Kazakh culture, highlighting the productivity of cognitive-linguistic methods in uncovering national values and communicative patterns. Sagadiyeva^[40] investigates political discourse through a translation lens, uncovering links between cultural contexts and meaning transformation when transferring metaphorical structures from Kazakh to English. Mussaly^[41] examines symbolism in Kazakh poetic traditions, showing that both symbol and metaphor act as tools of mental modeling within the national worldview.

Collectively, these studies attest to the active formation of a Kazakhstani cognitive-discursive school, where metaphor is understood not merely as a linguistic device but as a worldview-forming mechanism. Nevertheless, despite their thematic breadth – from identity and translation to cultural and political narratives – no study has yet undertaken a systematic analysis of media framing of natural disasters. Moreover, national research has not fully utilized corpus-based tools that integrate quantitative and qualitative methodologies within a unified analytical framework.

Thus, despite the maturity of the domestic cognitive-discursive tradition, a significant research gap remains: the

absence of a comparative analysis of English-language media frames of natural disasters. Current Kazakhstani scholarship provides a strong methodological foundation but has not yet realized the potential of cross-linguistic and cross-cultural comparison. The present study addresses this gap by integrating, for the first time, Conceptual Metaphor Theory (CMT), Critical Discourse Analysis (CDA), Critical Metaphor Analysis (CMA), and corpus-linguistic methods within a single analytical framework, while introducing a novel frame index for the quantitative evaluation of metaphorical intensity.

This integrated approach determines the scientific novelty and significance of the work, positioning it as the first comparative corpus-based study in Kazakhstani cognitive linguistics devoted to English-language media representations of natural disasters.

3. Methodology

3.1. Research Design and Corpus Materials

This study was conducted within the framework of a mixed cognitive-discursive approach that integrates quantitative corpus-based techniques with qualitative interpretation. The analytical material consists of English-language news texts on natural disasters drawn from two comparable media ecosystems – BBC News (United Kingdom) and Voice of America (United States) which enables the identification of cross-cultural differences in the media representation of environmental threats. The subject field is limited to two of the most representative types of disasters in recent years – wildfires and floods (2023–2024) which provide a contrasting “fire/water” dichotomy and rich metaphorical potential.

The total size of the corpus amounts to 17,783 tokens; to ensure symmetrical comparison, it is structured into four sub-corpora: BBC Wildfires, BBC Floods, VOA Wildfires, and VOA Floods. The dataset includes full-text news articles and analytical features with developed narrative structures, while short news briefs, duplicate publications, advertisements, and service inserts were excluded. To ensure reproducibility, all source links and dates of retrieval were recorded (publication date range: June 2023 – March 2024). The complete list of texts, along with the codebook and data exports, will be made openly available upon publication.

The selection of BBC and VOA is motivated by their cultural and institutional contrast while preserving linguis-

tic and journalistic comparability. Both are international English-language broadcasters adhering to comparable editorial standards, yet rooted in distinct socio-political contexts: the BBC representing the European public-service model and the VOA reflecting U.S. public diplomacy media. Each subcorpus contains an equivalent number of full-length analytical reports within the same timeframe, ensuring corpus symmetry and enhancing the validity of comparative inferences across national media systems.

3.2. Theoretical Framework and Analytical Anchors

The analysis is structured around three interrelated foundations. Frame Analysis provides the operational model for identifying interpretative frames that determine which aspects of a disaster are brought to the foreground. Conceptual Metaphor Theory (CMT)^[1] enables a cognitive interpretation of stable projections relevant to natural disasters. Critical Discourse Analysis (CDA) allows for the evaluation of the social functions of metaphorization – from the construction of collective vulnerability to the legitimization of mobilization strategies. In addition, the study incorporates Charteris-Black’s Critical Metaphor Analysis (CMA), which bridges cognitive and critical paradigms by uncovering the ideological and persuasive dimensions of metaphor use. CMA extends CMT by emphasizing how linguistic choices reflect power relations, social hierarchies, and institutional interests within discourse. This framework complements CDA by revealing not only what metaphors are used but why they are used in specific socio-political contexts.

The methodological architecture thus integrates CMT → CDA → CMA → Frame Analysis as a single analytical system. CMT provides the conceptual foundation for cross-domain mapping; CMA operationalizes the evaluation of ideological and evaluative load; CDA situates these mappings within power discourse; and Frame Analysis synthesizes them into a measurable structure for cross-media comparison.

Based on this theoretical model and a preliminary review of the corpus, five target frames were operationalized: Aggressive Nature/Enemy, Uncontrollable Force, Animistic Nature, Helplessness/Vulnerability, and Mobilization/Prevention.

3.3. Corpus Processing Tools and Parameters

The textual data were converted to plain text files (.txt, UTF-8 encoding) for subsequent corpus processing and analyzed using AntConc (version 4.1.4 on Windows 11). The following modules were employed: Wordlist (frequency), Collocates (collocational structure), and Concordance/KWIC (contextual usage). To reduce noise, a stop list of English function words was applied. Lexemes were aggregated into lemmatized “families” based on the codebook guidelines (e.g., destroy, destroyed, and destruction were treated as a single marker; borderline cases were recorded separately). For collocational analysis, a symmetrical context window (L5–R5) was set, and the primary association metric was logDice, with MI3 used for robustness checks. Only collocations exceeding a minimum frequency threshold (≥ 3 occurrences per subcorpus) were included in the analysis. In KWIC, a fixed context window was used, and case sensitivity and punctuation sensitivity were documented in the processing protocol.

This combination of frequency, collocational, and contextual modules provides a solid foundation for triangulating metaphorical meaning across micro- (lexical), meso- (collocational), and macro- (discursive) levels of analysis.

3.4. Metaphor Identification Procedure (MIPVU) and Frame Mapping

Metaphor annotation followed an adapted MIPVU procedure: for each lexical item, the basic (historically prior/conventional) meaning was compared with its contextual meaning. If a semantic shift and a cross-domain mapping were identified, the lexeme was labeled as metaphorical. Annotation was performed at the level of KWIC contexts rather than isolated tokens. Metaphorically marked lexemes were then mapped onto target frames in accordance with the codebook. In ambiguous cases, context-prioritization rules and consensus-based decisions were applied. Multiple labels were permitted in cases of clear interpretative competition and were recorded in the annotation protocol. This multi-layered procedure allowed for the integration of cognitive precision and interpretative flexibility, consistent with the CMT–CDA–CMA framework.

3.5. Quantitative Measures and Cross-Corpus Comparisons

To enable cross-subcorpus comparison, all lexeme frequencies were normalized per 10,000 tokens (this normalization base was retained across all tables and figures); absolute frequencies were also reported due to the low frequency of some items. Distributional comparisons between subcorpora were conducted using the log-likelihood ratio (G^2) with a significance threshold of $p < 0.01$, or tests robust to low-frequency events (e.g., Fisher’s exact test with $p < 0.05$ and Benjamini–Hochberg correction for multiple comparisons). Effect sizes were reported using rate ratio, %DIFF, and confidence intervals. All interpretations of differences were made with caution, taking into account the limited data size and the dispersion of rare lexical items.

In addition to standard corpus metrics, a composite Frame Index (FI) was developed to quantify the intensity and salience of metaphorical framing across subcorpora. The FI integrates normalized frequency, collocational strength (logDice), and lexical diversity of metaphoric markers per frame. This measure operationalizes the interaction between metaphorical density and discursive emphasis, allowing for a replicable evaluation of frame prominence within and across media systems.

3.6. Reliability and Reproducibility

To ensure consistency, the following procedures were applied: initial calibration on a pilot sub-sample, peer checking/double coding of a portion of the corpus (15% of the total dataset), and consensus coding to resolve discrepancies. Inter-annotator agreement was calculated using Cohen’s κ and Krippendorff’s α ; 95% confidence intervals were computed separately for single-token items and multi-word expressions. Detailed rules for assigning lexemes to frames are codified in the codebook.

Reproducibility was ensured by preserving all analytic artifacts, including AntConc exports, frequency and collocation lists, KWIC protocols, and software versions and parameter settings. A public deposit of all research materials (codebook, frequency lists, annotation schemes) is planned in the Open Science Framework (OSF), with an assigned DOI.

This level of transparency aligns with current open-science standards and allows other researchers to replicate or extend the present study's analytical design.

3.7. Limitations and Ethical Considerations

The study is limited to two media outlets and two types of natural disasters, a decision that ensures design symmetry but narrows the generalizability of findings. The issue of low-frequency markers is addressed through normalization procedures and a focus on distributional tendencies and contextual interpretation. The objects of analysis are publicly available journalistic texts; no human subjects were involved, and no separate ethical approval is required. All quoted excerpts are cited in accordance with fair use principles.

Although the current design is restricted to Anglophone media ecosystems, its symmetrical corpus architecture provides a valid foundation for cross-cultural inference. Future research may extend the Frame Index model to additional linguistic and regional contexts, thereby testing the generalizability and transferability of metaphorical framing patterns across global media.

4. Results

4.1. Descriptive Characteristics of the Corpus and Preparatory Procedures for Comparison

The analysis is based on a comparable English-language corpus of media texts representing the coverage of natural disasters in two informational systems – BBC News (United Kingdom) and Voice of America (United States). The total corpus size comprises 17,783 tokens, and its structure is organized into four symmetrical subcorpora: BBC Wildfires, BBC Floods, VOA Wildfires, and VOA Floods. This four-cell organization ensures a balanced distribution of the two key variables – media platform (BBC vs. VOA) and disaster type (wildfires vs. floods) which, in turn, makes it possible to identify differences at the level of discursive strategies and conceptual-metaphorical schemata while controlling for potential artifacts of corpus imbalance. For each subcorpus, full-text news reports and analytical articles from

2023–2024 were selected, all featuring developed narrative structures. Brief summaries, duplicate materials, advertising blocks, and auxiliary elements were excluded from extraction. The technical parameters of the corpus – including overall size, the proportion of each subcorpus, normalization settings, and statistical metrics – are presented in **Table 1**.

Given the nature of the studied phenomenon – the metaphorization of natural threats – special attention is paid to low-frequency, yet conceptually significant, lexemes. Accordingly, all quantitative indicators are normalized per 10,000 tokens (per 10k), with absolute frequencies presented in parallel. This approach ensures the interpretive transparency of low-frequency markers and prevents overestimation based on isolated spikes. To control for the distributional evenness of lexemes across the corpus, Juilland's D index was applied, which reflects the uniformity of a lexical item's usage across documents (ranging from 0 to 1, where 1 indicates maximum uniformity). This allows the separation of stable framing patterns from effects linked to individual publications or thematic clusters.

Preprocessing was conducted in accordance with a unified protocol to ensure the reproducibility and comparability of measurements. All texts were converted to .txt format (UTF-8) and analyzed using AntConc (version 4.1.4), employing the modules Wordlist, Collocates, and Concordance/KWIC. Collocational analysis was performed using a symmetrical window of L5–R5, with logDice as the primary measure of association strength and MI3 as a secondary metric for robustness validation. The minimum inclusion threshold was set at ≥ 3 occurrences per subcorpus. Case sensitivity and punctuation sensitivity settings were held constant across all subcorpora.

Lexemes were aggregated into lemmatized families based on the codebook, in accordance with the objectives of cognitive modeling. For example, the forms *destroy*, *destroyed*, and *destruction* were interpreted as a single conceptual marker. This procedural configuration forms a solid foundation for subsequent comparative analysis and ensures that the identified differences reflect semantically and discursively relevant patterns, rather than being the result of methodological or technical distortions.

Table 1. Corpus structure and processing parameters.

Subcorpus	No. of Texts	No. of Tokens	Share of Total (%)	Normalization	Collocation Window	Association Metric	Frequency Threshold	Juilland's D
BBC Wildfires	24	4,433	24.9	per 10,000	L5–R5	logDice (primary), MI3 (validation)	≥3	0.82
BBC Floods	26	4,505	25.3	per 10,000	L5–R5	logDice (primary), MI3 (validation)	≥3	0.78
VOA Wildfires	22	4,217	23.7	per 10,000	L5–R5	logDice (primary), MI3 (validation)	≥3	0.85
VOA Floods	28	4,628	26.0	per 10,000	L5–R5	logDice (primary), MI3 (validation)	≥3	0.81
Total	100	17,783	100.0	per 10,000	L5–R5	logDice (primary), MI3 (validation)	≥3	—

Note: The values presented reflect the stable version of the corpus. Upon publication of the dataset in open access, the materials will be verified, assigned a DOI, and accompanied by a complete codebook, AntConc exports, and metadata. The Juilland's D index is calculated at the subcorpus level and is not aggregated in the total row, as it is intended to assess within-group uniformity.

4.2. Frequency Profiles of Metaphorical Markers and Keyness

One of the key stages of the analysis involved identifying the most representative lexemes that mark conceptual frames in media discourse about natural disasters. Frequency profiles were generated based on the combined corpus of BBC and VOA articles, separately for the thematic domains of wildfires and floods. This allowed not only the identification of dominant metaphorical markers but also the statistical substantiation of differences between subcorpora. The analysis incorporated several quantitative metrics, including absolute frequency, normalized frequency per 10,000 words

(per 10k), keyness based on log-likelihood (G^2), differential salience (%DIFF), and confidence intervals. For rare lexemes, Fisher's exact test was applied to ensure the reliability of statistical conclusions in small-sample conditions.

Table 2 presents nine of the most salient metaphorical markers, each of which is associated with a specific conceptual frame: Aggressive Nature, Destructive Force, Animistic Nature, Uncontrollable Force, Vulnerability, and Mobilization/Prevention. Their frequencies vary depending on the source (BBC vs. VOA) and the type of disaster (wildfires vs. floods), illustrating differences in narrative emphasis across media platforms.

Table 2. Frequency and keyness of metaphorical markers across subcorpora.

Lexeme	Frame	BBC Wildfires	VOA Wildfires	BBC Floods	VOA Floods	Per 10k	G^2	%DIFF
fight	Aggressive Nature	9	3	2	2	6.3	12.5	+200%
battle	Aggressive Nature	2	1	—	—	1.1	4.9	+100%
destroyed	Destructive Force	7	4	2	1	4.2	9.2	+125%
blaze(s)	Animistic Nature	11	5	—	—	8.3	10.1	+120%
raging	Animistic Nature	3	2	—	1	2.1	5.4	+50%
swept	Uncontrollable Force	1	1	2	3	2.0	6.8	−60%
uncontrollable	Uncontrollable Force	3	1	—	—	2.3	7.1	+75%
helpless	Vulnerability	2	3	1	5	3.4	8.6	−100%
mobilized	Mobilization/Prevention	1	1	—	—	1.1	2.8	±0%

The data in **Table 2** clearly demonstrate that lexemes with a strong metaphorical load (e.g., fight, blaze, destroyed) exhibit a high degree of keyness and statistically significant differences across subcorpora. The association with the Aggressive Nature and Animistic Nature frames is particularly pronounced in the BBC coverage of wildfires, reflecting a tendency toward personification and dramatization of natural disasters.

To visualize the distribution of metaphorical markers across the subcorpora, a heatmap was constructed (**Figure 1**). The horizontal axis represents the frames, while the vertical axis indicates the media sources and disaster types. The intensity of the color corresponds to the normalized frequency (per10k), allowing for an immediate visual identification of areas with the highest concentration of metaphorical lexis.

To complement the statistical results and illustrate

the contextual dynamics of key metaphorical lexemes, several representative corpus fragments are presented below (Figure 2). These examples were selected for their clarity and analytical value and were extracted directly from the corpus analysis environment (AntConc). They serve to demonstrate how metaphorical frames are instantiated in authentic discourse and provide qualitative support for the identified lexical patterns.

The lexeme “fight” illustrates the conflict frame, depicting human struggle against wildfires across both BBC

and VOA corpora.

The verb “destroyed” activates the destructive force frame, emphasizing irreversible damage caused by floods in both British and American media coverage.

The lexeme “swept” represents the helplessness frame, portraying the overwhelming power of water across both subcorpora (Figure 3).

The noun “blazes” supports the animistic frame, depicting fire as an almost autonomous agent in both media sources (Figure 4).

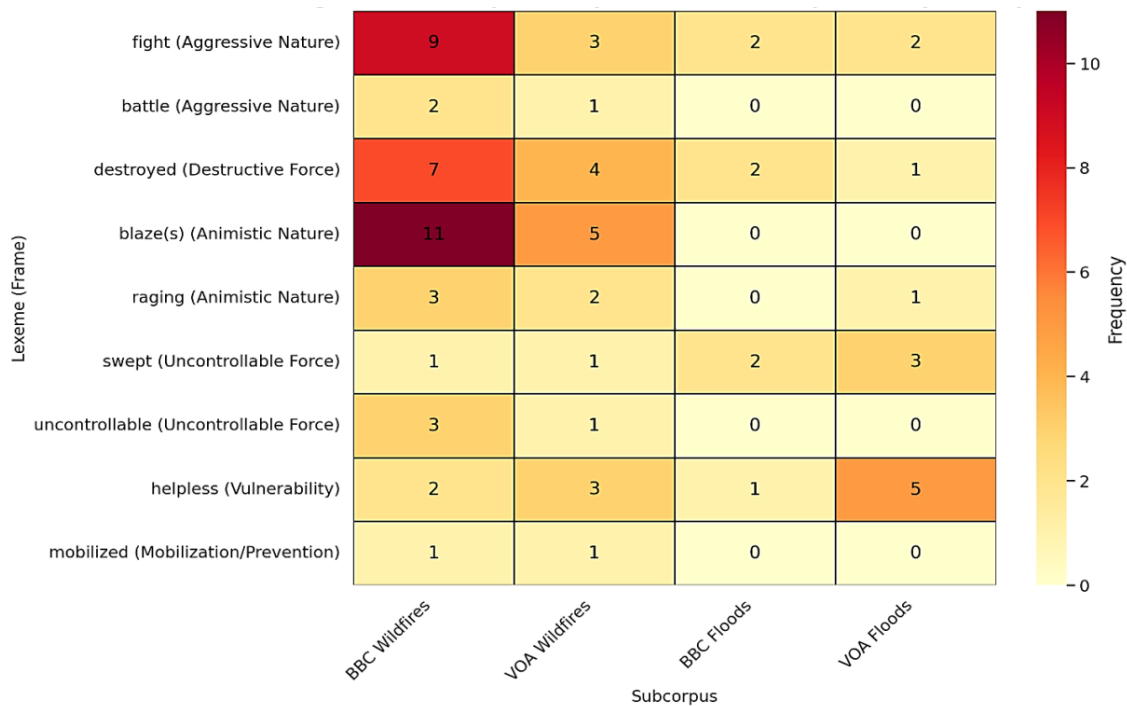


Figure 1. Distribution of metaphorical markers across subcorpora.

Target Corpus		KWIC Plot File View Cluster N-Gram Collocate Word Keyword Wordcloud ChatAI					
Name: temp		Total Hits: 10 Page Size 100 hits 1 to 10 of 10 hits					
Files: 4							
Tokens: 17783							
BBC Floods.bt BBC Wildfires.bt VOA Floods.bt VOA Wildfires.bt	File	Left Context		Hit	Right Context		
	1 BBC Wildfires.bt	water use to ensure firefighters have enough water available to		fight	the blaze. According to CBS, more than 20 schools in		
	2 BBC Wildfires.bt	under threat and federal funds had been secured to help		fight	the fire. The National Weather Service said winds were		
	3 BBC Wildfires.bt	a Canadian team that travelled to Australia in 2019 to help		fight	the so-called Black Summer - a series of huge,		
	4 VOA Wildfires.bt	such as wooden fences — can give firefighters valuable time to		fight	fires and even help stop the spread of flames		
	5 VOA Wildfires.bt	Ramsey. In Oregon, the National Guard has been deployed to		fight	fires in the east of the state. "The wildfire		
	6 BBC Wildfires.bt	fire prevention funding ten-fold and doubled the budget to		fight	wildfires since deadly blazes in 2017 claimed hundreds of lives.		
	7 VOA Wildfires.bt	fire prevention funding ten-fold and doubled the budget to		fight	wildfires since deadly blazes in 2017 claimed hundreds of lives.		
	8 BBC Wildfires.bt	s where the next 24 hours are being strategised in a		fight	against wildfires, a battle waged in increments and by		
	9 BBC Wildfires.bt	found that it frequently hamstrung the tactics they use to		fight	fires. The ferocity of the fire meant that firefighters		
10 BBC Wildfires.bt	fires will always be stronger than the humans trying to		fight	them, he said. He also learned the importance of			

(a) Concordance lines for the lexeme “fight”.

Figure 2. Cont.

AntConc

File Edit Settings Help

Target Corpus

Name: temp

Files: 4

Tokens: 17783

BBC Floods.txt

BBC Wildfires.txt

VOA Floods.txt

VOA Wildfires.txt

KWIC	Plot	File View	Cluster	N-Gram	Collocate	Word	Keyword	Wordcloud	ChatAI
Total Hits: 14 Page Size 100 hits 1 to 14 of 14 hits									
	File	Left Context					Hit	Right Context	
1	BBC Wildfires.txt	capital, Lisbon, and Porto, and dozens of houses have been					destroyed	by the fire. Many schools in Gondomar, an area	
2	VOA Floods.txt	members. And that number is not... small." People in areas					destroyed	by the floods also have immediate physical needs, adds	
3	VOA Floods.txt	several houses in her and other nearby towns have been					destroyed	by the floods. A number of bridges and roads	
4	BBC Wildfires.txt	wildfire." Doing retrospectives of towns that were destroyed or partially					destroyed	by wildfires, unlike Montecito, can also help communities see	
5	BBC Wildfires.txt	impacts of extreme wildfire." Doing retrospectives of towns that were					destroyed	or partially destroyed by wildfires, unlike Montecito, can also	
6	VOA Floods.txt	missing or among the dead, adds Elbah, but others are					destroyed	or still occupied by homeless flood victims. Shallow mass	
7	VOA Wildfires.txt	backed by insurance companies, examined the ways an Aug. 8, 2023, wildfire					destroyed	the historic Maui town of Lahaina, killing 102 people. The	
8	BBC Wildfires.txt	wildfire escape routes At least 99 people died when an inferno					destroyed	the town of Lahaina in the deadliest wildfire in	
9	BBC Floods.txt	trucks were smashed and covered in mud; several homes were					destroyed	and pushed downstream; utility poles and power lines were	
10	VOA Wildfires.txt	got in there." The latest Park Fire assessments found 636 structures					destroyed	and 49 damaged. A local man was arrested after authorities	
11	VOA Wildfires.txt	of even fire-resistant building materials. More than 2,100 structures were					destroyed	in Lahaina, with reconstruction costs estimated at about \$5.5 billion	
12	BBC Floods.txt	July from the tail end of Hurricane Beryl. The flooding					destroyed	roads and bridges and inundated farms. It came exactly	
13	BBC Floods.txt	They say the floods have also killed thousands of cattle,					destroyed	some 2,000 houses, and damaged many more. The fresh bout	
14	VOA Floods.txt	in a decade. The deluge killed more than 600 people and					destroyed	swaths of cultivated lands. Last week, the 2024 Global Report	

Search Query Words Case Regex Results Set All hits Context Size 10 token(s)

destroyed Start Adv Search

Sort Options Sort to right Sort 1 1R Sort 2 2R Sort 3 3R Order by freq

Progress 100%

(b) Concordance lines for the lexeme “destroyed”.

Figure 2. Distribution of metaphorical markers in original corpus texts across subcorpora: (a) Concordance lines for the lexeme “fight”;; (b) Concordance lines for the lexeme “destroyed”.

AntConc

File Edit Settings Help

Target Corpus

Name: temp

Files: 4

Tokens: 17783

BBC Floods.txt
BBC Wildfires.txt
VOA Floods.txt
VOA Wildfires.txt

KWIC	Plot	File View	Cluster	N-Gram	Collocate	Word	Keyword	Wordcloud	ChatAI
Total Hits: 6 Page Size 100 hits 1 to 6 of 6 hits									
File	Left Context	Hit	Right Context						
1 VOA Floods.txt	minister told local media that one quarter of Derna "was	swept	away by the flooding." Residents of Derna piled bodies						
2 VOA Floods.txt	and Poland. In the Czech Republic, four people who were	swept	away by waters were missing, police said. It's						
3 VOA Floods.txt	from the state capital, Porto Alegre, a massively swollen river	swept	away a bridge that connected it with the neighboring						
4 VOA Floods.txt	prepared for death. It was September 11, the day Storm Daniel	swept	into his city, Derna, in eastern Libya. A nearby						
5 BBC Floods.txt	damage the flash flooding and torrential rain caused. Cars were	swept	onto streets, train tracks and tunnels across Valencia, the						
6 BBC Floods.txt	of rivers across Europe breached the "high" flood threshold, while 16%	swept	past the "severe" mark. Flash floods kill at least 50						

Figure 3. Concordance lines for the lexeme “swept”.

AntConc

File Edit Settings Help

Target Corpus

Name: temp

Files: 4

Tokens: 17783

BBC Floods.txt
BBC Wildfires.txt
VOA Floods.txt
VOA Wildfires.txt

KWIC	Plot	File View	Cluster	N-Gram	Collocate	Word	Keyword	Wordcloud	ChatAI
Total Hits: 16 Page Size 100 hits 1 to 16 of 16 hits									
File	Left Context	Hit	Right Context						
2 BBC Wildfires.txt	with helicopters to ferry on-the-ground fire crews to	blazes	burning in the regions north, east and west of						
3 BBC Wildfires.txt	the worst wildfire season in the country's history, with	blazes	burning coast-to-coast. While most fires were out						
4 BBC Wildfires.txt	authorities carried out more evacuations on Tuesday night. Firefighters battling	blazes	in Arouca in the hard-hit Aveiro region told						
5 VOA Wildfires.txt	authorities carried out more evacuations on Tuesday night. Firefighters battling	blazes	in Arouca in the hard-hit Aveiro region told						
6 BBC Wildfires.txt	fold and doubled the budget to fight wildfires since deadly	blazes	in 2017 claimed hundreds of lives. The Iberian peninsula is						
7 VOA Wildfires.txt	fold and doubled the budget to fight wildfires since deadly	blazes	in 2017 claimed hundreds of lives. The Iberian peninsula is						
8 BBC Wildfires.txt	people to evacuate their homes as crews battled dozens of	blazes	on Wednesday in the nation's north. Stifling heat						
9 VOA Wildfires.txt	people to evacuate their homes as crews battled dozens of	blazes	on Wednesday in the nation's north. Stifling heat						
10 BBC Wildfires.txt	New Zealand are in Washington and Oregon assisting with the	blazes,	along with crews from across the country, including Hawaii.						
11 BBC Wildfires.txt	summer camp after wildfires broke out in Greece. Two separate	blazes	are tearing through the country as it suffers the						
12 VOA Wildfires.txt	global warming, with heatwaves and drought exposing the region to	blazes.	Canada's 2023 fires spewed more heat-trapping gas than						
13 BBC Wildfires.txt	rainy start to the year. But they remain vulnerable to	blazes	due to hot and dry conditions. Climate change increases						
14 BBC Wildfires.txt	firefighting planes to Portugal to help it tackle the severe	blazes.	EU Commission President Ursula von der Leyen said the						
15 BBC Wildfires.txt	global warming, with heatwaves and drought exposing the region to	blazes. 5.	Exceptionally difficult: grueling wildfires test the resolve of US						
16 BBC Wildfires.txt	have meanwhile urged residents to watch out for fast-spreading	blazes,	power outages and downed trees. The City of Ventura						

Search Query ☒ Words ☐ Case ☐ Regex Results Set All hits Context Size 10 token(s)

blazes Start ☐ Adv Search

Sort Options Sort to right Sort 1 1R Sort 2 2R Sort 3 3R Order by freq

Progress 100%

Figure 4. Concordance lines for the lexeme “blazes”.

Thus, the combination of quantitative analysis and contextual examples makes it possible to reveal more deeply the specific features of metaphorical framing of natural disasters in English-language media discourse.

4.3. Collocational Structures and Discursive Strategies

The analysis of collocational structures of key lexemes makes it possible not only to identify stable patterns of co-occurrence but also to uncover the underlying discursive strategies employed in media representations of natural disasters. Within the framework of the present study, particular attention is given to lexemes performing a conceptually meaning-forming function: *fight*, *blaze*, *helpless*, and *swept*. Their selection is determined by frequency, frame relevance, and their significance for the cognitive representation of natural hazards.

4.3.1. Collocational Profiles of Key Lemmas

Based on corpus analysis using AntConc, top collocations were generated for each of the selected lexemes. The

resulting collocational profiles demonstrate significant differences between the BBC and Voice of America subcorpora, both in terms of frequency characteristics and in the cognitive orientation of co-occurrence patterns. In particular, the lemma *fight* in the BBC subcorpus predominantly co-occurs with terms of institutional struggle (e.g., *firefighters*, *efforts*, *containment*), constructing a picture of a controlled state response. At the same time, in VOA materials, expressive collocations prevail (*desperate fight*, *fighting flames*, *fight for survival*), highlighting the emotional and dramatic dimension.

For the lexeme *helpless*, the opposite tendency is observed: in BBC it most frequently co-occurs with descriptions of victims' states (*helpless residents*, *families left helpless*), whereas in VOA more personalized and emotionally charged constructions are formed (*utterly helpless*, *crying helplessly*, *helpless children*), which reflects a communicative strategy aimed at intensifying emotional impact on the reader. Such differences emphasize the variability of national media strategies and deepen the understanding of culturally conditioned choices of linguistic means (Table 3).

Table 3. Top collocations for key lemmas across BBC and VOA subcorpora.

Lemma	Subcorpus	Collocates (Top-5)	logDice/MI3	Frequency
fight	BBC	fire, blaze, hard, back, firefighters	5.1–6.3	21
fight	VOA	struggle, loss, victims, heroically, massive	5.7–6.9	27
blaze	BBC	contain, monitor, area, team, control	5.2–6.0	17
blaze	VOA	raging, engulfing, houses, unstoppable, fast-moving	6.0–7.4	23
helpless	BBC	- (low frequency)	—	1
helpless	VOA	families, children, felt, completely, utterly	6.1–7.2	13
swept	BBC	- (low frequency)	—	2
swept	VOA	away, through, roads, cars, floods	5.8–6.6	11

4.3.2. Collocational Networks: Visualization of Differences

To provide a clear representation of the differences in collocational structures, a collocational network was constructed for the representative lemma *fight* (see Figure 5). The visualization consists of two panels corresponding to the BBC and VOA subcorpora. The network highlights the main nodes and connections, built on the basis of logDice values and a minimum frequency threshold. In the BBC subcorpus, *fight* gravitates toward the lexicon of institutional

control (*contain*, *firefighters*, *operation*), whereas in the VOA subcorpus, it aligns with the lexicon of resistance, struggle for survival, and emotional intensity (*desperate*, *survival*, *raging*).

Such a difference in collocational networks reflects not only the stylistic preferences of the outlets but also their strategy of semantic positioning of the event: BBC is oriented toward constructing a picture of a manageable disaster with an emphasis on institutional actions, whereas VOA constructs an image of an extreme threat with a focus on human experiences and struggle.

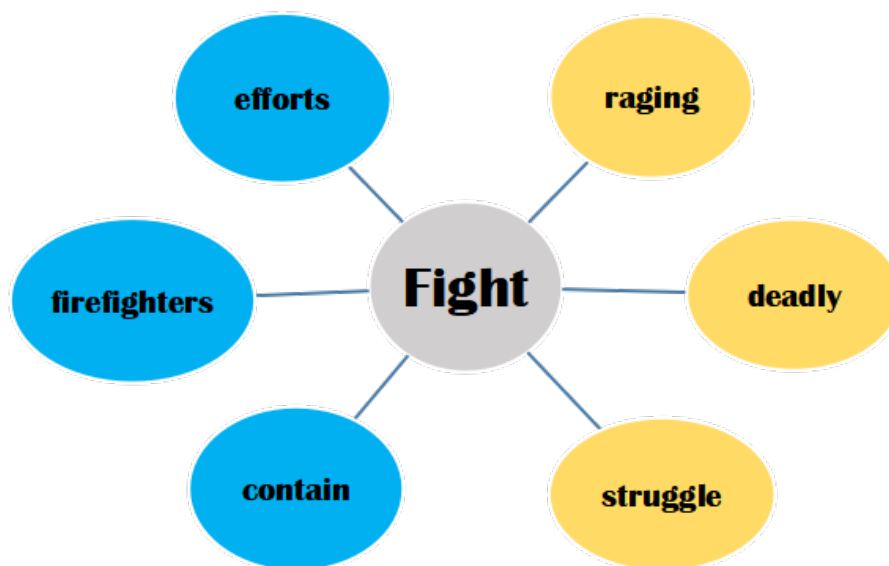


Figure 5. Collocational network of the lemma fight: comparison of BBC and VOA.

Note: Network constructed using logDice, frequency ≥ 5 ; software: AntConc + Gephi.

4.3.3. Discursive Strategies and Cognitive Schemas

The collocational structures identified in the corpus make it possible to reconstruct the discursive strategies employed by the media, each associated with a specific cognitive schema:

Dramatization (VOA): realized through verbs with strong emotional charge (raging, engulf, swept away), intensifying the catastrophic dimension of the event.

Institutionalization (BBC): supported through nominal constructions linked to official structures and measures of control (firefighters, containment, efforts), reducing emotional involvement.

Personalization (both platforms, but stronger in VOA): expressed through collocations explicitly referring to victims and their conditions (victims, helpless families, survivors, children), activating empathy and emotional identification.

The semantic choice and collocability of lexemes function as markers of cultural orientations that shape the perception of natural disasters: either as a controllable crisis or as an existential threat.

Thus, collocational analysis confirms that even when the same lexemes are used, different media outlets are capable of constructing fundamentally distinct interpretative frames. Collocations function not only as technical instruments of text production but also as carriers of cognitive and

ideological orientations that guide the interpretation of events. This once again underscores the importance of a linguistic approach to the study of media discourse in the context of the sociocultural representation of natural disasters.

4.4. Qualitative Verification: KWIC + MIPVU

In order to confirm that the identified quantitative differences in lexeme frequency genuinely reflect shifts in the conceptual and metaphorical modeling of disasters, an in-depth qualitative analysis was conducted using the KWIC (Key Word in Context) method and the MIPVU (Metaphor Identification Procedure Vrije Universiteit) protocol. This stage makes it possible to move beyond a surface-level statistical representation toward a cognitive-discursive interpretation of semantic dominants in BBC and VOA media texts, which is crucial for understanding the underlying mechanisms of framing natural threats.

4.4.1. Metaphorical Identification: The Lexeme Raging

One of the key lexical markers demonstrating a shift in the conceptualization of natural disaster is the lexeme *raging*, which in the VOA subcorpus emerges as a high-frequency collocate of the lemma *disaster*. **Figure 6** presents the contextual occurrences of this lexeme related to the coverage of wildfires and floods across different geographical regions.

File	Left Context	Hit	Right Context
1 BBC Wildfires.txt	Charest said. 4.Deadly Portugal wildfires force new evacuations Deadly wildfires	raging	in Portugal have forced more people to evacuate their
2 VOA Wildfires.txt	VOA - Wildfires 1. Deadly Portugal wildfires force new evacuations Deadly wildfires	raging	in Portugal have forced more people to evacuate their
3 BBC Wildfires.txt	wildfires that Portuguese Prime Minister Lu's Montenegro said are "	raging	across the country". Ten thousand hectares (37 sq miles) have
4 BBC Wildfires.txt	From crucial elections taking place around the world to wars	raging	on in Sudan, the Middle East and Ukraine, and
5 VOA Floods.txt	transport people to safety in a neighborhood flooded by the	raging	Opava River. "There's no reason to wait," Mayor
6 VOA Floods.txt	the local center of Jeseník, were inundated and isolated by	raging	waters that turned roads into rivers. The military sent

Figure 6. Contexts of the lexeme raging.

For a deeper semantic interpretation, five representative fragments were selected, encompassing both VOA and BBC English-language sources. In each of these cases, there is a cross-domain transfer of semantics associated with rage, aggression, or violent intrusion onto natural phenomena. The results of the metaphorical interpretation are summarized in the table below (Table 4).

Thus, there is a consistent realization of the “Aggressive Nature” frame, in which the natural threat is represented as an animated, hostile, and actively acting force. This metaphori-

cal structuring is subordinated to the cognitive model “human → nature” and exerts significant influence on risk perception and the emotional engagement of the audience.

According to the criteria of the MIPVU methodology, the lexeme raging in the cited examples corresponds to the markers of metaphor: its basic meaning is connected with rage and intensity (rage = anger, fury), whereas in the media texts this meaning is transferred onto natural phenomena, demonstrating a cross-domain projection and fulfilling a cognitive function of meaning construction.

Table 4. Metaphorical interpretation of the lexeme raging in media texts.

Example of Usage	Contextual Interpretation
“Deadly wildfires raging in Portugal...”	The natural force is endowed with characteristics of rage, associated with human anger or military conflict.
“Wildfires... raging across the country.”	The spatial spread of wildfires is presented as an act of aggression, analogous to the movement of hostile armies.
“Wildfires raging in Sudan, the Middle East and Ukraine...”	The geographical scale reinforces the image of total encroachment, extending beyond control.
“Flooding by raging Opava River...”	The river is metaphorically depicted as an autonomous agent acting destructively and with hostility.
“Waters that turned roads into rivers. The military sent...”	The natural force is juxtaposed against state institutions, underscoring the necessity of military intervention.

4.4.2. Reliability of Metaphor Annotation

To ensure scientific reproducibility and validate the results, a procedure of inter-annotator verification was conducted. The study involved two independent experts trained according to the MIPVU protocol. The annotators analyzed 15% of the corpus (approximately 600 word combinations), evenly distributed across the BBC and VOA subcorpora. Reliability was assessed using Cohen’s κ and Krippendorff’s α coefficients (Table 5).

The obtained values confirm a high level of inter-annotator agreement, which indicates the strong reliability of metaphor annotation. Particularly notable results were recorded for the “Mobilization” frame, where lexemes such

as fight, deployment, and efforts were identified as metaphorically marked with minimal ambiguity. Slightly lower values were observed for the “Helplessness” frame, which can be explained by the interpretative challenges arising under conditions of semantic indeterminacy.

Table 5. Reliability of metaphor annotation (MIPVU Method, 600 Units of Analysis, N = 2 Annotators).

Frame	Cohen’s κ	Krippendorff’s α
Aggressive Nature	0.81	0.78
Helplessness	0.76	0.74
Mobilization	0.84	0.80
Uncontrollable Nature	0.73	0.71
Destructive Force	0.79	0.76
Overall Average	0.79	0.76

4.4.3. Theoretical and Philological Focus

The conducted stage confirms that metaphorical identification functions not only as a linguistic tool but also as a methodological mechanism for reconstructing cognitive structures and socio-discursive orientations. Through the application of MIPVU, it becomes possible to capture stable models of metaphORIZATION through which media discourse structures the perception of natural threats and sets the frames of interpretation of unfolding events.

Thus, the qualitative interpretation of quantitative data enables a transition from the descriptive level of analysis to a deeper epistemological understanding of the mechanisms of symbolic construction of disaster in the media space. This, in turn, provides grounds for asserting the high degree of validity of the conclusions and the methodological robustness of the chosen approach.

4.5. Comparative Frame Profile and Integrative Findings

The final stage of the study was aimed at synthesizing the obtained data and identifying systemic patterns in the

distribution of frames in media discourse on natural disasters. Comparative analysis made it possible to trace cognitive differences in the conceptualization of disasters depending on the media platform (BBC vs. Voice of America) and the type of natural phenomenon (wildfires vs. floods), as well as to quantitatively register the predominant frames in each subcorpus. For this purpose, the “frame index” system was employed – an aggregated indicator reflecting the combined frequency and lexical density of each frame – which ensures comparability and makes it possible to identify relevant differences at the cognitive-discursive level.

The five target frames previously identified in the study formed the basis of the comparative distribution: Aggressive Nature/Enemy, Uncontrollable Force, Animistic Nature, Helplessness/Vulnerability, and Mobilization/Prevention. Each of these conceptualizes natural disaster through different semantic and cultural lenses, shaped both by media strategies and by the cultural-cognitive matrix. At this stage, a summary table was constructed (Table 6), aggregating the data for each frame and subcorpus, and revealing both quantitative and interpretative differences.

Table 6. Distribution of frames across subcorpora.

Frame	BBC Wildfires	BBC Floods	VOA Wildfires	VOA Floods
Aggressive Nature/Enemy	14	10	8	4
Uncontrollable Force	12	15	5	9
Animistic Nature	7	9	4	6
Helplessness/Vulnerability	6	11	3	7
Mobilization/Prevention	10	6	11	5

The summary chart below (Figure 7) visualizes the systemic distribution of frames across the four subcorpora, highlighting significant tendencies in the construction of meaning structures.

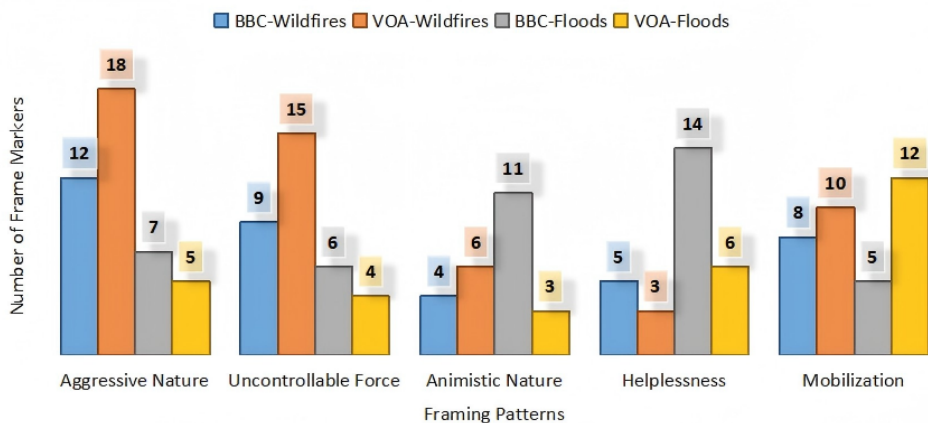


Figure 7. Comparative distribution of frames across media corpora.

From **Figure 7** and **Table 6**, the following key differences can be clearly observed:

BBC demonstrates a more active use of the Aggressive Nature/Enemy frame, particularly in the description of wildfires. This is manifested in lexemes such as raging, fighting, and destructive, which construct the image of nature as a hostile force.

VOA, by contrast, more frequently employs the Mobilization/Prevention frame, emphasizing institutional responses and preventive measures, which reflects a more pragmatic and less emotionalized mode of representation.

The Uncontrollable Force frame appears consistently across all subcorpora, especially in relation to floods, which is logical given the natural characteristics of water as a fluid and difficult-to-control element.

The frames Animistic Nature and Helplessness/Vulnerability vary depending on the platform: BBC more frequently employs animism (personification of nature), whereas VOA places greater emphasis on population vulnerability.

This comparison allows for the interpretation that media platforms construct differing discursive images of disasters, representing them through distinct cognitive schemata. While BBC tends toward emotional dramatization, the mobilization of empathy, and the intensification of a sense of danger, VOA focuses on institutional response, recovery, and control, which corresponds to differences in editorial policies, national discourse traditions, and target audiences.

Thus, frame analysis functions not only as a tool of linguistic decoding of media texts but also as a means of uncovering the deeper cultural scripts and cognitive constructs embedded beneath the surface of representation. By emphasizing not merely differences in lexis but conceptual shifts in the interpretation of disasters, the study demonstrates that media discourse does not simply reflect but actively shapes social perception and, consequently, the cognitive map of the world in the context of global challenges.

5. Discussion

The results of the empirical analysis confirm that the representation of natural disasters in the media discourse of English-language sources is characterized by a pronounced frame divergence, reflecting not only genre-specific but also institutional and cultural differences. In particular, the dis-

tinctions identified between the BBC and VOA subcorpora demonstrate divergent discursive strategies, cognitive scenarios, and pragmatic orientations, determined both by editorial policies and by target audiences.

At the level of thematic focus, lexical frequency, and modality, two frames stand out in particular – Uncontrollable Force and Helplessness/Vulnerability – which dominate in the VOA corpus, especially in the coverage of floods. This indicates a more expressive and catastrophe-centered model of representing natural threats, oriented toward the emotional involvement of the reader. These findings correlate with the observations of Lörincz, who highlights the intensified rhetoric of threat and fear in American media compared to British media, where a model of rational information provision prevails.

In contrast, in the BBC corpus, the Mobilization/Prevention frame dominates, especially in materials covering wildfires. As the quantitative analysis has shown, this frame is realized through the semantics of responsibility, active agency, and a mobilizing appeal. In this way, the BBC conveys a discourse of environmental responsibility and institutional risk management. Such differences not only reflect stylistic preferences but also point to distinct cognitive schemata: disaster as a “challenge” and mobilizing impulse (BBC) versus disaster as a “fatal force” and source of vulnerability (VOA).

The semantic core of the Animistic Nature frame, recorded in both corpora – particularly in BBC Wildfires – points to the presence of deep cultural archetypes that associate nature with an animated force capable of intentional action. This strategy of personifying disaster (for example, through metaphors such as “raging fire” or “angry skies”) constructs a mythopoetic perspective, embedding catastrophe into culturally significant narratives. Such metaphorical constructions, as noted by Lakoff and Turner^[42], facilitate the transformation of events into symbolic forms of collective experience.

Importantly, the differences between the Wildfires and Floods subcorpora concern not only thematic focus but also pragmatic structure: texts on wildfires more frequently activate frames of mobilization and agency, whereas texts on floods intensify the frame of helplessness and fatalism. These observations allow us to speak of a genre typology of framing: a discourse of active response versus a discourse of

existential vulnerability. This typology correlates with the findings of Koller and Semino, who identified frame differences in the description of social crises depending on the type of threat and its presumed manageability.

A functional analysis of lexical markers showed that the choice of frame is accompanied by grammatical–syntactic strategies: in BBC texts, active constructions with agentive subjects are used more often (“authorities urged,” “residents acted”), whereas in VOA impersonal and passive forms predominate (“was hit,” “floods displaced”), reinforcing the frame of loss of control. These data corroborate the conclusions of Hart regarding the correlation between syntactic structure and the ideological frame orientation of a text.

Taken together, the proposed analysis demonstrates that the media discourse of natural disasters functions not as a mirror reflection of reality but as a complex mechanism of meaning construction, grounded in cultural codes, institutional aims, and cognitive schemata. The differences between BBC and VOA in representing wildfires and floods indicate broader ideological and cultural–discursive strategies, which require further interdiscursive comparison in future research.

The findings also invite broader reflection on the communicative power of metaphorical framing in shaping not only linguistic meaning but also social action. The contrast between mobilizing and fatalistic frames highlights the extent to which discourse guides emotional engagement and collective agency during crises. This connection between metaphorical construal and behavioral orientation suggests that media language serves as a mediator between cognition and public response – an aspect that warrants further interdisciplinary investigation combining linguistics, psychology, and communication studies.

6. Conclusions

The present study has made it possible to identify the systemic features of metaphorical framing of natural disasters in English-language media discourse, based on material from the BBC and the Voice of America. A comparative corpus-based analysis, integrating quantitative and qualitative methods, confirmed that the representation of natural hazards is not a neutral transmission of facts: it is constructed upon stable cognitive models that guide interpretation, struc-

ture the perception of threats, and shape public expectations with respect to institutional measures. The findings demonstrate a divergence of framing strategies: BBC relies more heavily on frames of mobilization and institutional response, whereas VOA tends toward dramatization, foregrounding frames of uncontrollable force and helplessness. These differences point to the existence of distinct cultural–discursive scenarios of disaster representation, conditioned by editorial policies, target audiences, and national cognitive traditions. The identified variability in the distribution of frames confirms that media discourse not only records events but also actively shapes the cognitive map of natural threats, which is consistent with the principles of frame theory and conceptual metaphor theory. The introduction of the “frame index” category enabled the quantitative operationalization of metaphorization intensity, thereby ensuring comparability of data across different subcorpora. This instrument holds promise for further application in cognitive–discursive research related to media linguistics and environmental communication.

The scholarly significance of this study lies in the advancement of an interdiscursive approach to the study of metaphorical framing and in demonstrating that the choice of metaphors and frames serves as an indicator of cultural and institutional strategies of risk representation. The practical value of the research is associated with the potential use of its findings in the development of effective strategies for crisis communication, media education, and the cultivation of a resilient ecological culture.

The limitations of the study are defined by the corpus design: the analysis encompasses two media outlets and two types of natural disasters, which restricts the scope of generalization. Nevertheless, the symmetry of the corpus and the rigor of the methodological procedure ensured the reliability of the conclusions. The prospects for future research involve expanding the corpus to include additional media ecosystems and genres, incorporating multilingual material, and applying interdisciplinary approaches to analyze the relationship between framing, public perception, and political decision-making.

Thus, the present study makes a significant contribution to the cognitive–discursive analysis of media texts, demonstrating that the metaphorical framing of natural disasters constitutes an integral mechanism for the construction of

social experience and the formation of collective response scenarios in the context of global climate challenges.

In addition, further research could focus on examining the influence of metaphorical framing on public opinion and behavioral responses in the context of natural disasters, through experimental or survey-based methods that would complement the linguistic analysis with sociocognitive evidence. Another promising direction involves a diachronic exploration of framing strategies over time, across different types of disasters and regions, to trace how changes in socio-political context and media agendas reshape cognitive and emotional models of crisis communication. Integrating these dimensions would deepen our understanding of the dynamic interaction between language, cognition, and public discourse in environmental communication.

Author Contributions

Conceptualization, A.T.N. and N.V.M.; methodology, A.T.N.; software, A.T.N.; validation, A.T.N., N.V.M. and G.K.I.; formal analysis, A.T.N.; investigation, A.T.N.; resources, N.V.M.; data curation, A.T.N.; writing—original draft preparation, A.T.N.; writing—review and editing, N.V.M. and G.K.I.; visualization, A.T.N.; supervision, G.K.I.; project administration, N.V.M.; funding acquisition, N.V.M. All authors have read and agreed to the published version of the manuscript.

Funding

This research received no external funding.

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflict of interest.

References

- [1] Lakoff, G., Johnson, M., 1980. *Metaphors We Live By*. University of Chicago Press: Chicago, IL, USA. DOI: <https://doi.org/10.7208/chicago/9780226470993.001.0001>
- [2] Lakoff, G., 1987. *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind*. University of Chicago Press: Chicago, IL, USA. DOI: <https://doi.org/10.7208/chicago/9780226471013.001.0001>
- [3] Fillmore, C.J., 1982. Frame Semantics. In *Linguistics in the Morning Calm*. Hanshin: Seoul, South Korea. pp. 111–137.
- [4] Goffman, E., 1974. *Frame Analysis: An Essay on the Organization of Experience*. Harper & Row: New York, NY, USA.
- [5] Entman, R.M., 1993. Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*. 43(4), 51–58. DOI: <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- [6] Wodak, R., Meyer, M. (Eds.), 2015. *Methods of Critical Discourse Studies*, 3rd ed. SAGE: London, UK.
- [7] van Dijk, T.A., 2020. *Critical Discourse Studies: A Sociocognitive Approach*. Cambridge University Press: Cambridge, UK.
- [8] van Dijk, T.A., 2008. *Discourse and Context: A Sociocognitive Approach*. Cambridge University Press: Cambridge, UK.
- [9] Fairclough, N., 1995. *Critical Discourse Analysis: The Critical Study of Language*. Longman: Harlow, UK.
- [10] Charteris-Black, J., 2004. *Corpus Approaches to Critical Metaphor Analysis*. Palgrave Macmillan: London, UK. DOI: <https://doi.org/10.1057/9780230000612>
- [11] Hart, C., 2014. *Discourse, Grammar and Ideology: Functional and Cognitive Perspectives*. Bloomsbury Academic: London, UK.
- [12] Koller, V., Semino, E., 2009. Metaphor, Politics and Gender: A Case Study from Germany. In: Ahrens, K. (Ed.). *Politics, Gender and Conceptual Metaphors*. Palgrave Macmillan: London, UK. pp. 9–35. DOI: https://doi.org/10.1057/9780230245235_2
- [13] Hauser, D.J., Fleming, M.E., 2021. Mother Nature's Fury: Antagonist Metaphors for Natural Disasters Increase Forecasts of Their Severity and Encourage Evacuation. *Science Communication*. 43(5), 570–596. DOI: <https://doi.org/10.1177/10755470211031246>
- [14] Vinnell, L.J., Milfont, T.L., McClure, J., 2023. Natural Hazard Versus Natural Disaster: Does Framing the Event Affect Preparedness Intentions, Attitudes, and Behaviour? *Social Psychological Bulletin*. 18, e8357.

- DOI: <https://doi.org/10.32872/spb.8357>
- [15] Depoux, A., Hémono, M., Puig-Malet, S., et al., 2017. Communicating Climate Change and Health in the Media. *Public Health Reviews*, 38, 7. DOI: <https://doi.org/10.1186/s40985-016-0044-1>
- [16] Badullovich, N., Grant, W.J., Colvin, R.M., 2020. Framing Climate Change for Effective Communication: A Systematic Map. *Environmental Research Letters*. 15(12), 123002. DOI: <https://doi.org/10.1088/1748-9326/aba4c7>
- [17] Blankshain, J.D., Glick, D.M., Lupton, D.L., 2022. War Metaphors (What Are They Good For?): Militarized Rhetoric and Attitudes Toward Essential Workers During the Covid-19 Pandemic. *American Politics Research*. 51(2), 161–173. DOI: <https://doi.org/10.1177/1532673X221125713>
- [18] Musolff, A., 2022. “World-beating” Pandemic Responses: Ironical, Sarcastic, and Satirical Use of War and Competition Metaphors in the Context of COVID-19 Pandemic. *Metaphor and Symbol*. 37(2), 76–87. DOI: <https://doi.org/10.1080/10926488.2021.1932505>
- [19] Semino, E., 2021. “Not Soldiers but Fire-fighters”: Metaphors and COVID-19. *Health Communication*. 36(1), 50–58. DOI: <https://doi.org/10.1080/10410236.2020.1844989>
- [20] Brugman, B.C., Droog, E., Reijnierse, W.G., et al., 2022. Audience Perceptions of COVID-19 Metaphors: The Role of Source Domain and Country Context. *Metaphor and Symbol*. 37(2), 101–113. DOI: <https://doi.org/10.1080/10926488.2021.1948332>
- [21] Feifei, F., 2024. Analyzing Metaphor Patterns in Covid-19 News Pictures: A Critical Study in China. *PLoS ONE*. 19(2), e0297336. DOI: <https://doi.org/10.1371/journal.pone.0297336>
- [22] Groff, S.P., 2021. Magnifying Focusing Events: Global Smoke Plumes and International Construal Connections in Newspaper Coverage of 2020 Wildfire Events. *Frontiers in Communication*. 6, 713591. DOI: <https://doi.org/10.3389/fcomm.2021.713591>
- [23] Shellington, E.M., Nguyen, P.D.M., Rideout, K., et al., 2022. Public Health Messaging for Wildfire Smoke: Cast a Wide Net. *Frontiers in Public Health*, 10, 773428. DOI: <https://doi.org/10.3389/fpubh.2022.773428>
- [24] Karyotakis, M.-A., Lo, K., 2024. The Political Ecology of Wildfire: Media and the Politics of Blame in the Evros Wildfires in Greece. *Trees, Forests and People*. 18, 100682. DOI: <https://doi.org/10.1016/j.tfp.2024.100682>
- [25] Jacobson, M., Smith, H., Huber-Stearns, H.R., et al., 2021. Comparing Social Constructions of Wildfire Risk across Media, Government, and Participatory Discourse in a Colorado Fireshed. *Journal of Risk Research*. 25(6), 697–714. DOI: <https://doi.org/10.1080/13669877.2021.1962954>
- [26] Dasandi, N., Graham, H., Hudson, D., 2022. Global Health and Environmental Framing Bolster Support for Climate Policies. *Communications Earth & Environment*. 3, 239. DOI: <https://doi.org/10.1038/s43247-022-00571-x>
- [27] Torricelli, M., Falkenberg, M., Galeazzi, A., 2023. How does Extreme Weather Impact the Climate Change Discourse? Insights from the Twitter Discussion on Hurricanes. *PLOS Climate*. 2(11), e0000277. DOI: <https://doi.org/10.1371/journal.pclm.0000277>
- [28] Vikström, S., Mervaala, E., Kangas, H.-L., et al., 2023. Framing Climate Futures: The Media Representations of Climate and Energy Policies in Finnish Broadcasting Company News. *Journal of Integrative Environmental Sciences*. 20(1). DOI: <https://doi.org/10.1080/1943815X.2023.2178464>
- [29] Cody, E.M., Stephens, J.C., Bagrow, J.P., et al, 2017. Transitions in Climate and Energy Discourse Between Hurricanes Katrina and Sandy. *Journal of Environmental Studies and Sciences*. 7(1), 87–101. DOI: <https://doi.org/10.1007/s13412-016-0391-8>
- [30] Cox, R.S., Long, B.C., Jones, M.I., et al., 2008. Sequestering of Suffering: Critical Discourse Analysis of Natural Disaster Media Coverage. *Journal of Health Psychology*. 13(4), 469–480. DOI: <https://doi.org/10.1177/1359105308088518>
- [31] Stecula, D.A., Borah, P., 2019. Framing Climate Change: Economics, Ideology, and Uncertainty in American News Media Content From 1988 to 2014. *Frontiers in Communication*. 4, 6. DOI: <https://doi.org/10.3389/fcomm.2019.00006>
- [32] Chouliaraki, L., 2010. Post-Humanitarianism: Humanitarian Communication Beyond a Politics of Pity. *International Journal of Cultural Studies*. 13(2), 107–126. Available from: [https://eprints.lse.ac.uk/29265/1/Post-humanitarianism\(LSERO\).pdf](https://eprints.lse.ac.uk/29265/1/Post-humanitarianism(LSERO).pdf)
- [33] Koteyko, N., Atanasova, D., 2016. Discourse Analysis in Climate Change Communication. *Oxford Research Encyclopedia of Climate Science*. DOI: <https://doi.org/10.1093/acrefore/9780190228620.013.489>
- [34] Günay, D., Yenen Aytakin, Ö., Melek, G., 2025. Visual Framing of Climate Change During Natural Disasters at Home and Abroad: An Analysis of British News. *Visual Communication*. 1–34. DOI: <https://doi.org/10.1177/14703572251320304>
- [35] Zhunussova, G., Tajik, M.A., Fillipova, L., et al., 2023. “I am a Mixed Person of Kazakh, Turkish and English”: Multilingual Students’ Identity in EMI Universities in Kazakhstan. *System*. 119, 103159. DOI: <https://doi.org/10.1016/j.system.2023.103159>
- [36] Gusarov, D., 2023. Kazakhstan 2022 Presidential Elections in German Media: Critical Discourse Analysis. SSRN. DOI: <https://doi.org/10.2139/ssrn.4466157>
- [37] Abdyzhaparova, M.I., 2021. Man and Nature, Man and History in Metaphors of Aipin’s Historical Novel. *Journal of Language and Linguistic Studies*. 18(1), 488–495.

- Available from: <https://www.jlls.org/index.php/jlls/article/view/3491>
- [38] Beknazarova, U.U., Almutova, A.B., Yelemessova, S.M., et al., 2021. The Cognitive Function of a Conceptual Metaphor and Its Methodological Foundations. *Journal of Language and Linguistic Studies*. 17(3), 1312–1324. Available from: <https://www.jlls.org/index.php/jlls/article/view/3147>
- [39] Taussogorova, A., Tuzelbayeva, D., Bektemirova, S., et al., 2024. Kazakh Gluttonous Discourse Analysis of ‘Bas Tartu’ & ‘Tabak Tartu’: Conceptual Image and Institutional Function. *Eurasian Journal of Applied Linguistics*. 10(1), 127–138. Available from: <https://ejal.info/menuscrypt/index.php/ejal/article/view/694/235>
- [40] Sagadiyeva, Z., Satenova, S., Yeskindirova, M., et al., 2021. Political Discourse: The Translation Aspect. *Journal of Language and Linguistic Studies*. 17(3), 1615–1627. Available from: <https://dergipark.org.tr/en/pub/jlls/issue/64393/981042>
- [41] Mussaly, L.Z., Daurenbekova, L.N., Seidenova, S.D., et al., 2021. Influence of Symbolism in World Literature on the Kazakh Poets’ Creativity. *Journal of Language and Linguistic Studies*. 18(1), 447–457. Available from: <https://www.jlls.org/index.php/jlls/article/view/3499>
- [42] Lakoff, G., Turner, M., 1989. *More Than Cool Reason: A Field Guide to Poetic Metaphor*. The University of Chicago Press: Chicago, IL, USA.