The representation of the climate crisis in Croatian online news media

Ljiljana Šarić[1,2]* and Radoslava Trnavac[3]

[1]Department of Literature, Area Studies and European Languages, University of Oslo, Oslo, Norway,
[2]Institute for the Croatian Language, Zagreb, Croatia, [3]The National Research University "Higher
School of Economics", Moscow, Russia

This study analyzes agency and news values across verbal and visual modalities
in Croatian online news on the climate crisis, examining how climate change is
portrayed. We explore newsworthiness, visual framing, and metaphor, linking
agency to broader concerns about responsibility. In addition, the analysis traces
how different types of agency shape news values in both metaphorical and non-
metaphorical micro-contexts. To achieve our goals, we employ four theoretical
frameworks: Halliday and Matthiessen's Transitivity model; Conceptual Metaphor
Theory as developed by Lakoff and Johnson and subsequently extended by Forceville,
Steen et al., and Hart; Bednarek and Caple's news values analysis framework;
and the climate-change visual framing approach developed by O'Neill et al. The
findings reveal a contradictory picture. Croatian online media primarily evoke
worry, reinforced by the news values of Impact and Negativity and by frequent
portrayals of humanity as the Goal in both texts and images. Metaphorical framings
follow a clear pattern: individuals appear as victims facing stronger adversaries,
while abstract entities such as the climate crisis and climate change are depicted
as malevolent agents in a dominant war scenario. News stories rarely highlight
initiatives that might foster a sense of agency. Most articles present climate change
as a global problem and use images of places distant from, or only loosely related
to, Croatia. The result is a narrative that feels remote and insufficiently relevant
to the average reader.

KEYWORDS

agency, climate change, climate crisis, Croatia, metaphors, news values, online news

1 Introduction

Communicating climate issues is difficult: they often seem complex, abstract, and distant
from everyday experience, and fact-centered messages have proved ineffective (Badullovich
et al., 2020). Emotive wording is therefore used to spur action, but such language can mislead
and confuse. Research shows many familiar terms fall short because, though meant to signal
danger, they carry positive everyday connotations—for example, "change" in *climate change*
(Forgács and Pléh, 2022). Moreover, corporate interests can dilute key terms (Forgács and Pléh,
2022). De Meyer et al. (2020) argue that climate communication should go beyond raising
understanding and concern to foster agency by spotlighting stories of positive action—shifting
the framing from "issue-based" to "action-based."

For decades, *climate change* has denoted both human-induced and natural shifts in Earth's
climate—changes that warm the atmosphere, oceans, and land, disrupt life-supporting
ecosystems, and harm human health. While *climate change* and *global warming* have been used
since the 1970s, the former has dominated since the 1990s. Yet neither term conveys an existential
threat: *change* sounds benign and vague, suggesting any change. This framing enables political

actors to question whether change exists at all or to dismiss it as a natural process beyond human influence (Forgács and Pléh, 2022, p. 459).

More alarming alternatives to *climate change* are adopted because they are thought to convey the issue's gravity more clearly. Maipas and Kavantzas (2024) contend that *climate crisis* best captures the urgent need for intervention and spurs immediate action (see also Climate Crisis, 2025). We used this term in our data collection (Section 3), although both *climate crisis* and *climate change* are widely present in our data.

Since 2021, spurred by COP26 and the IPCC's stark warnings about human-driven warming, climate issues have moved to the center of public discourse and received extensive media coverage. Research shows that this coverage uses diverse framings and stresses the need to study non-English national contexts (Hase et al., 2021). We therefore examine how Croatian online news media portray climate issues in this lesser-studied European setting.

Research on climate-change communication is extensive. The overview below is necessarily brief and therefore focuses on the issues most relevant to our analysis: agency, news values, (multimodal) metaphor and metonymy, visual representations, and climate-change coverage in Croatian media.

Schäfer and Schlichting (2014) surveyed 133 empirical studies of climate-change discourse: 92 drew on U.S. data, while Australia, Germany, and the United Kingdom each appeared in fewer than 20, and all other (mostly European) countries in fewer than 10. Research on agency shows that assigning agentive roles matters: personifying the climate diffuses responsibility (Kramar, 2023), whereas naming specific actors clarifies pathways to action (Liu, 2023). Perceived agency also varies by outlet: elite newspapers highlight governmental and corporate actors, whereas social-media platforms foreground grassroots activism and blame (Sanford and Painter, 2024). Linking agency to solutions further boosts perceived efficacy: discourse that couples attribution with concrete measures (Hopke and Wozniak, 2025) or educational appeals (Huang and Siqi, 2024) encourages audiences to act rather than merely observe. De Meyer et al. (2020) urge communicators to move from "issue-based" to "action-based" storytelling, placing people who take positive climate action at the center of each narrative to build collective agency.

Dancygier (2023) shows that multimodal discourse in climate change campaigns, memes, posters, and blogs relies on metonymy and conceptual blending, yet some metaphors fail to provoke the intended emotions. Like Currie and Clarke (2022), she finds that human agency—both causal and affected—is often downplayed. War-and-conflict metaphors, widely analyzed (Atanasova and Koteyko, 2015; Flusberg et al., 2018; Currie and Clarke, 2022), likewise appear in our data (see Section 3).

Research on multimodality, metaphor, and metonymy in environmental contexts focuses mainly on adverts, campaigns, and protest visuals (O'Dowd, 2024), and demonstrates that many apparent metaphors rest on metonymic cues (Dancygier, 2023). The scholarship remains Anglocentric, and figurative representations in online and legacy news media are still largely unexplored, raising questions about the applicability of Forceville's (2008) typology of visual and multimodal metaphors to news visuals.

Studies of climate imagery (see Wang et al., 2018; Yao and Warren, 2025; O'Neill et al., 2013; O'Neill and Smith, 2014; Chapman et al., 2016 for overviews) test which visuals foster agency regarding climate action, yet results remain inconclusive as to whether solution- or impact-focused images are more effective. O'Neill et al. (2013) found that visuals shape engagement in two distinct ways: some heighten *salience* (the perceived importance of climate change), while others enhance *efficacy* (confidence that meaningful action is possible). Few images do both. Impact-focused photos raise salience but also create psychological distance and disengagement; portraits of identifiable individuals (politicians, scientists, etc.) can even lower perceived importance. By contrast, visuals of future energy systems or mitigation measures boost efficacy. Chapman et al. (2016) obtained a somewhat different pattern. Images of climate *impacts* (e.g., flood victims) most strongly spur intentions to act personally; solution-focused visuals (e.g., solar panels) seldom translate into action unless viewers clearly connect them to climate change. Local-impact scenes motivate when the threat feels serious, whereas distant-impact scenes can evoke greater empathy and support in some audiences.

Using multimodal Discursive News Values Analysis (DNVA), Dahl and Fløttum (2017) found that *Negativity* and *Impact* dominated 50 climate stories in *The Guardian* and *Daily Mail*, with images reinforcing verbal cues. Moernaut and Temmerman (2019) showed that Negativity, Personalization, and Superlativeness manifest differently in "Anthropocentric" versus "Biocentric" frames, arguing that news values and frames co-create salience. Huan (2023), applying critical DNVA to *People's Daily* (China) and the *Sydney Morning Herald* (Australia), reported that the balance between "politicization" and "popularization" determines perceived newsworthiness. Cheng and Liu (2024), in a corpus-assisted DNVA of five Chinese outlets (1993–2022), identified a long-term dominance of Eliteness, with Impact and Positivity rising after 2013 in line with China's climate-leadership branding.

Research on climate-change representations in Croatian media is limited, with, to our knowledge, only two published studies focused on online news sources. Kalajžić et al. (2022) document celebrity activism and denial narratives in Croatian online news sources in 2019. They applied qualitative and quantitative content analysis to 136 articles published in online media—24sata.hr., Index.hr., Net.hr., Narod.hr., and Vecernji.hr—focusing on outlets with the highest web traffic. The timeframe was restricted to the week preceding and the week following the 2019 UN Climate Summit. Bašić et al. (2020), using critical discourse analysis, show that Croatian online outlets portray climate change as a remote scientific issue, offering few human-interest angles and weakly attributing responsibility compared with Anglophone media. That study examines three Croatian online newspapers and news portals—*Jutarnji list*, *Večernji list*, and *Tportal*—over a limited one-month period, from 16 October to 16 November 2018. Čerepinko et al. (2023) collected data from various websites, including news organizations, internet forums, and social networks, to analyze sentiment; however, they provide no clear account of how climate change is represented specifically in news media. The authors report that, among "articles" in which climate change constitutes the main topic, 75% were classified as negative, 18.75% as neutral, and 6.25% as positive. It remains unclear whether the authors refer exclusively to media content in this context, as "posts and comments" are mentioned alongside "articles." Vrselja et al. (2024) examine the relationships between exposure to climate change information in traditional (television and radio) and modern media (social networks and video content–sharing platforms), cognitive and emotional aspects of climate change risk judgment, and

TABLE 1 Semantic roles in the Sydney transitivity model (Adapted from Halliday and Matthiessen, 2014).

Material	Mental (internal experiences)	Relational (being, becoming and having)	Verbal (symbolic exchange of meaning)	Behavioral (typically physiological and psychological behaviors)	Existential (existence of an entity)
Actor (responsible for bringing about the change)	Senser (the conscious participant who thinks, perceives, feels or desires something/someone)	Carrier (carries an attribute)	Sayer	Behaver (main participant found in a behavioral clause)	Existent (a person, object, action, event, an institution or abstraction)
Goal (affected by the process)	Phenomenon: (what is thought, perceived, felt or desired)	Attribute (a quality)	Receiver	Behavior	
Beneficiary: Recipient (the role who is given goods)		Attributor (assigns an Attribute to a Carrier)	Verbiage (a message)		
Beneficiary: Client (the role for whom a service is performed)		Identified (the role defined by the Identifier)			

pro-environmental behavior. It remains unclear whether online news sources (e.g., online newspapers and news portals) are considered part of "modern media" in their study. Vrselja (2025) focuses on audience reactions to media messages, measured on a scale ranging from 'frightening' to 'reassuring'; however, the author neither differentiates between media types nor examines media representations.

To contribute to an underresearched field, we examine how climate change is represented in Croatian online news media, assuming that these media reach broader audiences than traditional media,[1] by addressing two research questions focused on agency and discursive impact.

1 To what extent do verbal and visual representations of the climate crisis align in their portrayal of agency? We investigate this by analyzing newsworthiness, visual framings of climate change, and the use of metaphor, linking agency to the wider issues of responsibility and possible modes of action.
2 In light of (1), how do Croatian online media shape broader discourse on climate change and the climate crisis?

Section 2 outlines the theoretical concepts that guide our analysis, and Section 3 describes the data and methods. Section 4 examines verbal and visual frames and their interrelations. Section 5 discusses the results and presents some conclusions.

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1 There are no reliable data on how many people in Croatia receive information about climate change via online news sources as compared to traditional media. Findings from Vrselja et al. (2024) suggest that only about a quarter of Croatian participants in the study regularly obtained such information through television, while exposure via social media channels was almost twice as high. However, it is not clear what is meant by "social media channels" in Vrselja et al., making it uncertain whether this category includes online newspapers and news portals.

2 Theoretical approach

This section outlines the theoretical frameworks guiding our analysis. Combining them proved fruitful, as they offer complementary perspectives and a comprehensive view of Croatian online news discourse. We foreground agency—first by examining verbal and visual, metaphorical and non-metaphorical contexts, news values, and visual climate frames, and then by analyzing the multimodal semantic links between text and image. Within the verbal component, we trace how different forms of agency shape news values and metaphors in the micro-contexts where the terms *climate crisis* and *climate change* appear.

Following Liu and O'Halloran's (2009) concept of intersemiotic parallelism, our visual analysis foregrounds the same elements identified in the verbal component and incorporates additional visual climate frames.

To assess how agency interacts with the metaphorical language, newsworthiness, and visual framings, we employ four theoretical frameworks: Halliday and Matthiessen's (2014) Transitivity model; Conceptual Metaphor Theory—Lakoff and Johnson (1980) and subsequent extensions by Forceville (2008) and Hart (2017); news values analysis (Bednarek and Caple, 2017); and climate-change visual framing (O'Neill et al., 2013).

To determine the forms of agency portrayed in climate-crisis news, we applied the Sydney School's Transitivity model to both textual and visual data. First proposed by Halliday (1985) and refined by Halliday and Matthiessen (2014), the model describes the range of choices available to speakers "for expressing their perception of participants, processes, and circumstances within and beyond their internal world" (Halliday, 1973, p.134). Table 1 lists only those semantic roles relevant to the processes identified in our verbal and visual data.

Our corpus's verbal component features only a few semantic roles; the most prominent, shown in (1), is Actor. Notably, the crisis itself fills this role, thereby downplaying human responsibility.

(1) Kaže kako *klimatska kriza* stavlja ljude pred ključni trenutak u povijesti suvremenih društava…

> "He says the climate crisis has placed people at a pivotal moment in modern history."

Agency in images spans a broader range of semantic roles than in the verbal corpus, as visuals typically depict concrete entities. In our classification, these roles are expressed through terms for such entities. Moreover, images permit wider interpretation, whereas the linguistic co-text guides the viewer through "the signifieds of the image" (Barthes, 1977, p. 39; Hart, 2017, p. 7).

We analyze agency in both literal and metaphorical contexts. In Cognitive Linguistics, a metaphor is a systematic mapping between conceptually distinct domains—for example, malevolent human agents (source) mapped onto climate phenomena (target). Metonymy, in contrast, is a within-domain mapping where one salient element stands for a contiguous one (e.g., hands for work). Both processes can appear verbally, visually, or multimodally. Verbal metaphors and metonymies are identified using standard Cognitive Linguistic procedures (Stefanowitsch, 2006; Steen et al., 2010).

Most studies of multimodal metaphor focus on advertising, branding, and political cartoons, where such devices are common. News photography has attracted far less attention because visual and multimodal metaphors appear only sporadically. Hart (2017) demonstrates that news images can indeed contain many of these metaphors, yet our dataset confirms they remain relatively rare in this genre. Due to space constraints, we are unable to address visual and multimodal metaphors in detail; however, we provide some remarks in Section 4.3.

We also examine agency using Discourse News Values Analysis (DNVA); (Bednarek and Caple, 2017), classifying both verbal micro-contexts and images. DNVA, a critical discourse analysis framework, reveals the ideological dimension of news selection by showing how news values are "emphasized, rare or absent in reporting on particular topics and events" (ibid.: 5). It enables analysis of how verbal and visual elements support, enhance, or contradict one another and helps determine which practices in multimodal news stories succeed or fail (ibid.: 5) (Table 2).

Example (2) illustrates the news-value category *Negativity*, the most frequent in the verbal corpus.

(2) Klimatske promjene uzrokovane ljudskim djelovanjem pogoršale su vruće i suhe uvjete koji omogućuju i porast požara.

> "Human-caused climate change has intensified the hot, dry conditions that allow fires to spread."

We supplemented our image analysis with O'Neill's framework (2014, 2017, 2020), which targets the visual content of climate-change imagery, whereas Bednarek and Caple's (2017) news-values model highlights ideological dimensions. Our revised version of O'Neill's typology distinguishes the following image types:

(a) *Identifiable people* – images featuring recognizable individuals (e.g., politicians, scientists, business leaders, celebrities, etc.).
(b) *Climate change impacts* – imagery depicting the effects or consequences of climate change on environments and communities (e.g., melting ice, extreme weather damage,

TABLE 2 News values in the verbal sub-corpus (based on Bednarek and Caple, 2017: 55) and in the visual sub-corpus (based on Caple, 2016: 2–4).

News value	Verbal component	Visual component
Esthetic appeal	N/A	The event is portrayed as beautiful, representing people, places, objects, and landscapes renowned for their beauty.
Consonance	The event is discursively constructed as (stereo) typical (limited to news actors, social groups, organizations, or nations)	Depictions of people and their attributes that align with stereotypical imagery of a person/country, etc.
Eliteness	The event is discursively portrayed as being of high status or fame, including—but not limited to—the people, countries, or organizations involved.	Showing well-known and easily identifiable key figures (e.g., political leaders, celebrities, individuals with elite occupations, using specialized equipment).
Impact	The event is discursively represented as having far-reaching ramifications	Depicting the consequences of events, which are often bad.
Negativity/Positivity	The event is discursively presented as either positive or negative	Depicting negative events and their aftermath—accidents, natural disasters, injured victims. Showing people experiencing negative emotions.
Personalization	The event is discursively represented as having a human face (including eyewitnesses and non-elite participants)	Showing 'ordinary' people, particularly when they represent a larger group
Proximity	The event is discursively represented as geographically or culturally close	Showing well-known or iconic landmarks, natural features or cultural symbols
Superlativeness	The event is discursively represented as being either very intense or massive	Showing extensive repetition within the image frame—e.g., an entire street affected rather than a single house. Depicting participants exhibiting strong positive or negative emotions.
Timeliness	In terms of its publication date, the event is discursively framed as timely	Natural phenomena that indicate time, e.g., seasonal flora. Incorporating cultural artifacts that signal a particular time of year.
Unexpectedness	The event is discursively presented as surprising or unusual	People in states of shock or surprise, or events that deviate from established societal norms/expectations.

species at risk). These images often feature "visual synecdoches for distant climate risk" (O'Neill, 2020).[2]

(c) *Causes of climate change* – visuals showing energy production, emissions, and pollution (e.g., smokestacks, traffic).

(d) *Solutions* (e.g., wind turbines).

(e) *Protest imagery* of demonstrations and activism, featuring, e.g., activists and rallies.

(f) *Scientific images* – graphics and visuals from climate science (e.g., charts, graphs, maps).

O'Neill's work asks which frames dominate climate-media communication and how contemporary visual framing affects broader public engagement. Each frame promotes certain forms of engagement while sidelining others: e.g., when climate change is portrayed as contested, politicized, or distant from everyday life, it seldom boosts people's sense of efficacy (O'Neill et al., 2013).

O'Neill's image typology is drawn from UK, US, and Australian newspapers analyzed across different periods. National contexts can vary, and imagery itself evolves over time within a single context (O'Neill, 2020). Our dataset contained no climate-change cartoons—a category found in UK and US data (O'Neill, 2020)—but it did include several categories beyond O'Neill's scheme. We grouped these under an additional label, *Other*, encompassing *non-identifiable people (engaged in various activities), positively and negatively framed landscapes, animals, books,* and *artistic representations* (e.g., drawings), the last of which were particularly common.

In some images, *verbal messages* are the primary—or sole—content. A few also contain metaphors and metonymies, so we analyze literal and figurative representations. (Section 3 details our image annotation procedure.)

Together, the frameworks above provide a solid foundation for examining Croatian online media discourse on the climate crisis.

3 Materials and methods

The material was collected in August 2024 via Google's advanced search. Although using Google's advanced search raises reproducibility issues because the web's dynamic nature can lead to changes in search results over time and thus hinder precise replication, this limitation is less pertinent to our study, which prioritizes qualitative rather than strictly quantitative analysis. For the searches, the domain was restricted to ".hr," the language set to Croatian, and the timeframe defined as 2020–2024: During this period, Croatia experienced a range of significant extreme weather events, including severe floods, devastating storms, intense heat waves, droughts, and wildfires. Croatia ranked 17th on the 2022 Climate Risk Index, placing it among the countries most severely affected by the climate crisis. In 2020, the Croatian Parliament adopted an important policy document, *Strategy for Adaptation to Climate Change in the Republic of Croatia for the Period up to 2040, with a View to 2070*, (Narodne Novine, 2025) following the 2019 report by the Intergovernmental Panel on Climate

Change (IPCC). During this period, climate change increasingly came to be perceived as an urgent issue and was frequently framed as a crisis, which informed our choice of keywords for the searches.

Using the term *klimatska kriza* ("climate crisis"), we ran separate searches for all grammatical cases of the phrase. For each search, the first seven results pages (≈350 hits) were manually reviewed; later pages largely repeated earlier results. Media items were identified and duplicates removed, yielding 93 unique texts from national, regional, and local online newspapers and news portals.

The dataset comprises a total of 40 different sources, 23 of which appear only once. Of these 40 sources, 25 are national outlets (74 individual articles), 7 are regional outlets (11 articles), and 8 are local outlets (8 articles). Thus, around 80% of the articles originate from national outlets, approximately 12% from regional sources, and about 8% from local outlets, indicating that more than 90% of the material comes from sources with substantial influence on public opinion. The two most frequently represented sources are *Dnevnik.hr* and *Jutarnji. hr*, each with nine texts; *Hrt.hr* and *Index.hr* follow with eight and six texts, respectively. *Dnevnik.hr, Jutarnji.hr, Hrt.hr, and Index.hr* are all major, widely read Croatian news outlets, whose online portals rank among the most visited in the country. The online news landscape is highly competitive, and all four serve as key sources of information for the Croatian public. *Dnevnik.hr* is a major news portal that has consistently occupied a top position in national readership rankings. *Index.hr* is often cited as the most visited news website in Croatia and the leading digital media outlet, particularly popular among a younger, more liberal audience. *Jutarnji.hr* is the online edition of a national daily newspaper and is typically ranked as the second most visited news website in Croatia, after *Index.hr*. *Hrt.hr*, the online portal of the public broadcaster, generally attracts lower readership than commercial portals and is often perceived as having a pro-government bias.

Although the composition of Google results is beyond the researcher's control, we believe this sample is typical of Croatian online news discourse for the period.

The term *klimatska kriza* ("climate crisis") appears 229 times across 93 texts. About 20% of these instances occupy high-visibility slots (headline, subheading, or lead). In roughly one-third of the texts, the term occurs in at least two of four structural positions—headline/lead/introduction, middle, conclusion, and tag—and may recur multiple times within a single position.

Although *klimatske promjene* ("climate change") was not part of the original search string, it co-occurs with *klimatska kriza* ("climate crisis") and is actually more common, appearing 398 times across the 93 texts (vs. 229 for *klimatska kriza*). Some articles contain many instances of *klimatske promjene* and only a few of *klimatska kriza*, whereas 24 texts omit *klimatske promjene* entirely.[3] We manually extracted every micro-context featuring either term to analyze agency and news values. Additionally, we examined whether the framing of

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climate change and climate crisis was literal or metaphorical. To identify metaphorical usage, we applied a combination of metaphorical pattern analysis (Stefanowitsch, 2006) and the MIPVU procedure (Steen et al., 2010) to text segments in which *klimatska kriza* and *klimatske promjene* occur.

The 93 texts contained 242 images—about two to three per article—with some galleries featuring many more. When a text included a video, we analyzed its opening still frame. Images were first harvested automatically: Python code in a Jupyter Notebook used *fitz* and *PdfReader* to extract and, if necessary, resize them from the PDFs.

The results were then checked and supplemented manually. Each image was coded twice: (1) with an adapted version of O'Neill's (2017, 2020) climate-visual typology and (2) with Bednarek and Caple's (2017) news-values scheme; see Section 2. Because one image can embody several categories, multiple codes were assigned when appropriate.

We treated the term's sentence context—expanded to adjacent sentences when clarification was needed—as the unit of analysis for the verbal sub-corpus. Visual interpretation began with the headline, was matched to the lead image, and was then linked to the co-text in which climate crisis or climate change appeared, along with the lead paragraphs (Hart, 2017).

Given space constraints, we illustrate the annotation procedure with a single image from a text on rising climate-crisis-related anxiety.

Annotation involved four steps (Table 3): (1) identifying metaphor source domains (when present) and deliberate metonymies, (2) specifying agency, (3) coding news values, and (4) assigning a climate-visual type according to O'Neill's classification.

The image in Figure 1 shows an ornament: a weeping girl seated beside a globe-shaped ball, giving her the agency of Senser. It conveys the news values of Negativity and Personalization– the latter typically applied to depicting "ordinary" people, and Esthetic appeal, as the girl forms part of an ornament. The assigned climate visual type reinforces these news values, by representing a non-identifiable female in a drawing. The girl metonymically represents humanity anxiously awaiting Earth's fate.

Since manual metaphor identification and news values–based evaluation are regarded as flexible, interpretive tools (see Fuoli and Hommerberg, 2015; Bednarek, 2016; Bednarek and Caple, 2014), both verbal and visual corpora were divided into two equal parts. Each part

was annotated independently by each author across all annotation categories, after which every example was jointly discussed and, where necessary, revised by both authors, without calculating inter-rater reliability statistics. Each text in the corpus was examined at least twice and at different points in time to ensure the quality and consistency of the annotations.

4 Analysis

4.1 Verbal frames

Any situation can be represented—or 'framed'—in multiple ways, each foregrounding some features while backgrounding others. Framing involves selecting aspects of perceived reality and making them salient, thereby promoting a particular problem definition, causal interpretation, moral evaluation, or proposed solution (Entman, 1993, p. 51). We examined the micro-contexts (sentences and paragraphs) in which the phrases *klimatska kriza* (*climate crisis*) and *klimatske promjene* (*climate change*) appear, determining whether each is framed literally (e.g., as a problem) or metaphorically (e.g., as a malevolent person). Our focus is on how human actors— and their responsibility and capacity for action—are represented.

Metaphorical representations appear only occasionally in our data and are largely conventional. Throughout the data, *climate crisis* and *climate change* are conceptualized as entities and may be considered instances of ontological metaphor (Lakoff and Johnson, 1980). Because almost any phenomenon can be framed as a challenge or issue, this broad conceptualization adds little analytical value; we therefore excluded it from our metaphorical frames. Non-metaphorical frames predominate: climate crisis and climate change are mainly represented as problems or challenges (*problem, izazov*; *ključno društveno-političko pitanje* 'key socio-political issue')-- and often as topics of discussion or information exchange (e.g., *kompleksna i apstraktna tema* 'complex and abstract topic'). Within this literal "problem" frame, common collocations include *riješiti klimatsku krizu* 'solve the climate crisis' and *odgovoriti na klimatsku krizu* 'respond to the climate crisis'. Some frames highlight their factual status (e.g., *objektivna znanstveno dokazana činjenica* 'objectively scientifically proven fact'), thus linking interdiscursively to denial discourses that question climate change's reality. Most examples cast the climate crisis and climate change as active, malevolent Agents fulfilling the semantic role of Actor. The agency of the climate crisis and climate change is represented in both neutral and negative terms. Neutral verbs include *uzrokuje* ('causes'), *utječe* ('affects'), *čini* ('makes'), and *motivira* ('motivates').

FIGURE 1
https://faktograf.hr/2023/04/21/klimatska-anksioznost-u-porastu/.
Photo by Jordi Ilic/Faktograf.

TABLE 3 Steps in annotation of images.

Type of analysis	Annotation
Metaphor source	N/A
Agency	Senser
News values	Negativity, Personalization, Esthetic appeal
Climate visual type	Other: Non-identifiable people; Drawing/artwork; Metonymic representation

Negatively connoted verbs include *razara* ('destroys'), *ubija* ('kills') and *prijeti* ('threatens'). These pair with causative verbs and objects naming harmful outcomes— *ugrožava, izaziva negativne posljedice* ('endangers, causes negative consequences'). Sometimes the Actor's agency is backgrounded, while the affected areas or objects (e.g., *zemlje* 'countries') are foregrounded, as in (3).

(3) Mnoge su zemlje također teško *pogođene klimatskom krizo*m…

"Many countries have also been hard-hit by the climate crisis.…"

Goal is the second most frequent semantic role assigned to *climate change* in our data. It is usually depicted as the entity negatively affected by a process or circumstance (see (4)):

(4) Na klimatske promjene, tvrde, najviše *utječu intenzivne farme* s velikim brojem grla…

"They claim that intensive farms with large herds have the greatest impact on climate change."

The *Identified* role is rarely assigned to *climate crisis* or *climate change* (see 6) whereas both terms often appear as *Carriers* in multiple micro-contexts (see 5). Consistently, they are framed negatively—as problems or challenges (see 6).

(5) *Klimatske promjene su ireverzibilne*…

"Climate change is irreversible …."

(6) *Klimatska kriza problem* je na kojeg znanstvenici upozoravaju desetljećima…

"The climate crisis is a problem that scientists have been warning about for decades…"

A few examples, mainly with *klimatske promjene* (climate change) assign it both the *Existent* role (7) and the *Phenomenon* role (8).

(7) Postoje mnogi načini da se zajedno radi na tome, čak i da nema *klimatskih promjena.*

"There are many ways to work together on this, even if there were no climate change."

(8) Program je usmjeren na edukaciju o uzrocima i posljedicama *klimatskih promjena.*

"The program is focused on education about the causes and consequences of climate change."

In addition to the semantic roles discussed above (see examples 3–8), *climate crisis* sometimes functions as a circumstantial adjunct, expressing either *Location/Time* (9) or *Cause* (10):

(9) Roman o kojemu je riječ inicijalno je zamišljen kao distopija o planetu *na vrhuncu klimatske krize*, tik pred usijanje…

"The novel was originally conceived as a dystopia set on a planet *at the height of the climate crisis*, just before an inferno."

(10) Nizozemska planira klanje 30 milijuna grla stoke *zbog 'klimatske krize.'*

"The Netherlands plans to slaughter 30 million cattle *due to 'climate crisis.'*"

In terms of news values, Negativity dominates both non-metaphorical and metaphorical frames in the verbal corpus, often paired with Impact and, less frequently, Superlativeness. At times, all three surface in a single sentence, as shown in (11):

(11) *Klimatska kriza* eskalira gotovo jednakom brzinom kao i ratovi, a posljedice su jednako katastrofalne. [Superlativeness, Impact and Negativity]

"The climate crisis is escalating almost as rapidly as wars, and the consequences are equally catastrophic."

Negativity aligns with all key semantic roles and their associated agency types. The news value of *Timeliness* (see 12), which underscores the urgency of addressing the climate crisis, differentiates specific instances of Negativity:

(12) Nalazimo se duboko u klimatskoj krizi… klimatska kriza se uvijek gura u pozadinu kad god se pojavi neka druga, naizgled hitnija kriza. Sve dok hitnost *klimatske krize* ne postane dovoljno očita… [Timeliness and Negativity]

"We are deep in the climate crisis… the climate crisis is always pushed into the background whenever another, seemingly more urgent crisis arises. Until the urgency of the *climate crisis* becomes sufficiently obvious…."

In (12), the crisis is metaphorically portrayed both as a deep space (*nalazimo se duboko u* 'we are deep in') and as an object that can be pushed aside at will (*klimatska kriza se gura u* 'the climate crisis is pushed into').

Although Negativity dominates, we also find several instances of Positivity—e.g., (13), which highlights efforts to mitigate or eliminate the crisis's effects:

(13) Zadatak poslodavaca je upravljati prilagodbom radnih mjesta i ublažavanja posljedica *klimatske krize.*

"The task of employers is to manage workplace adaptation and mitigate the consequences of the climate crisis."

Metaphors are pivotal in climate-change communication because they shape public understanding. Research on metaphorical framing identifies dominant metaphors—such as war and race (Flusberg et al., 2018)—and examines how effective metaphors can spur action, set priorities, and influence resource allocation (Johnstone and Stickles, 2024; Shaw and Nerlich, 2015).

We identified four recurring metaphorical representations, the most prominent of which frames the climate crisis and climate change

as a MALEVOLENT AGENT or ENEMY in a metaphorical WAR. For instance, *Što EU može napraviti u borbi protiv klimatske krize?* 'What can the EU do in the fight against the climate crisis?'), uses *borba* (fight) to signal this frame. In similar contexts, climate change and the climate crisis are depicted as actively causing harm to people and the environment, while human actors are portrayed as fighters or victims (e.g., *žrtve klimatske krize* 'victims of the climate crisis'). Common verbs in this scenario include *pogađati* 'hit' and *prijetiti* 'threaten'. The verb appears more often in passive than in active constructions, with the climate crisis functioning as a "hidden agent" in the instrumental case (e.g., *gradovi pogođeni klimatskom krizom* 'cities affected by the climate crisis'): This usage backgrounds agency, unlike constructions where the crisis is presented as the overt agent.

In the war scenario, the crisis is personified and depicted as a malevolent agent with a human-like, destructive nature—a portrayal that contrasts with technical definitions of the climate crisis (e.g., "a situation of imminent environmental catastrophe brought about by climate change," "serious problems that are being caused, or are likely to be caused, by changes in the planet's climate," or "the decisive tipping point of climate change, seen as the 'point of no return' where the future of life on Earth is in peril."); see, e.g., CLIMATE CRISIS definition and meaning | Collins English Dictionary; The Climate Dictionary: An everyday guide to climate change | UNDP Climate Promise; What is the Climate Crisis? - Climate Crisis - MSK Library Guides at Memorial Sloan Kettering Cancer Center. Attributing agency to a situation or tipping point–itself a metaphor, see Van der Hel et al. (2018)–backgrounds the human actors and actions that exacerbated the crisis.

Atanasova and Koteyko (2015) note that casting the abstract notion of "climate change" as an enemy in the war scenario hides the fact that the real culprits are humanity and its behavior. Likewise, Moernaut and Temmerman (2019) show that the war metaphor underpins an anthropocentric master frame in which humans appear chiefly as victims of an external threat. Although abundant evidence links human activity to global warming, this frame diverts responsibility from people and obscures the wider ecological impacts. The war scenario portraying humans as victims therefore typifies broader patterns in how agency and culpability are represented.

In our dataset, human responsibility is only occasionally foregrounded: the crisis is seldom described as explicitly human-made (e.g., *klimatska kriza koju su uzrokovali ljudi se ubrzava* 'the climate crisis caused by humans is accelerating'). More often, human agency is backgrounded either through using passive constructions, (as in example 2 above) or by being merely implied—*meso, jaja i mliječni proizvodi potiču klimatsku krizu* 'meat, eggs, and dairy products drive the climate crisis' casts products, not consumers, as agents. Overall, coverage depicts people—and the places they inhabit—as victims threatened by climate phenomena that must be fought, resisted, and adapted to.

Beyond the dominant war framing, three other recurring conceptualizations depict the climate crisis/change as: (1) a PERSON —e.g., *[empatija] nam je hitno potrebna kako bismo se zajedno suočili s klimatskom krizom* ('We urgently need empathy to face the climate crisis together'); (2) an OBJECT that is measurable, mobile, or visible—e.g., *veličina klimatske krize* ('the magnitude of the climate crisis'); and (3) a SPACE —e.g., *svijet koji klizi u klimatsku krizu* ('a world sliding into a climate crisis'); see also (13) above. Personification typically appears with the verbs *suočiti/suočavati se* ('face'), which

mark the starting point for responsible action; in active constructions with these verbs, the agency of individuals and organizations is foregrounded.

The SPACE metaphor suggests that one can move into and out of climate change or the climate crisis. The verb chosen signals the nature of this movement and the agency available to the movers (typically people): *kliziti* 'slip,' for example, implies uncontrolled motion and limited agency. As metaphorical OBJECTS, climate phenomena appear measurable and manipulable. Yet this framing is misleading, as it implies they can be removed or eliminated through simple actions— an implication that misrepresents the complexity and persistence of the climate crisis and climate change.

Additional source domains appear only in single examples—for instance, the climate crisis is framed as a SPORTS RIVAL, a LIVING ORGANISM, a NATURAL FORCE, or even FOOD.

Within the metaphorical frame, agency of the *climate crisis* and *climate change* is chiefly realized through the *Goal* role, as "the fight against the catastrophic consequences of climate change" serves as the leitmotif of the relevant examples. This foregrounds, above all, the news values of *Negativity* and *Impact*.

4.2 Visual frames

Research agrees that imagery plays a pivotal role in climate-change communication, yet the effects of specific visuals' types remain unclear. Studies indicate that impact-focused photos boost issue salience but can create psychological distance, while images of public figures may dampen perceived urgency. Conversely, visuals of future energy systems or other mitigation measures enhance viewers' sense of efficacy (O'Neill et al., 2013). Impact images consistently spur behavioral intentions, whereas solution-focused visuals seldom do so unless their link to climate change is explicit. Local impact scenes motivate when the threat feels immediate (Chapman et al., 2016).

We categorized the visuals using our adaptation of O'Neill's typology (see Section 2) and summarize the main tendencies below.

The two dominant visual types are People and Climate Change Impacts. Climate Change Causes, Solutions, Protest Imagery, Artwork and Scientific images occur at similar rates but far less often. Several images show animals linked to impacts, causes, or solutions. Negatively framed landscapes—often overlapping with impact visuals—are rare, while positively framed landscapes are even scarcer. Many images are dominated by verbal elements—especially slogans— most often in protest visuals that spotlight climate-change causes, propose solutions, and stress urgency. In some cases, the text (e.g., a headline) is embedded directly in the image. Several visuals also feature books.

In the People category, most images show non-identifiable individuals. Among identifiable subjects, scientists and activists appear most often and equally, with media figures and politicians less common. A few visuals feature other professionals (e.g., educators).

Our visuals seldom politicize climate change: politicians rarely appear, while non-identifiable people—"people like us"—are common, making the issue more relatable. Many images focus on impacts that could spur constructive action, yet frequent depictions of scientists and activists can distance the topic by associating it with specialized groups. Despite recent calls for more solution-oriented imagery (Seelig et al., 2022; Hase et al., 2021), such visuals are scarce in

TABLE 4 Classification models for images.

Total number of images (240)	Agency (Transitivity model, Halliday and Matthiessen, 2014)	News values (Bednarek and Caple, 2017)	Visual frames (modified framework from O'Neill et al., 2013)
	Actor (97)	Impact (114)	Other: verbal message (52), artwork/drawing (27), metaphoric (11)/metonymic representation (32), positively/negatively framed landscapes (14), scientific images (9), books (9), animals (8)
	Goal (66)	Positivity (7) / Negativity (78)	Climate change impact (114)
	Attribute (44)	Esthetic appeal (66)	People-identifiable (politicians 8, professionals 7, scientists 25, media 13) People: non-identifiable: (activists 28, protests 22, police 1)
	Sayer (42)	Personalization (58)	Solutions (19)
	Verbiage (32)	Elitness (49)	Causes (17)
	Recipient (3)	Consonance (5)	
		Superlativeness (3)	
	Senser (3)	Timeliness (4)	
	Phenomenon (2)	Proximity (2)	

Croatian online news. Table 4 details all analytical parameters applied to the visual content, showing that a single image may contain multiple instances of the same parameter.

The most frequently occurring categories of news values in Bednarek and Caple's (2017) classification overlap with the most prominent categories in O'Neils framework. Impact and Negativity dominate coverage of climate-change harms, while Personalization, Esthetic Appeal, and Eliteness appear less often. O'Neill's *People* category aligns with two of Bednarek and Caple's categories: Personalization (ordinary people, activists, children) and Eliteness (scientists, writers, politicians, media figures). Esthetic Appeal surfaces mainly in depicted artworks—ornamental designs, installations, picturesque landscapes—that present tranquil nature in contrast to climate calamities, often via metonymic images of flora or trees symbolizing an ideal environment. Positivity is rarer and typically paired with Esthetic Appeal. Positivity and Negativity can coexist in a single image, reflecting a duality of good and harm in nature.

Visuals present the climate crisis mainly on a global scale. Consonance and Proximity are rare: only a few examples show phenomena specific to Croatia, and just a handful depict Croatian geography. Superlativeness—events cast as exceptionally intense or large—also appears infrequently. Overall, the images stress global negative consequences rather than outright catastrophe, yet they imply that informed action and activism can yield positive change. Classifying images by news values complements our adapted O'Neill framework, yet neither includes a category for metonymic or metaphorical features, which we therefore introduced in our own climate-visual typology.

In the visual corpus, agency mirrors the patterns observed in the verbal data: active Actors dominate. Experts, activists, the media, and the political and financial leaders, chiefly convey this agency, shaping climate-crisis narratives. The greatest emphasis falls on experts and activists, who are best positioned to spread information and raise public awareness.

Additionally, representatives from diverse sectors—workers, farmers, students, artists, cooperatives, ordinary citizens, and the media—appear alongside natural elements that aid climate-crisis mitigation. Conversely, economic, social, and health drivers (oil companies, piracy, superbugs, chemicals) are shown to worsen the crisis. Texts are highly polarized about activists: their constructive actions (e.g., art) are endorsed, whereas protest-related violence is questioned.

The *Goal* role—entities affected by climate-change processes—dominates many images. These visuals fall into three broad groups: (1) artifacts –examples include a damaged Statue of Liberty, ruined houses and gardens, electric vehicles vandalized by environmental activists, recycled-material artworks highlighting the crisis, flooded streets, and graphics symbolizing climate-driven shocks to finance or the internet; (2) natural phenomena– most often portrayed are Earth, cracked soil, seascapes, submerged landscapes, rough seas, flood-ruined parks, the Mediterranean, forests, shorter daylight, whales, cattle, scorched terrain, air, Europe, penguins, and fish stocks; (3) groups of people– most frequently shown at risk are ordinary citizens, workers, and firefighters—along with humanity as a whole, threatened by superbugs.

The agentivity is also represented by the categories Attribute and Identification. We merged *Attribute* and *Identification* into one category for the visual analysis, as both describe the objects or phenomena shown. Unlike in the verbal data—where *climate change* and *climate crisis* function as *Carriers* of attributes—we found no visual examples of a Carrier role. Instead, the images, often supported by text, either depict climate-change impacts or present an idealized nature we should aspire to.

Attributes/Identifications were inferred by reading headlines and interpreting the visuals—or, at times, by analyzing the imagery alone. This process produced descriptions such as: "days are lengthening," "an ice-free Arctic," "rising sea levels," "blue economy with green claims," "the climate crisis as apocalypse," "consumerism as religion and ecocide as law," "temperatures that threaten life," "hot air" (a red sky), "a landscape ignited by activists," "a smart pill for monitoring plants," "climate breakdown," "climate catastrophe," "radical solution: floating ocean platforms," "climate change as our new reality," and "submerged streets" (illustrated by the image).

Another prominent category in the visual corpus is *Sayer*, whose subjects largely overlap with those in the *Actor* category: experts, activists, scientists, authors, publications, political figures, media representatives, civil-protection officials, and even a symbolic globe depicted on a poster.

Verbiage, absent from the written corpus but prominent in the visuals, appears in many forms: books and novels, written alerts, warning signs for extreme heat, symbolic depictions of soaring temperatures and emerging pandemics, charts highlighting vulnerable industries affected by climate-related job losses, maps showing exploited areas of the northern Adriatic, written statements from climate activists, promotional material for art installations, and climate-advocacy murals and drawings.

We identified only a few instances of agency in the remaining categories—*Beneficiary: Recipient, Existent,* and *Senser. Beneficiary: Recipient* appears in images of Scandinavia and other northern regions, where climate-driven heat in the South has boosted northern tourism, making the North a popular holiday destination. The semantic role of Senser is reflected in images depicting the anxiety and depression people experience as climate impacts intensify. *Existent* surfaces in references to the faint "flicker of hope" that climate change can still be mitigated. These roles occur far less frequently than those in the Actor group.

A few visuals are figurative, using symbolic objects (e.g., a thermometer) or relying on metaphor, metonymy, or both (see below). Whereas most photos document reality, metaphors in our visual material are few (11), and mostly limited to deliberately staged images. The limited number of metaphorical images reflects the predominantly documentary function of news photography. These metaphorical images typically appear in educational contexts on climate change (see Littlemore, 2016 on metaphor use in educational contexts.).

For instance, one image (source: https://dnevnik.hr./vijesti/hrvatska/stize-vazan-rjecnik-za-svaku-kucnu-biblioteku-30-osnovnih-pojmova-za-suocavanje-s-apokalipsom---777812.htm) shows an open book whose facing pages form contrasting landscapes: the right page, set on a grassy meadow with flowers, is vivid green, while the left page displays dark, cracked soil resting on lighter, parched ground. A tree rises from the book's center—lush on the right, barren on the left. The image blends a contextual pictorial metaphor (book pages as opposing landscapes) with metonymic cues—cracked soil for drought, lush grass for ecological balance—to dramatize a pivotal climate-choice narrative. It frames the planet's future through the conceptual metaphor THE EARTH IS A BOOK WE ARE WRITING, where the two pages signify alternative futures: "green flourishing" versus "barren collapse." Because the book remains open, the story—and thus human agency—remains unfinished, signaling hope that constructive action can still shape the next chapter. Fittingly, the accompanying article reviews a climate dictionary intended to prompt citizens to reflect on and act against climate change, tightly linking the image's figurative message to its literal context.

4.3 Cross-modal relations

The Croatian media's coverage of the climate crisis reveals a strong semantic correlation between texts and images. As shown in previous sections, the structures in texts and images are parallel and based on shared transitivity configurations (or shared agency), which contributes significantly to creating co-contextualization relations between the two modes and results in textual convergence (see also Hart, 2025; Liu and O'Halloran, 2009; Chovanec, 2019; Romano and Porto, 2021, among others, for a general tendency for language and image to overlap and mutually reinforce one another).

For both terms, *climate crisis* and *climate change*, the occurrences of high semantic correlation and low semantic correlation with images are nearly equal and mostly prevalent. Additionally, both terms exhibit only a few instances of zero correlation, with no occurrences of negative correlation.

Although our dataset shows a significant overlap between text and images in non-metaphorical frames, occurrences of multimodal metaphors—where source and target frames are represented in different modes—or cross-modal metaphors, in which the same metaphor is fully and simultaneously conveyed through both verbal and visual means (Forceville, 2008, Forceville, 2016), are infrequent. We identified metaphors in eleven visuals.[4] Some of these visuals include verbal elements (e.g., a headline or other text). The metaphors they contain may be monomodal (purely linguistic). Six visuals feature contextual pictorial metaphors, two feature hybrid metaphors, two feature multimodal metaphors, and one combines a hybrid with a multimodal metaphor. Additionally, these images heavily rely on metonymy. We will comment on one image that, according to Forceville (2008), features a contextual pictorial metaphor. According to Hart's (2017) modification of Forceville's typology, the image would exemplify a multimodal metaphor—assuming that linguistic cues for metaphor domains can appear anywhere in the text surrounding the image.

The metaphoricity of this image depends on its broader context. The image shows a white balloon ascending against a blue background, and it likely draws on the conceptual metaphor HOPE / ACTION / SOLUTION IS UP, which stems from the broader conceptual metaphor GOOD US UP (Lakoff and Johnson, 1980). The depiction of a white balloon ascending against a blue background can be interpreted as a metaphor for hope, with its lightness and upward trajectory evoking a sense of positivity and the potential to rise above ongoing crises. The balloon's inherent delicacy and transience further reinforce a sense of urgency—if timely action is not taken, the opportunity to ascend may be lost. In this context, the balloon may also symbolize the collective will or societal momentum toward climate action, which must be carefully nurtured and sustained. As such, the image metaphorically supports themes of collective aspiration and the pressing need for mitigation and adaptation measures.

The lead of the text states that we will leave our children a "climate-disrupted Earth," yet emphasizes that we should not despair, as there are still viable pathways for mitigation and adaptation to new

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4 For visual and multimodal metaphors we adopt Forceville's (2008) typology and Hart's (2017) modification. Forceville distinguishes four types: *contextual pictorial metaphor*: an image becomes metaphorical through its visual surroundings; *hybrid pictorial metaphor*: two distinct objects merge into a single gestalt; *pictorial simile:* two separate objects are presented to look alike; *multimodal metaphor*: source and target are cued across multiple modes (e.g., text + image). Hart adds a third pictorial subtype, *holistic*, in which the depicted entity or event as a whole evokes a source-domain image, and he extends multimodal links beyond captions or in-image text to the broader textual context.

climate conditions. The accompanying image of a white balloon ascending through a blue background visually reinforces this dual message. While the verbal message acknowledges the severity of the crisis, the upward movement of the balloon in the image metaphorically conveys hope, resilience, and the potential to rise above the challenges. In this way, the image aligns with the text's emphasis on future-oriented action, suggesting that, despite the legacy of disruption, there remains the possibility of constructive response and positive change.

5 Discussion and conclusions

Our analysis of agency and news values—across both metaphorical and literal discourse on the climate crisis in Croatian online news—yields the following findings.

The narrative on climate change in Croatian online news is somewhat inconsistent. It primarily causes anxiety, which is reinforced by the news values of Impact and Negativity, as demonstrated by Dahl and Fløttum (2017) in the context of *The Guardian* and *Daily Mail,* as well as by consistently portraying humanity as the Goal in both text and images.

By contrast, Positivity—coverage of efforts to rescue the planet—receives far less attention. Textually, *climate crisis* and *climate change* most often occupy the Actor role, framing the crisis itself as the agent of severe harm to humankind.

Metaphorical framing in the verbal parts of online news follows this pattern: the climate crisis and climate change—abstract entities—are cast as malevolent agents in a dominant war scenario, while humans appear as victims confronting a stronger foe. This representation sidelines human actions and responsibility for causing the crisis. Other metaphors (e.g., framing the crisis as a manipulable object) likewise distort how it can be addressed. Climate change and the climate crisis are only rarely described explicitly as human-made; instead, coverage largely depicts people—and the places they inhabit—as passive victims threatened by climate phenomena.

Most articles frame climate change as a global issue and illustrate it with images of places distant from Croatia. With Proximity and Consonance news values only rarely invoked, the threat is presented in a detached manner.

Very few images feature the Adriatic Sea or Croatia, and only a handful of articles describe the Mediterranean—of which Croatia is a part—as a climate-change hotspot. The limited coverage of locally personalized stories suggests that positive actions and activism by ordinary people receive only secondary attention. Our dataset seldom depicted concrete, everyday actions by ordinary local people; news stories rarely highlighted initiatives that might foster a sense of agency (De Meyer et al., 2020). This pattern accords with Bašić et al. (2020), who show that three Croatian online sources in 2018 portrayed climate change as a diffuse, largely external threat, and with Kalajžić et al. (2022), who found that sensational angles in the representation of climate change prevailed in Croatian online sources in 2019 while practical mitigation or adaptation by ordinary Croatians was seldom discussed.

As found in previous studies of other national contexts (e.g., Kramar, 2023), very few texts in our data assign culpability of specific actors—such as governments or corporations—for the climate catastrophe. The verbal data are dominated by elite voices—political, scientific, and media—that focus primarily on threats. Because the news value of Personalization is scarce, the narrative feels distant and thus insufficiently relevant to the average reader.

The visuals rarely show politicians, whereas scientists appear frequently, which can make the problem seem remote and overly technical. Non-identifiable individuals are common, implying that "people like us" are affected—yet recognizable local contexts are rare. Many images portray climate impacts that could spur constructive action, but depictions of practical solutions—often more persuasive and vital for long-term mitigation—remain scarce.

Metaphorical representations of the climate crisis/change are relatively rare in the verbal data, and most are conventional. Our findings on verbal figurativity accord with Bašić et al. (2020: 19) who report that "rhetorical strategies employed to attract readers' attention" were rare in their sample of Croatian online news from 2018. A similar tendency is observed in our data, where figurative representations are also limited. Metaphorical representations are even scarcer in the visuals. The few metaphorical images are deliberately composed, photoshopped visuals and appear chiefly in educational contexts, hinting at their persuasive potential, yet overall visuals seldom use metaphor to motivate audiences or spur action.

The guiding idea of this study is the assumption of a bidirectional relationship between discourse and social action: just as discourse can reflect social action, it can also shape, legitimize, and motivate it. The main theoretical contribution of this study lies in its application of linguistic theories to understanding how public perceptions of, and social responses to, the environmental crisis are shaped through verbal and visual media representations. Furthermore, we have added new categories to O'Neill's visual framing model to better capture the specificities of the Croatian climate change narrative. While these additions reflect features of a particular national context, we believe that the new categories may also be applicable in other national settings.

In addition, the application of the theoretical frameworks outlined throughout the study yields broader empirical findings beyond the Croatian context, notably the recurrent construction of humanity as a victim within a war scenario symbolizing the impacts of climate change.

Data availability statement

Author contributions

LŠ: Data curation, Validation, Conceptualization, Visualization, Investigation, Supervision, Funding acquisition, Project administration, Writing – review & editing, Resources, Formal analysis, Methodology, Writing – original draft, Software. RT: Validation, Software, Supervision, Formal analysis, Investigation, Funding acquisition, Writing – review & editing, Resources, Data curation, Methodology, Project administration, Writing – original draft, Conceptualization, Visualization.

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The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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References

Atanasova, D., and Koteyko, N. (2015). Metaphors in Guardian online and mail online opinion-page content on climate change: war, religion, and politics. *Environ. Commun.* 11, 452–469. doi: 10.1080/17524032.2015.1024705

Badullovich, N., Grant, W. J., and Colvin, R. M. (2020). Framing climate change for effective communication: a systematic map. *Environ. Res. Lett.* 15:123002. doi: 10.1088/1748-9326/aba4c7

Barthes, R. (1977). Image music text. London: Fontana Press.

Bašić, I., Grubišić, M., and Veselica-Majhut, S. (2020). Diskursno oblikovanje klimatskih promjena u anglofonim i hrvatskim izvorima informiranja. *Suvrem. lingvist.* 46, 1–23. doi: 10.22210/suvlin.2020.089.01

Bednarek, M. (2016). Investigating evaluation and news values in news items that are shared through social media. *Corpora* 11, 227–257. doi: 10.3366/cor.2016.0093

Bednarek, M., and Caple, H. (2014). Why do news values matter? Towards a new methodological framework for analysing news discourse in critical discourse analysis and beyond. *Discourse Soc.* 25, 135–158. doi: 10.1177/0957926513516041

Bednarek, M., and Caple, H. (2017). The discourse of news values: how news organizations create newsworthiness. Oxford: Oxford University Press.

Caple, H.. (2016). Coding manual for image analysis. Available online at: www.newsvaluesanalysis.com. (Accessed May 15, 2025)

Čerepinko, D., Dmitrović, L. G., and Jozić, N. (2023). How to talk about climate change: network and content analysis of Croatian digital sources. *Int. J. Eng. Technol.* 15, 127–133. doi: 10.7763/IJET.2023.V15.1234

Chapman, D. A., Corner, A., Webster, R., and Markowitz, E. M. (2016). Climate visuals: a mixed methods investigation of public perceptions of climate images in three countries. *Glob. Environ. Chang.* 41, 172–182. doi: 10.1016/j.gloenvcha.2016.10.003

Cheng, C., and Liu, R. (2024). The newsworthiness of "climate change" in China over the last thirty years (1993-2022): a diachronic corpus-based news discourse analysis. *Climate Change* 177, 1–20. doi: 10.1007/s10584-024-03703-8

Chovanec, J. (2019). Multimodal storytelling in the news: sequenced images as ideological scripts of othering. *Discourse Context Media* 28, 8–18. doi: 10.1016/j.dcm.2019.01.001

Climate Crisis. (2025) zeroCO2 Glossary. Available online at: https://zeroco2.eco/en/glossary/climate-crisis/. (Accessed April 7, 2025)

Currie, J. S. G., and Clarke, B. (2022). Fighting talk: the use of the conceptual metaphor climate change is conflict in the UK houses of parliament, 2015–2019. *J. Lang. Polit.* 21, 589–612. doi: 10.1075/jlp.21052.cur

Dahl, T., and Fløttum, K. (2017). Verbal–visual harmony or dissonance? A news values analysis of multimodal news texts on climate change. *Discourse Context Media* 20, 124–131. doi: 10.1016/j.dcm.2017.09.003

Dancygier, B. (2023). Multimodal Media: Framing Climate Change. *Discourse Stud.* 25, 220–236. doi: 10.1177/14614456231154724

De Meyer, K., Coren, E., McCaffrey, M., and Slean, C. (2020). Transforming the stories we tell about climate change: from "issue" to "action". *Environ. Res. Lett.* 16, 1–13. doi: 10.1088/1748-9326/abcd5a

Entman, R. M. (1993). Framing: toward clarification of a fractured paradigm. *J. Commun.* 43, 51–58. doi: 10.1111/j.1460-2466.1993.tb01304.x

Flusberg, S. J., Matlock, T., and Thibodeau, P. H. (2018). War metaphors in public discourse. *Metaphor. Symb.* 33, 1–18. doi: 10.1080/10926488.2018.1407992

Forceville, C. (2008). "Metaphor in pictures and multimodal representations" in The Cambridge handbook of metaphor and thought. ed. R. Gibbs (Cambridge: Cambridge University Press), 462–482.

Forceville, C. (2016). Visual and Multimodal Metaphor in Film: Charting the Field, in Embodied Metaphors in Film, Television and Video Games: Cognitive Approaches, Eds., Fahlenbrach, K. (Routledge), 17–32. doi: 10.4324/9781315724522-2

Forgács, B., and Pléh, C. (2022). "The fluffy metaphors of climate science" in Metaphors and analogies in sciences and humanities. eds. S. Wuppuluri and A. C. Grayling (Cham: Springer), 447–477.

Fuoli, M., and Hommerberg, C. (2015). Optimising transparency, reliability and replicability: annotation principles and inter-coder agreement in the quantification of evaluative expressions. *Corpora* 10, 315–349. doi: 10.3366/cor.2015.0080

Hart, C. (2025). Language, Image, Gesture: The Cognitive Semiotics of Politics. Cambridge: Cambridge University Press.

Halliday, M. A. K. (1973). Explorations in the functions of language. London: Edward Arnold.

Halliday, M. A. K. (1985). An introduction to functional grammar. London: Edward Arnold.

Halliday, M. A. K., and Matthiessen, C. (2014). Halliday's introduction to functional grammar. Oxon: Routledge.

Hart, C. (2017). Metaphor and intertextuality in media framings of the (1984–1985) British miners' strike: a multimodal analysis. *Discourse Commun.* 11, 3–30. doi: 10.1177/1750481316683291

Hase, V., Mahl, D., Schäfer, M. S., and Keller, T. R. (2021). Climate change in news media across the globe: an automated analysis of issue attention and themes in climate change coverage in 10 countries (2006–2018). *Glob. Environ. Change* 70:353. doi: 10.1016/j.gloenvcha.2021.102353

Hopke, J. E., and Wozniak, A. (2025). Climate solutions and climate attribution in extreme heat press coverage: the July 2022 UK heatwaves. *Environ. Commun.* 19, 1201–1216. doi: 10.1080/17524032.2025.2458219

Huan, C. (2023). Politicized or popularized? News values and news voices in China's and Australia's media discourse of climate change. *Crit. Discourse Stud.* 21, 200–217. doi: 10.1080/17405904.2023.2200194

Huang, X., and Siqi, C. (2024). A corpus-based CDA of Chinese and American news coverage on climate change. *Int. J. Engl. Linguist.* 14, 42–56. doi: 10.5539/ijel.v14n3p42

Johnstone, C., and Stickles, E. (2024). Navigating the climate change minefield: the influence of metaphor on climate doomism. *Front. Commun.* 9:92. doi: 10.3389/fcomm.2024.1380092

Kalajžić, V., Ražnjević Zdrilić, M., and Jontes, D. (2022). Između negiranja i 'celebritizacije': praćenje klimatskih promjena u slovenskim i hrvatskim online medijima. *Medij. istraz.* 28, 31–53. doi: 10.22572/mi.28.1.2

Kramar, N. (2023). Construction of agency within climate change framing in media discourse: a corpus-based study. *Respectus Philol.* 43, 36–48. doi: 10.15388/RESPECTUS.2023.43.48.106

Lakoff, G., and Johnson, M. (1980). Metaphors we live by. Chicago: University of Chicago Press.

Littlemore, J. (2016). "Metaphor use in educational contexts: functions and variations" in The Routledge handbook of metaphor. eds. P. W. Sorenson and J. Caprio (London: Routledge), 283–295.

Liu, M. J. (2023). Framing responsibilities for climate change in Chinese and American newspapers: a corpus-assisted discourse study. *Journalism* 25, 1792–1811. doi: 10.1177/14648849231187453

Liu, Y., and O'Halloran, K. L. (2009). Intersemiotic texture: analyzing cohesive devices between language and devices. *Soc. Semiot.* 19, 367–388. doi: 10.1080/10350330903361059

Maipas, S., and Kavantzas, N. (2024). Climate crisis: a term used to avert an environmental health medieval era. *Environ. Health Insights* 18:11786302231224582. doi: 10.1177/11786302231224582

Moernaut, R. J. M., and Temmerman, M. (2019). All climate stories worth telling. Salience and positionality at the intersection of news values and frames. *Discourse Context Media* 28, 93–111. doi: 10.1016/j.dcm.2018.10.004

Narodne Novine. (2025) Strategija prilagodbe klimatskim promjenama u Republici Hrvatskoj za razdoblje do 2040. godine s pogledom na 2070. godinu. Available online at: https://narodne-novine.nn.hr/clanci/sluzbeni/2020_04_46_921.html. (Accessed January 5, 2026).

O'Dowd, N. A. (2024). The potential of creative uses of metonymy for climate protest. *Discourse Soc.* 35, 360–380. doi: 10.1177/09579265231222005

O'Neill, S. (2017). "Engaging with climate change imagery" in Oxford research encyclopedia of climate science. eds. M. C. Nisbet, S. S. Ho, E. Markowitz, S. O'Neill, M. S. Schäfer and J. Thaker (Oxford: Oxford University Press).

O'Neill, S. (2020). More than meets the eye: a longitudinal analysis of climate change imagery in the print media. *Clim. Chang.* 163, 9–26. doi: 10.1007/s10584-019-02504-8

O'Neill, S., Boykoff, J. M., Niemeyer, S., and Day, S. A. (2013). On the use of imagery for climate change engagement, global environmental change. *Glob. Environ. Change* 23, 413–421. doi: 10.1016/j.gloenvcha.2012.11.006

O'Neill, S., and Smith, N. (2014). Climate change and visual imagery. *Wiley Interdiscip. Rev. Clim. Chang.* 5, 73–87. doi: 10.1002/wcc.249

Romano, M., and Porto, M. D. (2021). "Framing conflict in the Syrian refugee crisis: multimodal representations in the Spanish and British press" in Discursive approaches to sociopolitical polarization and conflict. eds. L. Filardo, E. Morales and A. Floyd (London: Routledge), 153–163.

Sanford, M., and Painter, J. (2024). Divergences between mainstream and social media discourses after COP26, and why they matter. *Oxf. Open Clim. Change* 4:kgae006. doi: 10.1093/oxfclm/kgae006

Schäfer, M. S., and Schlichting, I. (2014). Media representations of climate change: a Meta-analysis of the research field. *Environ. Commun.* 8, 142–160. doi: 10.1080/17524032.2014.914050

Seelig, M. I., Deng, H., and Liang, S. (2022). A frame analysis of climate change solutions in legacy news and digital media. *Newsp. Res. J.* 43, 370–388. doi: 10.1177/07395329221112391

Shaw, C., and Nerlich, B. (2015). Metaphor as a mechanism of global climate change governance: a study of international policies, 1992–2012'. *Ecol. Econ.* 109, 34–40. doi: 10.1016/j.ecolecon.201411.001

Steen, G. J., Dorst, A. G., Herrmann, J. B., Kaal, A., Krennmayr, T., and Pasma, T. (2010). A method for linguistic metaphor identification: from MIP to MIPVU. Netherlands: John Benjamins Publishing Company.

Stefanowitsch, A. (2006). "Words and their metaphors: a Corpus-based approach" in Corpus-based approaches to metaphor and metonymy. eds. A. Stefanowitsch and S. T. Gries (Berlin: Mouton de Gruyter), 63–105.

Van der Hel, S., Hellsten, S. I., and Steen, G. (2018). Tipping points and climate change: metaphor between science and the media. *Environ. Commun.* 12, 605–620. doi: 10.1080/17524032.2017.1410198

Vrselja, I. (2025). Izloženost porukama straha o klimatskim promjenama u medijima i prookolišno ponašanje. *Soc. ekol.* 34, 31–55. doi: 10.17234/SocEkol.34.1.2

Vrselja, I., Pandžić, M., Rihtarić, M. L., and Ojala, M. (2024). Media exposure to climate change information and pro-environmental behavior: the role of climate change risk judgment. *BMC Psychol.* 12:262. doi: 10.1186/s40359-024-01771-0

Wang, S., Corner, A., Chapman, D., and Markowitz, E. (2018). Public engagement with climate imagery in a changing digital landscape. *Wiley Interdiscip. Rev. Clim. Chang.* 9:509. doi: 10.1002/wcc.509

Yao, Y., and Warren, P. (2025). The visual vernacular of climate change on Instagram: how modal convergence between image and text is changing the representation of climate solutions. *Int. J. Commun.* 19, 2221–2246.