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Through Ecocriticism and Affect Theory, Exploring Climate Change Artistry: The *Ice Receding/Books Reseeding* Project

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This article delves into the Ice Receding/Books Reseeding project of multidisciplinary artist Basia Irland through the lenses of ecocriticism and affect theory, uncovering its profound significance as a climate change artwork. An example of participatory artwork utilizing transmedia storytelling, this project provides a transformative platform that immerses audiences in the realities of non-human climate change impacts. Through an ecocritical examination, the article explores the intricate dynamics of human-non-human relationships depicted in the project, while affect theory sheds light on the emotional responses it evokes. Ultimately, I argue that participatory art is a crucial tool for climate change communication and activism, advocating for its broader adoption in addressing environmental challenges and fostering sustainability through the direct involvement of participants. Analyzing Irland's Ice Receding/Books Reseeding project, the article underscores the potential of climate change art as a powerful medium for effective environmental communication and offers practical guidance for communicators aiming to optimize its impact.

Introduction

For three decades, Basia Irland, a multidisciplinary artist encompassing sculpture, poetry, and installation, has immersed herself in the realm of river-centric creativity. Weaving intricate connections between communities and their local waters, fostering sentiments of concern, care, appreciation, and stewardship, Irland's *Ice Receding/Books Reseeding* project showcases how artistic interventions can drive environmental stewardship and community engagement (Sabra and Al-Moaz 63). These *Ice Books* combine collective action, scientific inquiry, and artistic expression to confront the challenges posed by climate disruption and nurture the restoration of imperiled watersheds. At its core, the project involves the carving of frozen river water into book-shaped sculptures, each imbued with what Irland terms "ecological language" or "riparian text" (Irland, *Downstream* 183) composed of Indigenous seeds sourced from the local environment.



Fig. 1, Carving 'Wild Iris Book'

Once fashioned, these seed-infused sculptures are returned to the flowing current, where the gradual thawing process releases the seeds, mimicking the dispersal mechanisms observed in nature. For example, Fig. 1 shows a close-up of wild iris seeds being embedded in a hand-carved 'Wild Iris Book' beside the Big Wood River in Idaho. Through this interplay of art and ecology, the ceremonious book launches, where these ephemeral seed-laden sculptures are released into rivers, creeks, and streams, serve as vibrant community gatherings, often drawing participants previously unacquainted with the intricacies of their local waterways (Irland, *Downstream* 187). Crucially, the project transcends mere spectacle, offering immersive educational experiences that encourage hands-on engagement with the river environment. Participants are allowed to interact intimately with the natural world, gaining

insights into the vital role that specific riparian seeds play in watershed restoration efforts. To further extend the project's impact, participants are provided with seed packets, empowering them to continue the planting process and actively contribute to the ongoing revitalization of their watershed communities (Irland, *Downstream* 182).

Water, both as a physical substance and symbolic entity, holds profound connections to the environment and both to human and non-human memory. Rivers, lakes, and oceans serve as silent witnesses to human experiences, carrying within their depths the stories of civilizations throughout time (Witcomb 261). Water rituals across cultures imbue water with symbolic significance, evoking emotions and memories deeply ingrained in societal consciousness (Sumartojo 545). The transformative power of water extends to literature, art, and the collective imagination, where water serves as a potent metaphor for change and the passage of time (Bergillos 6). Accordingly, interdisciplinary approaches integrating science, history, art, and Indigenous knowledge systems are necessary to transform water into a medium of testimony (Witcomb 267). Irland's sculptures function as a metaphor for the interconnectedness of water, climate change, and biodiversity. The project harnesses the symbolic and emotional power of water to evoke cultural narratives and foster a shared sense of heritage and responsibility for water conservation. By using water as a metaphor for interconnectedness, it highlights the links between climate change, biodiversity, and human culture, advocating for interdisciplinary approaches to global challenges (Demos et al. 5).

In this paper, I explore how artworks can motivate individuals towards climate-friendly actions, drawing upon the principles of non-human affect and ecocriticism. I argue that the *Ice Receding/Books Reseeding* project exemplifies participatory art's ability to directly engage audiences in witnessing climate change rather than experiencing it vicariously. By combining analytical frameworks such as ecocriticism (Bruhn, "Anthropocene" 8; Bruhn, "Towards" 117; Marland 846) and affect theory (Bladow and Ladino 5) with transmedia storytelling principles (Jenkins "Seven Principles"), I analyze how this project provides a compelling platform for viewers to confront the realities of climate change tangibly and immediately. I begin by examining theoretical frameworks such as ecocriticism and affect theory, providing insight into how they inform the analysis of Irland's project and its impact on audiences. Then, I offer a detailed case study of the *Ice Receding/Books Reseeding* project, highlighting its artistic,

ecological, and community-oriented dimensions. Through this exploration, I delve into the role of participatory art in facilitating direct experiences of climate change and discuss the application of transmedia storytelling principles in the project. Finally, the conclusion emphasizes the transformative potential of art in addressing complex environmental challenges and climate change.



Fig. 2, *Tome I*.

Throughout, I emphasize the interconnectedness of art, science, community engagement, and environmental activism, underscoring the project's significance in fostering meaningful change. For example, Fig. 2 shows an Ice Book commissioned by the Boulder Museum of Contemporary Art, which was carved to draw attention to the melting of Arapaho Glacier in Colorado, and its impact on Boulder Creek. Irland's project, which I analyze through the lens of affective ecocriticism (Bladow and Ladino 4), uses natural materials and blurring the lines between human and non-human elements. Thus, Irland creates ecosystem-benefiting art while evoking emotional responses, fostering personal connections, and a sense of responsibility for the local environment. In the realms of ecocriticism and affect theory, I argue that participatory climate change art is a powerful medium for fostering ecological awareness and emotional engagement. Through the lens of ecocriticism, I highlight

the project's ability to blur the boundaries between human and non-human elements, emphasizing interconnectedness and ecological restoration (Bennett 115; Bentz and O'Brien 14). Using affect theory, I underscore the project's capacity to evoke strong emotional responses, thereby creating personal connections and a sense of responsibility towards the environment (Bladow and Ladino 16; Hawkins and Kanngieser 1). This approach aligns with contemporary discussions on how art engages with environmental issues and enhances public awareness (Demos et al. 8). As such, I advocate for the integration of these theoretical frameworks to analyze and promote participatory art as a vital tool for climate change communication and activism.

Understanding Climate Change Artwork

Artistic responses to climate change have gained momentum since the 1970s ecological art movement, evolving into a significant genre that addresses environmental concerns. Climate change artwork conveys cultural meaning beyond scientific and political discourse, instilling emotions such as "hope, responsibility, care, and solidarity" (Ryan 5), which are examples of positive, optimistic emotions. This genre serves as a potent tool for fostering connections with climate change, reshaping societal norms, and evoking sentiments that inspire action (Bentz 1598). Climate change artwork specifically, and environmental art in general, intertwines science and creative practices, prompting a re-evaluation of the political dimensions of climate change and promoting pro-environmental behavior by engaging audiences and creating empathy for natural spaces (Curtis et al. 9; Gabrys and Yusoff 1). Art can address and reshape emotions, expand the imagination, and thereby explore possibilities of change. Through meaningful connections, art stimulates creativity in addressing complex problems and facilitates transformation toward sustainability (Bentz and O'Brien 2; Dieleman 7; Shrivastava et al. 37). It raises awareness about climate change without being preachy, leveraging its ability to evoke compassion, empathy, and understanding. By communicating emotional aspects of life, art creates deep connections, promoting emotional learning about sustainability (Bentz 1596).

Participatory aspects of environmental art aim to evoke feelings rather than persuade the audience, fostering personal meaning-making and embodied experiences (Jacobs et al. 136). Art guides individuals through cognitive, ethical, affective, and aesthetic processes, allowing for multiple interpretations and understandings. Engagement with climate change through art can have a deep, lasting impact on participants, enabling transformations in how they feel, relate to, and act concerning climate change. By involving participants in hands-on activities, this project leads to long-term behavioral changes and increased community involvement in sustainable practices (Sommer and Klöckner 3). Building on this understanding of participatory art's ability to mobilize communities and promote environmentally friendly behavior, it is essential to explore the theoretical underpinnings that inform the intersection of art and climate change. In the following section, I delve into the realms of ecocriticism and affect theory (Weik von Mossner 132) to draw attention to how these frameworks contribute to our understanding of climate change art and its impact on audiences.

The Art of Climate Change: Ecocriticism and Affect Theory

Ecocriticism encompasses various critical methodologies examining how literature (and other cultural expressions) portrays the interaction between humans and the environment, primarily focusing on concerns about humanity's detrimental effects on the natural world (Marland 846). Humanities-based ecocriticism delves into artistic, literary, and non-scientific portrayals of the human-environment relationship (Bruhn, "Anthropocene" 10). It scrutinizes how cultural texts mold perceptions of nature, stressing the importance of understanding the media's influence on human understanding (Kalaidjian 29). Ecocriticism examines how literature and art depict human-environment interactions, emphasizing humanity's harmful effects on nature (Marland 846). Basia Irland's *Ice Receding/Books Reseeding* project reshapes perceptions of nature, emphasizing interconnectedness and promoting ecological awareness. Following the ecocriticism principles (Bladow and Ladino 177; Marland 847), it also blurs human and non-human boundaries. Her *Ice Books*, embedded with Indigenous seeds, symbolize and aid ecological restoration (Irland, *Downstream* 183). Involving participants in creating and distributing ice books raises climate change awareness and fosters

personal connections to environmental issues, aligning with ecocritical principles. Ecocriticism, combined with ecomedia analysis by Sean Cubitt, situates environmental representations within popular culture and technical contexts (3).

Scholars like Stephen Rust, Salma Monani, and Sean Cubitt explore how ecomedia extends beyond traditional environmental themes using concepts like “frames, flow, and convergence” (Rust et al. 6). Post-humanism within ecocriticism challenges human exceptionalism, emphasizing humanity's integration into the interconnected biosphere (Westling 45). Cubitt's ecomedia framework helps contextualize the *Ice Receding/Books Reseeding* project within broader cultural and technical contexts. Irland's ice sculptures communicate environmental messages and engage the public in ecological restoration. Using ecomedia concepts, the project transcends traditional narratives, fostering deeper connections and actions toward sustainability. A post-humanist lens further emphasizes interconnectedness and mutual dependence within the natural world, reinforcing the project's ecological focus. This multifaceted perspective challenges conventional notions of human exceptionalism, emphasizing instead the interconnectedness and interdependence of all beings within the biosphere.

Despite scientific consensus on anthropogenic climate change, public engagement is hindered by the issue's complexity and short-term decision-making. Experiential learning through art can bridge this gap, engaging individuals in transformative interactions with climate change (Bentz and O'Brien 3; Dieleman 9). The *Ice Receding/Books Reseeding* project exemplifies this by translating complex environmental issues into tangible, emotional experiences. Ecocritical endeavors examine how Irland's art and aesthetics engage with politics, ecology, and technology to address environmental crises (Bruhn, “Anthropocene” 7). By involving participants in creating ice books embedded with native seeds, the project educates and empowers individuals to become active environmental stewards (Irland, *Downstream* 181).

Material ecocriticism represents a developing framework grounded in the concept of interconnected materiality shared by humans and non-humans. Within this framework, all forms of matter are perceived as possessing agency (Marland 861). Irland's project embodies

ecocritical principles by blurring the boundaries between human and non-human elements using natural materials such as ice and seeds. In this context, a more-than-representational framework helps emphasize the affective aspects of spatial atmospheres, exploring how artworks such as the *Ice Books* stimulate visitors' memories as well as senses (Crouch 178; Drozdowski and Birdsall 39; Jones and Garde-Hansen 7). Furthermore, the project's trans-media storytelling approach, coupled with its emphasis on community engagement and hands-on experiences, elicits affective responses by stimulating participants' senses and emotions, fostering emotional connections to the environment, and inspiring action to address climate disruption and restore watersheds. In her discussion of Jane Bennett's *Vibrant Matter: A Political Ecology of Things*, Marland suggests the convergence of biology and politics makes terms like deep ecology and social ecology as redundant as the concept "nature" itself (857). Expanding upon the concept of interconnectedness between human and non-human entities (Bennett 97), the *Ice Receding/Books Reseeding* project exemplifies these principles in practice (Marland 857). Irland's initiative exemplifies a departure from traditional art paradigms, emphasizing art's potential to serve both communities and ecosystems. The project blurs the boundaries between human and non-human elements by infusing frozen river water with "ecological language" (Irland, *Downstream* 183) composed of local native seeds, highlighting their interdependence and emphasizing the importance of communal effort in addressing environmental challenges.

The *Ice Receding/Books Reseeding* Project: A Case Study

In 2007, Irland developed the *Ice Books* concept during the 'Weather Report' exhibition along Boulder Creek, Colorado, curated by Lucy Lippard, and focused on the climate crisis. Collaborating with a biogeochemist, Irland's project resonated due to Boulder's reliance on the rapidly melting Arapaho Glacier (Ferrucci). By sculpting river ice into artworks that visually embody glacier loss and embedding seeds for ecological restoration, the project symbolizes hope amidst environmental challenges.

The idea of interconnectedness has been one of the central themes of my water work for over forty years. Water issues are vast and present intricately complex problems. I

think that the solutions and suggestions for actions lie in a diversity of approaches. It will take all of us working together cooperatively to come to the assistance of bodies of water around the globe. In this radically interconnected world, it behooves each of us to compassionately take care of each other and our environment, because we are one and the same (Irland, *Interalia*).

Irland, a sculptor, poet, and installation artist, has dedicated three decades to river-focused creativity, aiming to foster connections between people and their local waters, promoting concern, care, appreciation, and stewardship, rather than treating art as a commodity. Her artwork departs conventional art practices by exploring how art can benefit communities and ecosystems. Irland shapes frozen river water into book-like structures that vary in size, from large to pocket-sized, and strategically places them back into watercourses to release seeds as the ice melts, mimicking natural dispersal processes (Irland, *Downstream* 188). By integrating ecological elements into her sculptures, Irland's project exemplifies a paradigm shift towards environmental stewardship and community engagement in art. Her visually striking works not only contribute to ecological restoration but also challenge traditional art forms by fostering deeper connections between humans and nature. The strategic placement of sculptures to release seeds as they melt underscores sustainability, illustrating the interconnectedness of art and ecological conservation. This approach redefines the role of art, positioning it as an active participant in environmental advocacy and restoration (Geiger et al 104; Sabra and Al-Moaz 48; Sommer and Klöckner 3).



Fig. 3, *Ice Book* releasing seeds as it floats down the River Maas, the Netherlands.

The *Ice Receding/Books Reseeding* project embodies ecocritical principles by engaging with the human-non-human relationship and emphasizing the interconnectedness of ecosystems. For instance, Fig. 3 shows the *Ice Book* releasing seeds as it floats down the River Maas in the Netherlands, illustrating how books become vehicles of change, socio-political material that appeals to social action and collective responsibility. The project blurs the boundaries between humans and non-humans by using natural materials and processes, such as ice and seeds, highlighting their interdependence. By addressing climate disruption and watershed restoration through artistic intervention, the project underscores the importance of scientific expertise, collective action, and creativity in tackling environmental challenges. The *Ice Receding/Books Reseeding* initiative evokes emotional responses through its transmedia storytelling strategy, integrating sculpture, literature, seeds, and community involvement to communicate its message. Every book launch functions as a lively community event, drawing in individuals who may not be acquainted with their local river and providing interactive educational opportunities (Irland, *Downstream* 187). Through promoting engagement with the river and demonstrating the potential of indigenous riparian seeds to contribute to watershed revitalization, the project fosters a deeper connection to the environment and encourages stewardship. Through its affective storytelling (Bladow and Ladino 4), the project prompts viewers to reconsider their relationship with the environment and inspires action to address climate disruption and restore watersheds. The integration of affect through art, science, and community involvement exemplifies the power of

participatory art projects in facilitating direct witnessing of climate change impacts and amplifying marginalized voices and perspectives.

Direct Witnessing of Climate Change Through Participatory Art

In discussions about climate change, it is crucial to understand the diverse range of environmental experiences and perceptions, particularly in developing countries where significant changes in local climates coincide with limited resources for adaptation (Masson-Delmotte 111). Climate change communication faces challenges due to its abstract nature, complexity, and gradual progression (Boykoff 15; Weber 125). Scholars have examined representations of climate change across various media to enhance public understanding and motivate action. Social media platforms, for instance, play a significant role in engaging citizens in discussions about climate change and promoting knowledge mobilization and dialogue (Anderson 599; Segerberg and Bennett 199). Technological innovations, such as virtual reality experiences, offer new avenues for capturing and disseminating climate change narratives, fostering empathy and interconnectedness (Bergillos 7; Lam and Tegelberg 6).

Participatory art projects are powerful tools for facilitating direct witness experiences of climate change impacts. By integrating elements of sculpture, poetry, installation art, and community engagement, projects like *Ice Receding/Books Reseeding* aim to foster connections between people and their local environments and address climate disruption (Hawkins and Kanngieser 2). Through experiential initiatives such as interactive workshops and field trips, participatory art offers diverse audiences tangible experiences, making nature feel immediate (Lam and Tegelberg 3). By centering marginalized voices and perspectives, participatory art projects amplify narratives often overlooked in dominant historical discourses (Hawkins and Kanngieser 2). The *Ice Receding/Books Reseeding* project demonstrates participatory art's ability to foster community involvement and environmental awareness. Unlike projects focused solely on raising awareness, Irland's ice sculptures melt to release seeds into waterways, reintroducing native plants to riparian zones.¹ Irland's art

¹ Other notable environmental participatory art includes Agnes Denes' *Wheatfield – A Confrontation* (1982): Planted and harvested a wheat field in downtown Manhattan, contrasting urban development with natural

integrates ecology and community engagement to directly contribute to ecological restoration involving local communities in environmental restoration, emphasizing local ecosystem knowledge and engaging diverse participants typically excluded from environmental dialogues. Irland collaborates with Indigenous community members, river advocates, professors, students across disciplines, farmers, musicians, poets, scientists, children, local citizens, and their families and friends (Irland, *Downstream* 183-185). Her location-specific projects are based on community involvement, including close work with Tribal members such as the nineteen Pueblos along the Río Grande and the Nisqually Tribe along the Nisqually River, highlighting her inclusive approach to decision-making and community engagement (Ferrucci).

Irland's work stands out in participatory environmental art by blending art, ecology, and community engagement (Sabra and Al-Moaz 49). A collaboration between artists, scientists, and society to create art installations and exhibitions that foster dialogue and creative engagement with climate change issues (Leavy 27) can raise awareness as well as inspire collective action to face climate change impacts. Unlike projects focused on raising awareness alone, her initiative directly restores ecosystems: the ice sculptures that melt and release seeds into waterways symbolically and practically reintroduce native plants to riparian zones (Ferrucci). More specifically, the *Ice Receding/Books Reseeding* project follows a transmedia format combining sculpture, poetry, community engagement, science, and environmental activism. The initial stage involves meticulous artistry and scientific knowledge to shape frozen river water into book-like sculptures, symbolizing the blend of natural and human-made elements, and setting the project's ecological narrative. Irland collaborates closely with botanists and stream ecologists to select optimal seeds for each riparian zone, ensuring native species preservation in watershed areas.² Incorporating local seeds ensures the melting process contributes to local biodiversity, highlighting the importance of native species in

processes. While highlighting environmental issues, it lacked direct ecological restoration. Similarly, Olafur Eliasson's *Ice Watch* (2018) includes using large Greenland ice blocks and placing them in public squares, visually demonstrating climate change but without engaging participants in restorative actions.

² Additionally, Irland is actively engaged with a team of six civil engineers from the University of Nebraska to develop miniature tracking devices for her Ice Books project. These devices will integrate GPS, a camera, accelerometer, gyroscope, and datalogger, representing a thrilling technological challenge and promising advancement for her artistic and ecological endeavors.

effective ecological restoration. Often the Books are launched from shore, but along the Great Miami River, Ohio, the Ice Books were placed into the river from dozens of kayaks, with several hundred community members cheering from the riverbank. Indeed, book launches serve as communal gatherings, drawing attention to local waterways and fostering community bonds. These ceremonies educate participants about local ecosystems and create shared experiences that strengthen communal ties. Participants receive seed packets to plant, ensuring ongoing involvement in the restoration process and ensuring the project's long-term impact. The project effectively applies these principles to communicate its message of environmental interconnectedness and inspire action towards sustainable water management practices. Through the integration of art, science, community engagement, and activism, the project leverages transmedia storytelling (Jenkins "Seven Principles") to engage audiences and foster connections between people and their local environments.

Leveraging Transmedia Storytelling Principles for Engagement

Transmedia storytelling, as described by Henry Jenkins ("The Matrix" 95-96), spans different media contexts to create engaging narratives that assume diverse audiences and multiple approaches to communicating science, involving coordination across different media platforms to achieve maximum impact. Key principles include continuity and multiplicity, emphasizing the importance of consistent narrative elements across various iterations and the capacity for reinterpretation in diverse contexts as Jenkins describes ("Annotated" 948). The *Ice Receding/Books Reseeding* project exemplifies the application of transmedia storytelling principles by integrating various media such as sculpture, poetry, community engagement, and interactive storytelling. By utilizing these diverse mediums, the project aims to engage audiences across different platforms and foster connections between people and their local environments (Hawkins and Kanngieser 7). Transmedia storytelling enhances audience engagement and participation by enriching narratives and engaging diverse audiences. Unlike traditional communication approaches, transmedia storytelling acknowledges various audience activity levels and communication approaches, thereby bridging the science-action gap (Moser and Dilling 162) that seems to characterize climate

change communication, thus affecting artworks as well. By leveraging transmedia storytelling principles such as drillability, continuity vs. multiplicity, and immersion vs. extractability, climate change communicators can help the audience interact and engage with climate change science.³

In terms of drillability (Jenkins, “Seven Principles”), the Ice Book project enables deeper exploration through multiple layers of engagement. Participants and observers can delve into ecological, artistic, and community dimensions embedded in its creation and dissemination. This includes understanding glacier melt and river ecosystems scientifically, exploring the artistic process of sculpting ice, and engaging in community efforts for ecological restoration. Each layer offers opportunities to connect diverse audiences to themes of climate change, environmental stewardship, and human-nature interconnectedness. The project embraces multiplicity through Irland's diverse approaches, integrating poetry, sculpture, community engagement, video documentaries, and scientific collaboration as evidenced in the 2017 publication “Reading the River, The Ecological, Activist Art of Basia Irland” by Amanda Boetzkes and Roel Arkesteijn, which also documents Irland's first major solo exhibition in Europe, at Museum De Domijnen in the Netherlands, from 2015 to 2016.

Through the immersive narrative of the project, participants engage deeply with the sensory experiences, from observing the creation of ice sculptures to actively participating in the dispersal of seeds. This immersion serves as a crucial mechanism for fostering a profound connection to the project's themes and objectives. Extractability (Jenkins, “Remaining Four”) also affects the potential of the project's story, which can be extracted and shared through photographs, videos, written descriptions, and firsthand accounts, allowing for broader dissemination and engagement. The project also creates a rich and immersive world where human and non-human elements intersect thus embodying the principles of world-building described by Jenkins (“Remaining Four”). Through the integration of art, science, community participation, and ecological principles, the project constructs a narrative world that encourages viewers to reconsider their relationship with the environment. Over time, the *Ice Receding/Books Reseeding* project unfolds through a series of installations, each with its own

³ I am omitting the principle of spreadability as it is not pertinent to the *Ice Receding/Books Reseeding* project.

unique context and community engagement embedded in the principle of seriality (Jenkins, “Remaining Four”). The ongoing nature of the project allows for iterative storytelling, building upon previous installations and experiences to deepen its impact. Over 17 years, Irland has crafted hundreds of ice books globally, fostering connections to watersheds and initiating ecological restoration efforts, especially after the pandemic. Examples include workshops in China launching ice books into the Jialing and Yangtze Rivers, an installation in England addressing species loss, and a project in Sydney embedding mangrove seedlings in frozen volumes. During the COVID-19 pandemic, international participants created Ice Books reflecting local river ecologies, which were featured in an Ecuadorian Biennial exhibition (Ferrucci).

According to the last two principles of transmedia storytelling, the project invites subjective interpretation and emotional engagement from participants. Through its affective storytelling approach (Bladow and Ladino 10) and emphasis on personal connections to the environment, the project prompts viewers to reflect on their own experiences and values concerning water and ecology, thus reflecting a critical degree of subjectivity. Finally, the act of launching the ice sculptures into the river becomes a performative gesture that symbolizes collective action and environmental advocacy (Irland, *Downstream* 189). Each book launch serves as a public performance that attracts community members and fosters a sense of shared responsibility for watershed restoration and climate resilience.

Discussion and future directions of research

By incorporating these principles of transmedia storytelling, the *Ice Receding/Books Reseeding* project effectively communicates its message of environmental interconnectedness and inspires action toward sustainable water management practices. Through this framework, it is evident that the integration of art, science, community engagement, and activism offers a powerful means of communicating the urgency of environmental interconnectedness and inspiring action toward sustainable water management practices (Bruhn, “Anthropocene” 13; Bruhn “Towards” 118; Marland 849). Projects like *Ice Receding/Books Reseeding* seamlessly embody the symbiotic relationship

between art and nature as a potent agent of healing. Through her work, Irland not only amplifies the voice of water but also catalyzes transformative action, inspiring a deeper connection to environmental stewardship.

The significance of art in shaping perceptions of human-environment relationships emphasizes the role of media in influencing societal understanding of ecological issues. By blurring the boundaries between human and non-human elements through its artistic intervention, the project resonates with the tenets of ecocritical frameworks, highlighting the interconnectedness of ecosystems and human societies. Moreover, the project's emphasis on eliciting emotional responses and personal connections to the environment aligns with the principles of affective theory (Bladow and Ladino 2; Crouch 181; Witcomb 255). Through immersive experiences and participatory elements, the project prompts viewers to engage with the subject matter on an emotional level, fostering empathy and a sense of responsibility toward ecological stewardship. This emotional resonance is essential for motivating individuals to take concrete actions toward environmental sustainability, as demonstrated by the project's focus on inspiring community involvement and activism (Sommer and Klöckner 8).

While the project excels in creating emotional connections, its artistic elements may overshadow the communication of complex climate issues, especially for audiences without prior knowledge (Sommer and Klöckner 3). Beyond focusing on a single artwork and artist, future research to explore comparative studies or broader surveys of participatory climate change art can help us gain a more comprehensive understanding of its varied impacts and applications (Bentz 1609). Challenges such as scalability and replicability also emerge due to the project's reliance on localized knowledge and community involvement, which limits the broader application of its arts-based ecological interventions. Additionally, the ephemeral nature of the artwork, that is the melting ice sculptures, raises concerns about the sustainability of its impact, as these temporary installations may only forge brief connections with participants (Irland, *Downstream* 190; Gabrys and Yusoff 15). Therefore, future research should explore how participatory art, such as *Ice Books*, can deepen public engagement with environmental issues and inspire sustainable actions (Irland, *Downstream* 190). Additionally, transdisciplinary approaches that involve collaborations between artists, scientists,

policymakers, and communities could be investigated for their potential in co-creating innovative solutions to environmental challenges (Bentz 1607; Gabrys and Yusoff 111).

Conclusion

There are still few climate projects that prioritize art alongside the natural sciences. Despite this, using art in this way offers visually appealing and accessible ways to convey the intricacies of climate change to diverse audiences (Bentz 1598). Artists should emotionally connect with environmental issues and propose practical solutions while understanding cognitive mechanisms to engage audiences. Collaborative efforts across disciplines are vital for creating sustainable cultural environments, as they bring diverse perspectives and expertise to address complex challenges. Equally important is personal engagement, which plays a crucial role in shifting societal attitudes toward environmental concerns. However, effectively communicating the urgency of climate change remains challenging due to its abstract nature and gradual progression, which often obscures the immediate need for action. By integrating ecocriticism and affect theory, the *Ice Receding/Books Reseeding* project highlights the potential of participatory art to drive meaningful environmental change. Future research could investigate its long-term impact on community resilience and ecological restoration, offering insights for similar initiatives. These projects amplify marginalized voices and use transmedia storytelling to engage diverse audiences, enriching narratives and encouraging action. By combining sculpture, poetry, and community engagement, these projects inspire climate action and empower individuals as advocates of their local environments.

Works Cited:

- Anderson, Ashley A. "Effects of social media use on climate change opinion, knowledge, and behavior." *Oxford Research Encyclopedia of Climate Science*, Oxford University Press, 2017.
- Bentz, Julia. "Learning about Climate Change in, with and through Art." *Climatic Change*, vol. 162, no. 3, 2020, pp. 1595–612.
- Bentz, Julia, and Karen O'Brien. "ART FOR CHANGE: Transformative learning and youth empowerment in a changing climate." *Elementa (Washington, D.C.)*, vol. 7, no. 1, 2019.
- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Duke University Press, 2010.
- Bergillos, Ignacio. "Approaches to the Anthropocene from Communication and Media Studies." *Social Sciences*, vol. 10, no. 10, 2021.
- Bladow, Kyle, and Jennifer Ladino. "Toward an Affective Ecocriticism: Placing Feeling in the Anthropocene." *Affective Ecocriticism: Emotion, Embodiment, Environment*, University of Nebraska Press, 2018, pp. 1–22.
- Boetzkes, Amanda, and Arkesteijn, Roel. *Reading the River: The Ecological Activist Art of Basia Irland*, Museum de Domijnen. 2017.
- Boykoff, Maxwell T. *Who Speaks for the Climate?: Making Sense of Media Reporting of Climate Change*. Cambridge University Press, 2011.
- Bruhn, Jørgen. "Intermedial Ecocriticism: The Anthropocene ecological crisis across media and the arts." *Ekphrasis. Images, Cinema, Theory, Media*, vol. 24, no. 2, 2020, pp. 5-18.
- . "Towards an intermedial ecocriticism." *Beyond Media Borders, Volume 2: Intermedial Relations among Multimodal Media*, Palgrave MacMillan, 2021, pp. 117-148.
- Crouch, David. "Affect, heritage, feeling." *The Palgrave Handbook of Contemporary Heritage Research*, Palgrave Macmillan, 2015, pp. 177–90.
- Cubitt, Sean. *Finite Media: Environmental Implications of Digital Technologies*. Duke University Press, 2017.
- Curtis, David J., et al. "Towards Ecological Sustainability: Observations on the Role of the Arts." *Surveys and Perspectives Integrating Environment and Society*, vol. 7, no. 1, 2014.

- Demos, T. J., et al., editors. *The Routledge Companion to Contemporary Art, Visual Culture, and Climate Change*. Routledge, 2021.
- Dieleman, Hans. “Arts-based education for an enchanting, embodied and transdisciplinary sustainability.” *Artizein: Arts and Teaching Journal*, vo. 2, no. 2, 2017.
- Drozdowski, Danielle, and Carolyn Birdsall. “Using Emplaced Ethnography, Mobility, and Listening to Research Memory.” *Doing Memory Research*, Palgrave Macmillan, 2018, pp. 39–61.
- Ferrucci, Giada. Email to Basia Irland, 24 June 2024.
- Gabrys, Jennifer, and Kathryn Yusoff. “Arts, sciences and climate change: Practices and politics at the threshold.” *Science as culture*, vol 21, no. 1, 2012, pp. 1-24.
- Geiger, Nathaniel, et al. “Creating a climate for change: Interventions, efficacy and public discussion about climate change.” *Journal of Environmental Psychology*, vol. 51, 2017, pp. 104-116.
- Hawkins, Harriet, and Anja Kanngieser. “Artful Climate Change Communication: Overcoming Abstractions, Insensibilities, and Distances.” *Wiley Interdisciplinary Reviews. Climate Change*, vol. 8, no. 5, 2017.
- Irland, Basia. “Ice Receding/Books Reseeding.” *Downstream*, Wilfrid Laurier Press, 2017, pp. 181–91.
- Irland, Basia. “Reading the River.” *Interalia Magazine*, September 2018, interaliamag.org/interviews/basia-irland/
- Masson-Delmotte, Valérie, editor. *IPCC 2021: The Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. 1st ed., Cambridge University Press, 2023
- Jacobs, Rachel, et al. “A conversation between trees: what data feels like in the forest.” *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ACM, 2013, pp. 129–38.
- Jenkins, Henry. “Revenge of the Origami Unicorn: The Remaining Four Principles of Transmedia Storytelling.” *Pop Junctions*, December 12 2009, henryjenkins.org/blog/2009/12/revenge_of_the_origami_unicorn.html.

- . “The Revenge of the Origami Unicorn: Seven Principles of Transmedia Storytelling (Well, Two Actually. Five More on Friday).” *Pop Junctions*, December 12, 2009, henryjenkins.org/blog/2009/12/the_revenge_of_the_origami_uni.html
- . “Transmedia Storytelling and Entertainment: An Annotated Syllabus.” *Continuum (Mount Lawley, W.A.)*, vol. 24, no. 6, 2010, pp. 943–58.
- . “3. Searching for the Origami Unicorn: The Matrix and Transmedia Storytelling.” *Convergence Culture: Where Old and New Media Collide*, New York University Press, 2006, pp. 93-130.
- Jones, Owain, and Joanne Garde-Hansen. *Geography and Memory Explorations in Identity, Place and Becoming Introduction*. Springer Nature, 2012, pp. 1–23.
- Kalaidjian, Andrew. “The spectacular anthropocene.” *Angelaki: Journal of Theoretical Humanities*, vol. 22, no. 4, 2017, pp. 19–34.
- Lam, Anita, and Matthew Tegelberg. “Witnessing glaciers melt: Climate change and transmedia storytelling.” *Journal of Science Communication*, vol. 18, no. 2, 2019.
- Leavy, Patricia. *Method Meets Art: Arts-Based Research Practice*. Second edition, The Guilford Press, 2015.
- Marland, Pippa. “Ecocriticism.” *Literature Compass*, vol. 10, no. 11, 2013, pp. 846-868.
- Moser, Susanne C., and Lisa Dilling. “Communicating Climate Change: Closing the Science-Action Gap.” *The Oxford Handbook of Climate Change and Society*, Oxford University Press, 2011.
- Rust, Stephen, et al. *Ecomedia: Key Issues*. Routledge, 2016.
- Ryan, Kathryn. “Incorporating emotional geography into climate change research: A case study in Londonderry, Vermont, USA.” *Emotion, Space and Society*, vol. 19, 2016, pp. 5-12.
- Sabra, Zainab, and Mohammed Abdo Al-Moaz. “Awareness of Climate Change – The role of art, education and culture in raising awareness of climate change.” *International Journal of Education and Learning Research*, vol 5, no. 1, 2022, pp. 48-70.
- Segeberberg, Alexandra, and W. Lance Bennett. “Social media and the organization of collective action: Using Twitter to explore the ecologies of two climate change protests.” *The Communication Review*, vol. 14, no. 3, 2011, pp. 197-215.

- Shrivastava, Paul, et al. "Sustainable development and the arts." *International Journal of Technology Management*, vol 60, nos. 1-2, 2012, pp. 23-43.
- Sommer, Laura Kim, and Christian Andreas Klöckner. "Does activist art have the capacity to raise awareness in audiences? A study on climate change art at the ArtCOP21 event in Paris." *Psychology of Aesthetics, Creativity, and the Arts*, vol 15, no. 1, 2021, pp. 60-75.
- Sumartojo, Shanti. "Commemorative atmospheres: Memorial sites, collective events and the experience of national identity." *Transactions of the Institute of British Geographers*, vol. 41, no. 4, 2016, pp. 541-553.
- Weber, Elke U. "What shapes perceptions of climate change? New research since 2010." *Wiley Interdisciplinary Reviews: Climate Change*, vol 7, no. 1, 2016, pp. 125-134.
- Weik von Mossner, Alexa. "Affect, emotion, and ecocriticism." *Ecozon@: European Journal of Literature, Culture and Environment*, vol. 11, no. 2, 2020, pp. 128-136.
- Witcomb, Andrea. "Understanding the role of affect in producing a critical pedagogy for history museums." *Museum management and curatorship*, vol. 28, no. 3, 2013, pp. 255-271.
- Westling, Louise. "Literature, the Environment, and the Question of the Posthuman." *Nature in Literary and Cultural Studies*, Brill, 2006, pp. 25-47.

Appendix: Images

- Irland, Basia. *Carving "Wild Iris Book."* 2010. Photograph. Shared by the artist.
- . *Ice Book releasing seeds as it floats down the River Maas, the Netherlands.* 2015. Photograph. Shared by the artist.
- . *Tome I.* 2007. Photograph. Shared by the artist.