



## ARTICLE

# Video Art and Inclusive Installation in Environmental Art: New Strategies from Visual Studies on Climate Change in Chile

Diego Bernaschina 

Independent researcher, Santiago 8320000, Chile

## ABSTRACT

This article aims to share the experience from a theoretical approach to creative proposals on the study of climate change and seismic risk in Chile, through the transdisciplinary artistic space, the selected works of video art and technological installations. The main objective is our vision of contemporary art that involves different values towards an integral look for the elaboration of knowledge, such as technology and the socio-environmental, of course, social inclusion, encompassing the greater awareness about the need to rethink our daily practices, both at a personal and group level, through the absence of vulnerability and the profound disconnection. This research adopted a qualitative methodology through a series of documentary reviews, various case studies, visual, and content analyses, and a visual studies approach to establish the theoretical and practical contextual foundations for environmental and media art. The case study identified several key findings that highlight the role of video art and new media installations as effective tools for addressing ecological and socio-environmental issues, especially in the context of climate change and seismic risks. Some key elements are represented in a series of discussions aimed at strengthening critical social and ecological issues through the representation of the environmental crisis, technological interaction and interactivity, the emotional and social impact of commitment to social justice, and, of course, activism through environmental art. In conclusion, as climate instability and seismic threats continue to shape our future, it becomes ever more urgent to cultivate practices—both artistic and societal—that prioritize sustainability, resilience, and justice.

**Keywords:** Video Art; New Media Installations; Environmental Art; Visual Studies; Climate Change; Seismic Risk; Ecological Justice; Visual Communication

### \*CORRESPONDING AUTHOR:

Diego Bernaschina, Independent researcher, Santiago 8320000, Chile; Email: diego\_artista@yahoo.es

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## 1. Introduction

Due to its geographical characteristics, the Chilean territory has been strongly affected by the complex landscape of globalization of environmental problems and their influence over the last decade, including natural disasters such as earthquakes and tsunamis, as well as climate change and global warming<sup>[1]</sup>. Facing the challenge of artistic research corresponds to a key series to take a position in the different debates on vulnerability, and it has an extensive documented seismic history in relation to the multiple conflicts, environmental risks, and controversies surrounding its link to catastrophic events, especially the 2010 earthquake<sup>[2]</sup>. Just as the memory—both narrative and story—has left significant traces in historical events, helping us understand intercultural dialogues and the connection to the human spirit and identity.

However, this motivation goes beyond threats associated with the geophysical zone, which has a low defense against sustainable development in fragile ecosystems (or geological risks) regarding biodiversity conservation, natural resources, and water scarcity. Of course, climate change is showing worrying evidence—global situations, that carry escalating arguments about ‘visualising’ and ‘creating’ more adequate measures to address the issues of zonal disaggregation and to respond to the existing disasters.

Thus, this strategy focuses on the concept of artistic development and its connection to the environment. For example, some cases highlight the crucial need to limit the rise in global temperature, restore biodiversity, and protect health by preventing ecosystem degradation and prioritizing species conservation in the face of crises. It occurs despite the lack of social justice and the loss of human lives. In this sense, Chile is currently at a climate crossroads, where geography and activities contributing to air pollution are having critical effects on global warming, and the region’s high seismic risk necessitates innovative responses focused on awareness and collective action.

Based on research, it incorporates the emergence of visual studies in the context of media art, emphasizing inclusion and the fight against climate change from emerging art—facing accessible barriers such as the lack of interest from cultural institutions and the absence of public-private space that supports environmental education—to solve eco-

logical crises in media art, particularly video art and new media installation projects. These artistic practices generate complex experiences about the encounter between the viewer, the artwork, and the creation of visual narratives to observe the world from an educational perspective toward a research-based delimitation in the field of knowledge<sup>[3, 4]</sup>. However, the museum setting (or art gallery) allows for interaction with the viewer in sensory, affective, and cognitive dimensions, moving through (or accessing) the artistic space and traditional frameworks of representation and communication through powerful visual languages and interactive interfaces.

Although seismic activity on land and at sea poses a threat, it has historically been part of the geological and cultural identity of the field. Visual studies in art can address this through climate change, strengthening integration campaigns in creative actions. This interdisciplinary vision—encompassing both new media art and environmental art—requires a deeper theoretical reflection on terminology, the current state of language, and the impacts of new technologies on climate art. It creates the need to seek alternatives for developing and improving the proposal of a terminology for new media art, deepening the text or discourse in lexical theory on the technological influence of art<sup>[5]</sup>. In this scenario, it is urgent to strengthen the expressive and communicative capacities of media arts, not only as an aesthetic tool, but as an educational and social medium capable of promoting critical reflection and fostering commitment to sustainable technologies and solutions.

For example, it is hard to respond with the objects and creative values needed to develop, innovate, and acquire new tools of artistic expression through technology and the theory of sustainable development in inclusive education<sup>[6, 7]</sup>. Some aspects of certain creative practices, of course, in artistic terms, as well as media artworks, can gain the ability to integrate different situations, both socio-environmental and technological innovation, employing the principles of sustainability through an audiovisual and narrative language that engages the viewer as they experience the work and engage their senses. On the other hand, it doesn’t always facilitate ecological demonstrations to translate the worrying or impactful messages of participation and social change. Faced with this tension, the need arises to rethink its role as a media art tool to unify art, technology, and the envi-

ronment towards new narratives and educational approaches to risks and catastrophes. It is essential to understand the new language about the climate change crisis, incorporating an inclusive society and educational technology. This approach should not only focus on art but also influence the development of environmental standards and the mitigation of economic disasters.

And even cyber culture and new media that have been generated in the creativity of the connected crowd in art towards an innovative terminology that points in media arts, characterized by different design patterns in digital formats and interactive codes that reconfigure the avant-garde as media software and its effects on the praxis that produces (or receives) visual messages<sup>[8]</sup>. Therefore, this alternative language not only modifies our form of visual communication but also emphasizes interpretation in the face of complex phenomena, such as climate change and natural disasters, including earthquakes and tsunamis. From this ecological perspective, art language positions itself as the key symbolic system for understanding development related to socio-educational transformation and new technologies.

This vision of the roles of interactive creativity within media art can contribute to a dynamic dialogue through innovation in a free and high-quality educational environment, as well as to the development of a collaborative spirit and social communication<sup>[9, 10]</sup>. Socio-educational inequality gaps deepen the conditions of poverty related to transdisciplinarity<sup>[11]</sup> in art practice, such as media art, environmental art, and inclusive art through public-private partnerships. These practices transform a world suffering from environmental pollution, biodiversity loss, and the impact of ecological intervention on various diseases. Furthermore, they underlie forced displacement caused by natural disasters in Chile. Therefore, it is crucial to convey the message of the climate crisis through artwork, particularly within contemporary art spaces.

Unfortunately, in Chile, there is a lack of spaces for dialogue around the global ecological crisis, such as participation in aesthetic reception, interactive installations (or multisensory engagement) that allow for a connection between the work and the public—a tour of an installation or a visit to a work as an open (and accessible) creative process—for example, the concept of developing social and biospheric awareness as interdisciplinary strategies for the transforma-

tion of humanity and the balance of biodiversity<sup>[12, 13]</sup>. However, there is the study on the most powerful literature, ‘The Earthquake in Chile’ (1808) by the German writer, Heinrich von Kleist, which recounts a form of deconstruction based on the romantic novel as human relationships that perceive social behavior, the capacity for thought, and their uncertainties to question the crisis or otherness<sup>[14]</sup>. Despite this shortcoming, the lack of environmental response and social commitment is a significant issue. The potential of art to evoke emotional reactions to earthquakes and tsunamis is not limited to the complex territory of the ecological crisis. This research explores the transformative power of creative practice, combined with transdisciplinarity—ecology, technology, and inclusive society—to harness the potential of artworks (video art and media installations) as creative tools, independent of other disciplines. This approach aims to enhance human awareness and, of course, promote ecological action and sustainable development.

This article aims to share the experience from a theoretical approach to creative proposals on the study of climate change and seismic risk in Chile, through the transdisciplinary artistic space, the selected works of video art and technological installations. Based on new tools for the continuous development of new media and human perception, showing great vitality and broader development prospects towards the transformation of traditional art to electronic art<sup>[15]</sup>. In the field of communication, there are opportunities to plan actions that facilitate the construction of an environmental culture with emphasis on the manifestations of climate change, addressing it as a social task<sup>[16]</sup>.

In this sense, the limitations in research related to video art and installation art constitute a transdisciplinary vision with diverse curricula to establish a series of artistic responses that aim to form a change in motivational climate and attitudes towards the exercise, increase the public’s awareness and motivation in the arts, and inspire long-term environmental resilience. Undoubtedly, this articulation with artistic technology incorporates a development through contemporary environmental discourse (or message). Over time, debates have emerged in the Chilean context, and the convergence between creative practices, scientific thought, and technological resources has become crucial for confronting the climate crisis and promoting significant and sustainable transformations.

## 2. Objectives

The main objective is our vision of contemporary art that involves different values towards an integral look for the elaboration of knowledge, such as technology and the socio-environmental, of course, social inclusion, encompassing the greater awareness about the need to rethink our daily practices, both at a personal and group level, through the absence of vulnerability and the profound disconnection. In this particular case, and due to the nature of the research, the different points of view on art ecology are specified to understand the most crucial findings on creative development and its connection with the environment:

1. To learn about the selected works, both video art and video installation, and to observe the approach to the vulnerability of climate change and risks in Chile through local ecosystems.
2. To identify sustainable art and new environmental criticism to encourage debate (and observation) by viewers on human responsibility and earthquake prevention.
3. To redefine the unified language of media arts, environmental art, and inclusive art to integrate priority issues on the climate change crisis and current seismic risks in Chile.
4. To analyze the emotional impact and participation of interactive installations and digital storytelling in fostering ecological awareness and motivation for environmental action critically.

## 3. Theoretical Framework

### 3.1. Contemporary Art Movements and Trends

The growing concern over the environmental crisis following the 2010 Chilean earthquake has led to the establishment of a comprehensive framework for understanding social problems, recognizing their environmental consequences alongside contemporary art movements—particularly *eco-art*, *digital art*, and *new media art*—as modern ecology has gained greater relevance. Furthermore, the understanding of artistic engagement has evolved from the representation of nature in the human sciences and the Land, encompassing biology and living beings.

Despite several studies<sup>[17, 18]</sup> that argue that the inter-

section of contemporary art, visual culture, activism, and climate change is crucial for rethinking ethics and values related to the increasingly collapsing environment, and of course, the absence of climate justice; nevertheless, it only unites humanity's greater efforts to expand interdisciplinarity in different areas of violence, critique, politics, and precarious economics.

### 3.2. Art and Sustainability

Sustainability plays a fundamental role, both for the creator and the public, as a key space for reflection and artistic training, as well as practice through environmental activism, and the principles of creativity and ecological awareness to raise awareness of new ways of thinking and create a public speech or powerful message about the problems of the global environmental crisis—about climate change, loss of biodiversity, pollution and depletion of natural resources—prioritizing issues of beauty, aesthetics or technical innovation.

For example, some researchers<sup>[19]</sup> argue that cultural, and creative economies, such as art, sustainability, and activism, are dynamic platforms where art, sustainability and activism converge. Artistic tradition has demonstrated, in many cases, the ecological link through the real impact of human issues on the materials and processes used in the creation of media artworks, and of course, the creation of visual narratives to observe the challenging world that involves a critical awareness of the relationship between ecological balance and the ethics of environmental responsibility.

### 3.3. Digital and New Media Art in Environmental Critique

Through the convergence between digital art and environmental criticism, it is a way of raising awareness in a technological space centered on computational media<sup>[20]</sup> for creative intervention in ecological activities. In this context, several proposals highlight the capacity of video art and digital installations to convey the abstract dimensions of climate change and seismic risk in perceptible, emotionally resonant, and conceptually accessible ways. By incorporating real-time data, such as seismic activity or pollution levels, artists can create installations that are not only visually compelling but also grounded in scientific realities. One of the main definitions of art is that research, both technolo-

logical and scientific, remains marginalized as a secondary activity; however, in a technoscientific culture, there is a critical and urgent need for artistic exploration of the world of research<sup>[21, 22]</sup>. This dynamic approach helps bridge the often-perceived gap between scientific discourse and public understanding. Digital storytelling further enhances this potential by offering participatory and nonlinear narratives that allow the public to engage with environmental issues from personal, ethical, and global perspectives.

### 3.4. Intersectionality and Identity in Environmental Art

Environmental art cannot be fully understood without acknowledging its intersection with identity, power, and social inequality. Marginalized communities—including indigenous peoples, rural populations, and the urban poor—are often those most acutely affected by environmental degradation and climate-induced displacement. As climate change researchers<sup>[18]</sup> assert, environmental art must critically engage with these inequalities and strive to represent the lived experiences of vulnerable populations who are frequently excluded from dominant environmental narratives.

Media arts, especially video art, serve as a powerful vehicle for amplifying these voices and promoting inclusive ecological awareness. Works that explore themes of displacement, resource extraction, and environmental violence from an intersectional perspective facilitate the exposure of the complex connections between ecological and social injustices. Such practices contribute to a broader vision of climate justice—one that encompasses not only environmental preservation but also the dignity, knowledge systems, and rights of marginalized communities.

### 3.5. Emerging Gaps and the Need for a Unified Language

Despite the expanding role of media arts in environmental discourse, the field still faces challenges related to conceptual clarity and educational integration. There remains a notable absence of a unified media arts language that can systematically articulate the intersection of art, climate science, and social justice in the Chilean context. The lack of formal terminology and theoretical grounding hinders the development of structured pedagogies and policy engagement

in the field. This signals an urgent need to establish a shared framework that connects artistic innovation with sustainability and socio-environmental ethics, especially in regions like Chile, where seismic vulnerability intersects directly with the climate crisis.

## 4. Methods

This research adopted a qualitative methodology through a series of documentary reviews, various case studies, visual, and content analyses, and a visual studies approach to establish the theoretical and practical contextual foundations for environmental and media art.

### 4.1. Documentary Review

An extensive documentary review was conducted to establish the theoretical and contextual foundation for this research. The review focused on a range of documentary works—films, video art, and interactive media—that engage with environmental themes, particularly climate change, seismic risk, and ecological degradation. These works were analyzed for their artistic approaches, narrative structures, and the ways they communicate environmental issues to diverse audiences. The review also explored the role of documentary art in shaping public consciousness and fostering a deeper understanding of urgent ecological challenges.

In particular, the documentary review highlighted key artistic proposals that bridge visual art with environmental activism. This process underscored how video art and new media installations, with their roots in documentary traditions, serve as potent platforms for activism and public storytelling. The review paid specific attention to how these artistic forms contribute to the discourse on sustainability and reflect the socio-environmental realities of Chile. By examining existing visual narratives alongside emerging artistic practices, the documentary review played a pivotal role in informing the selection of case studies and shaping the interpretive framework for analyzing the artworks featured in this research.

### 4.2. Case Study Analysis

The study focused on a selection of Chilean video art and new media installations that addressed key environmental issues. The case studies were chosen for their relevance

to themes such as climate change, seismic activity, and the degradation of natural resources. Each case was analyzed in terms of its conceptual approach, the media used, and its engagement with specific socio-environmental concerns in Chile, particularly the country's historical vulnerability to natural disasters.

Likewise, works by international artists who actively engaged with the theme of 'The Earth' were considered, focusing on translating the global scale of climate change into human narratives<sup>[23]</sup>. These proposals allowed us to observe the connection between art and the environmental crisis, drawing on the power of aesthetic, visual, and sensorial experiences to address the cultural impacts of climate change. The analysis of these cases complemented the local perspective with a broader focus on the possibilities of contemporary art as a form of communication and environmental awareness.

#### 4.3. Visual and Content Analysis

A visual and content analysis of the selected works was carried out to explore their aesthetic, symbolic, and narrative strategies. This analysis examined the curatorial theme 'Tremor' to portray in some stories the relationship between art, science, and socio-natural disasters as a concept of human catastrophe, very similar to cataclysm or post-traumatic effect, where the unpredictable and destructive force, such as the savagery of movement and the energetic release of the collision of two tectonic plates<sup>[24]</sup>. Clearly, the tradition of these phenomena is of great cultural relevance, with deep roots in history and time. This case demonstrated that new media technologies—such as interactive video, augmented reality, and digital storytelling—can convey a culturally relevant image through complex social and environmental problems. Likewise, these works, which formed part of a creative experience, connected viewers emotionally and intellectually with the urgent ecological challenges depicted. This is similar to the interpretation of the digital and contemporary key to addressing diverse cultural significance through the instability and fragility of construction and destruction, the material and immaterial aspects of our seismic nature.

#### 4.4. Visual Studies Approach

The research applied a visual studies approach to critically analyze the formal and conceptual elements of the

works<sup>[25, 26]</sup>. This approach emphasized the role of visuality in media arts, including the use of space, imagery, and iconography. These elements shaped the communication of ecological messages, such as society's inability to adapt to the geological reality and climate change of Chilean territory. It was paid to give visual special attention to studies exploring the interaction between geographical conditions and environmental narratives.

Through these methods, the research developed a concrete understanding of the role of video art and new media installations in shaping public discourse and raising awareness about environmental crises in Chile. The combination of visual analysis and documentary review provided a comprehensive framework for interpreting the artistic strategies employed to address ecological and social challenges.

### 5. Results

The case study identified several key findings that highlight the role of video art and new media installations as effective tools for addressing ecological and socio-environmental issues, especially in the context of climate change and seismic risks.

#### 5.1. Digital Art as a Tool for Ecological Engagement

The analysis highlighted that video art and new media installations are highly effective in communicating the urgency of climate change and seismic risks. These artistic media have a unique capacity to create immersive, multi-sensory experiences that engage audiences emotionally and intellectually. By incorporating elements such as real-time environmental data (such as earthquake statistics or real-time pollution levels), each artist can associate the convergent evolution of viewer participation through the artworks, observing and seeking new answers and solutions.

For example, some installations used real-time earthquake data to create interactive experiences, prompting viewers to confront the potential dangers of seismic activity as it occurred. It involves perceiving the vibrating body in different ways, including physical interaction and visual-cognitive perception, depending on the personal and group experiences<sup>[27]</sup>. The justification for this study lies in the need to rethink visualization—not only is it necessary in our

innovative culture, but it also facilitates an understanding of the implications of ethics and ecology, such as responsibility, through environmental threats, especially in bodily transformation through the human body, such as sound vibration through brain structures and sounds.

## 5.2. The Need for a Unified Media Arts Language

A crucial finding of the case study analysis was the lack of a cohesive or unified media arts language customized to climate change and seismic risks. While the selected works successfully communicated ecological concerns, there was a notable absence of a common lexicon or framework for addressing these issues across different media formats. Each artist used their own approach to convey urgency, but without a universal language to unite these works, the message lacked the broader resonance that could facilitate widespread understanding. This gap highlights the need for a more structured and unified framework within the media arts community, one that can bridge the interdisciplinary gap between art, science, and public discourse on climate and seismic risks.

## 5.3. The Role of Technology in Artistic Expression and Engagement

A significant aspect of the findings was the intersection of technology with artistic expression. The video installations and other digital artworks in the case studies used a combination of hardware, software, and interactivity to create immersive environments that encourage direct interaction with the viewer. For example, as demonstrated in **Figures 1 and 2**, the integration of computer-generated images, sound, and data visualization not only enriched the aesthetic experience but also served as an educational tool for understanding seismic events and their impact on local communities. The use of installation in the moving image or video installation was particularly effective in conveying concepts related to ‘vibratory geography’—a term that refers to the tactile, auditory, and visual experiences of seismic activity as experienced in Chile’s history of earthquakes.

In **Figure 1**, the installation features a vertical structure made of recycled wood, decorated with colorful handprints, which incorporates a sound system with headphones and a projector that projects images onto a nearby wall. This im-

mersive environment invites the viewer into a multisensory experience where sound, tactile vibration from touching the structure, and projected images converge to evoke seismic memories. Direct audience interaction—using headphones and placing their hands on the structure—demonstrates that technology enables bodily interaction with the artistic content, deepening the emotional and sensory understanding of seismic events.



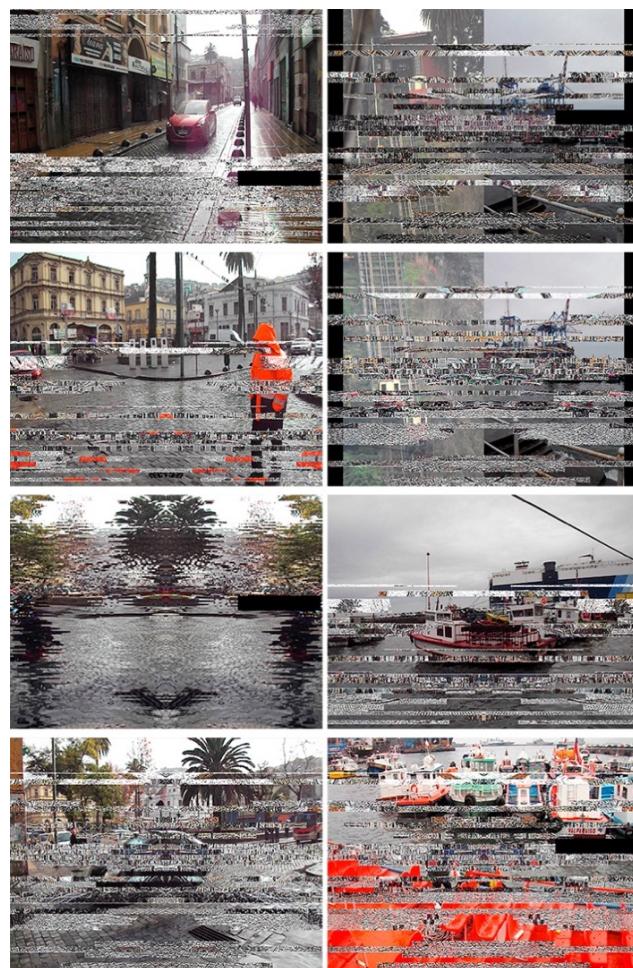
**Figure 1.** *Temblo (in)sensible* ['The (in)sensitive quake' in Spanish], 2019. Installation (HD video of mini-projections, 1 active box of 400 watts, 9 recycled European pallets, and 2 boxes of recycled wood for fruits and vegetables), variables.

Source: Courtesy of own.

Vibrations, instability, and tremors, as recurring phenomena of the geological environment, reflect the capacity to shake and awaken to another state, expressing involuntary movements originating from the collision of material extensions that demand a rethinking of the ways of understanding the world, since each shake offers the opportunity to review and question our certainties, exposing the fragility of our constructions and challenging us to reimagine our responses in a context of persistent instability<sup>[28]</sup>.

In **Figure 2**, it corresponds to the series of images present digitally altered video installations depicting urban, coastal, and port scenes in Chile, visually disrupted by glitches and distortion. These digital alterations symbol-

ize not only the physical disruption caused by earthquakes but also technological interference as part of memory and documentation. The graphic glitches serve as metaphors for geological and social instability, while the use of video manipulation and data visualization generates an aesthetic that critically and sensorially expresses vibratory geography. This work demonstrates that technology is not merely a medium but also an expressive language that translates seismic experience into a powerful and educational visual narrative.



**Figure 2.** *Predicción sobre la advertencia de peligro televidente* ['The prediction on viewer danger warning' in Spanish], 2019. 2 video arts. Sound of *Terremoto* ['Earthquake', in Spanish by Chilean sound artist, Matias Serrano Acevedo. 4:44 min. (each video).

Source: Courtesy of own. See the short trailer on Vimeo at <https://vimeo.com/350899146>.

Both figures have been exhibited in the Anteroom Gallery of the Extension Center of the Ministry of Culture, Arts and Heritage in Valparaíso, Chile, and are inspired by the personal experience of the 2010 earthquake in Santiago.

Chile, one of the most seismically active countries in the world, has a long and complex history of earthquakes and tsunamis, ranging from the early 20th century to the present. This seismic legacy is most dramatically marked by the 1960 Valdivia earthquake—the most powerful earthquake ever recorded in human history.

These images not only reflect the physical devastation caused by such natural disasters but also serve as visual testimonies to a deeply rooted national consciousness shaped by seismic risk and the continual need for disaster preparedness. Through artistic expression, they convey the emotional and cultural impact of living in a landscape constantly shaped and reshaped by tectonic forces.

#### 5.4. The Intersection of Postmodern Media and Environmental Awareness

The analysis also examined the role of media postmodernity in the creation of these artworks. Postmodernism, as described by scholars<sup>[29, 30]</sup>, is characterized by fragmentation, ambiguity, and a reassessment of traditional narratives and meanings. In the digital era, these qualities have reshaped both media production and artistic expression. Video art and new media installations embody these postmodern sensibilities, drawing upon the flexibility and interactivity of digital media. By incorporating technologies such as computer graphics, audiovisuals, the internet, and sound, these artworks transcend conventional modes of expression, offering complex, non-linear narratives that reflect the interconnectedness of human action and environmental consequences.

The works studied also incorporate cultural contributions from the digital sphere, particularly in relation to the climate change crisis. It would be difficult to ignore that Chile's seismic nature has shaped our identity as individuals and as a nation, since the earthquake, with its staged media reach, transcends being a geological phenomenon or an intimate accident to become a metaphor for a state of being, where the imminence of collapse defines a telluric, nervous, and expectant present<sup>[28]</sup>. Digital media has enabled artists to experiment with new ways of narrating environmental issues, often using augmented reality or interactive digital elements to create works that reflect the urgency of global warming, biodiversity loss, and natural disasters. Furthermore, there is a clear correlation between climate change and

seismic activity, as both pose future risks with devastating impacts on vulnerable regions. By creating these immersive and technological environments, the artists do not simply represent these phenomena but invite the viewer into an experiential dialogue with them, blurring the boundaries between scientific data, art, and lived experience.

## 6. Discussion

The major debates have focused on a new approach to the future, improving human development. The exhibition of these works reflected the impact of these findings on climate change through broad audience participation.

The analysis of contemporary Chilean video art and new media installations reveals a compelling intersection between art, technology, and environmental activism, fostering a deeper consideration of our cultural relationship with the Earth's stability. These works effectively address climate change and seismic risks through innovative visual strategies and cutting-edge technologies, while also tackling critical social and ecological issues. By examining problems from a variety of angles, these thought-provoking pieces transcend traditional environmental discourse, offering an emotional, intellectual, and personal engagement with pressing ecological concerns. The works confronted the viewer with the consequences of human behavior through natural disasters and physical collapse, contrasting the beauty of the planet with the damage being inflicted upon it, as well as several key areas where art, technology, and social justice converge, contributing to a deeper understanding of the environmental challenges facing Chile.

### 6.1. Depiction of Environmental Crises

The selected video art and media installations poignantly depict environmental crises, offering a visual language that resonates emotionally with the viewer. As evidenced in art installation (in **Figure 1**), the depiction of a post-earthquake landscape—complete with crumbled buildings, displaced populations, and the slow-motion representation of destruction—serves to amplify the psychological aftermath of such natural disasters. The ambient soundtrack not only complements the visuals but also intensifies the emotional weight, reflecting the trauma and long-term effects that seismic events have on both communities and individuals.

Similarly, the multi-screen video art (in **Figure 2**), which explores climate change through images of wildfires, rising sea levels, and flooded coastlines, highlights the urgency of global environmental degradation.

By integrating time-lapse sequences and soundscapes, the artist highlights the accelerating pace of environmental change, emphasizing the imminent threat of ecological collapse. Experiencing seismicity as a constant state of alert, knowing that every social, emotional, and political structure is vulnerable to violent ruptures, implies relinquishing the idea of fixed knowledge and embracing defensive responses that are both profound and ironic, and dark<sup>[24]</sup>. These works, with their dynamic visual narrative, underscore the intensity of these crises, engaging the public with the sensory and emotional dimensions of climate and seismic risks.

This visual storytelling approach is crucial in communicating the complexity of environmental threats. Some studies<sup>[17]</sup> argue that contemporary artworks that depict the multifaceted nature of environmental crises—both globally and locally—serve as critical interventions that expose the immediate dangers to biological survival and ecological systems. These works offer more than mere representations; they engage the viewer in a lived experience of the crisis, capturing the gravity of environmental threats and their consequences.

### 6.2. Technological Engagement and Interactivity

A prominent feature of these media artworks is their use of technology to foster a deeper, more personal connection with the viewer. For example, it utilizes augmented reality (AR) to enable the audience to interact with visuals of deforested landscapes and flooded areas. This interactive element not only heightens the emotional impact of the work but also allows viewers to actively engage with the environmental narrative, adjusting the visuals in real time. Another example is that engaging with the virtual environment allows viewers to recognize various elements of the artwork, which can trigger a wide variety of emotional responses. Furthermore, this experience favors the construction of multiple interpretations, modulated by each individual's background and cultural differences<sup>[31]</sup>. By inviting the audience to manipulate the digital representation of environmental damage, these installations underscore the ongoing and dynamic na-

ture of climate change. The viewer is not merely a passive observer but an active participant, directly influencing the narrative and, in doing so, engaging more deeply with the themes of environmental degradation.

### 6.3. Emotional and Social Impact: Addressing Environmental and Social Justice

This discussion emphasizes the intentions of works from the actual experience of the visitors. For example, emphasizes that we all know about climate change and communicating science<sup>[32]</sup>. So, it's not about knowledge but about how to empower visitors to inform their actions. What can people do with the knowledge? Especially if it involves narratives. This requires a thoughtful and didactical approach in view of artistic intentions. The emotional resonance of these works is amplified by their engagement with social justice themes, particularly the disproportionate impact of climate change and environmental destruction on marginalized communities. The representation of the displacement of indigenous populations due to environmental degradation exemplifies how art can highlight the intersectionality between environmental crises and social inequalities. Through interactive projections, the artist visualizes the tension between traditional ways of life and the disruptive forces of industrialization and climate change. The piece invites viewers to confront the reality that environmental destruction is not only an ecological issue but also a matter of social justice, as marginalized communities bear the brunt of its consequences.

Furthermore, water scarcity in the Atacama Desert (through the northern part of Chile) illustrates how local communities are grappling with the dire consequences of environmental changes. By using documentary-style video and interactive elements, the artist emphasizes the human cost of ecological shifts, showing how global phenomena like climate change manifest in the everyday lives of vulnerable populations. This kind of art fosters a sense of empathy and calls for global action, highlighting the urgent need for sustainable solutions to mitigate the adverse effects of environmental destruction on local communities. The social impact of these works echoes the broader movement in environmental art toward activism and social transformation. Contemporary artworks have the power to illuminate the social structures that threaten biological survival and environmental sustain-

ability<sup>[17]</sup>. By focusing on vulnerable populations and their experiences of ecological devastation, these artists challenge the viewer to consider not only the environmental risks but also the social and cultural repercussions of climate change. The works urge a more inclusive approach to climate justice, one that recognizes the intersection of ecological and social challenges.

### 6.4. Activism Through Art: Catalyzing Action

The role of art as a form of activism is central to these findings. The selected works go beyond visual representation to provoke emotional responses that catalyze action. It suggests, art has the potential to evoke empathy and stimulate action by making environmental issues more relatable and immediate<sup>[17]</sup>. The interactive and immersive nature of the artworks examined in this study transforms the viewer from a passive spectator to an active participant, thereby fostering a deeper personal connection to the issues at hand. These works encourage viewers to reflect on their own roles in perpetuating environmental destruction and, through their engagement, seek ways to contribute to positive change.

In this context, the artworks examined here serve as potent tools for activism, making environmental issues tangible and emotionally resonant. By breaking down the barriers between viewer and subject, they create a space for dialogue and action. The works demonstrate that art can be an effective medium for raising awareness, inspiring activism, and creating a lasting impact on the viewer's perception of climate change and seismic risk.

### 6.5. The Role of Technology in Enhancing Environmental Discourse

The use of digital technologies such as AR, VR, and interactive projections in environmental art facilitates a more immediate and personal engagement with the issues. These technologies, by immersing the viewer in a simulated environment, allow them to experience the consequences of environmental crises firsthand. For example, the integration of real-time data in some video art installations—such as earthquake statistics or pollution levels—serves to ground the viewer's experience in scientific reality, making the dangers of climate change and seismic activity more palpable. By enhancing the sensory experience, these artworks blur the

boundaries between the digital and physical worlds, making the environmental crisis not just something to observe but something to experience.

These technological innovations extend the language of environmental art beyond traditional media, offering new possibilities for visual storytelling. The use of interactive media and data visualization not only enriches the aesthetic experience but also provides an educational tool for understanding the complexities of environmental and seismic risks. Through these digital interventions, artists create a space where the viewer is compelled to confront the reality of the climate crisis, encouraging them to think critically about the role of technology in both exacerbating and mitigating environmental damage.

## 7. Conclusions

This research argues that artworks play a fundamental role in a world of vision and hope, but through the lens of the stark reality of environmental crises, especially in a country like Chile, where the threats of climate change and seismic activity intersect with profound historical and social implications. By merging visual narrative, immersive technologies, and creative ecological critique, contemporary Chilean artists—and, of course, international artists—are creating new ways of representing and responding to environmental vulnerability.

The integration of digital tools such as augmented reality, data-driven installations, and time-based media enables artists to create highly personalized, emotionally resonant experiences. These works transcend conventional forms of environmental communication by transforming abstract concepts—like climate change, ecological collapse, and seismic risk—into tangible, sensory experiences that provoke empathy, introspection, and, ultimately, the possibility of action. Viewers are no longer passive spectators; they are invited into dynamic, interactive environments where they can feel the immediacy of environmental threats and reflect on their role within them.

At the core of these artistic practices is a recognition of art's power to serve as a form of activism and education. Media arts offer an alternative platform for environmental discourse—one that embraces the complexity of the issues and uses aesthetic strategies to generate emotional and in-

tellectual engagement. This aligns with broader trends in eco-art and digital media that seek to move beyond representational aesthetics to foster ecological consciousness and systemic critique.

Importantly, the research underscores that climate justice is inseparable from social justice. The analyzed artworks highlight the disproportionate effects of environmental degradation on marginalized communities—indigenous peoples, rural populations, and the urban poor—drawing attention to issues of displacement, inequality, and cultural loss. These intersectional perspectives make clear that sustainable futures cannot be imagined without addressing the socio-political conditions that underpin environmental harm.

The Chilean context adds unique layers to this discourse. As one of the world's most seismically active nations, Chile has a collective memory deeply shaped by natural disasters. When combined with the escalating risks posed by global warming—such as droughts, glacial retreat, deforestation, and rising sea levels—this history demands a culturally and emotionally nuanced approach to environmental communication. Media arts rise to this challenge by blending scientific data, historical trauma, and aesthetic experimentation into hybrid forms that capture the fragility and urgency of the present moment.

This visual research not only highlights the significance of new media in articulating ecological and social emergencies but also lays the foundation for a forward-looking framework that merges technology, creativity, and sustainability. The proposal for a unified visual language within Chilean media arts calls for greater awareness among creators and cultural institutions, alongside a more deliberate incorporation of environmental themes into educational and curatorial practices. By embracing visual studies and digital storytelling as tools for public engagement, media arts can foster a more ecologically conscious culture.

Ultimately, this study proposes that the convergence of environmentalism, artistic innovation, and digital media offers a powerful model for addressing today's most pressing ecological challenges. As climate instability and seismic threats continue to shape our future, it becomes ever more urgent to cultivate practices—both artistic and societal—that prioritize sustainability, resilience, and justice. Media arts, with their capacity to evoke emotion, illuminate complexity, and inspire collective reflection, are uniquely positioned to

contribute to this cultural transformation.

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The author declares no conflict of interest.

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