Visualizing a Changing Climate:
Art within, along, and against the Growing Global Climate Change Regime

Mary McMahon

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Table of Contents

Acknowledgements 4
Executive Summary 5
List of Figures 7
Chapter 1. Shouldering the Burden of the World
An Introduction to Climate Science, Governance, Protest, and Art 10
  1.1 Art and the Environment 14
  1.2 Climate Science 16
  1.3 Building Climate Governance 18
  1.4 Climate Activism 23
  1.5 Climate Art at Intergovernmental Conferences 25
Chapter 2. Raising the Level of Environmental Consciousness around the World
Rio, 1992 29
  2.1 Climate Science in 1992 29
  2.2 The Earth Summit 33
  2.3 Public Artistic Engagement with the Summit–Development and Destruction 38
  2.4 Activist Artwork Outside of the Summit
    Economic Inequality 45
    Identifying the Fossil Fuel Industry 49
    Conceptualizing the Entire Planet at Stake 52
    Symbols of Hope 53
    Risks Towards, and Solutions From, Indigenous Communities 55
  2.5 Conclusion: Themes in Rio 55
Chapter 3. Moving towards the Geography of the Site
Kyoto, 1997 58
  3.1 Climate Science in 1997 59
  3.2 The Kyoto Protocol 61
  3.3 Art in Kyoto 67
  3.4 Protest Art
    Advocating against Fossil Fuel Companies and Consumers 71
    On Alternative Energy Sources 75
    Human Rights Failures as Effects 77
    The Importance of People 79
  3.5 Conclusion: Themes in Kyoto 81
Chapter 4. A New Aesthetic for How We Can Relate to the Destruction of Our Planet
Paris, 2015 84
  4.1 Climate Science in 2015 87
  4.2 The Paris Agreement 91
  4.3 Art and Visual Communication at COP 21 98
Chapter 5. Transforming the Spheres of Climate Governance

Comparisons and Analysis
5.1 Climate Science
5.2. Governance
5.3 Climate Art
   Within the Conference
   Protest Art
5.4 The Role of Art within, alongside, and against International Climate Governance
5.5 Art Transforming the Structures of Addressing Climate Change

Bibliography
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Executive Summary

Since 1995, government representatives from around the world have gathered to further the goals of the United Nations Framework Convention on Climate Change. These gatherings have built the international regime governing solutions to the climate crisis. They incorporate a wide array of stakeholders and bodies of knowledge regarding climate change. Scientists, policy-makers, industry leaders, NGOs, and members of the public gather in and around these sites of governance to share their understandings of and priorities surrounding climate change. While a significant body of research has analyzed the agreements produced at these gatherings, the evolution in scientific knowledge over time, and the engagement of different stakeholders in this process, little research has uncovered the evolution of people’s engagements and understandings through the transformative medium of art.

Art has a long-standing tradition of communicating activist demands and representing human connections to the environment and landscapes. Art has particularly been a transformation medium as people process the present and future realities of climate change, and imagine just futures through the visual arts and the written word. Art has been a feature of gatherings on climate governance since the creation of the United Nations Framework Convention on Climate Change, with Robert Rauschenberg’s Last Turn–Your Turn serving as a symbol of the Earth Summit in 1992. Art continues to be a tool for members of the public to connect with one another and the topics addressed by policy-makers. This thesis traces artistic representations of climate change commissioned by these sites of governance and brought by activists to ask: How has art been used to communicate and process people’s understandings of climate change? How has this changed over time, if at all? And, how have artworks brought into sites of governance by U.N. organizers compared to art shared in sites of grassroots organizing alongside international climate governance events?

To address these questions, I identify three moments of intergovernmental decisions on climate change: the signing of the United Nations Framework Convention on Climate Change in 1992, the finalization of the Kyoto Protocol in Kyoto in 1997, and the finalization of the Paris Agreement in Paris in 2015. At each of these moments, I present the state of climate science as it is explained to decision makers and present each of these agreements’ approaches to address climate change. With these groundings in the present state of climate governance and science, I examine visual and written records of art exhibitions and pieces of protest art. Analyses of the overall themes of the works presented and of specific pieces reveal the themes that people contributed to the conversations on climate change at these moments in time through artwork.

I found that in Rio, artists creating work for the Earth Summit were required to instill hope in the governing process, while activists challenged the countries impeding progress from being made.
Some activist artwork challenged the inequalities in the governance process as a whole. Activists challenged uncertainty in the scientific literature by presenting a confident view on the role human systems, particularly those dependent on fossil fuels, play in amplifying the greenhouse effect than scientific literature did at the time. Collaborative art projects contained hope in the solution of international cooperation to address climate change.

In Kyoto, art was a much more prominent feature in activist spaces than within the site of negotiations. Within the conference center, the primary types of art were homemade, collaborative crafts. Immediately outside the conference center, art was a way for activists to assert their presence. Activists challenged the relationship between fossil fuel companies and negotiating parties. Art enabled activists to build upon growing networks of climate and social justice activists and express broad fears for the future of the planet. Activists also engaged with emerging scientific solutions of alternate energy sources.

In Paris, artists and activists shared a wealth of information through artwork. They communicated and demonstrated deep coalitions amongst environmental and social justice groups, and between artists and scientists. Activist artists engaged with specific details of the climate negotiations, and used art as a way to build collective power and imagine greater levels of climate action. Stunning art exhibits within the conference center transformed emerging scientific information particularly related to public health and non-human species and ecosystems at large.

Over these three moments in time, there is an emergence of the prominence of art as an important mode of communication on climate change, particularly as a way for the public to connect to global governance in the face of the climate crisis. This work illuminates the central role art has had at gatherings on international climate change governance. Art presented without restrictions from policy-makers has developed understanding of the role that fossil fuel companies have played in preventing climate action, understood the link between climate change and other social justice struggles, abandoned visions of equal and universal risk under climate change, and honored the people on the ground who have and continue to protect their communities and the environments they inhabit in the face of negative climatic effects. Art has provided a way for people to communicate and transform their understandings and experiences of climate change, as a means to engage with the intricate details of international climate governance, build coalitions of activists, and communicate and connect with scientists and scientific institutions, all of which expand the structures under which climate change is addressed.
List of Figures

Figure 1.1. A close-up of Robert Rauschenberg’s painting Last Turn–Your Turn 10
Figure 1.2 Rauschenberg’s Last Turn–Your Turn painting displayed in the conference center 10
Figure 1.3 Carbon Brief’s data on COP Attendees 1995–2005 25
Figure 2.1 An observer stands in front of the Environment and Development exhibit 40
Figure 2.2 Xavier Bermudez’s accepted poster for the Environment and Development Exhibit 41
Figure 2.3 Julian Naranjo/Naranjo-Sadler Disefo’s accepted poster 41
Figure 2.4 Niklaus Troxler’s rejected poster for the Environment and Development exhibit 42
Figure 2.5 Niklaus Troxler’s accepted poster for the Environment and Development exhibit 42
Figure 2.6 A crowd gathers at the center of the NGO Global Forum, Flamengo Beach 44
Figure 2.7 The Japan People’s Center tent at the Global Forum 44
Figure 2.8 Protesters from the U.S. hold banners and signs criticizing their government 47
Figure 2.9 Protesters criticize the United States at a large protest through the streets of Rio 47
Figure 2.10 A protester holds a sign at a protest of American environmental policies 48
Figure 2.11 An activist newspaper illustration criticizes wealthy nations for emissions 49
Figure 2.12 William Reilly speaks at a protest at the Global Forum 50
Figure 2.13 Protestors of the meat industry are interviewed at the Global Forum 51
Figure 2.14 A person in a globe costume holds hands with a child on Flamengo Beach 52
Figure 2.15 A protester paints ocean imagery and a globe on a mural in downtown Rio 52
Figure 2.16 A collaborative art piece in the Global Forum 53
Figure 2.17 People gather around a large golden tree sculpture 53
Figure 2.18 Youth participate in a dance at the Global Forum 54
Figure 2.19 Visitors at an art exhibit focusing on Kayapó relationships to the environment 55
Figure 3.1 Ice sculpture penguins face the conference center 58
Figure 3.2 A photograph of quilts hung throughout the conference center 67
Figure 3.3 A close-up view of the quilt squares made by children 67
Figure 3.4 Participants in an origami event in the conference center 68
Figure 3.5 John Gummer points to companies in the Climate Change “Dirty Dozen” 68
Figure 3.6 Members of different NGOs protest with banners in Kyoto 70
Figure 3.7 Protesters march with signs targeting carbon dioxide emissions 71
Figure 3.8 A photograph of a protest against the role of oil companies in the negotiations 72
Figure 3.9 The Carbonosaurus appears behind a banner advocating against oil companies 73
Figure 3.10 The Greenpeace Carbonosaurus moves in front of the conference center 73
Figure 3.11 Protesters target Al Gore outside the conference center 74
Figure 3.12 Dancers and drummers perform outside the conference center 75
Figure 3.13 Activists embody greenhouse gas emissions and nuclear power 75
Figure 3.14 Members of Greenpeace project a message onto a mountain outside Kyoto 76
Figure 3.15 Australian activists perform a skit in front of the conference center. 77
Figure 3.16 A closer view of the activist action 77
Figure 3.17 Activists perform a critique of the human rights abuses from climate change 78
Figure 3.18 An Australian protester wears a koala costume with a sign on its front 79
Figure 3.19 Youth activists gather in support of climate action 80
Figure 3.20 Pride flags fly at one of the largest protests during COP3 81
Figure 4.1 EXIT spans the 360° of the room, displaying statistics to sitting visitors 84
Figure 4.2 A still from Maskbook, a digital collection of the Art of Change 21 project 99
Figure 4.3 A photograph of Ice Watch outside of the Place du Parthénon 100
Figure 4.4 Janet Laurence’s installation on the Great Barrier Reef 101
Figure 4.5 A collection of lucite animals in the Blue Zone of the conference center 103
Figure 4.6 A photograph of the banner and shoes at the Paris En Marche 106
Figure 4.7 The empty shoes at the Paris En Marche 106
Figure 4.8 A protester surrounded by police waves a sign advocating against the police 106
Figure 4.9 A sign hung on a building reads “ANTI-COPS 21.” 106
Figure 4.10 A candle and sign display left from the protest at the Place de la Republique 107
Figure 4.11 A projection of faces on the French National Assembly Building 108
Figure 4.12 The Climate Guardians stand in angel wings and hold signs 109
Figure 4.13 Protestors form a chain on Blvd. Voltaire all the way to Nation 110
Figure 4.14 Protesters advocate for African Eco-feminism and anti-capitalism 110
Figure 4.15 Activists pull the giant Greenpeace polar bear 111
Figure 4.16 Activists use signs to advocate for climate justice in front of the polar bear 111
Figure 4.17 Brandalism’s installation targeting Volkswagen on a bus stop advertisement 112
Figure 4.18 Brandalism’s installation targeting ExxonMobil on a bus stop advertisement 112
Figure 4.19 Members of Green Korea United hold photographs of air pollution 113
Figure 4.20 Activists at the No REDD protest hold banners advocating against REDD 114
Figure 4.21 Activists create banners at the art-building hub in Montreuil, France 115
Figure 4.22 Banners at the art-building hub advocate for protecting sacred resources 115
Figure 4.23 Indigenous activists canoe through the Seine River 116
Figure 4.24 A woman stands in front of a banner advocating for honoring Indigenous women 117
Figure 4.25 Women stand in front of banners advocating for honoring Indigenous treaties 117
Figure 4.26 Activists hold a banner addressing the climate emergency  
Figure 4.27 Activists hold a red line in front of red line balloons  
Figure 4.28 Protests occupy the Eiffel Tower with balloons that create a red line  
Figure 4.29 A view from the Eiffel Tower of protestors below  
Figure 5.1. Table of the themes in art, science, and governance at each climate meeting
Chapter 1. Shoudering the Burden of the World.
An Introduction to Climate Science, Governance, Protest, and Art

![Figure 1.1 A close-up of Robert Rauschenberg’s painting *Last Turn–Your Turn.*](image1)

![Figure 1.2 Rauschenberg’s *Last Turn–Your Turn* painting displayed in the conference center.](image2)

In 1992, Robert Rauschenberg translated the weight of history and fears for the future within a stunning painting, *Last Turn–Your Turn*, to hang above global leaders as they sought to charter a new path of global environmental governance. The earth-toned painting contains nature imagery, the shape of a child under an umbrella and the Roman statue of the Farnese Atlas below text from the Earth Pledge, the document Rauschenberg’s painting was made to promote. Both *Last Turn–Your Turn* and the Earth Pledge were created to encourage public engagement and support for environmental awareness and protection leading up to the Earth Summit. The United Nations organized the Earth Summit to discuss climate change, sustainable development, and

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biodiversity in Rio de Janeiro, Brazil. Last Turn–Your Turn includes the text from the pledge in the top left corner. Its production and selling raised money for the Earth Summit Pledge Committee. The painting is an official image of the Earth Summit, and was displayed during the summit’s proceedings.

American attorney Theodore Kheel wrote the Earth Pledge at the request of the Secretary General of the United Nations Conference on Climate Change, Maurice Strong. Kheel said that the pledge would “give everyone in the world a chance to participate in the Conference.” The pledge reads: “I pledge to make the earth a secure and hospitable home for present and future generations.” Kheel turned to his friend, artist Robert Rauschenberg, to create a visual to help garner support for the pledge. Rauschenberg was an obvious choice because of his engagement with environmental activist artwork. In 1970, Rauschenberg created a poster to promote the United States’ first Earth Day. This was the first of many projects that Rauschenberg created throughout his career to garner public attention and participation in large environmental events.

He produced Last Turn–Your Turn amidst a transition towards working with digital printing, partially driven by the desire to use more earth-friendly materials to benefit environmental and human health. Rauschenberg’s artistic interests consider environmental impact, in material and in message. His layered styling continued with the new method, and his creation of Last Turn–Your Turn was an iconic image of the conference.

Last Turn–Your Turn was revealed at an event celebrating the launching of the Earth Pledge before the Earth Summit began. At the top of the painting, Rauschenberg handwrote the Earth Pledge. The use of his own handwriting suggests individual interaction with the pledge itself and with the painting. This mirrors his consistent philosophy on the importance of individual action to address environmental issues, a philosophy which he brought to the conference and which is reflected in the painting. Rauschenberg included parallel images of a

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5 “Social and Environmental Activism (2 of 2).”
6 “Social and Environmental Activism (2 of 2).”
7 “Social and Environmental Activism (2 of 2).”
11 Mattison, Last Turn, Your Turn, 4.
young child in burning red color with an umbrella above the child’s head. These colors and shapes suggest danger of environmental effects for the child. Next to the child is an image of the Roman sculpture known as The Farnese Atlas which represents the Titan Atlas bearing the globe on his back. Atlas shoulders “the burden of the world.” The statue depicts the first ancient Greek understanding of the constellations. The original statue symbolizes the limit to human knowledge and life in comparison to the length and depth of the atmosphere, and growing understanding of the universe. Art historian Robert Mattison argues that these two images indicate “both the hope and difficulty of the task ahead.”

In addition to the images of the people, Rauschenberg used contrasting colors to suggest the environmental outcomes from different levels of government intervention. He included cooler tones in lush vegetation, and bright red barren trees. These almost suggest differing options for the future of vegetation and the planet. Mattison argues that “if the meaning of Rauschenberg’s piece sounds straightforward, it is.” Rauschenberg deployed evocative colors and images of people and nature to demonstrate potential futures for the planet, and to promote the idea that individual action can produce a future full of natural and human life.

Last Turn–Your Turn and its relationship to the Earth Pledge demonstrate that people can use art to connect the public to environmental decision-making. The painting hung in the actual conference space. The visual culture within a site of governing reveals the values and priorities of the decision-making body. By placing Last Turn–Your Turn in the Earth Summit, the organizers showed that they valued public inclusion through artistic expression in the negotiation process.

At events like the Earth Summit, scientists share new discoveries and technologies, and world leaders develop and finalize decisions that affect the planet, industry, and people's lives. The public engages with these gatherings because the proceedings and decisions are so important. Different NGOs, grassroots activists, and local residents of the places in which these gatherings occur all mobilize through conversations with negotiators, conference events, and

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12 Mattison, Last Turn, Your Turn, 4.
14 Mattison, Last Turn, Your Turn, 4.
15 Mattison, Last Turn, Your Turn, 4.
16 Figure 1.2.
protests. Protests occur at intergovernmental conferences on climate because activists believe they have something to communicate that decision-makers are missing.

Art has long had a tradition of being a tool in activism at large, and in different environmental movements.18 Within the past several decades, climate art has developed as one special tool to translate the science of climate change into the lived experiences of people, instigating an emotional response in viewers and spurring future action.19 Art comes in many forms and from many sources at gatherings like the Earth Summit. While some art, like Last Turn—Your Turn, is directly requested from those organizing the summit, art is also present at protests and public gatherings occurring alongside the sites of political decision-making. Protesters use signs, banners, poems, songs, and dances to communicate their understandings of and priorities surrounding climate change.

This thesis presents an overview of the research over the past several decades of documenting and understanding climate change through intergovernmental climate governance and science, and examinations of records of artistic and public engagement with these gatherings. Such an analysis provides an understanding of the range of perspectives presented at consequential moments of climate governance, and the evolution in an understanding of climate change from activists and members of the public across the globe. By piecing together spheres of governance, science, art, and public protest, I uncover how art has visually communicated and transformed climate information through the voices of the people, and how the governing structures have sought for art to depict climate change as a phenomenon facing the world that needs to be addressed through policy. Looking at art endorsed by sites of climate governance, and art presented by people protesting at these events, reveals similarities and differences between the people and the governing bodies. Such an examination reveals how people have used art to increasingly over time directly engage with intricate details of climate governance, and how people have presented and challenged scientific developments on climate change. This analysis helps to understand how different spheres of science, governance, activism, and art have worked within, alongside, and against one another.

1.1 Art and the Environment

Art is a prominent feature of environmental gatherings at large-scale sites of decision-making and protests. Art has always been inspired by nature, and has always represented nature and different environments. From the mid-tenth and eleventh centuries, the landscape became a subject for Chinese artists like Fan Kuan, who developed the style of landscape painting, *shanshui hua*.\(^{20}\) Hundreds of years later, throughout the mid- to late nineteenth century, the painters of the Hudson River School created landscape paintings to campaign for greater environmental protections of public lands in the United States.\(^ {21}\) In the 1930s, photographer Ansel Adams worked with the Sierra Club to take landscape photographs to increase land protected by the United States Parks Service.\(^ {22}\) As art projects with political environmental aims continued, artistic movements and styles further developed. In the 1960s and ’70s, counterculture movements developed artistic styles concerned with working outside of the museum and directly with the landscape.\(^ {23}\) Artwork continues to engage with land and communities directly affected by environmental damage.

Artists can engage with environmental issues and representations through different approaches. Allen Carlson argues art requires a scientific understanding of nature,\(^ {24}\) while Arnold Berleant emphasizes direct sensory immersion through art.\(^ {25}\) Noel Carroll and Emily Brady emphasize the importance of scientific knowledge and aesthetic appreciation,\(^ {26}\) an approach that artists take to communicate the causes and realities of global climate change.

Art concerning global climate change has grown significantly throughout the late twentieth and twenty-first centuries, especially throughout the second half of the 2000s and the 2010s.\(^ {27}\) Climate visuals serve to share local, serious effects of climate change, and their effects


\(^{22}\) Richardson, “Climate Change Law,” 295.


\(^{24}\) Richardson, “Climate Change Law,” 287.

\(^ {25}\) Richardson, “Climate Change Law,” 287.

\(^ {26}\) Richardson, “Climate Change Law,” 287.

on everyday people and communities. Climate art extends beyond the visual arts, to pieces of poetry, fiction, and drama writing addressing anthropogenic climate change. Climate fiction and ecopoetics pay particular attention to the psychological and emotional effects of such destruction on people. Writing apocalyptic futures is one way the arts describe environmental degradation in the future to change attitudes and alter behavior in the present. Climate art comes in many forms, and can be accessed in many forms, including newspapers, online, and on the street.

Art is particularly important for communicating the realities of climate change. Art demonstrates present realities and future climate scenarios. Climate art conveys the interconnectedness between science and culture, and presents causes of and solutions to problems. Educational scholar Julia Bentz presents three different understandings of the relationship of art to education on climate change: climate engagement in art, climate engagement with art, and climate engagement through art. Bentz found that when climate engagement is taught through art, ideas and understandings of climate change are transformative. Art concerning the climate crisis can transform depictions of climate change because climate change itself is a lived aesthetic experience. Art triggers an emotional reaction for those viewing it, which can help viewers to understand the effects climate change will have on their future physical surrounding environment and sensory experiences with that

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30 Johns-Putra, “Climate Change in Literature,” 276.
37 Richardson, “Climate Change Law,” 280.
environment. The arts demonstrate the realities of climate change in an effort to garner support for climate action.

Timing is an increasingly important feature of climate art. Because it has the ability to affect people and garner collective support and action, art concerned with climate change tends to be shared at critical moments in time. Climate art is often displayed at important meetings and events of climate governance, such as a convening of the Conferences of the Parties, a new IPCC report, or a government decision on a proposed site of fossil fuel extraction. These are moments in time in the worlds of science and government which, like art, have developed significantly in their relationship to climate change. By sharing public perspectives at the time of lawmaking, activists can communicate what people understand about climate change, particularly what they want to address and prioritize in terms of its causes and effects. This may influence the policymakers to incorporate the voices of the people into climate law.

1.2 Climate Science

In 1958, geochemist Charles Keeling provided the first evidence that the levels of carbon dioxide in the atmosphere had been rising over the previous fifty years. Keeling’s measurements on the Mauna Loa volcano in Hawaii documented the rise in carbon dioxide levels, and linked their rise to the use of fossil fuels. His work and continued measurements of carbon dioxide levels on Mauna Loa are documented on a graph known as the Keeling Curve.

Keeling’s work exists within a broad context and history of climate science. Societies have had systems to track weather and climate patterns throughout history; the word “climate” dates back to Eratosthenes describing different belts of land. Understandings of the differences between weather and climate continued to evolve with advancements in technology in studying the environment and human health. Climatologists such as Joseph Fourier, Eunice Foote, and John Tyndall began to discuss a “greenhouse effect,” and its relationship to the industrializing

38 Richardson, “Climate Change Law,” 286.
39 Richardson, “Climate Change Law,” 301.
43 Heymann, “The Evolution of Climate Ideas,” 582.
world, in the 1800s. In the twentieth century, climate came to be understood as long-term trends in the atmosphere; in the twenty-first century, this understanding of long-term weather trends is considered “the distribution of weather.” Such a definition of climate guides the understanding of climate change as shifts in the distribution of weather. Along with growing understandings of climate in the mid-twentieth century came the creation and development of institutions to record climate data, laying the groundwork for climate change to be discovered and studied.

In 1966, the U.S. National Academy of Sciences published the first government assessment of anthropogenic climate change. At this point the assessment concluded that changes in weather and climate “may or may not be predictable, their production may be deliberate or inadvertent.” The report further drew the link between increased levels of carbon dioxide and increasing temperatures, and that there are risks associated with amplifying the greenhouse effect through high levels of greenhouse gas emissions. The report also argued that “although some of the natural climatic changes have had locally catastrophic effects, they did not stop the steady advance of civilization.” The report did not find concern for global development; it simply identified the possibility of local risks and effects of increased temperatures due to carbon dioxide emissions.

Throughout the 1960s and ’70s, the field of climate science continued to grow. In 1970 the Secretary General of the United Nations mentioned “the possibility of a ‘catastrophic warming effect’” following beginning studies on the changing climate. The number of researchers vastly grew during this era; in the early 1960s, approximately twenty people worked in climate modeling. By the end of the century, this number increased to several hundred. Many of these new researchers used modeling to investigate climate change, rather than the previous

47 Miller, “Climate Science,” 53.
approach of theory and observation. Growing interest in studying climate change expanded alongside mobilizations from national and international systems of governance to address environmental issues, particularly climate change. In 1988, the Intergovernmental Panel on Climate Change (IPCC) was formed by the World Meteorological Organization and the United Nations Environment Programme, as a part of several initiatives launched in the 1980s following the formation of the World Climate Programme in 1979.

IPCC reports do not involve direct research from the panel, but evaluate “existing peer-reviewed published research” on global climate change and its relationship to human activities. The thousands of authors and reviewers who contribute to the reports are nominated by IPCC member governments. Beginning in 1990, the IPCC has published reports on the current state of climate science in order to inform policy-makers. The IPCC is an example of scientific infrastructure built to document global climate change to specifically support intergovernmental conferences addressing climate change. As the international system has sought to address global environmental challenges, “it has become common to institutionalize the provision of science advice at a global scale.” The IPCC is an example of such an institutionalization of science into the intergovernmental process. Scientific and governing bodies have expanded together, creating new bodies and agreements as knowledge and understanding of anthropogenic climate change has grown.

1.3 Building Climate Governance

The first high-level conference on the human environment was held in 1972 in Stockholm, Sweden. Before the United Nations Conference on the Human Environment (UNCHE), commonly known as the Stockholm Conference, there were around 200 environmental treaties registered with the United Nations. UNCHE was the first conference of its magnitude, and resulted in established environmental ministries all around the world.

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Representatives from the 114 countries in attendance adopted a plan for protecting the earth’s resources, the first of its kind to be adopted at such a conference. They paved the way for the United Nations Environment Programme (UNEP) to be formed. UNEP began to address threats to the ozone layer in 1977, eventually leading to the signing of the Vienna Convention for the Protection of the Ozone Layer in 1985 and the Montreal Protocol in 1987. These agreements aimed to reduce emissions of substances that harm the ozone layer, and laid the groundwork for international cooperation on the environment.

Action on climate change occurred alongside action specifically addressing depletion of the ozone layer. Concern about global climate change from international organizations like the World Meteorological Organization grew throughout the mid-twentieth century, leading to the first global conference on climate change in Geneva in 1979. The conference produced a “Declaration of the World Climate Conference,” which states that carbon dioxide, released from activities like the burning of fossil fuels and deforestation, is a major cause of global warming. The declaration also called for the creation of a program for climate research and for governments to prevent the human activities that lead to changes in climate.

The United Nations General Assembly passed resolutions that expanded the system of intergovernmental environmental protections, including a 1983 resolution to establish the World Commission on Environment and Development. This commission was headed by Norwegian Prime Minister Gro Harlem Brundtland, and was fully formed in 1987. It produced a document titled Our Common Future, or the Brundtland Report, which laid out current environmental problems in order to call for a global environmental plan of action. The Brundtland Report also defined sustainable development as development that “[meets] the needs of the present without

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63 Chasek and Wagner, The Roads from Rio, 3.
compromising the ability of future generations to meet their own needs.”^64 On December 22, 1989, the United Nations General Assembly called for a global meeting to discuss strategies to reverse the harm that human activities have on the environment, and to promote the newly defined term “sustainable development.”^65

In 1990 the second World Climate Conference took place in Geneva, with 137 countries and the EU in attendance. This conference “marked the arrival of global climate change on the worldwide political agenda.”^66 The main product of this gathering was a written acknowledgement of climate change and the importance globally of addressing it. The conference affirmed “the precautionary principle” which continues to be an important idea guiding global climate governance— it must be preventative. The United Nations General Assembly created the Intergovernmental Negotiating Committee for the Framework Convention on Climate Change in the following month. The Committee was left with the task to produce a draft consensus document for a conference two years in the future. In 1991, Mostafa Tolba, the executive director of the UN Environment Programme, declared:

The sum of research in the science and impacts of climate change makes it clear that nothing less than dramatic reductions in emissions of greenhouse gases will stop the inexorable warming of the planet. Nothing short of action which affects every individual on this planet will forestall global catastrophe.^69

Twenty years after the first high-level conference on the environment was held in Stockholm, the United Nations Conference on Environment and Development convened in Rio de Janeiro, Brazil, with the warning from Mostafa Tolba ringing clear. At the Earth Summit, parties signed on to the first international climate change agreement, the United Nations Framework Convention on Climate Change. The governing body to the agreement has met

^64 Chasek and Wagner, The Roads from Rio, 3.
^65 Chasek and Wagner, The Roads from Rio, 3.
^69 Miller, “Climate Science,” 53.
annually since 1995.70 These gatherings are the primary sites of international decision-making on climate.71 At the first meeting, industrial countries agreed to set targets for their own emissions reductions.72 The convenings that have resulted in multilateral agreements are the Kyoto Protocol created at COP3 in 1997 and the Paris Climate Accord at COP21 in 2015.

The complexity of these gatherings has increased. Sociologist Anthony Giddens calls the United Nations Framework Convention on Climate Change “the most ambitious and complicated multilateral environmental negotiations ever.”73 Gatherings of the COP incorporate many different interest groups, and the different issues included under “the realm of the climate change regime” have grown over time.74 The work that international bureaucracies in the United Nations have conducted has increased with the level of these negotiations, as has the amount of scientific and technological information delegates receive.

Usually convening for approximately ten to fourteen days, meetings of the conference of the parties include presentations from scientists, speeches from global leaders, meetings to reach emissions commitments, and even art performances. Climate governance includes the many private actors and non-environmental institutions that are part of the governing bodies of environmental management, alongside formal government representatives from around the world.75 The decisions made at such conferences are shaped by the information presented to government officials by outside parties and delegates’ respective interests.

Climate change at intergovernmental conferences is framed by the people given the platform to frame it. International research conferences on climate change are heavily represented by researchers from Europe and North America, with a far smaller percentage of presenters from all other geographical regions in the world.76 Gender and the academic discipline of those presenting at such conferences influence catastrophic framings of climate change.77

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73 Giddens, The Politics of Climate Change, 96.
74 Chasek and Wagner, The Roads from Rio, 37.
77 O’Neill et al., “Disciplines, Geography, and Gender,” 1001.
Such demographic data is important to keep in mind when considering who has access to these conferences and, by extension, who ends up shaping and creating environmental policy.

Climate science is also shaped by those with access to scientific institutions. Throughout the seventeenth and eighteenth centuries, colonial powers put a significant amount of money and effort into studying the climate to make their agricultural projects more profitable. Many advancements in climate science and technology happened as Western European colonizing powers sought to profit off of stolen land and labor in the Global South. Much of the information uncovered about the planet and weather patterns was gained during voyages funded by colonizing powers in their own interests. Climatology’s historical ties to colonization present the need to maintain a critical eye on the interests at play in funding, conducting, and conveying climate science today.

Public engagement with climate change has also been shaped by those with influence. In 2004, Harvard Professor of the History of Sciences Naomi Oreskes published a paper synthesizing the findings from 928 peer-reviewed papers on climate change. This analysis found that there were no papers disagreeing with the consensus on climate change. Oreskes then concluded “that scientists publishing in the peer-reviewed literature agree with IPCC, the National Academy of Sciences, and the public statements of their professional societies” and that “there is a scientific consensus on the reality of anthropogenic climate change.”

Despite the scientific consensus on climate change, public skepticism has been a prominent feature of global climate change discussions for the past three decades. Corporations have shaped the messages received by the public and government officials on climate science. For instance, in the late twentieth century American oil and gas corporation ExxonMobil fueled climate denialism, and during the twenty-first century the company promotes narratives of individual action on climate change to avoid taking action itself. The information contained in IPCC reports and individual studies from scientists shows that the global climate is greatly affected by human greenhouse emissions, and increasingly demonstrates that larger human energy systems have caused said emissions. Scientific consensus has only grown stronger and the effects and risks of climate change have been more greatly understood, thanks to

technological advances and a proliferation of studies. Misinformation pushed by those financially invested in continuing the consumption of fossil fuels has fueled climate doubt over the past several decades, affecting public knowledge and dialogue, messaging from the media, and government decisions and actions.

While members of the public have been fed lies about climate change, there has always been action and mobilization on climate change by individuals and grassroots organizations, during and before the first multilateral negotiations. Environmental and business NGOs have been involved with climate change negotiations through lobbying, influencing agendas, and submitting their own drafts of conventions. Just as attention should be paid to those with access to climate science and governance, attention should be paid to those who protest and organize at such conferences. Some of these organizations have been built out of pre-existing environmental and social justice networks. Connections with different global social justice movements are a main driver for high levels of activism at United Nations climate conferences.  

1.4. Climate Activism

Climate activism is both a subset of environmental activism and a social movement. Climate activism is often place-based, with a focus on directing actions at multiple scales. This is both a cause and an effect of the connections between climate movements and activities across the globe. An example of this type of organizing can be seen in local actions to block fossil fuel plants. Such actions are connected through common tactics, goals, and issues, but are locally directed.

Youth action is a particularly active strand of climate activism. Youth-led groups like the Sunrise movement, Fridays for Future, youth at Standing Rock, and Zero Hour have built powerful networks that have captured the attention of the media and the public. Youth activist

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85 Andrew P. Kythreotis et al., “Re-evaluating the Changing Geographies of Climate Activism and the State in the Post-climate Emergency Era in the Build-Up to COP26,” Journal of the British Academy, 9, no. 5 (September 2021): 70, https://doi.org/10.5871/jba/009s5.069.
groups often utilize story-telling narratives to build coalitions and sustain relationships across borders. Youth are motivated to get involved with climate action by feelings of shared responsibility, the threat of climate change, and politicized social identity, and organize across borders through coordinated international protests. A distinct feature of youth climate activism is that it takes place within youth’s personal spheres, not just in public life. This allows for activism to both benefit youth development and emotions, as they feel they have power over the problem, and push broader society to do better. Climate activism is powerful because of a focus on connecting the problem to humans. Climate activism uses story-telling to make the phenomenon more localized and grounded in people’s individual experiences.

Collective action on climate has led to government action at various levels, from local governments declaring climate emergencies, to international bodies passing emission reduction agreements. Activists have forced governments and businesses to answer for their roles in worsening the greenhouse effect, and have demanded greater political action. Climate action has looked at the role of the public and the private sector in carbon emissions, and even at how they are implicated within each other in the age of neoliberal governance. Organizers address the need to greatly grow coalitions to make national governments and international organizations make sweeping changes to address the present and future threats of climate change.

Activists and Non-Governmental Organizations (NGOs) have both been involved with events and outside protests at United Nations climate actions. The United Nations defines an NGO as an organization with “an international structure” that “does not advocate the use of violence, is not a political party, is not profit-making, is not established by governments and

91 Kythreotis et al., “Re-evaluating the Changing Geographies,” 2.
93 Kythreotis et. al. “Re-evaluating the changing geographies,” 87.
supports the UN’s work.”

Groups with official NGO status by the United Nations, as well as groups that do not adhere to that definition, have played major roles in climate activism. NGOs and other activists have been present at sites of important developments in climate science and governance to voice their understandings on the state of climate change. The size of these gatherings has increased, as has the range of parties involved, as shown in Figure 1.3.

![Figure 1.3 Carbon Brief’s data on COP attendees 1995–2019](image)

**1.5 Climate Art at Intergovernmental Conferences**

Robert Rauschenberg, the artist behind *Last Turn–Your Turn*, created artwork to influence the public to support strong climate laws, particularly in significant moments of climate governance like the Earth Summit. Intergovernmental conferences on climate change continue to draw media and public attention because they are the primary sites in which countries from around the world gather to discuss and sign on to commitments to address present environmental challenges. Maurice Strong, the Secretary General of the United Nations Conference on Environmental Development, aimed to include civil society in discussions and actions on

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96 Richardson, “Climate Change Law,” 281.
sustainability. Such involvement from civil society has only grown as the scale of the
conferences and what they cover has grown.

Protests influence climate action on every scale, from the global to the local. Activists at
intergovernmental climate conferences organize and attend protests in an effort to share
perspectives they believe are missing from the decision-making bodies. These gatherings are
examples of the increasingly global nature of environmental governance. With the expansion of
governance across borders comes the expansion of governing to non-state actors. The inclusion
of specific groups into the political decision-making process means that other groups are also
inherently excluded. Activist spaces reveal the conversations amongst those who have been
excluded from the process; looking at the people excluded from sites of decision-making
accesses a new body of knowledge, and with those included in the process it presents a fuller
view of “the political in transnational contexts.” Further, comparing the information brought
into the site of decision-making with that presented by the public reveals similarities and
differences in understanding and priorities of how to address climate change.

Different types of communication and connection can disrupt transnational political
structures, particularly by blurring the lines between the political space and the public. Art is
an inherently transformative medium, particularly when it comes to its representations of and
relationship to the environment and environmental imagination, and its ability to organize
peoples across nations. Climate change is “more than just a physical phenomenon,” and thus it
is important to consider routes to addressing it alongside science and technology. Climate
activists have utilized art as they have expanded conceptualizations of climate, and organizers of
climate gatherings have commissioned artists’ work for conferences. Building upon scholarship
on the relationship between artwork and environmental activism, this thesis seeks to understand
how art has connected the public to climate governance, both through artwork brought into the
physical site of decision-making and through explicitly protest artwork. This presents an

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98 Newell, “Civil Society.”
102 Richardson, “Climate Change Law,” 316.
understanding of how visual climate communications have evolved alongside the last several decades of international climate agreements, in order to ground climate art in its history of communicating public understandings of the causes, effects, and needed solutions to address the climate crisis at sites of governance. Environmentalist art scholarship has centered on art’s ability to garner individual environmental action.\textsuperscript{104} Rather than examining the effect of art on individuals, this study identifies what art is brought into negotiating and grassroots organizing spaces at especially important decision-making sites.

This study looks at the state of governance, science, and sites of protest at the three conferences that resulted in multilateral agreements on climate change: The United Nations Conference on Environment and Development in Rio in 1992, the third convening of the Conference of the Parties in Kyoto, Japan, in 1997, and the twenty-first of such meetings in Paris in 2015. I present overviews of climate science at each of these moments in time to understand the scientific information presented to the governing bodies and the general public. I then review the decisions produced at each of the gatherings to understand how scientific information has been taken into policy determining how to address climate change at an international scale at each of the three moments in time. Then, I present an overview of the artistic events and exhibitions and sites of activism through a collection of images, videos, and testimonies.

As Finis Dunaway did in \textit{Seeing Green},\textsuperscript{105} I look at a range of artistic mediums in order to understand broader themes and motifs presented in all types of protest artwork at these conferences, and perform ecocritical analyses of pieces that reveal these themes. These themes center on the causes, effects, and solutions of climate change that the pieces identify, with special attention to whom they identify as the most at risk of climate change’s effects, and whom they hold responsible for addressing climate change. I found these records primarily online, through periodical sources, governmental and NGO archives, and media companies. I sifted through these resources to find any piece of written, visual, or performance artwork, enabling myself to look at a diversity of media in order to discern the overarching themes that protest artwork brought to these conferences. From there, I identified the pieces that address climate change.


This interdisciplinary approach enables me to hold an overarching understanding of scientific, policy, and public art understandings of climate change and how those have changed over time.

Sites of international climate governance present environments where some people have access to the decision-making tables, or the power to influence the decisions that are made. Programming through these gatherings and activism alongside such gatherings disrupt the relationships between science, government, and the public. Analyzing climate activist art in three different locations around the world presents a greater understanding of how people across the globe have understood climate change across time, which is particularly important because the media often conveys a message that the expertise of climate activism lies in the Global North.106

This thesis presents interactions between local activists, large environmental organizations and NGOs, governments, intergovernmental organizations, and scientific institutions, and how these interactions have understood climate change through art at three different sites through time. Such an analysis presents a greater understanding of how governing bodies have used art as outreach to engage the public, and how the public has used artwork to assert their beliefs. By analyzing artistic representations at sites of climate governance I uncover how, through art, the public has closely engaged with scientific and political information, and used stunning, transformational visuals to build their own networks to, as The Farnese Atlas does in Rauschenberg’s Last Turn—Your Turn, shoulder “the burden of the world.

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106 Vaughn, 213.

The story of international climate governance really begins in Rio de Janeiro in 1992. Representatives from countries, Non-Governmental Organizations, scientific institutions, and business groups from around the world came together in what was at the time the largest gathering ever of world leaders. Some attendees felt and expressed their optimism about the future of environmental cooperation, while others felt skeptical about the decisions reached and their effect in practice on the environment and on human industry and development.

Amidst and enabling the anticipation for the negotiations was the overall growth of a system to record and measure climate change. The scope of the Earth Summit covered a variety of environmental issues, all of which indirectly are related to climate change, and one decision produced is the founding document on international climate governance. The UNFCCC was written and passed amidst a broader effort to include the public and raise collective global environmental consciousness—an effort made possible by developments in science prior to and surrounding the Earth Summit.

2.1 Climate Science in 1992

The decision-makers in Rio were informed by the first IPCC report. First issued in 1990 and revised in 1992, the report focused on assessing net greenhouse gas emissions, predicting regional distributions on the effects of climate change, considering implications for energy, agriculture, forestry, and other industries, considering different countries’ vulnerabilities to sea-level rise, and simulating the causes and effects of different emissions scenarios. The report was written in the context of recent scientific advancements studying climate change, particularly over the previous decade, that drew the link between carbon dioxide emissions and rising temperatures. By 1989, there was a scientific consensus that “a substantial warming of the climate through the augmentation to the greenhouse effect is very likely if current

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technological, economic, and demographic trends continue.”

The United States Department of Energy cited certainty in changes to the global climate due to greenhouse gas emissions, although they found the extent of the warming to be uncertain.

In 1992, the IPCC concluded that “emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases: carbon dioxide, methane, chlorofluorocarbons, and nitrous oxide.” The IPCC Working group 1 conducted research into different emissions scenarios, from continuing business as usual to enforcing different limits to greenhouse gas emissions, and found that global warming could lead to an increase in temperatures anywhere from 1.5°C to 4.5°C. The report predicts under a “business as usual” scenario, with no limits to emissions, the average global warming by 2025 would be 1°C. Such conclusions were possible because of recent scientific advancements: just between the years 1990–1992, scientists developed models to better understand interactions between greenhouse gases and aerosols. The report identifies high risk areas of climatic effects, particularly “small low-lying island states and large populations living in low-lying coastal areas.”

The report also notes a growth in knowledge from 1990 to 1992 regarding how global warming may shift disease vector habitats.

The report names several options to decrease greenhouse gas levels in the areas of agriculture and forestry, at national and international levels. The ultimate solution the report presents is to decrease scientific uncertainties through “internationally coordinated research” to better observe and model the global climate system. The report also stresses that climate change is a global issue, which requires global solutions, a call that many scientists and writers

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made at the time. The IPCC recommends more inclusion of developing nations in global meetings and actions, including its own. Potential policy solutions that the report presents include tradable emissions permits, emission charges, subsidies, and sanctions.

The IPCC identifies many areas of uncertainty in the research on climate change. One is the socio-economic impact of climate change on human systems, such as housing, transportation, and health. Overall, the uncertainty from 1990 continues into 1992:

[T]he size of this warming is broadly consistent with predictions of climate models, but it is also of the same magnitude as natural climate variability. Thus the observed increase could be largely due to this natural variability; alternatively this variability and other human factors could have offset a still larger human-induced greenhouse warming.

In both 1990 and 1992, the IPCC presented climatic variability as consistent with natural causes, leaving uncertainty about the level of influence human activity has on rising temperatures and variability. Other writers publishing around the same time wrote with similar language of uncertainty.

In 1992, under the leadership of physicist Henry Kendall, 1,700 leading global scientists issued a World Scientists’ Warning to Humanity. The scientists warned that “human activists inflict harsh and often irreversible damage on the environment and on critical resources.” They identified harm inflicted on the atmosphere, water resources, oceans, soil, forests, and living species, and specifically identified global climate change as one of the leading causes of harm on non-human species and ecosystems across the world. The group pointed to burning fossil fuels and deforestation as causes of change to the global climate, and said that while global warming

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121 IPCC, Climate Change: The IPCC 1990 and 1992 Assessments, 140.
predictions are uncertain, “the potential risks are very great.” The authors wrote with urgency along with uncertainty, and called for developed nations to act to prevent further irreversible damage. Climate scientists developed ways to better understand the causes and effects of climate change. In 1992, a team of zoologists and oceanographers published the first paper that acknowledged the harmful effects of rising levels of carbon dioxide on coral reefs.

Alongside increased study of climate change, polls presented scientific opinions on climate change as varied. A poll of one hundred scientists who conducted climate research found that only one third of scientists had similar views to the IPCC in 1992, while a third felt less certain. Studies like this one led some people to claim that “climate research is already giving indications that the projected effects may be less severe than suggested by past newspaper headlines.” Writers in the United States in particular portrayed a variety of opinions on the severity of climate change to argue that action should not be taken to address it, especially in the face of other challenges in the looming twenty-first century. Others focused on the benefits to certain ecosystems of higher temperatures. These writings influenced public opinions and actions on climate change.

The negotiators and signers of the agreements at the Earth Summit were informed by the climate science available to them at the time. The Earth Summit itself created the infrastructure to focus on the scientific and technological aspects of environmental policy-making. The United Nations Framework Convention on Climate Change established the Subsidiary Body for Scientific and Technological Advice; the Convention on Biological Diversity established the Subsidiary Body on Scientific, Technical and Technological Advice; and the United Nations Convention to Combat Desertification established the Committee on Science and Technology.

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126 “1992 World Scientists’ Warning to Humanity.”
127 The Union of Concerned Scientists now acknowledges a problematic focus on global population growth in this warning.
133 Chasek and Wagner, The Roads from Rio, 65.
The United Nations created these institutions as a part of their effort to incorporate scientific knowledge into decision-making institutions.

2.2 The Earth Summit

From the third to the fourteenth of June, 1992, the United Nations Conference on Environment and Development (UNCED) convened in Rio de Janeiro, Brazil, for the Earth Summit. The Earth Summit was a direct result of previous resolutions and treaties passed before it; attendees of the summit affirmed the Stockholm Declaration produced in 1972 through the Declaration on Environment and Development.\textsuperscript{134} The decisions that the Earth Summit produced continue to evolve through environmental negotiations. The Earth Summit itself was historic because of its novelty and size, and its long-lasting effect on the scope and proceedings of environmental, and specifically climate, negotiations.

The Rio Summit produced several documents that guide environmental decisions, completed from June 3 to June 11 and signed on the last day of the summit.\textsuperscript{135} The Rio Declaration contains twenty-seven non-binding principles that guide activities related to environmental development.\textsuperscript{136} Agenda 21 acts as a guide to implement the conventions created at the convention and articulate sustainable development principles.\textsuperscript{137} The document contains priorities for future global environmental governance. Agenda 21 broadly establishes guidelines for sustainable development,\textsuperscript{138} and how to further incorporate environment and development into international decision-making.\textsuperscript{139} Agenda 21 created the United Nations Commission on Sustainable Development to report the implementation of these goals.\textsuperscript{140} The Earth Summit also approved a statement on non-mandatory principles for managing forests: the statement on the Principles of Forests.\textsuperscript{141} It set principles for controlling greenhouse gases, preserving forests and biotic resources, and economically developing in a sustainable manner.\textsuperscript{142} The Convention on

\begin{itemize}
\item \textsuperscript{134} DiMento, \textit{The Global Environment and International Law}, 24.
\item \textsuperscript{137} DiMento, \textit{The Global Environment and International Law}, 24.
\item \textsuperscript{138} Hastedt, “Rio Earth Summit.”
\item \textsuperscript{139} Chaseck and Wagner, \textit{The Roads from Rio}, 2.
\item \textsuperscript{140} Hastedt, “Rio Earth Summit.”
\end{itemize}
Biological Diversity established legal compensation rights for countries whose resources are used to develop a product.143

Earth Summit attendees also signed the first international agreement that addresses climate change, the United Nations Framework Convention on Climate Change (UNFCCC). The convention was the cultivation of four years of drafting and was the first step to establish a global system to address climate change. The framework conceptualizes climate change as a real threat, particularly for countries with lower incomes, and as a phenomenon enhanced by human and societal activities.144

The convention takes a convention-protocol approach; it created a general framework to guide future agreements and protocols to achieve its goals. This system allows the convention to adapt to changes in politics, society, and science.145 The goal of the convention is to “stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally to climate change.”146 The convention states that such stabilizations should not threaten food production or economic development.147

By signing and ratifying the convention, parties agreed to its structure and processes for settling disputes. The convention establishes the Conference of the Parties (COP), the convention’s supreme body, which serves to suggest protocols, monitor the implementation and results of protocols, and mobilize the financial resources for protocols. The convention also includes a secretariat, a body for scientific and technological advice and a subsidiary body for implementing its programs.148 The 166 countries149 that first signed the UNFCCC in 1992

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148 Leggett, United Nations Framework Convention on Climate Change, 5.
149 Giddens, The Politics of Climate Change, 185.
committed to “act in the interests of human safety even in the face of scientific uncertainty.”

Today the UNFCCC has 198 members.

The objectives of the UNFCCC reveal that the countries negotiated the Framework Convention under a belief that climate change needs to be addressed quickly without interfering with economic development. The negotiators particularly paid attention to the economic development of developing countries. By signing onto the Framework Convention, developed countries committed to help developing countries access resources for sustainable development and addressing climate change. The convention calls for all parties to be flexible for developing countries in meeting their emissions commitments depending on market conditions. The principle of Common but Differentiated Responsibilities (CBDR) guides the Framework’s establishment of different requirements for countries depending on their stage of economic development. In order to do this, the UNFCCC established a list of countries it defines as “developed” into Annex I and Annex II countries. The creation of annexes is a means for the COP to identify countries with the economic status to mitigate climate change.

The parties that signed the treaty in 1992 agreed to the overall framework and to a number of commitments. Annex I parties agreed to regularly inventory their emissions of greenhouse gases, along with steps they are taking to address global climate change. They agreed to work with advancing technology to both study the climate system and decrease emissions of

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154 The convention distinguishes countries as “developed” and “developing.” Recent academic research and advocacy work explain the legacies of racism and colonialism behind these terms. For more, read Themrise Khan et al., “How We Classify Countries and People—And Why It Matters,” BMJ Global Health 7, no. 6 (June 2022), https://doi.org/10.1136/bmjgh-2022-009704.
155 United Nations, United Nations Framework Convention on Climate Change, Annex I and II.
156 Prys-Hansen and Franz, “Change and Stasis,” 697.
greenhouse gases. Parties agreed to promote sustainable development and conservation, and help prepare to adapt to the effects of climate change. Annex I countries agreed to engage in the education and training of their citizens on climate change, and consider climate change in broader social, economic, and environmental contexts. The commitments built a goal of international cooperation for ongoing climate management—parties agreed to communicate their work towards these commitments with the Conference of the Parties and exchange relevant information and advancements in studying and addressing climate change with other countries and international institutions.

Some of these commitments have more material policy elements than others. The convention says Annex I parties “should” adopt policies to mitigate climate change by limiting their emissions of greenhouse gases and protecting sinks and reservoirs of greenhouse gases. These parties must provide the convention with information on their policies and measures to address climate change within six months of entering the convention. With this commitment in place, the convention created a system for parties to report their greenhouse gas emissions. Parties “should” calculate their emissions and removal levels with the best information available to them. Parties agreed to the aim of returning to their 1990 emissions levels of all greenhouse gases not addressed by the Montreal Protocol. This agreement benefited some countries and disadvantaged others, depending on their emissions levels that particular year.

In making commitments and decisions on how to adapt to climate change, the convention paid special attention to high-risk areas. These include small island countries, low-lying coastal areas, arid and semi-arid areas, countries whose economies are particularly reliant on fossil fuels, landlocked and transit countries, and areas that are prone to natural disasters, droughts,

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158 United Nations, United Nations Framework Convention on Climate Change, Article 4, 1(b), (g), and (h).
159 United Nations, United Nations Framework Convention on Climate Change, Article 4, 1(d).
160 United Nations, United Nations Framework Convention on Climate Change, Article 4, 1(e).
162 United Nations, United Nations Framework Convention on Climate Change, Article 4, 1(f).
164 United Nations, United Nations Framework Convention on Climate Change, Article 4, 1(h).
165 United Nations, United Nations Framework Convention on Climate Change, Article 4, 2(a).
166 United Nations, United Nations Framework Convention on Climate Change, Article 4, 2(b).
168 United Nations, United Nations Framework Convention on Climate Change, Article 4, 2(e [ii]).
desertification, or high levels of air pollution.\textsuperscript{170} The convention understands that certain areas face higher risks of experiencing the adverse effects of climate change than other areas.

Wealthy countries resisted aspects of the agreement throughout the several stages of drafting the convention, and continue to do so as the parties to the convention meet annually. Initial disagreements were related to the exchange of money, technology, information, and research, along with the institutions that ought to handle climate change.\textsuperscript{171} With these disagreements, representatives were not willing to do more than adopt general frameworks. This left some to regard the overall objective of the commitment as “weak and vague” and “interpreted more politically than scientifically.”\textsuperscript{172} There were activists at the Earth Summit who hoped that representatives would adopt an “Earth Charter” to establish a moral and political authority to develop international environmental law.\textsuperscript{173} Since the principles that parties adopted and signed at the summit created non-mandatory protocols and processes, some were left to question the material successes of the Earth Summit.

Despite disappointment in the material policy outcomes from the summit, it remains a significant event in environmental law because of the monumental agreements it produced. The Earth Summit laid the groundwork for a process that would become the present norm for addressing global climate change in international environmental governance, and solidified the role of the United Nations Environmental Programme in environmental law negotiations.\textsuperscript{174} Following UNCED in 1992, many global environmental agreements have been adopted.\textsuperscript{175} The summit is also significant because it was massive in size comparison to any gatherings that previously occurred. The Earth Summit contained the highest number of leaders ever at an international meeting; attendees included 106 heads of state, 118 world leaders, and 2,400 NGO representatives,\textsuperscript{176} and 17,000 participants attended a parallel forum for NGOs.\textsuperscript{177} The Earth Summit was the first United Nations gathering to embrace involvement from Non-Governmental Organizations, business, and industry. Activity and engagement with the summit extended throughout the city of Rio, and media attention and demonstrations extended Summit

\textsuperscript{170} United Nations, United Nations Framework Convention on Climate Change, Article 4, 8.
\textsuperscript{171} Chasek and Wagner, \textit{The Roads from Rio}, 40.
\textsuperscript{172} Kuyper, Schroeder, and Linnèr, “The Evolution of the UNFCCC,” 346.
\textsuperscript{173} Moutaan, “International Environmental Law,” 132.
\textsuperscript{175} Chasek and Wagner, \textit{The Roads from Rio}, 4.
\textsuperscript{176} Chasek and Wagner, \textit{The Roads from Rio}, 2.
\textsuperscript{177} Reis, “Environmental News.”
conversations around the world. As the Minister for the Environment of New Zealand told Washington University law students, “There is no doubt that the UNCED process substantially raised the level of environmental consciousness around the world.”

2.3 Public Artistic Engagement with the Summit–Development and Destruction

Robert Rauschenberg’s *Last Turn–Your Turn* is emblematic of the intricate connection between summit proceedings, artistic communication, and connection to the public. Rauschenberg’s work did not only hang above country delegations; it was a widely shared symbol representative of the Earth Summit.

![Image](image_url)

**Figure 2.20** Rauschenberg’s *Last Turn–Your Turn* deconstructed on a city bus.

Figure 2.20 depicts a deconstructed view of the artwork by Rauschenberg on a city bus. The placement on a bus brought the art to the people in the city. Rauschenberg intended for the painting to communicate individual responsibility on climate; he believed, “once the individual has changed, the world can change.” Bringing the artwork to the people aided Rauschenberg’s goal, and its distribution on the side of a bus blurred the boundaries between the formal summit proceedings and the city itself.

The graphic on the bus contains several pieces of *Last Turn–Your Turn*. On the left the Farnese Atlas, a Roman sculpture, bears the globe on his back. The sculpture evokes the weight of human responsibility and understanding of the world. Climate change marks a growth

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178 Palmer, “The Earth Summit.”
179 Figure 1.2.
182 Mattison, *Last Turn, Your Turn*, 4.
in human understanding of the universe, and a lack of human control or safety from the planet. The weight of the globe represents the significance of the conference itself, and the responsibility individuals bear to care for the earth, while emphasizing the fragility and rapid nature of climate change. The image of a child underneath an umbrella—one that is somewhat hidden in the original painting—is on the right side of the bus. The rain and umbrella represent future changes to weather brought by climate change, and the child represents the young people who will disproportionately feel the effects of climate change. The “universality” of both of these highlighted images from the original painting does not acknowledge the disproportionate effects of climate change people will face on the basis of nationality and race.

_Last Turn–Your Turn_ is the artistic symbol of the Earth Summit, and its deconstruction and reproduction throughout the city connected people to the proceedings. The organizers of the Earth Summit used art in further ways to connect the public to their work. The Brazilian government provided a cultural coordinator for the Earth Summit, Lucia Gouvea Vieria. Vieria sorted through 364 proposals of art exhibits and selected which ones would fill 183 exhibits and shows of different mediums displayed throughout the summit. The Museum of Modern Art served as a site to center eco-art actions during the Summit.

One of the biggest of these shows was Frans Krajcberg’s _Images of Fire_, a collection of sculptures of burned trees collected from Amazonia and Mato Grosso, which was exhibited in the Museum of Modern Art from June 5–July 27, 1992. Krajcberg was deeply inspired by the Brazilian landscape. He achieved a non-traditional show by bringing the forest itself into the museum. The director-curator said, “When people entered the show, they entered a forest, not a beautiful forest, but dramatic. They walked among the trees.” The exhibition spanned multiple floors. On the ground floor, Krajcberg displayed thirty-two images of fire and its aftermath and titled this part of the exhibit _A morte (Death)_ He created a sculpture in homage to Chico Mendes, showing the charred part of a rubber tree and using red pigments to look like “blood shed over the commodity in the name of profit at the expense of a modest and non-invasive form

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185 Walters, “Frans Krajcberg,” 2.
of self-employment.”

Krajcberg used shocking images of fire and destruction to argue for the importance of the Brazilian forest landscape.

The cultural coordinator of the Earth Summit approved showing *Imagens de Fogo*, even though it directly addressed issues of deforestation discussed within the Earth Summit. Some of the works approved by the cultural coordinator shied away from directly challenging the proceedings of the Summit, but Krajcberg’s did not. His show “was the pièce de résistance of the Museum-sponsored exhibitions.” Krajcberg moved his audience; visitors were seen crying upon leaving the site. World figures visited the exhibition, but so did children and working-class people from Rio. The work reached a broader audience than just those invited into the Summit. The exhibit expanded beyond the Earth Summit and the museum space–Krajcberg transferred photographs of the exhibit onto posters, postcards, and other types of media as symbols of broader environmental activism. Krajcberg’s work suggests a way for environmental work and expression through art in the formal art world to reach the broader public.

Organizers of the Earth Summit also displayed art in the gallery setting through an *Environment and Development* exhibit in the Rio Museum of Modern Art and various galleries throughout the city. The exhibit included thirty posters created by artists from around the world to advocate for environmental protection from their respective representatives at the summit.

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**Figure 2.1** An observer stands in front of the *Environment and Development* exhibit.

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188 Walters, “Frans Krajcberg,” 136–137.
190 Walters, “Frans Krajcberg,” 137.
193 Carol Stevens, “Posters at the Summit,” *Print* 46, no. 524 (1992), photograph.
Figure 2.1 portrays a viewer standing in front of the *Environment and Development* exhibit. The theme “was upbeat and conciliatory, prefiguring the tone of rational compromise that characterized the Summit’s concluding agreements.”

Brazilian designer Felipe Taborda organized the exhibit to broadcast the message of UNCED to the whole world. Taborda gave artists specific instructions: “All posters should have a positive vision of an integrated solution of progress and nature . . . which shows a feasible future for our planet.” This led to posters being “for the most part, gentle, sometimes humorous imagery—flowers, trees, and suns, the earth, hands, people, lots of green, and upbeat sentiments.”

![Figure 2.1](image1.png)

**Figure 2.2** Xavier Bermudez’s accepted poster for the *Environment and Development* exhibit.

**Figure 2.3** Julian Naranjo/Naranjo Sadler Diseño’s accepted poster for the *Environment and Development* exhibit.

Figures 2.2 and 2.3 demonstrate adherence to the instructions for posters. Bermudez’s poster includes a human breathing out leaves. The text reads “Man + Nature: The Future of Development.” The creator’s word choice conveys a focus on advocating for the best for humans and nature. The physical connection of the human to leaves—along with the image of a fish, placed where the person’s ear typically is—shows a focus on connecting people to nature. The same goes for Naranjo and Diseño’s poster, which features a human eyeball and eyelashes.

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194 Stevens, “Posters at the Summit,” 72.
195 Stevens, “Posters at the Summit,” 72.
196 Stevens, “Posters at the Summit,” 72.
197 Stevens, “Posters at the Summit,” poster, 76.
198 Stevens, “Posters at the Summit,” poster, 73.
growing from a flower stalk. These posters combine human and nature images to connect people to nature, and to argue for development that benefits both.

While Bermudez and Naranjo and Disefo’s work was approved by the exhibit, the same is not true for all artists’ work. Swiss designer Niklaus Troxler’s first design was rejected, so he then had to submit a more positive figure.\(^{199}\)

![Figure 2.4](image1.png)  ![Figure 2.5](image2.png)

**Figure 2.4** Niklaus Troxler’s rejected poster for the *Environment and Development* exhibit.\(^{200}\)

**Figure 2.5** Niklaus Troxler’s accepted poster for the *Environment and Development* exhibit.\(^{201}\)

Figures 2.4 and 2.5 depict Troxler’s work submitted to the *Environment and Development* exhibit. Troxler initially submitted an eerie depiction of deforestation; he colored the tops of tree stumps bright red, creating the appearance that they are bleeding. The poster was rejected, so he created another design, which is less specific and leaves more room for interpretation regarding its meaning. The shape of the lines resonate with line graphs, so it is possible Troxler was depicting different graphs of emissions levels or temperatures. The lines vary in their shape and trajectory, so they could depict different climate scenarios. Some of the lines also resemble outlines of mountains; as a Swiss artist, Troxler may be representing his home. These

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\(^{199}\) Stevens, “Posters at the Summit,” poster, 75.


\(^{201}\) Stevens, “Posters at the Summit,” poster, 76.
possibilities are uncertain; Troxler’s accepted work takes a less obvious stance than the design that the organizers of the exhibition rejected.

The organizers of the poster exhibition may have created such requirements under pressure from the organizations that funded the project: the Business Council for Sustainable Development and a paper company. These groups held the philosophy “that concern for environmental protection is not incompatible with economic development and will even contribute to more efficient production.” 202 A paper company likely would not want an artist to portray deforestation as a violent act that makes trees bleed. These business interests may have fueled the focus on optimistic sustainable development reflected in the posters.

The messages in the Environment and Development exhibition reached many visitors, and public attendance at the poster exhibition broke records. 203 The posters were also displayed in a variety of settings outside of the museum space; they were given to the heads of state attending the Earth Summit, and even decorated the headquarters of Brazil’s president, who ordered a T-shirt using Bermudez’s design. Artists printed designs on postcards, posters, shirts and bags for purchase. The artists created works under the requirements of summit organizers, leading their works to promote messages of joint human and nature health and development. Artists that pushed back against the requirements organizers of the Summit placed on them primarily challenged deforestation, as is seen in Kracjberg’s work.

2.4 Activist Artwork Outside of the Summit

Many individuals and organizations shared their thoughts and goals for UNCED and broader environmental decision-making proceedings in Rio. Activity throughout the city of Rio included theater, dance, marches, the drafting of “Green Treaties” in the NGO forum, 204 and protests on the streets of Rio, including one outside of the United States consulate. 205 These gatherings played indirect roles in policy-making; diplomats from the United Kingdom left negotiations to receive recommendations from representatives of the groups Oxfam and ActionAid on how to incorporate the interests of women and Indigenous groups into policy text. 206

202 Stevens, “Posters at the Summit,” 72.
203 Stevens, “Posters at the Summit,” 77.
Artists and activists gathered at different locations over the course of the Earth Summit. One such location was the NGO Global Forum, jointly organized by a coalition of hundreds of Non-Government Organizations devoted to environment and development issues and UNCED’s International Facilitation Committee.\textsuperscript{207} The Secretary General of UNCED, General Maurice Strong, endorsed the Global Forum space.\textsuperscript{208} Although primarily located at Flamengo Beach (figure 2.6) the forum extended to thirty different locations throughout Rio.\textsuperscript{209} It was equally a space for festivities, performances, debates and discussions.\textsuperscript{210} Organizers even held large concerts as sites for those passionate about environmental activism to gather during the summit.\textsuperscript{211} The “Concert for Life” was broadcast to 120 countries as a way to engage everyday people from around the world in the summit.\textsuperscript{212}

\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{image1.png}
\caption{A crowd gathers at the center of the NGO Global Forum, Flamengo Beach.\textsuperscript{213}}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{image2.png}
\caption{The Japan People’s Center tent at the Global Forum.\textsuperscript{214}}
\end{figure}

The forum served as a space for civil society to share its thoughts on the conference, and for different organizations to connect with one another. The forum was attended by Non-Governmental Organizations focused on the environment and economic development,


\textsuperscript{208} Willetts, “From Stockholm to Rio,” 57.

\textsuperscript{209} Blobaum, “Preconfe[re]nce Informational Paper.”


\textsuperscript{212} Brooke, “Arts Invade Rio for Earth Summit.”


\textsuperscript{214} Furusawa, photographs of NGO Global Forum in Earth Summit.
organizations working towards human rights and gender equality, religious and interfaith groups, youth organizations, labor organizations, Indigenous people’s groups, and scientific organizations.\(^{215}\) These organizations gathered throughout the forum and within their own tents.\(^{216}\) There was a Women’s Tent (or the Planeta Femea) organized by the Brazilian Women’s Coalition (REDEH) and WEDO (Women’s Environment and Development Organization).\(^{217}\) Activists involved with events in the Global Forum also engaged in marches and demonstrations throughout the city. These sites were more physically accessible to residents of Rio and surrounding areas, as registration was not required as it was for events at the forum. On June 10, there was an “Oppressed by Life” march and a gathering led by religious leaders.\(^{218}\)

Because the Earth Summit was concerned with issues around sustainable development, biodiversity, and forests, protesters were concerned with these issues as well. An adaptation of Shakespeare’s Midsummer Night’s Dream titled Midsummer Night’s Dream in the Amazon Forest, directed by Werner Herzog, the German film maker, advocated for the protection of the Amazon.\(^{219}\) Members of Friends of the Earth, an international environmental organization, displayed an inflatable chainsaw to protest deforestation of the Amazon in light of the Principles of Forests.\(^{220}\) Some organizations advocated for supporting economic development in poorer nations, and some had a more general theme of cultivating people’s general appreciation for and caretaking of the earth.

**Economic Inequality**

The “Oppressed by Life” march was inspired by a piece of art— a samba titled The Eco-oppressed People.\(^{221}\) The composer of the samba, Antenor de Assis, explained his inspiration for the performance: “Ecology only makes sense to the poor if it improves their

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\(^{215}\) Blobaum, “Preconference Informational Paper.”

\(^{216}\) Figure 2.7.


\(^{219}\) Brooke, “Arts Invade Rio for Earth Summit.”


\(^{221}\) “‘Oppressed by Life’ March Brings 50,000 Demonstrators Together.”
quality of life.” Marchers chanted against the Brazilian and United States governments, along with the International Monetary Fund (IMF).

The “Oppressed by Life” march took place on Wednesday, June 10, 1992. The march began at the Candelana Church and moved throughout the city to the United States Consulate, ending at Flamengo Beach. It was attended by 50,000 people. Some of these attendees were members of the NGOs present at the forum, and many were residents of the city. The Federation of Associations of Inhabitants of Rio de Janeiro (FAMERJ) planned the march four months in advance of the United Nations Conference on Environment and Development. They were associated with and supported by other local organizations, including CUT, Brazil’s main trade union organization.

Protesters shared paintings of slum dwellings and a bus driven by poor residents of Rio to demonstrate the stark difference between the lives of representatives of developed countries at the Earth Summit and the lives of poor residents of Rio. Such protest artwork is consistent with media coverage of the summit that demonstrated public distrust and dissatisfaction with developed nations, particularly the United States; The New York Times wrote during the conference that the United States was “assailed in daily protests as Earth Summit villains.”

Protesters focused their artwork on global inequality, including inequality that the Earth Summit failed to address, even inequality exacerbated by the Summit itself. The gathering led by religious leaders expressed similar dissatisfaction with those at the Earth Summit itself for failing to address broader economic inequality. A spokesperson said attendees of their march were disappointed because the governments involved in the Earth Summit “have refused to challenge the North’s consumer-oriented way of life so that the way of life in the South, which is steeped in poverty, could be changed.” Protesters utilized artwork to convey frustration with wealthy nations for their environmentally destructive habits, and anger towards the fact that these habits of consumption have provided said countries with the money to protect them from the worst of the effects of climate change, a disaster caused by their own actions.

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222 “‘Oppressed by Life’ March Brings 50,000 Demonstrators Together.”
223 “‘Oppressed by Life’ March Brings 50,000 Demonstrators Together.”
224 “‘Oppressed by Life’ March Brings 50,000 Demonstrators Together.”
226 “Priests Disappointed with Official Talks.”
It is particularly important to consider the arguments of inequality in environmental decision-making in the specific context of climate change. The Earth Summit developed the international climate governance infrastructure. Protesters used artwork to argue that the infrastructure itself was unequal. Alongside UNCED itself, protest artwork pointed to the injustice that those who contribute most to climate change feel the fewest of its effects.

Protesters identified habits of consumption in the Global North as a cause of global climate change. They named the United States and its president, George H. W. Bush, as causes of climate change because of their failure to limit global greenhouse gas emissions individually and at the Earth Summit.

**Figure 2.8** Protesters from the U.S. hold banners and signs criticizing their national government.\(^{227}\)

**Figure 2.9** Protesters criticize the United States at a large protest through the streets of Rio.\(^{228}\)

Figure 2.8 depicts United States residents calling for action from their leaders, a sentiment shared by many Americans attending the summit.\(^{229}\) U.S. residents expressed frustration with the United States for their role in the negotiations in Rio. Once bipartisan and broadly embraced, environmental issues became more partisan in the 1980s under former President Ronald Reagan’s leadership and lobbying from fossil fuel companies.\(^{230}\) At the Earth Summit, President Bush refused to sign the biodiversity treaty, under the premise that the treaty


229 Ribeiro, American Eco-Artists Protest.

requires too much financial contribution from developed nations. He also pushed for a flexible approach within the UNFCCC that would protect American business interests.

In Figure 2.8, protesters hold a large banner and many posters, one of which reads, “USA Join the World.” This language suggests that the United States is in opposition to the rest of the world. The large banner in the center of Figure 2.9 reads, “You’re Embarrassing U.S.” The use of “U.S.” identifies the United States, but its use in the sentence reveals a play on words, as it is also intended to mean “us.” The large text size of “U.S.” places importance on the protesters themselves—the “us.” The embarrassment and shame residents of the U.S. feel suggest a closeness to the decisions made by representatives of their country. Protesters assert the importance of their opinions, and argue that their representatives should incorporate public opinion while crafting environmental policy.

Protesters from other countries called for the United States to leave the summit altogether. Figure 2.9 depicts one protester holding a sign reading, “Bush go home. The green you understand is cash.” Protesters identified the United States’ pursuit of profit as a cause of climate change and an impediment to global action to prevent climate change.

![Protesters holding signs](https://www.gettyimages.com/detail/news-photo/australian-ngos-member-demonstrates-in-downtown-rio-de-news-photo/1206754523)

**Figure 2.10** A protester holds a sign at a protest of American environmental policies.

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233 Figure 2.9.

The poster shown in Figure 2.10 is from a protest of American environmental policies and reads, “The Future is in Your Hands.” Since the protest was designed to address the United States, the “your” addresses the United States government. Protesters view the United States as a main contributor to climate change, and as a state with the power to address it. The use of the word “hands” argues that people can fix climate change. The hand also creates a tangible connection between the human body and the ability to make a change. The sign includes a drawing of a hand holding a pen to sign a document. These images suggest that the agreements signed at the conference can save the future.

Identifying the Fossil Fuel Industry

![Image](image.png)

Figure 2.11 An activist newspaper illustration criticizes wealthy nations for emissions.\(^235\)

Figure 2.11 depicts a cartoon portraying three different figures on a winners’ podium. Swaths of smoke come out of the “first world,” the biggest winner of greenhouse gas emissions. The smoke represents greenhouse gas emissions. The cartoon takes recent scientific information identifying greenhouse gases as causes of climate change, and visually presents that information in a form familiar to the public. The artist comments on the irony in the global economic system, where the countries that emit the most are the most rewarded. The smog leaving the “first world” stand is much larger and darker than that leaving the “second and third world” stands.\(^236\) These


\(^{236}\) Similarly to the language of “developed” and “developing,” some used first, second, and third world distinctions to explain income differences between countries. Read more about problems with and updates to such language in Khan et al.
differences in size and color emphasize the vastly unequal contributions the “first” world makes to greenhouse gas emissions.

The podium design in the image references the Olympic Games. That reference is particularly ironic in the context of the Earth Summit, because the Olympics are a global spectacle that people from around the world participate in and pay attention to, just as people from all around the world did for the Earth Summit. The mocking use of this familiar imagery comments on the spectacle of the summit, by showing that the countries from the “first world” who are present make far more contributions to the issues being addressed than those from the “second and third” world.

Similarly to figure 2.10, the cartoon in figure 2.11 relates the concepts it discusses to the human body. The three figures standing on the pedestal are bodies that morph into pipes emitting into the air; the image depicts a person as the source of the emissions. The physical connection between human bodies and greenhouse gases suggests that emissions come from people. The personification of the emitting machines relates the human body to the industries that people are tied to. Although humans do not physically emit greenhouse gases in the way that is shown in the image, the cartoon communicates that humans and their habits emit greenhouse gases, and because of this are causes of climate change.


**Figure 2.12** William Reilly speaks at a protest at the Global Forum.\(^{237}\)

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Protesters point to the specific industries and institutions within wealthy nations that prevent the implementation of a sustainable economy for the climate. Figure 2.12 portrays a banner behind EPA administrator William Reilly. The language and images in the bottom half of the banner are not visible, but the top of the banner contains four phrases crossed out in red. One of these is “Fossil Fuel Addiction.” The creator of the banner argues that the people and systems reliant on fossil fuels are responsible for climate change. The banner also crosses out “military spending” in the same style. The creator of the piece clearly identifies specific activities as sources of greenhouse emissions and, by extension, causes of global climate change.

![Image](image.png)

**Figure 2.13** Protestors of the meat industry are interviewed at the Global Forum.

Activists also use costumes to point to specific industries that cause climate change. Figure 2.13 depicts a still from a video taken during a protest at the global forum; the protest itself involved protesters dressed as a butcher and a cow. The butcher is covered in blood. Costumes as a medium are another way of relating the concepts to the human body, because those wearing these costumes are putting their bodies into these experiences. One embodies the animal killed, the other is a butcher literally covered in blood. The two emphasize the grotesqueness of the meat industry in an effort to get viewers of their art to sympathize with the animals. The artists appeal to viewers with an animal rights angle in an effort to decrease beef consumption. The art piece identifies the beef industry as a large source of environmental damage and resource consumption, and thus a contributor to climate change.

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Conceptualizing the Entire Planet at Stake

The reference to the future in the poster depicted in figure 2.10 showed protesters establishing the stakes of climate change. By saying, “The future is in your hands,” the poster communicated that climate change puts the entire future at risk. Broad conceptualizations of the stakes in addressing climate change continue through art of various mediums in Rio.

![Image 1](image1.jpg)  
![Image 2](image2.jpg)

**Figure 2.14** A person in a globe costume holds hands with a child on Flamengo Beach.239  

**Figure 2.15** A protester paints ocean imagery and a globe on a mural in downtown Rio.240

Figure 2.14 depicts a personified globe holding hands with a child. The globe with arms and legs is one visual way to personify the earth. Humanizing earth is an activist tactic to create resonance with the public towards caring about the earth, as has long been done with the phrase, “Mother Earth.”241 Turning an entire planet into a character people can relate to connects the earth to those living on it. By featuring a child holding hands with the globe, the photograph suggests that the child’s future is at risk.

Figure 2.15 is a still from a video of an activist painting a mural in downtown Rio. The individual painted the entire globe and images of ocean species. The image of the globe creates a neutral notion of which locations and people are at risk of facing negative effects of climate change. The globe has long been used as an iconic image to appeal to feelings of global

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240 Evenson and Corrigan, “In Our Hands.”

citizenship and responsibility.\textsuperscript{242} This is particularly true for images that personify the earth and show children; they depict an assumption that all parts of the planet and people face equal levels of risk of negative climate effects. The non-specificity of the image so frequently used since NASA began it in 1972 has been criticized because of its failure to acknowledge the different effects faced by different people.\textsuperscript{243}

\textit{Symbols of Hope}

A prominent aspect of the Earth Summit as a whole was an air of excitement and hope for the future potential of international environmental governance. Collaborative and community-oriented art pieces and activities reflect these feelings among the public.

\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{figure2.16}
\caption{A collaborative art piece in the Global Forum.\textsuperscript{244}}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{figure2.17}
\caption{People gather around a large golden tree sculpture.\textsuperscript{245}}
\end{figure}

Figure 2.16 depicts a collaborative art piece hosted at the Global Forum; individuals wrote their hopes for the future on leaves that were put together into a large display. Sharing hope for the future gives the public something to fight and organize for. The scale of the art piece shows that many people held hope for the future of global cooperation and action to address climate change. Figure 2.17 depicts an image of another tree. Its grandness and brightness radiate

\textsuperscript{242} Braasch, “Climate Change: Is Seeing Believing?”.
\textsuperscript{243} Braasch, “Climate Change: Is Seeing Believing?”.
hope and growth. Both pieces convey optimism in the solutions available to protect people and the planet.

One such solution was global cooperation. The Global Forum hosted regular activities intended to achieve “global harmony” by transferring energy between people.\textsuperscript{246} This activity argues that climate change is a disturbance to global harmony in its design, and that the Earth Summit and international gatherings that promote global cooperation present the opportunities to resolve such instability.

![Image](https://dam.media.un.org/CS.aspx?VP3=DamView&VBID=2AM94S6WL82NT)

**Figure 2.18** Youth participate in a dance at the Global Forum.\textsuperscript{247}

Figure 2.18 depicts a song and dance activity held at the Global Forum to increase children’s appreciation for the earth and the significance of the Earth Summit. Their commitment to getting youth involved in and excited about the Earth Summit shows that the choreographers view international governance as a tool for addressing climate change. Just as art depicts the risk that climate change poses to youth, it also shows that educating future generations to build a better future can serve as a solution to climate change.

\textsuperscript{246} “The Other View of the Earth Summit.”

Figure 2.19 Visitors at an art exhibit focusing on Kayapó relationships to the environment. \(^{248}\)

Figure 2.19 is a still from a video depicting visitors to an art exhibit that ran throughout the summit, and, later, in the United States and Europe. The exhibit, *Kayapó Science: Alternatives to Destruction*,\(^{249}\) was dedicated to the Kayapó people, Indigenous to Brazil’s Amazonia. It showed the faces of the people whose land is at high risk of resource extraction and harm from global climate change, and presented solutions for human-nature interactions by highlighting the ways the Kayapó people have sustained their community and the Amazon forest. *Kayapó Science: Alternatives to Destruction* displayed tribal tools, artwork, and medicine,\(^{250}\) presented the crucial role Kayapó society has played in protecting the southeastern Amazon through secondary forest use,\(^{251}\) and depicted their present struggles for their land against settlement and resource extraction.\(^{252}\)

### 2.5 Conclusion: Themes in Rio

The Earth Summit is the first case of international governance structures, scientific institutions, individual artists and art institutions, and activist organizations addressing climate change in a site of policy-making. In Rio, protesters expressed opinions converging and diverging from those of scientists and policy-makers, and the tone and approach of activist artwork significantly differed from art approved by the cultural coordinators of the summit.

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\(^{248}\) Evenson and Corrigan, “In Our Hands.”

\(^{249}\) Brooke, “Arts Invade Rio for Earth Summit.”

\(^{250}\) Brooke, “Arts Invade Rio for Earth Summit.”


Activists pointed to fossil fuel usage, particularly from wealthy nations, as the primary cause of climate change.\textsuperscript{253} Their art pieces conveyed a greater sense of certainty than scientists; in 1992, the IPCC was uncertain as to whether irregularities in the climate system were from human activities or natural causes.\textsuperscript{254} Activist artwork was consistent with the UNFCCC principle of Common but Differentiated Responsibility,\textsuperscript{255} as artworks argued that the United States needs to lead in addressing climate change due its economic resources and high levels of emissions.\textsuperscript{256} The principle of CBDR calls for the parties with the most resources to direct them towards addressing climate change.\textsuperscript{257} Protesters in Rio centered their focus on the United States and its president as those who need to take action to address climate change.

The tone of activist artwork was angry and directly challenged the institutions addressing climate change and other global environmental and development concerns than the art within the Summit’s documents and approved art exhibits.\textsuperscript{258} Activist pieces explicitly named countries and political leaders, and artists even planned entire demonstrations to direct messages towards them.\textsuperscript{259} The artwork shown within the Earth Summit and approved summit events had to meet certain requirements set by the cultural coordinators.\textsuperscript{260} Such requirements stressed the importance of positivity and hope in the process of governance and the future of the planet. Some art pieces that the public participated in centered messages of hope,\textsuperscript{261} but many expressed doubts and frustrations with the UNFCCC’s approach and greedy habits from wealthy nations. Activist artwork was not given requirements, while work presented by the summit was. This is a primary difference between art within the summit and activist artwork.

Criticism of the conference spilled over into criticism of some of the artistic understandings and representations of the significance of the conference. Last Turn–Your Turn reflects the Our Common Future, individualized approach to addressing environmental problems. Some activists were dissatisfied with these approaches. Activists from the Japan People’s Forum “feared that the managerial tone of discussion might undermine the legitimacy

\textsuperscript{253} Matson, “The Ozone Games”; Scorza, Head of the U.S. Environmental Protection Agency.
\textsuperscript{255} Prys-Hansen and Franz, “Change and Stasis,” 697.
\textsuperscript{256} Ribeiro, American Eco-artists Protest the American Delegation.
\textsuperscript{257} Prys-Hansen and Franz, “Change and Stasis,” 697.
\textsuperscript{258} “‘Oppressed by Life’ March Brings 50,000 Demonstrators Together.”
\textsuperscript{259} Bouronicle, Protest Against American Environmental Policies.
\textsuperscript{260} Stevens, “Posters at the Summit,” 72.
\textsuperscript{261} “The Other View of the Earth Summit”; Scorza, Members of the Country Women Association of Nigeria.
of local responses to global environmental problems.\textsuperscript{262} These concerns were that wealthy countries’ economic interests had taken precedence over environmental protection.\textsuperscript{263}

The overall presence of art within the summit and beyond suggests a valuing of art by decision-makers and the public. An EcoArt exhibition held at Rio’s Modern Art Museum speaks to the significance of art at that moment. An activist newspaper interviewed visitors to the exhibition to understand what they believed art could do for the summit. Rene Sasson responded that art “can shock people! In order for all of us to realize what is happening we need to be told about the realities in different ways, and this wonderful exhibition does that.”\textsuperscript{264} Orone McClean said, “There needs to be more diverse ways of getting across environmental messages and art is perfect for that.” These individuals speak to the power that art has to explain environmental concepts in accessible ways, thus increasing public engagement to demand actions to address climate change.

Activists felt frustrations with those causing and addressing climate change as climate change governance entered the international governance level. The number of those engaging with the governance process was miniscule to what would follow. Those present in Rio utilized art to call for leadership in the governance process and translated emerging scientific information to demand substantial emission reductions from developed nations. They identified these actions as solutions to address climate change, and identified groups and regions of the world at risk of facing more extreme climatic effects. Understanding of these aspects of climate change further developed, as did public engagement with the process and the problem itself.

\textsuperscript{262} Avenell, “Globality through Local Eyes,” 192.
\textsuperscript{263} Avenell, “Globality through Local Eyes,” 192.
Chapter 3. Moving towards the Geography of the Site.
Kyoto, 1997.

In the midst of the third gathering of the parties in Kyoto, Japan, 20,000 people assembled in Kyoto at an event organized by Students’ Action for COP3 and an umbrella group of over 200 Japanese NGOs, Kiko Forum. These organizations used connections and funding from organizations around the world to create transnational networks to mobilize within Japan and across borders. The organizers centered their actions towards the conference site.

Figure 3.1 Ice sculpture penguins face the conference center.

Figure 3.1 depicts three ice sculptures of penguins, positioned to face the conference center. As the sun shone down, the penguins slowly melted, creating a powerful visual about the negative effects of climate change. In choosing to create penguins, the sculptor identified a specific creature and region affected by rising temperatures, and their placement directly in front of the conference center meant that decision-makers had to confront the urgency of addressing climate change each time they entered or exited the building. The urgency and close proximity to the site depicted in figure 3.1 are defining features of the artwork in Kyoto. Activists spent the

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266 Reimann, “Building Networks from the Outside In,” 179.

two weeks demonstrating outside of the convention center, using artwork to convey the pressing need to address the climate crisis.

Activists in Kyoto built on connections they had made at the Earth Summit to plan and execute demonstrations throughout COP3. The Earth Summit had lasting effects on the modes in which science, government, and the public interact with one another. One of the effects following the summit was that parties to multilateral agreements recognized the importance of science deliberately informing policymakers, thanks to the major role scientists played in crafting the decisions signed in Rio.268

3.1 Climate Science in 1997

The IPCC continued to publish reports in 1994 and in 1995, just before the first formal meeting of the United Nations Conference of the Parties in Berlin. The 1994 report, on the Radiative Forcing of Climate Change, found that humans’ current fossil-fuel usage points towards a quadrupling of CO₂ levels.269 In 1995, the IPCC’s Second Assessment Report suggested “a ‘discernible human influence’ on global climate change.”270 Two years later, the IPCC published another report, in preparation for the third conference in Kyoto, Japan. By that point, the majority of scientists agreed that global temperatures were rising and studies began to investigate the effects of that warming.271 The IPCC report completed in 1997 was requested as a Technical Paper for the Conference of the Parties to the UNFCCC.272 The report takes a regional approach to help inform decision-makers on levels of risk of climatic effects for different regions of the world.

The report is primarily divided into regional sections, to study different climatic effects for Africa, the Arctic and Antarctic, Australasia, Europe, Latin America, the Middle East and Arid Asia, North America, Small Island States, Temperate Asia, and Tropical Asia.273 Such regions were established based on similar climatic conditions in order to consider how climate change will affect such conditions. The report’s attention to regional differences signifies a change from five years prior. Regional specificity better informed policymakers on how to help specific regions adapt and prepare to adapt to future effects.

269 Mahlman, “Science and Non-Science.”
271 Grubb et al., “Chapter 1,” 22.
The IPCC identifies the following activities as increasing greenhouse gas concentrations in the atmosphere: burning fossil fuels, changes in land use, and changes in land cover.\textsuperscript{274} The report points to the systemic failure to address and correct these behaviors, which went further than the mode of addressing the issue in 1992: “the increasing costs of climate and climate variability, in terms of loss of human life and capital due to floods, storms, and droughts, are a result of the lack of adjustment and response in society’s policies and use of resources.”\textsuperscript{275} The IPCC argues that society’s failure to properly address climate change causes and will continue to cause its worsening effects.

The IPCC report details the present and future consequences of human activities on the climate system. The report finds that human activities that increase atmospheric greenhouse gas concentrations will lead to regional and global changes in climatic variables, such as temperature and precipitation,\textsuperscript{276} and that these effects would harm human, wildlife, and economic health. The research investigated the risk that each region faces for climatic effects, particularly sea level rise, and changes in temperature and precipitation. This informed policy-makers that regional vulnerabilities to the effects of climate change vary widely depending on the population and particular environmental system.\textsuperscript{277}

The report is written with more certainty than the 1990 and 1992 reports, as new models allowed scientists to better measure and predict climatic conditions and effects. The 1990 and 1992 reports placed low confidence on their modelings of different emissions scenarios. In 1997, models were more advanced, particularly in terms of measuring and simulating conditions in the atmosphere and the ocean. The IPCC’s confidence still remained low due to the high range of different simulated scenarios, but had increased since 1992. The language is more confident on the role that humans–and even more specifically, human systems–play in the greenhouse effect.

Similar conclusions lie in non-IPCC scientific writings around the time of the third gathering of the COP in Kyoto. Scientists wrote about specific aspects of the climate system, such as positive feedbacks from water vapor and the albedo effect.\textsuperscript{278} Studies looking at the effects of climate change on particular regions, industries, and people increased throughout the ’90s. The growing certainty and available knowledge in these reports are reflected in other

\textsuperscript{274} IPCC, \textit{The Regional Impacts of Climate Change}, 3.
\textsuperscript{275} IPCC, \textit{The Regional Impacts of Climate Change}, 2.
\textsuperscript{276} IPCC, \textit{The Regional Impacts of Climate Change}, 3.
\textsuperscript{277} IPCC, \textit{The Regional Impacts of Climate Change}, x.
\textsuperscript{278} Mahlman, “Science and Non-Science,” 87.
published writings around the time of the gathering in Kyoto. Some of the following effects were widely accepted as results of warming: melting ice caps, rising sea levels, increasingly intense storms, changes to precipitation, and enlarged ranges for tropical diseases.\textsuperscript{279}

Scientists and policy-makers made broad appeals to reduce scientific uncertainty to make scientific knowledge more effective for policy-makers,\textsuperscript{280} because uncertainty tempers institutional and policy action to address climate change.\textsuperscript{281} At the time, the main source of uncertainty had to do with how clouds affect the climate radiative system.\textsuperscript{282} Another large area of uncertainty involved the ocean, particularly because there were far fewer oceanic areas collecting climatic data compared to terrestrial landscapes.\textsuperscript{283}

Nevertheless, scientific understanding grew throughout the 1990s. Researchers writing in 1997 noted that the concentration of CO in the atmosphere had gone up from 315 ppm to 362 ppm since 1957.\textsuperscript{284} A team of scientists summarizes the primary evolution in scientific knowledge from 1992: “There is no doubt that this increase has been driven by human activity, today primarily by fossil fuel combustion.”\textsuperscript{285}

3.2 The Kyoto Protocol

As climate science further developed, so did governance. Parties that signed on to the United Nations Framework Convention on Climate Change first gathered in 1995 in Berlin, Germany, to begin the annual assemblies of the UNFCCC’s governing body, the Conferences of the Parties (COPs). The governing body set in motion the process to adopt commitments by producing the Berlin Mandate in 1995.\textsuperscript{286} The mandate began a process to adopt a legal way for Annex I countries to make specific commitments to limit emissions.\textsuperscript{287} That same year, negotiations began for a treaty to do just that: the Kyoto Protocol.\textsuperscript{288} By the second annual

\textsuperscript{279} Breidenich et al., “The Kyoto Protocol,” 316.
\textsuperscript{281} Shackley and Wynne, “Representing Uncertainty,” 293.
\textsuperscript{282} Mahlman, “Science and Non-Science,” 88.
\textsuperscript{283} Mahlman, “Science and Non-Science,” 95.
\textsuperscript{285} Vitousek et al., 496.
\textsuperscript{286} Ryokichi Hirono and Heike Schröder, “The Road to and from the Kyoto Protocol: The Perspectives of Germany and Japan,” International Review for Environmental Strategies 5, no. 1 (Summer 2004): 45.
\textsuperscript{288} Chasek and Wagner, The Roads from Rio, 30.
meeting of the parties in Geneva, the United States committed to establishing emission reduction targets. With that commitment in place, the document was further developed and prepared for the following gathering.

Policymakers finalized negotiations, and the Kyoto Protocol was opened for signature at the third gathering of the Conference of the Parties in 1997 in Kyoto, Japan. Unlike the Earth Summit, the gathering in Kyoto aimed to do more than set a general framework and plan for action. The convening of the parties in Kyoto was massive in comparison to what came before. In total, 10,000 people attended; only 1,500 of those were delegates from the 150 nations at the gathering.

COP3 participants say they were informed by the latest scientific information; the decision and text of the treaty were dependent on scientific evidence. It called for information on anthropogenic emission levels, calculated by those emitted and subtracting those removed by sinks and reservoirs accepted by the IPCC and agreed upon by the parties. The protocol includes guidance to continue to review the latest scientific information in order to make any sufficient changes appropriate under such new information. Scientific voices may not agree on this; Bert Bolin, a Swedish meteorologist who delivered an update on the first day of the conference, said that “scientific issues were not much discussed in Kyoto,” and that it was rather issues of politics and technology at the forefront of delegates’ minds.

The Kyoto Protocol was the first time that the United Nations Framework Convention on Climate Change set binding limits on parties’ greenhouse gas emissions. The protocol establishes legally binding emission reduction targets for industrialized countries to reduce greenhouse gas emissions within a bound set of time. These limits were on thirty-seven countries, along with

289 Hirono and Schröder, “The Road to and from the Kyoto Protocol,” 46.
292 Grubb, “Chapter 3,” 61.
295 United Nations, Kyoto Protocol, Article 9(1).
the then-European community. These parties, the “Annex I” parties, include industrialized countries that were part of the Organisation for Economic Co-operation and Development in 1992 and countries with “Economies in Transition” (EIT Parties). The protocol calls for Annex I countries to reduce their emissions of carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydofluorocarbon, and perfluorocarbons, as well as ground level ozone.

The overall goal was for Annex I countries to reduce emissions by 5 percent from their 1990 levels by 2012. Required emission reduction was dependent on different countries’ circumstances (or, more accurately, willingness to take on reductions); for instance, the EU was collectively held to an 8 percent decrease, the United States was held to a 7 percent decrease, and Japan was held to a 6 percent decrease in emissions. Decreases were calculated by an average of emissions over the period 2008–2012. Under the treaty, parties are required to report their levels of emissions and conduct national inventories and periodic communications with information on their implementation of the protocol. The text also includes a protocol for reviewing parties’ emissions levels.

The protocol presents the following solutions to meet reduction requirements: enhancing energy efficiency, protecting sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, promoting sustainable agriculture, implementing renewable energy, sequestering carbon dioxide, utilizing fiscal and economic incentives and tools, and limiting emissions of gases not already controlled by the Montreal Protocol. In addition to these solutions, the treaty creates the infrastructure for several market strategies for parties to meet their requirements.

298 United Nations, Kyoto Protocol, Annex B.
300 Murgan, “Revisiting the Role of United Nations Framework Convention,” 120.
303 The European Union had to reach its emission goals collectively, but the specific reduction levels could vary by states.
305 Chasek and Wagner, The Roads from Rio, 284.
308 United Nations, Kyoto Protocol, Article 8(1).
309 United Nations, Kyoto Protocol, Article 2(1).
The Kyoto Protocol contains three market-based mechanisms to help parties reach their requirements in a cost-effective manner outside of domestic actions.\textsuperscript{310} Parties can fulfill emission reduction requirements through the Clean Development Mechanism,\textsuperscript{311} Joint Implementation, or Emissions Trading.\textsuperscript{312} Emissions Trading permits parties to sell units of permitted emissions that they do not need to parties who are over their allotted level of emissions.\textsuperscript{313} The Joint Implementation mechanism enables parties to earn emission reduction units from investing in other Annex I countries. The Clean Development mechanism utilizes the same approach but for non-Annex I countries, mainly developing countries. The Clean Development mechanism allows for developed countries to invest in emission reduction projects in non-Annex I parties.\textsuperscript{314} The developed nation then gets the emissions reduction credit for this. For instance, a developed country may help a developing country to decrease global hydrofluorocarbons, and then the developed country will gain credits for destroying hydrofluorocarbons-23.\textsuperscript{315} The protocol also presents the opportunity for a group of Annex I parties to form a bubble to pool their required reductions and meet commitments jointly.\textsuperscript{316}

Abiding by the original UNFCCC agreement, the Kyoto Protocol creates different requirements for industrializing nations. Industrializing countries “were required to take appropriate action for their developmental need.”\textsuperscript{317} Industrialized countries were given similar guidance, albeit under the requirement of still meeting their commitments. The treaty calls for all countries to implement cost-effective national and regional programs to improve local emissions factors.\textsuperscript{318} The treaty includes requirements for industrialized countries to help industrializing countries. Under the protocol, Annex II parties are required to provide “developing” countries with financial resources in order to assist with their emission reductions.\textsuperscript{319} Such funding could be channeled through the convention.\textsuperscript{320}

\textsuperscript{310}Chasek and Wagner, The Roads from Rio, 184.
\textsuperscript{311}United Nations, Kyoto Protocol, Article 12.
\textsuperscript{312}Leggett, United Nations Framework Convention, 5.
\textsuperscript{315}Chasek and Wagner, The Roads from Rio, 212.
\textsuperscript{316}Bodansky and Rajamani, “The Evolution and Governance Architecture,” 23.
\textsuperscript{317}Murgan, “Revisiting the Role of United Nations Framework Convention,” 120.
\textsuperscript{318}United Nations, Kyoto Protocol, Article 10(a).
\textsuperscript{319}Annex II parties are many of the same as in Annex I, just without the EIT parties.
\textsuperscript{320}United Nations: Climate Change, “Parties & Observers.”
The protocol requires parties to set out the intention to create mechanisms to track compliance with agreements utilizing these mechanisms. Annex I parties are given extensive reporting requirements for expert review.\textsuperscript{321} The procedures for dealing with noncompliance are not entirely clear within the treaty.\textsuperscript{322} The vagueness of the actual requirements in the treaty means that parties have been able to access market mechanisms just by fulfilling certain requirements.\textsuperscript{323} This institutionalization of the protocol and the intention to create bodies to track compliance demonstrate that a major aspect of the Kyoto Protocol is in building an infrastructure to hold parties to actually binding requirements.

The initial lack of enforcement is one of the main criticisms of the treaty. The protocol calls to discuss and determine the consequences for parties’ instances of non-compliance later, amongst the parties themselves.\textsuperscript{324} There were hopes that the protocol would have stricter regulations overall— the European Union and developing countries called for a 15 percent reduction below 1990 levels by the year 2010.\textsuperscript{325} Some parties presented opposite arguments, claiming that Annex I countries would face an economic disadvantage in comparison to industrializing countries without their pollution-intensive industries.\textsuperscript{326} Such complaints are evident in the actions some parties took; the United States tried to implement emission reduction commitments for industrializing nations into the protocol just months before COP3.\textsuperscript{327}

COP3 was the first time that countries were bound to specific emission levels; it was the first binding attempt to address global problems.\textsuperscript{328} The agreement reveals developments in thinking about addressing climate change within the market. The protocol continues the UNFCCC’s strategy of implementing a protocol driven by future negotiations.\textsuperscript{329} The mode by which parties reached the agreement represents aspects of the scope of these gatherings. Richard Nelsson and Mark Rice-Oxley of the \textit{Guardian} reported: “Half those involved [with finalizing the Kyoto Protocol] were asleep on the floor, chairs or tables, unaware that history was being

\begin{thebibliography}{99}
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\bibitem{321} Bodansky and Rajamani, “The Evolution and Governance Architecture,” 23.
\bibitem{322} Breidenich et al., “The Kyoto Protocol,” 331.
\bibitem{323} Proell, Hojesky and Wutsch, “The Perspective of a Politician,” 94.
\bibitem{324} Tran, “International Environmental Agreement,” 345.
\bibitem{325} Ehsan Masood, “Kyoto ‘Dress Rehearsal,’ ends in Deadlock,” \textit{Nature} 390, no. 7 (November 1997), https://doi.org/10.1038/36178.
\bibitem{326} Tran, “International Environmental Agreement,” 345.
\bibitem{327} Masood, “Kyoto ‘Dress Rehearsal.’”
\end{thebibliography}
made.” Late nights at these gatherings began to be the norm, particularly as industrialized nations resisted further regulations and insisted on the inclusion of market tactics.

These late nights were particularly due to the debate throughout the negotiations, especially between the United States and China. The primary debate existed amongst countries that did have binding agreements; countries protected their own national interests throughout the negotiations. Member states to what was the EC in 1990 but what is now the EU and the United States in particular argued for a uniform emission reduction target, while others pushed for the differentiated targets that were ultimately adopted in order to keep targets consistent with countries’ different circumstances.

The United States itself did not ratify the agreement. The United States Senate declared five months before the meeting in Kyoto that it would not do so by passing the Byrd-Hagel resolution. The resolution states that the legislative body would not ratify any agreements that set emission reduction commitments for “developed” nations but not “developing” nations. In Kyoto, President Bill Clinton and Vice President Al Gore were key to the drafting and completion of the agreement, and signed onto it. Regardless, the United States Senate never ratified it. Environmental activists in Kyoto were critical of Gore’s speech and overall stance. Such criticisms led to protest actions, which continued throughout future decisions. In 2001, President George W. Bush gave a statement on climate change and declared that India and China have the resources to share in emissions caps, which led to much backlash from protestors.

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331 For more, see Chasek and Wagner, The Roads from Rio.
332 Nelsson and Rice-Oxley, “50 years, 25 Cops.”
333 Proell, Hojesky and Wutscher, “The Perspective of a Politician,” 64.
coalition of 132 mayors of U.S. cities even committed to following the policies despite the national administration’s decision.\textsuperscript{339}

The treaty entered into force on February 16, 2005.\textsuperscript{340} Before, during, and after the document’s finalization and implementation, NGOs and individual actors expressed criticisms of the protocol, oftentimes through artwork and visual communications. Members of the public engaged directly with the political process–Kiko Forum, an umbrella organization of Japanese environmental NGOs, met with their national ministries as they drafted COP3 policies.\textsuperscript{341} Art itself was used to include the public in negotiations of the Kyoto Protocol.

### 3.3 Art in Kyoto

Art was not a prominent feature of the official proceedings in Kyoto. The organizers held a couple of collaborative art project sessions in the conference center, and delegates used visual communications in their presentations. Friends of the Earth, an international NGO that attended the Earth Summit and continues to attend climate negotiations, organized what the UNFCCC recorded as “an art event.”\textsuperscript{342} The pieces of artwork within the conference center emphasized public inclusion and hopes in the process.

![Figure 3.2 A photograph of quilts hung throughout the conference center.\textsuperscript{343}](image)

![Figure 3.3 A close-up view of the quilt squares made by children.\textsuperscript{344}](image)


\textsuperscript{340} Chasek and Wagner, \textit{The Roads from Rio}, 284.

\textsuperscript{341} Reimann, “Building Networks from the Outside In,” 179.


Figures 3.2 and 3.3 depict quilts consisting of different squares made by children. The colorful patchwork brightened the formal conference halls and added youthful voices. COP3 organizers showed that they valued the hopes of youth by placing their artwork and words in the conference center. The individual squares reveal the thoughts and ideas that were important to each creator. In the middle left, one square reads, “Heat of the Earth.” The square furthest to the right in that row depicts intense fire. These squares reveal youth education on rising temperatures as an effect of climate change. As figure 3.2 shows, young people’s understanding of climate change literally hung above the delegates at COP3, and served as a reminder of the importance of their work.

A Japanese NGO brought materials to make origami on a Kotatsu table within the conference center. Like the quilts in figures 3.2 and 3.3, these works are homemade crafts, produced by hands-on, collaborative processes. The organizers of the gathering chose to bring bright art created by many people; this choice incorporated people into the conference center, and promoted a spirit of collaboration and public inclusion.

Less artistically salient but more direct, figure 3.5 depicts a member of the United

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347 Thomas Gale Moore, Report from Kyoto (Stanford: Hoover Digest, 1998), https://www.hoover.org/research/report-kyoto; While he presented records of activity within the conference center site, it is important to note that Moore questioned the need for any action to be taken to address climate change.
348 Moore, Report from Kyoto.
349 IIISD, The Climate Change Quilt.
Kingdom’s delegation pointing to signs identifying the Global Climate Coalition and Exxorn. Environmental NGO Friends of the Earth identified these organizations as the top two on a list of twelve organizations preventing climate action. The Global Climate Coalition is a United States interest group that lobbied against signing onto the Kyoto Protocol because it believed it would harm American businesses and industries.\(^{350}\) The fact that a conference delegate visually displayed the names criticized by an activist group demonstrates that activists and visual communications informed party delegations in the negotiations.

These are the only recorded and accessible occurrences of art within the formal proceedings of COP3. It is possible that there were more occurrences of art or artistic events that no one recorded, but the low number suggests that organizers of the event did not prioritize including art in the gathering. Reading into this gap in the archive\(^{351}\) suggests that the organizers of COP3 focused on governance, which scientists noted as well.\(^{352}\) On the other hand, artworks by protestors were bigger and bolder in Kyoto than they were in Rio. The difference in the prominence of art in the protest versus the conference context suggests that the public placed higher value on including artwork in their messages and actions.

### 3.4 Protest Art

Many activists and members of the public attended gatherings surrounding the signing of the Kyoto Protocol. The media and the public discussed the significance of the agreement; people attended gatherings because they knew that the agreement would–or rather, could–alter their lives and futures.\(^{353}\) The *Associated Press* reported that activists campaigned directly outside of the main entrance to the conference hall every day.\(^{354}\) Unlike the Earth Summit, where protestors were primarily concentrated within the Global Forum, representatives from different organizations convened together directly outside of the conference center in Kyoto. Activists operating in political spaces sometimes choose to protest in or around government sites.\(^{355}\) This

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352 Bolin, “The Kyoto Negotiations on Climate Change.”
354 APTV, “Japan: Kyoto: COP3 Climate Change Convention Update (3),” recorded December 1, 1997, caption for Youtube video, https://www.youtube.com/watch?v=0hknXHVkdIA.
shift in the geography of organizing suggests a greater effort by activists to target the representatives within the conference center. Art in particular was a tool for activists to place themselves in the midst of where delegates enter and exit in a noticeable way.

![Image](https://example.com/image.png)

**Figure 3.6** Members of different NGOs protest with banners in Kyoto.  

Figure 3.6 depicts representatives from Non-Governmental Organizations that attended the Earth Summit and COP3. Individuals at the front hold three different banners in different languages. They represent the network between different activist organizations at sites of international climate governance. The Japan People’s Forum for the United Nations Conference on Environment and Development (or the People’s Forum, as it is known in Japan), was a major organizing group that was present in Rio, and played a major role in organizing the protests in Kyoto.  

Many activists voiced disappointment in the protocol. For example, one member of the climate justice movement who believed the protocol was insufficient said that the only way forward was to “leave the oil in the soil.” Skepticism regarding the protocol is consistent with the news reporting of the conference:

> This patched-up deal does not bode well for an agreement supposed to usher in a brighter and cleaner millennium, and it was only achieved after

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357 Avenell, “Globality through Local Eyes,” 180.
358 Martinez-Alier et al., *Blockadia: Grassroots Movements against Fossil Fuels*, 47.
a cynical trade-off between China and the US. The developing countries are now not required to sign up to voluntary reductions of greenhouse gas emissions -- a commitment that China had led the way in resisting. Washington in return has won the right to keep the principle of “emissions trading” -- to which almost everyone else objected -- in the treaty.359

The growing networks of environmentalists in Japan and those they were connected with around the world expressed their frustrations with the agreement reached in Kyoto. These individuals and groups played a pivotal role in connecting activists at past United Nations environmental conferences, and created spaces and connections for protest actions when their country was the landscape of decision-making.360 The Japan People’s Forum’s activism subscribes to the notion of “global citizenship;” members advocate for broad global action and coalitions through a focus on local injustice. Similar sentiments prevailed in the Citizens’ Conference to Consider Atmospheric Problems and Yamamura.361 These organizations built transnational environmental activist networks. At sites of connection and organizing, people brought visual communications of their concerns regarding climate change and governance.

*Advocating against Fossil Fuel Companies and Consumers*

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359 Nelsson and Rice-Oxley, “50 years, 25 Cops.”
361 Avenell, “Globality through Local Eyes,” 183.
Figure 3.7 is a still from a video taken at a protest attended by hundreds of people the day before the summit began.\textsuperscript{363} The protesters gathered the day before negotiations to ask global leaders “to take leadership for the world and not to side with the polluter industries who are just interested in profit, but really side with the people and take action to curb the emission of carbon dioxide sharply.”\textsuperscript{364} In Figure 3.7, the protesters wear large posters showing the term “CO$_2$” wrapped in chains that are connected to plants. “CO$_2$” is written in large neon pink letters and outlined in black, making the name of the gas stand out very clearly, as does the fact that the sign is worn in front of protestors. The visual places the health of plants in opposition to carbon dioxide emissions. The coloration and placement of “CO$_2$” in chains send a cryptic and eerie message to viewers, suggesting a dangerous future under present emissions conditions.

![Image](image_url)

**Figure 3.8** A photograph of a protest against the role of oil companies in the negotiations.\textsuperscript{365}

Figure 3.8 depicts a sit-in to protest the role oil companies played in the negotiations. The action targeted ExxonMobil at a gas station operating under the name ESSO, a trading name for ExxonMobil.\textsuperscript{366} Around the time of COP3, ExxonMobil executives argued against government

action to address climate change. Activists responded by criticizing the corporation for preventing substantial action in the Kyoto negotiations. The banner in Figure 3.8 depicts a hand with a dollar sign on it grabbing the globe. The message is clear: Exxon’s pursuit of profits over the planet prevents substantial climate change. By depicting the hand grabbing the entire globe, the protesters suggest that climate change threatens the health and future of the entire planet.

![Figure 3.9](image1.jpg) [Figure 3.9] The Carbonosaurus appears behind a banner advocating against oil companies.  

![Figure 3.10](image2.jpg) [Figure 3.10] The Greenpeace Carbonosaurus moves in front of the conference center.

Figure 3.9 depicts a large banner that reads: “How oil companies respond to global warming.” Below the text, a fire burns, fueled by a gas pump pouring more gas onto the flames. The size of the flames, compared to the hose, demonstrates that the hose is unable to handle the fire. The visual of a gas pump—rather than a water hose, which would be used to actually extinguish fires—suggests that the problem will only worsen. The image and text imply that oil companies’ “solutions” will simply exacerbate climate change, and that the proper solutions to address climate change would not entertain suggestions from oil companies. The flames depict the warming of the planet as actual fire.

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Figure 3.10 portrays the Greenpeace Carbonosaurus, seen in the background of figure 3.9. COP3 marked the first of its many appearances. The dinosaur is seven meters tall and is made of auto parts, gasoline pumps, and old fuel tanks.\textsuperscript{370} The protesters placed the large, eye-catching display in front of the conference center. The sculpture’s size represents the large contribution carbon emitters make to the climate crisis. Protesters used emitting objects, or parts of emitting objects, to identify the causes of the amplification of the greenhouse effect. Those recycled materials also make a positive environmental impact;\textsuperscript{371} such repurposing is now a common practice in environmental art and building design.\textsuperscript{372}

The symbol of the dinosaur references natural history. Dinosaurs were a once prominent and now extinct part of the earth’s ecological system. Greenhouse gases of today have a far greater–and more harmful–impact. By using the image of a dinosaur, the artists argue that carbon emitters do not always have to be a major part of the earth system and that their removal could help solve environmental problems. The piece may also suggest the risk that climate change poses to many species of following dinosaurs into extinction.\textsuperscript{373} By using materials from emitting countries, the artist argues that fossil fuel companies threaten the future of such animals.

\textbf{Figure 3.11} Protesters target Al Gore outside the conference center.\textsuperscript{374}

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{370} Sugita, photographs accompanying Hudson, “Citizens, Arrests, and 7-Metre Dinosaurs.”
\item \textsuperscript{371} Daniel Steenhaut, Carbonosaurus Rex, Sten, accessed April 13, 2023, https://www.danielsteenhaut.com/carbonosaurus-rex.
\item \textsuperscript{374} Asahi Shimbun, Environmental NGO Members Appeal to Representatives, December 10, 1997, photograph, Getty Images
\end{itemize}
\end{footnotesize}
Protesters also used art to identify the policy-makers who prevented effective climate action in Kyoto. Figure 3.11 depicts protesters holding a massive banner right at the entrance to the conference. The banner reads, “Kyoto in the Balance of Al Gore” and illustrates activists’ strategy to directly name an American political leader, as activists did in Rio. Protesters directly name Al Gore because he made the last-minute decision to travel to Kyoto for one day amidst the negotiations. The banner reflects the hope of many environmentalists in Kyoto that their frequent ally would push the U.S. delegation to sign onto the agreement. Although the United States Senate has the constitutional authority to sign onto international treaties, and thus President Clinton’s signature did not mean the U.S. would be tied to Kyoto’s commitments, the activists’ choice to name Vice President Gore demonstrated their understanding of the importance of the United States to the creation and success of the overall agreement.

On Alternative Energy Sources

Along with advocating against fossil fuels, organizers used visual displays to argue for and against alternative sources of energy.

Figure 3.12 Dancers and drummers perform outside the conference center in front of a banner.376

Figure 3.13 Activists embody greenhouse gas emissions and nuclear power.377

Figure 3.12 is a still from a video that depicts Japanese dancers and drummers at a protest outside of the gathering of the parties. Activists played loud band music outside of the
conference center to audibly disrupt the proceedings and advocate for decision-makers to hear their message. The banner establishes their message: “No Nukes! No Fossil Fuels! For Asians!” Activists pointed to fossil fuels and nuclear power as a source of harm to the well-being of Asians. Activists in Kyoto used artwork to target fossil fuels and nuclear power in multiple demonstrations during COP3.

Figure 3.13 contains the same critique of both fossil fuels and nuclear power. The image depicts people embodying different greenhouse gases and nuclear radiation, as can be seen by the labels worn around their necks. The names of the greenhouse gases convey protesters’ understanding of the causes of climate change. The people also wear skeleton suits, conveying a haunting embodiment of death. The protesters connect the greenhouse effect with death—they understand that anthropogenic emissions heavily contribute to climate change, and they utilize striking and eerie performance artwork to make that point.

The protester in the middle of the group wears the symbol for nuclear power around their neck. COP3 occurred during the same year as the worst nuclear accident in Japan’s history, exposing workers to radiation and raising questions about the safety of nuclear power in Japan. At the time of the conference, some energy experts proposed nuclear power as an obvious energy alternative to fossil fuels. The activists in Kyoto pictured in figures 3.12 and 3.13 use their geographical position at COP3 to argue against nuclear power in light of the events in their home country, even though nuclear power was presented as a solution to the greenhouse effect.

Figure 3.14 Members of Greenpeace project a message onto a mountain outside Kyoto.

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Figure 3.14 depicts a Greenpeace action during COP3 to project the message “GO SOLAR” onto a mountain surrounding Kyoto. The protesters used the larger geography of the environment they were in to argue for countries to switch to solar power, an energy source that had been developed significantly throughout the previous several decades and was anticipated to be a major provider in the next century.\textsuperscript{381} Greenpeace advocated for solar power through several demonstrations during the conference.\textsuperscript{382} The activists understood the importance of COP3 as a means to introduce alternative forms of energy to replace fossil fuels. The creators of the display related the medium to the subject of light and used bright lights to make the display noticeable throughout the city, extending the concept of solar power to anyone who could see it.

Human Rights Failures as Effects

Organizers in Kyoto argued that the individuals and systems that cause climate change permit its horrible effects, and that these are human rights abuses.

![Figure 3.15 Australian activists perform a skit in front of the conference center.](image1.png)  \hspace{1cm}  ![Figure 3.16 A closer view of the activist action.](image2.png)

Activists perform a play in figures 3.15 and 3.16. They wear hats and labels identifying forces that cause climate change. Next to them is a banner that reads, “Howard[,] don’t sink the Pacific” – a reference to John Howard, Prime Minister of Australia during COP3, who refused to


\textsuperscript{382} Hiroto Kiryu, Greenpeace Japan Climate Team with Solar Kitchen During International Climate Conference, December 1, 1997, photograph, Greenpeace, https://media.greenpeace.org/Detail/27MZIFLZBP6Y.

\textsuperscript{383} APTV, “Japan: Kyoto: Climate Change Convention Update,” recorded December 8, 1997, YouTube Video, 0:00-0:10, https://www.youtube.com/watch?v=uuUvmvE_jRA&t=11s.

\textsuperscript{384} APTV, “Japan: Kyoto: Climate Change Convention Update.”
ratify the agreement. These activists used the strategy of naming their political representative at the location where they will enter and exit the negotiation site. As the IPCC report indicated, increasing temperatures led to melting ice caps and rises in the levels of the ocean. These activists communicated that rising sea levels pose a risk directly tied to a lack of climate action from their Prime Minister.

They also satirized the environmental governance taking place inside the building behind them; the protesters play different roles, pretending to be decision-makers or members of industry. That action mocks the deals that members of the fossil fuel industry make with government representatives. The performance conveys a distrust of the process taking place inside due to business interests.

**Figure 3.17** Activists perform a critique of the human rights abuses from climate change.

Figure 3.17 depicts a performance art piece. A person in the front of a line of people holds a sign that reads “World Human Rights Day?” The person wears an American flag around their shoulders, and is covered in the logos of oil and gas companies, creating a connection between America and the fossil fuel industry. Behind them, several people stand in a line with their faces covered, dressed all in black and tied together with ropes. The visual suggests that the companies whose logos are depicted, and the American government, commit human rights

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abuses by enabling the harmful effects of climate change. During the following decades, activists continued to argue that climate change leads to human rights abuses.\textsuperscript{387}

\textit{The Importance of People}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{koala_costume.jpg}
\caption{An Australian protester wears a koala costume with a sign on its front.\textsuperscript{388}}
\end{figure}

Demonstrations in Kyoto centered people and their collective power. Figure 3.18 depicts a protester dressed in a koala costume and wearing a sheet of paper that reads: “76% of Australians call for a reduction.”\textsuperscript{389} The individual uses data to convey support from Australia’s general public for greater climate action in the form of emission reduction commitments. The focus on emission reduction demonstrates the protester’s understanding of the agreement produced in Kyoto. The protester argues that public opinion matters, so solutions for addressing climate change should consider and honor public opinion.

Activists’ use of a popular, attractive animal, like a koala, is a common one: conservation work often uses a select few, subjectively attractive animals as the face of campaigns.\textsuperscript{390} These activists chose to use the image of a koala, likely because it is widely accepted as an attractive animal, and because it is an important national symbol to Australians. Their choice demonstrates an appeal to get people to sympathize with environmental issues, as well as an appeal to value the wishes of the Australian people.

\begin{itemize}
\item \textsuperscript{387} The Office of the High Commissioner for Human Rights to the 21st Conference of the Parties, \textit{Understanding Human Rights and Climate Change} (Geneva: OCHR, 2015),
\item \textsuperscript{388} APTV, “Japan: Kyoto: Climate Change Convention Update,” 0:10-0:11.
\item \textsuperscript{389} APTV, “Japan: Kyoto: Climate Change Convention Update,” 0:10-0:11.
\item \textsuperscript{390} Diogo Veríssimo and Bob Smith, “When It Comes to Conservation, Are Ugly Animals a Lost Cause?” \textit{Smithsonian Magazine}, June 27, 2017,
\item https://www.smithsonianmag.com/science-nature/are-ugly-animals-lost-cause-180963807/.
\end{itemize}
Activists in Kyoto especially advocated for young people. On December 2, 1997, twenty-one youth from twenty-one countries participated in a Postcard Project, in which they presented thousands of postcards written by their peers supporting climate action. This advocacy continued—figure 3.19 depicts youth at an in-person gathering in Kyoto. They hold a banner, and although the text is disrupted in the image, it appears to read, “Give us future lives.” Protestors look joyful and celebratory, suggesting a sense of built community at this moment in the climate movement. The banner advocates for the protection of young people's futures. The protesters understand that climate change puts their lives and those of future generations at risk, and that joy can be found in collectively organizing with other young people.

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392 Reimann, “Building Networks from the Outside In,” 180.
Figure 3.20 Pride flags fly at one of the largest protests during COP3.393

Figure 3.20 is a still from a video recording of a march in Kyoto that shows protesters flying pride flags. No such flags were present in the images from Rio. Symbols and artistic representations of other social justice groups and movements began to appear at climate protests as networks of activists understood the need for solidarity and convergence across different movements. Kyoto was the site of transnational networks between activists and organizations. The presence of the pride flag demonstrates a growing link between people advocating for LGBTQIA+ rights and climate action, a link that continues to grow in activist and academic circles.394

3.5 Conclusion: Themes in Kyoto

Art was a central feature of activist actions directly outside the site where the Kyoto Protocol was finalized and open for signature, but within the conference center itself, art was not very relevant. Scientists commented that the central focus of the gathering was individual parties’ interests—395 that remains true in terms of the minimal focus on cultural events to connect the public to the proceedings. The art that was present in the conference center primarily consisted of crafty, homemade projects for people to collaborate on.396 These pieces did not directly comment on any aspect of climate governance.

394 Beckett McGowan, “Pride in Our Communities: The Legal Intersection of the LGBTQ and Environmental Justice Movements,” Vermont Journal of Environmental Law 24 (Summer 2022), 89.
395 Bolin, “The Kyoto Negotiations on Climate Change.”
396 Quilts Hanging in Conference Center; IIISD, The Climate Change Quilt; Shimbun, A Japanese NGO Group Brings Kotatsu.
On the other hand, artwork at protests in Kyoto directly challenged the relationship between negotiating parties to the Kyoto Protocol and fossil fuel lobbyists. Protesters depicted the economic interests that prevented substantial climate action. They conveyed deals made between such interests and delegates from parties to the convention, and directly engaged with the process—protesters directed anger towards Australia’s prime minister for threatening to withdraw from the agreement if the delegation’s demands for an emission reduction commitment were not met. Australia’s commitment ultimately was to not allow emissions to exceed a 108% reduction of 1990 levels. Activist artists also understood the key role the U.S. delegation played in the possibility of forging an agreement in the first place.

Activists’ identification of fossil fuel lobbying also demonstrates their engagement with climate science. By 1997 scientists had more confidence that human activities—primarily those that burn fossil fuels—cause irregularities in the climate system. Activist artworks that argued for the implementation of solar power demonstrate an understanding of proposed energy sources, but arguments against the usage of nuclear power were inconsistent with scientific opinion at the time. Activist artwork argued that fossil fuel companies, countries with high levels of emissions, and the relationship between the two are responsible for human rights abuses due to the burning of fossil fuels. Such work did not identify the victims of such human rights abuses. Activist artwork in Kyoto did not focus on specific people and regions of the world that face disproportionately higher risks of facing the negative effects of climate change; this is a difference between the scientific literature, which identified the specific regions that face higher levels of climatic effects.

The art piece arguing that the United States and fossil fuel companies commit human rights abuses is emblematic of the ominous and eerie style of much of the protest artwork in

397 Yamanaka, Protesters Perform a Sit-In; Sakai, Human Rights Violation Protest.
398 APTV, “Japan: Kyoto: Climate Change Convention Update,” 0:00-0:10.
400 United Nations, Kyoto Protocol, Annex B.
401 Shimbun, Environmental NGO Members Appeal to Representatives.
402 Yamanaka, Protesters Perform a Sit-In; Sakai, Human Rights Violation Protest.
403 IPCC, The Regional Impacts of Climate Change, 3.
404 Kiryu, Greenpeace Climate Action, Laser Projection.
406 Sakai, Human Rights Violation Protest.
407 Sakai, Human Rights Violation Protest.
408 IPCC, The Regional Impacts of Climate Change.
Kyoto. These works differed from the positive and unspecific art projects presented and created in the conference center. Individuals and organizations shared their frustrations and depictions of a future they feared at sites of collective action on climate change. These displays and physical sites of gathering facilitated new and continuing connections from the Earth Summit. Networks between activist organizations based in Japan and abroad were a key feature of activist organizing through artwork in Kyoto.⁴⁰⁹

⁴⁰⁹ Reimann, “Building Networks from the Outside In,” 183.

On November 24, 2015, the walls of Palais de Tokyo, a European center for displaying contemporary artwork in Paris, were filled with its newest exhibit: EXIT. EXIT was first created in 2008 for the exhibition Native Land, Stop Eject, which reflected on environmental degradation and the uprooting of Native groups across the globe. EXIT was commissioned by The Fondation Cartier pour l’art contemporain, a space designed for artists to display their work to the public in Paris.

![EXIT Installation](image)

Figure 4.1 EXIT spans the 360° of the room, displaying statistics to sitting visitors.

Figure 4.1 depicts one snapshot of the forty-five-minute long, 360° installation. The installation features immersive, annotated maps that contain images, text, and movement. They are primarily organized into six themes: “Population Shifts: Cities; Remittances: Sending Money Home; Political Refugees and Forced Migration; Natural Catastrophes; Rising Seas, Sinking Seas.”

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414 Diller Scofidio + Renfro, “EXIT.”
Cities; Speechless and Deforestation." The goal of the maps is to bring migration data, and the experiences of the many people represented in the maps and statistics, alive to viewers.

Paul Virilio, a French philosopher, trained artist, and urbanist, provided the first idea for *EXIT*. His work and that of other collaborators led the creators of the installation to focus on the recent increases in global migration, and to interrogate the forces driving that movement, with particular attention to climate change. The installation was a collaboration between architects, artists, scientists, NGOs and more to gather and display many different pieces of data. *EXIT* aimed to quantify and visualize the global increase in migration, with each pixel representing a single person’s experience. This style attempts to do justice to the humans represented; rather than viewing them as solely data, the collaborators used immersive mapping tools in an attempt to bring their experiences to life through the eyes of the viewers.

After opening in 2008, the project was shown in various exhibition spaces, including in Copenhagen during the fifteenth gathering of the COP. *EXIT* was updated in October 2015. In the days leading up to COP21, it was purposefully placed in the Palais de Tokyo, where it remained throughout and following the summit until January 9, 2016. The timing of the exhibition in Paris was intentional: the installation was viewed as a “call to action” for the important decisions made at the twenty-first COP.

*EXIT* updated its data in light of alarming increases in global unrest and the increasing urgency of addressing the climate crisis during the early 2010s. It also demonstrates a growing understanding of how climate change forces human migration. Hervé Chandès, the curator of the exhibit, says *EXIT* presents a “new aesthetic for how we can relate to the destruction of our own planet.”

The conversations surrounding the goals and concerns of the *EXIT* installation represent the general atmosphere leading up to the twenty-first COP in Paris in 2015. Visual communications were central to conversations and questions in Paris in 2015, as artists struggled to figure out how to depict visions for a new mode of structuring the world that would address

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416 Palais de Tokyo, “EXIT: Installation.”
417 Diller Scofido + Renfro, “EXIT.”
418 Diller Scofido + Renfro, “EXIT.”
419 Palais de Tokyo, “EXIT: Installation.”
420 Palais de Tokyo, “EXIT: Installation.”
421 Palais de Tokyo, “EXIT: Installation.”
the climate crisis.\textsuperscript{423} Representatives at COP21 were particularly concerned with visual climate communications because of climate skepticism amongst the public, engineered by fossil fuel companies.

As the scientific community gathered stronger evidence of the human causes of climate change, companies that relied on fossil fuel usage fueled public skepticism. A 2007 report by the Union of Concerned Scientists exposed the way that ExxonMobil manufactured public uncertainty about climate change.\textsuperscript{424} Skepticism mainly surrounded the cause of climate change, not the question of whether it was happening at all.\textsuperscript{425} Most people around the world were aware of and concerned about climate change.\textsuperscript{426} Residents of developed nations overall expressed less concern about climate change than those in developing nations, and they also expressed less willingness to pay to address the crisis.\textsuperscript{427} Particularly in light of manufactured skepticism, environmental scientists and communicators looked to frame climate change around human values like ethics, truth, and problem solving in order to encourage the public to support sweeping climate action.

In 2014, Secretary-General of the United Nations Ban Ki-Moon named climate change “the ‘defining issue of our time.’”\textsuperscript{428} There was much anticipation heading into 2015 since the UNFCCC was due to update emission reduction commitments. The Kyoto Protocol framework had not yielded reductions in emissions. Scientists and researchers developed better ways to record and understand climate data at the end of the twentieth and beginning of the twenty-first century; COP21 was held a year after scientists recorded the hottest year on record to that point, 2014.\textsuperscript{429} Such a milestone fueled concern and anxiety regarding the effects and intensity of

\begin{itemize}
\item\textsuperscript{425} Charles W. Schmidt, “A Closer Look at Climate Change Skepticism,” \textit{Environmental Health Perspective} 118, no. 12 (December 2010), https://doi.org/10.1289/ehp.118-a536.
\item\textsuperscript{426} So Young Kim and Yael Wolinsky-Nahmis, “Cross-National Public Opinion on Climate Change: The Effects of Affluence and Vulnerability,” \textit{Global Environmental Politics} 14, no. 1 (February 2014): 99, https://doi.org/10.1162/GLEP_a_00215.
\item\textsuperscript{427} Kim and Wolinsky-Nahmis, “Cross-National Public Opinion,” 80.
\end{itemize}
climate change. Parties to the United Nations Framework Convention on Climate Change signed on to the Paris Climate Agreement within a context of public debate, concern over climate communications, and increased scientific knowledge about the growing effects of climate change.

4.1 Climate Science in 2015

By 2015, the Intergovernmental Panel on Climate Change confidently described the major role human beings and systems play in amplifying the greenhouse effect and contributing to climate change. In light of that knowledge, the IPCC identified human emissions and a lack of adequate response to limit such emissions as causes of climate change. In 2014, the IPCC published a Synthesis Report (SYR) to weave together information from reports published in 2013 and 2014. The Synthesis Report was published in Copenhagen in anticipation of the convening of the Conference of the Parties in Paris, as the conference was set to result in emission reduction commitments.

The SYR “confirms that human influence on the climate system is clear and growing, with impacts observed across all continents and oceans.”430 The observation across all continents builds on the regional studies from 1997, but confirms that there are already observable effects of climate change everywhere on earth. By 2014, the IPCC was “95 percent certain that humans are the main cause of current global warming.”431 The report warns that the more activities that continue to occur under a “business-as-usual” operation, the more effects we will face, and the more severe they will be.

The report defines the influence that humans have on the climate system as “clear.”432 The IPCC dates the effects of anthropogenic climate change back to 1950,433 with the first publishing of the Keeling curve. The authors of the report classify global warming as “unequivocal” due to the effects that humans have already observed, including the warming of the air and ocean, melting ice caps, and sea level rise.434 Effects of climate change such as sea level rise became increasingly easier to understand from 1992 to 2015 due to developing technologies.

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431 IPCC, Climate Change 2014, v.
432 IPCC, Climate Change 2014, v.
433 IPCC, Climate Change 2014, 7.
434 IPCC, Climate Change 2014, 2.
The IPCC takes a more forward-looking approach than was seen in the previous two documents. The SYR says, “Many aspects of climate change and associated impacts will continue for centuries, even if anthropogenic emissions of greenhouse gases are stopped. The risks of abrupt or irreversible changes increase as the magnitude of the warming increases.”435 Rather than focusing on just the next few decades, this report considers centuries into the future, when climatic effects will continue and worsen.

The Synthesis Report argues that humans possess the means to limit climate change and the risks that come with it. The report argues that humans must implement “an urgent and fundamental departure from business as usual,”436 and that the longer business as usual continues, the more challenges humans will face. The report argues: “Ignorance can no longer be an excuse for tergiversation.”437 The Synthesis Report uses strong language to convey the seriousness of the present state of climate science, and the lack of a proper policy response to scientific findings.

The actions that the report calls for also differ from the past two reports. The report pays greater attention to implementing tools to adapt to climate change, since at the time of its writing many effects of climate change were already being felt worldwide. The report makes recommendations for adaptation to present climatic effects and future effects yet to be felt. The IPCC includes numerous approaches to deal with present warming and prevent further warming, and offers that “many adaptation and mitigation options can help address climate change, but no single option is sufficient by itself.”438

The mode by which the report presents the information is also interesting, particularly in comparison to the documents from 1990, 1992, and 1997. Those documents were more clearly designed for scientists familiar with the language or policy-makers familiar with the concepts presented. The 2014 Synthesis Report utilizes boxes with idea summaries separated into different sections that clearly define the report’s conclusions. It even includes a user’s guide. These features make the document easier to understand, particularly for the nonscientific community. This may suggest a rise in the public’s consumption of climate science.

435 IPCC, Climate Change 2014, 16.
436 IPCC, Climate Change 2014, v.
437 IPCC, Climate Change 2014, v.
438 IPCC, Climate Change 2014, 26.
The sheer number of books and articles published on the topic grew immensely over the eighteen years between the meeting in Kyoto and the meeting in Paris; even the amount of published writing on climate change in the years 2013–2014 is too much to cover.\textsuperscript{439} Researchers utilize climate modeling to convey data from the atmosphere, geosphere, biosphere, hydrosphere, and cryosphere; the use of different technologies was the result of and further promoted collaboration between different fields to study climate change.\textsuperscript{440} Broader collaboration also led scientists of all fields to grow their understanding of the effects of climate change on different parts of the world and different environments. One field with significant growth in research and understanding since the 1997 IPCC report is ocean studies—a field of study with more overall uncertainty than terrestrial ecosystems.\textsuperscript{441} In particular, researchers gained new understanding and evidence of ocean acidification during the twenty-first century.\textsuperscript{442}

The overall scientific consensus at the time the Paris Agreement was written was that the climate would likely warm 1.5°C at the low end and might even warm up to 6°C—which would be unlivable.\textsuperscript{443} Scientists advised policy-makers that warming should be limited to no more than 2°C, because to exceed that would have a significant effect on all forms of life.\textsuperscript{444} The research conducted to determine advisable levels of warming was mainly focused on terrestrial ecosystems.\textsuperscript{445} Scientists recorded different levels of warming in different locations, which revealed rapid warming in the Arctic.\textsuperscript{446} As the study of climate change became interdisciplinary, and engineers began to work on the issue, they presented carbon capture and sequestration as a solution for dealing with climate change.\textsuperscript{447}

Through climate modeling, researchers found intensification of daily precipitation extremes under climate change.\textsuperscript{448} In 2013, the World Bank published the second of two reports, titled \textit{Turn Down the Heat}, amidst warnings that a warming of 2°C is a likely possibility within the next twenty to thirty years, which could result in numerous disastrous environmental

\textsuperscript{439} G. Thomas Farmer, \textit{Modern Climate Change Science: An Overview of Today’s Climate Change Science} (Las Cruces: Springer, 2015), 2.
\textsuperscript{440} Farmer, \textit{Modern Climate Change Science}, 44.
\textsuperscript{441} Farmer, \textit{Modern Climate Change Science}, 49.
\textsuperscript{442} Farmer, \textit{Modern Climate Change Science}, 31.
\textsuperscript{443} Farmer, \textit{Modern Climate Change Science}, 2.
\textsuperscript{444} Farmer, \textit{Modern Climate Change Science}, 18.
\textsuperscript{445} Farmer, \textit{Modern Climate Change Science}, 49.
\textsuperscript{446} Farmer, \textit{Modern Climate Change Science}, 74–75.
\textsuperscript{447} Farmer, \textit{Modern Climate Change Science}, 19.
effects—including food shortages, heatwaves, and cyclones.\textsuperscript{449} The second \textit{Turn Down the Heat} report finds it likely that a warming of 2°C will happen in the next two to three generations—the fate of climate change continuously worsened. The authors of the report further explain that a warming of at least 4°C became more likely than it was earlier in the 2000s.\textsuperscript{450}

In 2014, the World Health Organization published a report on the human health effects resulting from climate change. Building on a growing body of work from the previous several decades, the report specifically looked at the effects of climate change on health in 2030 and 2050. The authors compared the outcomes of human health and life in these two years in a world with and a world without climate change. For the year 2030, they projected 38,000 deaths for elderly people due to heat exposure, 48,000 deaths due to diarrhea, 60,000 due to malaria, and 95,000 due to childhood malnutrition.\textsuperscript{451} They projected an increase in these deaths by 2050. Other effects of climate change cited in the report include coastal floods\textsuperscript{452} and dengue transmission.\textsuperscript{453} The report predicts an unequal distribution of the effects of climate change on human health.\textsuperscript{454} The authors acknowledge that they are limited in their ability to account for economic harm, heatwaves, flooding, water scarcity, and migration and conflict events.\textsuperscript{455}

The broader scientific community identified the same effects of climate change as IPCC authors in 2014. In 2014, researchers recorded alterations to hydrological cycles, changes in biological clocks and phenological events, geographical habitat shifts for plants and animals, increased extinction rates, an increase in the frequency and severity of extreme weather, and increased erosion of coastlines.\textsuperscript{456} Climate scientists proposed solutions like implementing renewable energy and energy conservation, and acknowledging the weight of effects felt by Indigenous peoples around the world in writing and in the creation of institutions to study and mitigate these effects. One such institution is the South Central Climate Science Center in the

\textsuperscript{449} Schellnhuber et al., \textit{Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience} (Potsdam: The Potsdam Institute for Climate Impact Research and Climate Analytics, 2013): xi.

\textsuperscript{450} Schellnhuber et al., \textit{Turn Down the Heat}, xv.


\textsuperscript{452} Hales et al., \textit{Quantitative Risk Assessment}, 27.

\textsuperscript{453} Hales et al., \textit{Quantitative Risk Assessment}, 61.

\textsuperscript{454} Hales et al., \textit{Quantitative Risk Assessment}, 10.

\textsuperscript{455} Hales et al., \textit{Quantitative Risk Assessment}, 1-2.

United States, intended to inform and work with Native American tribal members for climate science research.\textsuperscript{457}

The conversation on climate change expanded to more people and organizations in the twenty-first century. Joan Brown, executive director of New Mexico Interfaith Power and Light, declared that “2013 may go down in history as the year when humans knew, as conclusively as science is able to state, that human-induced climate change was bound to be the greatest ethical, moral, and spiritual challenge of the twenty-first century and beyond.”\textsuperscript{458} The scientific community and general public widely felt and observed the effects of climate change entering into COP21.

\textbf{4.2 The Paris Agreement}

During its first commitment period from 2008–2012, the Kyoto Protocol fell short of effectively reducing emissions. In 2011 at the gathering of the COP in Durban, parties agreed to decide on the next approach for international climate governance by 2015.\textsuperscript{459} In 2012, the Doha Amendment created a second commitment period from 2012–2020, establishing that a new approach towards climate governance would begin in 2020.\textsuperscript{460} While the original vision of a second commitment period for the Kyoto Protocol was that more parties would adopt more ambitious commitments, by 2012 the new commitment period signaled the opposite—industrialized parties left the protocol as the end of the commitment period neared to avoid paying the penalties for failing to meet their reduction obligations,\textsuperscript{461} and non-industrialized countries were unwilling to adopt emission reduction commitments,\textsuperscript{462} because the world’s primary emitters were not held to commitments. The United States Senate refused to ratify the protocol because it did not hold all nations to emission reduction commitments.\textsuperscript{463} Emissions in countries not covered by the Kyoto Protocol grew significantly

\textsuperscript{463} Hovi, Sprinz, and Bang, “Why the United States Did Not Become a Party to the Kyoto Protocol.”
following its implementation; China’s economy (and, with it, its greenhouse gas emissions) grew to surpass many developed nations in the early twenty-first century.\textsuperscript{464} For the countries that were bound to emissions reductions, many did not achieve their targets. Nearly half of the thirty-six developed nations with emission reduction obligations failed to meet them, and those that did tended to do so because of economic crashes or changes to the availability of an energy source.\textsuperscript{465} Even if all of the targets under Kyoto had been met, emissions would not decrease to where they need to simply because the commitments under Kyoto were not ambitious enough.\textsuperscript{466}

The Paris Agreement aimed to chart a new approach of climate governance that would hold all countries to significant emission reductions. 196 countries signed the Paris Agreement on December 12, 2015 in Paris, France.\textsuperscript{467} This agreement made history; some called it the most significant collective agreement reached at any international climate conference.\textsuperscript{468} The Paris Agreement was the first international agreement with reduction commitments from all major-emitting countries of greenhouse gases.\textsuperscript{469} The agreement represents an effort to hold all countries to emission reduction commitments, and for those commitments to have more of a lasting effect.

The preamble to the Paris Agreement establishes how those writing viewed climate change at the time. The agreement refers to climate change as urgent and a “common concern of humankind,”\textsuperscript{470} and notes the need to consider developed nations’ special circumstances through financial support in energy and technology transfers.\textsuperscript{471} The agreement uses the language of “a just transition”\textsuperscript{472} demonstrates that language from academia and labor movements in the


\textsuperscript{470} United Nations, The Paris Agreement.

\textsuperscript{471} United Nations, The Paris Agreement, 1.

\textsuperscript{472} United Nations, The Paris Agreement, 2.
1990s.\textsuperscript{473} became a feature of broad understandings of climate change.\textsuperscript{474} The agreement is guided by two key, related principles: equity, and common but differentiated responsibilities due to individual capability.\textsuperscript{475} The Paris Agreement built upon the principles of the Framework Convention on Climate Change to create a process for establishing and maintaining greater emission reduction commitments than before.

With these guiding frameworks in mind, the Paris Agreement sought to address the shortcomings of Kyoto. Rather than aiming to reach a collective emission reduction, the central goal of the Paris Agreement is to hold rising temperatures to at least below 2°C,\textsuperscript{476} hopefully to 1.5°C.\textsuperscript{477} With that goal, the agreement aimed to have 2030 emissions reach the level that they were at in 2015; this would stop growing emissions for the first time in 40 years.\textsuperscript{478}

The central feature of the agreement that demonstrates its effort to reach such a goal in a different approach than Kyoto is by implementing Nationally Determined Contributions.\textsuperscript{479} Countries opted into a binding agreement to make country-specific pledges to control greenhouse gases, to collectively meet a global reduction goal. Countries design their own contributions to the collective goal to reduce emissions. The agreement calls for these commitments to reach the best of each party’s ability, depending on their circumstances.\textsuperscript{480} The amount of reduction commitment differs party-by-party.\textsuperscript{481} National emission reduction goals are supposed to

\begin{thebibliography}{9}
\bibitem{477} United Nations, The Paris Agreement.
\bibitem{479} United Nations, The Paris Agreement, Article 4.
\bibitem{481} Victor, “Making the Promise of Paris a Reality,” 14.
\end{thebibliography}
represent national need in terms of shooting for the greatest reduction in emissions as possible.\textsuperscript{482} Each party is required to submit their Nationally Determined Contributions every five years.\textsuperscript{483} The approach of giving countries more control over their commitments was the main way the Paris Agreement sought to navigate the international bargaining aspect of climate negotiations,\textsuperscript{484} and include primary emitters in the agreement. Andrei Marcu, an expert on climate markets, views the agreement as a model to build trust between the parties.\textsuperscript{485} Nationally Determined Contributions are expected of all parties, unlike the Kyoto Protocol which only held developed nations to emission reduction commitments. This is possible because the Paris Agreement did not divide and define countries into different categories. In the Kyoto Protocol countries are divided into Annexes defined by being “developed” or “developing.”\textsuperscript{486} Those categories determined the emission reduction commitments—in order for a country to increase its commitment, it had to move up a category. Those broad categories did not necessarily fit the needs and circumstances of each country well, nor did they encourage parties to take on the greater reduction commitment that they could. Since the Paris Agreement does not include such categories, countries can make more ambitious, individualized goals for emissions reductions.\textsuperscript{487} The self-determined and enforced nature of NDCs enabled the United States President to join the agreement without Congressional ratification, unlike the Kyoto Protocol.\textsuperscript{488} Thus, the NDC approach made it possible for the Paris Agreement to include one of the world’s largest emitters. The Paris Agreement acknowledges countries’ different circumstances and does not expect them to reach the same goals. The agreement recommends that industrialized countries make economy-wide targets to reduce emissions.\textsuperscript{489} The treaty calls on “developed” countries to

\textsuperscript{482} United Nations, The Paris Agreement, Article 4(3).
\textsuperscript{483} Bodansky and Rajamani, “The Evolution and Governance Architecture,” 25.
\textsuperscript{484} Victor, “Making the Promise of Paris a Reality,” 17.
\textsuperscript{486} Rajamani, “Differentiation and Equity,” 20.
\textsuperscript{487} Christina Voigt and Felipe Ferreira, “‘Dynamic Differentiation’: The Principles of CBDR-RC, Progression and Highest Possible Ambition in the Paris Agreement,” Transnational Environmental Law 5, no. 2 (October 2016), https://doi.org/10.1017/S2047102516000212.
\textsuperscript{489} Rajamani, “Differentiation and Equity,” 20.
undertake economy-wide emission reduction targets. Further, the treaty calls for support for “developing” countries in implementing emission reductions, with particular attention to the least economically developed countries and small island states. This demonstrates that the agreement continued the goal of individualized responsibility and capability through its process of Nationally Determined Contributions.

Reporting and transparency are key aspects of the Paris Agreement. The agreement includes a Review Mechanism, which calls for emissions targets to be reviewed every five years. Countries report the actions they take to reach these emissions goals, and what actions they take to become resilient to the already present effects of climate change. Parties commit to regularly providing a national inventory report, and information tracking their progress to meet their contribution commitment. Economist Scott Barrett believes this to be Paris’s primary novelty. The agreement aimed to follow up on the pledges of parties, and to assess and review these pledges so that commitments can continue and grow over time.

The aspect of reporting also means that institutions can then review parties’ progress. The Technical Expert Review is one mechanism included in the agreement to measure how parties are meeting and can better improve their progress to meet their contribution agreements. The Paris Agreement also includes a requirement for a global stocktake, which is a way for the COP to take inventory of the world’s progress towards meeting the goals of the agreement. The Global Stocktake is a mechanism to assess overall progress to meet the goals of the agreement, both short-term and in terms of long-term progress. The Global Stocktake also helps to inform future Nationally Determined Contributions as they are determined every five years.

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491 United Nations, The Paris Agreement, Article 4 (5 and 6).
493 Nelson and Rice-Oxley, “50 Years, 25 Cops.”
494 United Nations, The Paris Agreement.
495 United Nations, The Paris Agreement, Article 13 (7).
years. These different mechanisms demonstrate that the agreement includes processes to further improve itself.

The agreement also contains several market approaches to decreasing emissions. Parties are able to engage in cooperative approaches to reach their reduction commitments, which may include internationally transferred mitigation outcomes. Although not fully defined in form yet, these are meant to replace the approaches for carbon credit in the Kyoto Protocol. These could include investment in emission reduction productions and increasing forest carbon stocks in developing countries through REDD+ schemes. The agreement also contained a new mechanism to promote greenhouse gas emission mitigation and sustainable development: The Sustainable Development Mechanism. This mechanism aims to benefit mitigation activities and allow other parties to fulfill their Nationally Determined Contributions—it builds upon the Clean Development Mechanism from the Kyoto Protocol.

The treaty continues the legacy of the Framework Convention of advocating for financial resources to be put towards mitigation and adaptation to climate change, particularly for industrializing nations. The agreement calls for the implementation of climate mitigation strategies. Article 6 creates a pathway for the amount of mitigation outcomes to be transferred between different parties, and special attention is paid to ensuring that industrializing countries are able to adapt to climate change. Parties commit to conserve and enhance greenhouse gas

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503 United Nations, The Paris Agreement, Article 6(2).
sinks and reservoirs. The treaty encourages finance flows that support low emissions, while also stating the importance of non-market approaches to reach nationally determined emission reduction contributions. The treaty also calls for addressing and preventing as much as possible loss and damage due to the effects of climate change. This is another area where the treaty calls for greater cooperation between parties.

The Paris Agreement continues to promote collaboration and shared information across parties, as former treaties have done. In the context of adaptation, the treaty calls for strengthening scientific knowledge and research, institutional arrangements like the convention, and sharing lessons learned in studying and dealing with climate change with other countries. Cooperation can also be seen in the establishment of a technology framework to promote enhanced development in technology to help implement the goals of the agreement. This same approach is seen in the call for greater education, awareness, and training on climate change.

Overall, the Paris Agreement demonstrates a continuation of the goal of global cooperation and support particularly for industrializing nations in undoing greenhouse gases in their economies, and places pressure on developed nations to rapidly decarbonize and financially support others in doing so. The Framework Convention created the concept of Nationally Determined Contributions because it did not expect all parties to be able to meet goals in the same way or meet the same goals. The language in this agreement is more urgent than those before it, and includes a greater understanding of the importance of equity in considering the effects of climate change and the transition to a clean economy globally. The novelty of the agreement attracted substantial attention from the media and from the public, in gatherings in Paris and all throughout the world.

The agreement was not fully reached and distributed to parties present at the conference until one day after the conference had been scheduled to end. This means that the negotiations

514 United Nations, The Paris Agreement, Article 6 (8), 8.
515 United Nations, The Paris Agreement, Article 8 (1), 12.
519 United Nations, The Paris Agreement, Article 12, 16.
over the agreement continued throughout the meeting in Paris, as protestors were assembled throughout Paris. The gathering in Paris itself was massive; there were over 38,000 delegates representing countries, UN agencies, charities, universities, media organizations, and companies. The gathering included broader levels of climate action, including the largest gathering ever of mayors focused on climate change, the Climate Summit for Local Leaders, which brought together over 400 city mayors to discuss local mechanisms to approach climate solutions. Further, the gathering in Paris was the first COP to have a section of its proceedings open to the public. The Civil Society zone within the summit space was visited by many representatives from parties in delegations who had permission to attend other parts of the conference, but the creation of the zone demonstrates a vested interest in including the public in the proceedings.

4.3 Art and Visual Communication at COP 21

There was much attention directed towards COP21 because parties aimed to develop a new mode of governing climate change, and the public more greatly understood the harmful effects of climate change already felt around the world. Prior to COP21, approximately 10,000 people attended gatherings of the COP. The largest gathering to date was COP15, held in Copenhagen. Paris then surpassed all those that came before, with approximately 40,000 attendees.

As the art installation EXIT demonstrates, some of the many people attending events or protests surrounding COP21 expressed their growing concerns and attention towards the importance of the summit through art. Planners of the gathering aimed to incorporate the public into its proceedings through public art installations surrounding the Paris summit. Public art was specifically placed in locations accessible to the public. The effort to make art visible to the public aimed to encourage visitors to engage in conversations on the same topics discussed within COP21. These works focused on public health and non-human narratives.

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Public Health

Figure 4.2 A still from Maskbook, a digital collection of the Art of Change 21 project.⁵²⁶

Figure 4.2 depicts stills from Art of Change 21. The project appeared in three art exhibits in Paris: Climate Generation Efficiency, The Gallery by World Efficiency, and Solutions COP21.⁵²⁷ Art of Change 21 was a workshop and photography space, with portraits of individuals in decorated masks and materials for people to decorate their own masks. Wen Fang, the primary artist of the exhibit, met with visitors to the exhibit, and collaborated with photographers for the photography component.⁵²⁸ The exhibit describes itself as “the first international, creative action on an individual scale on the link between health and climate.”⁵²⁹ The virtual Maskbook collection contains online portraits of individuals in their created masks, with accompanying text in three languages.⁵³⁰ This website was created just before COP21.

The masks themselves are visually evocative. They feature fishing nets and culturally significant plants, natural materials, and symbols. The use of masks worn by individual people demonstrates an increasing attention to the effects of climate change on human health. The artwork conveys individual people’s tangible, physical closeness to the negative effects of climate change. Art of Change 21 also created Claire Game, an online way for individuals to take individual actions against global warming.⁵³¹ The individual approach of both the Claire Game

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⁵²⁹ Art of Change 21, COP21 in Paris.
⁵³⁰ Art of Change 21, Maskbook.
⁵³¹ Art of Change 21, Maskbook.
and mask portraits demonstrates an effort to connect both the causes and the consequences of climate change to individual people, rather than to direct attention towards larger organizations or forms of governance. Online creativity is a new feature of COPs in the twenty-first century, with technology now available to more people around the world. Virtual reality was featured in the Blue Zone and in an installation from the International Council for Science. These installations were part of Solutions COP21, intended to demonstrate an overall effort to use technology to visually connect people to the effects of climate change.

**Non-human Stories**

Relationships between science as a whole and artists are a prominent theme in the artwork found within COP21 and its associated events and facilities throughout Paris. A collaboration called Artists4ParisClimate2015 is a broad collaboration between twelve artists from around the world and the organizers of the summit. Major artists collaborated with NGOs to create site-specific installations throughout Paris for a project called Artists4ParisClimate2015, which was supported by the United Nations Conventions on Climate Change and Desertification. One of the installations that was a part of Artists4ParisClimate2015 used materials from the physical environment to demonstrate the warming of the planet.

![Figure 4.3 A photograph of Ice Watch outside of the Place du Parthénon.](image)

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533 International Council for Science, “ICSU at the COP21 climate talks in Paris,” ICSU Newsletter, 2015, https://us5.campaign-archive.com/?u=2e9b648776114e2888e7ea8c5&id=955e7efb7b&c=b00e41e932.
534 Scheinman, “Lucite Crocodiles and Alternative Protest.”
537 Scheinman, “Lucite Crocodiles and Alternative Protest.”
Figure 4.3 depicts *Ice Watch*, created by the Icelandic-Danish multimedia artist Olafur Eliasson. The installation is composed of twelve blocks of ice outside of the Place du Pathénon. The media used for this installation is what makes it so incredibly powerful: not only do the chunks of ice show that the warming of the earth leads to the melting of ice, but this particular installation used ice from the Greenland ice sheet itself.\(^{538}\) Eliasson worked with a geologist to harvest these blocks of ice from the Arctic Sea.\(^{539}\) The artist used materials from a place where the effects of climate change are most visible to people living in an environment where the effects are less visible.

The public watched as the ice slowly melted throughout the summit. An ice sheet is hard to visualize, and so is one melting. By placing the ice sheets in Paris during the summit, Eliasson aimed to make climate change visually clear and unavoidable to the public. Watching the melting of the Greenland ice sheet provides a startling visual to the rapidity of environmental change. The placement of twelve blocks of ice in a circle creates a clock shape. As the clock melted away throughout the summit, the installation informed viewers that the time left to take action is quickly running out.

![Ice Watch installation](image)

**Figure 4.4** Janet Laurence’s installation on the Great Barrier Reef.\(^{540}\)

Figure 4.4 depicts another installation with the Artists4ClimateParis2015. Janet Laurence—an Australian artist with a focus on the intersections between architecture, environment, science, imagination, and art—created this installation with scientific and deep sea

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\(^{538}\) Scheinman, “Lucite Crocodiles and Alternative Protest: The Art of COP21.”

\(^{539}\) Bürklein, “Ice Watch Paris.”

items from the Australian museum. Laurence layered different specimens in clear glass boxes, and set up a surface of mirrors so that there are reflections of the work. This creates the visual that the number of species going extinct is increasing, and at a faster rate than ever before. Laurence included an element of reflection to prompt viewers to think about their own lives. The exhibit also featured jars linked together by medical tubes, to demonstrate the connection between medical and scientific developments and the fragility of natural and human life.

Laurence’s work, which makes the point that climate change threatens the Great Barrier Reef, symbolizes the collaborations between artists and scientists around COP21. In creating the installation, Laurence conducted research with the Great Barrier Reef Authority, the Australian Institute of Marine Science, the Australian Museum, the Muséum national d’Histoire naturelle, the Lizard Island Research Station and the World Wildlife Fund. Through working with these organizations, Laurence, like Eliasson, collaborated with scientists and used physical specimens from the actual space she was advocating for—the Great Barrier Reef. Artists’ inclusion of tangible pieces of the environment they advocate for makes their message even more powerful and urgent.

Psychologists who researched the effects of ArtCop pieces found that audiences had emotional reactions to viewing the pieces. Viewers experienced negative reactions to polarizing artworks, and positive reactions to storytelling. This survey works within a public art theory of climate art. Although cultivators made ArtCop pieces available to the “public,” viewership was limited to those within Paris, or those who could travel there. The public art hypothesis rests on the assumption that the artwork served to bring the conversations occurring within the summit out into the public. Yet some artists and activists suggest that the reverse can be true—that art can bring conversations the public is having into the summit itself.

542 Gibson, “Here’s Looking at.”
Figure 4.5 A collection of lucite animals in the Blue Zone of the conference center.546

Figure 4.5 depicts an installation of different animals within the Blue Zone. French street artist Gad Weil made this installation to depict a modern-day “Noah’s Ark.”547 The title of the piece equates the threat of climate change to the flood in the Bible story of Noah’s Ark. Weil created the installation after meeting with Ségolène Royal, the French sustainable development minister. He created large, brightly colored animals out of recycled lucite material. The semi-transparent material creates a layered visual to the animals; the different rows and stacks of animals build onto one another, as did the figures in Laurence’s installation. The installation fills the Blue Zone with non-human figures, sending the message that animals deserve to be cared for and considered during climate negotiations.

Some artwork that entered the summit and surrounding spaces in Paris was not invited, nor did it adhere to the same theory of public art to educate the public. Activist art blurred the lines between the formal conference proceedings and protest actions. Activists purposefully invaded public, government, and summit spaces with artwork to communicate public sentiment and challenge conversations within the walls of COP21.

4.4 Protest Artwork

Activists created artwork outside of spaces designated for government activity during COP21 even before the gathering began. In November, Lobby Planet Paris, the Paris branch of an organization that identifies corporate lobbying,548 published a pamphlet exposing the

546 Scheinman, “Lucite Crocodiles and Alternative Protest.”
corporate relationships to the gathering. They called COP21 a “‘greenwashing’ heaven.” The materials contain maps of the positions of fossil fuel companies and lobbyists who planned to be present throughout the Summit. The decision to map the locations of lobbyists and include written explanations shows an effort to explain and convey greenwashing to the public. The activist focus on greenwashing is indicative of an overall focus at the time of the Paris gathering on fossil fuel companies as a cause of climate change, and their involvement in United Nations summits as a reason that such gatherings fail to invoke lasting change.

Weeks before COP21 began, Sara Marielle Caup Beaska, a Sámi artist, traveled to Paris and created a Yoik, a form of Indigenous music that varies in different localized ways across the world. Beaska’s performance, which she shared through a video, features a stone from Sápmi. The rock embodies a connection with Mother Earth; its significance is explained in a poem by Áillohaš, Nils Aslak Valkeapää: “Take a stone in your hand and close your fist around it until it starts to beat, live, speak and move.” Beaska brought the stone to Paris and used it to spread her music and message there.

Beaska called for others to send videos yoiking what she created. She believed that the activists coming to attend COP21 were doing so to help “stop the destruction of the Earth and instead begin to listen to and speak for it. While thinking about this, this yoik came to me.” The art piece emphasizes the importance of collective activism during COP21. Beaska’s music also represents a broader activist focus at COP21 on Indigenous land claims and sovereignty and pan-Indigenous solidarity. Beaska is one of many activist artists who mobilized in the time leading up to the summit, and used a creative and technological approach to do so.

The passionate energy for involvement with the summit continued through the live event. In the weekend leading up to the summit, 2,400 protests occurred around the world in anticipation. These gatherings occurred in over 150 different countries. Although Paris was

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552 Bladow, “Never Shut Up My Native,” 323.
554 O’Rourke-Potocki, “COP21 by Numbers.”
supposed to be the center of the protests throughout the summit itself, the terrorist attack that occurred just weeks before the conference pushed French police to ban protests. This led some to cancel their plans to travel to Paris and instead protest in their home countries.\textsuperscript{555}

In light of the protest ban, it is important to note the vast number of protests that occurred around the world. In Kathmandu, Nepal, a protester held a sign that read “Climate terrorism ends here.”\textsuperscript{556} The creator of the placard uses language that connects contributing to the greenhouse effect and global warming to forms of terrorism. Climate change and terrorism both are major concerns of the twenty-first century.\textsuperscript{557} Those who consider the link between terrorism and the environment push governments to acknowledge the harm that fossil fuel industries and high emitting parties inflict on the rest of the world. The same protest also included a sign that read “Save our Himalayas.”\textsuperscript{558} Protesters focused on specific geographies due to a greater scientific understanding that people and regions face unequal levels of risk from the negative effects of climate change.

\textit{The Importance of Public Gathering}

Protesters in Paris further explored the links between climate, terrorism, and war. In light of the protest ban, organizers used visual displays to continue protests, centered at the Place de la Republique. Protestors placed over 20,000 pairs of donated shoes\textsuperscript{559} to represent the people unable to march. U.N. Secretary General Ban Ki-moon and Pope Francis were among those donating pairs of shoes.\textsuperscript{560}

\textsuperscript{555} Adam and Siddiqui, “Climate Change Protests Take Place.”
\textsuperscript{556} Adam and Siddiqui, “Climate Change Protests Take Place.”
\textsuperscript{558} Adam and Siddiqui, “Climate Change Protests Take Place.”
\textsuperscript{560} Adam and Siddiqui, “Climate Change Protests Take Place.”
Figures 4.6 and 4.7 depict the seemingly endless ground filled with empty shoes to signify the importance of marching and physically gathering at a COP. The shoe protest was organized by Avaaz, an international NGO. Before dawn activists placed the shoes throughout the avenue. People stood outside of the display at large to emphasize the physical space that the shoes alone took up. Many of the shoes were decorated in creative ways, allowing individuals to express their views about what ought to be addressed within the COP. One pair of boots read “a blue earth for my children!” The wide diversity of shoe size and type creates the message that all people deserve a say and ability to gather to address climate change. The shoes asserted the importance of considering people in climate governance and allowing collective organizing.

Figures 4.8 and 4.9 show a protest scene. A sign hung on a building reads “ANTI-COPS 21.”

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561 Adam and Siddiqui, “Climate Change Protests Take Place.”
562 Scheinman, “If You Block Me, You Block the Angels.”
563 Scheinman, “If You Block Me, You Block the Angels.”
564 Scheinman, “If You Block Me, You Block the Angels.”
565 Adam and Siddiqui, “Climate Change Protests Take Place.”
566 Adam and Siddiqui, “Climate Change Protests Take Place.”
Figures 4.8 and 4.9 depict disagreement with the protest ban that translated into anti-police sentiment. The signs in the figures link the police and terrorism, viewing both as forces that limit climate action. These were made amidst a growing understanding among climate and racial justice groups of the ways that policing, prisons, and climate change inflict disproportionate harm on Black, brown and Indigenous communities, often in interlinking ways.\textsuperscript{567} The protestor who created the “Anti Cops 21” sign used a play on words, using a term that refers to “COPS.” That term may refer to police, the United Nations Conference of the Parties to the Framework Convention on Climate Change, or both. Either meaning conveys opposition to governing institutions.

![Image](https://example.com/image.png)

**Figure 4.10** A candle and sign display left from the protest at the Place de la Republique.\textsuperscript{568}

Figure 4.10 depicts a candle display at the site of the shoe demonstration to honor the lives lost in the terrorist attack. The creator of the sign links the need to save the planet to the need to stop suffering and war. Many of the art pieces connect global unrest and climate change. The rise in attention to these two themes aligns with a rise in research and understanding of the potential for greater conflict due to climate change.\textsuperscript{569}


\textsuperscript{568} Zoenn Murphy, *The Washington Post*, video accompanying Adam and Siddiqui, “Climate Change Protests Take Place.”

\textsuperscript{569} Quansheng Ge et al., “Modelling Armed Conflict Risk under Climate Change with Machine Learning and Time-Series Data.” *Nature Communications* 13, no. 2839 (May 2022), https://doi.org/10.1038/s41467-022-30356-x.
Figure 4.11 A projection of faces on the French National Assembly Building.\textsuperscript{570}

Figure 4.11 depicts an installation called \textit{The Standing March}. Creators of the installation projected the faces of some 500 people onto the French National Assembly Building on November 30, 2015.\textsuperscript{571} \textit{The Standing March} was a collaboration between Brooklyn filmmaker Darren Aronofsky and French artist JR.\textsuperscript{572} The artists continued to project the faces onto different locations every day of the conference. The visual of marching people asserts the importance of public sentiment and gathering during climate governance. The installation uses the faces of people from all different locations, filmed at different points in time, to illustrate the people around the world facing the negative effects of climate change. Aronofsky says, “It’s about people, from Tuvalu to New Orleans, whose lives are threatened by climate change. The world depends on a solution.”\textsuperscript{573}

\textsuperscript{571} Feferberg, AFP/Getty Images.
\textsuperscript{572} The Standing March, “At the Assemblée Nationale November 29th and 30th at 8pm-4am and traveling Paris throughout the week,” accessed April 12, 2023, http://www.thestandingmarch.com/.
\textsuperscript{573} The Standing March, “At the Assemblée Nationale November 29th and 30th.”
Eco-feminism

Figure 4.12 The Climate Guardians stand in angel wings and hold signs.  

A group of those present on the first day of COP21 dressed up as angels, as depicted in figure 4.12. The angels named themselves “Climate Guardians.” Both the name and the action are inspired by another piece of artwork– Allana Beltran’s Weld Angel. Beltran’s sculptural site performance prevented logging of old growth forests in the Weld Valley in Tasmania, Australia. The link between art and activism in Beltran’s performance inspired the style and approach of the guardians’ work, who “use angel iconography to highlight the vital role of guardianship for all life and the precious natural resources that sustain it.” In Paris, the Climate Guardians rarely spoke, and held a sign written in French that read “No fear, not even now.” The message of solemn bravery and hope moved with this display. The angels/guardians disrupted messages throughout the square, further embodying the notion of these people sharing a message from above. They claimed: “If you block me, you block the angels,” suggesting that they carry a sacred message. The angels carried “Coal Kills” placards to convey the danger of fossil fuels. The angels attested to the importance of the younger generations by passing out placards bearing messages and drawings from schoolchildren in Australia. One of the placards contained the following letter:

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574 Scheinman, “‘If You Block Me, You Block the Angels.’”
578 Scheinman, “‘If You Block Me, You Block the Angels.’”
579 Scheinman, “‘If You Block Me, You Block the Angels.’”
I’m dreading the day that I have to apologize to my children and grandchildren. I’ll have to apologize for taking this earth for granted, always taking and never giving. [one line meticulously blacked out] Telling them stories about animals we used to have, about how we used to have butterflies and how trees grew in the ground, we used to have clean water and foods that didn’t just come in a can.

How the air we used to breath would actually help our boddies not kill them.

We are all responsible for this earth,

Signed,

Grace\textsuperscript{580}

Rather than speaking for youth, the climate guardians used their physical presence at the summit to share young people’s own words. That action demonstrates the guardians’ desire to communicate that younger generations disproportionately face the threat of climate change, and that youthful voices matter.

\textbf{Figure 4.13} Protestors form a chain on Blvd. Voltaire all the way to Nation.\textsuperscript{581}

\textbf{Figure 4.14} Protestors advocate for African Eco-feminism and anti-capitalism.\textsuperscript{582}

Figures 4.13 and 4.14 depict a human chain that protestors made on the first day of the summit. Swiss artist Mona Caron\textsuperscript{583} includes the photographs in a collection documenting her

\textsuperscript{580} Scheinman, “‘If You Block Me, You Block the Angels.’”


\textsuperscript{582} Caron, “#ClimateMarch #ChaineHumaine #COP21 Paris #N29.”

\textsuperscript{583} “Mona Caron,” https://monacaron.com/.
extensive involvement in creating art pieces for protests throughout COP21. On the first day of the summit, November 29, Caron recorded a human chain extending across several blocks in downtown Paris. In figure 4.13, a protester holds a large placard containing an anti–fossil fuel sentiment: “Leave it in the Ground.” The banners in both images convey ecofeminist messages. Several protestors hold signs that read “Women for Climate Justice.” Around COP21, feminist scholars called for an ecofeminist approach to addressing the climate crisis. The figure on the right specifically centers African Eco-feminism. African Eco-feminism specifically considers the link between the degradation of the environment, the subjugation of women, and anticolonialism and other justice movements in Africa. The acknowledgement of capitalism within both banners in figure 4.14 links it with environmental disasters that disproportionately harm the African continent, and highlights the intersections of race, gender, and country that place Black women living in Africa at disproportionate risk to face the negative effects of such disasters. These banners also honor the role that women play in climate action and organizing.

Non-human Stories

![Figure 4.15 Activists pull the giant Greenpeace polar bear.](image)

![Figure 4.16 Activists use signs to advocate for climate justice in front of the polar bear.](image)

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587 Scheinman, “Lucite Crocodiles and Alternative Protest.”
Some protest artwork resembled pieces brought into the conference space that centered non-human stories and perspectives to understand the effects of climate change. Figures 4.15 and 4.16 depict activists with Greenpeace—an organization that has been present at all of these conferences—continuing their tradition of bringing a giant polar bear to the site of the conference itself. The polar bear acts as a symbol for the greater threat to life posed by the climate crisis. In figure 4.16, organizers in front of the bear hold signs that read “Climate Action now for Everyone’s Sake.” The message “for everyone’s sake” suggests that all are at risk of climate change’s negative effects; the polar bear is a symbol of the threat climate change poses to everyone’s livelihood.

**Anti-fossil Fuels**

As at previous gatherings, organizers in Paris point to the fossil fuel industry and high-consuming countries as causes of the climate crisis.

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**Figure 4.17** Brandalism’s installation targeting Volkswagen on a bus stop advertisement.  

**Figure 4.18** Brandalism’s installation targeting ExxonMobil on a bus stop advertisement.

Figures 4.17 and 4.18 depict advertisements that the art collective Brandalism made to show the role that individual companies play in amplifying the greenhouse effect. The figure on

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591 Dunne “Artist Activists Decry Global Warming”; Brandalism, “COP21 Climate Talks.”
the left contains an image of a Volkswagen car and text that reads “We’re sorry that we got caught.”592 The advertisement references recent news—in September 2015, the United States Environmental Protection Agency found that Volkswagen installed software into cars to circumvent emission standards.593 The structure of the advertisement mimics that of a typical Volkswagen ad.594 Brandalism’s use of the companies’ name and specific ad structure criticizes the specific company for causing carbon emissions and amplifying climate change. The creators of the installation boldly name AirFrance, Mobil, and Volkswagen, and blame them for knowingly amplifying global warming. The artist strategically installed these works at bus stops, a space where the companies would typically place advertisements. Working within that geography further points to these companies, and suggests their messaging and advertising practices worsen climate change. Infiltrating the city with these advertisements extends the visuals to the general public, and makes the message clear to negotiators heading to the conference center.

![Image](image_url)

**Figure 4.19** Members of Green Korea United hold photographs of air pollution.595

Figure 4.19 includes activists with the organization Green Korea United. They hold five photographs of iconic sites in cities around the world, connected by pollution running across the sky. A sign that reads “There’s no border in the sky” hangs behind the six activists.596 The poster argues that all people and parts of the world are threatened by climate change, so borders are not

592 Dunne, “Artist Activists Decry Global Warming.”
595 Scheinman, “Lucite Crocodiles and Alternative Protest.”
596 Scheinman, “Lucite Crocodiles and Alternative Protest.”
meaningful in the face of that catastrophe. These organizers call for governments to come together and consider the interrelatedness of the world, in terms of both the causes of climate change and the avenues to address it.

As was the case at previous gatherings, music was a feature of activism in Paris. The international environmental non-profit 350.org organized a concert called “Pathways to Paris,” where famous musicians played. Another concert, sponsored by the conference, became a site of protest. Seventeen-year-old Indigenous activist Xiuxtectcatl Tonatiuh was invited to be a performer at the COP21 Solutions Concert. He brought frontline representatives from Grassroots Global Justice and the Indigenous Environmental Network on stage, and made a statement against implementing REDD—reducing emissions from deforestation and forest degradation— and fracking as false solutions to address climate change. The direct action surrounded and included different art forms: the activists joining Tonatiuh wore shirts and held signs with the message “No REDD.” The action demonstrates a desire to center frontline communities, and not promote solutions that will cause additional harm to those already most affected by climate change. Tonatiuh said into the mic: “I am standing in solidarity with the front line communities affected by fossil fuel extraction, as an Indigenous youth representing the generation most affected by climate change. I strongly stand against false solutions such as fracking, carbon trading and REDD’s.”

![Activists at the No REDD protest hold banners advocating against REDD.](image)

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597 Scheinman, “Lucite Crocodiles and Alternative Protest.”
599 Indigenous Rising, “Indigenous Land Defenders.”
601 Indigenous Rising, “Indigenous Land Defenders.”
Figure 4.20 depicts a protest attended by members of a No REDD organization.\textsuperscript{603} The banners depict frontline Indigenous communities that activists argue will experience negative effects from false solutions, like REDD. The posters voice activist concerns that carbon offsets are not a viable solution for climate change.\textsuperscript{604} These activists disagree with members of the scientific and policy-making communities.

\textit{Indigenous Sovereignty and Rights}

Many of the activists concerned with carbon offset solutions like REDD connected harm from such solutions to harm towards Indigenous communities around the world. This is another broader focus of many of the actions and art pieces in Paris.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image1.png}
\caption{Activists create banners at the art-building hub in Montreuil, France.\textsuperscript{605}}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image2.png}
\caption{Banners at the art-building hub advocate for protecting sacred resources.}
\end{figure}

The banners documented in figures 4.21 and 4.22 use words and symbols to argue for protecting natural resources and obtaining justice for impacted people and populations. These banners use the color red, which conveys a sense of urgency and alarm. The size and volume of these types of artistic displays distinguish them from those at the previous gatherings.

\begin{flushright}
\textsuperscript{603} Mahe, photographs accompanying Hilaire, “Thousands Defy Paris Protest Ban.”
\end{flushright}
Figure 4.23 Indigenous activists canoe through the Seine River.  

Mona Caron also documents a protest on December 6 titled “Indigenous Rising.” Figure 4.23 depicts the events of Sunday, December 6, when Indigenous activists from North America, South America, Indonesia and the Democratic Republic of the Congo paddled down the Seine River to protest the lack of protection for Indigenous rights during the summit proceedings. During the negotiations, Guardian writer Martin Lukacs reported that a legally binding and enforceable recognition of Indigenous rights was originally included in the Paris Agreement. Many parties to the convention, including the United States, Norway, the European Union, and Australia, pushed to drop Indigenous rights from binding parts of the Paris Agreement, on the argument that the inclusion of such rights “could create legal liabilities. Activists responded by taking to the Seine River in a ceremonial “Canoe of Life” brought from the Ecuadorian Amazon. Activists used culturally important objects to assert the importance of acknowledging Indigenous rights and sovereignty.

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608 Lukacs, “Indigenous Activists Take to Seine River.”
609 Lukacs, “Indigenous Activists Take to Seine River.”
Figures 4.24 and 4.25 depict banners, many of which were made by Mona Caron, that visualize the importance of power to Indigenous women of the Americas. The banner on the left reads, “Indigenous Women of the Americas: Defending Mother Earth.” Indigenous women have engaged and continue to engage with climate change and environmental stewardship in diverse ways. These banners honor the different ways Indigenous women across the world use ecological knowledge and leadership in climate mitigation and adaptation.\(^6\) The portrait of an Indigenous woman on the left of the banner uses painting to honor the women protecting the environment, and to advocate for their recognition and protection within the summit’s decision. To the right, more banners use portraits advocating for honoring and protecting Indigenous rights, sovereignty, and treaties to tribes around the world.

Caron documents the final day of the summit, when activists took over the city to respond to the United States, the EU, and Australia removing a legally binding promise of Indigenous rights from the agreement, along with other “red line” issues that they believed were crossed by negotiators.\(^7\)

\(^6\) Caron, “Indigenous People of the Americas Mobilize.”

\(^7\) Caron, “Indigenous People of the Americas Mobilize.”


Figures 4.26–4.29 depict protesters holding air-filled balloons and banners that create a red line. Protestors also held a large banner defining this as a climate emergency. Caron explains that the lines were used to demonstrate “the minimal necessities for a just and liveable planet, that our communities and ecosystems need to survive. Lines that were indeed crossed in the final COP agreement, despite the good-sounding degree numbers the unbinding agreement contained.”

This was a very large, disruptive protest; the alarming red lines and swaths of people emphasize that climate change is an emergency. Protestors moved the red lines and banners to occupy the Eiffel Tower. They held a banner below the tower that spoke to the people’s ability to

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615 Caron, “Red Lines.”
616 Caron, “Red Lines.”
617 Caron, “Red Lines.”
618 Caron, “Red Lines.”
619 Caron, “Red Lines.”
stop fossil fuel extraction: “It’s up to Us to Leave it in the Ground.”620 Protesters and organizers felt a responsibility to enact climate action, particularly as they viewed the Paris Agreement as a failure to do so.

4.5 Conclusion: Themes in Paris

Compared to previous international meetings, scientific writing was more consistent with activist artwork in Paris. By that time the IPCC was much more confident that human activities, particularly the burning of fossil fuels, cause climate change.621 Further, the report strongly argued that society has the means to implement effective climate mitigation, but policy has so far failed to do so.622 This writing was more consistent with arguments that activists presented from Rio on, and frustration with the policy-making process is stronger than ever in Paris.623 Activists in Paris challenged the use of fossil fuels more directly than they did in the past by explicitly naming companies that have prevented climate action.624 The scientific literature specifically suggested using renewable energy instead of fossil fuels, as art activists vocalized in Kyoto.625 Art pieces in Paris did not engage with science very directly or specifically.

Activist artwork did deal with the intricacies of the Paris Agreement. Activists advocated against the implement of REDD policies626 which Article 6 of the agreement included.627 Activists also reacted to reports that a legally binding protection of Indigenous rights was removed from the agreement.628 This reveals activists’ close engagement with the different stages of crafting and finalizing the agreement, and their criticisms of its final form.

Negotiators and activists had their own priorities, or “red line issues” for the agreement. Transparency was considered to be a “red line” issue for industrialized nations, like the United States and Australia.629 In this case, transparency refers to reporting and agreements made by all nations, not just by those with industrialized economies. The issue of transparency relates to

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620 Caron, “Red Lines.”
621 IPCC, Climate Change 2014, v.
622 IPCC, Climate Change 2014, v.
623 Caron, “Red Lines.”
624 Dunne “Artist Activists Decry Global Warming”; Brandalism, “COP21 Climate Talks.”
625 Kiyu, Greenpeace Climate Action, Laser Projection.
627 Roth, Echeverria, and Gass, “Current Status of Article 6.”
628 Bonaventure, AFP/GETTY Images, photographs accompanying Lukacs, “Indigenous Activists Take to Seine River.”
long-standing disagreements over how to address climate change, dating from the Kyoto Agreement. The artwork utilizing the image of the red line was a powerful way to conclude protest artwork at the Summit; it demonstrates that topics such as Indigenous rights and sovereignty are “red line issues” for activists. That type of visualization and language asserted that activists held their own strongly held beliefs over how climate change ought to be addressed and handled by countries with different levels of development and wealth.

Activist artists engaged with these aspects of the agreement because they viewed them as harmful towards communities at disproportionately high risk of facing the negative effects of climate change. The gatherings and artworks in Paris more explicitly supported Indigenous communities than was the case at previous climate meetings, and actions and sites of art builds directly included Indigenous individuals and groups. Activist artwork also more explicitly engaged with other social justice issues, including gender and racial justice initiatives.

Artwork included in the proceedings of the conference did not challenge specific aspects of the agreement as activist artwork did. Art presented within the conference center focused on non-human actors and the physical environments affected by climate change. These pieces were also produced through collaborations with scientists, which suggests that artwork within the conference engaged more with the scientific knowledge of climate change’s effects on specific environments than activist artwork did. The COP21 Solutions Concert is an example of an art event planned by the organizers of the climate negotiations where activists infiltrated the space to directly challenge the negotiations, but this action was not approved by the U.N.

Both activist- and conference- approved spaces valued and used art to convey their priorities for the agreement than they did in Rio and Kyoto. There were hub spaces within and around Paris for artists to create works to be used for protest throughout the summit. These spaces served as places for artists and activist groups to gather and constantly create signs and banners. Although they did not directly challenge the agreement as much as activist work did, the conference did include many artists to communicate their thoughts and values into the conference. Gatherings before and during COP21 were explosions of anger, hope, and creativity.

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630 Scheinman, “Lucite Crocodiles and Alternative Protest”; Gibson, “Here’s Looking at.”
631 Indigenous Rising, “Indigenous Land Defenders.”
632 Lampert, “Activist Art at COP 21.”
Chapter 5. Transforming the Spheres of Climate Governance. 
Comparison and Analysis.

As the commissioning of *Last Turn–Your Turn* for the Earth Summit shows, art has always been a part of international climate governance. The data from gatherings in Rio, Kyoto, and Paris depict an evolution and growth in understanding of the causes, effects, and solutions of climate change, and of art’s role in addressing it.

<table>
<thead>
<tr>
<th>Climate Science</th>
<th>Rio</th>
<th>Kyoto</th>
<th>Paris</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Substantial warming of the climate is likely</td>
<td>-The IPCC studied the wide variation of effects across different places</td>
<td>-Clear human effect on the climate system</td>
<td></td>
</tr>
<tr>
<td>-Increase in temperatures could be from natural variability</td>
<td>-There still is uncertainty, particularly around clouds’ effects on the climate system</td>
<td>-Humans possess the resources to limit emissions, we just have to implement them</td>
<td></td>
</tr>
<tr>
<td>-We need global solutions and coordination to decrease uncertainty</td>
<td>-CO₂ is definitely rising</td>
<td>-More of a focus on climate adaptation</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Climate Governance</th>
<th>Rio</th>
<th>Kyoto</th>
<th>Paris</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Establishes a system of global climate governance</td>
<td>-First GHG emissions reductions commitments implemented</td>
<td>-Everyone sets Nationally Determined Contributions</td>
<td></td>
</tr>
<tr>
<td>-Cannot interfere with economic development</td>
<td>-Carbon trading tools included to meet commitments</td>
<td>-All major emitters signed on</td>
<td></td>
</tr>
<tr>
<td>-Common but differentiated responsibility</td>
<td>-Parties into Annexes</td>
<td>-More infrastructure to monitor and update commitments</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Art In the Conference</th>
<th>Rio</th>
<th>Kyoto</th>
<th>Paris</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Focus on deforestation</td>
<td>-Including youth voices</td>
<td>-Non-human actors and symbols</td>
<td></td>
</tr>
<tr>
<td>-Requirement of positivity for approval</td>
<td>-Handmade artwork</td>
<td>-New technologies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Not much art included</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protest Art</th>
<th>Rio</th>
<th>Kyoto</th>
<th>Paris</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Global unity and hope</td>
<td>-Criticism of the United States</td>
<td>-Indigenous sovereignty</td>
<td></td>
</tr>
<tr>
<td>-Advocating for lower-income nations</td>
<td>-Advocating for non-human actors</td>
<td>-Eco-feminism</td>
<td></td>
</tr>
<tr>
<td>-Indigenous leadership</td>
<td>-Equating climate change to a human rights abuse</td>
<td>-Advocating for non-humans</td>
<td></td>
</tr>
<tr>
<td>-Criticism of the United States</td>
<td></td>
<td>-Strong anti-fossil fuel company sentiment</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5.1.** Table of the themes in art, science, and governance at each climate meeting.
5.1. Climate Science.

Over time, climate scientists increased certainty in their findings. Scientists became more sure that humans amplify the greenhouse effect. While in 1992 at the Earth Summit in Rio, the latest IPCC document found that temperature variations could have resulted from natural causes, with more time and study scientists became certain that the changes in climate were due to human activities and systems.\footnote{IPCC, Climate Change 2014, v.} This increase in certainty resulted from an increase in infrastructure and modeling to collect and predict climate data, and an increase in interdisciplinary researchers from scientists across fields.\footnote{Lisette van Beek et al., “Anticipating Futures through Models: The Rise of Integrated Assessment Modelling in the Climate Science-policy Interface since 1970,” Global Environmental Change 65 (November 2020): 1, https://doi.org/10.1016/j.gloenvcha.2020.102191.} Scientists presented the resources and solutions that would make it possible to mitigate climate change, and argued that policy-makers need to implement those options.\footnote{IPCC, Climate Change 2014, v.} Scientists have progressively placed more focus on implementing strategies and resources towards adaptation as people have felt more effects of climate change and as models have predicted further types of effects.

Policy-makers called for information from the scientific community, particularly to help inform emission reduction targets and monitoring techniques.\footnote{Beek et al., “Anticipating Futures through Models,” 9.} Scientists began to report that their presentations did not make up a substantial amount of the time at these gatherings–much of the time was spent negotiating between parties. As scientists continued to gather more information on climate change and share it with policy-makers, policy responses did not progress at the same pace.\footnote{Fred Powledge, “Scientists, Policymakers, and a Climate of Uncertainty: Can Research Gain a Foothold in the Politics of Climate Change?” Bioscience 62, no. 1 (January 2012), https://doi.org/10.1525/bio.2012.62.1.3.} The IPCC continues to publish reports, and send representatives to climate negotiations. In a 2022 survey with 233 members of the IPCC, scientists expressed doubt in the success of policy actions to address climate change, and have reported engaging in advocacy work separate from their work with the IPCC.\footnote{Jeff Tollefson, “Top Climate Scientists Are Sceptical That Nations Will Rein in Global Warming,” Nature, November 1, 2021, https://www.nature.com/articles/d41586-021-02990-w.} The majority believed that the biggest success of IPCC reports is communicating science to the public and to policymakers, and only 16% believed that the biggest success is supporting policymaking.\footnote{Tollefson, “Top Climate Scientists Are Sceptical.”}
Scientists have gradually communicated their findings through different approaches, including connecting with artists and creatives. In Paris, many artists collaborated with scientists in order to create installations. Scientists have also collaborated with activist communities and organizations, even forming organizations of their own, like Scientists Rebellion. This community of scientists has staged their own protests, arguing that “We’ve been trying to warn you guys for so many decades… The scientists of the world have been being ignored.”

5.2. Governance.

The general framework from the United Nations Framework Convention on Climate change evolved and grew with different negotiations and agreements following 1992. The Kyoto Protocol and the Paris Agreement aimed to implement the goals of the framework through implementing specific goals to limit greenhouse gas emissions, although they differed in their specific approaches.

The United Nations Framework Convention on Climate Change acknowledged the threat of climate change and aimed to stabilize greenhouse gases to a level that would not constitute dangerous anthropogenic effects on the climate system. Signatories committed to annually reporting their greenhouse gas emission levels and programs to address climate change. In order to establish these reporting systems, the agreement established subsidiary bodies for reporting and reviewing information. The convention also establishes the concept of Common but Differentiated Responsibility, meaning that countries all have the same goal of addressing global climate change but take on different levels of responsibility to address it depending on their economic status.

The Kyoto Protocol followed in 1997. It is the first international agreement that binds industrialized countries to reduce greenhouse gases—parties committed to reducing their emission levels by at least 5% of their 1990 levels by 2012. The agreement focused on six greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and

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645 United Nations, Kyoto Protocol, Article 3.
sulphur hexfluoride. The protocol built upon and improved the systems to monitor and verify compliance to the commitments from the UNFCCC. The Kyoto Protocol also introduced three market mechanisms for parties to help meet their commitments: Emissions Trading, the Clean Development Mechanism, and the Joint Implementation Mechanism. The Kyoto Protocol failed to decrease greenhouse gas levels—on the contrary, levels significantly increased into the 2010s. Some of the industrialized countries that initially ratified the agreement left it, and others never signed it at all. Non-industrialized countries were never committed to emissions reductions under the protocol. The Conference of the Parties began negotiations for a new approach to climate governance in the 2010s.

In 2015, the COP finalized the Paris Agreement. The Paris Agreement was the first agreement with signatures from all major-emitting countries. Unlike Kyoto, individual parties determined their own emission reduction commitments in the Paris Agreement. The Paris Agreement implemented Nationally Determined Contributions, which some argue dilutes the notion of CBDR, but gave countries choice over their respective reduction commitments. Rather than dividing parties to the convention into Annexes that determine their level of emission reduction as the Kyoto Protocol did, the Paris Agreement established a system for individual parties to establish their contributions and evaluate those over time. The commitments addressed all greenhouse gases. The goal of the Paris Agreement is to limit global temperature increases to no more than 2°C, preferably 1.5°C. The Paris Agreement continued to build upon the market mechanisms from the Kyoto Protocol, and improved transparency in the process of planning, implementing, and reviewing commitments. With increased monitoring, the agreement is not legally binding.

The negotiations for each of these agreements has included high levels of debate between parties, particularly with reluctance from industrialized countries. The Paris Agreement demonstrates an increase in flexibility and transparency, due to individual parties setting their

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646 United Nations, Kyoto Protocol, Annex A.
own reduction commitments, and the fact that the commitments are not legally binding. Under the Paris Agreement, parties update their reduction commitments every five years, unlike the Kyoto Protocol, which did not have a timeline for when parties were required to list new emission targets. The new approach of the Paris Agreement sought to increase the number of parties and the ambition of their reduction commitments. Nonetheless, the agreement took a significant amount of time to reach. The slow pace of governance to respond to the increasingly intense effects of climate change is a constant throughout this time, which led to increasing frustrations from the general public and scientific communities.

5.3 Climate Art

Within the Conference.

Art became a more formal aspect of gatherings of the Conference of the Parties. There were several formal art exhibitions in Rio, one in Kyoto, and many promoted by the U.N. in Paris. That growth shows that artists have become more involved in the communications at climate negotiations, and that negotiation organizers have placed more importance on including artistic communication in their programming over time.

The tone and substance of art displays has evolved. While there were several art exhibitions in Rio, the art needed approval from the organizers of the exhibitions and needed to fit a list of requirements. The few pieces of art included in the conference center were consistent with the positive tone of the work in Rio. Artists did not maintain an overly positive tone in Paris; their installations aimed to bring the realities of and conversations around climate change to public spaces, but these tended to center how non-human actors and environments are and will be affected by climate change. Centering non-human stories is one story-telling approach in climate activism,652 but was not as prominent in the activist artwork at these sites.

The creators of these pieces of artwork sought to use public art to connect the public to the negotiations and the concept of climate change overall. The intention behind these exhibitions was to include the public in understanding climate change and to change behavior as a result.653 The means and size of these installations increased, but that overall goal remained the same.

653 Sommer and Klöckner, “Visual Art Inspired by Climate Change,” 73.
Protest Art

Protest art significantly grew in size and creativity with the growth of science, international climate governance and public engagement with climate change policy-making. Some of the themes within the artwork remained the same, but the tone changed. In Rio, many activists focused on promoting unity and hope in the world’s ability to address climate change. Artwork in Kyoto and Paris did not center on hope in the process, but rather the need for action from negotiating parties. Some activists in Rio identified wealthy nations as causes of climate change, particularly at demonstrations aimed towards addressing the United States’ environmental policies and at the “Oppressed by Life” march. In Kyoto, activists used art to name political leaders from their countries and call for specific action from them. In Paris, the artwork addressed industry leaders that they identified as inhibitors to substantial climate action.

In engaging with climate science on the harms of fossil fuels, activists shifted from identifying political leaders of high-emitting nations to identifying specific fossil fuel industry leaders, expressing frustrations with the industry more directly over time. Initially, activists in Rio expressed concern with broad fossil fuel usage. In Kyoto, activists understood that the companies and countries with knowledge of the effects of climate change and the dangers it poses commit human rights abuses. In Paris, artists named individual companies and their particular ways of doing wrong. These artists identified “climate villains” and broadcast their names in creative ways throughout the city in the Brandalism project.

Activist art progressively pointed to more specific pieces of the climate agreements. In Rio, activists broadly understood that the United States had major negotiating power over the success and significance of the agreements. In Kyoto, protesters from Australia specifically directed artwork towards their representative to argue for stricter emission reduction commitments. Then in Paris, activists specifically argued against the inclusion of REDD programs in the agreement.

Increased specificity of artwork is a broad theme at these gatherings. In Rio, many pieces included the symbol of a globe that broadly represents the earth at risk of facing climate

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655 Dunne, “Artist Activists Decry Global Warming”; Brandalism, “COP21 Climate Talks.”
656 Bouroncle, Protest Against American Environmental Policies.
657 APTV, “Japan: Kyoto: Climate Change Convention Update,” 0:00-0:10.
disaster.\textsuperscript{659} In Kyoto, the globe symbol was used to depict something fossil fuel companies greedily attempt to steal.\textsuperscript{660} Activists in Paris did not use the symbol of the globe. Rather, artwork focused on specific locations and groups of people at higher risk of facing the effects of climate change.\textsuperscript{661}

Activists’ greater understanding of the disproportionate effects that people and regions of the world face on the basis of geography and demographics came from greater solidarity with social justice movements. Artworks in Rio did not communicate symbols or messages tied to social justice struggles. In Kyoto, activists carried pride flags.\textsuperscript{662} In Paris, activists advocated for ecofeminism and African Eco-feminism.\textsuperscript{663} Through art, activists communicated interlinking environmental and social justice struggles, and honored the work done by environmental stewards– in Paris, activists used art to honor the work of Indigenous women in environmental stewardship and protection.\textsuperscript{664}

Artists used the geography of the space in more creative ways and grew the size and grandeur of art pieces to greater challenge state actors throughout these three moments. The majority of the artwork and activist organizing happened within the confined geography of the Global Forum. In Rio, activists marched from the Global Forum to the site of the conference.\textsuperscript{665} In Kyoto, activists placed artworks outside of the conference center.\textsuperscript{666} In Paris, activists canoed down the Seine River and occupied the Eiffel Tower.\textsuperscript{667} Art served as a means to display activists' messages as they sought to more directly take over and claim state space as time went on and their dissatisfaction with the global process increased.

Climate art at each of the sites demonstrates public understanding of the technical aspects of climate change. The artwork identifies fossil fuel companies and a failure of policy response–particularly from wealthy nations like the United States and Australia– as causes of the problem. Pieces of art also identify rising temperatures, rising sea levels, and threats to the whole planet as effects of climate change. Artwork increasingly identifies coastal and small-island nations as locations that will face these effects disproportionately. Artwork suggests broad

\textsuperscript{659} Ribeiro, Globe Costume Holds Hands with a Child; Evenson and Kevin Corrigan, “In Our Hands,” 56:36-56:40.

\textsuperscript{660} Yamanaka, Protestors Perform a Sit-In.

\textsuperscript{661} Scheinman, “If You Block Me, You Block the Angels’” ; Caron, “Indigenous People of the Americas Mobilize.”

\textsuperscript{662} APTV, “Japan: Kyoto: UN Climate Change Convention: Demonstrations,” 0:33-0:38.

\textsuperscript{663} Caron, “#ClimateMarch #ChaineHumaine #COP21 Paris #N29.”

\textsuperscript{664} Caron, “Indigenous People of the Americas Mobilize.”

\textsuperscript{665} “Oppressed by Life’ March Brings 50,000 Demonstrators Together.”

\textsuperscript{666} APTV, “Japan: Kyoto: COP3 Climate Change Convention: Lobby Groups.”

\textsuperscript{667} Caron, “Red Lines.”
solutions through the form of global cooperation. Over time, activists begin to identify more specific policies, like REDD, and argue that these solutions are problematic. Frustration with the overall system of governance that was expressed in Rio at the “Oppressed by Life” march remained; anger expressed towards the governance process and the state grew, with police clashes at the sites of display in Paris.668

5.4. The Role of Art within, alongside, and against International Climate Governance

The number of pieces visually communicating climate change has increased, as has people’s interest in figuring out how to visually represent the concept and reality. Scholars attending the Paris summit were particularly concerned with how to convey and communicate climate change.669 As relationships between art and climate circles have grown, people have more greatly understood the power of that collaboration and actively sought to find ways for these collaborations to continue. The evolution of IPCC reports is relevant to consider on this note, because the 2014 report is far more visual than the reports from the 1990s.670 Today, the release of IPCC reports is an event for a wider circle of those involved in the climate movement. As more people have become connected to climate change and interested in its causes and effects, scientists have turned to visual communications to portray it. The growing number of art pieces at these sites and the information they convey are evidence of their importance as a mode of explaining climate change.

The tone and messages of art brought into the conference space differed from those brought by activists in Rio, Kyoto, and Paris. These differences reveal the ways governing structures have sought to maintain their institutions, and how activists have challenged them. Initially, art exhibits approved by organizers of the gatherings were required to focus on positivity and hope.671 Although there is no evidence of such requirements in Kyoto and Paris, their legacy continued. The only art permitted in Kyoto continued a light and hopeful tone of public engagement with caring for the earth. In Paris, artists were brought in to display stunning visual representations of climate change, but these still centered on non-human actors and environments and did not directly engage with the climate agreements being discussed. Rather than focusing on critiques of the political process, artwork approved by the governing structure

668 Adam and Siddiqui, “Climate Change Protests Take Place.”
669 Pezzullo, “The Art of Climate Communication.”
670 IPCC, Climate Change 2014.
was supposed to contain hope in the institution and adhere to the philosophy of individual responsibility. This is a valuable mode of climate communication in its own right: exhibition art that promotes ecological knowledge can provide the means for people to communicate their own experiences, visions, and hope. The framing of climate change through this approach differs from those of activists; rather than framing climate change as an issue that can be solved through individual actions and actors, activists understood that the collective public already held an understanding of climate change, and they sought to bring their understandings and arguments to the site of decision-making. Activist artwork named the institutions and structures that promote and maintain climate change. At protests, art pieces directly challenged the conference process, at Rio and, as time progressed, more explicitly related the decisions and debates surrounding climate change to lived human experiences. Protest art pieces have been and continue to be more specific in their criticisms of the fossil fuel industry and failed government interventions.

While the art introduced to sites of governance was intended to increase accessibility to the works themselves and to the issues discussed, activist protest art sought to bring the public’s understanding and experiences to the site of decision-making. These two spheres are not mutually exclusive. The artists creating works for exhibitions with approval from the organizers of negotiation events were often also involved with and connected to activist spaces, and public art is tied to activism, as well. Some of the artists working within and against the governing institution reference and reflect one another. In 1997, an activist artist placed ice sculptures of penguins in front of the COP3 convention center. In Paris in 2015, Olafur Eliasson placed pieces of the Greenland ice sheet throughout government buildings in Paris as part of a collaborative public art initiative with the United Nations. The direct engagement with and challenges to the international climate governance structures are the primary features of activist artwork that differ from works brought into the conference centers.

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672 Ellen Avril, Andrew C. Weislogel, Kate Addleman Frankel, Elizabeth Yearsley, Jumay Chu, “Art and Environmental Struggle Curating an Exhibition About Place-Rooted Ecological Knowledge,” GeoHealth 6, no. 12 (October 2022), https://doi.org/10.1029/2022GH000625.


675 Figure 3.1.

676 Figure 4.3.
5.5 Art Transforming the Structures of Addressing Climate Change

Over time, more people present at actual sites of climate negotiation have expressed dissatisfaction with the overall process. Decision-makers at the Earth Summit expressed a disconnect between their individual environmental and social values and the policy-making approach of UNCED, and research has found that the fossil fuel industry has prevented climate action on multiple levels of government. Many of the activist art pieces in Rio, Kyoto, and Paris have expressed disillusionment in the negotiation process; attendees of the “Oppressed by Life March” argued that the conference failed to address the realities of the poor, activists in Kyoto named companies and industry groups interfering with the regulation of fossil fuel corporations, and activists in Paris critiqued policy actions by the U.N.

While expressing these sentiments, art has also served as a means for activists and the public to meaningfully engage with climate governance. Activists have increasingly incorporated details from the agreements into their pieces, progressing from understanding one negotiating party with the power to sway the agreements’ results, to art addressing the removal of a legally binding acknowledgement of Indigenous rights from the Paris Agreement. Further, the frustrations that activists expressed in Paris coincided with the time period when the agreement was still being finalized, suggesting that the presence of their art pieces became all the more important over time, occupying the same physical and temporal space as the creation of the international agreement. Art has also brought activists closer to the physical site of governance; by placing their messages in large artistic displays in front of the conference centers where negotiations take place, activists have made their messages impossible to ignore by the negotiating parties.

In addition to engaging with the direct political process, activist artwork has facilitated connections across nations and fields, providing more opportunities for greater climate study, solutions, and support. The transnational governance approach of these gatherings includes state

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679 “‘Oppressed by Life’ March Brings 50,000 Demonstrators Together.”

680 IIISD, John Gummer, UK Delegation.


682 Scorza, Protest Against America Environmental Policies.

683 Lukacs, “Indigenous Activists Take to Seine River.”
and non-state actors and promotes collaboration across distinctions. Transnational processes lead to the emergence of new political spaces, within the transnational nation-state and beyond it. At conveings of the Conference of the Parties, individuals from around the world connect with one another. Art has facilitated and furthered these ties; many art displays from Rio onwards have been collaborative, and artworks in Kyoto and particularly Paris stretched deeper into the cities’ geography to connect with more people. Artwork shared in these spaces over time imagined political space, political institutions, and political solutions that transcend the nation-state and address climate change in meaningful ways to the public.

Further, it is important to note that actions on climate coinciding with moments of international governance have increasingly occurred around the world. Geography, money, and inaccessibility of physical sites prevent all voices from being heard at sites of public gathering. Art shared at these initial conferences and then brought to other spaces, or shared digitally, shows that artistic communications and expressions can expand conversations surrounding climate change to further sites of organizing. Activists on the ground at these sites have used art to build connections with other activists and shared their work and gatherings online to reach more people. Many of the exhibitions that were created leading up to a COP have been re-installed in locations around the world. This has created larger networks of people involved in climate action and resilience, able to initiate change in their local communities and push for large-scale change now and in the future. Art has also served as a way for scientists to communicate their discoveries, and has provided the platforms to develop further understanding and discovery. Art served as a means for the public, artists, and scientists to collaborate to make installations. Such collaborations have increased over time, particularly as a reflection of growing public and scientific frustration with a lack of state response.

By building these connections of people to address the climate crisis at sites of international governance, activists have transformed the spheres that govern climate change.

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687 Ellis-Petersen, “Global Panic.”
globally. From placing artworks in front of those making decisions to creating networks of people to build climate resilience and push for further governmental action, activists have blurred the lines between the public and decision-makers and distinctions between who can and who cannot make meaningful action on climate change. They have also transformed understandings of how people can and should engage with climate action.

This study began by looking at Robert Rauschenberg’s *Last Turn–Your Turn*, a piece centered on the idea that “once the individual has changed, the world can change.” It ends with activists’ occupation of the Eiffel Tower, holding a banner that reads “It’s Up to Us to Keep it in the Ground.” Both pieces stressed the importance of the people in the conversation on climate change, but the activist art in Paris conceptualized the power of the collective, rather than the individual, to address the climate crisis. Collaborative art-builds and demonstrations blurring the geography of the cities and conference centers where international governance took place are emblematic of the broader ways in which art has been used to transform and imagine action on climate change by, between, and through people. Over time, activists have increasingly used artwork to meaningfully engage with the intricate details of international climate governance, build coalitions of activists, and communicate and connect with scientists and scientific institutions, all of which have expanded the structures under which climate change is, and continues to be, addressed.

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690 Caron, “Red Lines.”
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Nelsson, Richard and Mark Rice-Oxley. “50 years, 25 Cops: The Slow-Motion Movement to Save the Planet; How Guardian Journalists Reported on the Long, Twisting Road to...


