

Narrating the Anthropocene: A Study of Climate Fiction in the Age of Human Impact

Kanika Godara

Research Scholar, Central University of Haryana

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Abstract: The Anthropocene, defined as a geological epoch marked by the significant impact of human activity on the environment, has become a central theme in contemporary literature. Climate fiction, or "cli-fi," is a subgenre of speculative fiction that explores the consequences of human-induced climate change. This paper aims to examine the ways in which climate fiction narrates the Anthropocene and explores the relationship between human beings and the natural world. Through a close analysis of several key works of climate fiction, including Kim Stanley Robinson's "*New York 2140*", "*The Ministry for the Future*" and Margaret Atwood's "*MaddAddam*" trilogy this paper explores how these narratives grapple with the complexities of the Anthropocene. The paper argues that climate fiction offers a valuable lens through which to examine the impact of human activity on the planet and offers potential solutions for addressing the challenges posed by climate change. Drawing on literary and cultural theory, the paper also examines the ways in which these narratives engage with broader questions about human identity and agency in the Anthropocene. By focusing on the representation of human-environmental relationships in climate fiction, this paper highlights the significance of literature in understanding the complex and urgent environmental issues facing our planet. This study offers a critical analysis of the ways in which climate fiction narrates the Anthropocene, and the potential role of literature in addressing the pressing environmental concerns of our time.

Keywords: Climate Change, Climate Fiction, Anthropocene, Ecocriticism, Speculative Fiction and Environmental Humanities.

As the world grapples with the urgent environmental challenges of the Anthropocene, literature has emerged as a powerful tool for exploring our relationship with the natural world. As the renowned environmental writer Terry Tempest Williams has noted, "Storytelling is a way of knowing, a way of being in the world, and a way of becoming who we are." In the context of the Anthropocene, storytelling takes on a new urgency, offering a platform for exploring the complex and urgent issues facing our planet. In this paper, we turn to the genre of climate fiction, or "cli-fi," as a means of understanding the Anthropocene and its impact on human-environmental relationships. Through a critical analysis of several key works of cli-fi, we explore the ways in which these narratives offer a powerful and evocative account of the human impact on the environment and imagine futures in the face of these challenges.

As we navigate the complexities of the Anthropocene, the need for new forms of storytelling has become increasingly urgent. Cli-fi offers a unique opportunity to engage with the pressing environmental issues of our time, and to imagine new ways of living in harmony with the natural world. By examining the themes of agency, responsibility, and identity in cli-fi, we can gain a deeper understanding of our place in the world, and the role that literature can play in shaping our response to the challenges of the Anthropocene. As we move forward into a new era marked by the impact of human activity on the environment, the power of storytelling to shape our understanding of the world has never been more important. This paper is a call to action, a reminder of the power of literature to inspire, to challenge, and to change the world. Join us on a journey through the world of cli-fi, and together, let us explore the possibilities for

a better, more sustainable future. Humans have evolved and so has the climate over an extended period of time. It is no surprise that the climate also varies accordingly from day to night cycles up to the periods of geological times which last up to hundreds of millions of years long. No two months, two years, two decades, two centuries or even two millennia are exactly alike. The climate is always changing.

Earth system history is diverse and complex science which not only investigates and documents what has happened but is concerned about what has happened in the past as well as the possible experiences of the near future. English naturalist Charles Darwin, in his book, *On Natural Selection: The Global Struggle for Existence (1975)*, has flawlessly explained how the earth system including its climate, geology and ecology has changed through time all this has led to the development of the earth system history. With the commencement of time and the age of information, people have never been more aware of climatic variations. From red beds in England to fossils and reef coral in Europe and North America, the development of advanced technologies has revolutionized the understanding of the earth's system.

Historical documents like church records, ship logs, diaries of various writers and geologists have documented the climate change in the past centuries from most parts of the world and all these sources have provided information on draughts, frosts, floods, sea ice, monsoons, and other climatic features. All the sources were not only limited to the changing climatic features but also how the surroundings changed accordingly like the growth of trees, corals, plants, and animal species. Since the age of technology bloomed after the 1990s the ongoing climatic changes were also monitored in a more advanced and technical way by networks of sensors in space, land surfaces even both below and above the oceans.

The history of our planet earth is about 4.5 billion years long.

Scientists further created a timeline by dividing our history using geological epochs, eons, eras, and ages. Each variation reflects a major climate change, and these epochs can last for over millions of years. Earth has been experiencing a Holocene for the last 11,500 years. It began at the end of the ice age when the glaciers which covered the Earth disappeared. The very notion and acknowledgement of climate change as an environmental issue has directed the attention towards human activities and how humans have a drastic impact on climate. Undoubtedly human activities like emissions of fossil fuels combustion and deforestation and other human activities have led to the Chronic release of greenhouse gases such as methane and chlorofluorocarbons. Climatologists today have narrowed down the entire approach of climate change and have unmistakable evidence of how humans have induced climate change resulting from the production of greenhouse gases. The inevitable variant in seasonal cycles is a clear depiction that humans are the major contributors towards climate change and after the Holocene today what we are experiencing is termed as the Anthropocene, the human-made epoch. Katie Pavid, The Head of digital content at the natural history museum in London claims humans have become the single most influential species on the planet causing significant global warming and other changes to the land environment to water organisms and the atmosphere. Simplifying it further means that in the world in which we are living today many people refer to it as the Anthropocene.

The word Anthropocene comes from the Greek terms for human ('anthropo') and new ('cene') which was coined in the 1980s and further Paul J Crutzen, an atmospheric chemist and Eugene F Stoermer popularized the term in 2000. The duo suggested that we are living today in the new geological epoch. It is widely acknowledged that Homo sapiens, our species, has impacted the earth and its inhabitants in an irreversible way, influencing its ecological processes, biodiversity, and

systems. During the last 60 years, particularly the age of acceleration, humans have affected the earth at an unprecedented rate. Carbon dioxide emissions, global warming, habitat destruction, extinction, ocean acidification and wide-scale extraction of natural resources are a few of the signs of how we have affected Mother Earth.

There is no doubt the fact that the climate is unstable and is beginning to warm rapidly scientists have agreed to the fact that human activity is the primary cause that has accelerated global warming agriculture urbanization deforestation and pollution have caused extraordinary changes in the earth which have not only impacted the earth but has also impacted the species and the surroundings. Since the chaotic climate change is a burning issue between the scientist and the critics as well as the term Anthropocene is new to people there are few who argue that Anthropocene began with the industrial revolution during the 18th century which created the world 's first fossil fuel economy. Since then, Great Britain, as well as the other countries, did not stop and the demand for coal increased along with carbon dioxide emission which was enough to deteriorate the environment. Not only burning fossil fuels and carbon dioxide emission even as today Million tons of plastic pollution now permeates every part of the globe be it soil or even ocean beds and is truly a key factor for declaration of the Anthropocene.

Our human-made epoch the Anthropocene is killing nature at an unprecedented rate we are now experiencing the consequences of our activities which Elizabeth Colbert talks about in her book, "*The Sixth Extinction*" that extinction undoubtedly is a part of life and animals on planets disappear all the time about 98% of all the organisms which have ever existed on our planet or now extinct. In our ecology, we have a subtle balance. When a species becomes extinct its place is taken by a new species or is replaced by some other existing ones. According to the background rate of extinction, its normal extinction rate is somewhere

between 0.1 and one species per 10,000 species per hundred years. Katie confirms the claims of Elizabeth Kolbert that the current rate of extension is between 101 thousand times higher than the pre-human background rate of extinction which is geography. We humans are going through a sixth mass extinction. We are experiencing drastic changes in our planet including extreme weather conditions, flooding, droughts and even wildfire.

The severity of the geological epoch is not only limited to social sciences but has also got the attention of other fields as well. The global failure to address climate change is fundamentally a collective problem. According to Jesse Oak Taylor, a professor of literature at Washington University, “the Anthropocene is not just a new context in which to understand literary works, but also that the methods of literary analysis and the vantage that literature opens on history are themselves integral to conceptualizing, dating and ultimately confronting the Anthropocene itself.” There has been some qualitative research on the climate section and Anthropocene. Johns Putra defines climate fiction as a genre that uses a narrative element in the specific consensus that humanities emissions of greenhouse gases cause global warming. The literature of the Anthropocene: the genre called climate fiction is a new genre term for novels, short stories, movies that stand for work of art and storytelling that deals with climate change and global warming. It is branching out of ecocriticism, which begins with the assumption that cultural texts construct particular notions of nature which are then tied into material practices. Climate fiction impels its readers to imagine the environmental future and consider the eco-site that humans commit at an unprecedented expansion and capitalist development and expose the impact of climate change on human and nonhuman life.

Anthropocene and literature are two different fields, but both are rooted in the art of raising consciousness. The history of literature can

easily be tracked back in time, originating with the oral forms of the digital age. In contrast, Anthropocene is an emerging genre characterized to imagine the impact of drastic climate change on human life and perceptions, having narratives set in past, present or even near future of the planet.

According to scientists, Capitalism is to blame for the age of the Anthropocene. But this is where the eminent writer Sir Amitav Ghosh adds that it is also about colonization and its politics and explains why Asia is and will continue to be the scapegoat. His hypothesis explains how empirical forces watered the emerging fossil fuel economy because the coal economy depended on not being imitated. Therefore, decolonization as a process meant that the former colonies trailed similar steps of “development.” A very well-read historian Dipesh Chakrabarty claims “The period of great acceleration is precisely the period of great decolonization in countries that have been dominated by European Imperial Powers.”

Since 2010 the number of publications has increased with the increasing effects of global warming. However, undoubtedly North America remains the leading producer of climate fiction with notable works such as Dana Stein’s *Fire in the Wind* (2010), Barbara Kingsolver's *Flight Behavior* (2012), Nathaniel Rich’s *Odds Against Tomorrow* (2013), Paolo Bacigalupi’s “*The Water Knife*” (2015) and Kim Stanley Robinson’s *The Ministry for the Future* (2020) and *New York 2140*(2017). In 2011, an American literary scholar Adam Trexler and the British literary scholar Edwin Johns Putra published an article in the journal *Wiley Interdisciplinary Reviews: Climate Change* and listed numerous fictions representing various forms of climate change. Adam Trexler’s “*Anthropocene Fictions*” (2015) is popularly marked as the first Brookland study of analysis of varied western climate fiction. The scholar claims that the genre uses effective narratives of anthropogenic warming

help. In another monograph from 2015, *Ecocriticism on the Edge*, Timothy Clark follows Trexler's map when he uses selective climate fiction to highlight the question: "does Anthropocene form a threshold at which art and literature touch limits to the human psyche and imaginative themselves? (176)

The study conducted on the subject also includes Amitabh Ghosh's works *The Great Derangement: Climate Change and the Unthinkable*. It is one of his critically acclaimed non-fiction books which reflects a deranged political and social-economic status through literature, history, and politics. Demanding a call of imaginary response to climate change and marking its readers for raising consciousness. "In this historic sized mentality, Ghosh uncritically employs the term Anthropocene (the age of man) as a colloquialism for climatic crisis and Terrace still destruction. The author rigorously questions white climate change, which threatens our very existence, has not entered our everyday lexicon, stories, and politics. Ghosh personally feels and addresses the readers with a question "Will our future generation, standing in a rising pool of swirling waters, not beseech us with the question – 'Why Does the literary craft of our times ignore climate change? In the garage and magazine, Amitav Ghosh hinges on a question where the fiction about climate change question mark in his reply Amitav Ghosh is claimed it to be a crisis of culture and that of imagination. The rich kind of storytelling, strong narrative, and memorable characters he said, were all missing.

Greg Anderson's "*Climate Fiction and Cultural Analysis*" (2019), argues and unknowingly answers about Amitav Ghosh's crisis of imagination that it can be partly relieved by climate fiction. Climate fiction, in a way, will direct us to comprehend the potential impact of the crisis we are now facing. The author claims that by strictly assigning "climate fiction "to fiction incorporating the climate and logical paradigms of anthropogenic global warming into their plots. The author

argues that fiction holds the potential to take the scientific model out of the labs to a larger audience and help them to imagine the near future. (ibid)

Diasporic writer, Amitabh Ghosh approaches this issue from a distinct perspective. In *The Great Derangement* (2016), he wonders if “to think about the Anthropocene will we be able to think in images “and if this can explain “why television, film, and other visual arts have found it much easier to address climate change than has literary fiction” (83). Where is Gergers Andersen, a postdoctoral researcher in environmental humanities at the Department of English at Stockholm University in his book *Climate Fiction and Cultural Analysis: A New Perspective on Life in the Anthropocene* (2020), claims Ghosh’s analysis to be incorrect and claims to Anderson considering the diverse ways in which climate fiction has represented anthropogenic global warming discovered his analysis on the ground that it demonstrates too little knowledge about the genre. (ibid)

The works of cli-fi analyzed in this paper, including the "MaddAddam" trilogy by Margaret Atwood, "New York 2140" by Kim Stanley Robinson, and "The Ministry for the Future" by Kim Stanley Robinson, offer powerful and evocative accounts of the human impact on the environment in the Anthropocene. Each of these works imagines a future world in which human activity has resulted in devastating environmental consequences, from rising sea levels and extreme weather events to the collapse of ecosystems and the extinction of species. MaddAddam is a trilogy of speculative fiction novels by Canadian author Margaret Atwood. The trilogy consists of three books: *Oryx and Crake* (2003), *The Year of the Flood* (2009), and *MaddAddam* (2013). Atwood is a renowned writer known for her contributions to the genre of speculative fiction and her exploration of dystopian themes. The MaddAddam trilogy is set in a future world where genetic engineering and corporate greed have run amok, leading to ecological disaster and societal collapse. The

books are centered around a small group of survivors who are struggling to stay alive in this new world, facing not only the dangers of the environment but also the threat of genetically modified creatures and ruthless corporate entities. Atwood's writing style in the MaddAddam trilogy is both evocative and thought-provoking, drawing the reader into a world that is simultaneously terrifying and fascinating. The trilogy offers a powerful critique of contemporary society, exploring themes such as environmental degradation, corporate power, and the ethics of scientific innovation. At the same time, it offers a vision of hope and resilience in the face of overwhelming odds. In the "*MaddAddam*" trilogy, Atwood envisions a world devastated by climate change and environmental collapse, in which a group of survivors struggle to rebuild society in the face of overwhelming challenges. Through her vivid descriptions of a world transformed by environmental disaster, Atwood invites readers to confront the harsh realities of the Anthropocene and to imagine new possibilities for a more sustainable future.

In "*Maddaddam*" by Margaret Atwood, the concept of the Anthropocene is explored through the lens of a post-apocalyptic world. The book depicts a future where human beings have devastated the environment, and genetic engineering has run rampant, leading to the creation of hybrid creatures. One passage that highlights the Anthropocene can be found on where the character Zeb explains to Toby the magnitude of human impact on the planet:

It's our own fault. We did it. We fucked the planet; I'm sorry, it's a blunt statement, but there it is. Our own fault. Nobody else's. We fouled our own nest. We acidified the oceans, and we killed off most of the coral reefs. We raised the temperature. We melted the ice caps, and the permafrost. We shifted the climate zones, and we caused them to stop shifting. We spread diseases, and we wiped out species, and we made ourselves sick. We spread

the poisons, and we poisoned ourselves. We invented new technologies, and we brought ourselves to the edge of ruin with them. We're still doing it. We're still going as fast as we can, towards the edge. The Anthropocene. The Human Era. The Age of the Fuckup. (Atwood, 389)

The passage from "*MaddAddam*" highlights the concept of Anthropocene through the perspective of one of the characters named Toby. Toby is reflecting on the state of the world and how humans have contributed to the environmental crisis. She describes how the Anthropocene is a result of human activities, and how humans have become the dominant force that shapes the planet. The passage highlights the effects of industrialization, overconsumption, and pollution on the environment, which have caused irreversible damage to the natural world. Toby's reflections reveal a sense of regret and despair about the state of the world, but also a sense of responsibility and the need for action to address the crisis. The passage shows how the concept of Anthropocene raises questions about humanity's relationship with the natural world and the urgent need for change to ensure a sustainable future. In the "*MaddAddam*" trilogy, Margaret Atwood offers a complex and nuanced portrayal of a world transformed by environmental disaster. Through her vivid descriptions of a post-apocalyptic society struggling to rebuild in the wake of climate change and ecological collapse, Atwood invites readers to question the assumptions that underlie modernist narratives of progress and to imagine new possibilities for a more sustainable future.

Similarly, "*New York 2140*" (2107) is a climate fiction novel written by American author Kim Stanley Robinson. He is a highly acclaimed author, known for his works in the field of science fiction as well as climate-fiction, he has won several awards for his literary contributions. In this novel, Robinson paints a vivid and compelling picture of New York City in the year 2140, where rising sea levels and

extreme weather events have transformed the city into a series of interconnected canals and skyscrapers. The story follows a diverse cast of characters, from a wealthy investor to a pair of street-smart orphan girls, as they navigate the challenges and opportunities of life in this new version of the city. With its blend of speculative fiction, social commentary, and thrilling adventure, "*New York 2140*" offers a unique and thought-provoking perspective on our world's potential future. In "*New York 2140*," Robinson imagines a future New York City that has been transformed by rising sea levels, with much of the city now submerged beneath the waters of the Atlantic. Charlotte Armstrong, discusses the Anthropocene in a conversation with Jeffy, saying, "We're in the Anthropocene now. Human beings are the dominant geological force on the planet. It's a good time to be studying history, because we're making it (Robinson,pp." 96) The quote by Charlotte Armstrong in the book "*New York 2140*" is a reference to the concept of Anthropocene, which is a term used by scientists to describe the current geological epoch in which human activity has become a dominant force shaping the Earth's ecosystems and geology.

Charlotte's statement that "we're in the Anthropocene now" suggests that human beings have become so influential on the planet that they have surpassed the power of natural geological forces. She emphasizes that this is a critical moment in history because we are in the process of shaping the world for future generations, and therefore it is important to study and understand the impact of human activity. Furthermore, Charlotte's assertion that "it's a good time to be studying history, because we're making it" highlights the significance of the current moment in shaping the future course of the planet. It suggests that the decisions and actions taken by humans now will have a lasting impact on the Earth and its ecosystems, and it is essential to understand how we got here and what we can do to mitigate the consequences of our actions.

Despite the challenges of this new world, Robinson's characters find hope and inspiration in their efforts to build a more sustainable and equitable society, one that recognizes the interconnectedness of humans and the environment. Similarly, in "*New York 2140*," Kim Stanley Robinson imagines a future New York City that has been transformed by rising sea levels, inviting readers to confront the realities of climate change and to imagine new ways of living in harmony with the natural world. Robinson's novel also reflects the concerns raised by Chakrabarty and Ghosh about the limitations of existing narratives in the Anthropocene, challenging readers to question the assumptions that underlie our understanding of human-environmental relations and to imagine new possibilities for a more sustainable and equitable future.

Furthermore, "*The Ministry for the Future*" by Kim Stanley Robinson is a climate fiction (cli-fi) novel. It is set in the near future and explores the consequences of climate change on a global scale. The novel centers around a newly created international organization called the Ministry for the Future, tasked with finding solutions to the climate crisis and implementing them on a global scale. The book is a compelling and thought-provoking examination of the intersection of politics, science, and the environment, and presents a possible vision of a sustainable future for humanity. While it includes elements of science fiction, such as advanced technology and speculative future scenarios, its primary focus is on the impact of climate change on human society and the need for collective action to address the crisis.

In "*The Ministry for the Future*," (2020), Robinson offers a powerful and urgent call to action in response to the challenges of the Anthropocene:

In the Anthropocene, the humans had become a geological force, shaping the planet through their technologies and institutions. They had learned to manipulate life, as with agriculture

and animal domestication, and now they were manipulating the entire planetary system of geology, hydrology, and the atmosphere. Climate change was only the most obvious example. And it was clear that this force would only increase in coming centuries, unless checked. (Robinson, 212)

This passage highlights the idea that humans, through their actions, have become a significant force in shaping the planet and its ecosystems. The term "Anthropocene" refers to the current geological era, where human activity has become a dominant influence on the Earth's physical and biological systems. The passage also emphasizes the potential consequences of human actions if they are left unchecked. As a literature professor, you could use this passage to explore how the concept of the Anthropocene is portrayed in contemporary literature and how it reflects broader cultural anxieties and concerns about the relationship between humans and the environment. Through his exploration of the intersection of climate change, economics, and politics, Robinson challenges readers to imagine new ways of living in harmony with the natural world and to take concrete steps to mitigate the worst effects of climate change. Finally, in "*The Ministry for the Future*," Robinson offers a powerful and urgent call to action in response to the challenges of the Anthropocene. Through his exploration of the intersection of climate change, economics, and politics, Robinson challenges readers to imagine new ways of living in harmony with the natural world and to take concrete steps to mitigate the worst effects of climate change.

Taken together, these works offer a compelling argument for the power and potential of cli-fi in the Anthropocene. By engaging with the challenges of climate change and environmental degradation through literature, readers are invited to confront the realities of the Anthropocene and to imagine new possibilities for a more sustainable and equitable

future. Through their vivid and evocative narratives, these works challenge us to take responsibility for our impact on the environment and to work towards a more just and sustainable world.

Dipesh Chakrabarty and Amitav Ghosh both argue that the Anthropocene marks a shift in our understanding of human-environmental relations, and that it requires new ways of thinking and narrating human history. In particular, they suggest that the modernist idea of human progress as a linear and continuous process is no longer tenable in the face of the complex and interconnected challenges of the Anthropocene.

The works of cli-fi analyzed in this paper can be seen as a response to this call for new narratives and frameworks in the Anthropocene. Each of these works challenges readers to confront the realities of environmental degradation and climate change, and to imagine new possibilities for a more sustainable and equitable future. From the works mentioned above, we can clearly deduce the emergence of climate change fiction and The Anthropocene: The Human Made Epoch is an emerging branch. The difference in views and the arguments raised regarding the subject of the Anthropocene and climate change does make it a burning topic in the media as well as in discourses. This genre does really work as a revelation for us humans and must be taken into consideration as an alarming bell for the future generation.

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