

INTRODUCTION TO THE ENVIRONMENTAL HUMANITIES

J. ANDREW HUBBELL AND JOHN C. RYAN



Introduction to the Environmental Humanities

In an era of climate change, deforestation, melting ice caps, poisoned environments, and species loss, many people are turning to the power of the arts and humanities for sustainable solutions to global ecological problems. *Introduction to the Environmental Humanities* offers a practical and accessible guide to this dynamic and interdisciplinary field.

This book provides an overview of the Environmental Humanities' evolution from the activist movements of the early and mid-twentieth century to more recent debates over climate change, sustainability, energy policy, and habitat degradation in the Anthropocene era. The text introduces readers to seminal writings, artworks, campaigns, and movements while demystifying important terms such as the Anthropocene, environmental justice, nature, ecosystem, ecology, posthuman, and non-human. Emerging theoretical areas such as critical animal and plant studies, gender and queer studies, Indigenous studies, and energy studies are also presented. Organized by discipline, the book explores the role that the arts and humanities play in the future of the planet.

Including case studies, discussion questions, annotated bibliographies, and links to online resources, this book offers a comprehensive and engaging overview of the Environmental Humanities for introductory readers. For more advanced readers, it serves as a foundation for future study, projects, or professional development.

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“J. Andrew Hubbell and John C. Ryan’s *Introduction to the Environmental Humanities* is the best introduction to the fundamentals of the Environmental Humanities as a trans-disciplinary field. The book offers unchallenging explanations of the field’s key concepts and theories, as well as compelling stories of humans, nonhumans, and environments to induce ecological awareness in the field’s storied expanses.”

– *Serpil Oppermann, Professor of Environmental Humanities, Cappadocia University*

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Preface

Introduction to the Environmental Humanities

The Environmental Humanities is a relatively new, yet rapidly changing field of scholarship that integrates the perspectives of diverse disciplines—from anthropology, sociology, and geography to earth sciences to art, communications, ethnic and indigenous studies, history, literature, philosophy, religion, and theater. *Introduction to the Environmental Humanities* offers a practical, grounded, and accessible guide to the field designed for first- or second-year undergraduate students, but also useful to graduate researchers, environmental scholars, and general readers. The primary themes include climate change, sustainability, biodiversity, species loss, energy policy, the Anthropocene, environmental activism and justice, indigenous studies, and inter- and transdisciplinarity, as well as the role played by the arts and humanities in the future of the planet.

This book traces the evolution of the Environmental Humanities since the dramatic and global environmentalist turn in the post-WWII period, which took place in both academic and social settings. This historical context shaped the specific disciplinary debates out of which current practices in the Environmental Humanities emerged. Our purpose in organizing our *Introduction* around these disciplines is to ground beginning students and scholars in the history of the movement, enabling them to enter the latest multi-, inter-, and transdisciplinary research with an understanding of why they matter.

Environmental Humanities is both a product of and an agent in the radical reorganization of knowledge. In another context, we would strenuously defend this reorganization as necessary if we are to reorient human civilization away from its existential brink, a crisis caused in no small part by the knowledge-power divisions fomented since the Enlightenment. Yet students and teachers in academia are still enmeshed in this old knowledge order, with its disciplines, departments, silos, and specializations. An introductory Environmental Humanities course is likely to gather students who identify themselves by major and organize their thought by discipline. Its teachers are likely to be specialists housed in specific humanities departments. By organizing our *Introduction to the Environmental Humanities* around current disciplines, we appeal to where students and teachers are now. Historicizing the field will enable students to understand why our intertwined Anthropocene crises have required environmental humanists to develop inter-, multi-, and transdisciplinary approaches.

By acknowledging the field's disciplinary divisions and providing the means to integrate them, we also hope to enable as many opportunities to adopt this *Introduction* as possible. With a first chapter that surveys the Environmental Humanities as a whole, followed by two chapters that build essential knowledge in the science of climate change and the Anthropocene, then ten chapters detailing key disciplinary orientations, and a final chapter that opens out into the fractalization of study areas, *Introduction to the Environmental Humanities* can be

a main textbook for an introductory course. Its relatively short chapters can also be used to create part-term modules on the Environmental Humanities or supplement advanced courses within a wide range of disciplines and programs, from business and the social sciences to English, art history, and international studies.

Introduction to the Environmental Humanities assumes no prior knowledge of the key terms, concepts, theorists, and debates within the field. While recognizing the importance of the Environmental Humanities in US-Canadian, European, and Australia-New Zealand contexts, this *Introduction* provides numerous examples from African, Asian, South American, and Antarctic environments and cultures to achieve international reach and relevance. By means of this global emphasis, the text introduces readers to seminal writings, artworks, events, movements, ideas, legislation, and organizations to provide global literacy on environmental problems, actions, and solutions.

Each chapter starts with a real-world case study that provokes the questions and methods of environmental humanists. Subsequent sections contextualize the emergence of the field, offer instruction on how to practice it, and conclude with discussions of where the field is going now. Case Study, Reflection, and Waypoint boxes offer definitions, examples, current events, real-world debates and meditation on complex problems. At the end of each chapter, we offer exercises and projects that require students to use the skills and knowledge introduced by that chapter. An annotated bibliography and weblinks section in each chapter provide resources for further reading, completion of projects, and foundational knowledge in the field. While aimed at undergraduate readers, the extensive resources, global perspective, and discussion of emergent study areas will also be of interest to graduate researchers, established scholars, and the general public.

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1 Introduction to the Environmental Humanities

History and theory

Chapter objectives

- To become familiar with the core aims of the Environmental Humanities (EH) and key terminologies used in the field
- To understand the historical roots of the Environmental Humanities in a number of disciplinary areas including art, history, and literature
- To appreciate the potential contributions of the field to practices and theories of sustainability in an age of environmental crisis

Book overview

Introduction to the Environmental Humanities consists of fourteen chapters structured around key debates in the emerging field of the Environmental Humanities (abbreviated as “EH” throughout this book). This introductory chapter will demonstrate how EH integrates dialogues between the humanities, arts, social sciences, and sciences. By crossing disciplines, EH fosters a variety of new approaches to thinking about the relationship between nature and culture as well as the urgencies of the ecological problems that face the planet (DeLoughrey et al. 2015, 9). Moreover, the current momentum of the field reflects its origins in the environmental movement in the 1960s and 1970s.

As an academic area, EH has emerged from environmental inquiry in particular disciplines. In this chapter, we will characterize EH as discipline-crossing. But we hope not to lose sight of the individual disciplines upon which the field is built. These include geography (Chapter 5), history (6), philosophy (7), religious studies (8), art (9), literature (10), theater (11), film (12), and media studies and journalism (13). Our position, as authors, is that a good understanding of disciplines is a cornerstone to appreciating environmental interdisciplinarity and its raucous relatives (see Waypoint 1.1). Your trans-, inter-, and multidisciplinary will be more productive with a solid grounding in the core disciplines. Considerations of space limited our focus to disciplines that we consider integral to EH, but we hope that, after reading this, you’ll be inspired to challenge us—what do you think we should have included?

Each chapter features real-world “Case Studies” that conclude with questions to stimulate your participation in the Environmental Humanities. We also include shorter “Reflections” that center on ethical questions that EH reveals. “Waypoints” summarize key background information. We use *waypoint* in its geographical sense as “an intermediate point along a route.” EH is much like a trek through the mountains that are depicted in artist Wang Jian’s painting in Figure 1.3. We’re pleased that you’ve decided to join us! Tie your bootlaces and

2 Introduction to the Environmental Humanities

let's get going! We'll start with the story of the auroch for what it shows about the necessity of interdisciplinary thinking for understanding complex social-environmental problems in the modern world.

Resurrecting the auroch

In 1627, the last lonely auroch died in the forests of Poland, extinguished by the now-familiar combination of overhunting, loss of habitat, and competition from domesticated species. Once common throughout Europe, Asia, and North Africa, they are now the extinct ancestors of domestic cattle. Genetically, however, they still live on. At every fast-food establishment across the globe, every hamburger contains a gamey hint of auroch. The ancient animal survives also in its flattering scientific name, *Bos taurus primigenius*, for “the original genius cow.” And also in prehistoric art. Their hulking forms feature in the French cave paintings of Lascaux and Chauvet created over 17,000 years ago (Rokosz 1995, 6) (see Figure 1.1).

Surprisingly, the auroch story doesn't end with extinction. In the 1930s, the German zoo directors Lutz and Heinz Heck (who were affiliated with the Nazi party) made the first attempt to resuscitate the species through a process called *back-breeding* or, literally, breeding in reverse (Tanasescu 2017). After twelve years of toil, the brothers produced a breed known as Heck cattle, which didn't resemble aurochs much at all. Since then, efforts to revive the auroch have helped give birth to the science of *resurrection biology* or *species revivalism*. In 2015, for instance, a team led by biologist Stephen Park sequenced the first auroch genome, or complete set of genes, from a fossil specimen. Heck, is this a foretaste of a new episode of *Jurassic Park*, *Frankenstein*, or the *MaddAdam* trilogy?



Figure 1.1 This painting of aurochs, horses, and deer at Lascaux Cave, France was made over 17,000 years ago.

Image credit: Wikimedia Commons.

Case Study 1.1 De-extinction

De-extinction is the use of cutting-edge genetic technologies to recover species that no longer exist. Those against it argue that funding should be used to conserve endangered species. Those in favor stress that humankind has a duty to reverse extinctions and restore the natural balance. Some proponents of de-extinction, moreover, support the value of *rewilding* the land with animals and plants from the past (Rewilding Europe n.d.). How do you feel about the issue? Consider the consequences for existing ecologies. Would other actions, perhaps those suggested by E. O. Wilson in his book *Half-Earth* (2016), be less risky?

What on earth are the Environmental Humanities?

Environmental historian Sverker Sörlin poses the question that most people ask when a literary, art, religion, history, or philosophy scholar starts analyzing topics like the auroch, traditionally considered to “belong” to the sciences: “what do the humanities have to do with the environment?” (2012, 788). A fair question. So, try this thought experiment: imagine you are a member of a committee tasked with investigating the benefits and risks of resurrecting *B.t. primigenius*. In order to take different interdisciplinary perspectives into account, your committee would need to include biologists, conservationists, economists, geneticists, geographers, and historians. Natural scientists would need to partner with philosophers. Anthropologists would need to collaborate with media experts to survey public opinion on the issue. Sociologists would work on identifying the possible social and cultural implications of reintroduction. Filmmakers would join forces with computer programmers to design virtual reality simulations of aurochs roaming the land once more. In other words, the auroch debate is fundamentally *interdisciplinary*. It demands that people from a range of disciplines listen to one another, participate in a lively dialogue, and contribute ideas to the decision-making process.

Waypoint 1.1 Crossing the divides between disciplines (CMIT)

EH practitioners often describe their work as *crossdisciplinary*, *multidisciplinary*, *interdisciplinary*, and/or *transdisciplinary*. Although these tongue-twisting terms tend to be used interchangeably, there are important differences between them. To begin with, keep in mind that the building blocks of these concepts are the *disciplines*—biology, history, philosophy, and so on—with their specialized forms of knowledge and well-defined methods. You can use the acronym **CMIT** to recall these four forms of working between and across disciplines.

Disciplines

- *Crossdisciplinary* means viewing a discipline from the perspective of another discipline (so, for instance, understanding biology through history, and vice versa).
- *Multidisciplinary* entails various disciplines working together toward a common goal.
- *Interdisciplinary* involves a blending of knowledge from numerous disciplines within the scope of a single project.
- *Transdisciplinary* goes one step further by melding perspectives to the extent that individual disciplinary stances seem to all but vanish.

Extinction, species resurrection, biodiversity, rewilding, urban-wildland interfaces, land development, and resource use are a few of the extremely complex issues that our civilization must understand and solve in order to sustain the health and wellbeing of current and future generations. Until recently those issues would be studied in different disciplines and the knowledge would stay isolated. But you can see how that approach can lead to catastrophic mishandling of even a relatively simple problem like whether to resurrect the auroch. The truth is we can't afford to look at problems in narrow ways anymore—we know too well that our existence is beset by all the unintended consequences of narrow-minded problem-solving.

A more coherent approach to problem-solving in the twenty-first century requires the disciplines to communicate with each other: to teach each other what they know and learn to see from other disciplinary perspectives. It may even require combining disciplines into a more holistic method of knowledge. EH aspires to that more holistic combination of disciplines. That gives us more complete, practical knowledge to address the complex social-environmental problems we face today.

The return of the auroch from the dead is but one example of the diversity of contemporary issues examined in the relatively new field of the Environmental Humanities. The field resists a view of the world that divides nature from humankind, weaving social, cultural, and ecological concerns together into a tapestry. The Environmental Humanities is the broad catch-all field (capitalized in this book) including environmental art, history, and other specialized fields. We hope *Introduction to the Environmental Humanities* will persuade you that *now* is an exciting time to be studying EH and the humanities in general.

To say the least, the complexities of environmental problems across the globe have become herculean. Genetic engineering, global warming, melting icecaps, rising seas, disappearing islands, climate refugeism, plastic waste, water and air pollution, unsustainable logging, rain-forest destruction, and biodiversity loss are some of the myriad issues that bombard us daily in the news and elsewhere. As Chapter 3 will explore in detail, scientists have even gone so far as to argue that human meddling with the biosphere since the beginning of the Industrial Revolution in the late eighteenth century has resulted in a new geological epoch, the Anthropocene, replacing the Holocene that began about 12,000 years ago (Zalasiewicz 2017).

Let's take a deep breath and look at a few statistics that point to the dire shape of the environment globally. Since 1970, humankind (not-so kindly) has wiped out 60% of mammals, fish, and reptiles (Carrington 2018). In 2018 alone, three bird species became extinct. These are the beautifully named cryptic treehunter (*Cichlocolaptes mazarbarnetti*) of Brazil, Alagoas foliage-gleaner (*Philydor novaesi*), also of Brazil, and po'o-uli (*Melamprosops phaeosoma*) of Hawai'i. Known as the world's rarest marine mammal, the vaquita is a type of porpoise with less than thirty individuals remaining in the wild (Figure 1.2). What's more, the endangered red wolf of the south-eastern United States could disappear by 2025.



Figure 1.2 The vaquita (*Phocoena sinus*) is a critically endangered porpoise of the northern areas of the Gulf of California.

Image credit: Paula Olson, NOAA (Wikimedia Commons).

Sadly, the list grows and grows while statistics conceal the real consequences (material, emotional, spiritual, family-related) of species loss for people, communities, and nature. Each extinction is less life, diminishing the vibrant energy in our shared home. At the same time, the Earth is suffering from a serious fever. Each year is warmer than the previous while climate patterns have become ever more erratic and, in fact, *patternless*, that is, lacking any rhyme or reason. According to the National Oceanic and Atmospheric Association (NOAA), the planet's surface temperature in 2018 was the fourth hottest since 1880 when official record-keeping began (NASA 2019). By all accounts, the warming trend is set to continue.

These statistics come from scientific disciplines such as biology, chemistry, and geology. So, what can the humanities tell us about the natural world? How on Earth can humanistic inquiry, with its traditional preoccupation with the human condition, save the vaquita and turn the tide of global ecological degradation? These are the kinds of questions explored in this book. In the Environmental Humanities, we are not just interested in possible solutions to some of the most urgent challenges of the twenty-first century. We also want to broaden the kinds of questions we *can* ask about the world and our place within it. Engaging our environmental condition is not simply about solving problems; it is about thinking differently so we can inhabit this planet differently.

Put simply, EH opens our eyes, minds, and hearts to the interconnections between all life in a radically changing world. Historian David Nye and his colleagues write that “scholars working in the Environmental Humanities are posing fundamentally different questions, questions of value and meaning informed by nuanced historical understanding of the cultures that frame environmental problems” (Nye et al. 2013, 28). They further comment that “major environmental problems result from human behaviors, as individuals and societies seek their version of a good life” (33). In contrast to the field of environmental studies, focusing on science and social science, the Environmental Humanities studies the natural world, environmental problems, and what “a good life” means for all living beings through the approaches of the arts and humanities.

In particular, EH highlights human behaviors, cultural values, historical patterns, social contexts, public attitudes, political ideas, religious beliefs, spiritual dimensions, moral concerns, and emotional registers (Nye et al. 2013, 4; Sörlin 2012, 788). As such, EH offers a deeper understanding of the human role in the global transformation that we hear about

almost nonstop on the Internet, social media, and television. The discipline-crossing emphasis of the field enables us to appreciate the intricate relationships between people, places, animals, plants, mushrooms, water, soil, land, and air (Tsing 2015). This appreciation often takes shape through the stories (or narratives) people and communities tell about the environment as well as the stories that the environment tells about itself in its own words (Griffiths 2007).

Waypoint 1.2 Defining the Environmental Humanities

Scholars of EH have outlined numerous characteristics of the field. Here are three for you to think about:

- *Discipline-crossing*: brings together expertise from a variety of perspectives (as in CMIT, which we discussed previously in this chapter)
- *Boundary-defying*: moves across national, cultural, and historical barriers
- *Policy-focused*: engages public policy and informs political decision-making (Nye et al. 2013, 8)

Before we delve further into the Environmental Humanities, it is essential to consider some of the lingo used in the field. So far in this chapter, we have seen that EH is not an academic discipline. It is a field of study that attempts to integrate different disciplines sharing a focus on the natural world and environmental issues. Nonetheless, *environment* is a thorny term chockful of contradictions. Just where is *the environment* located? Outside your house? Across the street? In your grandmother's kitchen? In a national park or other reserve? Anywhere one can encounter waterfalls, windstorms, and wild animals? Does experiencing the environment require jetting off to a faraway place, such as Antarctica, relatively free of human interference?

Reflection 1.1 An environmental issue

Select an environmental issue frequently reported in the media. How might a discipline-crossing, boundary-defying, and policy-focused strategy lead to solutions to the issue? If this question is stumping you, concentrate on one or two rather than all three at once. These characteristics will become clearer as we progress through the book.

For decades, scholars have struggled with *environment* and its elusive relatives like *nature*. Summarized in Waypoint 1.3, these terms refer to real phenomena (plants, animals, water, soil) but also to ideas, concepts, and principles. Criticisms of terms such as *environment* call attention to the role language plays in furthering the separation between nature (environment) and culture (humankind). Some EH writers have even resorted to creating their own words (known as neologisms) to describe the inseparability of non-humans/nature and humans/culture. Prominent feminist philosopher Donna Haraway (2003), for example, speaks of *naturecultures* whereas philosopher of science Bruno Latour refers to *nature-cultures* (Latour 1993, 7).

Waypoint 1.3 EH terminology

- *Ecology*: an area of biology exploring the relationships between organisms and their natural environments; the term comes from the Greek word *oikos* for “household”
- *Ecosystem*: a particular community of organic and inorganic elements interacting in a relatively stable manner over time (Tansley, 1935)
- *Environment*: the physical surroundings of an organism as well as a concept that links the local and regional to the planetary (Warde, Robin, and Sörlin 2018, 11-17)
- *Landscape*: a natural environment that humans have transformed, resulting in scenic views. Remember: “Landscape is a way of seeing the world” (Cosgrove 1998, 13)
- *More-than-human*: a world that is more than the home of human beings; an ethical concept that is prominent in animal studies and environmental law (Robin 2018, 7)
- *Nature*: a philosophical principle referring broadly to elements of the natural environment (plants, animals, water), often contrasted to culture (Soper 1995)
- *Natural World*: the natural environment as a whole, including organisms and their surroundings, often contrasted to human civilization (Thomas 1983)
- *Non-human*: an entity (organism or machine) that possesses some human qualities, such as the ability to communicate and respond to stimuli (Morton 2017)
- *Other-than-human*: subjects of study, especially in the discipline of anthropology, with will and determination but who are not human; common in studies of animism (Harvey 2013)

Reflection 1.2 Pinning down the language of EH

The nine terms listed in Waypoint 1.3 are not mutually exclusive but overlap to a great extent. For instance, *nature* and *the natural world* are often used interchangeably by EH scholars to refer to the global natural environment as a whole. Try applying the different terms to what you encounter in the world: a field, birds, the sky, your dorm room, a body of water. Does the right *word* help you understand your *world* better?

Historical roots of the Environmental Humanities

To tell the story of EH’s origin, it might be useful to imagine that the prehistoric artists who painted the aurochs at Lascaux Cave in France were among the earliest practitioners of the Environmental Humanities (Figure 1.1). Presumably for them, nature and culture were not separate categories but, instead, were intertwined and informed each other continuously. The roots of EH, indeed, stretch deeply into the past and can be traced back to the pre-modern cultures of the West and the East (Estes 2017). The tradition of Chinese landscape painting, or *shan shui*, translated as “mountains and water,” is an evocative example of the Environmental Humanities from an historical perspective. The seventeenth-century artist Wang Jian, for instance, depicted an awe-inspiring mountain scene in which huts blend harmoniously with the trees, rocks, and other features of the rugged landscape. The artwork represents the integration, or synthesis, of nature and culture that is at the heart of EH (Figure 1.3).

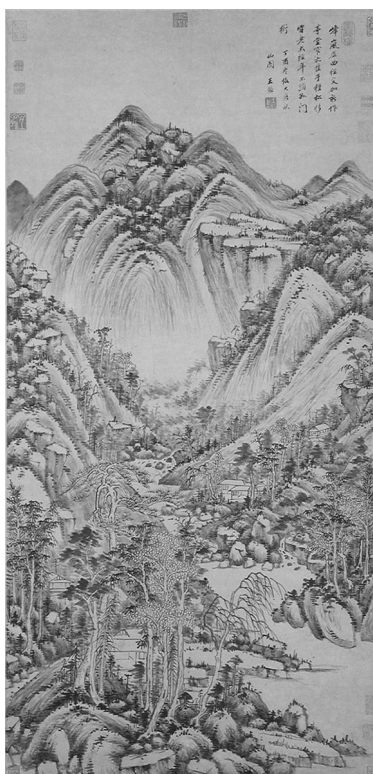


Figure 1.3 Wang Jian's ink illustration "Landscape in the Style of Huang Gongwang" (1657) is an early example of formative work in the Asian Environmental Humanities.

Image credit: Public Domain (<https://www.metmuseum.org/art/collection/search/36100>).

The history of the Environmental Humanities in the West (that is, in Western countries such as the United States, England, and Australia) often takes the form of a return to older ways of knowing nature that were displaced by Western science. As Bruno Latour (2004) argues, starting in the seventeenth century, Western science separated humans from nature, turning nature into a definable, controllable object of scientific knowledge. The starting premise of EH is that this separation is wrong, and so we can identify a set of influential texts, images, and moments that question this separation as part of the EH lineage.

Chief among them is writer-naturalist Henry David Thoreau's *Walden*, published originally in 1854, seven years before the beginning of the American Civil War. In the second chapter of *Walden*, "Where I Lived, and What I Lived For," Thoreau famously explained that "I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach" (1910, 118). Although critical of American society (and sometimes just plain grumpy), Thoreau understood the natural world in hopeful terms as a living source of wisdom for people and culture. Ten years after the appearance of *Walden*, diplomat-turned-environmentalist George Perkins Marsh published *Man and Nature* (1864), a pioneering call for conservation and sustainability.

Moved by the writing of Thoreau and Marsh, forester Aldo Leopold proposed the idea of a "land ethic" in his classic study, *A Sand County Almanac* (1949). Leopold urged policy-makers to consider the natural world as a subject with rights and one to be treated ethically. Leopold's text was followed over two decades later by marine biologist Rachel Carson's *Silent Spring* (1962), a compelling warning about the dangers of pesticide use. From the mid-nineteenth

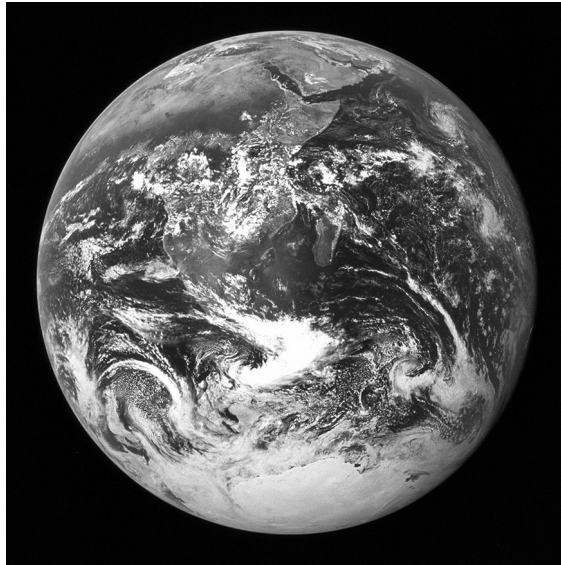


Figure 1.4 “The Blue Marble” (1972), Apollo 17, Color Photograph.

Image credit: Public Domain (Wikimedia Commons).

to the mid-twentieth centuries, these writings and a multitude of others helped to inspire the environmental movement of the 1960s and 1970s. During this time, environmental specializations within the disciplines of history, philosophy, and politics began to appear in university departments (Robin 2018, 4). In 1970, the first Earth Day celebrations took place across the United States while, in 1972, the crew of Apollo 17 snapped the iconic photograph, *The Blue Marble*, revealing the fragility and beauty of our planet (Nardo 2014) (Figure 1.4).

Reflection 1.3 The Blue Marble

In 1968, astronaut William Anders snapped the first photograph of the planet, *Earthrise*, during the Apollo 8 mission. These two images rank among the most influential in history. Research the effects of *Earthrise* and *The Blue Marble* on people around the globe. How do you feel when you look at images, such as these, of our watery planet seen from space?

The history of the Environmental Humanities parallels this emergence of the worldwide environmental movement, especially during the last fifty years. Its two emphases, one political-activist and the other scholarly-academic, often cross-fertilize each other, as evident, for example, in the Rio de Janeiro Earth Summit, also known as the Rio Conference, held by the United Nations in 1992. The summit aimed to balance environmental protection and economic development through the signing of a number of initiatives by participating nations (Van Dyke 2008, 74). It was partly inspired by and helped integrate decades of scholarship on Indigenous culture, humanistic revaluations of nature, and religious and artistic understandings of the environment. As reflected in the example of the Rio Conference, those working within the broad umbrella of EH have inspired public environmental consciousness and contributed

to changes at the global political level. While the sciences may be unmatched in describing environmental change and crisis, the humanities enable us to think more critically about the moral, ethical, social, and cultural dimensions of environmental change and crisis. They enable us to respond to ecological degradation and the dangers of human development and progress in ways that complicate, complement, and extend scientific inquiry. We will look at the ecological effects of human progress in Chapters 2 and 3 of this book.

As EH slowly emerged, it responded to the way the humanities disciplines have traditionally overlooked environmental dimensions through a strong focus on human experience (or what EH writers call *human pre-eminence*). Literary critics, for example, have traditionally viewed the environment as the static setting for staging human dramas. Since the 1990s, however, the emphasis has steadily begun to shift. An article in the *New York Times* from 1995 declared “the greening of the humanities.” The phrase highlights a trend toward greater environmental consciousness in the teaching and study of the arts, humanities, and social sciences (Parini 1995). Feminist theorist Gayatri Chakravorty Spivak (2003), likewise, predicted a humanities “to come” that would be more environmentally attuned and less fixated on human ideals (6). Many EH scholars, therefore, define their purpose as *dehumanizing the humanities* by returning emphasis to the natural world and human–environment relations. This is what is meant by “decentering the human” (a phrase used frequently in the Environmental Humanities).

Case Study 1.2 The 10,000 year clock

Under construction inside a mountain in western Texas, the Clock of the Long Now is a monumental clock engineered to keep time for the next ten millennia. Once finished, it will be about 200 feet (61 meters) tall and will require a day’s walk to reach. With more than 3.5 million possible musical combinations, the clock will produce a different chime each day for 10,000 years. Sunlight will warm up a sealed air chamber resulting in a pressure gradient that will drive a piston and supply power (Möllers 2014). For a technical account of the clock, see Hillis et al. (2011).

Designed by inventor Danny Hillis and author-activist Stewart Brand, the mammoth contraption reflects design principles of longevity, maintainability, transparency, evolvability, and scalability (The Long Now Foundation 2002, 2). The philosophy behind the project is that short-term thinking has got us into a global mess. The colossal clock is meant to remind us of the far-reaching consequences of our decisions. To echo virologist Jonas Salk’s question, “Are we being good ancestors?” (Kelly n.d.).

After viewing the website, jot down your impressions of the Clock of the Long Now (<http://longnow.org/clock>). How might this unusual monument buried in a Texas mountain promote ideas of global environmental conservation?

A humanities to come? EH arrives

Since Spivak spoke over fifteen years ago of a “humanities to come,” the Environmental Humanities has arrived with verve. Reflecting its historical roots, EH is a dynamic discipline-crossing field that combines academic scholarship with environmental activism. This doesn’t mean that you will have to chain yourself to a bulldozer in an old-growth forest threatened by logging (though we won’t stop you). Nor will you need to board a ship bound for Antarctica to protest commercial whaling. But it does mean that, at some point in your exploration of the field, you will most likely find yourself speaking on behalf of the natural

world and engaging with communities of all kinds, including humans *and* more-than-humans. (See Waypoint 1.3 in this chapter for more about the differences between those tricky terms.)

Reflection 1.4 Environmental activism

The Dakota Access Pipeline protests of 2016–17 were initiated by LaDonna Brave Bull Allard in opposition to the construction of an oil pipeline near the Standing Rock Indian Reservation in North Dakota. Chapter 4 will present a case study of this protest, one of the most significant in American history. Many people are uncomfortable with activism: it is disruptive and may often seem angry and anarchic.

What are your general impressions of environmental activism? How do you define activism? Do you consider yourself an activist? If so, what kinds of activism do you take part in? Check out this website for assumption-busting ideas: <https://ideas.ted.com/tag/activism/>.

The last twenty-five years in particular have seen an upsurge of activity in the Environmental Humanities worldwide. Undergraduate and graduate programs have been created at universities in North America, Europe, Asia, Africa, Australia, and elsewhere. Collaborative research centers dedicated to the field have begun to appear. For example, based in Munich, Germany, the Rachel Carson Center for Environment and Society, named after the author of *Silent Spring*, is “an international, interdisciplinary center for research and education in the environmental humanities and social sciences” (RCC n.d.). What’s more, located in Sweden but reaching across the globe, the Seed Box is an EH research hub focused on creating “an interface between academia and other parts of society” (The Seed Box n.d.). Scholarly journals, such as *Environmental Humanities*, *Green Humanities*, *Resilience*, and *Landscapes*, publish the latest research in the field.

In Australia, the field is known as the *Ecological Humanities* and is distinctive for its attention to Aboriginal Australian cultures. In 2004, anthropologist Deborah Bird Rose and historian Libby Robin published one of the earliest articles to define the field as it relates to Australia (Rose and Robin 2004). Taking their lead, we want to emphasize that EH-related teaching, research, and activism are not restricted to Western nations, but embrace cultural, geographical, and biological diversities. In order to showcase that diversity, we now turn to three case studies from South America (the rights of nature), Southeast Asia (sustainable cities), and the Antarctic (ecotourism). The proof of global momentum in the Environmental Humanities is in this kind of dynamic, cross-fertilizing critical inquiry.

Case Study 1.3 Ecuador and the rights of nature

In 2008, the South American country of Ecuador became the first nation in history to recognize officially the rights of nature in its constitution. Prior to this, the idea of nature having rights existed on the radical fringes of politics where it was not taken seriously. The Ecuadorian politician and activist Alberto Acosta played an important part in this landmark event. In a number of papers published on the website of the Constitutional Assembly, he used Aldo Leopold’s idea of the “land ethic” to make a case for the fundamental rights of nature (Tanasescu 2013).

The Constitution lists four articles, numbered 71 to 74, under the heading, “The Rights of Nature.” The first article states that “Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes” (Republic of Ecuador, 2008, Title II, Chapter 7). Referencing *Pacha Mama*, the Andean fertility goddess, article 71 acknowledges the importance of Indigenous people. Article 72 goes on to state that nature has a “right to be restored.” Article 73 places limits on the extinction of species and the destruction of ecosystems. Read the Constitution to find out what Article 74 says.

Do you think that nature has rights? What sorts of issues might come up if your country were to formally recognize nature’s rights within its constitution?

Case Study 1.4 The Garden City of Singapore

Singapore is a city-state about half the size of London. Known as the Garden City and spread out over 64 islands, it has become one of the greenest cities in the world, despite being almost 100% urbanized. Environmentally friendly design has been compulsory since 2008. Vegetation lost to development is replaced by greenery in high-rise gardens. The tallest public housing complex in the world, the Pinnacle@Duxton, contains seven buildings linked by garden walkways (Figure 1.5). Cheong Koon Hean, the first woman in charge of the nation’s urban development agency, has been a major force behind this vision of Singapore as sustainable (Kolczak 2017).

Singapore’s futuristic Gardens by the Bay opened in 2012. Critics have described the massive project as a “sci-fi super-garden” (Lim 2014, 443). The nature park consists of three waterfront gardens, including the Cloud Forest with its enormous 115-foot (35-meter) waterfall. The biggest of the three, Bay South Garden, features Flower Dome, the largest greenhouse in the world, and Supertree Grove with its solar-powered tree statues up to 16 stories high (Figure 1.6). The project aims to minimize environmental impacts through a number of strategies, such as the circulation of rainwater to cool the structure.

What are your first impressions of Gardens by the Bay? How might this “sci-fi super-garden” promote environmental awareness in Southeast Asia and elsewhere? Does Singapore represent a new harmony between humans and nature, or just another technofantasy?

If you really want to dive into this question, look here: http://factsanddetails.com/southeast-asia/Singapore/sub5_7a/entry-3795.html.



Figure 1.5 The Tanjong Pagar Housing Estate in Singapore is shown with the Pinnacle@Duxton in the background.

Image credit: Bob T. (Wikimedia Commons, 2019).



Figure 1.6 The Supertree Grove in The Gardens by the Bay is located in Singapore, an increasingly green Southeast Asian nation.

Image credit: CEphoto, Uwe Aranas (Wikimedia Commons 2015).

Case Study 1.5 Ecotourism in the Antarctic

Ecotourism is a form of alternative tourism that is more sensitive to the social, cultural, and ecological features of a destination. Keen for adventure, ecotourists travel to places to learn more about the ecosystems there. They often participate in low-impact

activities such as trekking, cycling, swimming, and birdwatching. What's more, ecotourists sometimes volunteer on conservation projects while staying in a country or region. A premier destination for a segment of ecotourists is the southernmost continent on the planet, Antarctica. This largest area of wilderness left in the world lacks permanent human settlement and is covered by an ice sheet 1.3 miles (2.1 kilometers) thick on average.

Over 50,000 people head to Antarctica each year during the summer season from October to February. The continent is managed by the Antarctic Treaty System of 1959, which sets out guidelines for conservation and research. Typical ecotourism activities are wildlife viewing and photography, soaking in hot springs, and gazing at the frigid landscape from the comfort of an icebreaker (Fennell 2003, 181–183). Antarctic ecotourism, nonetheless, is not always free of ecological impacts. For example, a musician on an ecotour once scared off a waddle of penguins with his first Antarctic flute performance (Fennell 2003, 183). In addition, there is the question of waste and sewage generated by 50,000 people using carbon-intensive transportation, and the disturbance of landscapes and animal ecologies unused to human intruders.

Should ecotourism in Antarctica be allowed? Or should the last wilderness on Earth be left alone?

Chapter summary

This chapter has introduced the core aims and key terminologies of the Environmental Humanities. We traced the historical roots of EH to a number of disciplinary areas, including art, history, and literature, and showed how the history of EH parallels the development of the worldwide environmental movement during the last fifty years. We described the way EH has responded to the various environmental concerns that humanities disciplines have overlooked because of their traditional focus on the human. The upsurge of worldwide EH activity in the last twenty-five years reflects an increasing awareness among scholars of the importance of balancing scientific and technological solutions to environmental problems with the approaches of the humanities, art, and social sciences. We concluded with three case studies that demonstrate the importance of humanities perspectives on ecological problems.

Exercises

1. Select a current environmental issue that is affecting your town, city, or region. Describe the effects of this issue at three scales: local, national, and global. Write a brief summary.
2. The Environmental Humanities focuses on stories of people and place. Find a story from your local newspaper about your town, city, or region. The story could be of the past, present, or future. Examine the human (cultural) and more-than-human (natural) elements of the story. Evaluate the story's balance of nature and culture—is nature just a setting or a dynamic agent of change? What are the implications for how your newspaper represents human–nature relationships?
3. The Environmental Humanities makes the bold suggestion that the environment is able to tell its own stories. Return to the story you selected for Exercise 2. Consider what the story would be like if told from the perspective of the environment. The story could be told by an animal, plant, rock, river, ocean, or the planet as a whole.

4. The idea of community is central to the Environmental Humanities. Yet, we have shown in Chapter 1 that humans are not the only members of communities. Think of a community you are currently part of. It could be a school, work, civic, or sporting community. Describe the human, non-human, and more-than-human participants.
5. The crossing of disciplines is essential to EH. Get in touch with a friend, colleague, or family member from a different discipline to your own. Perhaps your sister-in-law is a computer scientist and you are an artist. Perhaps your mother is an architect and you are a social worker. Talk with her for 15 minutes about her discipline and what that discipline presumes about the environment. Compare her discipline's presumptions about the environment to your own. How might the two disciplines be combined? What would the advantages and disadvantages be of that synthesis?

Annotated bibliography

- Abram, David. 1997. *The Spell of the Sensuous: Perception and Language in a More-than-Human World*. New York: Vintage. This classic work in an area of philosophy known as *phenomenology* suggests that written language is an instrument that divides human beings from the natural environment. Abram explores the sensuous relationship between Indigenous people and the natural world. He contrasts this experience to the separation from the environment central to cultures with written languages.
- Adamson, Joni, and Michael Davis, eds. 2017. *Humanities for the Environment: Integrating Knowledge, Forging New Constellations of Practice*. New York: Routledge. This volume begins with a consideration of the Anthropocene and includes contributions on a range of geographies, ecosystems, climates, and social contexts. The book includes sixteen chapters divided into three sections: "Integrating Knowledge, Extending the Conversation;" "Backbone;" and "Country," all of which touch on prevailing themes in the field.
- Cronon, William, ed. 1996. *Uncommon Ground: Rethinking the Human Place in Nature*. New York: W.W. Norton. In this landmark study, historians, critics, and scientists call into question the idea of wilderness that has been pivotal to the American conservation movement. The contributors argue that wilderness as not a solution to the global ecological predicament. Rather than focusing on wilderness preservation exclusively, environmentalists should help people acquire the skills needed to live sustainably on the planet.
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- Emmett, Robert, and David Nye. 2017. *The Environmental Humanities: A Critical Introduction*. Cambridge, MA: MIT Press. Drawing from current research, concepts, examples, and case studies, this book is a genealogy of the Environmental Humanities in European, Australian, and American contexts. The text includes ideas of postcolonialism, animal studies, queer ecology, and new materialism.
- Heise, Ursula, Jon Christensen, and Michelle Niemann, eds. 2017. *The Routledge Companion to the Environmental Humanities*. New York: Routledge. With 45 contributions from leading Environmental Humanities scholars today, this edited collection examines the complex transnational and interdisciplinary scope of EH scholarship. Sections address the Anthropocene, posthumanism, multispecies theory, environmental justice, environmental history, environmental arts (including media and technology), and future directions for the field.
- Kornfeldt, Torill. 2018. *The Re-Origin of the Species: A Second Chance for Extinct Animals*. Melbourne: Scribe Publications. This is a timely study of the genetic science known as *resurrection biology*. Written by a science journalist, the book examines the benefits and risks of bringing extinct species back to life.

- Merchant, Carolyn. 1980. *The Death of Nature: Women, Ecology, and the Scientific Revolution*. San Francisco: Harper & Row. Written from an ecofeminist perspective, this seminal study highlights the role of gender in the history of science. Merchant argues that the Scientific Revolution put in place a mechanistic view of the world that now underlies the interlinked exploitation of nature and women.
- Oppermann, Serpil, and Serenella Iovino, eds. 2016. *Environmental Humanities: Voices from the Anthropocene*. Lanham, MD: Lexington Books. Featuring notable scholars in the Environmental Humanities, this edited volume addresses themes of environmental history, transdisciplinarity, ecofeminism, ecocriticism, environmental justice, environmental ethnography, and so forth.

Weblinks

- Environmental Humanities*. This leading journal in the field features open-access articles free to download. www.environmentalhumanities.org
- Intervention: An EHL Podcast. These twelve podcasts were produced by the KTH Environmental Humanities Laboratory at the Royal Institute of Technology (KTH) in Stockholm, Sweden. www.kth.se/en/abe/inst/philhist/historia/ehl/ehl-intervention-pod
- Penn Program in the Environmental Humanities, Penn Sustainability. This is one of the leading EH programs in the United States. www.sustainability.upenn.edu/partners/penn-program-environmental-humanities
- The Aurochs: Europe's Defining Animal. Rewilding Europe. This online resource provides more about the auroch debate discussed earlier in this chapter. <https://rewilding-europe.com/rewilding-in-action/wildlife-comeback/tauros/>
- The Environmental Humanities, High Meadows Environmental Institute. This institute features guest lectures by leading figures in the field. environment.princeton.edu/research/environmental-humanities/
- Welikia Project. Welcome to New York City, 1609, Beyond Mannahatta. The Welikia Project is a cutting-edge example of using digital technologies in the Environmental Humanities. www.welikia.org/explore/mannahatta-map
- What Is the Environmental Humanities? University of California at Los Angeles, Environmental Humanities Program. This website provides a useful introduction to the field. environmental-humanities.ucla.edu/?page_id=52

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Introduction to the Environmental Humanities

Abram, David . 1997. *The Spell of the Sensuous: Perception and Language in a More-than-Human World*. New York: Vintage. This classic work in an area of philosophy known as *phenomenology* suggests that written language is an instrument that divides human beings from the natural environment. Abram explores the sensuous relationship between Indigenous people and the natural world. He contrasts this experience to the separation from the environment central to cultures with written languages.

Adamson, Joni , and Michael Davis , eds. 2017. *Humanities for the Environment: Integrating Knowledge, Forging New Constellations of Practice*. New York: Routledge. This volume begins with a consideration of the Anthropocene and includes contributions on a range of geographies, ecosystems, climates, and social contexts. The book includes sixteen chapters divided into three sections: "Integrating Knowledge, Extending the Conversation," "Backbone," and "Country," all of which touch on prevailing themes in the field.

Cronon, William , ed. 1996. *Uncommon Ground: Rethinking the Human Place in Nature*. New York: W.W. Norton. In this landmark study, historians, critics, and scientists call into question the idea of wilderness that has been pivotal to the American conservation movement. The contributors argue that wilderness as not a solution to the global ecological predicament. Rather than focusing on wilderness preservation exclusively, environmentalists should help people acquire the skills needed to live sustainably on the planet.

DeLoughrey, Elizabeth , Jill Didur , and Anthony Carrigan , eds. 2015. *Global Ecologies and the Environmental Humanities: Postcolonial Approaches*. New York: Routledge. This edited collection focuses on the relationship between the history of globalization and imperialism on environmental issues and their representation. The chapters by noteworthy scholars in EH discuss climate change, militarism, deforestation, petroculturalism, and the commodification of nature through a postcolonial lens.

Emmett, Robert , and David Nye . 2017. *The Environmental Humanities: A Critical Introduction*. Cambridge, MA: MIT Press. Drawing from current research, concepts, examples, and case studies, this book is a genealogy of the Environmental Humanities in European, Australian, and American contexts. The text includes ideas of postcolonialism, animal studies, queer ecology, and new materialism.

Heise, Ursula , Jon Christensen , and Michelle Niemann , eds. 2017. *The Routledge Companion to the Environmental Humanities*. New York: Routledge. With 45 contributions from leading Environmental Humanities scholars today, this edited collection examines the complex transnational and interdisciplinary scope of EH scholarship. Sections address the Anthropocene, posthumanism, multispecies theory, environmental justice, environmental history, environmental arts (including media and technology), and future directions for the field.

Kornfeldt, Torill . 2018. *The Re-Origin of the Species: A Second Chance for Extinct Animals*. Melbourne: Scribe Publications. This is a timely study of the genetic science known as *resurrection biology*. Written by a science journalist, the book examines the benefits and risks of bringing extinct species back to life.

Merchant, Carolyn . 1980. *The Death of Nature: Women, Ecology, and the Scientific Revolution*. San Francisco: Harper & Row. Written from an ecofeminist perspective, this seminal study highlights the role of gender in the history of science. Merchant argues that the Scientific Revolution put in place a mechanistic view of the world that now underlies the interlinked exploitation of nature and women.

Oppermann, Serpil , and Serenella Iovino , eds. 2016. *Environmental Humanities: Voices from the Anthropocene*. Lanham, MD: Lexington Books. Featuring notable scholars in the Environmental Humanities, this edited volume addresses themes of environmental history, transdisciplinarity, ecofeminism, ecocriticism, environmental justice, environmental ethnography, and so forth.

Environmental Humanities. This leading journal in the field features open-access articles free to download. www.environmentalhumanities.org

Intervention: An EHL Podcast. These twelve podcasts were produced by the KTH Environmental Humanities Laboratory at the Royal Institute of Technology (KTH) in Stockholm, Sweden.

www.kth.se/en/abe/inst/philhist/historia/ehl/ehl-intervention-pod

Penn Program in the Environmental Humanities, Penn Sustainability. This is one of the leading EH programs in the United States. www.sustainability.upenn.edu/partners/penn-program-environmental-humanities

The Aurochs: Europe's Defining Animal. Rewilding Europe. This online resource provides more about the auroch debate discussed earlier in this chapter. <https://rewilding-europe.com/rewilding-in-action/wildlife-comeback/tauros/>

The Environmental Humanities, High Meadows Environmental Institute. This institute features guest lectures by leading figures in the field. environment.princeton.edu/research/environmental-humanities/

Welikia Project. Welcome to New York City, 1609, Beyond Mannahatta. The Welikia Project is a cutting-edge example of using digital technologies in the Environmental Humanities.

www.welikia.org/explore/mannahatta-map

What Is the Environmental Humanities? University of California at Los Angeles, Environmental Humanities Program. This website provides a useful introduction to the field.

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Climate change

Flannery, Tim . 2007. *The Weather Makers: How Man is Changing the Climate and What It Means for Life on Earth*. New York: Grove Atlantic. This readable history of climate change science explains what it will mean for life on earth.

Ghosh, Amitav . 2016. *The Great Derangement: Climate Change and the Unthinkable*. Chicago and London: University of Chicago Press. Ghosh completely rethinks how our governing assumptions and accepted methods in science, economics, politics, and literary art render climate change "unthinkable."

Hulme, Mike . 2017. *Weathered: Cultures of Climate*. London and New York: SAGE. One of the world's top climatologists explains the way the idea of climate shapes and is shaped by different human cultures.

Klein, Naomi . 2014. *This Changes Everything: Capitalism vs. the Climate*. New York: Simon and Schuster. This powerful, engaging assessment of how globalized capitalism drives climate change explains how exploited communities can organize to stop it.

Lerch, David , ed. 2017. *The Community Resilience Reader: Essential Resources for an Era of Upheaval*. Washington, DC: Island Press. Short chapters by leading experts in the field review the four main crises (Energy, Environment, Equity, Economy) facing human society and provide case studies and toolkits for addressing them at the community level.

Oreskes, Naomi and Eric Conway . 2010. *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. London: Bloomsbury. This impeccably researched book carefully traces how organized climate denial delayed action on climate change for more than two decades and furthered a neoconservative agenda for deregulation and corporate power.

Walker, Brian and David Salt . 2012. *Resilience Practice: Building Capacity to Absorb Disturbance and Maintain Function*. Washington, DC: Island Press. This practical handbook on resilience thinking includes case studies and models for applying resilience practices to any size system or institution.

Carbon Offsets to Alleviate Poverty. This site offers comparative data on carbon emissions around the world, carbon calculators, information about the relation between poverty and carbon emissions, with ideas for how to offset your own carbon emissions. <https://cotap.org/per-capita-carbon-co2-emissions-by-country/>

Climate Access. This non-profit organization offers education, blogs, networks, and toolkits for organizing communities to address environmental issues and advocate for sustainable solutions. <https://climateaccess.org/>

Climate Justice Alliance. This is a non-profit advocacy organization working for economic and social equality in adapting society to climate change. It focuses on organizing and empowering poor, minority, and indigenous communities that are most vulnerable to the twin impacts of climate change and globalization. <https://climatejusticealliance.org/>

Our World in Data. This Creative Commons project is designed to provide useful, reliable data for understanding and addressing the world's largest problems, including climate change. <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>

Stockholm Resilience Centre. The Centre is a collaboration between Stockholm University and the Beijer Institute of Ecological Economics at the Royal Swedish Academy of Sciences. The site houses education programs, research, podcasts, seminars and other information on building a sustainable world, including guidance on how to do a resilience assessment of your community. www.stockholmresilience.org

The Commonwealth Scientific and Industrial Research Organization. CSIRO is Australia's top association of scientists. They provide Oz-specific information, news, projects and data on climate change and climate change impacts. www.csiro.au/en/Research/Climate

The Fourth National Climate Assessment Report for the US. This report is prepared by the EPA and documents the threats, causes, likely impacts, and mitigation and resilience building efforts by region. <https://nca2018.globalchange.gov/>

The Institute for Development Studies. This is an independent research center based at the University of Sussex, UK. This site offers education and a toolkit for using participatory research methods, essential for most field work in community resilience assessment and town-gown partnerships.

<https://participatorymethods.org/task/research-and-analyse>

The Intergovernmental Panel on Climate Change is commissioned by the UNFCCC to research climate change. This is where you'll find the Reports and other information collated from the world's top scientists. www.ipcc.ch

The Laboratory for Environmental Narrative Strategies, Institute of the Environment and Sustainability at UCLA. The Lab has ongoing research for how storytelling is an important tool to solve environmental problems. www.ioes.ucla.edu/lens/

The MIT Game Lab is dedicated to researching games for teaching about real world problems like climate change, with plenty of inspiring examples. <http://gamelab.mit.edu/>

The Nongovernmental International Panel on Climate Change. This denialist organization publishes reports designed to look deceptively identical to the IPCC reports in order to create confusion. It is sponsored by the Heartland Institute, a denialist organization funded by fossil fuel and neoconservative groups like Koch Industries. <http://climatechangereconsidered.org/about-the-nipcc/>

The Post Carbon Institute. An independent research center, this site offers information, resources, toolkits, seminars, and blogs by leading experts in environmental sustainability. Their vision is a post-carbon society that is fairer, just, healthy, and happy. www.postcarbon.org

The Transition Network. This international organization encourages and trains communities to self-organize in adapting to climate change. The Transition Network advocates for local empowerment, economic and social equality, and rethinking the human project. <https://transitionnetwork.org/>

The United Nations Framework Convention on Climate Change. This is the global governing body overseeing climate change research, negotiation, action, and regulation. 192 countries are members. <https://unfccc.int/>

The US Geological Survey. The Department of the Interior's staff of scientists supports public education on a range of environmental issues, including climate change. www.usgs.gov/science-support/osqi/yes/resources-teachers/college-global-change

The US National Oceanic and Atmospheric Administration (NOAA). The site provides information, news, and project-based learning ideas on climate and weather. www.climate.gov/taxonomy/term/3434

The Yale Climate Connections. An initiative of the Yale University Center for Environmental Communication, this non-partisan, multimedia service provides daily broadcast radio programming and original web-based reporting, commentary, and analysis on the issue of climate change. It is also dedicated to studies of climate change perception. www.yaleclimateconnections.org

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The Anthropocene

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Ellis, Erle C. 2018. *The Anthropocene: A Very Short Introduction*. New York and Oxford: Oxford University Press. Written by a professor of geography and environmental systems, this book provides an accessible review of the geological debates and a discussion of how humans are shaping the future of the planet.

Haraway, Donna . 2016. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press. In this challenging book by founding post-humanist thinker, Haraway proposes that we learn the kind of symbiotic thinking that will enable us to build a more livable future with Earth's family of species—a critical reframing of our crisis epoch as an opportunity to evolve *Homo sapiens*, great potential.

Kolbert, Elizabeth . 2014. *The Sixth Extinction: An Unnatural History*. New York: Henry Holt and Co. A story-driven tale of humanity's encounter with extinction, and the slow recognition that our species is probably causing the next great extinction event in geological history. Science journalism at its best.

McNeill, J. R. and Peter Engelke . 2014. *The Great Acceleration: An Environmental History of the Anthropocene since 1945*. Cambridge: The Belknap Press of Harvard University. The book offers a readable examination of the causes and consequences of the Anthropocene, paying particular attention to energy systems, climate change, urbanization, consumerism, and population. The authors engage with important debates in stratigraphy, geology, economics, geography, and demographics.

Wilson, E. O. 2016. *Half-Earth: Our Planet's Fight for Life*. New York: Liveright. A two-time Pulitzer Prize-winning Harvard biologist examines the human impact on biodiversity and the prospect of survival in the Anthropocene—essential for understanding the relation between biodiversity and human thriving.

Climate Change Theater Action. This is a global collaboration of several theater companies that stage plays thematizing climate change and human impact on the planet; its educational outreach mission assists schools and other groups free of charge with creating their own climate change theater. www.climatechangetheatreaction.com

Haus der Kulturen der Welt. This is an international forum for art, music, literature, and debate about how we think about the Anthropocene, with webcasts, podcasts, performances, webinars, educational exchanges, book reviews, and more. www.hkw.de/en/index.php

PBS Frontline and NPR does investigative journalism on environmental topics such as plastic pollution and industry collusion. This site is a starting point that will lead you to other reports on plastics. www.npr.org/2020/09/11/897692090/how-big-oil-misled-the-public-into-believing-plastic-would-be-recycled

Stratigraphy, The International Stratigraphic Commission. This is the association of scientists overseeing the chronostratigraphic chart and maintaining the standards of measuring and describing Earth history. www.stratigraphy.org

The Anthropocene, Future Earth. This journalistic enterprise is dedicated to science literacy and sustainable innovation. www.anthropocenemagazine.org

The *Anthropocene* Journal. This is a leading scholarly journal publishing peer-reviewed interdisciplinary research on the nature, scope, scale, and significance of human impacts on Earth systems. www.journals.elsevier.com/anthropocene

The Anthropocene Project. This multidisciplinary work by a group of artists integrates film, visual art, multimedia, and science to examine the human impact on planetary systems. See their recent, award-winning film, *The Anthropocene: The Human Epoch*, 2018. <https://theanthropocene.org/>

The Anthropocene Review. This is a scholarly journal publishing peer-reviewed research from the social and natural sciences and the humanities on the causes, history, nature, and implications of a world in which human activities are integral to the functioning of the Earth system. <https://journals.sagepub.com/home/anr>

The Center for Humans and Nature. This organization shares ideas about a socially and ecologically interconnected world through a forum, a blog, and a journal. The following issue addresses art in the Anthropocene. www.humansandnature.org/art-in-the-anthropocene-1

The E. O. Wilson Foundation. This website, named after the great Harvard biologist and dedicated to preserving biodiversity through education, advocacy, dialogue, and support of various projects around the world, offers blogs, book reviews, news, videos, education toolkits, and other programming. <https://eowilsonfoundation.org/>

The Edge, The Reality Club. This is an online forum of conversations with the world's most brilliant, innovative thinkers, on a wide range of topics, including this interview with the Stewart Brand. www.edge.org/conversation/stewart_brand-we-are-as-gods-and-have-to-get-good-at-it

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- Danver, Steven , ed. 2015. *Native Peoples of the World: An Encyclopedia of Groups, Cultures, and Contemporary Issues*. London: Routledge. The three-volume sourcebook provides a valuable introduction to the Indigenous cultures of all regions of the world as well as issues of agriculture, climate change, colonialism, globalization, mining, racism, revitalization, and social discrimination.
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Cordillera Peoples Alliance. This is the website of an independent grassroots organization that works on behalf of the Indigenous communities of the Cordillera region of the Philippines. www.cpaphils.org

Forest Peoples Program. This UK-based human rights organization works with Indigenous people around the world on land rights and livelihoods. www.forestpeoples.org

Indigenous Environmental Network. This US-based network focuses on environmental justice and land preservation. www.ienearth.org/home2

Indigenous Weather Knowledge project. This is a collaboration between Indigenous Australians and the Bureau of Meteorology. The website provides details about the traditional calendars of fourteen Indigenous cultures. www.bom.gov.au/iwk

Man in Search of Man. Available on YouTube, this film from 1974 depicts the Indigenous people of the Andaman and Nicobar islands in the Bay of Bengal. www.youtube.com/watch?v=wSKGqTPzsTM

Native American Ethnobotany. The website is one of the earliest online archives specialized in the plant-based food, medicines, dyes, and fibers of Native Americans. <http://naeb.brit.org>

Survival International. The organization works in partnership with Indigenous communities in South America, Australia, Asia, and elsewhere. Watch this three-minute film to learn about the importance of protecting the last uncontacted people of the world from ecogawking. www.survivalinternational.org

United Nations. The UN works to preserve Indigenous culture, language, and artefacts. This link includes information about international law and treaties. <https://en.unesco.org/indigenous-peoples>

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Environmental anthropology, cultural geography, and the geohumanities

Augé, Marc . 2008. *Non-Places: An Introduction to Supermodernity*. London: Verso. French anthropologist Marc Augé develops the concept of supermodernity to describe the proliferation of non-places, or places of excessive information and space, such as city centers, supermarkets, shopping malls, airports, train stations, hotels, and the digital realm. Augé claims that non-places profoundly shift human consciousness yet are only perceived to a partial extent.

Bachelard, Gaston . 1994. *The Poetics of Space*. Boston: Beacon Press. Published in French originally in 1957. This classic study by French philosopher Gaston Bachelard employs a phenomenological approach to analyze lived experiences of architectural spaces. In particular, Bachelard investigated the role of the imagination and emotions in how humans construct meaning in domestic places.

Dear, Michael , Jim Ketchum , Sarah Luria , and Douglas Richardson , eds. 2011. *GeoHumanities: Art, History, Text at the Edge of Place*. London: Routledge. This trailblazing work explores the potential of the geohumanities through sections on creative places, spatial literacies, visual geographies, and spatial histories. The editors develop four key terms—geocreativity, geotext, geoinagery, and geohistory—of high interest to researchers at the junction of geography and the humanities.

Duncan, James S. , Nuala C. Johnson , and Richard H. Schein , eds. 2008. *A Companion to Cultural Geography*. Hoboken: Blackwell Publishing. This edited collection featuring contributions from leading scholars in cultural geography provides a concise introduction to key theories, approaches, and frameworks such as historical materialism, feminisms, poststructuralism, psychoanalytic approaches, performativity, nationalism, social class, sexuality, public memory, and transnationalism.

Kopnina, Helen , and Eleanor Shoreman-Ouimet , eds. 2017. *Routledge Handbook of Environmental Anthropology*. London: Routledge. This valuable introduction to current trends in this rapidly diversifying field includes sections on the development of environmental anthropology; the new sub-fields of enviromateriality, historical ecology, architectural anthropology, and relational ecology; ecological knowledge, belief, and sustainability; climate change, resilience, and vulnerability; justice, ethics, and governance; health, population, and environment; and environment and education.

Relph, Edward C. 1976. *Place and Placelessness*. London: Pion. Published over four decades ago, Canadian geographer Edward Relph's landmark study is a phenomenological analysis of human experience of place. Articulating the importance of sense of place, the book postulates that the idea of place is rapidly changing as a result of climate change and economic disparities.

Seddon, George . 1972. *Sense of Place: A Response to an Environment, the Swan Coastal Plain, Western Australia*. Nedlands: University of Western Australia Press. Australian geographer George Seddon's study was the first to address sense of place in Australia. Seddon details the plants, animals, soils, and landforms of the biodiverse Swan Coastal Plain of Western Australia where the city of Perth is located.

Williams, Raymond . 1973. *The Country and the City*. New York: Oxford University Press. In this seminal text, cultural studies pioneer Raymond Williams analyzed representations of rural and urban life in English literature since the sixteenth century. Williams argued for the need to trace through history the dualistic opposition between country and city at the center of modern thought. His *Keywords* extends some of this thinking.

Beyond Mannahatta: The Welikia Project. This offers a fascinating example of the geohumanities in practice. A team of researchers spent ten years uncovering and reconstructing the original ecology and topography of Manhattan. <https://welikia.org>

GeoHumanities: Alliance of Digital Humanities Organizations. This is a Special Interest Group (SIG) of the Alliance of Digital Humanities Organizations focusing on spatial, spatio-temporal, and "placial" approaches in the digital humanities. You can subscribe to the mailing list. www.geohumanities.org

GeoHumanities: Space, Place and the Humanities. This academic journal explores key debates in geography and the humanities, including longer articles and shorter creative pieces.

www.aag.org/cs/publications/journals/gh

Native Land. This mapping project is based on the importance of territory acknowledgement as a means of recognizing Indigenous inhabitation and land rights. The map depicts the traditional territories of Indigenous cultures in North America, South America, the Pacific Islands, Australia, and New Zealand. <https://native-land.ca>

Placeness, Place, Placelessness. Curated by geographer Edward Relph, this website offers a wide-ranging overview of concepts of place, sense of place, spirit of place, placemaking, placelessness, and non-place.

www.placeness.com

Stanford Literary Lab. An outstanding example of the geohumanities, this research lab applies computational methods to the study of literature. <https://litlab.stanford.edu>

Visualizing Urban Geographies. This project aims to enable researchers to use digitized and georeferenced maps to enrich historical understandings. <http://geo.nls.uk/urbhist/index.html>

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Environmental history

Bennett, Brett M. and Ulrike Kirchberger . 2020. *Environments of Empire: Networks and Agents of Ecological Change*. Chapel Hill: University of North Carolina Press. Nine transnational, comparative case studies from non-British empires challenge assumptions about the causes, consequences, and networks of biological and ecological change resulting from imperialism.

Fiege, Mark . 2012. *The Republic of Nature: An Environmental History of the United States*. Seattle: University of Washington Press. The book retells the story of America as a coevolution with its environment and is particularly relevant for its race, class, and gender analysis of environmental justice.

Headrick, Daniel R. 2020. *Humans versus Nature: A Global Environmental History*. Oxford: Oxford University Press. Synthesizing vast knowledge of how human-driven environmental changes are interwoven with larger global systems, the book explains humanity's impact on the planet and the planet's influence on the human future.

Hughes, J. Douglas . 2016. *What is Environmental History?* Cambridge and Malden: Polity Press. A short, schematic introduction to the field from one of its most respected practitioners, the book is a wealth of resources for doing EVH at any scale, local to global.

Lafreniere, Gilbert F. 2008. *The Decline of Nature: Environmental History and the Western Worldview*. Salem: Oak Savanna Publishing. This account of Western civilization's ecological impact upon the planet reflects on the dominant ideas that have helped bring us to the brink of environmental, social and economic collapse.

Pyne, Stephen . 2012. *Fire: Nature and Culture*. London: Reaktion Books. The world's leading fire historian offers a succinct survey of fire's long coevolution with humanity, showing how it has defined human culture and is necessary to our survival.

Environmental History, ASHE. This is the field's leading journal, with essays, news, links, and book reviews from top scholars doing cutting-edge, interdisciplinary and international research. <https://environmentalhistory.net/>

Environmental History on the Internet, Carolyn Merchant, UC Berkeley. Maintained by one of the most respected scholars in the field, this website lists the best environmental history websites. <https://nature.berkeley.edu/departments/espm/env-hist/eh-internet.html>

Environmental History Resources, Jan Oosthoek. Managed by an Australian environmental historian, the website offers blogs, videos, bibliographies, essays, reviews, links and other resources that are international in scope and cater to many interests, from student to expert. www.eh-resources.org

Environmental History, Timeline and Historical Insights, Bill Kovarik, Radford University. This is an independent, not-for-profit project focusing on American environmental policies and politics, but links and details provide a broad perspective, particularly for contemporary history. <http://environmentalhistory.org/H-Environment>, Pennsylvania State University. This is a general resource, including book reviews, conference announcements, a course syllabus library, and a survey of films. <https://networks.h-net.org/h-environment>

The American Society for Environmental History (ASEH). The Society advances understanding of human interactions with the natural world through teaching, research, annual conferences, awards, online discussions, public outreach, and a peer-reviewed journal, *Environmental History*. <https://aseh.org/>

The International Consortium of Environmental History Organizations (ICEHO). The Consortium unites history organizations from around the world to foster awareness, understanding, and consideration of the historical dimensions of the human/environment relationship. www.iceho.org

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- Traer, Robert . 2019. *Doing Environmental Ethics*. 3rd ed. New York: Routledge. This comprehensive and accessible introduction to applied environmental ethics covers moral philosophy, ethics and science, ethics and economics, duty, character, virtue, empathy, integrity, rights, policy, and other areas pivotal to the field.
- Williston, Byron . 2019. *The Ethics of Climate Change: An Introduction*. London: Routledge. Williston's overview affords readers a glimpse into the complexities of climate change ethics, an emergent area of ecophilosophy that enlarges continually in response to the urgencies of the planetary crisis.
- Center for Environmental Ethics and Law. The mission of the center is to apply the frameworks of environmental ethics and environmental law to inform local, regional, national, and international decision-making. www.environmentalethicsandlaw.org
- Earth First! This radical environmental activist organization was founded in 1980 in the United States and now has branches across the globe. www.earthfirst.org
- Environmental Ethics: An Interdisciplinary Journal*. The first journal dedicated to the field of environmental philosophy. The index on the journal website lists all issues published between 1979 and 2017. www.cep.unt.edu/enethics.html
- Foundation for Deep Ecology. The mission of the organization is to support campaigns and other activities of value to the future of nature and people. www.deepecology.org/index.htm
- Glossary of Terms in Environmental Philosophy. Like other academic fields, environmental philosophy uses a specialized lexicon. This website provides a comprehensive list of terms frequently appearing in philosophical debates about the environment. www.uwosh.edu/facstaff/barnhill/490-docs/thinking/glossary
- Institute for Social Ecology. A pioneer of ecological approaches to food, technology, and community, this institute offers training programs, intensives, gatherings, and other resources on social ecology.

ecology.org

International Association for Environmental Philosophy. The association organizes academic conferences and disseminates information of interest to scholars in the field. <https://environmentalphilosophy.org>

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- Interfaith Power and Light is a US-based interfaith environmentalist organization sponsoring political advocacy, social assistance, community projects, with toolkits for individuals, congregations and other faith groups. www.interfaithpowerandlight.org/

The Earth Charter is a secular-religious collaboration that unites many philosophical and spiritual teachings in a call for comprehensive earth care, economic justice, and democratic reform. <https://earthcharter.org/>

The Indigenous Environmental Network is an international coalition dedicated to protecting “Mother Earth” and defending sacred lands. www.ienearth.org

The Parliament of World Religions is one of the most respected global, multifaith, ecumenical organizations dedicated to political, economic, and environmental justice from a spiritual perspective. <https://parliamentofreligions.org/>

The Yale Forum on Religion and Ecology, Yale University houses the most important religion and ecology website, containing news, references, videos, links to other works, multifaith scholarship, and other information central to the field. <http://fore.yale.edu/>

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Davis, Heather , and Etienne Turpin , eds. 2015a. *Art in the Anthropocene: Encounters among Aesthetics, Politics, Environments and Epistemologies*. London: Open Humanities Press. Downloadable as a free PDF, Davis and Turpin's edited collection is the most comprehensive source available on the subject of Anthropocene art. The book includes valuable contributions by critics and artists on technology, plastic, islands, plants, animals, and other current topics in the field.

Heginworth, Ian Siddons , and Gary Nash , eds. 2020a. *Environmental Arts Therapy: The Wild Frontiers of the Heart*. London: Routledge. This edited volume comprises five parts: contexts of environmental arts therapy; childhood, love, and attachment; femininity and masculinity; the cycle of the year and the seasons; and elderhood and death. The book is a must-have for readers interested in bringing ecoart into dialogue with environmental therapy.

Kastner, Jeffrey , and Brian Wallis , eds. 1998. *Land and Environmental Art*. London: Phaidon Press. This lavishly illustrated survey of contemporary environmental art focuses on site-specific installations around the world and details significant historical events. Including commentary by renowned critics and philosophers, the book covers Christo's *Running Fence*, Walter De Maria's *The Lightning Field*, and other seminal artworks.

Malpas, William . 2018. *Land Art: A Complete Guide to Landscape, Environmental, Earthworks, Nature, Sculpture, and Installation Art*. Maidstone: Crescent Moon Publishing. Originally published in 2003, this text introduces readers to significant land, environmental, and earthwork artists since the 1960s, including James Turrell, Michael Heizer, Robert Smithson, David Nash, Hamish Fulton, Alice Aycock, and others.

Sonfist, Alan , ed. 1983. *Art in the Land: A Critical Anthology of Environmental Art*. New York, Dutton. One of the earliest in-depth studies of the field, this book is an important reference for readers wanting to know more about the evolution of ecoart.

Agnes Denes Studio. This website provides an illuminating overview of Denes' biography, artworks, and writings over her remarkable fifty-year career. www.agnesdenesstudio.com

Brandalism. This international collective of artists resists the corporate domination of society, space, and ecology. <http://brandalism.ch>

Ecoart Network. Founded in 1999, this network brings together artists with interests in science and ecology. <https://ecoartnetwork.org>

EcoArt Project. Based in New York City, EcoArt Project organizes competitions, exhibitions, and salons. www.ecoartproject.org

Environmental Arts Therapy. Ian Siddons Heginworth's website provides a valuable introduction to the field. www.environmentalartstherapy.co.uk

Green Arts Web. This useful online resource lists key books and journals on environmental art. www.greenarts.org

Gugma Gaia. This environmental activist collective is based in the Philippines but has global reach. <https://gugmagaia.org>

Japingka Aboriginal Art Gallery. This gallery in Freemantle, Western Australia is a center for contemporary Aboriginal fine arts and culture from across Australia, emphasizing ethical collecting, promotion of knowledge about Aboriginal culture, and support of community. <https://japingkaaboriginalart.com/articles/understanding-aboriginal-art/>

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Mosher, Eve. *HighWaterLine: Visualizing Climate Change*. This is the main online resource for Mosher's ongoing ecoart project begun in New York City in 2007. <http://highwaterline.org/about/>

Smithson, Robert. *Spiral Jetty* (1970). This documentary is essential viewing for those interested in the impact of Smithson's *Spiral Jetty* on ecoart. www.youtube.com/watch?v=Dcw-llyF8_Q

Weather Project. This link provides key information on Olafur Eliasson's *The Weather Project*. www.tate.org.uk/whats-on/tate-modern/exhibition/unilever-series/unilever-series-olafur-eliasson-weather-project-0

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- Garrard, Greg . 2012. *Ecocriticism. The New Critical Idiom*. 2nd ed. London and New York: Taylor & Francis. This short introduction to the method of environmental literary analysis covers key terms and approaches, reviews the method's origins and development, and offers further reading.
- Keegan, Bridget and James C. McKusick . 2001. *Literature and Nature: Four Centuries of Nature Writing*. London: Pearson. This anthology includes the essential Anglo-American nature writing in poetry, prose, fiction, non-fiction, travel writing, and essay from the Renaissance to the end of the twentieth century. Its lack of other Anglosphere and world writing is a liability, but it is a foundation on which to build.
- Vidya Sarveswaran , Scott Slovic , Swarnalatha Rangarajan . 2019. *Routledge Handbook of Ecocriticism and Environmental Communication*. London: Taylor & Francis. This anthology of scholarly essays on environmental literature and communication arts charts the history and current practice of analyzing human–nature relations in cultural forms. International in scope, it considers how new trends in information technology are changing the field.

Dragonfly.eco is an excellent database dedicated to literature about our natural world and the human relation to it. It features recent environmental fiction from around the world, including cli-fi, popular, highbrow, children's, young adult, criticism, author interviews, news, and reviews. <https://dragonfly.eco/>

Humanities for the Environment Global Network is an exciting, broad-ranging website documenting the way humanities and the arts can contribute to solving global and local environmental problems. It curates past projects and material to guide you in developing your own projects. <https://hfe-observatories.org/>

The Association for the Study of Literature and the Environment is the leading international organization for literature and environment studies, with links to other regional affiliates in Australasia, Europe, and North America. It has many resources for further study, including the flagship journal *ISLE*, and discussions of the topics addressed in this chapter. www.asle.org

The Rachel Carson Center for Environment and Society hosts a trove of digital content related to culture and the environment. It is of interest to teachers, scholars, students, and the general public. www.environmentandsociety.org

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Aronson, Arnold . 1981. *The History and Theory of Environmental Scenography*. London: Methuen Drama. This early study of environmental theater provides a valuable overview of avant-garde performance, street theater, public spectacles, and immersive pieces in which the theater space encompasses the audience, creating a visceral experience that transcends the visual sense.

Chaudhuri, Una . 1997. *Staging Place: The Geography of Modern Drama*. Ann Arbor: University of Michigan Press. The first book-length treatment of the notion of place in modern theater, Chaudhuri's work investigates expressions of homecoming, homelessness, immigration, and exile in a range of dramatic productions. The themes of place, nature, and culture elaborated by Chaudhuri have been central to ecotheater scholarship over the last three decades.

Fried, Larry K. and May, Teresa J . 1994. *Greening Up Our Houses: A Guide to a More Ecologically Sound Theatre*. New York: Drama Book Publishers. This seminal reference work outlines theater strategies—from set design to onstage performance management—that minimize environmental impacts. Fried and May's handbook was written with green theater practitioners in mind.

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Giannachi, Gabriella , and Nigel Stewart , eds. 2005. *Performing Nature: Explorations in Ecology and the Arts*. Bern: Peter Lang. This collection of essays interrogates the ways in which theater reinforces—or calls into question—ideas of nature, human–environment relations, and sustainability. Contributors appraise the transformative potential of site-specific theater as well as the idea of the natural world as intrinsically endowed with performative capacity.

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Marranca, Bonnie . 1996. *Ecologies of Theater: Essays at the Century Turning*. Baltimore: John Hopkins University Press. Marranca's scholarly elaboration of environmental theater centralizes the role of geography and climate—though not climate change—on performances of various kinds. The book reminds us of the distinction between environmental theater and ecological theater, although, as our chapter has suggested, these two traditions overlap to an extent. For instance, ecological theater often makes use of immersive forms of staging.

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9Thirty Theater Company. This New York-based company strives to enhance the capacity of performers to address ecological concerns in their work. <http://9ttc.org/about.php>

Climate Change Theatre Action. Held biennially, this large global ecotheater initiative coincides with United Nations COP meetings. www.climatechangetheatreaction.com

Earth Matters on Stage (EMOS). Founded by Theresa J. May and Larry Fried in 2004, EMOS is a collective of activists, educators, performers, and researchers who believe in the role of theater in responding to the environmental crisis. www.earthmattersonstage.com

Kinnari Ecological Theater Project. This ecotheater project foregrounds environmental urgencies in Southeast Asian countries. www.kinnarieco-theatre.org

Phantom Limb Company (PLC). This company focuses on climate and environmental justice through movement, puppetry, and multimedia. <http://phantomlimbcompany.com>

Qaggiavuut! The work of this performing arts network centers on issues of decolonization, healing, wellness, and language in Inuit societies. www.qaggiavuut.ca/en/home

Spiderwoman Theater. Founded in 1976, this company produces urban Indigenous performances. www.spiderwomantheater.org

Theater des Anthropozän (Theater of the Anthropocene). Based in Berlin, Germany, this group is concerned with the social, cultural, and environmental perturbations of the Anthropocene. <http://theater-des-anthropozän.de/en/home>

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Environmental film

Bozak, Nadia . 2012. *The Cinematic Footprint: Lights, Camera, Natural Resources*. New Brunswick: Rutgers University Press. Bozak's title is the first in-depth study of the environmental dimensions of film production, distribution, and consumption. The author develops the concept of the "hydrocarbon imagination" to track the historical emergence of film as a medium.

Crist, Eileen . 1999. *Images of Animals: Anthropomorphism and Animal Mind*. Philadelphia: Temple University Press. A landmark work in zoocritical studies of media, Crist's monograph examines historical and contemporary representations of animal behavior.

Cubitt, Sean . 2005. *EcoMedia*. Amsterdam: Rodopi. Cubitt's study focuses on the mediation of environmental issues in popular film and television with case studies of Japanese animation, wildlife documentary, and TV drama.

Ingram, David . 2000. *Green Screen: Environmentalism and Hollywood Cinema*. Exeter: University of Exeter Press. Bringing film studies into conversation with environmental politics and history, Ingram argues that mainstream cinema reinforces romantic views of wilderness, wildlife, and land development.

Kääpä, Pietari , and Tommy Gustafsson , eds. 2013. *Transnational Ecocinema: Film Culture in an Era of Ecological Transformation*. Bristol: Intellect. The contributors to this collection aim to broaden the field of ecocinema studies beyond its historical emphasis on Hollywood films through ecological analyses of East Asian, Latin American, and Australian films.

MacDonald, Scott . 2001. *The Garden in the Machine: A Field Guide to A Field Guide to Independent Films about Place*. Oakland: University of California Press. This early publication in the field examines representations of place in the avant-garde and mainstream cinema of the United States.

Mitman, Gregg . 1999. *Reel Nature: America's Romance with Wildlife on Film*. Cambridge: Harvard University Press. Mitman's monograph suggests that a combination of social demands and emerging technologies generated the popular images in nature documentaries and television programs that have widely influenced contemporary perceptions of wildlife.

Rust, Stephen , Salma Monani , and Sean Cubbitt , eds. 2013. *Ecocinema Theory and Practice*. New York: Routledge. A foundational text in ecocinema studies, this edited collection introduces key concepts in ecocinema theory, aesthetics, ethics, and practice in documentary and fictional films.

Anthropocene Cinema. This academic blog explores connections between cinema and the Anthropocene. www.anthropocene-cinema.com

Bogomolova, Anna. A 15-second TikTok video, "Effects of Global Warming on a Human" demonstrates the uptake of video production software by the environmentally concerned public. www.tiktok.com/@anna/video/6711663104222039301

Eckerd College Environmental Film Festival. This campus-based ecofilm festival has been running since 2008. www.environmentalfilmfest.com

Environmental Film Festival Australia. Since 2010, this Australian film festival has taken place annually in cities across the country. www.ffa.org.au

Environmental Film Festival in the Nation's Capital. Based in Washington, DC, this is considered the largest environmental film festival in the world. <https://dceff.org>

Finger Lakes Environmental Film Festival (FLEFF). Located at Ithaca College in Upstate New York, FLEFF is an example of a regional environmental film festival. www.ithaca.edu/fleff/

Green Film Network (GFN). With its headquarters in Innsbruck, Austria, this association promotes communication and collaboration regarding ecocinematic engagements with environmental issues. <http://greenfilmnet.org>

Indonesia Nature Film Society. This organization supports the production of documentaries about Indonesian nature and culture. <http://inaturefilms.org>

International Wildlife Film Festival (IWFF). Founded in 1977 in Missoula, Montana, IWFF is the oldest environmental film festival in the world. <https://wildlifefilms.org>

The Anthropocene Project. Through the interplay of art, film, virtual reality, and science, the project explores Anthropocene urgencies and planetary futures. <https://theanthropocene.org>

tiNai Ecofilm Festival. Based in India, this ecofilm festival calls attention to ecocinema in South Asia. <https://teff.in/>

Wild and Scenic Film Festival. Taking place annually in California, this five-day festival involves numerous partnerships with local grassroots organizations. www.wildandscenicfilmfestival.org

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- Willoquet-Maricondi, Paula . 2010a. "Introduction: From Literary to Cinematic Ecocriticism." In *Framing the World: Explorations in Ecocriticism and Film*, edited by Paula Willoquet-Maricondi , 1–22. Charlottesville: University of Virginia Press.
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Environmental journalism

- Angler, Martin . 2017. *Science Journalism: An Introduction*. London: Routledge. This accessible guide provides practical information oriented toward producing journalistic content about science, technology, and industry.
- Doyle, Julie . 2016. *Mediating Climate Change*. London: Routledge. The author explores how the mediation of climate change affects our thinking about the issue.
- Frome, Michael . 1998. *Green Ink: An Introduction to Environmental Journalism*. Salt Lake City: University of Utah Press. This pioneering text provides valuable insights into environmental journalism as well as stories of other journalists who left their mark on the field as we know it.
- Herndl, G. Carl , and Stuart C. Brown , eds. 1996. *Green Culture: Environmental Rhetoric in Contemporary America*. Madison, WI: University of Wisconsin Press. This early publication in environmental communication argues that ecological issues reflect different discourses about the Earth.
- Lewis, M. Jane , David B. Sachsman , Renee M. Rogers , Bernadette West , and Michael R. Greenberg . 1995. *The Reporter's Environmental Handbook*. New Brunswick: Rutgers University Press. This early publication in the field is a practical guide for journalism professionals interested in covering air pollution, urban sprawl, bioterrorism, and other environmental issues.
- Sachsman, David B. , James Simon , and JoAnn Myer Valenti . 2014. *Environmental Reporters in the 21st Century*. London: Routledge. This co-authored book appraises the development of the American environmental beat as an outgrowth of broader changes in journalism and technology.
- Sachsman, David B. and JoAnn Myer Valenti , eds. 2020a. *The Routledge Handbook of Environmental Journalism*. London: Routledge. This substantial thirty-seven-chapter collection is the single most up-to-date and geographically comprehensive source of information about environmental journalism around the world. Six parts cover the history of journalism and the environment; environmental journalism in the United States; in Europe and Russia; in Asia and Australia; in Africa and the Middle East; and in South America.
- Wyss, Bob . 2008. *Covering the Environment: How Journalists Work the Green Beat*. London: Routledge. This valuable primer provides practical insights into environmental journalism through four sections: introducing the beat; reporting the beat; writing the beat; and understanding the beat.
- Center for Environmental Journalism (CEJ). Located at the University of Colorado, Boulder, the CEJ aims to enhance journalists' knowledge of the scientific, social, political, and economic dimensions of environmental issues. www.colorado.edu/cej
- Committee to Protect Journalists (CPJ). This independent organization advocates for press freedom internationally and defends the rights of journalists. <https://cpj.org>
- Covering Climate Now (CCNow). This journalism partnership brings together more than 400 news sources from around the world including television, radio, online, and print outlets. www.coveringclimatenow.org
- Earth Journalism Network (EJN). Members of this global network of journalists are interested in environment and climate. <https://earthjournalism.net>
- Earthwatch. Podcasts feature conservationists, activists, and other expert speakers on current environmental topics. <https://earthwatch.org/stories/podcasts>
- EnviroLink. As of the world's oldest and largest environmental information clearinghouses, EnviroLink Network is committed to creating dialogue between volunteers and organizations across the globe. www.envirolink.org
- Environmental Health News (EHN). Founded in 2002, EHN publishes environmental news with an emphasis on health and climate. www.ehn.org
- Forum of Environmental Journalists in India (FEJI). This organization focuses on training media practitioners and forming partnerships between various agencies concerned with environment and development in India. www.feji.org.in

Inside Climate News (ICN). This Pulitzer Prize-winning news organization is dedicated to climate change, energy, and environment. <https://insideclimatenews.org>

Knight Center for Environmental Journalism. Founded at Michigan State University in 1994, the Knight Center trains student and professional journalists in environmental reporting. <https://knightcenter.jrn.msu.edu>

Oxpeckers Center for Investigative Environmental Journalism. Africa's first environmental journalism organization has pioneered the practice of geojournalism. <https://oxpeckers.org>

Pew Research Center. Using opinion polls, demographic analysis, and other data-focused methods, Pew conducts research about major issues including the environment. www.pewresearch.org

Reporters Without Borders (RSF). Founded in 1985 by journalists in France, RSF promotes freedom of information globally. <https://rsf.org/en>

Society of Environmental Journalists (SEJ). Created in 1990, SEJ focuses on North American environmental journalism. www.sej.org

The Guardian Environment Network. This clearinghouse serves as a nexus for environmental news websites. www.theguardian.com/environment/series/guardian-environment-network

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Bjornerud, Marcia 2018. *Timefulness: How Thinking Like a Geologist Can Help Save the World*. Princeton: Princeton University Press. A geologist by training, Bjornerud urges the public development of *timefulness* as awareness of the Earth's deep history and knowledge of the extent of human impacts on the biosphere.

Mišík, Matúš , and Nada Kujundžić , eds. 2021a. *Energy Humanities. Current State and Future Directions*. Cham: Springer Nature. This edited collection offers the most current overview of the energy humanities including critical analyses of energy transitions, decarbonization, climate policy, nuclear power, and other key debates.

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Anthropocenes Network. This international network of scholars in the sciences, social sciences, humanities, and arts is committed to the development of innovative approaches to environmental research.

<https://anthropocenes.org>

Bachelor of Arts in Environmental Humanities, Sterling College, Vermont, USA. This undergraduate program includes courses in environmental literature, creative writing, art, philosophy, and cultural studies.

<https://sterlingcollege.edu/academics/environmental-humanities>

Centre for Health, Medical, and Environmental Humanities, University of Liverpool, UK. The work of this interdisciplinary group centers on questions of climate change, environment, health, and human–animal relations. www.liverpool.ac.uk/humanities-social-sciences-health-medicine-technology/themes/environmental-humanities

Deep Sea Mining Campaign. This project of the Ocean Foundation aims to raise awareness of the ecological consequences of deep sea mining. www.deepseaminingoutofourdepth.org

Doctoral Program in Environment and Society, Rachel Carson Center (RCC), Munich, Germany. This doctoral program invites candidates in the humanities, social sciences, and natural sciences to study topics at the interface between nature, environment, and culture. www.proenviron.carsoncenter.uni-muenchen.de/index.html

Energy Humanities. Edited by Imre Szeman and colleagues, this website offers a wealth of material on the energy humanities. www.energyhumanities.ca

Environmental Humanities Center, Amsterdam, Netherlands. Founded at Vrije Universiteit in 2016, this center aims to bring together researchers, students, and members of the public interested in humanities approaches to environmental concerns. <https://environmentalhumanitiescenter.com>

Environmental Humanities Graduate Program, University of Utah, Salt Lake City, Utah, USA. This master's program focuses on communication, literature, history, climate justice, and leadership. <https://environmental-humanities.utah.edu>

Environmental Humanities Program, High Meadows Environmental Institute (HMEI), Princeton University, Princeton, New Jersey, USA. This program encourages environmental scholarship among faculty members, researchers, and students from humanities disciplines.

<https://environment.princeton.edu/research/environmental-humanities>

Environmental Humanities South, University of Cape Town, South Africa. This research cluster explores issues of sustainability, wellbeing, and nature with a special emphasis on Africa.

www.envhumsouth.uct.ac.za

Environmental Humanities Switzerland. The aim of the network is to strengthen humanistic environmental research in Switzerland. <https://environmentalhumanities.ch>

Epidemics and Ecologies. This page offers a useful collection of information about the pandemic humanities.

www.iceho.org/epidemics-and-ecologies

Extinction Studies. The work of this humanities group concerns all dimensions of species extinction.

<http://extinctionstudies.org>

Humanities for the Environment Network (HfE). The objective of this initiative of the Consortium of Humanities Centers and Institutes is to consolidate information about research into the humanities and environment. <https://chcnetwork.org/networks/humanities-environment>

KTH Environmental Humanities Laboratory, KTH Royal Institute of Technology, Stockholm, Sweden. This initiative focuses on environment, energy, media, and technologies.

www.kth.se/en/2.48036/2.45962/environmentalhumanities

Nordic Environmental Humanities. This website offers a gateway for Environmental Humanities research in the Nordic region. <https://nordic-envhum.org>

Oslo School of Environmental Humanities (OSEH), Oslo, Norway. This initiative promotes humanistic environmental research at the University of Oslo. www.hf.uio.no/english/research/strategic-research-areas/oseh

Pandemics in Context. This valuable collection of resources sheds light on humanistic responses to pandemics including Covid-19. www.environmentandsociety.org/mml/pandemics-context

Petrocultures. Founded in 2011 at the University of Alberta, Canada, this group supports research into the social, cultural and political consequences of oil consumption. www.petrocultures.com

Sweetgrass, Microcosms: A Homage to Sacred Plants of the Americas. Featured in the discussion of confocal microscopy in Case Study 14.1, sweetgrass is a plant species held as sacred among Native North Americans. <https://library.artstor.org/#!/asset/28708824;prevRouteTS=1603248374183>

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