



SHANNON O'LEAR

# Environmental Politics

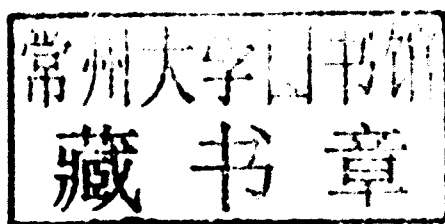
Scale and Power

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# ENVIRONMENTAL POLITICS: SCALE AND POWER

SHANNON O'LEAR

*University of Kansas*



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# ENVIRONMENTAL POLITICS

## Scale and Power

In this book Shannon O'Lear brings a geographer's perspective to the important subject of environmental politics. Our thinking about specific environmental problems tends to be locked in at particular spatial scales, which limits our understanding of how those issues have been created, maintained, or hidden from view. This book considers issues of climate change, oil and energy, food security, toxins, waste, and resource conflict to explore how political, economic, ideological, and military power have contributed to the generation of environmental issues and the formation of dominant narratives about them. The book encourages the reader to think critically about the power dynamics that shape (and limit) how we think about environmental issues and to expand the reader's understanding of why it matters that these issues are discussed at particular spatial scales. Applying a geographer's sense of scale and power leads to a better understanding of the complexity of environmental issues and will help formulate mitigation and adaptation strategies.

The book will appeal mainly to advanced students and researchers of environmental politics from a geography background but will also appeal to social and political scientists who wish to look at the topic from this different perspective. Although the book reviews and applies theoretical concepts of scale and power, it limits the use of jargon and presents ideas and information in a style accessible to a broad audience.

SHANNON O'LEAR is a Professor of Geography and Environmental Studies at the University of Kansas. Her research has focused on energy, environment, and politics in the South Caucasus. She has also published on environmental terrorism, territorial conflict, and genocide. She teaches courses on environmental policy, environmental geopolitics, and on Russia and Eurasia. She has won a prestigious W. T. Kemper Fellowship for her teaching and her work with students. She is an active member of the Association of American

Geographers (AAG) and has served as President of the Political Geography and the Russian, Central Eurasian and East European specialty groups of the AAG. In addition to her teaching and research, Dr. O'Lear is active in outreach to encourage students to become more thoughtfully engaged in geography and environmental studies. She is highly respected by both faculty and students as an outstanding researcher, teacher, and mentor.

*Cover image translation:* the sign on the cover image in Hindi is a business address and reads as follows:

“Sunil Kakkar

Nigam Parshad (Vine [word unclear] 89)

Member of the permanent organisation D.N.Ni.

609, Gali Ket Wali [literally “the narrow lane with the ket”], Pahargunj”

This book is lovingly dedicated to Maeve and Cian, my bliss.  
Knucks!

## Acknowledgements

My first word of thanks must go to my students who, each semester, have challenged and inspired me to challenge and inspire *them* with innovative, humorous, and (they tell me) sometimes depressing insights about things they may not have thought about before. My Environmental Policy and Environmental Geopolitics classes, in particular, have road tested much of the material in this book. Graduate students in my seminar courses, through their work on an array of intriguing research topics, have expanded my knowledge considerably. I am grateful for their patient support throughout my focused effort on this book project and for their offerings of news items, humorous clips, and music. My colleagues in the Geography Department, the Environmental Studies Program, and the Center for Russian, East European and Eurasian Studies were accommodating and understanding about me undertaking this project without the benefit of a sabbatical. If at times I was less available than they might have liked, they were kind enough not to bring attention to it. Darin Grauberger and Eric Weber in Cartographic and GIS Services here in the Geography Department deserve recognition for their professional devotion of time and their diligent response to my enthusiastic requests for graphics.

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entails. I enjoyed working with all of the artists and researchers whose visual work appears in (and on) this book. I am honored that they have so graciously contributed their talents to this effort.

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# Contents

<i>Acknowledgements</i>	<i>page viii</i>
1 Introduction	1
2 Climate change	27
3 Oil and energy	55
4 Food security	87
5 Garbage and waste	117
6 Toxins	145
7 Resource conflict	172
8 Conclusion	201
<i>References</i>	208
<i>Index</i>	227

# 1

## Introduction

### Introduction

The cover of the 15th anniversary (June 2008) issue of *Wired* magazine says it all:

Attention Environmentalists:

Keep your SUV.

Forget organics.

Go nuclear.

Screw the spotted owl.

If you're serious about global warming, only one thing matters: Cutting carbon. That means facing some inconvenient truths.

In typical, edgy *Wired* style, several short commentaries explain how what we thought was good for the environment turns out to be all wrong. Organic food is often grown in energy-dependent greenhouses and requires extensive transport to market. Air conditioning generates less CO<sub>2</sub> than does heating. Urban centers are more energy efficient than suburban sprawl. Old growth forests do not have the same carbon sequestration capacity as do younger forests, and “pound for pound, making a Prius contributes more carbon to the atmosphere than making a Hummer, largely due to the environmental cost of the 30 pounds of nickel in the hybrid’s battery” (p. 163).

At the end of the section is a final, brief commentary titled “It’s Not Just Carbon, Stupid.” It would be easy to miss after all of the photographically rich challenges to green thinking, but this short piece is essentially a rebuttal to the central story. The author argues that focusing solely on greenhouse emissions is not a realistic way to understand environmental problems and that such a focus “blinds us to more sustainable, and ultimately more promising, solutions.” Indeed, reducing humans’ relationship with the physical environment to the cycle of a single gas molecule misses many of the political,

social, and economic dimensions underlying predominant environmental narratives.

The objective of this book is to reconsider several, significant environmental issues by looking at two related aspects of each: the spatial scale at which these issues are generally discussed and understood and the politics that bring these issues to our attention or, in some cases, obscure them from our view. In each instance, the case will be made that the scale of the particular issue needs to be reconceptualized if we are to understand the issue more completely and develop more appropriate responses and adaptations. This book will demonstrate an explicitly geographic perspective by integrating concepts of spatial scale and power into the discussion of a selection of timely environmental concerns. Applying a geographer's sense of scale and power helps us to understand the complexity of environmental issues while at the same time highlighting ways in which spatial scales of our narratives about and of our responses to environmental issues are not necessarily well matched to the problem.

### **What is the environment?**

To clarify the point of departure for this book, it is helpful to consider the title. The word “environment” is used in so many contexts that its intended meaning is not immediately clear. We hear about businesses that care about the “environment,” we know people who are “environmentalists,” we hear about “environmental change” in the news. We can think of the environment as the physical realm from which we draw resources to sustain our lives and our societies, but we have also created understandings of what the environment is and what our relationship to it is. Where is the environment, for example, in an aquarium? People visit an aquarium to see exotic fish and, presumably, to learn about the places from which those fish come. Aquarium developers have learned that people do not come to see “brown” fish. They want to see colorful fish from distant parts of the world that they may not actually be able to travel to themselves. What many aquarium visitors may not know is that the demand for exotic, colorful fish has fostered illegal trade in fish which often depends on a practice known as cyanide fishing. Cyanide fishing involves stunning fish with a blast of cyanide, usually issued with a plastic squeeze bottle by fishers who have few other options for employment. Stunned fish are easy to catch and sell to middlemen who then make these exotic fish available on a global black market. There is more than a single “environment” in this scenario. There is the environment of the aquarium, which is a constructed place where people expect to go and learn about

“nature.” Aquaria tend to foster the idea that there is a pristine environment “out there” that we can appreciate by looking at members of its ecosystem. Yet there is also the environment where fish are being stunned and sold and where people are engaging in this activity out of economic desperation. How did that environment come to be? The point is that there is no single “environment,” but instead there are many environments demonstrating a complex interplay of “nature” and society.

What difference does it make if we think of ourselves – as people and as societies – as distinct or separate from our physical, “natural” environment? It is an interesting question because we might imagine that if we are separate from the environment, there is some distance between our activities and their affects on other places. If we think of ourselves as distinct from our environment, we might also think that the distance between us and the environment allows us a degree of control or an ability to manipulate ecosystems without harming our own potential for well-being. This view of humans as separate from nature has roots in Judeo-Christian thinking and is evident in many ways in Western societies today. Even before industrialization took off in Britain, for example, Francis Bacon (1561–1626) promoted his view that “science would restore [man’s] dominion over nature” (Peltonen 1996, p. 19). This perspective encouraged the view that the physical, natural environment was something to be tamed and controlled for the benefit of society. We can see even in more recent times the idea that humans are separate and “in control” of the environment.

Gifford Pinchot, grandfather of the National Forest system in the US, is famous for coining the phrase “Conservation means the wise use of the earth and its resources . . . for the greatest good of the greatest number for the longest time” (Pinchot 1947, p. 505). His view of forestry was that “Forestry is Tree Farming. Forestry is handling trees so that one crop follows another. To grow trees as a crop is Forestry” (p. 31). Nature, clearly, was something to be managed. When Pinchot looked upon the status of forests in the USA in the late 1800s, he saw that there were no guidelines to how people were utilizing the natural resources of the country. He made it his mission to establish a theory and practice of forestry that would enable the continued production and use of natural resources for national economic benefit. After devoting over half of a century of his life to forestry, Pinchot shared his observation that “The earth and its resources belong of right to its people” and that “The first duty of the human race . . . is to control the use of the earth and all that therein is” (p. 505). Clearly this view distinguishes the environment as distinct from humans and as something that should be managed and controlled by humans for the benefit of humans. This perspective persists to

this day and is practiced by groups such as the US Forestry Service, which is based on a multiple use approach allowing hiking, timber harvesting, and sometimes mining in federally owned forests. Ducks Unlimited exemplifies a category of organizations that draw upon this philosophy too, as they seek to maintain habitat for ducks and other waterfowl for the benefit of recreational hunters. The very principle of conservation is that environmental resources can and should be managed for humans' economic benefit as well as for the maintenance of ecosystem services. This view necessarily distinguishes humans from "the" environment.

At about the same time as Gifford Pinchot was working to advance a conservationist philosophy in the US, Russian and then Soviet planners were promoting similar views about the physical environment. Adhering to the Marxist labor theory of value (Debardeleben and Hannigan 1995), they looked at natural resources as having little if any inherent value in and of themselves until human labor was applied to "make" something out of timber, minerals, and surging water. The driving force behind Stalin's government in the 1920s was to prepare the Soviet Union for war and expand military capacity. To do that, various inputs were required, and the economy was set on five-year plans with specific production goals. Meeting these demanding goals was required, and over-reaching the production quotas was rewarded. Economic incentives unintentionally encouraged waste by rewarding fulfilment of narrow output goals rather than cost reduction and profit maximization. The Soviet economic system not only placed a priority on expanded material output but was driven by an obsession with "gigantomania" – really large endeavors such as dams and river diversions – and scientific-technical prowess especially in heavy industrial and military industrial sectors. Granted, there were strong traditions of environmental regulation that had roots in pre-revolutionary Russia, such as the protected land system and *zapovedniki* network that valued nature on its own terms (Oldfield 2005), and the expansive Soviet system did not result in a uniform degree of environmental damage (see Figure 1.1). Nevertheless, it is instructive to note parallels in attitudes that have viewed humans as distinct from "nature" in different contexts.

Geographers have long recognized humans' capacity to alter the environment. For example, George Perkins Marsh's book, *The Earth as Modified by Human Action*, published in 1874, is still cited today as a classic text of the discipline. Recently, we have become increasingly aware of the reach and depth of changes made to the physical environment by humans: by altering entire watersheds and ecosystems with chemical fertilizers; through repeated nuclear weapons testing, use, and nuclear accidents such as Chernobyl; by

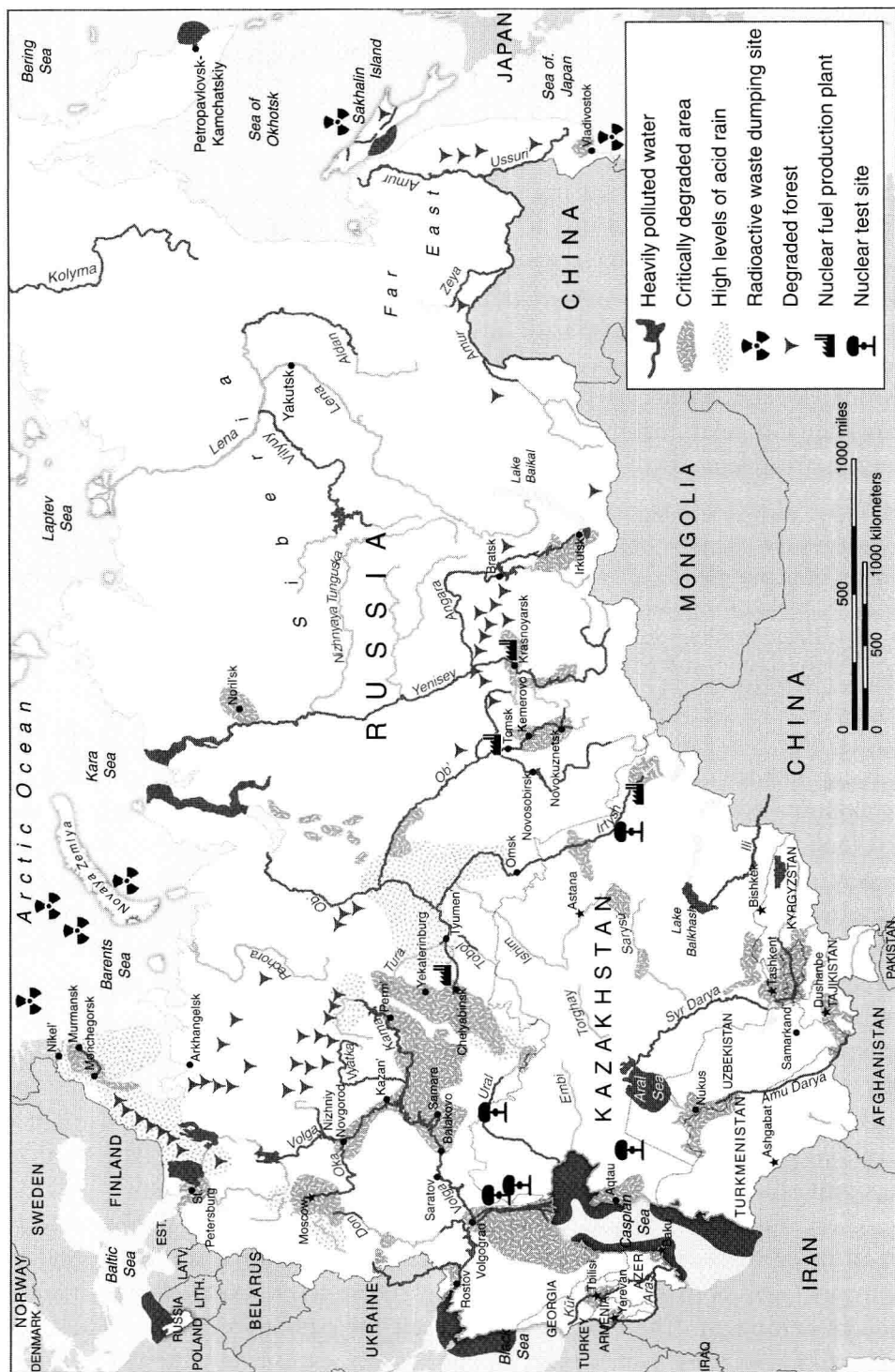


Figure 1.1 The Soviet environmental legacy. Adapted from (a) Peterson, (1993); (b) Russia: environmental problem areas (1998). In *Handbook of International Economic Statistics*. <http://www.lib.utexas.edu/maps/commonwealth.html>, accessed 4 December 2009; (c) UNDP, UNEP, OSCE, (2004); (d) UNDP, UNEP, OSCE, (2003).

releasing industrial volumes of chemicals such as chlorofluorocarbons and sulfur dioxide into the air sufficient to alter the atmosphere at regional and global scales; by generating and emitting long-lasting, cross-media persistent organic pollutants that have negative health effects on people and animals from the tropics to the poles; by removing a significant percentage of fish from the oceans; by increasing energy consumption; by building dams and river diversion projects – just to name a few examples. Scholars have made the case that humans have essentially brought about a new geologic era known as the Anthropocene which is characterized by irreversible, human-induced change to the globe (Crutzen and Stoermer 2000; Crutzen 2002). Simon Dalby (2007b; see also Dalby 2002) has observed that recognizing the Anthropocene opens up the opportunity to reconsider not only human–environment relationships but also the very basis of our understanding of spatial arrangements of power:

Security threats to modernity, long the preoccupation of the discipline of international relations, have usually assumed that threats are external to states, a matter of manipulation of external environments. But in the case of environment it is clear that such formulations are seriously misleading because it is the consequences of industrial production, and the appropriation of resources and displacement of populations as a result of these appropriations, which are causing the environmental changes that are supposedly a threat in the first place.

(*p. 113*)

Taking the idea of the Anthropocene seriously, Dalby argues, gives us reason to examine how our economic and political systems have contributed to the irreversible manipulation of the air, water, and ecosystems on which we depend. He challenges us to reconsider ways in which ecological issues tend to enter into political dialogue and to pay attention to spatial patterns associated with those ecological issues. Where are the “haves” and the “have nots” when it comes to resource issues, and how does our society identify and prioritize environmental “problems” and solutions? Who benefits from “our” environmental priorities, and which places or groups of people are left with few alternatives or limited options for improving their own chances for survival? How might we conceive of rearranging our systems of governance and ways in which political power and decision-making are distributed in recognition of humans’ integral relationship with the environment?

A key objective of this book is to encourage the reader to think critically about how environmental issues are discussed in mainstream media and in conversations both public and scholarly. There is no overarching, singular understanding of “the environment” used throughout this book. Instead, each topic will be considered in how it represents an entanglement of

environmental, spatial, economic, social, and political processes. By examining the cases included in the book, which represent but a small selection from a staggering array of current environmental concerns, the book demonstrates how two particular tools or perspectives may be applied to environmental topics even beyond the covers of this book. These two tools help us in a critical assessment of environmental issues which means that we will question assumptions made both overtly and implicitly in how these issues are discussed and presented. The two tools or perspectives that frame the inquiry in this book are spatial scale and power. The following sections elaborate on these concepts.

### Scale

Thinking spatially, as geographers do, involves looking at ways in which various phenomena interact across space. A way to capture the spatial dimension of a particular process is to look at its spatial scale. What is scale? Geographers consider spatial scale one of several concepts defining the discipline alongside other core geographic concepts such as territory, space, and place. An important beginning point to understanding how scale is conceived throughout this book is that scale is not the container for human activity. Instead it is a spatial product of human activity. Human processes produce spatial scales. We might think of administrative levels (e.g., city, county, state, country, etc.) as scales, and administrative levels are one, narrowly defined type of scale, but human processes of defining territory and administrative units have created these levels of activity. Social practices or activities may coincide with administrative levels (e.g., state- or city-level activities), but scale is described in part by how these activities are related to, constrained by, or enabled by other processes. For example, a group of students enrolled in a particular university or college is beholden to the rules, regulations, and opportunities associated with that institution, yet those administrative aspects of the university do not necessarily describe the full spatial scale of student activity. That same group of students might be involved in a study abroad program in Ecuador, a national political campaign, or a service learning project through which they engage with a local community off campus. These activities constitute a spatial scale of activity that might be made possible through the students' matriculation in the university, but these activities also expand the spatial dimension of student experience that is not necessarily captured or contained by the institution's physical or administrative structure. This illustration shows why equating the student "university experience" to the scale of the university



campus misses important spatial dimensions of student activity that may be part of a student's university career. Scale is more than administrative level as the following discussion aims to explain.

Across natural and social sciences, scale has multiple meanings including the spatial extent of a study area (observational scale), the resolution of data (measurement scale), the spatial extent of particular processes (operational scale), and the representation of phenomena on a map (cartographic scale) (Lam and Quattrochi 1992). In recent years, scholars have continued to discuss and debate the meaning of scale (see Howitt 1998, Marston 2000, Herod 2003, Sheppard and McMaster 2004, and Mamadouh *et al.* 2004 for more thorough reviews of the literature), but part of the difficulty in understanding what is meant by scale is that there are different and often implicit definitions, models, and understandings of scale that are frequently used without distinction (see Sheppard and McMaster 2004).

Robert Sack, a geographer, has considered how humans construct places to meet our needs and according to our values and views of reality (Sack 2001). At some point the work of constructing a place began with bare ground and parameters of the physical environment, but constructing places can also refer to how groups of people have constructed cities, farms, schools, hospitals, churches, athletic clubs, national parks, military bases, demilitarized zones, refugee camps, research centers, neighborhoods, homes, and other places that meet particular needs or objectives of a society. People are constantly engaged in changing or maintaining places, and that means changing or maintaining rules about whom or what a particular place includes or excludes. Places are necessary for spatial interactions such as the flow of ideas, practices, and physical materials.

If we are interested in how a place and processes unfolding in a place are connected to other places, then we are interested in scale. Scale can be understood as a relationship among specific processes and places. We can think of scale as having three elements: place, actors, and a relational dimension that links places and actors (O'Lear and Diehl 2007). Place refers not only to a physical location but also rules, values, and meanings associated with a place. How is a place maintained, monitored, controlled, valued, described, and justified? Actors can include states, individuals, corporations, scientists, journalists, organizations, consumers, producers – in short, any type of agent that plays a role in a particular phenomenon. Places and actors are linked in different kinds of relationships of exchange that might be social, economic, political, or physical. The spatial scale of any particular process can be described by relationships among actors and places and includes systems of rules or values that emerge to shape these relationships. Scale