

# Global Political Ecology

*Edited by*

**Richard Peet, Paul Robbins and  
Michael J. Watts**

# Global Political Ecology

**Edited by Richard Peet,  
Paul Robbins, and  
Michael Watts**



First published 2011  
by Routledge  
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Simultaneously published in the USA and Canada  
by Routledge  
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group, an informa company*

© 2011 Richard Peet, Paul Robbins, and Michael Watts

The right of Richard Peet, Paul Robbins, and Michael Watts to be identified as editors of this work has been asserted by them in accordance with the Copyright, Designs and Patent Act 1988.

Typeset in Times New Roman by  
Keystroke, Tettenhall, Wolverhampton

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

*British Library Cataloguing in Publication Data*

A catalogue record for this book is available from the British Library

*Library of Congress Cataloguing in Publication Data*

Global political ecology / edited by Richard Peet, Paul Robbins, and Michael Watts.  
p. cm.

1. Political ecology. I. Peet, Richard. II. Robbins, Paul, 1967- III. Watts, Michael.

JA75.8.G56 2010

304.2—dc22

2010012691

ISBN: 978-0-415-54814-4 (hbk)

ISBN: 978-0-415-54815-1 (pbk)

ISBN: 978-0-203-84224-9 (ebk)

# Notes on contributors

**Karen Bakker** is Associate Professor and Director of the Program on Water Governance, University of British Columbia, Canada.

**João Biehl** is Susan Dod Brown Professor of Anthroplgy and Woodrow Wilson School Faculty Associate at Princeton University. He is also the Co-Director of Princeton's Program in Global Health and Health Policy.

**Gavin Bridge** is Reader in Economic Geography in the School of Environment and Development, University of Manchester, UK.

**Bruce Braun** teaches in the Department of Geography at the University of Minnesota, Minneapolis, USA.

**Adam Bumpus** is a Postdoctoral Research Fellow at the Centre for Sustainability and Social Innovation at the University of British Columbia, Canada.

**Sally Eden** is Reader in Geography at the University of Hull, UK.

**Jody Emel** is Professor of Geography and Director of the Graduate School of Geography at Clark University, USA.

**D. Asher Ghertner** is Lecturer in Human Geography in the Department of Geography and Environment at the London School of Economics.

**Julie Guthman** is Associate Professor of Community Studies at the University of California, Santa Cruz, USA.

**Leigh Johnson** is a doctoral candidate in the Department of Geography at the University of California, Berkeley, USA.

**Jake Kosek** is Assistant Professor, Department of Geography, University of California, Berkeley, USA.

**Mazen Labban** is Assistant Professor of Geography at the University of Miami, Florida, USA.

**Diana Liverman** is Professor of Geography and Development and Co-Director of the Institute of the Environment at the University of Arizona, USA.

**Becky Mansfield** is Associate Professor of Geography at the Ohio State University, USA.

**Joseph Masco** teaches in the Department of Anthropology at the University of Chicago, USA.

**Lyla Mehta** is a Research Fellow with the Institute of Development Studies at the University of Sussex, UK, and is also a Professor II at Noragric, Norway.

**Kristin Mercer** is Assistant Professor at the Department of Horticulture and Crop Science, Ohio State University, USA.

**Sarah Moore** is Assistant Professor in the School of Geography and Development at the University of Arizona, USA.

**Harvey Neo** is Assistant Professor at the Department of Geography, National University of Singapore.

**Richard Peet** is Professor of Geography in the Graduate School of Geography, Clark University, USA.

**Nancy Peluso** is Professor of Society and Environment in the Department of Environmental Science, Policy, and Management, University of California, Berkeley.

**Paul Robbins** is Professor in the School of Geography and Development at the University of Arizona, USA.

**Peter Vandergeest** is a member of the Department of Sociology at York University in Canada.

**Joel Wainwright** is Assistant Professor in the Department of Geography at the Ohio State University, USA.

**Michael Watts** is Chancellor's Professor in the Department of Geography and Director of African Studies, University of California, Berkeley, USA.

# Preface

The book was put together as the United Nations Climate Change Conference was taking place in Copenhagen in December 2009. These were sad days of utter failure even to reach an ineffectual accord on slightly restricting carbon emissions. They brought the realization to us that many of the more pessimistic conclusions emerging from the field of political ecology over the last few decades were more the case than even we had thought. That environmental destruction was endemic to “liberal democracy” was not a revelation, therefore, but the possibility that rationality would prevail before environmental catastrophe claimed its many, usually poor, victims came to feel all the more remote. As the conference moved towards its inevitable failure, the idea dawned on us again that the existing political structure is incapable of solving the drastic problems caused by the underlying economic system with its over-consumptive way of life. The existing system is not only corrupt, it is also dangerously ineffective – incapable of effectively discussing, let alone solving, environmental problems that interact into crisis.

On the other hand, there is always a core of hope underlying any radical or progressive politics. For every piece of evidence for the expansive impulses of destruction that prevail in the world economy, there are countless cases of surprise, emerging worldwide possibilities, and new forms of ecology, economy, and community, ranging from squatters gardening in the brownfields of urban Kenya, to socially organized anti-toxins crusaders in Eastern Europe, to community sponsored agriculture sprouting across the United States. To make better room for these political ecologies of *the possible*, it remains essential to sort through the causes of environmental crises and clearly evaluate the kinds of political-economic transformation necessary for reaching ecological sanity. The authors assembled here follow an urge to criticize, in order to re-think and organize for a rational, sane, equitable society capable of non-destructive environmental relations. Hope amidst sobering challenge is the guiding theme of this book.

The authors would like to acknowledge help with the production of this book. The photograph that opens Chapter 1 is reproduced courtesy of Associated Press. Chapter 18 appears courtesy of Sage Publications.

Richard Peet thanks his students at Clark University for their enthusiastic and politically dedicated support over the last 40 years. And his family, Anna Peet,

xiv *Preface*

Eric Peet, Lukas Klapatch, and James Peet, but especially Elaine Hartwick for her loving help.

Paul Robbins would like to thank student members of “The Collective,” past and present, for providing the best ideas of the last many years; the School of Geography and Development at the University of Arizona, for providing a safe working space for critical science; and Sarah Moore, Sallie Marston, and J.P. Jones for intellectual partnership.

Michael Watts would like to thank Dana Gerber for research assistance; the Class of 63 endowment at the University of California, Berkeley; the Berkeley Workshop on Environmental Politics and its motley crew; and the support of the UC Berkeley Luce Foundation Project on Green Governance. He would also like to express his deep and abiding love to Mary Beth, Nan, and Ethan.

Richard Peet, Worcester  
Paul Robbins, Tucson  
Michael Watts, San Francisco  
14 January 2010

# Contents

<i>List of figures</i>	viii
<i>List of tables</i>	ix
<i>List of images</i>	x
<i>Notes on contributors</i>	xi
<i>Preface</i>	xiii
<b>1 Global nature</b>	<b>1</b>
RICHARD PEET, PAUL ROBBINS, AND MICHAEL WATTS	
<b>PART I</b>	
<b>Food, health, and the body: political ecology of sustainability</b>	<b>49</b>
<b>2 Excess consumption or over-production?: US farm policy, global warming, and the bizarre attribution of obesity</b>	<b>51</b>
JULIE GUTHMAN	
<b>3 Killing for profit: global livestock industries and their socio-ecological implications</b>	<b>67</b>
JODY EMEL AND HARVEY NEO	
<b>4 “Modern” industrial fisheries and the crisis of overfishing</b>	<b>84</b>
BECKY MANSFIELD	
<b>5 When people come first: beyond technical and theoretical quick-fixes in global health</b>	<b>100</b>
JOÃO BIEHL	



**PART II**

**Capital's margins: the political ecology of the slum world 131**

**6 Global garbage: waste, trash trading, and local garbage politics 133**

SARAH A. MOORE

**7 Green evictions: environmental discourses of a "slum-free" Delhi 145**

D. ASHER GHERTNER

**PART III**

**Risk, certification, and the audit economy: political ecology of environmental governance 167**

**8 The politics of certification: consumer knowledge, power, and global governance in ecolabeling 169**

SALLY EDEN

**9 Climate change and the risk industry: the multiplication of fear and value 185**

LEIGH JOHNSON

**10 Carbon colonialism? Offsets, greenhouse gas reductions, and sustainable development 203**

A. G. BUMPUS AND D. M. LIVERMAN

**PART IV**

**War, militarism, and insurgency: political ecology of security 225**

**11 The natures of the beast: on the new uses of the honeybee 227**

JAKE KOSEK

**12 Taking the jungle out of the forest: counter-insurgency and the making of national natures 254**

NANCY LEE PELUSO AND PETER VANDERGEEST

**13 Mutant ecologies: radioactive life in post-Cold War New Mexico 285**

JOSEPH MASCO

**PART V**

**Fuelling capitalism: energy scarcity and abundance 305**

**14 Past peak oil: political economy of energy crises 307**

GAVIN BRIDGE

**15 The geopolitics of energy security and the war on terror:  
the case for market expansion and the militarization of  
global space 325**

MAZEN LABBAN

**PART VI**

**Blue ecology: the political ecology of water 345**

**16 Commons versus commodities: political ecologies of water  
privatization 347**

KAREN BAKKER

**17 The social construction of scarcity: the case of water in  
western India 371**

LYLA MEHTA

**PART VII**

**Biopolitics and political ecology: genes, transgenes, and  
genomics 387**

**18 Governing disorder: biopolitics and the molecularization of  
life 389**

BRUCE BRAUN

**19 Transnational transgenes: the political ecology of maize in  
Mexico 412**

JOEL WAINWRIGHT AND KRISTIN L. MERCER

*Index 431*

# List of figures

1.1	Global fossil fuel carbon emissions	23
5.1	Number of people living with HIV, Brazil	102
5.2	AIDS incidence, Brazil	103
5.3	Number of patients on ART, Brazil	103
5.4	AIDS mortality rate, Brazil	104
5.5	AIDS mortality rate in first year after diagnosis, Brazil	105
5.6	ART coverage among people with advanced HIV, 2006	105
7.1	Site of the Yamuna Pushta settlements	147
9.1	Example of a hypothetical standard “CAT XL”	191
10.1	Annual volumes of carbon transactions	204
10.2	The registration process for CDM projects	209
10.3	“Hemming-in” a ton of carbon dioxide equivalent	210
10.4	Amount of Certified Emissions Reductions	214
11.1	Can honey bees assist in area reduction and landmine detection?	236
11.2	Bees’ response I	238
11.3	Bees’ response II	239
11.4	Bees’ response III	239
13.1	Bravo test	286
13.2	<i>Long-term stewardship chart</i>	290
13.3	NCI fallout map	296
14.1	The relationship between GDP and energy consumption (data for 2005)	308
18.1	Influenza	399
18.2	Infectious diseases	402
18.3	Cartography of emergence	403
19.1	Principal criticisms of GM agriculture	414
19.2	Painting by Diego Rivera	417

# List of tables

8.1	Examples of certified ecolabels	173
10.1	Examples of offset project types, gases reduced and their relation to additionality, methodologies, and ability to be included in markets	206
12.1	Political forest areas in Malaysia, Indonesia, and Thailand	262
16.1	State hydraulic versus market environmentalist modes of water regulation	352
16.2	Resource management reforms: examples from the water sector	354
16.3	Neoliberal reforms and alter-globalization alternatives	359

# List of images

1.1	Sir Richard Branson and Al Gore	1
5.1	Evangivaldo, 2001	101
5.2	Evangivaldo, 1997	109
5.3	Caasah in the mid-1990s	110
5.4	Caasah in the mid-1990s	111
5.5	Luis and Torben, 1997	113
5.6	Dona Conceição and her “street patients”	116
5.7	Homeless	118
5.8	Gerson, 2005	120
5.9	Guinea worm ad and market in Northern Ghana	122
5.10	Patient filing a treatment lawsuit with a public defense lawyer	124
5.11	Evangivaldo	127

# 1 Global nature

*Richard Peet, Paul Robbins,  
and Michael Watts*

## **Introduction: global warming as paradigm**

It is a striking image. A global capitalist whose personal wealth is rooted in an industry, air transportation, distinguished by its massive carbon footprint, and a Nobel prize winning US politician and former Vice-President, honored for his contributions in placing global climate change, and the scientific work of the Intergovernmental Panel on Climate Change (IPCC) in particular, on the global political agenda. Tossing the globe into the air, British tycoon Sir Richard Branson announced to the world in 2007 that he was offering a \$25 million prize for the scientist who discovers a way of extracting greenhouse gases from the atmosphere



*Image 1.1* Sir Richard Branson and Al Gore

– a challenge to find the world’s first viable design to capture and remove carbon dioxide from the air. Big Science meets Big Business meets Big Politics. But the prize – known as the Virgin Earth Challenge – was immediately attacked by a leading climate scientist, Kevin Anderson, of the Tyndall Centre for Climate Change Research at Manchester University, who offered the following assessment of Sir Richard’s philanthropy: “He’s misguided, misinformed and potentially quite dangerous in making people think there is some great technological hope out there.” Sir Richard, accused of rank hypocrisy for creating a prize based on the profits of a firm and an industry responsible for massive carbon releases, replied: “I could ground my airline today, but British Airways would simply take its place” (*The Guardian* February 7th 2007; <http://www.guardian.co.uk/environment/2007/feb/10/theairlineindustry.climatechange>). Well, as a Berkeley bumper stick it has it: “At least the war on the environment is going well.”

The photograph is above all a *planetary image*, in its own way a bookend to the famous NASA planet earth photograph AS17–22727 taken during the final Apollo mission in 1972. It is a picturing, or rendering, of a certain sort of global nature, global politics and global science all at once. If the NASA image came to be the lodestar for the United Nations Convention on the Human Environment held in Stockholm in 1972, perhaps the Branson-Gore photography captured perfectly the sentiments of the December 2009 UN Climate Conference in Copenhagen (COP15). Copenhagen was obviously not the first global forum in which big science, big politics, and big business have joined forces to address the conundrum of growth without limits and capitalism’s massive material wastes and detritus – the “externalities” associated with converting the land, ocean and atmosphere into a global dumping ground. But the invocation of planet earth and 1960s crisis thinking about the environment in the run up to Copenhagen is historically resonant. Released in 1972 in the same year as the Stockholm Earth Summit, the famous *Limits to Growth* report – penned by a quartet of MIT physicists, cyberneticians and business management theorists – represented the apotheosis of a form of crisis thinking driven by a deep Malthusianism. On offer was a powerful discourse offering the prospect of chaos and collapse rooted in demographically driven scarcity (the five key sub systems calibrated in their World3 computer model were world population, industrialization, pollution, food production and resource depletion).<sup>1</sup> The global modeling exercise of *Limits to Growth* proved to be flawed in all sorts of ways but with the vantage of hindsight we can now see that it was prescient. In genealogical terms, the sort of “limits modeling” of the 1960s and early 1970s reappears in the general atmospheric circulation models (GCMs) of the 1990s. As they gained standing and analytical power, the new wave of global climate change models, without which there would have been no Montreal or Kyoto Protocols or COP15, were draped in the language of crisis and apocalypse. As Iain Boal put it “at COP15 it would be fair to say that versions of a secularised neo-catastrophism will be the dominant paradigm among climate scientists and laity alike” (2009: 3).

Implicit in the science behind the global climate change debate – there are after all doubters and legitimate scientific differences which have doubtless been exaggerated in the popular imagination by the release of the now famous e-mails

from University of East Anglia climate scientists – is a worldview somewhat at odds with the Darwinian orthodoxy of evolutionary gradualism (Weart 2004; Boal 2009). Climate could, and did of course, change historically, but for human occupation and livelihood this represented a deep historical time – the very *longue durée*. On offer now is something unimaginable until recently, namely abrupt and radical shifts. It is a science of planetary disaster demanding a response – political, policy, civic and business – of an equal and opposite magnitude and gravity. Here is Al Gore on the matter: “What we are facing is a planetary emergency. So some things you would never consider otherwise, it makes sense to consider.” We heard this same rhetoric in the wake of 9/11. What might the planetary ecological crisis entail?

For some, therefore, it means that a war on global warming must be declared, quite as draconian as the global war on terror. Are we not faced with inhabiting – once again – the rubble of a ruined world? For others, typically of a social democratic cast of mind, it means pinning hopes on human adaptability and resilience in the face of melting glaciers, the end of irrigated agriculture and a return to dry farming. For the governments, green NGOs, and those others with seats at the table hoping for a leaner, low-fat capitalism, it means negotiating some version of the neo-liberal deal. That is, haggling over the further commodification of the earth and its productions – vegetable, mineral and animal – and legislating limits and rights to pollute, to trade toxins, to crank up derivatives markets recently vilified as a sure sign of the excesses of casino capitalism.

(Boal 2009: 5)

In a discursive sense, then, climate change as a planetary emergency mobilizes powerful actors around the threat of massive risks and uncertainties. It is rather like the War on Terror, Ebola or nuclear weaponry and is fully consistent with what has been called a “culture of fear” (see Glassner 2000). Planetary challenges, however they are assessed and weighed empirically, are capable of eliciting very different responses. Climate change after all could entail a serious and multi-lateral push toward a zero-carbon economy or a privatized and corporate push to synthetic chemistry, “clean fuel” and nuclear energy.

Global climate change – as science, policy and politics – reveals starkly the sorts of problems that a global political ecology – the subject matter of this book – must confront. One can start with IPCC itself as a sort of transnational scientific network operating too as an advocacy group on a public landscape populated by a significant corporate (and Republican Party in the US) presence of climate change deniers. The scientific consensus is that humans have changed the chemistry of the earth’s atmosphere, primarily by altering the concentration of CO<sub>2</sub> from pre-industrial levels of 280 parts per million to its current (and rising) level of over 400 (we discuss this at greater length later). But the very idea of human-induced climate change was contested from the very moment, in the 1980s, when it became a respectable matter of science. Oreskes and Conway (2008) have shown how the



Marshall Institute (MI) in Washington DC played a key role in the denial industry long before ExxonMobil and other oil companies, and indeed the George W. Bush administration, joined the denier fray. Populated by a group of retired physicists, the MI was an archetypical Cold War think tank devoted to what they saw as exposing scientific uncertainty and skepticism. They cut their teeth on Reagan's Strategic Defense Initiative (SDI) and what they saw as unprincipled *scientific* opposition to it. From the 1980s onward MI was a powerful voice (with robust Republican Party connections) in denying a raft of "uncertainties": that smoking causes cancer, that pollution causes acid rain, that CFCs destroy ozone, and that green gas emissions cause global warming. Behind this was the view that all scientific knowledge revealing alleged ecological or health costs was in the service of central planning and socialism! One of MI's founders, Fred Singer, articulated the view that behind the scientific work for global warming lay a "hidden political agenda" against "the free market. . . capitalistic system" (quoted in Oreskes and Conway 2008: 77). Lahsen (2004) has suggested that the science of global climate change denial more generally was rooted in the "paranoid style" (the term is from Richard Hofstadter) of American politics: science and environmentalism were out to get market fundamentalism. In a sense they were right of course. Capitalism would *have* to change if it were to seriously address its own impact on the planet, something that institutions like the Marshall Institute could never accept.

The production of particular sorts of knowledge to discredit scientific orthodoxy speaks to not only questions of how environmental knowledge is produced and legitimated, but also to what Robert Proctor and Linda Schiebinger (2008) call "agnotology," namely the willful production of ignorance and scientific ambiguity. One part of this story has to do with the extent to which corporate capital not only represent themselves as particular sorts of actors. We are thinking of BP's re-branding itself as "Beyond Petroleum" or Chevron's media barrage on the company's role in the clean energy transition. But also the extent to which they have their own in-house science – both sponsored research of the sort undertaken by the tobacco companies in their infamous denial of the links between smoking and cancer, and in-house corporate research programs of their own, as in the case of risk and reinsurance industries financing their own climate modeling on hurricane risks. What sort of knowledge is produced, in other words, and its legitimacy and authority, are central to the ways in which global environmental problems become, or do not become, "problems" and how they are construed and composed. How transnational scientific networks produce consensus amidst such scientific and popular contention – how epistemic communities (Haas 1992) are created, sustained and mobilized – is central to the IPCC story. But for every case of corporate climate change denial there is probably an equally problematic set of epistemological questions about how science is "reframed" in speaking truth to power. The disclosures that University of East Anglia climate scientists played "tricks" in presenting their data to the public and policy makers is a case in point. In other words, it is striking not only how "knowledge has emerged as a salient theme in projects of environmental governance" (Jasanoff and Martello 2004: 336) but also how a purportedly global or universal science is at the same time a "situated