




Handbook of Global Environmental Politics

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2 Research in global environmental politics: history and trends

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What is global environmental politics? What are the core research questions and findings in this field of inquiry? Where do the disciplinary boundaries begin and end? There are no precise answers to these questions. The field of global environmental politics began to emerge in the late 1960s and early 1970s. Today, it is no doubt partly grounded in the discipline of political science – in an analysis of the role of states, global institutions, the global political economy, global power, norms and ideology, as well as in theories of international relations. Yet the very nature of almost every question on global ecological change means the research crosses disciplinary boundaries. It means, too, that some of the most innovative research is occurring outside of political science, in disciplines like geography, environmental studies, economics, sociology, law, history, philosophy, development studies, biology and human ecology. There is naturally considerable dispute about where the field begins and ends. The quick growth in the volume of research in global environmental politics over the last decade has further blurred the parameters of this field.

Some see the core of the field in the literature on states and global governance. Some see it embedded in international relations theories of environmental regimes.¹ Others see the core in the literature on the ecological impact of the global political economy, in the politics of growth, trade, corporations, financing and consumption. Still others see the field as spanning far more, embracing the literature on states and the global political economy, but also the literature on environmental security, ethics, civil societies and private global governance. Such a broad definition of the parameters of global environmental politics undeniably suffers from many of the same shortcomings as with all interdisciplinary efforts: in particular, the sheer volume and scope of research puts great demands on the time and intellectual flexibility of analysts. It is tempting at times to confine the field, to just read political scientists or define the scope of global environmental politics narrowly. Indeed no single researcher can possibly keep up with all of the breakthroughs in environmental and social sciences. Yet, in my view, the greatest strength of this field, and its greatest contribution to the pursuit of intellectual discovery, is the interdisciplinary range of the research.

This chapter draws on the contributions to the *Handbook of Global Environmental Politics* to map the interdisciplinary research in global environmental politics. This is not the first effort to do this. Others, including Michael Zürn (1998), Ronald Mitchell (2002a) and Matthew Paterson (forthcoming), provide alternative reviews.

Zürn (1998) focuses on the analysis of international environmental regimes, institutions and transnational networks, especially the contributions of international environmental politics to regime theory in international relations. He sees two generations of research, one in the 1980s that brought international environmental policy into the study of global politics, with links to security, economics, foreign policies and international institutions. He sees a second generation in the 1990s: more confident, with more precise questions and methodologies (generally qualitative designs with a low number of cases), especially for the study of global institutions and regimes. This second generation also brought in the role of transnational movements as well as science and knowledge (including, importantly, the work of Peter Haas, 1992, on epistemic communities). Zürn predicts a third generation of international environmental research, one that will focus more on large-scale quantitative and qualitative studies that methodically test theories and hypotheses.

Much of the second generation of research in international environmental politics, Zürn (1998: 618) correctly notes, assumes 'a postrealist consensus which holds that international institutions do matter, world politics is much more than intergovernmental politics and includes a wider range of actors than states, and world politics is not only about power and material interests but is also about nonmaterial interests, ideas, knowledge, and discourses'. In his review of this literature Zürn concentrates on the stages of regime development, from agenda setting to formation to implementation, and argues that two of the most promising literatures are on the effects of regimes and on the role of knowledge-based transnational networks. One result of this second generation of research is that 'It is no exaggeration to state that the developments leading to the ozone regime, to the regime for long-range transboundary air pollution in Europe, and to the regime on the politics of global climate change are three of the most carefully analyzed issues in contemporary international politics' (ibid.).

Like Zürn, Mitchell (2002a) also focuses on the literature in international relations on regimes and institutions. Mitchell adds more depth, however, on the causal explanations of the stages of the international environmental policy process (in part because he is focusing on the literature on international environmental politics and policy). For him the key questions driving research in international environmental politics and policy include: What are the causes of global ecological problems? Why do some issues reach the

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global agenda? Why does the global community develop international agreements for some issues and not for others? Why are some international policies effective while others fail? What factors strengthen or weaken agreements over time? How does global environmental management improve? Mitchell's review, like Zürn's, calls for more methodological rigour among scholars of international environmental regimes and institutions. 'Methodologically,' Mitchell (*ibid.*: 512) writes, 'we need to supplement the almost-exclusive use of case studies with quantitative methods, formal modeling and simulation. ... Empirically, we need to develop data for qualitative and large-N quantitative comparisons across issues.'

Like Mitchell and Zürn, Paterson (*forthcoming*) also concentrates on the literature in international relations, focusing in particular on theories within the field of international environmental politics. Rather than simply categorizing and describing the arguments in the field, he strives to uncover the underlying assumptions, both normative and methodological, of the various approaches to studying international environmental politics. He categorizes the literature into six groupings with the following starting points:

- international anarchy,
- knowledge processes,
- plurality of political actors,
- structural inequalities in the global system,
- capital accumulation,
- sustainability.

The anarchic structure of the international system (the lack of a central authority), Paterson notes in his first grouping, is a core assumption of much of the literature in international relations, infusing traditions like realism and liberal institutionalism. The central concern of this research is the power and influence of sovereign *states*. A second body of research focuses on the role of science and knowledge in the formation and evolution of international policy. A third thread of research begins with an intentional shift away from a state focus, and highlights the role of multilateral institutions, corporations and NGOs in global environmental politics; the underlying assumption is that these can play a significant, if not, in some cases, a larger, role than states in the process of global ecological change. A fourth strand begins with a focus on structural inequalities in the global system: ethnicity, class, gender, racism, North–South relations, consumption among the rich and poor, and humanity's place in nature. A fifth body of literature concentrates on capitalism, on the ecological effects of the process of extraction, production and accumulation. And finally, a sixth thread of research presents a radical critique of the politics necessary for true global sustainability, what some label

‘green politics’. These scholars see a need to reject anthropocentric values and consider an entirely new global ecological ethic, calling for everything from full decentralization to full centralization of global authority.

These three previous reviews suggest a trend in the thinking of those in the field of international environmental politics. Zürn and Mitchell keep the focus on global institutions and regime theory. Paterson expands the parameters further, integrating far more of the literature on the role of the international political economy and the international processes of change outside of regimes and global policy. The present chapter builds on the reviews of Zürn, Mitchell and Paterson to propose even broader parameters for the scope and history of research in the field of global environmental politics.² It begins with a brief overview of the history of the field. It then divides the literature into three general themes: states, institutions, governance and security; the global political economy; and civil societies, knowledge and ethics. The logic of this division is straightforward. The first grouping deals with more traditional topics of international relations and the environment, topics that keep the analysis largely at the global level of states, international organizations, global governance and security. The second deals with more traditional topics of global political economy and the environment: capitalism, trade, corporations and financing. The third deals more with broader issues that tend to span the politics and economics of the international system – civil societies, the role of knowledge, and ethics – topics that tend to draw on the literature from the previous two groupings as well as more from disciplines outside of international relations, international law and economics. These groupings of research are not sealed categories: individual research inevitably crosses over in terms of substance and historical development. The groupings are useful, however, in terms of organizing the literature in global environmental politics in a way that reveals common themes and current trends. It also helps to demonstrate a core argument of this chapter: that academic research in global environmental politics is embracing an expanding set of research questions, theoretical constructs and methodological approaches, gaining confidence and independence as a field of social science inquiry. The aim of the chapter is not to develop a static picture of the field, but rather, as with all dynamic literatures, to show the current contours and possible future directions of research. It begins with a sketch of the history of the field.

History of the field

The history of research on global environmental politics is woven into the history of global environmental change. Environment, as a word with political or social meaning, is relatively new. In the 1950s, the limited times the word appeared, it referred to little more than the work or home environment (MacDonald, 2003: 151). Environmental issues began to emerge onto the

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global agenda in the 1960s and early 1970s, culminating in the international policy world in the 1972 United Nations Conference on the Human Environment, held in Stockholm, Sweden (thus known as the Stockholm Conference). There was a steady, if relatively small, research community on the international politics of environmental change in the 1970s, though much of the research was comparative analysis of national policies, or broad analysis of the politics of Third World development. There was, within international relations, relatively few books and articles in mainstream journals. There were some major contributions, however, including books by Richard Falk (1971), Harold and Margaret Sprout (1971), William Ophuls (1977) and Michael M'Gonigle and Mark Zacher (1979). The journal *International Organization* also published a special issue in 1972 on 'International Institutions and the Environment Crisis' (in recognition of the Stockholm Conference). In the same year the International Studies Association established the Harold and Margaret Sprout Award for the best publication in international environmental affairs.³

There were, however, many great works outside of the discipline of international relations in the 1960s and 1970s that continue to this day to influence research in global environmental politics. This includes seminal articles such as Garrett Hardin's 1968 article, 'The Tragedy of the Commons', which, as Marvin Soroos argues in Chapter 3 of this volume, continues to have valuable explanatory power for understanding the politics of issues like climate change. It includes, too, bestselling books such as Rachel Carson's *Silent Spring* (1962), Paul Ehrlich's *The Population Bomb* (1968), Donella Meadows *et al.*'s *Limits to Growth* (1972), E.F. Schumacher's *Small is Beautiful* (1973) and James Lovelock's (1979, 1995) books on the theory of Gaia: that the planet is a living, holistic organism (see Litfin, ch. 30 this volume).

Political science research on the global environment began to expand over the 1980s (Young, 1981; Caldwell, 1984; Haas, 1989). The publication in 1987 of *Our Common Future* by the World Commission on Environment and Development, which called on the global community to integrate the principle of sustainable development,⁴ along with the 1992 UN Conference on the Environment and Development in Rio de Janeiro, brought global ecological change to the top of the agendas of world leaders. Three academic journals devoted largely or in part to global environmental issues appeared around this time. Konrad von Moltke founded *International Environmental Affairs* in 1989. 'The purpose,' he writes, 'was to provide an outlet for academic research on international environmental affairs at a time when most peer reviewed academic journals were hardly taking the material.'⁵ Three years later, Gordon J. MacDonald founded *The Journal of Environment and Development*.⁶ The journal *Environmental Politics* was founded in the same year, accepting submissions on both domestic and international environmental politics.

Research on global environmental politics took off after the 1992 Rio Conference. Numerous doctoral students finished PhD dissertations on global environmental change in the 1990s, and increasing numbers of political science departments began to offer courses in global environmental politics. There were countless new academic books and journal articles on global environmental politics, including articles in mainstream international relations journals such as *International Organization*, *International Security* and *World Politics*.

International Environmental Affairs folded in 1998. The gap, however, was soon filled by the journal *Global Environmental Politics*, which I founded in 2001 along with Sharon Goad, Jennifer Clapp, Karen Litfin, Marian Miller and Paul Wapner. This journal explicitly invites 'submissions on contemporary international and comparative environmental politics'. Importantly the publisher of *Global Environmental Politics* is the MIT Press, which publishes the political science journal *International Security*, and which published *International Organization* until it shifted to Cambridge University in 2003. The backing of such a powerful press has helped *Global Environmental Politics* to reach into virtually all of the world's major university libraries, helping to assure the field of global environmental politics a lasting and significant impact on social science scholarship. One reflection of the growing strength of this field is the rapid increase since the mid-1990s in the number of general overviews of the politics of global environmental change suitable as university textbooks (Hempel, 1996; Bryant and Bailey, 1997; Dryzek, 1997; Dryzek and Schlosberg, 1998; Elliott, 1998; Conca and Dabelko, 1998; Connelly and Smith, 1999; Porter *et al.*, 2000 – also the two previous editions; Paterson, 2000a; DeSombre, 2002; Maniates, 2003; Lipschutz, 2003; Switzer, 2004; Clapp and Dauvergne, 2005).

There have been, then, sweeping changes to the field of global environmental politics over the last decade. I now turn to outline the current state of research, beginning with the first of three overarching themes: the role of states, global institutions, international environmental agreements and international security.

A secure world of states, institutions and regimes

I divide this literature into three broad groupings, depending on the primary focus: the ecological impacts of the anarchic global system of sovereign states; international environmental agreements and institutions; and the links between environmental change and state security.

A common argument, especially among realists in the discipline of international relations, is that states, in pursuit of self-interest in a global structure of sovereignty, will destroy the commons (open access resources) unless radical constraints are put on state authority, such as a world government

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(which many see as highly unlikely, if not, impossible). Garrett Hardin's (1968) parable of a tragedy of the commons captures much of the logic of scholars who see the sovereign state system as the core cause of the looming (or current) global ecological crisis (see Soroos, ch. 3 this volume). These arguments tend to assume that global institutions, regimes, norms and identities are epiphenomena – that is, these cannot fundamentally alter the characteristics of state impacts (see Litfin, 1998, for a sophisticated analysis of the sovereignty–global ecology relationship).

Many social scientists, notably Elinor Ostrom (1990), question the logic and accuracy of the parable of a tragedy of the commons, arguing that there are numerous cases of communities 'managing' common pool resources in ways that contradict Hardin's tragedy.⁷ In a review of Hardin's parable, Joanna Burger and Michael Gochfeld (1998: 26) point out: 'Many of the examples of wise use management of common-pool resources involve local resources managed by small, relatively homogenous communities.' There is also significant research to suggest the 'real' world of ecological management is far more complex than Hardin's portrayal, with diverse policies and intricate governance structures (see, for example, Vogler, ch. 4 this volume; York, Janssen and Ostrom, ch. 15 this volume; Jordan, Wurzel and Zito, ch. 13 this volume). Much of this literature is now collecting under the banner of global governance, which often (although not always) strives to explore a more complex image of the driving forces and constraints (both formal and informal) on state and corporate activities (Hempel, 1996; Clapp, 1998b; Haas, 1999; Lipschutz, 1999; Conca, 2000; Vogler, 2000; Paterson *et al.*, 2003; Vogler, 2003; Newell, 2003; Bretherton, 2003; Falkner, 2003; Jordan *et al.*, 2003). There is great diversity of research here, although some scholars, like Oran Young (ch. 11 this volume), are now calling for a collaborative research effort to develop a unified theory of environmental governance.

The field of international environmental law strongly influences the study of the global politics of international environmental negotiations and agreements. Some political scientists are even publishing in international law journals (Lipschutz, 2001; DeSombre, 2001). At the same time, however, much of the international relations literature on environmental regimes is potentially valuable for a legal analysis of international environmental law. The international relations literature revolves around questions about the formation and consequences of regimes. Why do they form? What are the consequences? What are the most effective mechanisms to foster compliance? Are regimes effective? What is the influence of business, NGOs, networks of experts, knowledge, and science and scientific uncertainty on global regimes?

This literature has already added to the understanding of the formation and evolution of international regimes as well as state compliance with global

commitments (Young, 1989, 1994, 1998; Mitchell, 1994a; Elliott, 1994; Bernauer, 1995; Zürn, 1998; Hough, 1998; Joyner, 1998; Wettestad, 1999; Porter *et al.*, 2000; Vogler, 2000, 2003). It has also contributed to understanding the history of environmental diplomacy and politics (Hurrell and Kingsbury, 1992; Brenton, 1994; Caldwell, 1996; Tolba with Rummel-Bulska, 1998), an evaluation of the impact of particular conferences and international meetings (Wapner, 2003; Rutherford, 2003; Rowlands, ch. 6 this volume), the understanding of the domestic sources of international environmental policy (DeSombre, 2000; Schreurs and Economy, 1997) and the role of the developing world (Miller, 1995; Steinberg, 2001; Najam, ch. 8 this volume). This literature has in particular advanced the broader social science efforts to measure the effectiveness of regimes (Susskind, 1994; Young, 1999, 2001b; Victor *et al.*, 1998; Weiss and Jacobson, 1998; Wettestad, 1999; Kütting, 2000; Miles *et al.*, 2001; Mitchell, 2002b; Hovi *et al.*, 2003; VanDeveer, ch. 7 this volume).

Regime theorists assume it is rational for states to cooperate on global environmental affairs, as preserving this environment is in the long-term interests of the state. Unlike classical realists, these scholars assume that institutions do matter, that global politics involves more than just power and objective interests, but also perceptions, ideas, knowledge, identities and meanings. Scholars have studied in great detail the regimes to manage the ozone layer (Litfin, 1994; Benedick, 1998; Grundmann, 2001; Parson, 2003) and the earth's climate (Paterson, 1996, 2001; Soroos, 1997, 2001; Rowlands, 1995, 2000; Newell, 2000; Skjærseth and Skodvin, 2001). There is also significant research on other regimes: biotechnology (Newell 2003), desertification (Corell, 1999; Corell and Betsill, 2001), biodiversity (Mushita and Thompson, 2002), intentional pollution and shipping at sea (Mitchell, 1994b; Desombre, ch. 5 this volume), acid pollution (McCormick, 1997), whaling (Peterson, 1992; Stoett, 1997; Andresen, 2000, 2001), persistent organic pollutants and the 2001 Stockholm Convention (Lallas, 2000/2001; Schafer, 2002; Selin and Eckley, 2003; Downie and Fenge, 2003; Clapp, 2003; Yoder, 2003).

A related area of research focuses on the role of institutions in global environmental affairs (Haas *et al.*, 1993; Keohane and Levy, 1996). Some of this examines institutions and international laws (Vig and Axelrod, 1999). Some focuses more on global institutions and assistance to developing countries to enhance capacity (VanDeveer and Dabelko, 2001; VanDeveer, ch. 7 this volume). There are studies of the impact of particular institutions such as the UN Environment Programme (Downie and Levy, 2000), the Global Environment Facility (GEF) (Fairman, 1996; Streck, 2001) and the World Bank (Rich, 1994; Le Prestre, 1989; Wade, 1997; Fox and Brown, 1998; Gutner, 2002). There is also increasing research on the implications of the interplay of environmental institutions (Rosendal, 2001; Andersen, 2002; Young, 2002; Selin and VanDeveer, 2003). There is also a growing debate on the need for a

new global environmental institution, perhaps called a World Environment Organization (WEO) (Biermann, 2000, 2001, argues for a WEO; von Moltke, 2001; Najam, 2003; Barkin, ch. 21 this volume, argue against; Whalley and Zissimos, 2001 examine some possible benefits and drawbacks). Some proposals for a world environment organization to some extent follow the logic of Hardin's (1974) and Ophuls' (1977) calls for a world authority to overcome what is, for them, a core reason for the overuse and ecological destruction of the commons (open access resources): states that pursue self-interest in an anarchic global system. Others, however, see a WEO more as a counter to the World Trade Organization rather than as an authority able to control states (as would, say, a world government).

There was also a significant strand of environmental research throughout the 1990s that focused on the links between environmental change, scarcity and security (especially of states). Much of this work refers to or builds on Thomas Homer-Dixon (1991, 1994, 1999). Homer-Dixon's research hypotheses and initial evidence appeared to have the potential to generate a lasting body of literature. The work of Richard Matthew and Ted Gaulin (2001), for example, builds nicely on his ideas. Yet many researchers over the last decade were unable to find a strong empirical link between environmental degradation and violent conflict. The criticism of Homer-Dixon's research by scholars like Dan Deudney (1990), Nancy Peluso and Michael Watts (2001), and Simon Dalby (2002), and the research by scholars like Indra de Soysa (2002 and ch. 10 this volume) who find stronger links between abundance and conflict, seems likely to further discourage future research on this topic (especially among graduate students). Homer-Dixon's research also appears to be moving toward new ground with the publication in 2000 of his Canadian bestseller, *The Ingenuity Gap*. That said, in chapter 9 of this volume, Richard Matthew adeptly argues for the literature on environmental security to develop further compelling research.

The research in international relations does not exist in an airtight box, and inevitably it overlaps with the research on the political economy of global environmental change – the topic of the next section.

Global political economy

Are there limits to growth? Is the globe heading toward a global ecological calamity? The work of Thomas Robert Malthus (1798), who foresaw a looming crisis for humanity as exponential population growth outpaced arithmetic increases in food, has influenced many to answer these questions with a resounding, yes! Paul Ehrlich (1968) is one of the most notorious Malthusian scholars. Others in this tradition include Donella Meadows (Meadows *et al.*, 1972), Lester Brown (2003) and Norman Myers (1979).⁸ Other scholars, however, label such research 'doomsaying', a result of a misunderstanding of

basic economics and a misrepresentation of global statistics (Simon, 1981, 1996; Easterbrook, 1995; Lomborg, 2001).

Numerous studies strive to document and explain the political economy of global environmental change (Newell, ch. 12 this volume). Much research focuses on industrialization, the changing nature of production and the role of economic growth (Carson, 1962; Davidson, 2000; Cole and Neumayer, ch. 19 this volume). Recently there has also been significant attention to the ecological impact of consumerism and a global consumerist culture (Princen *et al.*, 2002; Maniates, 2001; Princen, 2001; Robbins, 2002; Rees and Westra, 2003). Matthew Paterson, for example, is now focusing his research efforts on a critique of car culture (Paterson, 2000b, as well as ch. 17 of this book). The environmental impact of the process of globalization is also generating increasing research (Conca, 2001; Fuchs and Lorek, 2002; Dauvergne, 2005), including calls for localization of the world economy (Mander and Goldsmith, 1996; Hines, 2000, 2003).

Others point more to the impact of capitalism and North–South structural inequalities, such as the research on the ecological shadows of Northern economies on the South (MacNeill *et al.*, 1991; Dauvergne, 1997b). The concept of ecological footprints (Wackernagel and Rees, 1996) is one of the innovative ways scholars have tried to compare the ecological impact of individuals across the globe. This measures the total area in global hectares (one hectare of average biological productivity) needed to sustain a person's consumption of food, water, clothes, shelter, transportation and consumer goods and services. It vividly demonstrates the great inequality of global consumption. The average ecological footprint in 1999 was 2.3 hectares per person, with an average in Africa of 1.36 and in the USA of 9.7 (see WWF, 2002: 2–4, 22–8). There are also sweeping critiques of capitalism, with scholars like John McMurtry (1999) equating it to a cancer. Others have focused on the ecological impacts of particular aspects of capitalism, such as financial crises (Dauvergne, 1999), the position of the South in the global political economy (Arden-Clarke, 1992; Najam and Robins, 2001), Third World debt (George, 1992; Rich, 1994) and aid and financing for sustainable development in the South (Najam, 2002). There is also a large literature on what would constitute a green political economy (Daly and Cobb Jr, 1989; Barry and Smith, ch. 16 this volume).

The two largest bodies of research on particular aspects of capitalism are on trade and corporations. Recent research on free trade agreements and the World Trade Organization is particularly extensive (Esty, 1994, 2001; Charnovitz, 1995; Rao, 2000; Conca, 2000; Tussie, 2000; Neumayer, 2001; DeSombre and Barkin, 2002; O'Neill and Burns, ch. 20 this volume; Barkin, ch. 21 this volume; Hochstetler, ch. 22 this volume). Some scholars see trade as a core cause of global ecological harm, for example when prices do not

reflect the full ecological (or social) costs (which in turn encourages overconsumption) (Arden-Clarke, 1992; Daly, 1993, 1996; Dauvergne, 1997a). Others argue that trade is compatible with, indeed essential for, global sustainability, as it promotes economic growth (which reduces poverty) and fosters efficient use of the globe's resources (Bhagwati, 1993). Still others argue that trade is becoming increasingly compatible with global environmental goals, as institutions like the World Trade Organization become more attuned to environmental concerns (Barkin, ch. 21 this volume). There is also a large literature on the impacts of trade in particular products, such as hazardous waste (Krueger, 1999; O'Neill, 2000, 2001; Clapp, 2001).

The literature on corporations and environmental damage is at least as large as the literature on trade (for logging, see Marchak, 1995; Filer, 1997; Dauvergne, 2001; for mining, see Banks, 1993; Emberson-Bain, 1994; Jackson and Banks, 2003; for industrial waste, see Clapp, 2001; for oil, see Gedicks, 2001). There is also a big literature on how multinational firms spin language to appear to address environmental concerns – sometimes called 'greenwash' (Korten, 1995; Rowell, 1996; Greer and Bruno, 1997; Beder, 1997; Karliner, 1997; Welford, 1997). Another branch of this literature looks at the way multinational corporations (MNCs) influence global environmental negotiations and treaties (Susskind, 1992; Chatterjee and Finger, 1994; Levy, 1997). There is also an emerging literature on business and environmental governance (Laferrière, 2001; Levy and Newell, 2002; Levy and Newell, 2005; Clapp, ch. 18 this volume), and business as environmental actors (Levy, 1997; Levy and Egan, 1998; Newell and Paterson, 1998; Clapp, 1998a, 2001; Dauvergne, 2001; Garcia-Johnson, 2000). Scholars like Arthur Mol (2002) examine corporations in the context of ecological modernization. A strand of the corporations and environment literature examines (and debates) the prevalence of pollution havens (Clapp, 2002; Hall, 2002; Wheeler, 2002). This literature also integrates the effects of trade, dealing with questions such as the following. Do governments lower environmental standards and regulations to attract firms, creating a competitive 'race to the bottom'? Do developing countries become 'stuck at the bottom' as global competition exerts downward pressure on domestic regulations? Do multinational investors in effect export environmentalism and raise standards in developing countries? Is there 'a race to the top' as environmental regulations and technologies spread from the highly developed economies to the rest of the world (Vogel, 1995; Porter, 1999; Garcia-Johnson, 2000; Wheeler, 2001)? There are also in-depth studies of corporate compliance and initiatives within firms (Rowlands, 2000; Prakash, 2000), as well as the impact of certification schemes and private regulation on corporate conduct (Lipschutz, ch. 14 this volume). Less common are studies from within the business community, such as Stephan Schmidheiny's (1992) *Changing Course*.

Civil societies, knowledge and global ethics

The literature on civil societies, knowledge and ethics is pulling the field of global environmental politics away from a focus on states, formal institutions, security and the role of the global political economy. It is also drawing in more and more literature from disciplines outside of political science, international law and economics – the most important disciplines in the field in the 1990s.

Interest in the role of civil societies in international relations has grown steadily over the last decade or so. This in part reflects the great increase in the number of nongovernmental groups. But it also in part reflects a shift away from the view that states alone shape global affairs. There is now a vast literature on the role of the environmental movements and civil society in global environmental management (Princen and Finger, 1994; Princen, 1994; Lipschutz with Mayer, 1996; Wapner, 1995, 1996, 2002b; Kolk, 1996; Humphreys, 1996; Jasanoff, 1997; Keck and Sikkink, 1998; Auer, 1998; Lee and So, 1999; McCormick, 1999; Tesh, 2000; Betsill and Corell, 2001; Tamiotti and Finger, 2001; Bryner, 2001; Newell, 2000; Hochstetler, 2002; Ford, 2003). There are a wide range of specific research questions. How and to what extent do nongovernmental organizations (NGOs) influence global environmental negotiations? What is the impact of NGOs on the environmental behaviour of states and corporations? Are the actions of civil society groups altering the global culture? If so, what does this mean for the actions of states and firms and individuals? And what does this mean for the global allocation of scarce environmental resources?

The environmental literature on norms, consciousness, identities, meanings and the construction of global environmental discourse (Dryzek, 1997; Bernstein, 2001; Jasanoff, 2001; Wapner, 2002a) further pushes the literature in global environmental politics away from states (or at least from a focus on the structural power of states). So does some (though not all) of the literature on knowledge and the role of science. Some of the science and environment literature examines the influence of epistemic communities (Haas, 1992) and networks of experts (Keck and Sikkink, 1998; Conca, ch. 27 this volume) in global environmental management. Some explores the role of science and knowledge in global environmental governance (Jasanoff, ch. 23; Haas, ch. 24; Williams, ch. 25; and Martello, ch. 26 all in this volume). Some is more explicitly critical of so-called 'science' and the treatment by international institutions of non-Western knowledge systems (Ehrlich and Ehrlich, 1996; Shiva, 1997; Long Martello, 2001).

The literature on environmental ethics, too, is gradually expanding the scope of the field of global environmental politics further still. This literature is far too large to survey all of the arguments and themes here (see, to begin, Hardin, 1974; Pojman, 2000, 2001; Des Jardins 1999, 2001; Young, 2001a;

Wenz, 2001; Schmitz and Willott, 2002; VanDeVeer and Pierce, 2003; Light and Rolston, 2003). There is also a fairly large literature on environmental justice, racism and feminism (Mies and Shiva, 1994; Hampson and Reppy, 1996; Dobson, 1998; Low and Gleeson, 1998; Shue, 1999; Bretherton, 2003). Much of this literature originates in the discipline of philosophy, in the field of political theory, or from within the activist community. So far it has had less impact on global environmental politics than one might initially expect, given that so many global environmental issues raise fundamental moral and ethical questions.

One reason is the place of normative theory within international relations, a relatively minor branch of study in today's political science departments within North America (Smith, 1992). It is stronger in Europe, but not enough to infuse global environmental politics with a strong tradition of ethical research. This does, however, seem to be changing, partly because ethics and normative questions are a natural area for scholars of global environmental politics, as many have an underlying normative belief in improving and protecting the global environment (see Stoett, 1997; and Wapner, ch. 28; Elliott, ch. 29; and Litfin, ch. 30, all in this volume).

Conclusion: the future of research?

It is hard, if not impossible, to predict future research output. New theories will inevitably emerge, as will new actors, processes and problems. The field of global environmental politics (GEP) will naturally continue to evolve. Yet it is possible to discern some emerging trends in current research, ones that at least *suggest* likely future directions.

Theoretically researchers will no doubt continue to explore the critical role of states, sovereignty, regimes and institutions. These literatures are now highly developed. Scholars of global environmental politics continue to break new ground in regime research even as much of the literature in international relations veers away from regimes and toward more formal legal processes, norms and nonstate forces of change (Conca, 2004). The environmental literature has been especially significant for improving the understanding of global cooperation and the creation of global regulations. It is also pushing forward the theoretical literature on global governance as international relations scholars explore ways to embrace a more holistic analysis of global environmental management.

The field of GEP is extending its reach, however, as more and more scholars explore issues through a local–global lens and with more stress on the exploitative nature of global capitalism: that is, on the ecological injustice and inequalities of patterns of global power and resource control. The theme of violence will continue within this research group, although not with as much attention to the degradation–scarcity–violence hypothesis, but rather

violence in the context of broader patterns of suppression and rebellion in a world of limited valuable resources.

The politics of some of the most intransigent global environmental problems, such as climate change, biodiversity loss, desertification, fresh water, transboundary pollutants and deforestation, will continue to generate significant empirical research. Original contemporary research on other issues such as ozone depletion and whaling seem destined for less research, although, as with Tora Skodvin and Steinar Andresen's (2003) article on the evolution of the whaling regime, more retrospective studies of such issues will no doubt continue to generate significant theoretical insights.

On the other hand, the research on transnational societal forces, ethics, corporations and capitalism (such as consumption) seems set to grow even further. Here I predict that scholarship in global environmental politics will naturally drift into more normative research, as so much raises gnawing ethical questions, from the personal to the global. This trend could perhaps even help to reinvigorate the broader study of normative theory in international relations.

More certain, it seems that research in global environmental politics will continue to expand beyond the discipline of political science. Already international law and economics are highly influential, but more and more political science scholarship draws on literature across an ever wider range of disciplines. Scholars in other disciplines, too, are gradually integrating the literature in international relations and comparative politics on the global environment.

This is changing the nature of research in global environmental politics. Over the last three decades much of the theoretical literature in global environmental politics aimed to contribute to political science (as with the research on measuring the effectiveness of environmental regimes). However, it is probable that more of the future literature will focus explicitly on trying to explain the political (defined broadly) causes and consequences of global environmental change. That is, the purpose will increasingly shift to explaining environmental change rather than, say, the formation of political institutions. Much of the future research will also, in this admittedly speculative view, overtly strive to advance the knowledge within an increasingly large and confident group of scholars within the field of global environmental politics.

Notes

- * I presented an earlier draft of this chapter at the International Studies Association Convention (20 March 2004) and appreciate the constructive comments of participants. Please note, 'chapters' (for example, Dauvergne: ch. 1) in this text refers to the ones in this book.
- 1. Stephen Krasner's (1983: 2) definition of international regime remains the classic one for many international relations scholars: 'sets of implicit or explicit principles, norms, rules and decision making procedures around which actors' expectations converge in a given area of international relations'.

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2. The literature reviews of Zürn (1998), Mitchell (2002a) and Paterson (forthcoming) all use the term 'international environmental politics'. I intentionally use the term 'global' instead of 'international' to stress the movement of the field well beyond a study of inter-state relations and the global environment.
3. For recent Sprout Award winners, see www.isanet.org/sections/ess/.
4. The World Commission on Environment and Development (1987: 43) defined sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.
5. Email correspondence between Konrad von Moltke and the author, 11 December 2003.
6. MacDonald was editor until his death in 2002.
7. Hardin (1998) acknowledges that he should have added the 'modifying adjective "unmanaged"' to the word 'commons'.
8. See Broswimmer (2002) for a more recent study of species loss.

References

- Andersen, Regine (2002), 'The time dimension in international regime interplay', *Global Environmental Politics*, **2** (August), 98–117.
- Andresen, Steinar (2000), 'The whaling regime', in Steinar Andresen, Tora Skodvin, Jörgen Wettestad and Arild Underdal (eds), *Science and Politics in International Environmental Regimes: Between Integrity and Involvement*, Manchester: Manchester University Press, pp. 35–70.
- Andresen, Steinar (2001), 'The whaling regime: "good" policy but "bad" institutions?', in Robert L. Friedheim (ed.), *Towards a Sustainable Whaling Regime?*, Seattle and London: University of Washington Press, pp. 235–65.
- Arden-Clarke, Charles (1992), 'South–North terms of trade: environmental protection and sustainable development', *International Environmental Affairs*, **4** (2), Spring, 122–39.
- Auer, Matthew (1998), 'Colleagues or combatants? Experts as environmental diplomats', *International Negotiation*, **3** (2), 267–87.
- Banks, Glenn (1993), 'Mining multinationals and developing countries: theory and practice in Papua New Guinea', *Applied Geography*, **13**, 313–27.
- Beder, Sharon (1997), *Global Spin: The Corporate Assault on Environmentalism*, Melbourne, VIC: Scribe Publications.
- Benedick, Richard Eliot (1998), *Ozone Diplomacy: New Directions in Safeguarding the Planet*, enlarged edn. Cambridge, MA: Harvard University Press.
- Bernaer, Thomas (1995), 'The effect of international environmental institutions: how we might learn more', *International Organization*, **49** (2), 351–77.
- Bernstein, Steven (2001), *The Compromise of Liberal Environmentalism*, New York: Columbia University Press.
- Betsill, Michele M. and Elisabeth Corell (2001), 'NGO influence in international environmental negotiations: a framework for analysis', *Global Environmental Politics*, **1** (4), November, 65–85.
- Bhagwati, Jagdish (1993), 'The case for free trade', *Scientific American*, November, 42–9.
- Biermann, Frank (2000), 'The case for a world environment organization', *Environment*, **42** (9), 22–31.
- Biermann, Frank (2001), 'The emerging debate on the need for a world environment organization', *Global Environmental Politics*, **1** (1) February, 45–55.
- Brenton, Tony (1994), *The Greening of Machiavelli: The Evolution of International Environmental Politics*, London: Earthscan Publications.
- Bretherton, Charlotte (2003), 'Movements, networks, hierarchies: a gender perspective on global environmental governance', *Global Environmental Politics*, **3** (2) May, 103–19.
- Broswimmer, Franz J. (2002), *Ecocide: A Short History of Mass Extinction of Species*, Sterling, VA: Pluto Press.
- Brown, Lester R. (2003), *Plan B: Rescuing a Planet under Stress and a Civilization in Trouble*, New York: W.W. Norton.

- Bryant, Raymond and Sinéad Bailey (1997), *Third World Political Ecology*, London and New York: Routledge.
- Bryner, Gary C. (2001), *Gaia's Wager: Environmental Movements and the Challenge of Sustainability*, Lanham, MD: Rowman and Littlefield.
- Burger, Joanna and Michael Gochfeld (1998), 'The tragedy of the commons at 30 years', *Environment*, **40** (10), 4–13, 26–7.
- Caldwell, Lynton Keith (1984), *International Environmental Policy*, Durham, NC: Duke University Press.
- Caldwell, Lynton Keith (1996), *International Environmental Policy: From the Twentieth to the Twenty-First Century*, Durham, NC: Duke University Press.
- Carson, Rachel (1962), *Silent Spring*, Boston, MA: Houghton Mifflin.
- Charnovitz, Steve (1995), 'Improving environmental and trade governance', *International Environmental Affairs*, **7**, 59–91.
- Chatterjee, Pratap and Matthias Finger (1994), *The Earth Brokers: Power, Politics and World Development*, London: Routledge.
- Clapp, Jennifer (1998a), 'Foreign direct investment in hazardous industries in developing countries: rethinking the debate', *Environmental Politics*, **7** (4), 92–113.
- Clapp, Jennifer (1998b), 'The privatization of global environmental governance: ISO 14000 and the developing world', *Global Governance*, **4** (3), 295–316.
- Clapp, Jennifer (2001), *Toxic Exports: The Transfer of Hazardous Wastes from Rich to Poor Countries*, Ithaca, NY: Cornell University Press.
- Clapp, Jennifer (2002), 'What the pollution havens debate overlooks', *Global Environmental Politics*, **2** (2) May, 11–19.
- Clapp, Jennifer (2003), 'Transnational corporate interests and global environmental governance: negotiating rules for agricultural biotechnology and chemicals', *Environmental Politics*, **12** (Winter), 1–23.
- Clapp, Jennifer and Peter Dauvergne (2005), *Paths to a Green World: The Political Economy of the Global Environment*, Cambridge, MA: MIT Press.
- Conca, Ken (2000), 'The WTO and the undermining of global environmental governance', *Review of International Political Economy*, **7** (3), 484–94.
- Conca, Ken (2001), 'Consumption and environment in a global economy', *Global Environmental Politics*, **1** (3) August, 56–7.
- Conca, Ken (2004), 'Ecology in an age of empire: a reply to (and extension of) Dalby's imperial thesis', *Global Environmental Politics*, **4** (2).
- Conca, Ken and Geoffrey D. Dabelko (eds) (1998), *Green Planet Blues: Environmental Politics from Stockholm to Kyoto*, Boulder, CO: Westview Press.
- Connelly, James and Graham Smith (1999), *Politics and the Environment: From Theory to Practice*, London: Routledge.
- Corell, Elisabeth (1999), 'Actor influence in the 1993–97 negotiations of the Convention to Combat Desertification', *International Negotiation*, **4** (2), 197–223.
- Corell, Elisabeth and Michelle M. Betsill (2001), 'A comparative look at NGO influence in international environmental negotiations: desertification and climate change', *Global Environmental Politics*, **1** (November), 86–107.
- Dalby, Simon (2002), *Environmental Security*, Minneapolis, MN: University of Minnesota Press.
- Daly, Herman E. (1993), 'The perils of free trade', *Scientific American*, November, 50–57.
- Daly, Herman E. (1996), *Beyond Growth: The Economics of Sustainable Development*, Boston, MA: Beacon Press.
- Daly, Herman E. and John Cobb Jr (1989), *For the Common Good: Redirecting the Economy toward Community, the Environment and a Sustainable Future*, Boston, MA: Beacon Press.
- Dauvergne, Peter (1997a), 'A model of sustainable international trade in tropical timber', *International Environmental Affairs*, **9** (1) Winter, 3–21.
- Dauvergne, Peter (1997b), *Shadows in the Forest: Japan and the Politics of Timber in Southeast Asia*, Cambridge, MA: The MIT Press.
- Dauvergne, Peter (1999), 'Asia's environment after the 1997 financial meltdown: the need of a

24 Handbook of global environmental politics

- regional response', *Asian Perspective: A Journal of Regional and International Affairs*, **23**, 53–77.
- Dauvergne, Peter (2001), *Loggers and Degradation in the Asia-Pacific: Corporations and Environmental Management*, Cambridge: Cambridge University Press.
- Dauvergne, Peter (2005), 'Globalization and the environment', in John Ravenhill (ed.), *Global Political Economy*, Oxford: Oxford University Press.
- Davidson, Eric A. (2000), *You Can't Eat GNP: Economics As If Ecology Mattered*, Cambridge, MA: Perseus Publishing.
- de Soysa, Indra (2002), 'Ecoviolence: shrinking pie, or honey pot?', *Global Environmental Politics*, **2** (4) November, 1–35.
- Des Jardins, Joseph R. (ed.) (1999), *Environmental Ethics: Concepts, Policy, Theory*, Mountain View, CA: Mayfield Publishing.
- Des Jardins, Joseph R. (2001), *Environmental Ethics: An Introduction to Environmental Philosophy*, 3rd edn, Belmont, CA: Wadsworth/Thomson Learning.
- DeSombre, Elizabeth R. (2000), *Domestic Sources of International Environmental Policy: Industry, Environmentalists, and U.S. Power*, Cambridge, MA: MIT Press.
- DeSombre, Elizabeth R. (2001), 'The Montreal Protocol: particularly remarkable and remarkably particular', in *UCLA Journal of Environmental Law and Policy*, **19** (2) Spring 2001.
- DeSombre, Elizabeth R. (2002), *The Global Environment and World Politics*, London and New York: Continuum.
- DeSombre, Elizabeth R. and J. Samuel Barkin (2002), 'Turtles and trade: the WTO's acceptance of environmental trade restrictions', *Global Environmental Politics*, **2** (1) February, 12–18.
- Deudney, Daniel (1990), 'The case against linking environmental degradation and national security', *Millennium*, **19** (3), 461–76.
- Dobson, Andrew (1998), *Justice and the Environment: Conceptions of Environmental Sustainability and Dimensions of Social Justice*, Oxford: Oxford University Press.
- Downie, David and Marc Levy (2000), 'The UN environment programme at a turning point: options for change', in Pamela Chasek (ed.), *The Global Environment in the Twenty-First Century: Prospects for International Cooperation*, New York: UN University Press, pp. 355–77.
- Downie, David Leonard and Terry Fenge (eds) (2003), *Northern Lights Against POPs: Combating Toxic Threats in the Arctic*, Montreal/Kingston: McGill-Queen's University Press.
- Dryzek, John (1997), *The Politics of the Earth: Environmental Discourses*, Oxford: Oxford University Press.
- Dryzek, John S. and David Schlosberg (eds) (1998), *Debating the Earth: The Environmental Politics Reader*, Oxford: Oxford University Press.
- Easterbrook, Gregg (1995), *A Moment on the Earth: The Coming Age of Environmental Optimism*, New York: Penguin.
- Ehrlich, Paul R. (1968), *The Population Bomb*, New York: Sierra Club-Ballantine.
- Ehrlich, Paul R. and Anne H. Ehrlich (1996), *Betrayal of Science and Reason: How Anti-Environmental Rhetoric Threatens Our Future*, Washington, DC: Island Press.
- Elliott, Lorraine (1994), *International Environmental Politics: Protecting the Antarctic*, London: Macmillan.
- Elliott, Lorraine (1998), *The Global Politics of the Environment*, New York: NYU Press.
- Emberson-Bain, `Atu (1994), 'De-romancing the stones: gender, environment and mining in the Pacific', in `Atu Emberson-Bain (ed.), *Sustainable Development or Malignant Growth? Perspectives of Pacific Island Women*, Suva, Fiji: Marama Publications, pp. 91–110.
- Esty, Daniel C. (1994), *Greening the GATT: Trade, Environment and the Future*, Washington, DC: Institute for International Economics.
- Esty, Daniel C. (2001), 'Bridging the trade environment', *Journal of Economic Perspective*, **15** (3), 113–30.
- Fairman, David (1996), 'The global environment facility: haunted by the shadow of the future', in Robert Keohane and Marc Levy (eds), *Institutions for the Earth*, Cambridge, MA: MIT Press.

- Falk, Richard (1971), *This Endangered Planet: Prospects and Proposals for Human Survival*, New York: Random House.
- Falkner, Robert (2003), 'Private environmental governance and international relations: exploring the links', in David Humphreys, Matthew Paterson and Lloyd Pettiford (eds), *Global Environmental Governance for the Twenty-First Century: Theoretical Approaches and Normative Considerations*: Special Issue of *Global Environmental Politics*, **3** (May), 72–87.
- Filer, Colin (ed.) (1997), *The Political Economy of Forest Management in Papua New Guinea*, London and Boroko: The International Institute for Environment and Development and the National Research Institute.
- Ford, Lucy H. (2003), 'Challenging global environmental governance: social agency and global civil society', in David Humphreys, Matthew Paterson and Lloyd Pettiford (eds), *Global Environmental Governance for the Twenty-First Century: Theoretical Approaches and Normative Considerations*: Special Issue of *Global Environmental Politics*, **3** (May), 120–34.
- Fox, Jonathan and David Brown (1998), *The Struggle for Accountability: The World Bank, NGOs and Grassroots Movements*, Cambridge, MA, and London: MIT Press.
- Fuchs, Doris A. and Sylvia Lorek (2002), 'Sustainable consumption governance in a globalizing world,' *Global Environmental Politics*, **2** (1) February, 19–45.
- Garcia-Johnson, Ronie (2000), *Exporting Environmentalism: US Multinational Chemical Corporations in Brazil and Mexico*, Cambridge, MA: MIT Press.
- Gedicks, Al (2001), *Resource Rebels: Native Challenges to Mining and Oil Corporations*, Boston, MA: South End Press.
- George, Susan (1992), *The Debt Boomerang*, London: Pluto.
- Greer, Jed and Kenny Bruno (1997), *Greenwash: The Reality Behind Corporate Environmentalism*, New York: Apex Press.
- Grundmann, Reiner (2001), *Transnational Environmental Policy: Reconstructing Ozone*, London: Routledge.
- Gutner, Tamar L. (2002), *Banking on the Environment: Multilateral Development Banks and Their Environmental Performance in Central and Eastern Europe*, Cambridge, MA: MIT Press.
- Haas, Peter M. (1989), 'Do regimes matter? Epistemic communities and Mediterranean pollution control', *International Organization*, **43** (3), 377–403.
- Haas, Peter M. (1992), 'Introduction: epistemic communities and international policy coordination', *International Organization*, **46** (1), 1–35.
- Haas, Peter M. (1999), 'Social constructivism and the evolution of multilateral environmental governance', in Aseem Prakash and Jeffrey Hart (eds), *Globalization and Governance*, London: Routledge, pp. 103–33.
- Haas, Peter M., Robert O. Keohane and Marc A. Levy (eds) (1993), *Institutions for the Earth: Sources of Effective International Environmental Protection*, Cambridge, MA: MIT Press.
- Hall, Derek (2002), 'Environmental change, protest and havens of environmental degradation: evidence from Asia', *Global Environmental Politics*, **2** (May), 20–28.
- Hampson, Fen Osler and Judith Reppy (eds) (1996), *Earthly Goods: Environmental Change and Social Justice*, Cornell, NY: Cornell University Press.
- Hardin, Garrett (1968), 'The tragedy of the commons', *Science*, **162**, 1243–8.
- Hardin, Garrett (1974), 'Living on a Lifeboat', *Bioscience*, **24** (10), 561–8.
- Hardin, Garrett (1998), 'Extensions of "The tragedy of the commons"', *Science*, **280** (1 May), 682–3.
- Hempel, Lamont C. (1996), *Environmental Governance: The Global Challenge*, Washington, DC: Island Press.
- Hines, Colin (2000), *Localization: A Global Manifesto*, London: Earthscan.
- Hines, Colin (2003), 'Time to replace globalization with localization', *Global Environmental Politics*, **3** (3), 1–7.
- Hochstetler, Kathryn (2002), 'After the boomerang: environmental movements and politics in the La Plata river basin', *Global Environmental Politics*, **2** (November), 35–57.
- Homer-Dixon, Thomas F. (1991), 'On the threshold: environmental changes as causes of acute conflict', *International Security*, **16** (2) Fall, 76–116.

26 Handbook of global environmental politics

- Homer-Dixon, Thomas F. (1994), 'Environmental scarcities and violent conflict: evidence from cases', *International Security*, **19** (1), 5–40.
- Homer-Dixon, Thomas F. (1999), *Environment, Scarcity and Violence*, Princeton, NJ: Princeton University Press.
- Homer-Dixon, Thomas F. (2000), *The Ingenuity Gap: Facing the Economic, Environmental and Other Challenges of an Increasingly Complex and Unpredictable World*, New York: Knopf.
- Hough, Peter (1998), *The Global Politics of Pesticides: Forging Consensus from Conflicting Interests*, London: Earthscan.
- Hovi, Jon, Detlef F. Sprinz and Arild Underdal (2003), 'The Oslo–Potsdam solution to measuring regime effectiveness: critique, response and the road ahead', *Global Environmental Politics*, **3** (August), 74–96.
- Humphreys, David (1996), 'Regime theory and non-governmental organizations: the case of forest conservation', in David Potter (ed.), *NGOs and Environmental Policies: Asia and Africa*, London: Frank Cass, pp. 90–115.
- Hurrell, Andrew and Benedict Kingsbury (1992), *The International Politics of the Environment*, Oxford: Oxford University Press.
- Jackson, Richard and Glenn Banks (2003), *Search of the Serpent's Skin: The Story of the Porgera Gold Mine*, Brisbane, QLD: Boolong Press.
- Jasanoff, Sheila (1997), 'NGOs and the environment: from knowledge to action', *Third World Quarterly*, **18**, 579–94.
- Jasanoff, Sheila (2001), 'Image and imagination: the formation of global environmental consciousness', in Clark A. Miller and Paul N. Edwards (eds), *Changing the Atmosphere: Expert Knowledge and Environmental Governance*, Cambridge, MA: MIT Press, pp. 309–37.
- Jordan, Andrew, Rüdiger K.W. Wurzel and Anthony R. Zito (2003), "'New" instruments of environmental governance: patterns and pathways of change', *Environmental Politics*, **12** (1), 3–24.
- Joyner, Christopher C. (1998), *Governing the Frozen Commons: The Antarctic Regime and Environmental Protection*, Columbia, SC: University of South Carolina Press.
- Karliner, Joshua (1997), *The Corporate Planet: Ecology and Politics in the Age of Globalization*, San Francisco, CA: Sierra Club.
- Keck, Margaret E. and Kathryn Sikkink (1998), *Activists Beyond Borders: Advocacy Networks in International Politics*, Ithaca, NY: Cornell University Press.
- Keohane, Robert and Marc Levy (eds) (1996), *Institutions for Environmental Aid*, Cambridge, MA: MIT Press.
- Kolk, Ans (1996), *Forests in International Environmental Politics: International Organisations, NGOs and the Brazilian Amazon*, Utrecht, Netherlands: International Books.
- Korten, David C. (1995), *When Corporations Rule the World*, West Hartford and San Francisco: Kumarian Press and Berrett-Koehler Publishers.
- Krasner, Stephen D. (1983), *International Regimes*, Ithaca, NY: Cornell University Press.
- Krueger, Jonathan (1999), *International Trade and the Basel Convention, Trade and Environment*, London: Royal Institute of International Affairs/ Earthscan Press.
- Kütting, Gabriela (2000), *Environment, Society and International Relations: Towards More Effective International Environmental Agreements*, London: Routledge.
- Laferrère, Eric (2001), 'International political economy and the environment: a radical ecological perspective', in Dimitris Stevis and Valerie Assetto (eds), *The International Political Economy of the Environment: Critical Perspectives*, Boulder, CO: Lynne Rienner.
- Lallas, Peter L. (2000/2001), 'The role of process and participation in the development of effective international environmental agreements: a study of the global treaty on persistent organic pollutants', *UCLA Journal of Environmental Law and Policy*, **19** (1), 83–152.
- Le Prestre, Philippe (1989), *The World Bank and the Environmental Challenge*, Selinsgrove, PA: Susquehanna University Press.
- Lee, Yok-Shiu F. and Alvin Y. So (eds) (1999), *Asia's Environmental Movements: Comparative Perspectives*, Armonk, NY: M.E. Sharpe.
- Levy, David L. (1997), 'Business and international environmental treaties: ozone depletion and climate change', *California Management Review*, **39** (3), 54–71.
- Levy, David L. and Daniel Egan (1998), 'Capital contests: national and transnational channels

- of corporate influence on the climate change negotiations', *Politics and Society*, **26** (3) September, 337–61.
- Levy, David L. and Peter Newell (2002), 'Business strategy and international environmental governance: toward a neo-Gramscian synthesis', *Global Environmental Politics*, **2** (November), 84–101.
- Levy, David L. and Peter J. Newell (eds) (2005), *The Business of Global Environmental Governance*, Cambridge, MA: MIT Press.
- Light, Andrew and Avner De-Shalit (eds) (2003), *Moral and Political Reasoning in Environmental Practice*, Cambridge, MA: The MIT Press.
- Light, Andrew and Holmes Rolston (eds) (2003), *Environmental Ethics: An Anthology*, Oxford: Blackwell Publishing.
- Lipschutz, Ronnie D. (1999), 'From Local Knowledge and Practice to Global Environmental Governance', in Martin Hewson and Timothy J. Sinclair (eds), *Approaches to Global Governance Theory*, Albany, NY: SUNY Press, pp. 259–283.
- Lipschutz, Ronnie D. (2001), 'Why is there no international forestry law? An examination of international forestry regulation, both public and private', *UCLA Journal of Environmental Law & Policy*, **19** (1), 155–82.
- Lipschutz, Ronnie D. (2003), *Global Environmental Politics: Power, Perspectives and Practice*, Washington, DC: CQ Press.
- Lipschutz, Ronnie D. with Judith Mayer (1996), *Global Civil Society and Global Environmental Governance*, Albany, NY: SUNY Press.
- Litfin, Karen T. (1994), *Ozone Discourses: Science and Politics in Global Environmental Cooperation*, New York: Columbia University Press.
- Litfin, Karen T. (ed.) (1998), *The Greening of Sovereignty in World Politics*, Cambridge, MA: MIT Press.
- Lomborg, Bjørn (2001), *The Skeptical Environmentalist: Measuring the Real State of the World*, Cambridge, MA: Cambridge University Press.
- Lovelock, James (1979), *Gaia: A New Look at Life on Earth*, Oxford: Oxford University Press.
- Lovelock, James (1995), *The Ages of Gaia: A Biography of Our Living Earth*, revised edn, New York: W.W. Norton.
- Low, Nicholas and Brendan Gleeson (1998), *Justice, Society and Nature: An Exploration of Political Ecology*, London: Routledge.
- MacDonald, Gordon J. (2003), 'Environment: evolution of a concept', *Journal of Environment & Development*, **12** (2), June, 151–76.
- MacNeill, Jim, Pieter Winsemius and Taizo Yakushiji (1991), *Beyond Interdependence: The Meshing of the World's Economy and the Earth's Ecology*, New York: Oxford University Press.
- Malthus, Thomas Robert (1798), 1st edn; (1826), 6th edn, 'Essay on the principle of population' (available at <http://www.econlib.org/library/Malthus/malPlong.html>).
- Mander, Jerry and Edward Goldsmith (eds) (1996), *The Case against the Global Economy: And for a Turn toward the Local*, San Francisco, CA: Sierra Club.
- Maniates, Michael F. (2001), 'Individualization: plant a tree, buy a bike, save the world?', *Global Environmental Politics*, **1** (3), 31–52.
- Maniates, Michael (ed.) (2003), *Encountering Global Environmental Politics: Teaching, Learning and Empowering Knowledge*, Lanham, MD: Rowman and Littlefield.
- Marchak, M. Patricia (1995), *Logging the Globe*, Montreal and Kingston: McGill-Queen's University Press.
- Martello, Marybeth Long (2001), 'A paradox of virtue? "Other" knowledges and Environment-Development Politics', *Global Environmental Politics*, **1** (1), August, 114–41.
- Matthew, Richard A. and Ted Gaulin (2001), 'The social and political impacts of resource scarcity on small island states', *Global Environmental Politics*, **1** (2), May, 48–70.
- McCormick, John (1997), *Acid Earth: The Politics of Acid Pollution*, 3rd edn, London: Earthscan.
- McCormick, John (1999), 'The role of environmental NGOs in international regimes', in Norman J. Vig and Regina Axelrod (eds), *The Global Environment: Institutions, Laws and Policy*, Washington, DC: CQ Press.
- McMurtry, John (1999), *The Cancer Stage of Capitalism*, London: Pluto.

28 *Handbook of global environmental politics*

- Meadows, Donella H., Dennis L. Meadows, William W. Behrens and Jørgen Randers (1972), *The Limits to Growth*, New York: The Club of Rome.
- M'Gonigle, Michael R. and Mark W. Zacher (1979), *Pollution, Politics and International Law: Tankers at Sea*, Berkeley, CA: University of California Press.
- Mies, Maria and Vandana Shiva (1994), *Ecofeminism*, Halifax, NS: Fernwood.
- Miles, Edward L., Arild Underdal, Steinar Andresen, Jørgen Wettestad, Tora Skodvin and Elaine M. Carlin (2001), *Environmental Regime Effectiveness: Confronting Theory with Evidence*, Cambridge, MA: MIT Press.
- Miller, Marian, A.L. (1995), *The Third World in Global Environmental Politics*, Boulder, CO: Lynne Rienner.
- Mitchell, Ronald B. (1994a), 'Regime design matters: intentional oil pollution and treaty compliance', *International Organization*, **48** (3), 425–58.
- Mitchell, Ronald B. (1994b), *Intentional Oil Pollution at Sea: Environmental Policy and Treaty Compliance*, Cambridge, MA: MIT Press.
- Mitchell, Ronald B. (2002a), 'International Environment', in Thomas Risse, Beth Simmons and Walter Carlsnaes (eds), *Handbook of International Relations*, London: Sage Publications.
- Mitchell, Ronald B. (2002b), 'A quantitative approach to evaluating international environmental regimes', *Global Environmental Politics*, **2** (November), 58–83.
- Mol, Arthur (2002), 'Ecological modernization and the global economy', *Global Environmental Politics*, **2** (February), 92–115.
- Mushita, Andrew T. and Carol B. Thompson (2002), 'Patenting biodiversity? Rejecting WTO/TRIPS in Southern Africa', *Global Environmental Politics*, **2** (February), 65–82.
- Myers, Norman (1979), *The Sinking Ark: A New Look at the Problem of Disappearing Species*, New York: Pergamon Press.
- Najam, Adil (2002), 'Financing sustainable development: crises of legitimacy', *Progress in Development Studies*, **2** (2), 153–60.
- Najam, Adil (2003), 'The case against a new international environmental organization', *Global Governance*, **9**, 367–84.
- Najam, Adil and Nick Robins (2001), 'Seizing the future: the South, sustainable development and international trade', *International Affairs*, **77** (1), 93–111.
- Newmayer, Eric (2001), *Greening Trade and Investment: Environmental Protection Without Protectionism*, London: Earthscan.
- Newell, Peter (2000), *Climate for Change: Non-state Actors and the Global Politics of the Greenhouse*, Cambridge: Cambridge University Press.
- Newell, Peter (2003), 'Globalization and the governance of biotechnology', in David Humphreys, Matthew Paterson and Lloyd Pettiford (eds), *Global Environmental Governance for the Twenty-First Century: Theoretical Approaches and Normative Considerations*, a Special Issue of *Global Environmental Politics*, **3** (May), 56–71.
- Newell, Peter and Matthew Paterson (1998), 'A climate for business: global warming, the state and capital', *Review of International Political Economy*, **5** (4), 679–703.
- O'Neill, Kate (2000), *Waste Trading among Rich Nations: Building a New Theory of Environmental Regulation*, Cambridge, MA: MIT.
- O'Neill, Kate (2001), 'The changing nature of global waste management for the 21st century', *Global Environmental Politics*, **1** (1), 77–98.
- Ophuls, William (1977), *Ecology and the Politics of Scarcity*, San Francisco, CA: W.H. Freeman & Co.
- Ostrom, Elinor (1990), *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge: Cambridge University Press.
- Parson, Edward A. (2003), *Protecting the Ozone Layer: Science, Strategy and Negotiation in the Shaping of a Global Environmental Regime*, Oxford: Oxford University Press.
- Paterson, Matthew (1996), *Global Warming and Global Politics*, London: Routledge.
- Paterson, Matthew (2000a), *Understanding Global Environmental Politics: Domination, Accumulation, Resistance*, London: Palgrave Macmillan.
- Paterson, Matthew (2000b), 'Car culture and global environmental politics', *Review of International Studies*, **26** (2), 253–70.

- Paterson, Matthew (2001), 'Risky business: insurance companies in global warming politics', *Global Environmental Politics*, **1** (November), 18–42.
- Paterson, Matthew (forthcoming), 'Theoretical perspectives on international environmental politics', draft dated October 2003, in Michele Betsill, Kathryn Hochstetler and Dimitris Stevis (eds), *Palgrave Guide to the Study of International Environmental Politics*, Basingstoke, UK: Palgrave.
- Paterson, Matthew, David Humphreys and Lloyd Pettiford (2003), 'Conceptualizing global environmental governance: from interstate regimes to counter-hegemonic struggles', in David Humphreys, Matthew Paterson and Lloyd Pettiford (eds), *Global Environmental Governance for the Twenty-First Century: Theoretical Approaches and Normative Considerations*, a Special Issue of *Global Environmental Politics*, **3** (May), 1–10.
- Peluso, Nancy and Michael Watts (2001), *Violent Environments*, Cornell, NY: Cornell University Press.
- Peterson, M.J. (1992), 'Whalers, cetologists, environmentalists and the international management of whaling', *International Organization*, **46** (1), 147–86.
- Pojman, Louis P. (2000), *Global Environmental Ethics*, Mountain View, CA: Mayfield Publishing.
- Pojman, Louis P. (ed.) (2001), *Environmental Ethics: Readings in Theory and Application*, 3rd edn, Belmont, CA: Wadsworth/Thomson Learning.
- Porter, Gareth (1999), 'Trade competition and pollution standards: "race to the bottom" or "stuck at the bottom"?'', *Journal of Environment and Development*, **8** (2), 133–51.
- Porter, Gareth, Janet Welsh Brown and Pamela S. Chasek (2000), *Global Environmental Politics*, 3rd edn, Boulder, CO: Westview Press.
- Prakash, Aseem (2000), *Greening the Firm: The Politics of Corporate Environmentalism*, Cambridge: Cambridge University Press.
- Princen, Thomas (1994), 'NGOs: creating a niche in environmental diplomacy', in Thomas Princen and Matthias Finger (eds), *Environmental NGOs in World Politics: Linking the Local and the Global*, London: Routledge, pp. 29–47.
- Princen, Thomas (2001), 'Consumption and its externalities: where economy meets ecology', *Global Environmental Politics*, **1** (3) August, 11–30.
- Princen, Thomas and Matthias Finger (with contributions by Jack P. Manno and Margaret L. Clark) (1994), *Environmental NGOs in World Politics: Linking the Local and the Global*, London: Routledge.
- Princen, Thomas, Ken Conca and Michael Maniates (eds) (2002), *Confronting Consumption*, Cambridge, MA: MIT Press.
- Rao, P.K. (2000), *The World Trade Organization and the Environment*, London and New York: Macmillan and St Martin's Press.
- Rees, William E. and Laura Westra (2003), 'When consumption does violence: can there be sustainability and environmental justice in a resource-limited world?' in Julian Agyeman, Robert Bullart and Bob Evans (eds), *Just Sustainabilities: Development in an Unequal World*, London: Earthscan.
- Rich, Bruce (1994), *Mortgaging the Earth: The World Bank, Environmental Impoverishment, and the Crisis of Development*, London: Earthscan.
- Robbins, Richard H. (2002), *Global Problems and the Culture of Capitalism*, 2nd edn, Boston, MA: Allyn and Bacon.
- Rosendal, G. Kristin (2001), 'Impact of overlapping international regimes: the case of biodiversity', *Global Governance*, **7** (2), 95–117.
- Rowell, Andrew (1996), *Green Backlash: Global Subversion of the Environment Movement*, London: Routledge.
- Rowlands, Ian (1995), *The Politics of Global Atmospheric Change*, New York: Manchester University Press.
- Rowlands, Ian (2000), 'Beauty and the beast? BP's and Exxon's positions on global climate change', *Environment and Planning C: Government and Policy*, **18** (3), 339–54.
- Rutherford, Paul (2003), "'Talking the talk": business discourse at the world summit on sustainable development', *Environmental Politics*, **12** (2), 145–50.

30 *Handbook of global environmental politics*

- Schafer, Kristin S. (2002), 'Ratifying global toxics treaties: the United States must provide leadership', *SAIS Review*, **22** (1) Winter–Spring, 169–76.
- Schmidheiny, Stephan, with World Business Council for Sustainable Development (1992), *Changing Course: A Global Business Perspective on Development and the Environment*, Cambridge, MA: MIT Press.
- Schmidtz, David and Elizabeth Willott (eds) (2002), *Environmental Ethics: What Really Matters, What Really Works*, Oxford: Oxford University Press.
- Schreurs, Miranda A. and Elizabeth C. Economy (eds) (1997), *The Internationalization of Environmental Protection*, Cambridge: Cambridge University Press.
- Schumacher, E.F. (1973), *Small is Beautiful: Economics as if People Mattered*, New York: Harper and Row.
- Selin, Henrik and Noelle Eckley (2003), 'Science, politics, and persistent organic pollutants: scientific assessments and their role in international environmental negotiations', *International Environmental Agreements: Politics, Law and Economics*, **3** (1), 17–42.
- Selin, Henrik and Stacy D. VanDeveer (2003), 'Mapping institutional linkages in European air pollution politics', *Global Environmental Politics*, **3** (August), 14–46.
- Shiva, Vandana (1997), *Biopiracy: The Plunder of Nature and Knowledge*, Boston, MA: South End Press.
- Shue, Henry (1999), 'Global environment and international inequality', *International Affairs*, **75** (3), 531–45.
- Simon, Julian L. (1981), *The Ultimate Resource*, Princeton, NJ: Princeton University Press.
- Simon, Julian L. (1996), *The Ultimate Resource 2*, Princeton, NJ: Princeton University Press.
- Skjærseth, Jon Birger, and Tora Skodvin (2001), 'Climate change and the oil industry: common problems, different strategies', *Global Environmental Politics*, **1** (November), 18–42.
- Skodvin, Tora and Steinar Andresen (2003), 'Nonstate influence in the International Whaling Commission, 1970–1990', *Global Environmental Politics*, **3** (4), 61–86.
- Smith, Steve (1992), "'The forty years" detour: the resurgence of normative theory in international relations', *Millennium*, **21** (3) Winter, 489–506.
- Soroos, Marvin S. (1997), *The Endangered Atmosphere*, Columbia, SC: University of South Carolina Press.
- Soroos, Marvin S. (2001), 'Global climate change and futility of the Kyoto process', *Global Environmental Politics*, 1 May, 1–9.
- Sprout, Harold Hance and Margaret Tuttle Sprout (1971), *Toward a Politics of the Planet Earth*, New York: Van Nostrand Reinhold.
- Steinberg, Paul F. (2001), *Environmental Leadership in Developing Countries: Transnational Relations and Biodiversity Policy in Costa Rica and Bolivia*, Cambridge, MA: The MIT Press.
- Stoett, Peter J. (1997), *The International Politics of Whaling*, Vancouver, BC: UBC Press.
- Streck, Charlotte (2001), 'The global environment facility – a role model for international governance?' *Global Environmental Politics*, **1** (2) May, 71–94.
- Susskind, Lawrence (1992), 'New corporate roles in global environmental treaty-making', *The Columbia Journal of World Business*, Fall–Winter.
- Susskind, Lawrence E. (1994), *Environmental Diplomacy: Negotiating More Effective Global Environmental Agreements*, New York: Oxford University Press.
- Switzer, Jacqueline Vaughn (2004), *Environmental Politics: Domestic and Global Dimensions*, Belmont, CA: Wadsworth/Thomson Learning.
- Tamiotti, Ludivine and Matthias Finger (2001), 'Environmental organizations: changing roles and functions in global politics', *Global Environmental Politics*, **1** (February), 56–76.
- Tesh, Sylvia Noble (2000), *Uncertain Hazards: Environmental Activists and Scientific Proof*, Ithaca, NY: Cornell University Press.
- Tolba, Mostafa K. with Iwona Rummel-Bulska (1998), *Global Environmental Diplomacy: Negotiating Environmental Agreements for the World, 1973–1992*, Cambridge, MA: MIT Press.
- Tussie, Diana (ed.) (2000), *The Environment and International Trade Negotiations: Developing Country Stakes*, London, New York and Ottawa: Macmillan, St Martin's and IDRC.
- VanDeVeer, Donald and Christine Pierce (eds) (2003), *The Environmental Ethics and Policy*

- Book: *Philosophy, Ecology, Economics*, 3rd edn, Belmont, CA: Wadsworth/Thomson Learning.
- VanDeveer, Stacy D. and Geoffrey D. Dabelko (2001), 'It's capacity, stupid: international assistance and national implementation', *Global Environmental Politics*, **1** (2) May, 18–29.
- Victor, David, Kal Raustiala and Eugene Skolnikoff (eds) (1998), *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice*, Cambridge, MA: MIT Press.
- Vig, Norman J. and Regina S. Axelrod (eds) (1999), *The Global Environment: Institutions, Law and Policy*, Washington, DC: Congressional Quarterly.
- Vogel, David (1995), *Trading Up: Consumer and Environmental Regulation in a Global Economy*, Cambridge, MA: Harvard University Press.
- Vogler, John (2000), *The Global Commons: Environmental and Technological Governance*, 2nd edn, New York: John Wiley & Sons.
- Vogler, John (2003), 'Taking institutions seriously: how regime analysis can be relevant to multilevel environmental governance', *Global Environmental Politics*, **3** (2), 25–39.
- von Moltke, Konrad (2001), 'The organization of the impossible', *Global Environmental Politics*, **1** (1), 23–8.
- Wackernagel, Mathis and William Rees (1996), *Our Ecological Footprint: Reducing Human Impact on the Earth*, Gabriola Island, BC: New Society Publishers.
- Wade, Robert (1997), 'Greening the bank: the struggle over the environment, 1970–1995', in John Lewis and Richard Webb (eds), *The World Bank: Its First Half Century*, Vol. 2, Washington, DC: Brookings Institute, pp. 611–734.
- Wapner, Paul (1995), 'Politics beyond the state: environmental activism and world civic politics', *World Politics*, **47** (3), 311–40.
- Wapner, Paul (1996), *Environmental Activism and World Civic Politics*, Albany, NY: State University of New York Press.
- Wapner, Paul (2002a), 'The sovereignty of nature? Environmental protection in a postmodern age', *International Studies Quarterly*, **46**, 167–87.
- Wapner, Paul (2002b), 'Horizontal politics: transnational environmental activism and global cultural change', *Global Environmental Politics*, **2** (2) May, 37–62.
- Wapner, Paul (2003), 'World summit on sustainable development: toward a post-Jo'burg environmentalism', *Global Environmental Politics*, **3** (February), 1–10.
- Weiss, Edith Brown and Harold K. Jacobson (eds) (1998), *Engaging Countries: Strengthening Compliance with International Environmental Accords*, Cambridge, MA: MIT Press.
- Welford, Richard (1997), *Hijacking Environmentalism: Corporate Responses to Sustainable Development*, London: Earthscan.
- Wenz, Peter S. (2001), *Environmental Ethics Today*, Oxford: Oxford University Press.
- Wettestad, Jörgen (1999), *Designing Effective Environmental Regimes: The Key Conditions*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar.
- Whalley, John and Ben Zissimos (2001), 'What could a world environmental organization do?', *Global Environmental Politics*, **1** (February), 29–34.
- Wheeler, David (2001), 'Racing to the bottom? Foreign investment and air pollution in developing countries', *Journal of Environment and Development*, **10** (3), September, 225–45.
- Wheeler, David (2002), 'Beyond pollution havens', *Global Environmental Politics*, **2** (May), 1–10.
- World Commission on Environment and Development (WCED) (1987), *Our Common Future*, Oxford: Oxford University Press.
- WWF (World Wildlife Fund) (2002), *Living Planet Report 2002*, Gland, Switzerland: WWF-World Wide Fund for Nature (available at www.panda.org/downloads/general/LPR_2002.pdf).
- Yoder, Andrew J. (2003), 'Lessons from Stockholm: evaluating the global convention on persistent organic pollutants', *Indiana Journal of Global Legal Studies*, **10** (Summer), 113–56.
- Young, Oran R. (1981), *Natural Resources and the State: The Political Economy of Resource Management*, Ithaca, NY: Cornell University Press.
- Young, Oran R. (1989), *International Cooperation: Building Regimes for Natural Resources and the Environment*, Ithaca, NY: Cornell University Press.

32 *Handbook of global environmental politics*

- Young, Oran R. (1994), *International Governance: Protecting the Environment in a Stateless Society*, Ithaca, NY: Cornell University Press.
- Young, Oran R. (1998), *Creating Regimes: Arctic Accords and International Governance*, Ithaca, NY: Cornell University Press.
- Young, Oran R. (ed.) (1999), *The Effectiveness of International Environmental Regimes: Causal Connections and Behavioral Mechanisms*, Cambridge, MA: MIT Press.
- Young, Oran R. (2001a), 'Environmental ethics in international society', in Jean-Marc Coicaud and Daniel Warner (eds), *Ethics and International Affairs: Extent and Limits*, Tokyo and New York: United Nations University Press, pp. 161–93.
- Young, Oran R. (2001b), 'Evaluating the effectiveness of international environmental regimes', *Global Environmental Politics*, **1** (1), 99–121.
- Young, Oran R. (2002), *The Institutional Dimensions of Environmental Change: Fit, Interplay and Scale*, Cambridge, MA: MIT Press.
- Zürn, Michael (1998), 'The rise of international environmental politics: a review of current research', *World Politics*, **50** (4), 617–49.