

CLIMATE CHANGE AND ENVIRONMENTAL JUSTICE

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Introduction

The last 25 years have seen climate change become one of the defining international issues of the present time, evolving from scientific warnings of “global warming” to the complex challenge we understand today. Responses are found at every level of global and national governance, and throughout the realms of government, business and civil society. Fundamental to the problem of anthropogenic climate change is determining and reacting to the role of humans in its cause, and dealing with its widespread and unequal effect on human life and wellbeing. As a result, climate change has been labelled a “perfect moral storm” and a “super wicked problem”, confounding ethicists and policymakers alike with a seemingly insurmountable challenge to our established understanding of environmental justice and governance (Gardiner 2011; Levin et al. 2012).

Moral philosophers have wrestled with the intricacies of climate change since it first emerged as an international issue, with Shue (1992) noting what he described as the ‘un-avoidability of justice’ in the multilateral decision making process (see also Paterson & Grubb 1992; Bodansky 1993). At the same time, politicians have grappled with the challenge of interpreting the justice implications of climate change and how best to incorporate equity principles in prevailing or emerging governance arrangements. Over the same period, a broad and vocal climate justice movement has emerged from the more established environmental justice community to speak up for the most vulnerable in society and seek greater justice in climate change governance, from the global to the local level. Politicians, meanwhile, have invoked ethical arguments frequently in negotiations and policymaking processes, making use of numerous perspectives from the wide range put forward by ethical scholars (Okereke & Dooley 2010).

In this chapter we will outline the history of climate change as an international issue and how its complex justice elements have been interpreted and utilized by scholars, campaigners and policymakers. In the first section we discuss how scholars have analysed and conceived of the many facets of climate justice. In the second section we explore the intellectual and advocacy links between the movement pursuing global climate justice and the more established environmental justice movement from which it emerged. In the third section we trace the role of climate justice in global governance institutions and the varied positions on

justice presented by nation states. Our aim is to provide an overview of these three important and interlinking realms of climate justice, all of which are central to a cohesive understanding of the climate change problem and our collective response to it.

Climate change and justice principles

The scientific theory explaining the effect of atmospheric carbon on global temperatures was first developed in the late nineteenth century, but it was not until the 1980s that the implications of this phenomenon reached the public consciousness and the global political agenda. A strong scientific consensus has since developed regarding the existence of climate change and the role of humans in causing it (Cook et al. 2013; Goldin 2013). An important part of this consensus is the role of the Intergovernmental Panel on Climate Change (IPCC), which was set up in 1988 by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to collate and review climate change research and provide the international community with balanced periodic summary assessments. The IPCC's First Assessment Report was published in 1990 and expressed the IPCC's "certainty" that 'emissions resulting from human activities are substantially increasing the atmospheric concentrations of . . . greenhouse gases . . . resulting on average in an additional warming of the Earth's surface' (IPCC 1990a: XI). Demonstrating the consistent message from the scientific community and the strength of consensus, the Fifth Assessment Report, published in 2013–14, stated that 'since the 1950s, many of the observed changes are unprecedented over decades to millennia' (IPCC 2013: 4), and 'It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century' (IPCC 2013: 15; 17).

The emerging scientific consensus played a key role in bringing climate change onto the international agenda and has also contributed to shaping the perspectives on justice taken by those involved in climate change. As well as the creation of the IPCC, 1988 also saw the Toronto Conference on the Changing Atmosphere and NASA's widely reported testimony to the US Congress that climate change is related to fossil fuel emissions (Vanderheiden 2008). These events and the IPCC's First Assessment Report in 1990 helped to facilitate the creation of the United Nations Framework Convention on Climate Change (UNFCCC) during the 1992 Earth Summit in Rio de Janeiro.

In the run up to and as a result of the UNFCCC agreement in 1992, the extent of the problem of anthropogenic climate change and the magnitude of the costs and disruption associated with an effective response became clearer. At the same time, the greater understanding of the existence, causes and potential impact of anthropogenic climate change exposed several complex justice dimensions of the phenomenon. These include huge variation in the contribution and vulnerability to climate change, both between and within nations. Primarily, while the majority of developing countries have contributed little to overall greenhouse gas emissions over the last 150 years, these are the countries expected to suffer the negative impacts of climate change most rapidly. This inequality also has a notable regional aspect, since it soon became clear that countries in tropical regions (mostly developing countries) will experience more severe effects of climate change and are usually less resilient to them (IPCC 1990b, 2014). With these circumstances in mind, philosophers have explored justice principles that can help establish a basis for an effective and equitable global response.

As scientists provided increasingly robust data to show that greenhouse gas emissions from human activity are driving climate change, initial commentators referred to existing legal and ethical principles and suggested that industrialized countries are the polluters who must pay

for the environmental damage they have caused (O’Riordan & Cameron 1994). This perspective frames climate change in a similar way to more traditional forms of environmental degradation such as chemical spills, where both the damaged soil or water and the origin of the pollutants are identifiable and attributable. However, it quickly became apparent that this otherwise useful environmental justice principle struggles to deal with the multifaceted climate change problem. A particular challenge was that a significant amount of climate polluting activity took place over the last few hundred years and was carried out by countless different individuals and businesses, and that until recently its implications were not widely or comprehensively understood (Page 2008). Furthermore, at a basic level carbon emissions are not problematic – they only become harmful when multiplied to levels seen after the industrial revolution (Miller 2008).

Another popular ethical principle that came to prominence focuses on the gains from carbon-intensive economic development and is known as the “beneficiary pays” perspective. This principle suggests that a responsibility to assist other countries in dealing with climate change is generated by the disproportionate material benefits that developed countries have obtained through their emissions of fossil fuels, and the resulting harm caused to the environment (Caney 2005). Greater financial and technological resources make developed countries more resilient to the effects of climate change, compounding the likelihood that these effects will be less severe than for developing countries. However, once again this perspective is weakened by the acknowledgement that industrialization took place over two centuries, while the full implications of greenhouse gas emissions have only been fully understood relatively recently. Moreover, industrialization has profited not only those in the West, but also many in developing countries in the form of technologies for water purification, medicine, and more efficient agricultural practices, for example.

Some scholars go further, by exploring the extreme inequalities of wealth, life expectancy and opportunity created by the process of industrialization in the Global North; these inequalities characterize the relationship between developed and developing countries and are tied intimately to colonial history (see Chapters 43 and 46) and asymmetrical geopolitical power relationships (Roberts & Parks 2007). Developed countries have amassed a great “ecological debt”, which articulates the reparations owed by the developed world to the developing for generations of exploitative resource extraction and use, international trade, and environmental damage, as well as disproportionate greenhouse gas emissions (the “climate debt”) (Roberts & Parks 2009). Exploring these more all-encompassing dimensions of climate justice requires consideration of the hegemonic global economic system, which is underpinned by these inequalities and means governments are constrained in how they conceive of justice and redistribution (Okereke 2010).

Some ethical scholars have sought to disconnect the responsibilities of developed countries from the way their wealth was generated and the benefits they accrued, by appealing to the “ability to pay” principle. This principle appeals to cosmopolitan global justice ideals and suggests that a duty to assist and support developing countries derives directly from the far greater wealth that developed countries possess. Contribution to the problem and the manner in which economic development occurred are irrelevant, since achieving a just outcome is what matters in ethical terms; as a result, this perspective looks at the present and the future, rather than the past (Page 2008). While avoiding complicated responsibility concerns that are politically unpalatable in developed countries, this perspective bypasses guilt and the acceptance of responsibility, which, although difficult for governments to deal with, are important facets of justice in the eyes of most people and cultures.

As well as the challenges of dealing with the costs and burdens of responding to climate change, philosophers have attempted to address the prospect of future greenhouse gas

emissions. Anthropogenic climate change is already happening, but, given economic and political realities, emissions will not cease immediately. The implications of how to restrict and allocate future emissions raise issues of entitlement and prompt consideration of whether we have a right to emit, either at individual or national levels (see also Chapter 13). Dividing emissions between each person would give each nation an annual emissions allowance (see Hayward 2007; Caney 2012). Such per capita approaches seem equitable and appeal to developing countries, whose per capita emissions remain relatively low. However, emissions are produced by a huge range of activities and determining which emissions are essential for basic subsistence or for economic development (to which many argue developing countries have a right), is fraught with difficulty (Gardiner 2004). Equity can be framed from a different perspective by starting with current or recent emissions and determining appropriate allocations from there – the “grandfathering” approach. Developing countries argue that this approach constrains their potential economic development and unfairly locks in current economic inequality (Moellendorf 2015).

It is clear from the overview in this section that exploring the ethics of climate change has produced a wide variety of perspectives, and finding a way through the complexity is a challenge for scholars. Nevertheless, being aware of these philosophical perspectives is critical when seeking to understand the development of the climate justice movement and the arguments and demands articulated by its advocates. Similarly, any analysis of the political response to climate change must take account of the ethical basis of positions taken by national governments and negotiating blocs at the global governance level. Dealing with past emissions, the prospect of blame, the financial burdens of climate action and the need for economic development in the Global South are challenges that remain central to the governance of climate change and the future of our planet.

Emergence of the climate justice movement

Climate justice has been the subject of growing scholarly attention, but the academic community has not led its development as an advocacy movement (see Chapters 3 and 4 on social movements). Here the connections between climate justice and environmental justice are important if the grassroots and elite NGO components of the climate justice movement are to be understood. As climate change became increasingly highlighted as an emerging global issue, the various manifestations of injustice that characterize the problem connected with those seen in environmental injustices over the preceding decades. Advocates have responded to greater clarity on the reality of climate change, the uneven geographic profile of its effects, and the disproportionate role played by industrialized countries in causing it. These features of climate change shaped the way campaign organizations took up the cause of climate justice.

Schlosberg and Collins (2014) argue that climate justice developed as a movement directly from the existing environmental justice movement, which itself emerged from the separate environmental protection and social justice movements. Early environmental justice activists in the US drew attention to links between the inferior living conditions and life chances of racial minorities, and various environmental issues such as pollution and toxic waste disposal (see Chapters 25 and 26). Since the scope of the environmental justice movement had already expanded to address local and national issues around the world, as well as transnational environmental problems, the movement could adapt and engage with the complex and interconnected implications of climate change as scientific knowledge became more robust and widely disseminated.

Early formulations of climate justice within the global activist community, such as the Bali Principles of 2002, adopted the historical responsibility perspective and drew directly from earlier articulations of environmental justice within the American activist community. The broad environmental justice movement addressed ‘distributive inequity, lack of recognition, disenfranchisement and exclusion, and, more broadly, an undermining of the basic needs, capabilities, and functioning of individuals and communities’ (Schlosberg & Collins 2014: 361). All of these facets can be found in the climate justice movement, intertwined with climate change-specific perspectives related to philosophical analysis of the specific injustices of this particularly global problem.

Routledge (2011) takes a perspective focused on the Global South, finding the roots of the climate justice movement in Southern efforts to address the inequalities created and perpetuated by industrialized nations powering their economic development with the engine of capitalism, with its literal and metaphorical reliance on fossil fuels. Links with the philosophical exploration of climate justice are clear here, in terms of historical responsibility and retributive obligations. Routledge focuses on the solidarities formed when place-based struggles become connected through shared injustices and aligned objectives. While climate justice advocates are often motivated by a local issue or injustice, a desire to protect the natural world around them and oppose the power of corporations or governments mean their existing interests, values and reactions align with the objectives of the wider environmental justice movement (Martinez-Alier 2013). In today’s globalized world the pursuit of both environmental justice and climate justice are no longer based in a particular region, with individuals, communities and groups around the world advocating climate and environmental justice with vigour and determination (see Chapter 39).

Climate change is an unavoidably global issue, which encourages discussion of global inequalities and established economic and power structures. The concept of “ecologically unequal exchange”, for example, illustrates the relationship between the developed and developing world, where the power of industrialized countries has enabled them to create a flow of resources from the Global South to the North (Roberts & Parks 2009). Climate change is bound up with these economic inequalities and the climate justice movement has kept retributive justice at its heart (Schlosberg & Collins 2014), echoing the beneficiary pays perspective and emphasizing the need for industrialized countries to bear the burden of reducing greenhouse gas emissions and funding climate change action in the developing world.

Inequalities are present not only in the causes of climate change, but also in the geographic distribution of its effects and their severity. Although climate change will affect all parts of the world in the end, the greatest adverse impacts are expected in developing countries in and around the tropics (IPCC 2013). Poverty is inextricably linked to climate change, since poverty makes individuals, communities and regions more vulnerable to suffering when precipitation changes or extreme weather events occur, and less resilient to the effects of such phenomena (Parnell 2014) (see also Chapter 28 on flooding). It is important to note that such inequality is not confined to developing countries, though, and can be found within developed countries. For example, studies of the “climate gap” have echoed the original themes of the environmental justice movement by identifying differences in the vulnerability of different racial and socioeconomic groups within states and cities in the US to the effects of climate change (e.g. Shonkoff et al. 2011; Wilder et al. 2016).

In the same vein as environmental justice, the climate justice movement has developed to challenge the existing economic systems, political and institutional structures and power dynamics that create the inequality experienced by countries and communities around the

world and exacerbate the effects of climate change (Barrett 2013). Early civil society demands for climate action were simply too stringent for the global establishment to meet, and the ‘failure of a more collaborative strategy between major environmental NGOs and the global capitalist managerial class’ (see Chapters 38 and 46) contributed to the evolution of the climate justice movement towards targeting the core features of this capitalist establishment (Bond & Dorsey 2010: 287).

The relevance of social and economic inequalities when considering the impact and injustice of climate change highlights the close connection between climate change and economic development. Some have argued that the importance of facilitating development in poor countries should take precedence over the need to curb greenhouse gas emissions, although this perspective can be refuted by pointing out that climate change will harm such countries even as their development continues and considering how emissions can rise in some countries and fall in others (Caney 2011). The need for development remains acute in large portions of the world and as a result this latter consideration has spawned concepts such as “carbon space” and “greenhouse development rights”. The division of a scientific cap on total greenhouse gas emissions between the global population is the basis for philosophical perspectives and policy proposals about how to achieve justice when looking both at previous emissions, and establishing how potential future emissions should be distributed amongst nations and between current and future generations (e.g. Hayward 2007; Baer & Fieldmann 2009; Caney 2012). Such per capita approaches tap into egalitarian intuition amongst climate justice advocates and influence many to campaign for developing countries’ rights to their fair share of future greenhouse gas emissions – the aforementioned “carbon space” (e.g. Harmeling 2014).

These egalitarian approaches also link to human rights norms and language, which can provide an established basis to underpin climate justice campaigns (see Chapter 13). Rights to develop and rights to emit greenhouse gases are part of the wider climate justice discourse, but the links go further since rights to food, a healthy environment, and ultimately to life, will all be affected by climate change (Moellendorf 2012). Once again, those who currently live without these rights being met are likely to be the most vulnerable to climate change and have the least resources to facilitate lasting adaptation and recovery from specific damaging events. Development planning is evolving to consider the circumstances, rights, and needs of individual communities, all within the context of adaptation to climate change (Ensor 2011). Some governmental and NGO participants in international climate change negotiations have advocated a principle of equitable access to sustainable development to guide how climate change governance can support rather than constrain development (UNFCCC 2012).

The question of development and climate change is a pertinent illustration of the multiple scales at which climate justice is relevant and influential. Justice for communities affected by climate change is at the heart of local, small-scale climate justice advocacy. National and international development strategies reach up to the highest levels of governance and the broadest transnational NGOs. Development is seen as a key way to enhance the resilience of poor communities in the face of impending climate change, and recent developments such as the 2015 Sustainable Development Goals bring the need to combat climate change and ensure sustainable resource use firmly into mainstream development objectives (UN 2015). However, rights to development are unavoidably affected by the existence of climate change and the natural limits of the planet and its ecosystems (Löfquist 2011). How to achieve development in the context of a need to reduce global emissions and the constraints of the natural world has proven difficult to resolve for academics and advocates alike (Okereke & Schroeder 2009; Schlosberg & Collins 2014).

This section has progressed from local injustices and grassroots advocacy to a global perspective and international issues. Climate change goes beyond environmental justice here, by involving all countries in the justice and politics of dealing with a problem that has international causes and effects, and requires co-ordinated international solutions. The local level remains critical, however, in terms of the billions of vulnerable people whose health and livelihoods are threatened by climate change, and the near-infinite variation in their circumstances and the way international policies will affect them and the achievement of justice at the local level. The nature of climate change connects individuals, businesses and governments in the Global North to those in the South, because climate change means greenhouse gas emissions in one region have real and harmful consequences (Moellendorf 2012). This connection is reflected in the international political response to climate change, where justice has played an integral role. It is to this political level that we will turn in the next section.

Climate justice and global governance

The features that make climate change ethics so complicated have had a similar impact in the political sphere, by contributing to varying and strongly held national positions and making institutional and policy design extremely difficult. As early as the first IPCC Assessment Report in 1990 there was acknowledgement that industrialized countries had ‘specific responsibilities’ and that domestic measures were required because ‘a major part of emissions affecting the atmosphere at present originates in industrialized countries where the scope for change is greatest.’ The report also suggested that industrialized countries should ‘cooperate with developing countries in international action, without standing in the way of the latter’s development’; including provision of finance and technology transfer (IPCC 1990b: XXVI). These early expressions of justice and inequality concerns raised by climate change echo the philosophical positions in §1 and civil society advocacy in §2.

The first IPCC report signalled the firm linkage of justice and governance to the scientific evidence and language that provides the impetus for addressing climate change, which in turn ensured ongoing legitimacy for justice concerns within governance institutions (Okereke 2010). As the IPCC noted, the global nature of climate change requires countries to collaborate if they are to successfully deal with a problem that affects each nation differently. The collaboration of nation states in climate change governance has brought ethical arguments right into the centre of the international political negotiating space. While some scholars argue that social justice is necessary for overcoming the political challenges of environmental governance (Paavola 2008), so far seeking justice in policy in light of the complexity of climate justice has proven a central impediment to agreement about an international response to climate change.

As the scientific consensus strengthened and the implications of climate change became clearer, the need for an international political response led to the development of an institutional structure in which to co-ordinate and manage governance activities. The United Nations Framework Convention on Climate Change (UNFCCC) was signed in 1992 at the Earth Summit in Rio de Janeiro, creating a treaty-based foundation for action to reduce greenhouse gas emissions and limit global temperature rise. With near-universal membership and decisions requiring agreement from all parties, the UNFCCC is certainly inclusive in principle, but this design has allowed different national positions on what is or would be fair to feature heavily in discussions, and has generated power dynamics that complicate the realization of climate justice.

From the 1970s onwards various international environmental treaties had been formulated and agreed, and in the late 1980s a global effort to address ozone layer depletion led to the

Montreal Protocol, signed in 1988. A principle of differentiating between different countries' economic circumstances and contributions to the problem had been evolving in these successive environmental treaties; in the Montreal Protocol developing countries were given reduced obligations and substantial additional time to implement the various measures in the treaty (Okereke 2008). Obligations for developed countries (which would largely solve the problem) were dealt with first in negotiations, and then measures for developing countries were addressed. The formulation of this equity principle in the Montreal Protocol was considered successful, and directly influenced its inclusion in the UNFCCC (Hale et al. 2013).

The UNFCCC named this equity principle for the first time; "common but differentiated responsibility" (CBDR) reflected the need for an equitable approach, but the negotiations included all parties together and as a result the measures for industrialized countries became mixed up with the participation of developing countries. Further complexity was added by economic and geopolitical rivalry between developed nations and rapidly developing nations with large economies and rising emissions (Cumberledge 2009). A crude division between developed and developing nations was built into the UNFCCC and Kyoto Protocol, the first treaty based on the UNFCCC to include legally binding obligations, ignoring the significant current and future emissions of large developing nations such as China, India and Brazil. Developing countries were not given any binding commitments, much to the consternation of developed countries, particularly the US Congress and later the Bush Administration, which withdrew from the Kyoto Protocol soon after the treaty was finalized. This can be seen as a misinterpretation of the Montreal Protocol precedent, which created an 'equitable imbalance that threatens the success of the entire mission' (Green 2009: 279).

Rather than constituting a victory for environmental justice in international governance, the clumsy formulation of what had become an important principle of justice in environmental treaties has actually proven a consistent source of disagreement and national rivalry (Brunnée & Streck 2013). Disagreement over how CBDR should be interpreted in the context of climate change focused the governance discourse on the economic burdens of climate change action and how obligations should be allocated, which remains the dominant frame in climate politics (Hoffman 2013). Despite this, 'the UNFCCC remains a uniquely relevant site for the articulation and pursuit of climate effectiveness as well as justice' (Derman 2014: 24).

Nations and negotiating groups consistently invoke contrasting positions on what climate justice looks like, with a range of philosophical perspectives reflected to varying degrees. Some countries, particularly developing and vulnerable nations, share many negotiating perspectives and articulations of climate justice with the wider civil society climate justice movement outlined in the previous section. Certainly demands for finance flows from the developed to the developing world to fund adaptation and mitigation action have been present throughout the negotiations, evolving recently to include "loss and damage" mechanisms to compensate developing countries in the event of damaging severe weather events related to climate change (see Chapters 40, 45 and 46).

Developing countries have consistently argued that developed nations must take the initiative and lead on climate change action. China, for example, has consistently sought to reinforce the divide between developed and developing countries' mitigation responsibilities and called for more ambitious actions on the part of industrialized countries (Stalley 2013). As well as championing the right to development, India has maintained a focus on an equitable per capita approach to emissions that differs from China's focus on historical responsibility (Qi 2011). Although not a homogenous bloc in themselves, small island nations often combine forces and together have been consistently vocal about historical responsibility for

climate change. Such nations repeatedly highlight the humanitarian aspect of their vulnerability to climate change and potential loss of entire nations, reinforcing links between climate change and wider global justice issues. Recognizing their vulnerability and the global nature of the climate change problem, island nations seek to stimulate action by larger emitters, developed and developing, rather than focusing on developed countries (Betzold et al. 2012).

Developed countries assert their own perceptions of justice in climate change governance, but again are not homogenous in their views. There is some consistency in the avoidance of the historical responsibility and per capita perspectives; developed countries tend to focus on their greater financial and technical resources rather than the historical background to their ability to pay. On paper, developed countries have accepted historic responsibility in documents such as the UNFCCC (as well as the Montreal Protocol in the ozone context) but are unwilling to accept the full extent of the links between climate change and wider economic imbalances that characterize historic and current relationships between the Global North and South (Boyte 2010). To do so could expose developed countries to financial obligations that would simply not be politically acceptable, and reveal the extent to which climate justice shakes the foundations of the global capitalist hegemonic system.

Countries such as the US appeal explicitly to justice to demand the “fair” participation of large developing economies in climate action (e.g. Bush 2001). Others, such as the European Union (EU), have been more willing to advocate a legally binding climate treaty and back this up with robust domestic measures (Falkner et al. 2010). Despite this greater willingness to take action, there are clear limits to the terms of justice that the EU and other developed countries will accept, mainly in relation to redistributive and compensatory financial mechanisms as well as the familiar, but more varied reticence around emissions reductions.

Justice has been a source of negotiating positions and political disagreement throughout the course of the global institutional governance of climate change. Many perspectives and objectives of climate justice advocates and scholars are present in the negotiating positions of countries within the UNFCCC, albeit often modified for use in the political context. This section is not seeking to provide an exhaustive explanation of the history of this governance, but rather to illustrate how important the global governance of climate change is to an understanding of climate justice. Trends from environmental justice within global governance have influenced the course of climate negotiations, but, since the 1990s, climate justice has moved beyond the realm of environmental justice, with its own specific institutions, language and justice intricacies, and has become a complex aspect of policy processes at the global governance level.

Conclusion

Climate change has become the pre-eminent global environmental issue of the twenty-first century, garnering headlines like no environmental issue before. Its global reach and almost infinitely complex and extensive implications are key to this high profile, and create a situation where a global political response is both necessary and extremely difficult to manage. In this chapter we have outlined the three key realms of climate justice, and sought to illuminate the way in which each is connected to the others but remains separate in function, scope, and in the many ways justice is internally articulated. Climate justice is inherently connected to environmental justice, and each of the three realms either emerged from or were influenced by prior principles or experiences of environmental justice. But as

philosophers, policymakers and civil society advocates grapple with climate change and how to distribute emissions cuts equitably, deal justly with historical emissions, and fairly redistribute money to cover the costs of climate action, the challenge of justice is far from resolved. In amongst the discussions and the political manoeuvring are the poorest and most vulnerable in our global society, whose health, livelihoods and very nations are at risk. If these billions of people and the planet we all occupy are to be protected from climate change, the challenge of climate justice must be tackled.

References

- Baer, P. & Fieldmann, G. (2009). Greenhouse development rights: Towards an equitable framework for global climate policy. In P.G. Harris (ed.), *The Politics of Climate Change: Environmental Dynamics in International Affairs*. Abingdon, Oxon: Routledge. 192–212.
- Barrett, S. (2013). The necessity of a multiscalar analysis of climate justice. *Progress in Human Geography* 37(2): 215–233.
- Betzold, C., Castro, P. & Weiler, F. (2012). AOSIS in the UNFCCC negotiations: From unity to fragmentation? *Climate Policy* 12(5): 591–613.
- Bodansky, D. (1993). United Nations Framework Convention on Climate Change: A commentary. *Yale Journal of International Law* 18: 451–58.
- Bond, P. & Dorsey, M.K. (2010). Anatomies of environmental knowledge and resistance: Diverse climate justice movements and waning eco-neoliberalism. *Journal of Australian Political Economy* 66: 286–316.
- Boyte, R. (2010). Common but differentiated responsibilities: Adjusting the “developing”/“developed” dichotomy in international environmental law. *New Zealand Journal of Environmental Law* 14: 63–101.
- Brunnée, J. & Streck, C. (2013). The UNFCCC as a negotiation forum: Towards common but more differentiated responsibilities. *Climate Policy* 13(5): 589–607.
- Bush, G.W. (2001). *Text of a Letter from the President to Senators Hagel, Helms, Craig, and Roberts*. The White House (President George W. Bush). [Online]. 13 March 2001. Available at <http://georgewbush-whitehouse.archives.gov/news/releases/2001/03/20010314.html> [Accessed 9 July 2014].
- Caney, S. (2005). Cosmopolitan justice, responsibility, and global climate change. *Leiden Journal of International Law* 18: 747–775.
- Caney, S. (2011). Climate change, energy rights, and equality. In D.G. Arnold (ed.), *The Ethics of Global Climate Change*. Cambridge: Cambridge University Press. 77–103.
- Caney, S. (2012). Just emissions. *Philosophy & Public Affairs* 40(4): 255–300.
- Cook, J., Nuccitelli, D., Green, S.A., Richardson, M., Winkler, B., Painting, R., et al. (2013). Quantifying the consensus on anthropogenic global warming in the scientific literature. *Environmental Research Letters* 8: 1–7.
- Cumberledge, S. (2009). Multilateral environmental agreements from Montreal to Kyoto: A theoretical approach to an improved climate change regime. *Denver Journal of International Law and Policy* 37(2): 303–329.
- den Elzen, M.G.J., Olivier, J.G.J., Höhne, N. & Janssens-Maenhout, G. (2013). Countries’ contributions to climate change: Effect of accounting for all greenhouse gases, recent trends, basic needs and technological progress. *Climatic Change* 121: 397–412.
- Derman, B.B. (2014). Climate governance, justice, and transnational civil society. *Climate Policy* 14(1): 23–41.
- Ensr, J. (2011). *Uncertain Futures: Adapting Development to a Changing Climate*. Rugby: Practical Action Publishing.
- Falkner, R., Stephan, H. & Vogler, J. (2010). International climate policy after Copenhagen: Towards a ‘building blocks’ approach. *Global Policy* 1(3): 252–262.
- Gardiner, S.M. (2004). Ethics and global climate change. *Ethics* 114: 555–600.
- Gardiner, S.M. (2011). *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. Oxford: Oxford University Press.
- Goldin, I. (2013). *Divided Nations: Why Global Governance Is Failing and What We Can Do About It*. Oxford: Oxford University Press.

- Green, B.A. (2009). Lessons from the Montreal Protocol: Guidance for the next International Climate Change Agreement. *Environmental Law* 39: 253–283.
- Hale, T., Held, D. & Young, K. (2013). *Gridlock: Why Global Cooperation Is Failing When We Need It Most*. Cambridge: Polity Press.
- Harmeling, S. (2014). *COP20: Building a Fair and Just Climate Deal for the World's Poorest People*. CARE International. [Online]. Available at www.careclimatechange.org/files/Expectations_Paper_FINAL.pdf [Accessed 22 July 2015].
- Hayward, T. (2007). Human rights versus emissions rights: Climate justice and the equitable distribution of ecological space. *Ethics and International Affairs* 21(4): 431–50.
- Hoffman, M.J. (2013). Climate change. In T.G. Weiss & R. Wilkinson (eds.), *International Organization and Global Governance*. Abingdon, Oxon: Routledge. 605–17.
- IPCC (1990a). Policymakers summary. In J.T. Houghton, G.J. Jenkins & J.J. Ephraums (eds.), *Climate Change: The IPCC Scientific Assessment. Working Group I Report for the First Assessment Report of the Intergovernmental Panel on Climate Change*. [Online]. Available at www.ipcc.ch/publications_and_data/publications_ipcc_first_assessment_1990_wg1.shtml [Accessed 14 April 2016].
- IPCC (1990b). Policymakers summary of the response strategies. In *Climate Change: The Response Strategies. Working Group III Report for the First Assessment Report of the Intergovernmental Panel on Climate Change*. [Online]. Available at www.ipcc.ch/publications_and_data/publications_ipcc_first_assessment_1990_wg3.shtml [Accessed 22 October 2015].
- IPCC (2013). Summary for policymakers. In T.F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, et al. (eds.), *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK & New York, NY: Cambridge University Press.
- IPCC (2014). Summary for policymakers. In C.B. Field, V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, et al. (eds.), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK & New York, NY: Cambridge University Press.
- Levin, K. et al. (2012). Overcoming the tragedy of super wicked problems: Constraining our future selves to ameliorate global climate change. *Policy Sciences* 45: 123–152.
- Löfqvist, L. (2011). Climate change, justice and the right to development. *Journal of Global Ethics* 7(3): 251–260.
- Martinez-Alier, J. (2013). The environmentalism of the poor. *Geoforum* 54: 239–241.
- Miller, D. (2008). National responsibility and global justice. *Critical Review of International Social and Political Philosophy* 11(4), 383–399.
- Moellendorf, D. (2012). Climate change and global justice. *WIREs Climate Change* 3: 131–143.
- Moellendorf, D. (2015). Climate change justice. *Philosophy Compass* 10: 173–186.
- Okereke, C. (2008). Equity norms in global environmental governance. *Global Environmental Politics* 8(3): 25–50.
- Okereke, C. (2010). Climate justice and the international regime. *WIREs Climate Change* 1(3): 462–474.
- Okereke, C. & Dooley, K. (2010). Principles of justice in proposals and policy approaches to avoided deforestation: Towards a post-Kyoto climate agreement. *Global Environmental Change* 20(1): 82–95.
- Okereke, C. & Schroeder, H. (2009). How can justice, development and climate change mitigation be reconciled for developing countries in a post-Kyoto settlement? *Climate and Development* 1(1): 10–15.
- O’Riordan, T. & Cameron, J. (eds.) (1994). *Interpreting the Precautionary Principle (Vol. 2)*. Abingdon, Oxon: Earthscan.
- Paavola, J. (2008). Science and social justice in the governance of adaptation to climate change. *Environmental Politics* 17(4): 644–659.
- Page, E.A. (2008). Distributing the burdens of climate change. *Environmental Politics* 17(4): 556–575.
- Parnell, S. (2014). *The (Missing) Link: Climate Change Mitigation and Poverty*. Research Paper, Issue 23. Mitigation Action Plans & Scenarios, Cape Town. [Online]. Available at www.mapsprogramme.org/category/publications/papers/ [Accessed 22 July 2015].
- Paterson, M. & Grubb, M. (1992). The international politics of climate change. *International Affairs* 68(2): 293–310.
- Qi, X. (2011). The rise of BASIC in UN climate change negotiations. *South African Journal of International Affairs* (18)3: 295–318.

- Roberts, J.T. & Parks, B.C. (2007). *A Climate of Injustice: Global Inequality, North-South Politics, and Climate Policy*. Cambridge, MA: MIT Press.
- Roberts, J.T. & Parks, B.C. (2009). Ecologically unequal exchange, ecological debt, and climate justice: The history and implications of three related ideas for a new social movement. *International Journal of Comparative Sociology* 50(3–4): 385–409.
- Routledge, P. (2011). Translocal climate justice solidarities. In J.S. Dryzek, R.B. Norgaard & D. Schlosberg (eds.), *The Oxford Handbook of Climate Change and Society*. Oxford Handbooks Online. Available at: www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199566600.001.0001/oxfordhb-9780199566600-e-26 [Accessed 25 October 2015].
- Schlosberg, D. & Collins, L.B. (2014). From environmental to climate justice: Climate change and the discourse of environmental justice. *WIREs Climate Change* 5: 359–374.
- Shonkoff, S.B., Morello-Frosch, R., Pastor, M. & Sadd, J. (2011). The climate gap: Environmental health and equity implications of climate change and mitigation policies in California – a review of the literature. *Climatic Change* 109(Suppl. 1): S485–S503.
- Shue, H. (1992). The unavoidability of justice. In A. Hurrell & B. Kingsbury (eds.), *The International Politics of the Environment*. Oxford: Oxford University Press. 373–397.
- Stalley, P. (2013). Principled strategy: The role of equity norms in China’s climate change diplomacy. *Global Environmental Politics* 13(1): 1–8.
- UN (2015). Zero draft of the outcome document for the UN Summit to adopt the Post-2015 Development Agenda. United Nations. [Online]. Available at <https://sustainabledevelopment.un.org/?page=view&nr=829&type=230&menu=2059> [Accessed 22 October 2015].
- UNFCCC (2012). *Report on the Workshop on Equitable Access to Sustainable Development*. United Nations Framework Convention on Climate Change, FCCC/AWGLCA/2012/INF.3/Rev.1. [Online]. Available at <http://unfccc.int/resource/docs/2012/awglca15/eng/inf03r01.pdf> [accessed 25 October 2015].
- Vanderheiden, S. (2008). *Atmospheric Justice: A Political Theory of Climate Change*. New York, NY: Oxford University Press.
- Wilder, M., Liverman, D., Bellante, L. & Osborne, T. (2016). Southwest climate gap: Poverty and environmental justice in the US Southwest. *Local Environment: The International Journal of Justice and Sustainability*. [Online]. Available at <http://dx.doi.org/10.1080/13549839.2015.1116063> [Accessed 12 April 2016].