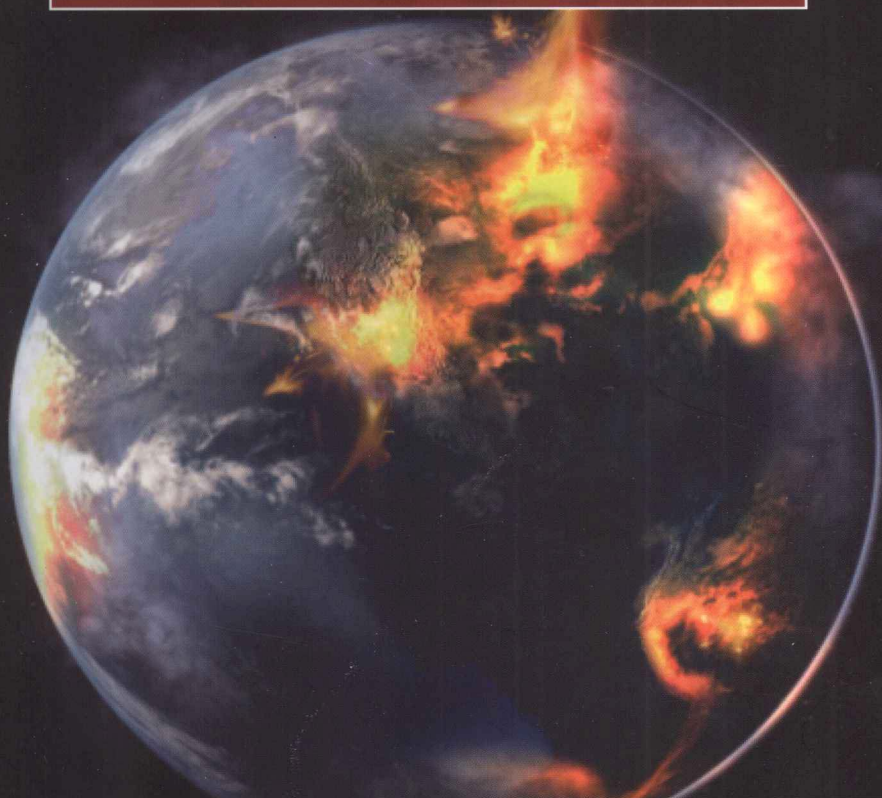


Criminological and Legal Consequences of Climate Change

EDITED BY

Stephen Farrall, Tawhida Ahmed and Duncan French



OÑATI INTERNATIONAL SERIES IN LAW AND SOCIETY

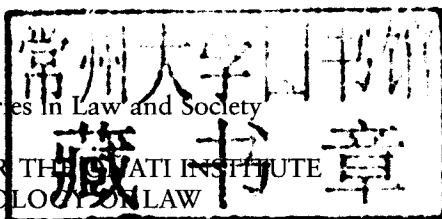
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Exploring the Legal and Criminological Consequences of Climate Change: An Introduction

BY STEPHEN FARRALL, TAWHIDA AHMED
AND DUNCAN FRENCH

BACKGROUND

IT IS NOW beyond any reasonable argument that the consequences of climate change are both inevitable and likely to be considerable. Such consequences, although initially ‘physical’ in their nature (ie increases in temperature, floods, extreme climatic variations, soil erosion and desertification) are also going to be experienced along social and economic axes in the form of migration, losses or withdrawal of resources, displacement of peoples, cultural dislocation, anxiety, community stress and the such like. These processes will have knock on consequences for society and the legal and statutory systems that exist to regulate behaviour. While legal scholars have been considering the legal framework to tackle climate change for over two decades, both lawyers and criminologists have only recently started to think through, and holistically about, the consequences of climate change for European and global society.

It is entirely understandable that attention so far has been placed on the immediate physical ramifications of climate change (such as land erosion, increased flooding, habitat loss and threats to bio-diversity) and the immediate economic and social impacts of such changes (damage to buildings, loss of infrastructure, migration and ill health). However, consideration ought also to be given not only to the longer-term financial implications but also to some of the less tangible social, normative, legal and criminological impacts.

This book stems from a seminar (held in April 2010 at the International Institute for the Sociology of Law, Oñati, Spain, supported by a grant from the British Academy) which explored the likely legal and criminological consequences of climate change for the European Union and the

international community, as well as potential synergies between the two disciplinary foci. Our aim in producing this collection is to encourage, amongst legal scholars and criminologists, a consideration of the consequences of climate change for these fields of research. The collection brings together scholars of criminology and law in order to provide a unique, inter-disciplinary exploration of the ways in which climate change does or could impact on our societies. Such an inter-disciplinary approach is necessary given that climate change is a multifaceted phenomenon and one which is intimately linked across disciplines. To study this topic from the point of view of a single discipline would restrict our understanding of the concerns of climate change. Our ultimate objective is to identify emerging areas of concern; suggest directions forward; and to illuminate urgent areas for future research.

OUR FOCUS AND THE THEMES OF THE COLLECTION

We start with two chapters aimed at setting the scene for much of what follows. Farrall explores what climate change might do to our societies and hence to our experiences of crime and the consequences of climate change unfold in time and space. His ‘thinking through’ of what might happen (pieced together from what we know about climate change and the causes of crime) stands as an invitation to others to explore in greater detail how such processes may actually unfold (or are unfolding). For example, increases in the variability of weather systems, and the attendant problems of forecasting ‘weather events’ (such as the storms/floods and bush fires in Europe in the summer of 2007) will pose problems for those estimating insurance risks. In light of this, insurers may increase premiums ‘across the board’, creating an impression that they are exploiting the situation in order to increase profits. This may lead to an erosion of confidence in the insurance sector, and lead to widespread mis- or over-claiming amongst consumers as they try to ‘fight back’ against what they see as exploitative prices. As increased demands are placed upon member state and EU-provided services by climate change, so taxation (both of citizens and businesses) may need to be increased in order to pay for such services. Since many people may not wish to pay increased rates of taxation, so rates of taxation avoidance may increase. This will have consequences for not just those services provided for by taxation, but will also see increased demands placed upon those who regulate and police the taxation system. Redgwell examines the international legal challenges of a lower carbon future, in particular whether existing international legal tools are ‘fit for the purpose’. This includes analysis not only of the existing climate change legal regime but also of alternatives to carbon based fuels and the legal implications of ‘technological fixes’ such as carbon capture and storage and geo-engineering.

Hilson provides an intriguing account of how climate change litigation is evolving, from a social movement perspective. Hilson argues that framing (the struggle over ideas and the meanings attached to them) has been central to many 'green' social movements' actions and reactions to these. Thus, the police, prosecution authorities and media reporting of climate change protest have tended to apply a 'hard' frame, whereby the protesters are constructed as at best criminals or, at worst, extremists or terrorists who are threatening not only law and order but also industrial and aviation security. The climate change movement has subsequently attempted to reframe using 'soft' counter-frames, in which they seek to construct themselves as 'reasonable' citizens, acting in the public interest, and upholding the rule of law.

White explores how particular strategies adopted as solutions to the problem of climate change are, in turn, generating new forms of social and environmental harm. Examples of such paradoxical harm include the adoption of compact fluorescent light globes to save energy (but which contain toxic mercury) and the promotion of nuclear energy (but which involves disposal of nuclear waste). Bio-security in the context of climate change, as informed by notions of the national interest, is also linked to harms associated with climate-induced migration, conflicts over food and water, and the transformation of food crops into bio-fuels. From the point of view of an eco-justice perspective, the chapter questions those strategies designed to mitigate or adapt to the effects of global warming in ways that create different or additional kinds of social and ecologic harm. Wheeler explores the extent to which shareholder activism and the creativity captured by intellectual property rights that exist within the boundaries of the corporation can be harnessed to make concern for the environment and future enjoyment of the environment central to business activity.

Several chapters in the book focus on climate change and security, human rights and migration. Thus, South explores the challenges that climate change brings to rights, civil society movements and the research agenda in the twenty-first Century and Obokata complements this chapter by considering whether a human rights approach can, and should be, applied to climate change. La Chimia investigates the use of development aid assistance by developed countries to address climate change issues and to protect the environment and in so doing explores whether rights within developing countries are enhanced or confounded by the tying of development aid to environment protection goals. Kalogeropoulou examines possible consequences for supplementary pension rights of workers who move between EU member states and the issues that arise in relation to the preservation of relevant pension entitlements. All of these chapters push forward the idea that our conception of terms like 'justice' and 'human rights' may well face challenges as the realities of living with climate change become ever more pressing and apparent.

One of the recent features of international capital has been the tendency for large firms to move capital and resources around the globe relatively easily and with little or no concern for the economic and social impacts of this (eg the opening of overseas call centres, the location of industrial plants in countries with lower staff costs, etc). If, as seems likely, certain parts of the globe start to appear to be geographically or geo-politically insecure, so firms will move capital and resources from such places to safer locales. This 'migration' of capital will leave some areas with little or no legitimate forms of employment, possibly furthering forms of illegal activity. Halsey thus examines the impact of regulation of forests on capitalism, carbon sinks and climate change.

Climate change may force us to start to reconsider some basic ideas of what it means to be a member of society. For example, how will climate change affect our understanding of democracy?; do issues like climate change provide a much more direct connection between the electorate (thus furthering grass-roots democratic movements) or is the threat of climate change better handled at the technocratic level and removed from popular decision-making? At a more global level climate change is by definition a global issue; will it help consolidate the idea of (green) global citizenry, or will it simply promote isolationism and protectionism? Moreover, do issues like climate change alter the nature of the interface between global order and its inception into national consciousness and national regulatory structures, encouraging more permeable legal delimitations? And in addressing climate change, one must be aware that it has been incorporated within the wider debate on 'security'; to what extent should environmental issues of this magnitude be considered alongside and as significant as other concerns, currently of more immediate pre-occupation (most notably terrorism)? Doran's chapter speaks to such concerns via a consideration of personal carbon trading schemes, as does Hall's on the relationship between the State and the likely victims of climate change by promoting an interdisciplinary dialogue between victimology and international environmental law. Doran draws on Nikolas Rose's reading of Foucault for insights into the modern construction of 'citizen' and 'consumer'. In particular, Doran relies on Rose's discussion of the new specification of the subject of government to propose that the concept of Personal Carbon Trading (PCT) sits at the apex of a number of debates of interest to the environmental policy community (This included climate change, sustainable consumption and individual freedom in an era of global environmental and resource constraints).

Ahmed and French challenge the 'multilateral' paradigm as the singular approach to climate change in the international law regime. They consider three pairs of competing narratives ('analytical <-> normative', 'atomistic <-> integrationist' and 'localised <-> globalised') which are useful in enhancing our understanding of climate change and environmental law as moving beyond multilateralism. These 'pairs' are not mutually exclusive,

demonstrating that international legal responses to climate change cannot be viewed through uni-focal lenses. The narratives also amplify the tensions which exist within and across narratives, bringing into sharp relief both the need to embrace the diversity of international legal approaches to climate change, while at the same time ensuring that the capacity to use climate change for each and every approach does not gravely endanger the consensus and drive needed to secure its meaningful progress.

Increased immigration to Europe and other regions, such as North America and Australasia is a distinct possibility as some countries in Africa and Asia become climatically less and less habitable. As well as leading to potentially large numbers of displaced peoples, such climatic changes could lead to tensions within affected countries leading to secondary waves of war-induced migration. Will the current levels of human rights protection provided to these different identity groups cope in the new climate? Will public perception exacerbate the problems, leading to restrictive political will to accommodate the human rights concerns of these new communities? Indeed, will all of this lead to a retreat on the willingness to continue to provide rights to existing communities? There may be an increase in racism and xenophobia. As well as increased immigration to Europe, they may well be increased migration within Europe, partly as a 'knock-on' effect, but also as a result of some parts of Europe becoming uninhabitable or less desirable. Accordingly a number of our contributors (principally Farrall, South, Kalogeropoulou and Hall) touch on some of the issues surrounding migration and reflect on what this could mean for legal and criminal justice systems and frameworks.

This collection represents some of the initial forays into this area of research by criminologists and legal scholars. What is clear is that both—alongside sociologists, human geographers, those with an interest in cultural change, psychologists and those studying health—will need to get to grips with these and related issues as the consequences of climate change start to become ever more apparent. We hope that this collection can both assist in helping us grapple with climate change and stimulate other criminologists and legal scholars to pursue these issues as part of their own research agendas.

Where Might We Be Headed? Some of the Possible Consequences of Climate Change for the Criminological Research Agenda

STEPHEN FARRALL*

These findings from Sand Canyon Pueblo suggest that climate-induced food stress and consequent violent conflict contributed to the depopulation of the Mesa Verde region in the late A.D. 1200s.¹

INTRODUCTION

IF THE RECENT reports on climate change are to be believed, and there is growing evidence that they are to be,² then the impacts of climate change on the Earth's eco-system are going to be both dramatic and far-reaching. While it is entirely understandable that government and scientific attention be placed on the immediate physical ramifications of these changes (such as coastal erosion, flooding and habitat loss) and the immediate economic and social impacts of such changes (such as damage to buildings or the degradation or total loss of infrastructure) consideration ought also to be given, not only to the longer-term financial implications,³ but also to some of the less immediately obvious impacts.

* I would like to express my thanks to the following people for comments on earlier drafts of this chapter and for helping me to track down various publications: David Gadd; Clare Jones; Constance Lever-Tracy and my co-editors.

¹ KA Kuckleman, 'The Depopulation of the Sand Canyon Pueblo' (2010) 75 (3) *American Antiquity* 497.

² IPCC (Intergovernmental Panel on Climate Change), *The Physical Science Basis, Contribution of Working Group I to the 4th Assessment Report to the IPCC* (Cambridge, Cambridge University Press, 2007); O Boiral, 'Global Warming: Should Companies Adopt a Proactive Strategy?' (2006) 39 (3) *Long Range Planning* 315–30.

³ N Stern, *Review Report on the Economics of Climate Change* (London, HM Treasury, 2006).

This Chapter seeks to explore *some* of the wider criminological ramifications of climate change for the UK and Europe more widely. The chapter is not intended to be exhaustive, but rather is speculative in both nature and tone. Much of a) what might actually happen as temperatures, sea-levels and rainfall across the globe change and b) how this may affect human societies more generally are far from being clear. What is clear, however, is that few individuals, people or societies will be immune from such changes and that these may very well have far-reaching consequences for the (re)distribution of those things which underpin basic human needs, such as water and food. Thinking through what may happen to various societies as these changes emerge would appear to be a worthwhile and prudent step. The challenge which I rise to herein is trying to think through what this might mean for experiences of crime and criminal justice.

MY OWN EPISTEMOLOGICAL POSITION

I am a sociologist; for me, therefore, crime is a consequential by-product of various aspects of societies, their economies and ways of handling resources and inequalities in access to these (rather than being the result of ‘bad people’, poor thinking styles or other personal deficiencies). It therefore follows that as climate change will affect whole societies and regions of the planet (although with differential impacts, one suspects) so climate change will lead to various social and economic changes.⁴ As, from my perspective, crime is a consequence of other social and economic processes, climate change will lead (via social and economic changes) to changes in crime. By ‘changes in crime’ I mean changes in: the amounts of some crimes which occur; the rates with which these are reported, and also the type and nature of such crimes. There are additional consequences, however, since public sensibilities to ‘crime’ and how best to treat ‘criminals’ may also be impacted upon by climate change-induced shifts in opinions and tolerances.

In thinking about the relationship between climate change and crime, there are two routes into the debate. One is to try to calculate the carbon footprint of crime⁵ and the other is to try to imagine what climate change will do to our experiences of crime. These can be thought of as the crime contributes to climate change model (Model A) and the climate change influences crime model (Model B). For my part, I think that trying to calculate the carbon costs of crime (Model A) is rather to miss the point.

⁴ R Leichenko, A Thomas and M Barnes, ‘Vulnerability and Adaptation to Climate Change’ in C Lever-Tracy (ed), *The Routledge Handbook of Climate Change* (London, Routledge, 2010) 135.

⁵ As attempted by G Farrell and K Pease, ‘Climate Change and Crime’ (2010) unpublished paper. Cited with permission of the authors.

Crime ought to be reduced, tackled, punished and so on because it is harmful, rather than because (as a side effect almost) it has a carbon foot print. Moreover, given that climate change is now practically upon us (at the time of writing, Brisbane was being inundated by tropical storms the like of which had not been seen for many decades and some were suggesting that food prices had helped to trigger the unrest in Tunisia and Egypt in early 2011)⁶ we need to turn to what might happen as a result of climate change, not how crime contributes to carbon emission (which is only about one per cent of the entire UK's output anyway).⁷ As such my contribution is to start to think through and imagine the possible ways in which climate change may change some of the basic social and economic configurations of modern societies and how changes in these may alter those behaviours identified and labelled as 'crimes'.

I structure the remainder of this chapter by first assessing what might happen in terms of climate change itself during the remainder of this century. This—as hinted at above—is inevitably going to be sketchy in places, but is nevertheless a logical starting place for such an enquiry. Following this I review some of what might happen generally to societies and economic systems as a result of climate change. This leads us, finally, into a consideration of how these (ie the social and economic changes) will in turn impact on crime.

WHAT IS LIKELY TO HAPPEN TO THE GLOBE AS A RESULT OF CLIMATE CHANGE?

Although it is hard to know exactly what is likely to happen with regards to climate change (due to unforeseen circumstances and the feedback loops inherent in any chaotic system) several 'good guesses' do exist. Amongst the best of these are those developed by the Center for Strategic and International Studies and the Center for New American Security and documented in their jointly published report *The Age of Consequences*.⁸ This report presents three possible scenarios (the Intergovernmental Panel on Climate Change's (IPCC) approved way of thinking about what might happen): an expected one, a severe one and a catastrophic one (all their terms). Let us examine the most favourable of these projections, since it is that which is (arguably) the most likely to come to fruition (the report's

⁶ The Daily Telegraph, 'Egypt and Tunisia Usher in the New Era of Global Food Revolutions' (30 January 2011).

⁷ Farrell and Pease, above n 5, fn 14.

⁸ KM Campbell, J Gullledge, JR McNeill, J Podesta, P Ogden, L Fuerth, LJ Woolsey, ATJ Lennon, J Smith, R Weitz and D Mix, *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change* (Washington DC, Center for Strategic and International Studies, 2007).

authors suggest that ‘there is no foreseeable political or technological solution that will enable us to avert many of the climatic impacts projected here’, p55). This scenario predicts an average global temperature rise of just 1.3°C above the 1990 levels by 2040, rising to 2.8°C above 1990 levels by the end of the twenty-first century.⁹ However, while the average increase in temperatures is ‘just’ 1.3°C, this equates to an increase of 2°C over land (where it is generally warmer than over large bodies of water). This is likely to lead to an increase in the levels of glacial ice melt, leading in turn to a rise in sea levels by about a fifth to a quarter of a metre (by 2040). They suggest that:

Global mean sea level increases by 0.23 meters, causing damage to the most vulnerable coastal wetlands with associated negative impacts on local fisheries, seawater intrusion into groundwater supplies in low-lying coastal areas and small islands, and elevated storm surge and tsunami heights, damaging unprotected coastlines. Many of the affected areas have large, vulnerable populations requiring international assistance to cope with or escape the effects of sea level rise. Marine fisheries and agricultural zones shift poleward in response to warming, in some cases moving across international boundaries.¹⁰

And go on to add that:

Regionally, the most significant climate impacts occur in the southwestern United States, Central America, sub-Saharan Africa, the Mediterranean region, the megadeltas of South and East Asia, the tropical Andes, and small tropical islands of the Pacific and Indian Oceans. The largest and most widespread impacts relate to reductions in water availability and increases in the intensity and frequency of extreme weather events. The Mediterranean region, sub-Saharan Africa, northern Mexico, and the southwestern United States experience more frequent and longer-lasting drought and associated extreme heat events, in addition to forest loss from increased insect damage and wildfires. Overall, northern mid-latitudes see a mix of benefits and damages. Benefits include reduced cost of winter heating, decreased mortality and injury from cold exposure, and increased agricultural and forest productivity in wetter regions because of longer growing seasons, CO₂ fertilization, and fewer freezes. Negative consequences include higher cost of summer cooling, more heavy rainfall events, more heat-related death and illness, and more intense storms with associated flooding, wind damage, and loss of life, property, and infrastructure.¹¹

If this all sounds pretty nasty, one has to bear in mind that the next scenario (‘severe’) is premised on the notion that many of the assumptions underlying the IPCC’s report are unduly optimistic (in that they ignore feedback

⁹ However, even these projections may be beyond our reach; see, ‘Worst Ever Climate Emissions Leave Climate on the Brink’ *The Guardian*, 29 May 2011. Alarming news, especially since the global recession was hoped to reduce emissions.

¹⁰ Campbell *et al.*, above n 8, 41.

¹¹ Campbell *et al.*, above n 8, 41.

processes), and that the average global temperature rise might be nearer to 2.6°C above 1990 levels, and with a sea level rise of 0.52 metres within 30 years from 2007—ie by 2037. Campbell *et al* suggest¹² that the severe scenario will result in the following: reductions in water availability; reductions in crop yields; and lower levels of yields from ocean fisheries. The ‘catastrophic’ scenario (based on a temperature rise of nearly 6°C and two metres of sea-level rise) is truly terrifying. However, being based on the likely situation 100 years hence is probably too far off for any degree of certainty to be attached to it—other than, that is, that the future looks extremely bleak.

Dyer¹³ suggests that the severe scenario is likely to lead to several of the world’s largest cities being inundated due to rising sea-levels and the continual establishment of new ports and abandonment of these as the sea encroaches ever upwards. Crop yields will decline dramatically as usable land is lost to the sea or the costs of irrigating it become too great. Populations which cling to the coasts in some parts of the world will be forced inland or will start to try to move to parts of the world which are less prone to flooding or drought. It is to a consideration of this that I now turn.

HOW WILL THIS START TO IMPACT UPON AND SHAPE OUR SOCIETIES? HOW WILL SUCH RESHAPING AFFECT INDIVIDUAL HUMAN AND SOCIETAL EXPERIENCES? HOW WILL THESE VARY ACROSS COUNTRIES, REGIONS AND BY THOSE KEY SOCIO-DEMOGRAPHIC VARIABLES WE KNOW TO BE ASSOCIATED WITH LIFE CHANGES AND LONG TERM OUTCOMES?

It is to a consideration of this that I now turn. What are the secondary consequences of this for people/populations? What will this do to human societies?

Before we go on to look at what the likely consequences of the above may be for crime, we need to examine what *may* happen to our societies generally, since this will provide us with some clues as to what may happen to crime. Again my focus is largely at the macro-level, focusing on whole systems impacts, rather than the immediate consequences for individuals.

Lever-Tracy,¹⁴ in her own consideration of what climate change may do to the existing varieties of capitalism, suggests that the pressing need to tackle climate change may challenge the basis of our modern economic institutions and those with an interest in maintaining them.¹⁵ The political, economic and social ideologies which foster and which are fostered by current forms of capitalism may face some challenges as a result of some of the

¹² Campbell *et al*, *ibid* 71–74.

¹³ G Dyer, *Climate Wars* (Oxford, Oneworld Publications, 2010) 15–23.

¹⁴ C Lever-Tracy, ‘Alternative Scenarios: Varieties of Capitalism’ in C Lever-Tracy (ed), *The Routledge Handbook of Climate Change and Society* (London, Routledge, 2010) 274–79.

¹⁵ Lever-Tracy, *ibid* 274.