

# 1

## Why the Need for This Book?

MIKE HULME AND KARI DE PRYCK

### Overview

This chapter introduces the aims, scope, framing, intended readership and organisation of the book. We explain why a book offering a critical assessment of the Intergovernmental Panel on Climate Change (IPCC) is necessary and we situate this justification in the context of other global environmental assessments. We point out the intended readership of the book and why it is of importance and relevance for these readers. We conclude by explaining how the book is structured around five parts.

### 1.1 Why a Book About the IPCC

This is a book about the Intergovernmental Panel on Climate Change, more widely known and referred to as ‘the IPCC’. It is a book about the IPCC as *a knowledge institution*; that is, an organisation with the responsibility – mandated by the world’s governments – to assess and synthesise scientific and social scientific knowledge about the phenomenon of climate change. As an institution, the IPCC also formalises a set of rules and norms about *how* to assess and synthesise such knowledge. And it is a book that *critically assesses* the IPCC as a knowledge institution, that is, this book evaluates and synthesises social scientific knowledge about the nature of the institution and how it works.

The IPCC was formally constituted through a Special Resolution of the 70th Plenary Meeting of the United Nations General Assembly in New York, passed on 6 December 1988, and established under the auspices of the UN Environment Programme (UNEP) and World Meteorological Organization (WMO). In its 34-year history, the IPCC has become the most prominent and influential of the various global environmental assessments (GEAs) that emerged in the 1980s and beyond – such as those for stratospheric ozone depletion, biodiversity loss, land

degradation and so on. It has also been the GEA most frequently studied by social scientists who are motivated to understand what science and technology studies (STS) scholar Sheila Jasanoff (2005) refers to as its ‘knowledge ways’. Knowledge ways are sets of knowledge practices – ways of making and dealing with knowledge and expertise – that become stabilised within particular institutional settings. Already in the years following the publication in 1990 of the IPCC’s First Assessment Report, social scientists had been interested to learn how the institution works, what forms of knowledge it produces and how this knowledge is produced (e.g. Boehmer-Christiansen, 1994a,b; Moss, 1995; Shackley & Skodvin, 1995). Social scientists had also been studying what influence the IPCC has on broader scientific, political and public life.

For more than 30 years, institutions like the IPCC, and other GEAs, have become ubiquitous actors of international environmental policy regimes, playing a key role in the construction of global environmental problems and their solutions. Well-known examples include the IPCC, the Millennium Ecosystem Assessment (MEA), the Global Environment Outlook (GEO) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Yet, the knowledge these GEAs produce and make public is still too often taken at face value – or else ignored, misunderstood or downright denied.

With respect to climate change, for example, political actors hold varying views about the status or adequacy of the IPCC’s Assessment Reports (ARs). Some environmental activists claim that the IPCC produces assessments of knowledge that are too cautious and conservative; some public critics claim that the IPCC’s assessment of climate science has become too politicised; some political leaders may argue that the IPCC’s reports are authoritative and reliable, while others that they are only provisional or compromised by conflicts of interests. There is no unanimity within or between countries about the epistemic status or the political role of the IPCC’s reports in public life and policymaking. And yet most world leaders agree that with respect to climate change and its geopolitics, the IPCC matters. It is an important institution that cannot be ignored.

*A Critical Assessment of the Intergovernmental Panel on Climate Change* introduces its readers to the governance, products, participants, knowledge-making practices and influence of the institution. The book demonstrates the importance of social science research for illuminating the social and political processes that enable authoritative intergovernmental knowledge about climate change to be made. *How* this happens, and how this changes *over time*, needs careful investigation and evaluation. It is certainly not the case that such authoritative knowledge is made easily. More generally, the book highlights the role that the social sciences – and especially STS – can play in understanding transnational knowledge institutions like the IPCC. Our critical assessment of the IPCC has

value not just for understanding *this particular* GEA, but it offers a model for understanding other GEAs as well.

There is as yet no *comprehensive* book about the IPCC that critically assesses the variety of practices and discourses – epistemic, diplomatic, procedural, communicative – that make the institution function. Nor is there a single volume that explains the different conceptual approaches and methods that have been applied to study such practices. The IPCC has been discussed in a steadily growing number of articles and book chapters, but it has not yet been the primary subject of a dedicated book. The objective of *A Critical Assessment of the Intergovernmental Panel on Climate Change* is therefore twofold. First, it offers a systematic introduction to a field of social enquiry that – after more than 30 years of multidisciplinary research into the institution – can now be called ‘IPCC studies’. Second, based on this field of study, it offers a critical assessment of the epistemic, cultural, social, ethical and political norms and practices guiding the IPCC and its transnational processes of climate knowledge production. In other words, the book explains how the IPCC makes ‘global kinds of climate knowledge’ (Hulme, 2010).

The IPCC is an important institution to study for several reasons. To start, there is the authoritative status and role of the IPCC in the global climate regime. For over 30 years the IPCC has had significant influence on climate change knowledge, on public discourse about climate change, and on climate policy development. The IPCC has also gained increasing visibility in public forums as the authoritative voice of climate change knowledge – ‘the privileged speaker and discursive leader’ – a visibility enhanced in 2007 through it being awarded, jointly, the Nobel Peace Prize. The ‘boundary work’ between science and policy that the IPCC performs has also legitimised the scientific vocabulary that governments, campaigners, businesses and NGOs have been able to deploy in public speech.

Second, there is no doubt that – amongst the various GEAs – the IPCC has generated the largest research literature within the social science and humanities disciplines. In a review article published in 2010, Mike Hulme and Martin Mahony evaluated over 100 research articles that had by then been published studying the institution of the IPCC (Hulme & Mahony, 2010). During the subsequent decade we estimate this number has increased by a factor of about four; now, on average, at least one new research article specifically about the IPCC is published each week. And although a growing number of PhD theses have also been written about the IPCC, surprisingly only two books specifically about the institution have been published. One of these was a rather idiosyncratic – if interesting – reflection on the science and politics of climate change from the IPCC’s first chairman, Bert Bolin (Bolin, 2007). The other was the result of Tora Skodvin’s PhD thesis on the scientific diplomacy of climate change using the IPCC as a case study (Skodvin, 2000b).

A third reason for a book that critically assesses the IPCC is that this institution has been seen by many actors as a role model for organising policy-relevant knowledge for other global problems. For example, IPBES, established in 2012, is often called ‘the IPCC for biodiversity’ and calls are regularly made to establish IPCC-like institutions for fields such as antimicrobial resistance, migration and asylum, desertification, food systems, and chemical pollution and waste. For example, in an essay calling for a global science–policy body on chemicals and waste, Wang et al. (2021: 776) point to the IPCC as demonstrating that ‘the successful integration of natural scientific data, insights from social sciences, and local knowledge forms a strong basis for producing policy-relevant and usable information’. Similarly, an editorial in *Nature* in July 2021 focused on recent calls to develop a new science-to-policy process for food systems. The editorial pointed out the importance of learning from the IPCC with respect to structure and governance and ‘how to navigate topics that, like food systems, are both deeply political, and must take into account the voices of industry, non-governmental organisations, farmers, Indigenous people and others’ (Anon, 2021: 332).

In the context of the 30 years of existence of the IPCC – celebrated by the institution in 2018 – and of the newly published Sixth Assessment Report (AR6), *A Critical Assessment of the Intergovernmental Panel on Climate Change* offers a unique opportunity to reflect on the achievements, limitations and future challenges of the IPCC. As many scholars have argued, the challenge of communicating the science of climate change is not only about getting the facts right – in other words, ‘the message’ – and presenting them to a wide range of audiences. It is also increasingly about understanding *how* this message was constructed, *who* the ‘messenger’ is and how it can be trusted. The IPCC has operated under the rubric of being ‘policy relevant but not policy prescriptive’. On the other hand, as Beck and Mahony (2018a) have argued, the IPCC is facing new challenges to its value-free and policy-neutral stance, since it is increasingly called upon to offer ‘solutions’ to climate change in the post-Paris context. This changing expectation of the role of the IPCC is something that the AR6 cycle has begun to navigate, but there remain many challenges for the organisation, some of which we highlight in our concluding Chapter 28.

*A Critical Assessment of the Intergovernmental Panel on Climate Change* applies a number of STS concepts that help understand the IPCC as a knowledge institution. Rather than presenting results from a new empirical study of the IPCC, the book offers a structured and coherent series of critical mini-assessments of different aspects of the knowledge-making practices of the IPCC. These chapters draw upon published literature about the IPCC, and in this sense we mimic the IPCC itself – just as the IPCC assesses published knowledge about climate change, so we synthesise and critically evaluate published knowledge about the IPCC.

On the other hand, many of our contributors have been active within the IPCC or have been closely researching the IPCC themselves over many years. Their critical assessments and observations therefore reflect their own judgements about the achievements of the institution and the challenges ahead.

## 1.2 Readership

*A Critical Assessment of the Intergovernmental Panel on Climate Change* is intended for a wide audience: for undergraduate and postgraduate students, research scholars, scientists, and policy actors, advisors and advocates. It will be useful for students and scholars interested in better understanding the institution of the IPCC and how it produces global kinds of environmental knowledge. In a context in which academic publications have both significantly increased in volume, but also become more fragmented and dispersed, the book reflects in a coherent and systematic manner on the multifaceted dimensions of the IPCC as a knowledge-making and policy-influencing institution. The book synthesises material from across the social science disciplines, in particular science and technology studies, sociology, human geography, anthropology, political science, and law.

*A Critical Assessment of the Intergovernmental Panel on Climate Change* is offered as a reference text for courses in a wide range of disciplines – in both the natural and the social sciences – that have a general interest in global environmental problems and their governance, and in climate change in particular. For example, it would be very relevant as a textbook for courses in the disciplines and topics of climate change, science and technology studies, global environmental politics, climate governance, international relations, anthropocene studies, environmental science, and policy. The book is also intended as a reference for both younger and senior scholars interested in understanding the IPCC as a social and political actor and who are looking for an introduction to how the critical social sciences can study such an institution. Finally, the book will be important for IPCC practitioners – administrators, government advisors, policymakers, authors and reviewers. The book is published in the ‘lull’ between the IPCC’s Sixth and Seventh Assessment Reports, so it is timely for informing the process of reflection that the IPCC undergoes at the end of each assessment cycle.

## 1.3 How the Book Is Structured

*A Critical Assessment of the Intergovernmental Panel on Climate Change* is designed in a handbook-style format, with 26 short, but substantive chapters, together with introductory and concluding chapters. The book is organised to

work systematically through important design features, participatory functions, knowledges, concepts, practices and communication features of the IPCC that are essential for understanding the nature of the institution (see Box 1.1 for a note on terminology). Each chapter is authored by one or more active researchers on the

Box 1.1  
**A word on problematic terminology**

We should say something about the terminology used throughout the book, given that there is no harmonisation of some terms within the literature, nor between IPCC usage and the wider literature. For example, the ‘expert authors’ of the IPCC are frequently referred to generically as ‘scientists’, but many IPCC contributors come from disciplines that are not in the ‘sciences’ as generally understood – for example, human geography, sociology, political science, development studies, holders of Indigenous knowledge and so on. Without being overly pedantic, we will on occasions, as merited, refer specifically to scientists and/or social scientists, or researchers. There is a similar issue with respect to how the knowledge assessed and created by the IPCC is described. It is not simply ‘science’ in the usual anglophone sense of knowledge deriving from ‘the natural or physical sciences’. So we either use the more generic term ‘knowledge(s)’ – cf. *Wissenschaft* in German – or may explicitly refer to different subsets of knowledge – for example, science, social science, humanities, Indigenous knowledge and so on. There can be similar imprecision about ‘early career scientists’ and so although this is how the IPCC describe them, we prefer the more general term ‘Early Career Researchers’ (see **Chapter 8**).

The IPCC has gone through six full assessment cycles and the terminology of the various reports emanating from these cycles has evolved. In 1990, before it was known what the future of the IPCC would turn out to be, the First Assessment Report became abbreviated as FAR. In similar fashion the Second and Third reports became SAR and TAR, but thereafter IPCC naming has been standardised as AR4, AR5 and AR6. For simplicity and continuity, we refer to the IPCC’s six full assessment reports as AR1 to AR6 (see Table 5.1 for a comprehensive mapping of these report titles).

Finally, there is the thorny issue of how to refer to different groupings of the world’s nations. From its inception, the IPCC differentiated between ‘developed’ and ‘developing’ nations and this nomenclature continues to be used by the IPCC to the present day, even though the world of 2022 is very different from that of 1988. Brazil and China, for example, both continue as ‘developing’ countries under this scheme. Other common differentiators are the shorthand Global North and Global South, or simply ‘rich(er)’ and ‘poor(er)’ countries. All three of these formulations are used in the book, but readers should be alert to the different meanings of these contested labels and note that we use ‘developed’ and ‘developing’ when referring specifically to their ongoing political usage within the IPCC.



IPCC and draws upon the main studies about the institution from the social science literature that have been published over the past three decades. The 34 contributing authors (see Contributing Author List on p. xi) originate from 13 different countries – Belgium, Brazil, Canada, Finland, France, Germany, Japan, Netherlands, Norway, Russia, Sweden, the United Kingdom and the United States – and comprise a mixture of early career, mid-career and well-established scholars. We acknowledge that the contributors are principally located in the Global North and hope that this book will encourage further research on the IPCC from a wider range of perspectives, including those emanating from the Global South.

Each chapter is designed to reflect these three central features:

- a presentation and discussion of the relevant social science literature, highlighting what is and what is not known about the IPCC;
- illustrated with specific examples taken from IPCC Reports and debates, some of them from the respective authors' own experience of the IPCC, either as participants or observers;
- a critical evaluation of the work of the institution and suggestions about some of its future challenges.

The chapters draw upon work published through to the end of 2021 and upon 34 years' work of the IPCC, including the preparation and publication of AR6.

The book is organised into five parts, with each part comprising five chapters (Part V has six chapters).

Part I on *Governance* covers the origins, governance, locations, outputs and learning processes of the IPCC. It offers an overview of the IPCC as an institution with its own status, practices and procedures; an organisation divided in several divisions – Working Groups, Secretariat, Bureau, Panel, Technical Support Units; a network of meetings organised all around the world; a space for deliberation and learning; and a series of differentiated reports (comprehensive, special and methodological).

Part II on *Participation* examines the different experts – individuals and organisations – who participate in the work of the IPCC, and their respective roles. It considers those experts who participate as authors – as Lead Authors, Coordinating Lead Authors, Review Editors, Early Career Researchers, Chapter Scientists – or as government representatives – from the Global North and South. It also considers the representatives of observer organisations – academic institutions, civil society organisations, private sector associations and so on – and also the much broader network of contributors who take part in the external review process.

Part III on *Knowledge* examines and evaluates the different knowledge inputs into the IPCC assessments, but also how the IPCC itself shapes knowledge

products, and how and when these knowledges lead to controversies. It focuses on scientific knowledges – from the natural and social sciences – as well as on other forms of knowledge, in particular Indigenous knowledge systems. It discusses the central role of climate models and scenarios in IPCC assessments and the ways in which different scientific communities maintain their prominence within the IPCC.

Part IV on *Processes* deals with some of the most important internal processes by which the IPCC's assessments are crafted, including how scientific uncertainties are understood and operationalised, how the integration between disciplines, experts and concepts is organised, and how the Summaries for Policymakers (SPMs) are approved by governments. It also draws attention to some of the norms that guide these processes, in particular the striving for consensus, policy relevance and neutrality.

Part V on *Influence* explores the influence of the IPCC's work on different audiences. It examines how IPCC reports become relevant for international and domestic decision-making processes and how the knowledge contained in these reports is interpreted and communicated in different contexts. It also considers the particular role played by objects, concepts and visuals in enabling and structuring dialogues between science, policy and publics.

As editors, we draw together the conclusions of the various chapters of the book in Chapter 28. Here, we evaluate the overall history, operation and nature of the IPCC as an institution and, building on the various chapter contributions, we highlight its achievements, limitations and challenges. We offer some thoughts about the possible roles for the IPCC in the years ahead, and what these might mean for the institution's future development.