

Further reading

Jørgen E. Olesen: *The climate is changing – but why?*

Solomon S, Qin D, Manning M, Chen Z, Marquis M, Averyt KB, Tignor M & Miller HL (eds.) (2007): *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK.

The IPCC's authoritative review of the causes of climate change, historical climate change and global as well as regional climate change projections. The report summarises the research conducted within the area in recent years. It is a comprehensive report but an executive summary briefly describes the main trends. The report can be downloaded from <http://www.ipcc.ch>.

Houghton J (2004): *Global warming. The complete briefing*. Cambridge University Press.

John Houghton has previously chaired the IPCC's Working Group I. He has also headed one of the world's leading climate research centres (the Hadley Centre in the UK). In this book, he provides a relatively simple yet wide-ranging description of climate change, its causes, consequences and what can be done to counter it.

Jørgen E. Olesen: *What will happen? Scenarios for the future*

Parry ML, Canziani OF, Palutikof JP, van der Linden PJ & Hanson CE (2007): *Climate change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge.

The IPCC's authoritative review of observed consequences of climate change, vulnerability to these, effects of climate change on ecosystems and society as well as the opportunities for adaptation to climate change. The report summarises the research conducted within the area in recent years. It is a

comprehensive report but an executive summary briefly describes the main trends. The report can be downloaded from www.ipcc.ch.

Fink AH, Brücher T, Krüger A, Leckebusch GC, Pinto JG & Ulbrich U (2004): The 2003 European summer heatwaves and drought – Synoptic diagnosis and impact. *Weather* 59, pp. 209-216.

This article provides an insight into the future by looking at an event in the past. There is every reason to believe that the heatwave in 2003 was an early warning of what we can expect. The article describes the meteorological conditions for the heatwave as well as its many negative consequences.

Stern N (2007): *The economics of climate change: The Stern review*. Cambridge University Press, Cambridge. p. 602.

Sir Nicholas Stern is Head of the UK Government Economic Service. His review of the economic consequences of climate change compared to what it will cost to counter the climate change was the first serious attempt to assess the economic consequences of climate change.

Matthias Heymann: How did climate research begin?

Randall DA (ed.) (2000): *General Circulation Development, Past Present and Future: The Proceedings of a Symposium in Honor of Akio Arakawa*. Academic Press.

This book contains a number of detailed contributions on the history of climate modelling written by the scientists involved as well as a very useful overview written by the science historian Paul Edwards.

Fleming JR (1998): *Historical Perspectives on Climate Change*, Oxford University Press.

JR Fleming is one of the leading experts within the history of climate sciences. This book traces the idea of climate change back to the beginning of the nineteenth century in contributions from Tyndall, Arrhenius, Callender and many others.

Heymann M (2009): Zur Geschichte der Klimakonstruktionen von der klassischen Klimatologie zur modernen Klimaforschung. NTM. Zeitschrift für Geschichte der Wissenschaften, Technik und Medizin.

This is a summary article analysing how understanding the climate has changed from being a static and local concept within climatology to being a dynamic and global concept within climate science.

Weart S (2003): *The Discovery of Global Warming*. Harvard University Press. Spencer Weart is the leading science historian within the development of climate sciences since World War II. In this book, he reconstructs in detail the many discoveries and debates that have led to the current knowledge of climate change. A more detailed account of the history of climate science can be found at <http://www.aip.org/history/climate/>, which is regularly updated.

Matthias Heymann, Peter Sandøe & Hanne Andersen: What is climate science all about? Philosophical perspectives

Giere RN, Bickle J & Mauldin R (2006): *Understanding Scientific Reasoning*, 5th edition, Cengage Learning.

This textbook provides a detailed account of how to understand and assess scientific models. The book contains a large number of cases and also has some exercises.

Humphreys P (2004): *Extending ourselves: Computational science, empiricism, and scientific method*, Oxford.

This book provides a detailed account of philosophical questions related to the use of computer simulations within different scientific fields.

Lahsen M (2005): Seductive simulations? Uncertainty distribution around climate models. In: *Social Studies of Science* 35, pp. 895-922.

This article is an account of how researchers handle the uncertainty related to climate modelling, how they assess it and how they become accustomed to it.

Miller CA & Edwards PN (ed. (2001): *Changing the Atmosphere. Expert Knowledge and Environmental Governance*. MIT Press.

This anthology contains quality contributions on different aspects of climate research and climate modelling aspects. Paul Edwards provides a useful overview of how climate modelling is actually performed.

Petersen A (2006): *Simulating Nature: A philosophical study of computer simulation uncertainties and their role in climate science and policy advice*, Antwerpen.

This book is a detailed account of uncertainties related to climate modelling, how these uncertainties are handled and their importance in connection with policy advice.

Shackley S, Young P, Parkinson S & Wynne B (1998): *Uncertainty, complexity and concepts of good science in climate change modelling: Are GCMs the best tools?* In: *Climatic Change* 38, 159-205.

This article is a critical account of climate modelling and the problems related to this. The article gave rise to a controversial discussion on the use of climate models.

Mickey Gjerris & Christian Gamborg: *The price of responsibility - ethical perspectives*

Blackburn S (2001): *Being Good. A Short Introduction to Ethics*. Oxford University Press.

The book starts out by answering the question of why it makes sense at all to talk about ethics in our time and then relates the most used ethical theories and concepts to a number of basic experiences such as life, death, happiness, sorrow, selfishness etc.

Garvey J (2008): *The ethics of climate change. Right and wrong in a warming world*. Continuum.

The book provides an overview of climate change – not as a scientific problem but as a moral challenge. The book is about how you can consider climate change from an ethical point of view and about choices and responsibility.

Des Jardin J (2000): *An Introduction to Environmental Philosophy*. Wadsworth Publishing.

Now in its third edition, this book is one of many which provide an introduction to environmental ethics. In addition to describing the basic ethical concepts, it also gives an introduction to central positions within environmental ethics. The strength of the book is that it relates theory to a number of practical environmental examples and examples from the natural world, including the climate.

McIntosh A (2008): *Hell and High Water. Climate Change, Hope and the Human Condition.* Birlinn

The book contains a straightforward account of the development in the past 15-20 years and a comprehensive discussion of the relationship between political and personal responsibility. Its conclusion is that the crisis is so overwhelming that only deep spiritual changes will give us the courage to change our lifestyle as fundamentally as is required to prevent climate change from threatening our existence.

Jakob Wolf: A religious perspective on climate change

McFague S (2008): *A New Climate for Theology: God, the World and Global Warming.* Fortress Press.

As a criticism of a market system with excessive growth, McFague's book presents her alternative idea of a fair and sustainable economy. She argues that the background for such an alternative economic order is that human identity is a relational identity as part of a universe which develops while expressing divine love and human freedom.

Primavesi A (2008): *Gaia and Climate Change. A Theology of Gift Events.* Routledge.

Based on James Lovelock's Gaia theory, which perceives the Earth and its life as one big ecosystem, and the preaching of Jesus as a gift theology which sees God as the forgiving and generous God, Primavesi reflects on how we should address the challenge of climate change.

Gitte Meyer & Anker Brink Lund: The climate debate's climate debate: Polarisation in the public debate on climate change

Arendt, Hannah: *The Human Condition.*

The German-Jewish thinker, Hannah Arendt, was concerned with the conditions for human action and, thus, for political life. The chapter on the debating climate of the climate debate has to a large extent been inspired by her writings. *The Human Condition*, originally published in 1958 is one of her crucial works. Published for instance by The University of Chicago Press.

Crick, Bernard: *In Defence of Politics*

Reprinted over and over, since it was published for the first time in 1962, this is an easily read defence of politics, discussing the relationship of politics with ideology, democracy, nationalism and technology. Crick advised the British Home Office for many years on issues of education for citizenship. Published most recently by Continuum.

Gadamer, Hans-Georg: *Reason in the Age of Science; Praise of Theory: Speeches and Essays.*

These two collections of brief and rather easily read essays by the German philosopher Hans-Georg Gadamer discuss what form reasoning about life and society can take in a culture permeated by scientific and technical modes of thought and how to delimit the use of science in reasonable ways. Published for instance by MIT Press and Yale University Press.

Habermas, Jürgen: *The Structural Transformation of the Public Sphere. An Inquiry into a Category of Bourgeois Society.*

A modern classic on conditions and possibilities for public discussion and on the history of the public sphere. Originally published in 1962 in German, it was only translated into English in 1989. An important book, but not easily read. Its history of interpretation has suffered by difficulties with respect to the translation of concepts from German to English. Published for instance by MIT Press.

Mill, John Stuart: *On Liberty.*

A modern classic, this essay was first published in 1859. In the essay the British philosopher John Stuart Mill concerned himself with the dangers relating to a tyranny of the majority. Published for instance in Gray, John: *On Liberty and Other Essays* (pp. 1-128) Oxford: Oxford University Press, 1998.