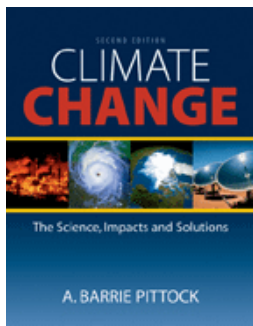


An authoritative update

While the legendary ‘known knowns/known unknowns/and unknown unknowns’ quote of former US Secretary of Defense Donald Rumsfeld has guaranteed him a place in history – and almost 60 000 hits on YouTube at the time of writing – it also expresses a key challenge facing climate change scientists, particularly those in the business of making predictions.



Climate Change
The Science, Impacts and Solutions
Second Edition
A. Barrie Pittock
CSIRO Publishing
2009, Paperback
ISBN: 9780643094840 – AU\$49.95
<http://www.publish.csiro.au/pid/6010.htm>

Knowing the uncertainties so that the risks of future impacts can be better managed is a recurring theme in the second edition of *Climate Change: The Science, Impacts and Solutions* by Barrie Pittock, an internationally recognised climate change scientist.

Unlike some current titles on the subject, the author can credibly lay claim to being a climate change expert, having helped pioneer the use of computer models around 1980 at CSIRO to investigate the emerging issue of climate change.

He also founded the Climate Impact Group in 1988 at CSIRO, an initiative that sought to bridge the gap between climate models and the impacts of projected climate change and sea-level rise on crops, water resources, coastlines, etc.

With the second edition of his book, Pittock sets out to fill in the gap between the first edition (2005) and the present – a period that saw the release of the landmark 2007 report of the Intergovernmental Panel on Climate Change (IPCC), the global financial crisis and the election of US President Barack Obama.

The past few years have also seen the emergence of well-documented evidence of more rapid climate change, as well as positive feedback (amplifying) processes, such as the melting of boreal ice cover, which can accelerate global warming and sea-level rise.

As Pittock points out, carbon dioxide concentrations, global warming and sea-level rise are all tracking near the upper end of the range of uncertainty projected in the 2007 IPCC report. Yet he remains an optimist, and devotes much of the book to discussion of adaptation and mitigation options, including a review of energy efficiency and renewable energy technologies and policies.

In the book's foreword, the Chairman of the Intergovernmental Panel on Climate Change, Rajendra K Pachauri, writes: 'For sheer breadth and comprehensiveness of coverage, Barrie Pittock's book fills a unique void in the literature in this field. Coming as it does from an author who knows the scientific and technical complexities of the whole subject, this book should be seen as a valuable reference for scientists and policymakers alike.'

For a book on climate change science, that recommendation is hard to beat.

From **ECOS** online <http://www.ecosmagazine.com/?paper=EC149p29>