

## Foreword

The 2007 Assessment of the Intergovernmental Panel on Climate Change drew two substantially new conclusions which have had a marked effect on policymakers. The first was that current climate change is ‘unequivocal’ and is due largely to emissions of greenhouse gases resulting from human activity. The second was that the effects of this observed global warming can now be detected on every continent in the form of altered hydrology and biology. The positive response by policymakers was due not only to the higher levels of certainty surrounding the issue, but that empirically observed evidence now supported the simulation modelling of the future that had generally characterised the previous three IPCC assessments. Now, the policymakers could say, we are beginning to see come true just what the scientists had been predicting.

The concreteness of that case is examined in great detail in this book. Its chapters on the various processes that may affect the world’s climate and on the detected changes in atmospheric, ocean and terrestrial (especially biological) systems serve to unfold this scientific narrative for the reader. But the book’s strength lies in this not just being a summary of the IPCC because many of its authors were not involved extensively in the 2007 assessment, and thus they are able both to evaluate afresh the nature of the evidence and to bring new perspectives to bear on the issue.

As the editor says in his Introduction, if there ever was doubt about climate change then this should be dispelled in this book. I would add that if there ever was a case to be made for action, then this case has been made here in this volume and others like it which has followed the IPCC 2007 assessment. It is clear that stringent and immediate action is needed to curb greenhouse emissions and that we also need to start, now, on building our capacity to adapt to climate change impacts. It will take both massive mitigation and adaptation to meet the challenge of climate change.

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