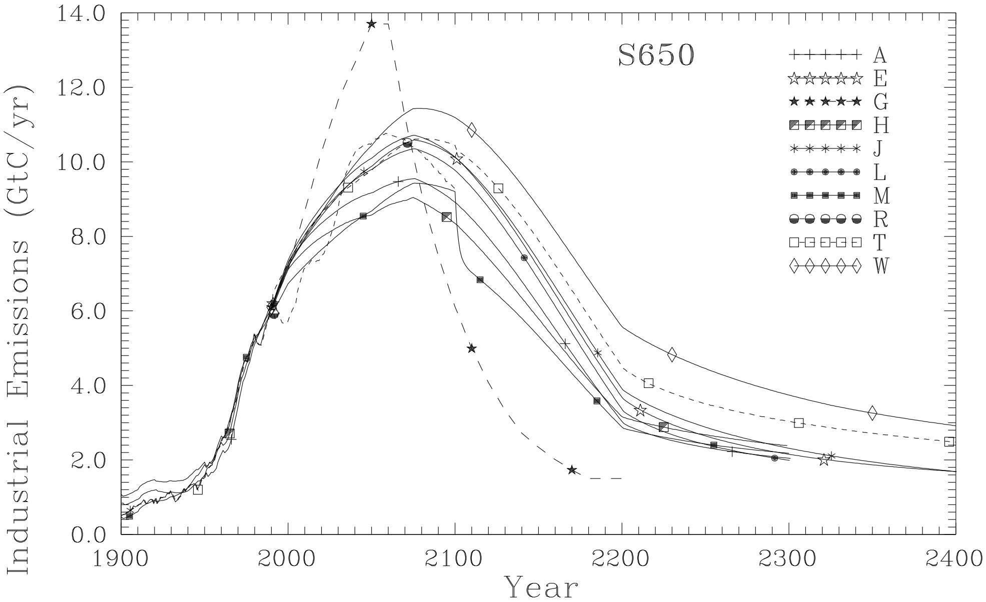
Future Emissions and Concentrations of Carbon Dioxide: Key Ocean/Atmosphere/Land Analyses

I.G. Enting, T.M.L. Wigley and M. Heimann



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This report is dedicated to the memory of Ulrich Siegenthaler, 1941–1994, whose work so greatly influenced the modelling presented here.

Cover illustration shows estimates, from ten carbon cycle models, of fossil carbon emissions required to achieve stabilisation of atmospheric CO_2 at 650 ppmv.

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Future Emissions and Concentrations of Carbon Dioxide: Key Ocean/Atmosphere/Land Analyses

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Contents

Tables

Figures

Publication History

This report is intended for documentation of the IPCC special report on *Radiative Forcing of Climate Change*.

Release 1. This version was issued over *internet* through anonymous ftp from CSIRO, Aspendale. A limited 'hard-copy' distribution was undertaken from WG1 Technical Support Group, Bracknell, UK. Release 1 was issued solely for the purpose of aiding the review process for the IPCC special report on *Radiative Forcing of Climate Change*. Release 1 was issued 30/3/94, but the cover sheet and page 1 were incorrectly dated 30/3/93. The substantive changes (as opposed to additions) in later versions are that the results for Model Q in 'Release 1' were an earlier 'ocean-only' case, and the ocean differed slightly from the form used for later versions; and Model R denoted the version of IMAGE-2 with CO_2-climate feedback (subsequently denoted R^*).

Draft release 2. This was released to IPCC lead authors for comment and also for external review.

Publication This report was produced as part of the CSIRO, DAR Technical Paper series, and also made available, for several months in 1994, as a set of post-script files via internet.

Models Z and F_2 were late contributions and so in some places the discussion of these models is less complete than for other models. Information supplied for model T was ambiguous regarding the role of feedbacks.

Data Archiving

In order to assist in the review process of the IPCC reports (IPCC, 1994, 1995) the results of this modelling exercise were made available through anonymous ftp at ftp.dar.csiro.au, on directory ftp/IPCC/results. These concentrated on results that complied with the specifications in Appendix A. In the longer term, responsibility for handling these data is being transferred to the Carbon Dioxide Information Analysis Center (CDIAC) at Oak Ridge National Laboratory.

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