

Climate Change 1992

THE SUPPLEMENTARY REPORT TO THE IPCC SCIENTIFIC ASSESSMENT

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The Supplementary Report to the IPCC Scientific Assessment

Edited by

J.T.HOUGHTON, B.A.CALLANDER and S.K.VARNEY

*Published for the
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INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

CLIMATE CHANGE 1992

The Supplementary Report to the IPCC Scientific Assessment

Report Prepared for IPCC by Working Group I

Edited by J.T.Houghton, B.A.Callander and S.K.Varney
(Meteorological Office, Bracknell, United Kingdom)



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Foreword

The Intergovernmental Panel on Climate Change (IPCC) was jointly established by our two organizations in 1988, under the Chairmanship of Professor Bert Bolin. The Panel formed three Working Groups:

- (a) to assess the available scientific information on climate change,
- (b) to assess the environmental and socio-economic impacts of climate change, and
- (c) to formulate response strategies.

The Panel also established a Special Committee on the Participation of Developing Countries to promote the participation of those countries in its activities.

The IPCC First Assessment Report was completed in August 1990 and consists of the IPCC Scientific Assessment, the IPCC Impacts Assessment, the IPCC Response Strategies, the Policymakers' Summary of the IPCC Special Committee and the IPCC Overview. The Report has now become a standard work of reference, widely used by policymakers, scientists and other experts, and encompasses a remarkable coordinated effort by

hundreds of specialists from all over the world.

Anticipating the need in 1992 for the latest information on climate change, in the context of the ongoing negotiations on the Framework Convention on Climate Change and the United Nations Conference on Environment and Development (Rio de Janeiro, June 1992), the Panel in 1991 requested its three Working Groups to produce updates to their 1990 Reports, addressing the key conclusions of the 1990 Assessment in the light of new data and analyses. The current publication is the result of the effort of Working Group I to produce an update of the IPCC Scientific Assessment.

As in 1990, success in producing this Report has depended upon the enthusiasm and cooperation of scientists worldwide. We admire, applaud, and are grateful for their commitment to the IPCC process. We also take this opportunity to express our gratitude to Professor Bolin for his very able leadership of the IPCC, and once again congratulate Sir John Houghton, Chairman of Working Group I, and his secretariat for another job well done.

G.O.P. Obasi
Secretary-General
World Meteorological Organization

M.K. Tolba
Executive Director
United Nations Environment Programme

Preface

The first Scientific Assessment of Climate Change prepared by Working Group I (WGI) of the IPCC⁽¹⁾ was published in June 1990⁽²⁾. That report was a comprehensive statement of the state of scientific knowledge concerning climate change and mankind's role therein, and resulted from almost two years' work by 170 scientists worldwide. A further 200 scientists were involved in its peer review.

In the eighteen months since then, scientific activity has continued to focus on the problem of climate change and significant progress has been made in a number of important areas. The purpose of this Supplement is to update the 1990 report, paying particular attention to its key conclusions and to new issues which have appeared in the scientific debate. The Supplement does not cover the full range of topics addressed by the 1990 report and should be read in conjunction with, rather than in place of, that report.

The conclusions presented in the Supplement are based entirely on the supporting scientific material published here, which has been prepared by leading scientists and exposed to a widespread and thorough peer review. To assist in the preparation of the report and the background papers a number of workshops were held, each devoted to one of the main topics being addressed. Generation of the background papers involved, either as lead authors or contributors, 118 scientists from 22 countries. A further

380 scientists from 63 countries and 18 UN or non-governmental organizations participated in the peer review of both the background material and the Supplement. The text of the Supplement was agreed in January 1992 at a plenary meeting of WGI held in Guangzhou, China, attended by 130 delegates from 47 countries. It can therefore be considered as an authoritative statement of the contemporary views of the international scientific community.

We are pleased to acknowledge the contributions of so many, in particular the Lead Authors who have given so freely of their expertise and time in the preparation of this report, together with the data and modelling centres who have provided so much information. We would also like to thank the core team at the Meteorological Office in Bracknell, which was responsible for organizing most of the workshops and for coordinating the activities of the very large number of contributing scientists. Members of the team and those who particularly contributed to its work were Bruce Callander, Shelagh Varney, Bob Watson, John Mitchell, Chris Folland, David Parker, Mavis Cook, Mavis Martin and Flo Ormond. Financial support for the team's work was provided by the United Kingdom's Department of the Environment.

Thanks are also due to all the members of the IPCC central secretariat at WMO, Geneva, under the direction of Dr. N. Sundararaman, for their friendly and tireless

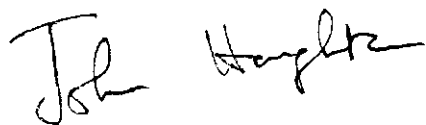
(1) Organizational details of IPCC and Working Group I are shown in Appendix I.

(2) *Climate Change. The IPCC Scientific Assessment.* J.T. Houghton, G.J. Jenkins and J.J. Ephraums (Eds.), Cambridge University Press, 1990, pp365.

assistance in workshop organization and coordination with the other IPCC working groups.

We are confident that this 1992 Supplement will assist

further in building the firm scientific foundation necessary for the formulation of a rational and comprehensive response by mankind to the issue of climate change.



Sir John Houghton

Chairman, IPCC Working Group I

Meteorological Office
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Prof Bert Bolin

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February 1992