

Preface

This book is a completely rewritten, updated and expanded new edition of *Global Perspectives on Tropical Cyclones*, which in turn was a revision of *A Global View of Tropical Cyclones*. Like its predecessors, this volume arises from a quadrennial event, The International Workshop on Tropical Cyclones (IWTC) of the World Meteorological Organisation, in this case the sixth, held in San Jose, Costa Rica, during December 2006. Unlike the previous volumes, this is published by a specialist publisher, World Scientific Publishing Company, in the hope that the material will have a much wider circulation.

In his prologue to the first volume, Prof. Bill Gray lamented the growing specialisation of the field, and the difficulty of remaining an expert in all topics related to tropical cyclone observations, forecasting, research and warning. Inevitably, this trend has continued apace — in fact, accelerated — in the ensuing two decades. Enormous progress in understanding various aspects of tropical cyclones has been achieved, which results in a substantial expansion in the scope and topics in this current volume. The almost-exponential growth in satellite observations and the application of ever-increasing computer power are particularly of note, and their influence pervades the entire volume. Theoretical advances have followed from sophisticated mathematics, more powerful computations, and been informed and tested by increasingly comprehensive and accurate observations. Substantial improvements in forecast accuracy have yielded significant benefits, yet mitigation remains a challenging problem with growing human vulnerability and expectations. The increasing interest in how tropical cyclone activity might change under global warming leads to the introduction in this volume of chapters on tropical cyclones and climate, ranging from climate variability on various time scales, through seasonal forecasting, to future projections.

As with the previous volumes in the series, chapter authors were invited based on the list of topic chairs and research rapporteurs who attended the IWTC, supplemented by other experts in the particular topics. We are grateful to all the authors who have devoted considerable time and effort to extending and refining the material presented at the IWTC into a form that is more permanent and comprehensive. We sincerely thank the many reviewers who painstakingly read, commented on, and made an immense contribution to improving each chapter of the book. We also thank World Scientific Publishing Company for taking on the publishing responsibility. Finally, we thank the World Meteorological Organisation for their support of the International Workshops on Tropical Cyclones, without which this book could not exist. We believe that the book represents the most comprehensive summary of the current state of the science on tropical cyclones, and trust that it will prove useful to all with a scientific interest in tropical cyclones, be they new to the field or experienced professionals.

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