

PREFACE

Originally formed around a set of lectures presented at a NATO Advanced Study Institute (ASI), this book has grown since then and it has been organised and presented more like a textbook than the standard “collection of proceedings”. The lack of a unified reference textbook in *seasonal to inter-annual climate predictions* that covers both the science of the predictions and the real-world uses of the forecasts was the main driver for the considerable effort placed into producing an amalgamated introductory book. Throughout, our objective has been to present a textbook for people of many disciplines interested in this fascinating and fast emerging sector. An additional novelty for a NATO ASI series book is that all the chapters have been thoroughly peer reviewed: each chapter has received the attention of three or more experts. We believe this reviewing process has considerably raised the level of the book and the extra time (and pain) needed to complete the oeuvre has been entirely justified.

The book is targeted at the intelligent reader at postgraduate level, but who does not need to be an expert in all the fields discussed. The reader may well be coming from only one of the many disciplines that contribute to the fields of seasonal climate forecasting and risk management: this book aims to provide him/her with a general overview of all the major issues related to these fields. A summary at the beginning of each chapter, except for the first, will help all readers select only those chapters that are relevant or of interest to them while still being able to grasp the essentials of every chapter.

The fascination of seasonal climate forecasting, of which El Niño forecasting is the prime example, comes from its multi-faceted character. Not only does it pose interesting new challenges for the climate scientific community but also it is naturally linked to a great variety of practical applications, from security related issues, such as water resource management, food security, and disaster forecasts and prevention, to health planning, agriculture management, energy supply and tourism, to name but a few. Seasonal to interannual climate forecasts are indeed becoming a most important element in some policy/decision making systems, especially within the context of climate change adaptation. Seriously considering the management of risks posed by climate variability and of development in general on the seasonal to interannual scale is key to achieving the longer terms goals of climate change adaptation strategy.

The NATO ASI *Seasonal to Interannual Climate Variability: its Prediction and Impact on Society* was held in the beautiful setting of Gallipoli (Italy) between 23 May and 3 June 2005. This “summer school” attracted

applications from a large number of postgraduate students and professionals. Unfortunately places were limited but 62 participants from 27 countries could be accommodated.

It would have not been possible to organise this ASI without the collaboration and support of many people: the team at the NATO Environmental and Earth Science & Technology (EST) Programme with *Mrs Lynne Nolan* (Secretary) and *Dr Alain Jubier* first and *Dr Deniz Beten* later (Programme Directors), who assisted in securing a smooth development of the ASI; *Mrs Elena Bertocco* (ASI Secretary) assisted with the copious queries from participants, herself assisted by little Edward; the members of the Organising Committee (i.e. the editors of this book plus *Mr Omar Baddour*, Direction de la Météorologie Nationale of Morocco and World Meteorological Organization, WMO); *Mr Rob Hine* (European Centre for Medium Range Weather Forecasts, ECMWF, graphic creator) for producing high quality promotional material; *Mr Nando Micaletto* (ECMWF, technical & local expert) for ensuring the smooth running of the ASI; *Ing Antonio Rizzo* and *Dr Antonio Tommasi* (Province of Lecce) for the supremely well planned, varied and thoroughly enjoyable social and cultural programme; *Mrs Annamaria Caputo*, *Mr Renato Renna* and all the staff at the Ecoresort Le Sirené (Gallipoli) for the warm and professional hospitality.

We are particularly grateful to the various organisations that supported this ASI and the preparation of the book financially: NATO *in primis*, National Oceanic and Atmospheric Administration Office of Global Programs (NOAA OGP), ECMWF, World Meteorological Organization (WMO), the US National Science Foundation (NSF) and the Province of Lecce. In addition, Troccoli was partly supported by the European Union projects ENACT (EVK2-2001-00077) and MERSEA (AIP3-CT-2003-502885) and Mason's contribution was funded by Cooperative Agreement AN07GP0213 from the National Oceanic and Atmospheric Administration (NOAA) and supported by a grant from the NCAR CSL program to the IRI.

It has been a privilege to have so many worldwide experts in the field of seasonal to interannual climate predictions as lecturers at the ASI and as contributors to this book: their contribution made the ASI particularly illuminating and challenging. Likewise, we were fortunate to have so many talented participants who actively and enthusiastically participated in the ASI¹. Their keen involvement made the school a very stimulating and educational experience for us all. The location, a few metres from the beach,

¹ For detailed information on the ASI, see:
http://www.ecmwf.int/staff/alberto_troccoli/nato_asi/asi_programme/index.html

along with the many social and cultural activities no doubt also helped to form an amalgamated group.

We would like to thank very much the numerous reviewers who dedicated their time to considerably improving this book: Oscar Alves, Christof Appenzeller, Walter Baethgen, Tony Barnston, Rasmus Benestad, Pierre Bessemoulin, Ćedo Branković, Barbara Brown, Dick Dee, Michel Deque, Dave DeWitt, Normand Gagnon, Brad Garanganga, Lisa Goddard, Xiaofeng Gong, Renate Hagedorn, Jim Hansen, Peter Hayman, Jaakko Helminen, Ian Jolliffe, Thomas Jung, Slava Kharin, Ben Kirtman, Willem Landman, Andrew Lorenc, Sabine Marx, Glenn McGregor, Holger Meinke, Saji Njarackalazhikam Hameed, Warwick Norton, Laban Ogallo, Tomoaki Ose, Anders Persson, Michele Rienecker, John Roads, Sandra Robles-Gil, Tim Stockdale, Rowan Sutton, Madeleine Thomson, Coleen Vogel, Richard Washington, Dan Wilks, Toshio Yamagata.

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Lastly, it should be appreciated that there have been many difficulties in producing such a multi-authored “textbook”, hence some gaps and jumps are unavoidable and we hope you will take this into consideration when reading the book. Despite what we like to think are minor drawbacks, we believe this book will provide a very useful reference for all those who would like to venture into the world of climate variability, its prediction and its adaptation strategies. Enjoy reading this book!

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