
Preface

About 450 million people live in the 18 States that set up the European Centre for Medium-Range Weather Forecasts. Thirty years ago, they established an independent institution with a clearly defined objective. It was not to be a university-type institute for research, neither was it to be an operational weather forecast office. It would combine the scientific and technical resources of its Member States to use the most powerful computers in order to extend the range of weather forecasts beyond two or three days, the limit of useful forecasts at that time.

It would be small; the work force was to be limited to about 150, including administrative and other support staff. In 2005, 30 years after the Convention was signed, the staff totalled about 160. The Centre attracted the best talent in its specific field of endeavour. Each year about ten scientists left, to be replaced by newcomers bringing younger minds and fresh ideas. It is not surprising that it quickly became a world leader in its field. It is widely recognised as having maintained its leading position.

This book considers how the Centre was conceived in the confusing and difficult political period of the 1960s in Europe. It summarises the political, scientific, technical and financial discussions that led to the drafting of its Convention, and how it came to be built 60 km west of London, England. It tries to convey to the reader how it was that with friendly help the Centre ‘hit the ground running’. The Centre’s early and formative years are reviewed in Chapters 1 to 7. The development of its science and technology over the following thirty years is reviewed in Chapters 8 to 17. Chapters 18 to 20 deal with commercial issues, staff and the outlook. I hope this book will convey a sense of what it was like to be a participant during the exciting time at the beginning, and over the years as the Centre matured.

In 1985 the Centre’s Scientific Advisory Committee considered ‘the reasons for the undoubted success of the Centre’:

- The aims of the Centre were focused on a single objective, which was at the same time important, attainable and scientifically challenging.
- Scientists, including visiting scientists, of the necessary calibre, have been attracted by the challenge.

- The latest supercomputers and high quality computer scientists have been available at the Centre.
- Since the Centre did not grow out of an existing organisation, it could build on the best technology and techniques available and establish its own mode of operations.
- The size of the Centre and the juxtaposition of research and operational work have aided interaction, given a sense of unity and spurred the research effort.
- Its Member States consistently supported the Centre, in particular by the provision of trained staff, and regarded its work as complementary to that of their own weather services, rather than competing with them.

The reader will find out how this has worked in practise. You will note as well the long time required — many years, with more than a decade not unusual — to bring a well-formulated plan for a scientific and technical project to operational fruition. Examples include the establishment of the Centre itself, and the implementation of ensemble prediction, seasonal prediction, ocean wave forecasting and new methods of data assimilation.

The meteorological world has seen major, some would say astounding, technological advances in satellites and computers, hand in hand with impressive scientific advances, during the last decades. The Centre developed within the framework of that process. It has benefited greatly from, and has been a major contributor to, those advances. The wonderful tradition of international co-operation in meteorology is exemplified in the story of this European organisation.

The text of the Convention, and details of the Centre's models, forecasts, archives, data services and much more are available on www.ecmwf.int.

The European Centre is an interesting place with an interesting history. The fault is mine if the reader finds any part of its story uninteresting. This book is not a formal history of the Centre. While based on documents and interviews, it reflects my personal thoughts, memories and ideas.

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Acknowledgements

When summarising past events, one has to rely in large part on documents written at the time by others. Plagiarism is copying someone else's work. Using material from many contemporary documents can I hope be called 'research'. Much of this kind of research has gone into this book.

I could not have written this book without help. The enthusiasm of those associated with the Centre at the prospect that its story would be recorded was evident. I thank all those who gave of their time and otherwise assisted me. I thank Dr Lars Prahm, at whose suggestion I started to write this book. I hope that I have not disappointed anyone with the resulting work.

I express particular gratitude to Dr Erich Süssenberger who gave me a great deal of practical help and answered many queries. He was kind enough to extend his encouragement to my writing. He had reached the normal retirement age of 65 on 13 February 1976, but his continuing interest in and enthusiasm for the Centre was clear when we met in late 2004.

The Centre's past Directors Prof. Aksel Wiin-Nielsen, Mr Jean Labrousse, Prof. Dr Lennart Bengtsson and Dr Martin David Burridge CBE, and the current Director Mr Dominique Marbouty, were generous with their time and support, and patient in dealing with questions and queries. So also were Sir John Mason, Director-General of the UK Meteorological Office when the Centre was being established, and Mr Michel Jarraud, Secretary-General of the World Meteorological Organization and a former member of the Centre's staff.

The COST Secretariat in Brussels and the German Weather Service DWD kindly made their invaluable archives available to me. Detlev Frömming of DWD gave me a great deal of practical assistance. The UK Met Office also made contemporary documents available. Prof. Anton Eliassen and Mr Magnús Jónsson helped to clarify issues relating to Norway and Iceland respectively.

John Wilmot of the UK Ministry of Supply 1945-47 said: "What I like about scientists is that they are a team, so that one does not need to know their names." Many current and former staff members of the ECMWF team, delegates to the Centre's Council and its Committees, and others within and

outside the Centre, allowed me to interview them or provided documentary material. Some gave particular help in supplying important and useful material, and improving the text as it progressed: Tony Hollingsworth, Adrian Simmons, Martin Miller, Walter Zwiefelhofer, Philippe Bougeault, Gerd Schultes, David Anderson, Tim Stockdale, Sakari Uppala, Peter Janssen, Horst Böttger, Tim Palmer, Manfred Klöppel, John Hennessy, Roberto Buizza, Mariano Hortal, Bob Riddaway, Anabel Bowen and Rob Hine. I thank them all.

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