

FOREWORD

Meteorological and climate data are indeed essential both in day-to-day energy management and for the definition of production and distribution infrastructures. For instance, the supply of electricity to users can be disturbed by extreme meteorological events such as thunderstorms with unusually strong winds, severe icing, severe cold spells, sea level elevation associated with storm surges, floods ...

To be protected against such events, it is not sufficient to act after they have taken place. It is necessary to identify their potential impacts precisely and assess the probability of their occurrence.

This book shows that this can only be done through an enhanced dialogue between the energy community and the climate and meteorology community. This implies an in-depth dialogue between actors to define precisely what kind of data is needed and how it should be used.

Météo-France has been in long-term cooperation with the energy sector, including the fields of electricity production and distribution. Drawing on this experience, it should be noted in this respect the importance of long-term partnership between actors as exemplified here by the message of EDF.

The production of meteorological and climate information relies on an integrated system ranging from field observations to numerical modelling of the atmosphere and the Earth. It is necessary to tailor, insofar as possible, the information produced to the users needs. Unfortunately, these vital climate services are not yet always available for all users. The community of meteorologists is aware of this need. That is why the World Meteorological Organization has decided during the third World Climate Conference (WCC-3) to establish a Global Framework for Climate Services, to ensure that climate information and predictions will be made available to decision-makers enduring the increasing impacts of climate variability and change.

The future Global Framework for Climate Services will contribute to make these services available to all sectors. Some of the key requisites to be developed during the implementation period include the strengthening and sustainability of countries' observational and research capabilities, as well as enhanced capacity-building for developing countries and improved interaction between climate information providers and final users, as initiated by ClimDevAfrica. This decision of improving Climate Services for Development was unanimously adopted at the opening of the WCC-3 High-level Segment, which followed three days of intense discussion among multidisciplinary international experts. I hope this book will also contribute to the capacity building needed for the implementation of those recommendations.

The Global Framework for Climate Services is a necessary step with a view to defining scientifically sound measures of adaptation to climate variability and change. In this view, it will be necessary to improve or implement many observations in the world and to make them easily accessible in a readily utilisable form. It will also be necessary to ensure perfect consistency between modelling results and observations. All these improvements need additional research, improved coordination and standardisation.

The public expects energy security, which means that the vulnerability of energy systems has to be minimized in accordance with the possible hazards impacting the energy systems, in a context of sustainable development. So I take this opportunity to commend the work done by all the experts involved, and to thank NATO for supporting the advanced research workshop which took place in October 2008. This book provides up-to-date and detailed information, which will be most useful both for meteorologists and for the energy sector.

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