



EUROPE



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# Environment and health risks from climate change and variability in Italy



## ABSTRACT

The World Health Organization (WHO) and the Italian Agency for Environmental Protection and Technical Services (Agenzia per la Protezione dell' Ambiente er per i servizi Technici, APAT) are collaborating in a project on climate change and health. This report is one of the results of that project.

Climate change is already having an effect in Italy, as elsewhere. The global effects of an increasing concentration of greenhouse gases in the atmosphere are reflected in the growing number of extreme weather events, such as heat-waves and intense rainfall. These have various consequences for the health of a population, both directly in terms of mortality and morbidity, and indirectly through changes in the ecosystem.

As there has been, as yet, no systematic national climate change impact assessment in Italy, this report is a preliminary evaluation of the situation, using international and national literature and with the help of expert advice. The aim is to assess the potential risks of climate change to human health in Italy, to see what adaptive and preventive measures are available and to suggest what may be additionally needed.

Keywords  
CLIMATE  
ENVIRONMENTAL HEALTH  
RISK FACTORS  
GREENHOUSE EFFECT  
RISK MANAGEMENT  
ITALY

Text editing: Charlotte Huntly

Printed by: IGER, Istituto Grafico Editoriale Romano

ISBN 978 92 890 72946

Address requests about publications of the WHO Regional Office for Europe to:

Publications  
WHO Regional Office for Europe  
Scherfigsvej 8  
DK-2100 Copenhagen Ø, Denmark

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## Foreword I

Climate change and climate variability are and will be a threat to human health, as has been highlighted by the recently published fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC). Climate change already affects human health directly, for example through increased heat stress or loss of life in floods and storms, and indirectly through changes in water availability, air pollution and the ranges of disease vectors (for example mosquitoes), waterborne pathogens and foodborne diseases.

In Italy, the heat-waves in 2003 and 2006, the changes in rainfall patterns and temperature and the already visible effects on fauna and flora have given a strong signal of the public health challenges that need to be addressed now and in the near future. The Mediterranean countries, Italy among them, are one of the regions of the world most vulnerable to climate change. Because of the global and national delay in putting into practice any effective mitigation strategies, more effort will have to be put into adaptation measures to limit the societal consequences of the changes in climate which are already occurring.

I believe this first report on climate change in Italy shows the need both for further research and prompt action. The report shows that information to assist in anticipating potential threats and impacts can be developed and can be extremely useful in preparing people and the overall societal structure for adverse events, as well as in facilitating the response as extreme weather-related events occur. This is a new dimension for public health which reverses traditional thinking: from describing what has already occurred to taking action on the basis of prediction, surveillance, monitoring and early warning to prevent negative health consequences in large populations. This requires the development of policies which effectively address expected events, empowering people with information and education, strengthening partnerships between different economic and social sectors, as well as ensuring that existing services are maintained and upgraded as necessary to allow for an effective response. Adaptation strategies will need to address health issues through a comprehensive approach alongside other interventions: this synergy, together with more effective results, will guarantee a more economically sustainable approach.

The preparation of this report has generated a number of conclusions and recommendations for Italy and the whole international community. The challenge is now to translate this knowledge into policy, action and, where necessary, into further research to improve modelling, extend time frames of predictions and enhance the effectiveness of adaptation and mitigation strategies. Undertaking actions to decrease the extent, speed and intensity of climate change, coupled with adaptation policies and measures, will help to limit the impact of climate change and to protect the health of both present and future generations. We hope this report can contribute towards moving the agenda forward without further unjustified delay. The time to act is now!

Roberto Bertollini, Director

Special Programme on Health and Environment, WHO Regional Office for Europe

## Foreword II

The World Health Organization (WHO) estimates that about 20% of mortality in Europe is attributable to environmental causes. This is based on the available evidence and highlights the importance of improving action to combat environmental risks. For this reason the environment and the health sector are among the priorities of the Agency for Environmental Protection and Technical Services (APAT) programme.

On the other hand, the monitoring of the environment is one of APAT's most difficult tasks. To improve environmental monitoring, a network of competent and experienced partners is essential. The need for such a network is even more prominent in the case of monitoring that aims to identify environmental health determinants. The selection of these determinants necessarily has to be the result of consultation with experts from both the environmental and the health sectors.

This led APAT to collaboration with organizations in the health sector, primarily with WHO and the Istituto Superiore di Sanità, with the aim of directing initiatives and assessing exposure levels of the population to different health risk factors. Among the initiatives which have resulted in important reports are those on the health effects of environmental air pollution in Italian cities, realized in collaboration with WHO in 1999 and 2005.

The aim of APAT is, however, not only to increase knowledge on already known risk factors for people's health, but also to study and analyse emerging risk factors, for example noise, electromagnetic fields, contaminated sites and those related to environmental scenarios, so that environmental protection measures can be strengthened. As part of this perspective, APAT started the project on climate change and health in collaboration with WHO. For many years WHO has been investing resources into this field and has contributed substantially to the IPCC fourth Assessment report. Climate change is in fact an emerging environmental risk factor and a priority on the political agenda of the majority of countries. Italy too is facing the challenges on both, technical and institutional levels to measure, plan and act efficiently in order to prevent adverse health impacts in the medium and long term and to integrate this into national sustainable development policies.

The broadening of knowledge concerning the potential environmental consequences of changes in weather and climate on health, well-being and survival is a fundamental step for APAT, particularly at this moment when APAT and other environment agencies are fully involved in developing a national strategy on adaptation to climate change. Agreement on a national adaptation plan will be the aim of this National Conference on Climate Change.

At this meeting the report will represent a significant contribution towards an initial analysis of the national socioeconomic impacts and potential adaptation options. The contributions in this report result from expert evaluation of the available data and the most relevant results of international and national research into health and the environment. The results of this first national analysis already allow proactive reflection about the strengths and weaknesses of the present information system and knowledge on emerging risks.

The study of future scenarios requires our full commitment, in particular for enhancing strategic collaboration among the different institutions involved. Communication of our existing knowledge about the prevention of harms and our responses to climate change are essential to enable the informed participation of all citizens.

Giancarlo Viglione, President

APAT

## Acknowledgements

This publication is the result of a collaborative project between the Agency for Environmental Protection and Technical Services (APAT) of Italy and the WHO European Centre for Environment and Health. The editors would like to thank Luciana Sinisi (APAT), Michele Faberi and Roberto Bertollini (WHO Regional Office for Europe) for this initiative and their collaborative spirit.

This publication would not have been possible without the contributions and knowledge provided by Marco Bindi, Centro interdipartimentale di Bioclimatologia Università di Firenze; Monica Francesca Blasi, Istituto Superiore di Sanità; Mario Carere, Istituto Superiore di Sanità; Lorenzo Cecchi, Centro interdipartimentale di Bioclimatologia Università di Firenze; Luciana Croci, Istituto Superiore di Sanità; Valentina Della Bella, Istituto Superiore di Sanità; Franco Desiato, APAT; Francesca de Donato, Dipartimento di Epidemiologia ASL Roma E; Francesco Forestiere, Dipartimento di Epidemiologia ASL Roma E; Enzo Funari, Istituto Superiore di Sanità; Domenico Gaudioso, APAT; Ursula Kirchmayer, Dipartimento di Epidemiologia ASL Roma E; Anna Luise, APAT; Giancarlo Majori, Istituto Superiore di Sanità; Laura Mancini, Istituto Superiore di Sanità; Stefania Marcheggiani, Istituto Superiore di Sanità; Angiolo Martinelli, ARPA Umbria; Francesco Mattera, Istituto Superiore di Sanità; Paola Michelozzi, Dipartimento di Epidemiologia ASL RM/E; Marina Miraglia, Istituto Superiore di Sanità; Marco Morabito, Centro interdipartimentale di Bioclimatologia Università di Firenze; Marco Morindo, Centro interdipartimentale di Bioclimatologia Università di Firenze; Antonio Navarra, INGV; Simone Orlandini, Centro interdipartimentale di Bioclimatologia Università di Firenze; Mara Stefanelli, Istituto Superiore di Sanità; and Andrea Toreti, APAT.

The editors further thank the following experts for participating in the first and second expert consultations on assessing health impacts of climate change in Italy, in Rome, Italy, on 23 November 2005 and 19 October 2006: Dr Carlo Peducci, Dipartimento di Epidemiologia, ASL Roma E; Dr Luciana Sinisi, APAT; Dr Francesca de Maio, APAT; Dr Valentina Minardi, Istituto Superiore della Sanità; Giorgio Bartolini, Centro Interdipartimentale di Bioclimatologia Università di Firenze; Bernardo Gozzini, CNR-IBIMET, Istituto di Biometereologia; and Roberto Vallorani, CNR-IBIMET, Istituto di Biometereologia.

This publication has been submitted to several stages of expert review and the authors would also like to thank those who have provided additional comments but who are not listed here. For the editing of the English text we thank Charlotte Huntly. Thanks to Colin Soskolne and Sari Kovats for reviewing and commenting on an earlier draft.

We hope that this publication will help to increase discussion in Italy and will support further initiatives in this field.

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