



**Climate Change and Cities – First Assessment Report of the Urban Climate Change Network**, C. Rosenzweig, W. D. Solecki, S. A. Hammer and S. Mehrotra (Eds.), Cambridge University Press, 2011, pp: xx + 286. ISBN: 978-1-107-00420-7 (pbk), Price: US\$50.00.

About 50% of the world's population lives in urban areas and is increasing. These areas currently emit over 40% of the greenhouse gases and most are major ocean harbours. Climate change will cause a higher frequency of heat waves which stress the health of the young, the infirm and the elderly and urban coastal areas will be subject to due to rising ocean levels, flooding of low lying areas and these areas will be subject to more frequent storm surges. Many of these cities have joined to create the Urban Climate Change Research Network (UCCRN) to provide a scientific basis for their response to climate change.

The very succinct and powerful opening paragraph in the foreword by Jeffery D. Sachs, Director of Earth Institute at Columbia University and Special Advisor to the UN General Secretary Ban Ki-Moon on the Millennium Development Goals should be read by and etched in the minds of every person on this globe.

*“The twenty-first century will be the age of sustainable development – or the age of ruin. Worldwide economic growth over the past two centuries has brought remarkable progress but also remarkable risk. By mobilizing fossil fuels, humanity has lifted itself from the ancient scourges of hunger, disease, and early death. Living standards and income levels in many parts of the world soared beyond the wildest of expectations. Yet these gains are now bringing new and grave threats as well. Humanity has inadvertently pushed against the planet's safe boundaries regarding greenhouse gas emissions, land use changes, pollution and human-induced threats to biodiversity and public health. In the coming decades, the core challenges of societies around the world will be to refashion our ways of life – living patterns, technologies, and economic systems – so we can combine the benefits of economic development with sustainable management of the Earth's ecosystems.”*

This volume is the first summary of what has been accomplished by over 100 experts from over 50 cities during the past three years. It focuses on describing those methodologies that are effective in determining the climate hazards and risks to the infrastructure and how to mitigate or adapt to these risks. It includes case studies for 12 cities (Athens, Dakar, Delhi, Harare, Kingston Jamaica, London, Melbourne, New York, San Paulo, Shanghai, Tokyo and Toronto) representative of both the developed and developing countries. These studies illustrate how social and economic studies combined with climate science can be used to map those areas in cities that are most vulnerable to increasing climate hazards as well as how to mitigate and adapt to these changes. Graphs are included for the annual temperature and precipitation from 1900 to 2010 in each of these cities. In addition, graphs are also given for 16 GCM's and 3 emissions scenarios from 1900 to 2100 for each city. Maps of each city show those sectors most at risk from rising ocean levels as well as the location of slum areas, etc. These examples illustrate the richness of the data that needs to be considered in the studies necessary prior to the difficult decision making stage. This book makes the reader realize that the costs associated with not reducing our global emissions of greenhouse gases

have not been underestimated in such reports as that due to Lord Stern for the British government in 2006.

The book is divided into an Executive Summary intended for politicians and senior planners and four parts comprising nine chapters: Part I: Introduction (1. Urban climate change in context); Part II: Defining the risk framework (2. Cities, disasters, and climate risk, 3. Urban climate: processes, trends, and projections); Part III: Urban sectors (4. Climate change and urban energy systems, 5. Climate change, water, and wastewater in cities, 6. Climate change and urban transportation systems, 7. Climate change and human health in cities); and Part IV: Cross-cutting issues (8. The role of urban land in climate change, 9. Cities and climate change: the challenges for governance) followed by a Conclusion: Moving forward, and three Appendices. This material is intended primarily for urban planners and emergency response planners at all levels of government. Climate scientists will find it useful to read this book because it makes such fundamental and important use of their studies. I strongly recommend it to all physicists who have an interest in climate change problems because this book will broaden their perspective on this important issue so they can be more effective in educating the public about the seriousness of global warming.

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