Contributors

Roy Boyd received his bachelor’s in economics from the University of New Mexico in 1976 and a master’s (1979) and PhD (1981) in economics from Duke University. His main field of specialization is in environmental and natural resource economics, and he has written extensively on forestry, climate change, energy, resource taxation and computable general equilibrium. Dr Boyd has worked at the University of Wisconsin in Milwaukee (1981–84), the Federal Trade Commission (1984–86), the Department of Agriculture (1986–88) and Ohio University (1988 to the present). He is currently a professor of economics at Ohio University, and his interests include forest policies in tropical regions and climate change modeling. A book on climate change in Mexico, Hacia el Futuro: Energy, Economics and the Environment in 21st Century Mexico, was co-authored with María Eugenia Ibarrarán and published in 2006.

Antoinette Brenkert is a research scientist at the Joint Global Change Research Institute. She has extensive experience in modeling and data analysis for natural systems and for integrated assessment. She developed, with others, structured methods for analyzing country, sector and local vulnerabilities to climate change and methods to develop integrated socio-economic and environmental scenarios of the future. Brenkert is the principal developer of the Vulnerability/Resilience Indicator Model, including a full sensitivity analysis, using a Monte Carlo approach.

Dana Coelho is a Presidential Management Fellow with the US Forest Service. Her professional interests are in strategic conservation planning and ecosystem services, communications and building partnerships. She holds a master’s in sustainable development and conservation biology and a master’s of public policy from the University of Maryland. While at the University of Maryland, Coelho worked as a research associate with the Center for Integrative Environmental Research, fulfilling various research, writing, editing and web design responsibilities. She also coordinated a weekly seminar in ecological economics and served as president of Graduate Women in Public Policy, a student organization.
Angie Dazé is a climate change coordinator for CARE International, where her work focuses on community-based adaptation in west and southern Africa. Previously, she worked as a program manager for CARE Canada where her work focused on environment and climate change issues, particularly in Asia. Before joining CARE Canada in Ottawa, she worked for the organization on a community-based project in Bangladesh, which helped people to adapt to the adverse impacts of climate change including flooding, increasing salinity, drought and waterlogging. Dazé has also worked as a climate change specialist for the policy branch of the Canadian International Development Agency (CIDA). Her field experience also includes projects in the water and environmental health sector in Nepal and Guyana.

Heiko Garrelts is a researcher on environmental governance and risk management and is currently a member of the Center for Sustainability Studies (artec), University of Bremen. He has diplomas in political sciences and landscape planning. His research deals with decision-making processes in different policy fields, above all nature protection and climate change policy. He is especially interested in the interplay of different levels of policy-making, the role of non-governmental organizations and issues of the science–policy interface.

Timothy Gulden is a research scholar at the Center for International and Security Studies at Maryland (CISSM) and an adjunct professor at the University of Maryland School of Public Policy. He has been a guest scholar at the Brookings Institution’s Center on Social Complexity and attended the Santa Fe Institute’s Complex Systems Summer School. He works on a wide range of issues where the understanding of complex dynamics is critical to the formulation of effective policy. His recent projects include the development of a system for the oversight of hazardous biological research, an analysis of the spatial and temporal dynamics of civil violence in both Guatemala and Iraq, and an exploration of the security implications of policy responses to climate change.

María E. Ibarrarán, a professor at Universidad Iberoamericana Puebla in the Department of Economics and Business, is a member of the Center for Studies on Poverty and Exclusion. She obtained a PhD in geography and a master’s in energy and environmental studies from Boston University. She also holds a bachelor’s in economics from Instituto Tecnológico Autónomo de México. Her research interests are energy and environmental economics, particularly related to the social and economic impacts of climate change and air pollution. In 2006 she published a book (with co-author Roy Boyd), Hacia el Futuro: Energy, Economics
Contributors

*Laurence Kalkstein* is a professor of geography and regional studies at the University of Miami, and president of the International Society of Biometeorology, the largest biometeorological organization in the world. He received his undergraduate degree from Rutgers University and his master’s and PhD from Louisiana State University. He is the principal investigator on a number of contracts dealing with the assessment, development and implementation of heat–health watch-warning systems for major cities around the world. These systems are funded by both private and government organizations such as the National Oceanic and Atmospheric Administration (NOAA)/National Weather Service and the Environmental Protection Agency (EPA), both in the US, the United Nations World Meteorological Organization, various electrical utilities, local health departments and agencies in other countries. At present, more than 20 such systems are in operation in the United States, nine are running in Italy, three in Canada, one in China and one in Korea. Throughout his career, Dr Kalkstein has published more than 120 peer-reviewed manuscripts and book chapters in leading climatological, geographical and medical journals and has been editor for two major climatological journals: *Climate Research* and the *International Journal of Biometeorology.*

*Paul H. Kirshen* is Research Leader with Battelle Memorial Institute. Previous to this he was director of the Tufts University Water: Systems, Science, and Society Graduate Education Program and professor in the Civil and Environmental Engineering Department. He has many years of experience serving as principal investigator of complex, interdisciplinary, participatory research related to water resources and coastal zone management and climate variability and change. He has also developed decision support tools using weather and climate information for reservoir management and agriculture in New England and elsewhere. He has worked in West Africa throughout his career, most recently on incorporating seasonal climate forecasts into agriculture and water resources management. He has taught courses in water resources engineering and integrated water resources management. He received his ScB from Brown University and his master’s and PhD from Massachusetts Institute of Technology.

*Christina Koppe* is a scientist working with the Deutscher Wetterdienst DWD (German Meteorological Service) in the Department of Human Biometeorology. In her PhD thesis she developed a method that allows a
health-relevant assessment of the thermal environment, taking into account short-term adaptation of the population to the local meteorological conditions of the past weeks. This method is the basis for the German Heat Health Warning System and a medium-range heat information system for Europe, which was developed in the framework of the EU-funded EuroHEAT project. Her research interests are, among other things, the impacts of heatwaves on human health in current and future climates and the possibilities to predict and prevent these impacts on the short- to long-range timescales. Dr Koppe takes part in different national and international activities that look at such impacts and ways to prevent them.

Hellmuth Lange has been teaching at the University of Bremen, Germany since 1973. He has been director of the Center for Sustainability Studies (artec) at the University of Bremen and speaker of the German environmental sociologists’ Environment and Society section of the German Sociological Association. He is co-director of the interdisciplinary graduate school Global Change in the Marine Realm (GLOMAR) and member of the board of the Research Network Environment and Society of the European Sociological Association. Trained as a sociologist and political scientist, his general research areas are sociology of work and industrial relations, science and technology studies, and environmental sociology. His most recent work focuses on assets for improving environmental behavior in the realm of both OECD countries and the new middle classes of developing countries and, on the other hand, climate change as a challenge to regional governance, including risk management.

Elizabeth Malone is a senior research scientist at the Joint Global Change Research Institute. Her interests focus on policy-relevant sociological research in global change issues, developing studies that integrate disparate worldviews, data sources and scientific approaches. Recently, she has been working on developing structured methods for analyzing country, sector and local vulnerabilities to climate change. Associated with that work she has been exploring approaches to scenarios of the future that integrate socio-economic and environmental information. She edited, with Steve Rayner, Human Choice and Climate Change, a four-volume assessment of social science research relevant to global climate change; they jointly authored the summary volume and an invited paper for Nature on the conclusions.

Mario Molina obtained his undergraduate degree in Chemical Engineering at Universidad Nacional Autónoma de México (1965), and then studied in Germany (1967), before obtaining his PhD in physics and chemistry from Berkeley (1972). Dr Molina was professor at the Massachusetts Institute
of Technology from 1989 to 2004, professor and researcher at Universidad Nacional Autónoma de México between 1967 and 1968; at University of California at Irvine from 1975 to 1979; and at CALTECH from 1982 to 1989. In 1995, Mario Molina shared with F. Sherwood Rowland and Paul Crutzen the Nobel Prize in Chemistry for their work in atmospheric chemistry and the effect of chlorofluorocarbons (CFCs) on the depletion of the ozone layer. This was the first time that a Nobel Prize was awarded to research on man-made effects on the environment. The discoveries led to an international environmental treaty, the Montreal Protocol, which bans the production of industrial chemicals that reduce the ozone layer. Dr Molina was named one of the top 20 Hispanics in Technology, 1998. Today, Dr Molina is one of the world's most knowledgeable experts on air pollution and the effects of chemicals on the environment and is very active in studying other environmental problems such as climate change.

Simone Orlandini is an associate professor of the Department of Agronomy and Land Management of the University of Florence (DISAT-UNIFI). He graduated in agricultural sciences, University of Florence, with a thesis concerning field crops, and received a PhD in agrometeorology (University of Sassari) with a thesis concerning the application of agrometeorological models for the control of grapevine diseases. Dr Orlandini currently teaches in computer science, biometeorology and bioclimatology at the University of Florence and serves as director of the Interdepartmental Centre for Bioclimatology of the University of Florence. He is accademico ordinario of the Accademia dei Georgofili di Firenze, editor of the Journal of Agrometeorology and member of the editorial board of the Italian Journal of Agronomy. Dr Orlandini is the author of more than 200 scientific, technical and didactic papers.

Winfried Osthorst is a researcher working on environmental politics in multilevel arrangements, particularly in European contexts. At present he is associated scientist at the interdisciplinary graduate school, Global Change in the Marine Realm (GLOMAR), and a member of the Center for Sustainability Studies (artec), both at the University of Bremen. He has diplomas in sociology and public administration, and a PhD in social sciences. His work focuses on the analysis of political processes with consequences for environmental quality. Fields of work cover waste management, land use change in coastal areas, spatial planning, urban development and port development.

Anthony G. Patt earned a legal degree from Duke University and a PhD in public policy from Harvard University. He is currently research scholar
at the International Institute for Applied Systems Analysis (IIASA), near Vienna, Austria, in their program on risk and vulnerability. His primary research focus is on how to improve the use of scientific information for decision-making, particularly with respect to climate change. He often conducts controlled experiments, both in the laboratory and in the field, to identify patterns of information use. Dr Patt has conducted extensive research on the use of climate forecasts as a tool for sustainable development in Africa. A five-year study, completed in 2005, that he led in Zimbabwe was the first to identify the economic value that farmers received from seasonal forecasts, using a field-based research methodology, and one of the only studies to quantify the benefits of participatory communication practices for scientific information. More recently, he led an assessment of the use of forecasts across multiple economic sectors over the entire African continent, identifying the institutional factors associated with successful forecast communication and use. Dr Patt’s other work includes studying expectation formation by investors in European electricity markets, as a way of understanding the effects of policies meant to promote renewable energy, and studying the use of climate science in European overseas development assistant policy. He was a contributing author to the Intergovernmental Panel on Climate Change’s Fourth Assessment Report.

Jesse C. Ribot is an associate professor at the Department of Geography at the University of Illinois, Urbana-Champaign and previously served as a senior associate in the Institutions and Governance Program (IGP) of the World Resources Institute, where he directed the Decentralization and Environment Initiative of IGP’s Environmental Accountability in Africa Program. Dr Ribot was a fellow at the Max Planck Institute for Social Anthropology, a Woodrow Wilson scholar, a research associate at the Harvard Center for Population and Development Studies, a fellow at the Yale Program in Agrarian Studies, and a lecturer in urban studies and planning at Massachusetts Institute of Technology. He has conducted research on issues of environmental justice, environment and decentralization, social vulnerability in the face of environmental change, access to natural resources and the effects of resource markets on local livelihoods.

Matthias Ruth is Roy F. Weston Chair in Natural Economics, director of the Center for Integrative Environmental Research at the Division of Research, director of the Environmental Policy Program at the School of Public Policy, and co-director of the Engineering and Public Policy Program at the University of Maryland. His research focuses on dynamic modeling of natural resource use, industrial and infrastructure systems analysis, and environmental economics and policy. His theoretical work...
heavily draws on concepts from engineering, economics and ecology, while his applied research utilizes methods of non-linear dynamic modeling as well as adaptive and anticipatory management. Applications of his work cover the full spectrum from local to regional, national and global environmental challenges, as well as the investment and policy opportunities these challenges present. Dr Ruth has published 12 books and over 100 papers and book chapters in the scientific literature. He collaborates extensively with scientists and policy-makers in the USA, Canada, Europe, Oceania, Asia and Africa.

Farid Selmi is a PhD student at the Center for Sustainability Studies (artec) and a member at the International Graduate School for Marine Sciences – Global Change in the Marine Realm (GLOMAR), both at the University of Bremen. His current research interests focus on processes that reconcile the social and ecological prerequisites for sustainable community development, thus determining the enabling conditions for societies in transition in questions of participation and adaptation. Since 2005, his research has been focused on Indonesia, his case study area. He holds a master's degree in aquatic tropical ecology (ISATEC) from the University of Bremen.

Scott Sheridan is an associate professor of climatology in the Department of Geography at Kent State. He has a bachelor’s and a master’s in meteorology from Rutgers and Texas A&M, respectively, followed by a PhD in climatology from the University of Delaware in 2000. Dr Sheridan’s research interests include several areas of applied climatology, mostly involving the effects of climate on humans. He has had considerable experience in analyzing heat vulnerability; he has worked on the development of heat watch–warning systems for more than two dozen cities worldwide, and has explored public behavior during heat warnings, the potential for changed frequency of heatwaves in the future, as well as the interactions of heat and air pollution on human health. He has collaborated with the World Meteorological Organization headquartered in Geneva and a number of other national agencies throughout Europe and North America. As a result of his work in this field, he was recently promoted to editor-in-chief of the *International Journal of Biometeorology*.

Karen Smoyer-Tomic is a senior research analyst for HealthCore, as well as research fellow and adjunct associate professor at the University of Delaware and adjunct associate professor in Public Health Sciences at the University of Alberta, Canada. Dr Tomic’s expertise is in the physical, built and social environmental determinants of health, with a focus on the role of social, housing and infrastructural factors affecting the pathway
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Pablo Suarez is a researcher on climate and disasters, focusing on the use of information for reducing vulnerability. He is associate director of programs for the Red Cross/Red Crescent Climate Centre, climate change advisor for Oxfam America’s Private Sector Team, and consultant for the United Nations Development Programme (UNDP). Pablo has consulted for the World Bank Development Economics Research Group, the United Nations Environment Programme (UNEP), the Global Environment Facility (GEF), the International Institute for Sustainable Development (IISD), the American Association for the Advancement of Science (AAAS), the Potsdam Institute for Climate Impact Research (PIK) and other international organizations, working in more than 40 countries. He is a visiting fellow at the Boston University Frederick S. Pardee Center for the Study of the Longer-Range Future, and a guest scholar at the International Institute for Applied Systems Analysis (IIASA). Pablo has a degree in water and civil engineering, a master’s in community planning and development, and a PhD in geography. His current work addresses community-level adaptation to climate change, institutional integration across disciplines and geographic scales, and the use of video and other innovative communication tools for awareness, advocacy, and capacity building.