

Review of the Climate Science Special Report

Committee

Philip W. Mote

Chair

DR. PHILIP W. MOTE is the founding director of the Oregon Climate Change Research Institute (OCCRI), a professor in the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University, and director of Oregon Climate Services, the official state climate office for Oregon. Dr. Mote's current research interests include observed regional climate change, regional climate modeling with a superensemble generated by volunteers' personal computers, variability and change in western US snowpack, and adaptation to climate change. He is the co-leader of the NOAA-funded Climate Impacts Research Consortium (CIRC) for the Northwest, and also of the Northwest Climate Science Center for the US Department of the Interior. Other large OCCRI-involved projects include Regional Approaches to Climate Change for PNW Agriculture, Forest Mortality and Climate, and Willamette Water 2100. From 2005 to 2014 he was involved in the Intergovernmental Panel on Climate Change, which shared the 2007 Nobel Peace Prize. He was also, from 2010 to 2014, a coordinating lead author and advisory council member for the US National Climate Assessment. He has served on six previous committees for the National Research Council (NRC): Evaluating NOAA's Sectoral Applications Research Program; Redesigning the National Academies' Koshland Science Museum's exhibit on climate change; America's Climate Choices; Effects of Sea Level Rise on the US Pacific Coast; Evaluation of the Landscape Conservation Cooperatives; and Attribution of Extreme Weather Events in the Context of Climate Change. He earned a BA in Physics from Harvard University and a PhD in Atmospheric Sciences from the University of Washington.

Susan K. Avery

Member

DR. SUSAN K. AVERY is the former President and Director Emeritus of the Woods Hole Oceanographic Institution (WHOI) and is now retired. Dr. Avery is an atmospheric physicist with extensive experience as a leader within scientific institutions. Avery was the President and Director of WHOI from 2008-2015, the first atmospheric scientist and the first female scientist to take the position of director in the WHOI's history. Under Avery's leadership, WHOI increased the application of its knowledge to societal issues, providing high-quality data and analysis across a range of topics, from climate to biodiversity to resources to natural hazards mitigation. Dr. Avery came to WHOI from the University of Colorado at Boulder (UCB), where she most recently served as interim dean of the graduate school and vice chancellor for research. From 1994-2004, Avery served as director of the Cooperative Institute for Research in Environmental Sciences (CIRES), a 550-member collaborative institute between UCB and the National Oceanic and Atmospheric Administration (NOAA). Avery was the first woman and first engineer to lead CIRES. Dr. Avery was a member of the faculty of the University of Colorado at Boulder since 1982, most recently holding the academic rank of professor of electrical and computer engineering. Dr. Avery's research interests include studies of atmospheric circulation and precipitation, climate variability and water resources, and the development of new radar techniques and instruments for remote sensing. She also has a keen interest in scientific literacy and the role of science in public policy. She is the author or co-author of more than 80 peer-reviewed articles. In 2013, Dr. Avery was named to the United Nations' newly created Scientific Advisory Board that provides advice on science, technology and innovation for sustainable development. Dr. Avery is a fellow of both the Institute of Electrical and Electronics Engineers and of the American Meteorological Society, for which she also served as president. She is a past chair of the board of trustees of the University Corporation for Atmospheric Research. Dr. Avery has served on several NRC committees in the past and is currently a member of the USGCRP Advisory Committee and on the Committee for the Assessment of the National Science Foundation's 2015 Geospace Portfolio Review.

Robert M. DeConto

Member

DR. ROBERT M. DeCONTO is currently a professor at the University of Massachusetts, Amherst. His work combines numerous disciplines within the Earth sciences, including atmospheric science, oceanography, glaciology, and paleoclimatology. DeConto's research interests include computer modeling of climate systems, and the dynamics of the Greenland and Antarctic ice sheets. Dr. DeConto is one of the world's leading Antarctic climate researchers and was awarded the 2016 Tinker-Muse Prize for Science and Policy in Antarctica, for his work on Antarctica's potential for past and future contributions to sea-level rise. Dr. DeConto received his PhD from the University of Colorado in 1996, followed by research appointments at NOAA, and the National Center for Atmospheric Research (NCAR). He has not yet served on a National Academies committee.

Andrew G. Dickson

Member

DR. ANDREW G. DICKSON is a professor of marine chemistry in the Marine Physical Laboratory division at the Scripps Institution of Oceanography. Dickson's research focuses on improving our understanding of the chemistry of carbon dioxide in seawater, with a current emphasis on the effects of ocean acidification. He has played a key role in developing quality control standards for oceanic carbon dioxide measurements and leads a program to prepare, certify, and distribute CO₂ reference materials to the world's marine scientists. Prior to joining Scripps, Dickson served as a postdoctoral research associate at the Marine Biological Association Laboratory in Plymouth, England and as a postdoctoral associate in the University of Florida, Department of Chemistry. He joined Scripps as an assistant research chemist, became an associate research chemist, a professor-in-residence of marine chemistry, and then a professor. Dr. Dickson's laboratory participates in hydrographic cruises sponsored by the Climate Variability and Predictability (CLIVAR) project of the World Climate Research Programme. He is also part of a multiinstitutional collaboration to study the implications of ocean acidification on a variety of organisms that are important to US west coast fisheries. Dickson is a member of the OceanSITES Data Management Team and the PICES Section on Carbon and Climate. He has served as editor or as an editorial board member of several journals, including most recently Journal of Geophysical Research, Oceans. Dr. Dickson received a B.Sc. degree and a Ph.D. from the University of Liverpool and has served on three prior National Academies activities, the last one being the Committee on the Review of the National Ocean Acidification Research Plan ending in 2013.

Philip B. Duffy

Member

DR. PHILIP B. DUFFY is currently the president and executive director of the Woods Hole Research Center. Dr. Duffy is a physicist who has devoted his career to the use of science in addressing climate change. His research interests include climate change impacts adaption, extreme weather risk, hydrological impacts of climate change, and climate modeling. Prior to joining WHRC, Dr. Duffy served in the White House National Science and Technology Council as the Senior Advisor to the US Global Change Research Program, and as a Senior Policy Analyst in the White House Office of Science and Technology Policy. In these roles he was involved in international climate negotiations, domestic and international climate policy, and coordination of US global change research. Before joining the White House, Dr. Duffy was Chief Scientist for Climate Central, an organization dedicated to increasing public understanding and awareness of climate change. Dr. Duffy has held senior research positions with the Lawrence Livermore National Laboratory, and visiting positions at the Carnegie Institution for Science and the Woods Institute for the Environment at Stanford University. He has a bachelor's degree from Harvard and a Ph.D. in applied physics from Stanford. Dr. Duffy has not yet served on a National Academies committee.

James L. Kinter, III

Member

DR. JAMES L. KINTER, III is director of the Center for Ocean-Land-Atmosphere Studies (COLA) at George Mason University, where he manages all aspects of basic and applied climate research conducted by the Center. Dr. Kinter's research includes studies of climate predictability on sub-seasonal and longer time scales, focusing on phenomena such as monsoons, El Niño and the Southern Oscillation, and modes of extratropical variability. Dr. Kinter is also a professor in the department of Atmospheric, Oceanic and Earth Sciences of the College of Science. He is affiliated with the Climate Dynamics Ph.D. Program, having responsibilities for curriculum development and teaching undergraduate and graduate courses on climate change, as well as advising Ph.D. students. After earning his doctorate in geophysical fluid dynamics at Princeton University in 1984, Dr. Kinter served as a National Research Council Associate at NASA Goddard Space Flight Center, and as a faculty member of the University of Maryland prior to helping to create COLA. Dr. Kinter has served on many national review panels for both scientific research programs and supercomputing programs for computational climate modeling. Dr. Kinter has served on two previous National Academies committees.

Dennis P. Lettenmaier

Member

DENNIS P. LETTENMAIER is a distinguished professor at University of California, Los Angeles. Dr. Lettenmaier's research and area of expertise is hydrological modeling and prediction; water and climate; and hydrologic remote sensing. Prior to his time at UCLA, Dr. Lettenmaier was a professor of Civil and Environmental Engineering at the University of Washington from 1976-2014. He is an author or co-author of over 300 journal articles. He was the first chief editor of the American Meteorological Society Journal of Hydrometeorology, and is a past president of the Hydrology Section of the American Geophysical Union. Dr. Lettenmaier is a fellow of the American Geophysical Union, the American Meteorological Society, and the American Association for the Advancement of Science, and is a member of the National Academy of Engineering. He earned his Ph.D. from University of Washington in 1975 and has served on the Academies Special Fields and Interdisciplinary Engineering Peer Committee, the Committee on the Implementation of a Sustained Land Imaging Program, the Committee on the Assessment of NASA's Earth Science Programs, and presently serves on the Space Studies Board. Dr. Lettenmaier served as the chair of the Water Resources subpanel and as a steering committee member for the 2007 Decadal Survey of Earth Science and Applications from Space. He was also a member of the Academies' Committee on Colorado River Water Management.

Loretta J. Mickley

Member

LORETTA J. MICKLEY is a Senior Research Fellow at the John A. Paulson School of Engineering and Applied Sciences at Harvard University and a co-leader of the Harvard Atmospheric Chemistry Modeling Group. She received an MS in Chemistry from the University of Illinois at Chicago in 1990, and a PhD in Geophysical Sciences from the University of Chicago in 1996. Mickley's research focuses on chemistry-climate interactions in the troposphere. For example, she seeks to understand how short-term variations in weather and long-term climate change affect the composition of the atmosphere. She also studies the regional climate response to trends in tropospheric aerosols. Recent research topics include the impact of climate change on surface air quality, the effects of changing wildfires in the western U.S. on air quality and health, and the influence of anthropogenic pollution on Arctic climate change. Mickley previously served on an NAS review panel for "Projections Based on Emissions Scenarios for Long-Lived and Short-Lived Radiatively Active Gases and Aerosols" (SAP3.2), U.S. Climate Change Science Program, 2007.

Daniel J. Vimont

Member

DR. DANIEL J. VIMONT is a Professor in the Atmospheric and Oceanic Sciences Department at the University of Wisconsin, Madison. He also the Director of the Nelson Institute's Center for Climatic Research, and serves as co-chair of the Wisconsin Initiative on Climate Change Impacts (WICCI). Dr. Vimont joined the faculty in the Atmospheric and Oceanic Sciences Department at the University of Wisconsin - Madison in 2003. His research interests include understanding mechanisms of climate variability and climate change, interactions between weather and climate, and global and regional impacts of climate change. In support of these research interests, Dr. Vimont uses observational analyses, designed experiments using models of varying complexity, simple and advanced statistical techniques, and theoretical analyses. In his role as co-chair of WICCI, he is interested in organizational structures that enable sustainable management within complex adaptive systems. Dr. Vimont received his Ph.D. from the University of Washington in 2002 under the direction of David Battisti and Ed Sarachik. After a brief post-doctoral appointment at the Joint Institute for Study of the Atmosphere and Ocean (JISAO) and the Columbia University Earth Institute, he joined the Department of Atmospheric and Oceanic Sciences and the Nelson Institute's Center for Climatic Research at UW-Madison. Dr. Vimont has not yet served on a National Academies committee.

Benjamin Bond-Lamberty

Member

DR. BEN BOND-LAMBERTY is a research scientist at the Joint Global Change Research Institute, a collaboration between the DOE Pacific Northwest National Laboratory and the University of Maryland, College Park. Dr. Bond-Lamberty's research interests include carbon cycling, disturbance effects, ecosystem respiration, multiscale modeling, and climate change. His research concerns carbon and nutrient cycling in terrestrial ecosystems. Dr. Bond-Lamberty earned his PhD in 2003 from the University of Wisconsin in forest ecosystem ecology. He is a member of the American Geophysical Union, Ecological Society of America, and American Association for the Advancement of Science. Dr. Bond-Lamberty has yet to serve on a National Academies committee.

Christopher B. Field

Member

DR. CHRISTOPHER B. FIELD is the Perry L. McCarty Director of the Stanford Woods Institute for the Environment and Melvin and Joan Lane Professor for Interdisciplinary Environmental Studies at Stanford University. His research focuses on climate change, ranging from work on improving climate models, to prospects for renewable energy systems, to community organizations that can minimize the risk of a tragedy of the commons. He was, from 2008 to 2015, co-chair of Working Group II of the Intergovernmental Panel on Climate Change, which led the effort on the IPCC Special Report on "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation" (2012) and Working Group II contribution to the IPCC Fifth Assessment Report (2014). Field's research has been recognized with several American and international awards, including the Max Planck Research Award and the Roger Revelle Medal, and with election to learned societies, including the National Academy of Sciences (2001). Field received his PhD from Stanford in 1981 and has been at the Carnegie Institution for Science since 1984.