

Extreme Weather Events and Climate Change Attribution

Committee

David W. Titley, USN (Ret.)

Chair

Dr. David Titley (Chair) is a Professor of Practice in Meteorology and the Founding Director of the Center for Solutions to Weather and Climate Risk at Pennsylvania State University and a Senior Adjunct Fellow at the Center for New American Security. Dr. Titley's 32 year Naval career included duties as Oceanographer and Navigator of the Navy and Assistant Deputy Chief of Naval Operations for Information Dominance. Dr. Titley initiated and led the US Navy's Task Force on Climate Change, and also served on the staff of the U.S. Commission on Ocean Policy. After retiring from the Navy with the rank of Rear Admiral, Dr. Titley served as the Deputy Undersecretary of Commerce for Operations, the Chief Operating Officer position at the National Oceanic and Atmospheric Administration. He has spoken on various domestic and international stages, including Congressional Hearings, the International Panel on Climate Change, and a TEDx talk, amongst others. Dr. Titley serves on the CNA Military Advisory Board, and has served on National Academies Committees as a member and co-chair. He is a fellow of the American Meteorological Society. He earned a Ph.D. in Meteorology from the Naval Postgraduate School.

Gabriele Hegerl

Member

Gabriele Hegerl is Professor of Climate System Science at the University of Edinburgh. Her interests are in the interface between climate modeling and climate observation with a focus on uncertainty, variability and change in climatic extremes, and on the use of palaeo proxy data to study climate variability and change during the last millennium. Gabriele is a fellow of the royal society of Edinburgh and was awarded a wolfson merit award by the Royal Society of London. She has received significant recognition for her research including sharing in the Nobel Peace prize, 2007, for her contribution as a lead author on the Intergovernmental Panel on Climate Change (IPCC).

Katharine L. Jacobs

Member

Katharine Jacobs is the director of the Center for Climate Adaptation Science and Solutions (CCASS) and a professor in the department of soil, water and environmental science at the University of Arizona. From 2010 to 2013, Jacobs served as an assistant director in the U.S. Office of Science and Technology Policy (OSTP) in the Executive Office of the President. Jacobs was the director of the National Climate Assessment, leading a team of 300 authors and more than 1,000 contributors who wrote the Third NCA report. The report was published in May of 2014. Jacobs also was the lead advisor on water science and policy and climate adaptation within OSTP. Prior to her work in the White House, Jacobs was the executive director of the Arizona Water Institute from 2006-2009, leading a consortium of the three state universities focused on water-related research, education and technology transfer in support of water supply sustainability. She has more than 20 years of experience as a water manager for the Arizona's Department of Water Resources, including 14 years as director of the Tucson Active Management Area. Her research interests include water policy, connecting science and decision making, stakeholder engagement, use of climate information for water management applications, climate change adaptation, and drought planning. Jacobs earned her M.L.A. in environmental planning from the University of California, Berkeley. She has served on eight National Research Council panels and was chair of the NRC panel on Adapting to the Impacts of Climate Change and a member of the panel on America's Climate Choices.

Philip W. Mote

Member

Philip W. Mote is a professor in the College of Earth, Oceanic, and Atmospheric Sciences at Oregon State University; director of the Oregon Climate Change Research Institute (OCCRI) for the Oregon University System; and director of Oregon Climate Services, the official state climate office for Oregon. Dr. Mote's current research interests include scenario development, regional climate change, regional climate modeling with a super ensemble generated by volunteers' personal computers, and adaptation to climate change. He is the co-leader of the NOAA-funded Climate Impacts Research Consortium for the Northwest, and also of the Northwest Climate Science Center for the US Department of the Interior. Since 2005 he has been involved in the Intergovernmental Panel on Climate Change, which shared the 2007 Nobel Peace Prize. He is also a coordinating lead author and advisory council member for the US National Climate Assessment, and has served on numerous committees for the National Research Council. He earned a B.A. in physics from Harvard University and a Ph.D. in atmospheric sciences from the University of Washington, and arrived at OSU to establish OCCRI in 2009.

Christopher J. Paciorek

Member

Christopher J. Paciorek is an associate research statistician, as well as a lecturer and the statistical computing consultant, in the Department of Statistics at Berkeley. His statistical expertise is in the areas of Bayesian statistics and spatial statistics with primary application to environmental and public health research. Dr. Paciorek's work in recent years has focused on methodology and applied work in a variety of areas, in particular: quantifying trends in extreme weather, quantifying millennial-scale changes in vegetation using paleoecological data, and developing computational software for hierarchical modeling (the NIMBLE project). He has also worked on measurement error issues in air pollution epidemiology, Bayesian methods for global health monitoring with a focus on combining disparate sources of information, and spatio-temporal modeling of air pollution. Before coming to Berkeley, he was an assistant professor in the Biostatistics Department at Harvard School of Public Health. He finished his PhD in Statistics at Carnegie Mellon University in 2003 and also has an MS in ecology from Duke University and a BA in biology from Carleton College

J. M. Shepherd

Member

J. Marshall Shepherd, a leading international expert in weather and climate, was the 2013 President of American Meteorological Society (AMS) and is Director of the University of Georgia's (UGA) Atmospheric Sciences Program. Dr. Shepherd is the Georgia Athletic Association Distinguished Professor of Geography and Atmospheric Sciences and hosts The Weather Channel's Sunday talk show Weather Geeks. In 2014, the Captain Planet Foundation honored Dr. Shepherd with its Protector of the Earth Award. Recent recipients include Erin Brockovich and former EPA Administrator Lisa Jackson. He is also the 2015 Recipient of the Association of American Geographers (AAG) Media Achievement award and the 2015 UGA Franklin College of Arts and Sciences Sandy Beaver Award for Excellence in Teaching. Prior to UGA, Dr. Shepherd spent 12 years as a Research Meteorologist at NASA-Goddard Space Flight Center and was Deputy Project Scientist for the Global Precipitation Measurement (GPM) mission. In 2004, he was honored at the White House with a prestigious PECASE award. Dr. Shepherd is a Fellow of the American Meteorological Society and recipient of its Charles Anderson Award. Two national magazines, the AMS, and Florida State University have also recognized Dr. Shepherd for his significant contributions. Dr. Shepherd is frequently sought as an expert on weather and climate by major media outlets like CBS Face The Nation, USA Today, Time, CNN, NOVA, and The Today Show. His TEDx Atlanta Talk on "Slaying Climate Zombies" is highly regarded and cited. Dr. Shepherd is also frequently asked to advise key leaders at NASA, NSF, NOAA, the White House, Congress, and various agencies. He is on the board for Mothers and Others For Clean Air, a partnership with the American Lung Association. He has over 75 peer-reviewed scholarly publications and numerous editorials. Dr. Shepherd received his B.S., M.S. and PhD in physical meteorology from Florida State University. He co-authored a children's book on weather called Dr. Fred's Weather Watch.

Theodore G. Shepherd

Member

Theodore G. Shepherd obtained a B.Sc. in Mathematics & Physics from the University of Toronto in 1979, and a Ph.D. in Meteorology from MIT in 1984. After a postdoctoral fellowship at DAMTP, University of Cambridge, he took up a faculty position in the Department of Physics at the University of Toronto in 1988. In 2012 he moved to the Department of Meteorology at the University of Reading to become the inaugural Grantham Professor of Climate Science. His research interests range from theoretical geophysical fluid dynamics to climate modelling and data analysis, with a focus on atmospheric circulation. He has held leadership roles in scientific assessments of both climate (IPCC) and stratospheric ozone (WMO/UNEP), and in the World Climate Research Programme, and is a Fellow of the American Meteorological Society, the American Geophysical Union, and the Royal Society of Canada. From 2001-2005 he was Chief Editor of the Journal of the Atmospheric Sciences. In 2014 he was honoured as a Thomson Reuters Highly Cited Researcher.

Adam H. Sobel

Member

Adam Sobel is a professor at Columbia University's Lamont-Doherty Earth Observatory and Fu Foundation School of Engineering and Applied Sciences. He is an atmospheric scientist who specializes in the dynamics of climate and weather, particularly in the tropics, on time scales of days to decades. A major focus of his current research is extreme events - such as hurricanes, tornadoes, floods, and droughts, and the risks these pose to human society in the present and future climate. He is leading a new Columbia University Initiative on Extreme Weather and Climate. Sobel holds a Bachelor's degree in Physics and Music from Wesleyan University, and a Ph.D. in Meteorology from the Massachusetts Institute of Technology. In the last few years, he has received the Meisinger Award from the American Meteorological Society, the Excellence in Mentoring Award from the Lamont-Doherty Earth Observatory of Columbia University, an AXA Award in Extreme Weather and Climate from the AXA Research Fund, and an Ascent Award from the Atmospheric Sciences Section of the American Geophysical Union. Sobel is author or co-author of over 100 peer-reviewed scientific articles, and his book about Hurricane Sandy, Storm Surge, published in October 2014 by Harper-Collins, received the 2014 Atmospheric Science Librarians International Choice Award in the popular category.

John E. Walsh

Member

John Walsh received his B.A. in Mathematics from Dartmouth College in 1970 and his Ph.D. in Meteorology from M.I.T. in 1974. He spent a postdoctoral year at the National Center for Atmospheric Research. He was a faculty member at the University of Illinois for 30 years and, more recently, at the University of Alaska in Fairbanks. While at Illinois, he led a polar research group and coauthored an undergraduate textbook, *Severe and Hazardous Weather*. He also spent a year as the Chair in Arctic Marine Science at the Naval Postgraduate School in Monterey, California. At the University of Alaska Fairbanks, Walsh is currently the Chief Scientist of the International Arctic Research Center. His recent research has addressed Arctic climate change; seasonal to decadal variability of sea ice; predictability of climate change in high latitudes; and changes in arctic weather in the context of climate change. In 2009 he received the Usibelli Distinguished Researcher Award from the University of Alaska. He is a Fellow of the American Meteorological Society and has co-authored an undergraduate textbook, *Severe and Hazardous Weather: An Introduction to High-Impact Meteorology*.

Francis Zwiers

Member

Francis Zwiers, before becoming Director of the Pacific Climate Impacts Consortium, served as a Research Scientist (1984-2006), Chief of the Canadian Centre for Climate Modelling and Analysis (1997-2006) and Director of the Climate Research Division (2006-2010), all at Environment Canada. He is an Adjunct Professor in the Department of Mathematics and Statistics of the University of Victoria and in the Department of Statistics and Actuarial Science of Simon Fraser University. His expertise is in the application of statistical methods to the analysis of observed and simulated climate variability and change. Dr. Zwiers is a Fellow of the Royal Society of Canada and of the American Meteorological Society, a recipient of the Patterson Medal (Meteorological Service of Canada) and of an Honorary Doctorate from Western University, has served as an IPCC Coordinating Lead Author of the Fourth Assessment Report and as an elected member of the IPCC Bureau for the Fifth Assessment Report.