

# Building Resilience to a Changing Climate:

## A Technical Training in Water Sector Utility Decision Support

### Trainer Biographies

#### Keely Brooks, Climate Science and Adaptation Lead, Southern Nevada Water Authority

Keely Brooks manages and coordinates the climate science, policy and adaptation efforts at Southern Nevada Water Authority (SNWA). Her primary responsibility is to track current climate change research, develop research projects relevant to SNWA and integrate findings into appropriate areas of the organization, from long term water resource planning to facility and infrastructure design. Keely leads SNWA's climate change work group which conducts impact assessments and adaptation planning activities for the organization. She currently serves as Chair for the Water Utility Climate Alliance, an organization comprised of ten of the nation's largest water providers, formed to provide leadership and to collaborate on climate change issues affecting the country's water agencies. She is also an author for the Southwest Chapter of the Forth National Climate Assessment Report due for release in 2018.

Before joining SNWA, Keely developed computerized geologic models of the Nevada Test Site, and then became a modeling analyst to evaluate the performance of the Yucca Mountain Project. Keely has both a Master's degree in Geology and Geophysics from Syracuse University and Bachelor's degree in Geology and Environmental Science from Skidmore College.

Keely is a transplant from Vermont, and continues to enjoy outdoor recreation here in Las Vegas. She is an avid cyclist and is a founding member and President of the Southern Nevada Bicycle Coalition, an advocacy group to improve bike safety and to create cycling opportunities within the community.

#### Brandon Goshi, Manager of Water Policy and Strategy, Metropolitan Water District of Southern California

Brandon Goshi is the Manager of Water Policy and Strategy at the Metropolitan Water District of Southern California. His expertise is in long-term water planning strategy and in developing policy and approaches to maintain reliable water supplies for Southern California. With Metropolitan for 24 years, Brandon is responsible for the planning and analysis of water supply, demand and region's water storage portfolio. He oversees development of regionally-based water resource programs, policies and strategies for Metropolitan's six-county Southern California service area.

Brandon has played a key role in the development of many of Metropolitan's strategic plans, including the Integrated Water Resources Plan, Regional Urban Water Management Plan, Water Surplus and Drought Management Plan, and Water Supply Allocation Plan. Brandon has been Metropolitan's representative on the Water Utility Climate Alliance since its inception in 2007.

#### Ethan Gutmann, Project Scientist II, National Center for Atmospheric Research (NCAR)

Ethan Gutmann is a hydrologist in the Research Applications Lab at NCAR. He has a background in hydrology, geology, and computer science. His work focuses on understanding and improving climate downscaling methods for water resource applications. He is the creator and lead developer of the Intermediate Complexity Atmospheric Research model (ICAR), a novel quasi-dynamical downscaling model for climate applications.

Dr. Gutmann is a member of the American Meteorological Society and the American Geophysical Union. He serves on the AMS Mountain Meteorology Committee, was a member of the drafting committee of the

recent AMS statement on Water Resources. Dr. Gutmann is an associated editor for the Journal of Hydrometeorology and a recent section editor for Current Climate Change Reports. He has also contributed to numerous climate change planning activities for cities and federal Agencies.

Dr. Gutmann's passion for the outdoors has taken him to remote corners of the world, climbing mountains in Peru, Nepal and Tanzania. Dr. Gutmann received his Ph.D. and M.Sc. from the University of Colorado, and a B.A. in Computer Science and Geology from Williams College.

### Laura Kaatz, Climate Program Director, Denver Water

Laura Kaatz is the climate program director at Denver Water. Her primary responsibility is to coordinate climate investigations and implement the findings into the planning process. Laura's work incorporates many areas of water resource planning, including climate and drought planning, operational and water rights analysis, and long range integrated resource planning.

Before her career at Denver Water, Laura was a Professor of Physics at Sweet Briar College, and then went on to work as a climate science researcher with Aurora Water. Laura has a Master's degree in physics and a Bachelor's in physics and mathematics. She is a Colorado native and enjoys all the outdoor activities it has to offer.

### Robert J. Lempert, Principal Researcher, RAND Corporation, and Director, Frederick S. Pardee Center for Longer Range Global Policy and the Future Human Condition

Robert Lempert is a principal researcher at the RAND Corporation and Director of the Frederick S. Pardee Center for Longer Range Global Policy and the Future Human Condition. His research focuses on risk management and decision-making under conditions of deep uncertainty. Dr. Lempert's work aims to advance the state of art for organizations managing risk in today's conditions of face-paced, transformative, and surprising change and helping organizations adopt these approaches to help make proper stewardship of the future more commonly practiced.

Dr. Lempert is co-PI of the NSF-funded Sustainable Climate Risk Management (SCRIM) research network and co-PI of a MacArthur-foundation funded project conducting urban climate risk management in several U.S. cities. In recent years his research group has assisted agencies such as the Metropolitan Water District of Southern California, the World Bank, and US Department of Defense plan in the face of hard to predict future scenarios. Dr. Lempert is a Fellow of the American Physical Society, a member of the Council on Foreign Relations, a lead author for the Third and Fourth US National Climate Assessments, a lead author for Working Group II of the United Nation's Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, and has been a member of numerous study panels for the U.S. National Academies, including *America's Climate Choices* and *Informing Decisions in a Changing Climate*. Dr. Lempert was the Inaugural EADS Distinguished Visitor in Energy and Environment at the American Academy in Berlin and the inaugural president of the Society for Decision Making Under Deep Uncertainty (<http://www.deepuncertainty.org>). A Professor of Policy Analysis in the Pardee RAND Graduate School, Dr. Lempert is an author of the book *Shaping the Next One Hundred Years: New Methods for Quantitative, Longer-Term Policy Analysis*.

### Karen S. Raucher, Policy/Communications Strategist, Corona Environmental Consulting

Karen Raucher is a senior policy analyst with Corona Environmental Consulting. Her research focuses on supporting the ability of water resource professionals to effectively gather, use, and share scientifically complex and highly uncertain information, for example, climate change information, in comprehensive water planning business decisions. Raucher and her colleagues are currently using survey instruments to support our understanding of: (1) the role of community water providers in the public's perception of climate change; (2) water resource providers need for additional training and support materials to use

climate information appropriately; and (3) the relationship between regional water quality, rates and affordability, and customer's willingness to pay for water quality improvements.

Ms. Raucher recently led decision makers and community thought leaders through Scenario Analysis, and other water planning techniques, integrating climate change in decision making. An economic policy analyst with a Masters from the Yale School of Forestry and the Environment, Ms. Raucher also has extensive experience conducting risk management, benefit-cost, triple bottom line, and economic impact analysis.

### Joel Smith, Principal Associate, Environment and Natural Resources, Abt Associates

Joel B. Smith has been analyzing climate change and adaptation issues for three decades. He was a coordinating lead author or lead author on the Third, Fourth, and Fifth Assessment Reports of the Intergovernmental Panel on Climate Change. He was a member of the U.S. National Climate Change Assessment Federal Advisory Committee and the National Academy of Sciences "Panel on Adapting to the Impacts of Climate Change." Smith provides technical advice, guidance, and training on assessing climate change vulnerability (including climate change scenarios) and adaptation for international organizations, the U.S. government, states, municipalities, and the nonprofit and private sectors.

Smith has published more than 60 articles and chapters on climate change impacts and adaptation in peer-reviewed journals and books, and has edited a number of books. His works include contributions to books on climate change in the United States, as well as adaptation challenges, including capacity, impacts on systems, and implementation lessons from around the world.

From 1984 to 1992, Smith worked for the U.S. Environmental Protection Agency where he was the Deputy Director of the Climate Change Division. Smith holds a Master's Degree in Public Policy from the University of Michigan and a bachelor's from Williams College in Political Science.

### Brad Spangler, Senior Mediator and Program Manager, Meridian Institute

Brad Spangler is a Senior Mediator and Program Manager with Meridian Institute. Based in Colorado, Brad possesses 13 years of experience designing and facilitating multi-party collaborative processes and meetings. He has worked on a variety of issues in the environmental and public health policy arenas, including freshwater management, water sector innovation, climate adaptation, climate policy, community resilience, and clean energy.

From 2008 to 2014, Brad was part of a Meridian team that facilitated the Charting New Waters initiative sponsored by The Johnson Foundation at Wingspread, which examined innovative solutions to a broad range of U.S. water challenges. Brad has also worked with the Community and Regional Resilience Institute since 2008, which seeks to illuminate critical pathways for communities to enhance resilience to manmade and natural disasters. He is currently part of the Meridian Institute team supporting the Resilience Dialogues, a public-private partnership that connects communities around the country with subject matter experts through facilitated dialogue, to help community leaders take steps toward building resilience to climate impacts. Since 2013 Brad has provided facilitation support for multiple collaborative efforts of the U.S. EPA Water Security Division, including stakeholder involvement activities of the U.S. EPA Creating Resilient Water Utilities initiative and the Emergency Response Team.

From 2004 to 2008, Brad was a Senior Associate at RESOLVE in Washington, DC. He holds a B.A. in Anthropology from UNC-Chapel Hill; and an M.A. in Cultural Anthropology and Interdisciplinary Graduate Certificate in Environmental Policy from the University of Colorado-Boulder.