APPENDIX A

Participant List and Biographies

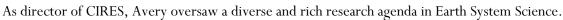
Cheryl Anderson, canderso@hawaii.edu Social Science Research Institute, University of Hawai'i

heryl L. Anderson is a certified planner (AICP), doctoral candidate, and the Director of the Hazards, Climate, and Environment Program, University of Hawai'i Social Science Research Institute. For the last thirteen years, she has conducted research and planning projects in the areas of climate variability and change, hazard mitigation, hazard risk and vulnerability assessments, coral reef protection, ocean resource management, and watershed management in the Pacific Islands region and in Southeast Asia with collaborative partners in regional, federal, state, and local agencies and organizations. These projects include: the State of Hawaii Multi-Hazard Mitigation Plan, the County of Kauai Multi-Hazard Mitigation Strategy, and a Drought Impact Assessment of the 1997-1998 ENSO in the US-affiliated Pacific Islands. In August 2004, she co-convened and coordinated the international Gender Equality and Disaster Risk Reduction Workshop in Honolulu, Hawai'i with support from USAID, USDA, NOAA, NSF, UN International Strategy for Disaster Reduction, University of Hawai'i, the East-West Center, Pacific Disaster Center, the Center of Excellence in Disaster Management and Humanitarian Assistance, and other organizations. Workshop outcomes and materials were incorporated into the World Conference on Disaster Reduction (WCDR) in Kobe, Japan in January 2005, where Ms. Anderson was invited as a presenter.

Susan Avery, susan.avery@colorado.edu

Vice Chancellor for Research/Dean of the Graduate School, University of Colorado

usan K. Avery is the Vice Chancellor for Research and Dean of the Graduate School and is currently serving as Interim Provost and Executive Vice Chancellor for Academic Affairs at the University of Colorado at Boulder. She has recently served as Director of the Cooperative Institute for Research in Environmental Sciences (CIRES) and is a Professor of Electrical and Computer Engineering.



During her ten years as director, CIRES facilitated new interdisciplinary research efforts spanning the natural sciences and bridging with the social sciences. A strong K-12 outreach program was developed and a number of new seed programs were established. She helped form a regional integrated science and assessment program that examines the impacts of climate variability on water in the interior west and spent a year working with NOAA and the Climate Change Science Program in Washington, DC.

Avery has served on a number of national committees and boards. Currently she serves as the Union of Radio Science Representative to the international Scientific Committee on Solar Terrestrial Physics and as a member of various panels of the National Research Council and the National Science Foundation. She is a Fellow in the Institute of Electrical and Electronics Engineers and the American Meteorological Society and is the Past-President of the AMS.

Avery has earned numerous awards including the University of Colorado Robert L. Stearns Award, recognition for exceptional achievement and/or service; the Elizabeth Gee Memorial Lectureship Award for scholarly contributions, distinguished teaching and advancing women in the academic community; and the Margaret Willard Award, University Women's Club, for her outstanding contributions to the University of Colorado at Boulder.

Avery received her Ph.D. from the University of Illinois in 1978. Her research interests include the use of Doppler radar techniques for observing physical processes in the atmosphere; climate variability and water in the interior west; and the role of science in decision making processes. She is currently studying the characterization of the structure and evolution of the upper atmosphere using meteor radar techniques and satellite data. Through the regional integrated science and assessment project she has been working with an interdisciplinary team to apply climate information for





decision support in water management in the interior west. She is the author of over 75 publications in the refereed literature. Avery's teaching includes courses in radar science and techniques, geophysical data analysis, and policy responses to climate variability.

Kenny Broad, <u>kbroad@rsmas.miami.edu</u>

Center for Ecosystem Science and Policy, University of Miami

r. Broad is an environmental anthropologist who received his Ph.D. from Columbia University in 1999 and is currently an Assistant Professor in the Division of Marine Affairs and Policy, RSMAS. He holds a joint appointment at Columbia University's Lamont-Doherty Earth Observatory. Prior to anthropology, Broad participated and led several scientific and documentary film expeditions around the globe, including the exploration of the world's deepest cave in the Huautla Plateau in Mexico.

His current work focuses on human-environment interaction related to natural resource management. Working in the United States, Latin America, the Caribbean and Indonesia, Broad

studies climate impacts and human perception, the use and misuse of scientific information, decision making under uncertainty, marine protected areas, as well as issues related to societal equity. This work involves close collaboration with hydrologists, oceanographers, economists, ecologists, climatologists and other strange creatures.

David Brown, david.brown@unh.edu

New Hampshire State Climatologist, University of New Hampshire

r. David Brown has been the New Hampshire State Climatologist since August 2004. He also holds an appointment as Assistant Professor of Geography at the University of New Hampshire, where he teaches courses on weather and climate, physical geography, and environmental geography.

Dr. Brown received his Ph.D. and M.A. degrees in Geography from the University of Arizona, and his B.S. degree in Meteorology from Penn State University. His research interests include synoptic and applied climatology, geospatial climatology and the use of GIS in climate analysis, climate services, and human-environment interactions. He is currently investigating the role of interannual

climate variability on New England air quality, the linkage of climate teleconnections such as El Nino and La Nina to multi-decadal temperature and precipitation patterns across the western United States, and the influence of urbanization and irrigation on local precipitation enhancement in semi-arid regions. He has been funded by the National Oceanic and Atmospheric Administration (NOAA) for his work on the New England Integrated Sciences and Assessment (NEISA) and Climate Assessment for the Southwest (CLIMAS) projects, and his research has been published in several peer-reviewed journals *including Geophysical Research Letters, International Journal of Climatology, Climate Research*, and *The Professional Geographer*. He is a member of the American Geophysical Union, the American Meteorological Society, and the Association of American Geographers.

James Buizer, james.buizer@asu.edu

Office of Sustainability Initiatives, Arizona State University

n addition to his role as advisor to the President at Arizona State, Dr. Buizer serves as the Director for Science Applications with the office of the Vice President for Research and Economic Affairs. He is responsible for the design and implementation of University-wide sustainability institutional development, including research, education, and applications initiatives. The scope includes all aspects of the establishment of the International Institute for Sustainability and the forthcoming School for Sustainable Environments and Societies, and the Sustainability









Partnership Enterprise, which is designed to bridge the gap between production of science and practical use. He assisted with securing \$15M in private donor funding for the establishment of the International Institute for Sustainability at ASU, November 2004.

Prior to joining Arizona State University, Dr. Buizer served as Director of the Climate and Societal Interactions Program at the National Oceanic and Atmospheric Administration (NOAA) in Washington, D.C., where he was responsible for providing programmatic vision, design and leadership of NOAA's integrated, multidisciplinary research and applications program positioned at the climate and societal interface.

Greg Carbone, <u>carbone@gwm.sc.edu</u>

Department of Geography, University of South Carolina

r. Greg Carbone (PhD, University of Wisconsin 1990, Geography) is an Associate Professor of Geography at the University of South Carolina. His research interests center on climate variability and change and impacts on agriculture and water resources. He is the principal investigator for the Carolinas Integrated Science and Assessment group, part of NOAA's Regional Integrated Science and Assessment (RISA) program. His current research examines the link between interannual climate variability and water supply, drought forecasting, and measuring uncertainty. He has published on impacts of climate change on agriculture, methodological issues in climate impacts research, statistical downscaling, uncertainty, and drought forecasting. Some of his recent papers have appeared in Agronomy Journal, Climatic Change, Integrated Assessment, and Journal of the American Water



Resources Association. His research has been sponsored by NOAA's Office of Global Programs, NASA, EPA, UCAR, and the Southeast Regional Climate Center.

Maria Carmen-Lemos, <u>lemos@umich.edu</u>

School of Natural Resources and Environment, University of Michigan

aria Carmen Lemos is Assistant Professor of Natural Resources and Environment at the University of Michigan. She is also a Senior Policy Analyst with the Udall Center for Studies of Public Policy at the University of Arizona where she develops research initiatives in the U.S-Mexico border. Her research focuses on the human dimensions of global climate change, especially the co-production of science and policy, the role of technocrats as decisionmakers, the use of seasonal climate forecasting in drought planning and water management, the role of stakeholder-driven science in producing usable knowledge, and the broader social and political impacts of the use of technoscientific knowledge in policy making. She was part of an OGP/NOAA funded interdisciplinary project on the socioeconomic and political implications of the

use of seasonal climate forecasting on drought-relief and agricultural policymaking in Northeast Brazil. She is currently the PI of two other grant proposals-funded by NSF and NOAA-to understand institutional opportunities and constraints for the use of techno-scientific information, especially seasonal climate forecasting, in water management in Brazil and Chile. Prof. Lemos holds a PhD and a MSc. in Political Science from the Massachusetts Institute of Technology-MIT.

Netra Chhetri, <u>netra.chhetri@asu.edu</u>

Consortium for Science, Policy & Outcomes, Arizona State University

etra Chhetri's research interests center around science and policy issues on human and physical dimensions of climate change. He is specifically interested in understanding the impacts of and adaptation to climate variability and change in managed ecosystems. Other areas of research include land-use land cover change; political ecology of land and forest degradation; community based resource management; risks and vulnerability assessment; and agro-ecology and sustainable agriculture. For the past seven years, Netra has been conducting research on the sensitivity of agricultural systems to





climate change and variability using Erosion Productivity Impact Calculator (EPIC) crop model with geographic focus to south-eastern United States. He has contributed to the Third Assessment Report of the Working Group II of the IPCC by reviewing scientific literature on the impacts of climate change in agriculture. Netra is also one of the contributing authors in the upcoming Fourth Assessment Report of the Working Group II of the IPCC where he is compiling the outcomes of climate impact studies using a range of climate scenarios as well as reviews of adaptation to climatic risks and uncertainty in small-holder agricultural societies. At Penn State, Netra has taught a course in Physical Geography and has also assisted in teaching, human-environment, and spatial analysis.

During the fifteen years between the completion of his undergraduate degree (1982) and his entering graduate school (1997) Netra had a successful career in community development and natural resource management in Nepal. At that time he worked with interdisciplinary team of social scientists, engineers, agronomists, and foresters. During his professional career Netra successfully introduced the concept and practice of conservation farming in the agro-ecosystems of the Himalayas. Conservation farming involves adaptive management of resources based on the carrying capacity of a given ecosystem.

Andrew Comrie, <u>comrie@arizona.edu</u>

Department of Geography and Regional Development, University of Arizona

r. Andrew Comrie is a Professor in the Department of Geography and Regional Development at the University of Arizona, with joint appointments in Atmospheric Sciences, Global Change, Arid Lands Resource Sciences, and Remote Sensing & Spatial Analysis. He is a climatologist specializing in the geographic aspects of atmospheric environmental issues, and he has published widely in specialized and interdisciplinary international journals. His expertise includes climate impact assessment, applied climatology, synoptic climatology, urban and regional air pollution, climate variability and change, climate and health, multivariate statistical climate analysis, and computerized map-pattern recognition and classification techniques. Dr. Comrie is currently investigating summer and

winter climate variability in the Southwest United States, climatological and human factors influencing air pollution at local and regional scales, links between climate and disease, climate and wildfire, and new techniques for mapping climate and air quality information. His work has been funded by NSF, EPA, NOAA, NASA, and state and local agencies. He serves, or has served, on numerous national and international professional committees and editorial boards, and he is currently American Editor of the International Journal of Climatology. He is the CLIMAS lead P.I. for 2005-2006.

Lisa Dilling, <u>ldilling@cires.colorado.edu</u>

Center for Science and Technology Policy Research, University of Colorado

isa Dilling studies how to develop science policies to support the use of climate-related research in decision-making. Lisa Dilling, a CIRES Visiting Fellow with the Center for Science and Technology Policy Research, received her Ph.D. in biology from the University of California-Santa Barbara. She spent six years in Washington, DC where she managed and expanded a program in integrated carbon cycle research for the Climate and Global Change Program of the National Oceanic and Atmospheric Administration, and co-developed a national interagency program to study the integrated carbon cycle that links together relevant research in six Federal agencies for the U.S. Global Change Research Program (now the U.S. Climate Change Science Program). She then spent two years as an interdisciplinary scientist with the Environmental and

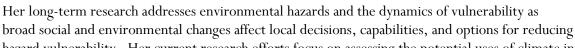
Societal Impacts group of the National Center for Atmospheric Research, working on the connection of carbon cycle science to policy, communication for climate change, and scales of decision making. Her current research at the Center focuses on the use of information in decision making and science policies related to climate and, in particular, the carbon cycle.





Kirstin Dow, <u>KDow@sc.edu</u> Learning Center for Sustainable Futures, University of South Carolina

r. Kirstin Dow (PhD, Clark University 1996, Geography) is an Associate Professor of Geography and Director of the Learning Center for Sustainable Futures, a green-design residence and learning facility, at the University of South Carolina. She has diverse policy and research experience related to vulnerability, hazards, and human dimensions of global environmental change. She is former Coordinator of the Risk and Vulnerability Programme across the internationally distributed centres of the Stockholm Environment Institute. Based in SEI's Main office in Stockholm, she was also the Manager of the Poverty and Vulnerability Programme.



hazard vulnerability. Her current research efforts focus on assessing the potential uses of climate information for vulnerability reduction and improved environmental management. Currently, she is a co-PI of the Carolina Integrated Science and Assessment Center, part of NOAA's Regional Integrated Science and Assessment (RISA) network, which works to bring climate information to decision makers. She has published on vulnerability to global environmental change, climate change adaptation, vulnerability of water systems to climate variability, response to hurricane hazards in the Southeastern US, urban ecology, and environmental equity and justice. She is a contributing lead author to the *Millennium Ecosystem Assessment* chapter, "Vulnerable People and Places". Her work also appears in such journals as the *Natural Hazards Review, Environmental Hazards, Coastal Management, and Global Environmental Change, and Journal of the American Water Resources Association*, as well as numerous book chapters. In 2001, the University of South Carolina recognized her contributions to the campus community with its Environmental Stewardship Award. She is also a National Councilor of the Association of American Geographers.

Gregg Garfin, gmgarfin@u.arizona.edu

Climate Assessment for the Southwest, University of Arizona

regg Garfin is project manager for the NOAA-funded Climate Assessment for the Southwest (CLIMAS), a multidisciplinary integrated assessment project designed to identify and evaluate climate impacts on human and natural systems in the Southwest, and to identify climate services useful in assisting decision makers to cope with climate-related risks. As manager of the project, Garfin works to bridge the science-society interface and to facilitate knowledge exchange across that interface. He is trained as a climatologist, and has a Ph.D. from the University of Arizona. His research interests include climate variability, paleoclimatology, and the impacts of climate on society. His research and outreach activities focus on drought, effective communication of climate



history and forecasts to decision makers, relationships between climate and fire. Garfin is a co-author of the 2004 Arizona Drought Preparedness Plan. He serves as co-chair of Arizona's state drought monitoring committee. He has served as a member of the Western Governors' Association integrated team for the development of a National Integrated Drought Information System.

David Guston, David.Guston@asu.edu

Consortium for Science, Policy, and Outcomes, Arizona State University

avid H. Guston is Professor of Political Science and the Associate Director of the Consortium for Science, Policy, and Outcomes at Arizona State University. Prior to joining the ASU faculty in January 2005, Professor Guston directed the Public Policy Program at Rutgers, The State University of New Jersey, where he had been on the faculty since 1994.

Professor Guston's current research includes a project sponsored by the National Science Foundation





on the public value of social policy research (with Jocelyn Crowley of Rutgers, co-PI). He continues work on boundary organizations in politics and science, including (domestically) issues of peer review and (internationally) issues of agricultural policy. He is also investigating issues of the governance and societal implications of nanotechnologies.

Professor Guston's book, *Between Politics and Science: Assuring the Integrity and Productivity of Research* (Cambridge U. Press, 2000), was awarded the 2002 Don K. Price Prize by the American Political Science Association for best book in science and technology policy. He has also co-authored *Informed Legislatures: Coping with Science in a Democracy* (with Megan Jones and Lewis M. Branscomb, University Press of America, 1996) and co-edited *The Fragile Contract: University Science and the Federal Government* (with Ken Keniston, MIT Press, 1994). He has published more than thirty articles and book chapters and made more than seventy-five research presentations on research and development policy, scientific integrity and responsibility, public participation in technical decision-making, peer review, and the politics of science policy.

Professor Guston is the North American editor of the peer-reviewed journal *Science and Public Policy*, and he serves on the editorial boards of *VEST: Nordic Journal of Science and Technology Studies*. He has served on the National Science Foundation's review panel on Societal Dimensions of Engineering, Science, and Technology (2000-2002) and on the National Academy of Engineering's Steering Committee on Engineering Ethics and Society (2002). He will be co-vice-chair of the Gordon Research Conference on Science and Technology Policy for its 2006 meeting.

In 2002, he was elected a fellow of the American Association for the Advancement of Science (AAAS), and he is the current chair of the AAAS Section on Societal Impacts of Science and Engineering.

Professor Guston holds a B.A. from Yale and a PhD from MIT, and he performed post-doctoral training at the Belfer Center for Science and International Affairs at Harvard University's Kennedy School of Government.

Randy Hanson, <u>rthanson@usgs.gov</u> US Geological Survey

R andy Hanson is a research hydrologist in the San Diego projects office of the U.S. Geological Survey's (USGS) California Water Science Center and has been studying regional ground-water/surface-water flow systems with the USGS for 25 years. Current research incorporates regional flow modeling with hydroclimatology, geohydrologic framework analysis, wellbore hydraulics and geochemistry, and borehole geophysics. Current regional flow studies in California include the Salinas and Pajaro Valleys of Monterey Bay, the Santa Clara Valley, the Ventura area and the Los Angeles Basin of Southern California, and the Central Valley. Current hydroclimatology research includes linking Global Climate Models (GCMs) to regional ground-water flow models (RGWMs) in Ventura and linking GCMs with RGWMs through the new Farm Process for MODFLOW-2000 in the Central Valley. Other climate analysis includes analysis of climate variability throughout the hydrologic cycle of the southwestern U.S. and Wisconsin, and co-variation of climate and water-quality for the High Plains Aquifer system. Geohydrologic framework analysis of glacial/interglacial sedimentation cycles as part of the estimation of sequence stratigraphy and depositional fabrics of regional flow systems.

Lori Hidinger, lori.hidinger@asu.edu

Consortium for Science, Policy & Outcomes, Arizona State University

ori Hidinger is the Program Manager for the Consortium for Science, Policy and Outcomes at Arizona State University. She is involved in developing and implementing the Ecosystem Function Sensitivity Analyses activities under the Science Policy Assessment and Research on Climate (SPARC) project. Previous to joining CSPO, Lori was a program manager with the Ecological Society of America's Sustainable Biosphere Initiative Science Program's Office where she was responsible for managing a number of projects that seek to develop or define the science of ecology to inform management and policy decisions. Currently Lori serves on the program



committee for ESA's upcoming meeting on "Ecology in an Era of Globalization." In addition, she participates in the Sustainable Rangeland roundtable, for which she serves on the Steering Committee and chaired the Outreach Working Group. Lori received her Bachelor's of Science in Zoology from the University of Maryland and her Master of Environmental Management in Resource Ecology from Duke University's Nicholas School of the Environment.

Helen Ingram, <u>hingram@uci.edu</u>

School of Social Ecology, University of California, Irvine

r. Ingram received her Ph.D. in Public Law and Government from Columbia University in 1967. From 1969-72, she served as Staff Political Scientist/Consultant at the National Water Commission, Washington, D.C. She served as Director of the Institute of Government Research, University of Arizona from 1974-1977. For the next two years, she was a Senior Fellow at Resources for the Future in Washington, DC. After returning to the University of Arizona as a Full Professor in the Political Science Department with joint appointments in the School of Public Administration and Policy, Hydrology and Water Resources and College of Law, she served as Director of the Udall Center for Studies in Public Policy from 1988-1996.



She currently holds joint appointments at the University of California, Irvine with the

Departments of Urban and Regional Planning and Criminology, Law and Society in the School of Social Ecology, and the Department of Political Science in the School of Social Science. She is also Professor Emeritus at the University of Arizona and a Distinguished Research Associate at the University of Arizona's Southwest Center. She is the author of 13 books, over 45 articles and over 50 book chapters.

Dr. Ingram teaches undergraduate and graduate courses in public administration, public policy, environmental policy and environmental ethics. Her research interests include: (1) Transboundary national resources, particularly on the US/Mexican border, (2) Water resources and equity, (3) Public policy design and implementation, (4) The impact of policy upon democracy, public participation and social movement formation, and (5) Science and Society. She is best known in the field of water research for her contribution to the understanding of water policy-making and its effects both internationally and domestically with particular attention to the US-Mexico border region.

Her work on transboundary water resources has gained her significant international recognition over the years. These awards include the W. R. Boggess Award, American Water Resources Association, for the most outstanding article published in the *Water Resources Bulletin*, 1972, the Iko Iben Award in recognition of promotion, understanding and communication between disciplines involving water resources, American Water Resources Association, 1987, and the Abel Wolman Distinguished Lecture, sponsored by the Water Science and Technology Board of the National Research Council "Transnational Water Resources Management: Learning from the U.S.-Mexico Example," Washington, D.C., November 8, 1993. In 1995 she was the U.S. recipient of "Frontera" International Excellence Award, Fundación Margarita Miranda de Mascareñas, Ciudad Juárez, Mexico and in 1998, she received the "Friends of UCOWR" Certificate of Appreciation for vision and leadership in the advancement of water resources education and research, presented by the Board of Directors of Universities Council on Water Resources.

Dr. Ingram's recent work ranges from the role of scientific knowledge in the policy-making process to more organizational and institutional analyses of the water resource management programs taking place in the United States and abroad. She was recently invited to address the Plenary Session of the Annual Meeting of the Pacific Division of the American Association for the Advancement of Science. Irvine, California, June 19, 2001 with a talk entitled, "Science and Environmental Policy". Her recent research awards highlight her interest in institutional design. She was recently awarded a Seed Grant from the Center for the Study of Democracy to pursue work on a project entitled, "Path Dependency and Democratic Responsiveness: A Case Study of US Water Policy".

Keith T. Ingram, <u>ktingram@ifas.ufl.edu</u>

Southeast Climate Consortium, University of Florida

r. Ingram is a coordinator for the Southeast Climate Consortium and also a research scientist for University of Florida's Department of Agricultural and Biological Engineering. He received his Ph.D. in Agronomy and a minor in Botany at University of Florida. Dr. Ingram's research experience includes:

- Environmental agronomy and physiology of rainfed farming systems, including identification of plant traits that confer drought resistance, managing crops under water-limited conditions, and application of climate forecasts to improved resource management.
- Global environmental change impacts on agricultural production, including interactive effects of carbon dioxide and heat stress on crop growth, development, and productivity.
- Modeling Aspergillus spp. infection and aflatoxin contamination of peanut in response to genotype and drought.
- Design and management of controlled environment research facilities.

Other Professional Activities: Coordinate collaboration and communications among the six member institutions of the Southeast Climate Consortium (SECC) and serve as liaison among SECC, funding agencies, and other research groups.

Thomas H. Kelly, <u>tom.kelly@unh.edu</u>

Office of Sustainable Programs, University of New Hampshire

homas H. Kelly, Ph. D became the first director of the Office of Sustainability Programs at the University of New Hampshire in July 1997. As director, Dr. Kelly collaborates with faculty, staff, students and others in the development of teaching, research, policy and outreach activities related to the OSP's four educational initiatives in biodiversity, climate, culture and sustainability and food and society.

In the area of public health, Dr. Kelly is a member of the planning committee that developed and oversees the UNH Master of Public Health Program. In addition to teaching a course on Climate and Health within the MPH track in Public Health Ecology, he collaborates with faculty on the design of related courses in environmental health and disease ecology. Dr. Kelly is a co-principal investigator on the INHALE project, a NOAA funded research effort by the UNH Climate Change Research Center and School in collaboration with the School of Health and Human Services to investigate the effect of climate variability, air quality and weather on human health in New England.

Dr. Kelly was a visiting scholar at the Center for U.S.-Mexican Studies at the University of California/San Diego, and a visiting professor of transboundary environmental issues in the U.S.-Mexican borderlands at El Colegio de Mexico, Mexico DF. He holds a master's degree and a Ph.D. in International Relations from the Tufts University Fletcher School of Law and Diplomacy.

Doug Kenney, <u>Douglas.Kenney@colorado.edu</u>

Natural Resources Law Center, University of Colorado

During the university of Colorado School of Law. In that capacity, he designs and implements a comprehensive research agenda examining a variety of public policy issues associated with natural resources, with a particular emphasis on water. He has written extensively on several water-related issues, including river basin and watershed-level planning, the design of institutional arrangements, alternative strategies for solving complex resource issues, and the nexus of western water management and climate variability/change. He is also a member of the core faculty of







CU's Environmental Studies program, a research affiliate with the Center for Science and Technology Policy Research (CU-CIRES), and a team member with the Western Water Assessment (a cooperative program between CU-CIRES) and NOAA). His most recent publication (as editor) is In Search of Sustainable Water Management: International Lessons for the American West and Beyond (Edward Elgar Press, 2005). Doug has a B.A. in biology from the University of Colorado, a M.S. in Natural Resources Policy and Administration from the University of Michigan, and a Ph.D. in Renewable Natural Resource Studies from the University of Arizona.

David Letson, <u>dletson@rsmas.miami.edu</u> Marine Affairs and Economics, University of Miami

avid Letson is associate professor of Marine Affairs and Economics at the University of Miami. Letson focuses on natural resource economics and the economics of weather and climate. He has a Ph.D. in economics from the University of Texas at Austin. Letson participates in a multi-disciplinary evaluation of climate forecasting for agricultural and water resources management in the southeastern US and Argentina, as part of the Southeastern Climate Consortium (<u>http://secc.coaps.fsu.edu/</u>), a representing six universities (Alabama-Huntsville, Auburn, Georgia, Miami, Florida and Florida State). The SECC receives support from NOAA, the National Science Foundation and USDA. He is also a member of NOAA's Hurricane Working Group (<u>http://swiki.ucar.edu/sip-hwg/1</u>), convened by the National Weather Service and the Office of Atmospheric Research to develop a hurricane socio-economic research agenda.

Nancy Lewis, <u>LewisN@EastWestCenter.org</u> **East-West Center**

ancy Davis Lewis is Director, Research Program, East-West Center and formerly Associate Dean of the College of Social Sciences at the University of Hawaii Manoa and Professor of Geography. She holds affiliate appointments in the Center for Pacific Island Studies, the Department of Urban and Regional Planning and the Women's Studies Program. Having joined the faculty at U.H. in 1981, the majority of Nancy's research and much of her teaching has focused on human ecology, the geography of health and disease, health and development in the Pacific Islands, expanded definitions of women's health or safe womanhood and recently on climate and health and emerging infectious disease. Nancy is the Secretary General of the Pacific Science Association and she also leads that organization's efforts to promote women in science and technology in the US, Asia and

the Pacific. She also served as the U.S. representative on the International Geographical Union's Commission on Health, Environment and Development and she is a past President of the Hawaii chapter of Sigma Xi, the Scientific Research Society. She serves on the editorial boards of four professional journals and on the U.S. National Research Council Committee for the Pacific Science Association. She was a Kellogg National Leadership Fellow Nancy is interested in policy issues related to vulnerability and the human dimensions of global change and she contributed to two chapters of the recently released Millennium Ecosystem Assessment.

Genevieve Maricle, <u>genevieve.maricle@colorado.edu</u>

Center for Science and Technology Policy Research, University of Colorado

enevieve Maricle is a graduate student in Environmental Studies at the University of Colorado at Boulder studying Atmospheric Science and Environmental Policy. Genevieve is also a fellow in the NSF Integrated Graduate Education and Research Traineeship Program. Her research focuses on climate services and the transfer of technology from climate research to useful weather and climate products for both decision-makers and climate-sensitive end users. She graduated from Northwestern University with a BA degree in both Mathematics and Environmental







political implications of her work. She became extremely interested in studying problems that transcend traditional disciplinary boundaries as she began to see a disconnect between the scientific and political worlds. This is what drew her to the University of Colorado.

Elizabeth McNie, McNie@colorado.edu

Center for Science and Technology Policy Research, University of Colorado

E lizabeth McNie is a Ph.D. student in the Environmental Studies Program at the University of Colorado, Boulder and holds a Master of Arts degree in Psychology-Organization Development from Sonoma State University in California. She is also a Fellow in the NSF – Integrated Graduate Education and Research Traineeship Program examining carbon cycle science, climate change and society. Elizabeth's research interests include institutional design, group dynamics and decision making processes in 'boundary organizations' and other organizations that enhance the linkages between scientists and decision makers. Other interests include ocean-related policy and interdisciplinary education. Elizabeth is also a licensed U.S. Merchant Marine Officer.



Barbara Morehouse, <u>morehoub@u.arizona.edu</u>

Climate Assessment for the Southwest, University of Arizona

B arbara Morehouse is Deputy Director and, currently, Acting Director of the Institute for the Study of Planet Earth at the University of Arizona. She is also affiliated, as Adjunct Associate Professor, with the UA's Department of Geography and Regional Development. Her research interests include examination of institutional interactions with environmental variability and change, and analysis of processes involved in the development of integrated and collaborative science initiatives. She was the principal investigator on an interdisciplinary project funded by the EPA STAR program to build a web-based interactive fire-climate planning model. With Dr. Henry Diaz, she was co-editor of *Climate and Water: Transboundary Challenges in the Americas*. Barbara is one of the co-

investigators on the Climate Assessment for the Southwest (CLIMAS) project, and serves as a member of the CLIMAS Executive Committee. She is principal investigator on an NSF-funded project to initiate a planning process for establishing a binational center for sustainability of the greater Sonoran Ecosystem and co-investigator on a project to assess climate information needs for water management in the Upper San Pedro River Basin, located in northeastern Sonora and southeastern Arizona. Barbara spent three months in spring 2004 in Greece on a Fulbright fellowship to examine wildland fire management on three islands in the northern Aegean. She has taught undergraduate courses in political geography and environmental conservation, and graduate seminars on environmental topics. She is a member of the Association of American Geographers, the Ecological Society of America, and the American Water Resources Association.

Ami Nacu-Schmidt, <u>ami@cires.colorado.edu</u> Center for Science and Technology Policy Research

mi has been with the Center for Science and Technology Policy Research for four years in providing administrative support. She is also the Outreach Coordinator for the Center's SPARC project in which she coordinates workshops and special events, such as the Center's Presidential Science Advisor Series in 2005. Ami also serves as the Associate Editor for the Center's newsletter, Ogmius, published four times a year. She is also the Program Coordinator for the Center's Graduate Certificate Program in Science and Technology. In addition to Ami's administrative responsibilities, she also enjoys being able to illustrate her creative side and has done the graphic and website design for the SPARC website (<u>http://sciencepolicy.colorado.edu/sparc</u>) and the Presidential Science Advisor Series website (<u>http://sciencepolicy.colorado.edu/sparc</u>).



Mark Neff, <u>mark.neff@asu.edu</u>

Consortium for Science, Policy and Outcomes, Arizona State University

ark Neff will be pursuing a doctoral degree from Arizona State University beginning in September, 2005. He will be working with Dr. Sarewitz at the Consortium for Science, Policy and Outcomes. He will initially focus on the Ecosystem Function Sensitivity Analysis component of the SPARC program. Mark recently received his Master's degree in Environmental Studies from the University of Oregon. His Master's research was on the politics of wildlife disease management at the National Elk Refuge in Jackson, Wyoming and the possibility of using scenario planning to advise management in that contested social-ecological system.

Gunilla Öberg, gunilla.oberg@ituf.liu.se

The Swedish Institute for Climate Science and Policy Research, Linköping University

unilla Öberg's work focuses on research development at Campus Norrköping, teaching in the Environmental Science Programme, and research. Since 2004, she is director of the Swedish Institute for Climate Science and Policy Research which is an interdisciplinary research unit dealing with the science-policy interface.

Gunilla's research focuses on the biogeochemistry of chlorine as well as on the use of scientific knowledge in the environmental field. During 1997-98, she was responsible for developing the new undergraduate programme in Environmental Science. As a result her interest in pedagogic issues increased. Therefore, her research now also encompasses environmental didactics.

James O'Brien, jim.obrien@coaps.fsu.edu

Center for Ocean-Atmospheric Prediction Studies, Florida State University

r. James O'Brien is currently the Secretary of Navy Professor in Meteorology and Oceanography at Florida State University. Dr. O'Brien received his Ph.D. in Meteorology from Texas A&M University. He is an Honorary and Professional Society Member for AAAS, AGU, AMS, RMS, OSJ, SIAM, and SX. Some of his past honors include: Medal of Honor, Liege University, Belgium, 1978; Fellow, American Meteorological Society, 1981; Fellow, Royal Meteorological Society, 1983; Secretary of Navy Professor in Oceanography, 1985; Sverdrup Gold Medal in Air-Sea Interaction, 1987; ONR Distinguished Ocean Educator, 1989; Fellow, American Geophysical Union, 1987; Fellow, AAAS, 1998; Distinguished Research Professor, FSU, 1991; Foreign Fellow, Russian Academy of Natural Science, 1994; Medal of Honor, Ocean University of Quindao, China, 1999; State of Florida

Climatologist, 1999-; Robert O. Lawton Distinguished Professor, FSU, 1999; Member, The Norwegian Academy of Science and Letters, 2000; and Member, Rutgers Distinguished Alumni Hall of Fame, 2002. With over one hundred scientific publications, some of Dr. O'Brien's relevant publications include: "Information content in the ERS-1 three day repeat orbit scatterometer winds over the North Pacific: from January through March 1992" in *Monthly Weather Review*, "5-day average winds over NorthWest Atlantic from ERSI using a variational analysis" in *The Global Atmosphere and Ocean System*, "Non-Inertial Flow in NSCAT Observations of Tehuantepec Winds" in *Journal of Geophysical Research*, "Cyclone Surface Pressure Fields and Frontogenesis from NASA Scatterometer Winds" in *Journal of Geophysical Research*, "Objectively derived daily pseudostress fields from NSCAT data created through direct minimization, cross validation, and multigridding" in *Monthly Weather Review*, and "Early detection of tropical cyclones using SeaWinds-derived vorticity" in *Bulletin of American Meteorological Society*.







Richard Palmer, <u>palmer@u.washington.edu</u> Water Resources Management and Drought Planning Group, University of Washington

r. Palmer currently teaches courses and performs research on the topics of drought planning, water resource management, impacts of climate change, and decision support systems. Dr. Palmer is the author of over 85 refereed papers, conference proceeding papers and technical reports. He is a member of the American Society of Civil Engineers and is a registered professional engineering in the State of Washington. Dr. Richard N. Palmer received his Ph.D. from the Johns Hopkins University in 1979.

Dr. Palmer received the "Service to the Professional" Award from the Water Resources Planning and Management Division of American Society of Civil Engineers (ASCE) in 1998. He was awarded the "Certificate of Recognition" for his editorial services to the Journal of Water

Resources Planning and Management of ASCE in 1997, for which he was editor from 1993-1997. Dr. Palmer was awarded the Huber Award for Research Excellence by the American Society of Civil Engineers (ASCE) in 1992. His paper entitled "Operational Guidance during Droughts: An Expert System Approach" was awarded the Prize for Best Practice-Oriented Paper of the Year in the Journal of Water Resources Planning and Management by the ASCE in 1989. Dr. Palmer was a member of a team of researchers from the Johns Hopkins University and the Interstate Commission on the Potomac River Basin recognized as a finalist by ASCE for Engineering Achievement of the Year in 1983. In 1987 he was awarded a fellowship for study in Spain at the Centro de Estudios Avanzados de Blanes, Spain, and in 1988 was a Fellow at Heriot-Watt University in Edinburgh, Scotland.

Dr. Palmer's primary areas of interest are in the application of structured planning approaches to water resources. This includes impacts of climate change on water resources, drought planning and management, watershed management, the application of decision support and expert systems to civil engineering management problems, and real-time water resource management, particularly applied to drought. Since the early 1990s, he has been a leader in the field of climate change impacts on water resources, and is an active member of the University of Washington Climate Change Impacts Group, lead by Dr. Edward Miles. His most recent research projects include developing a state-wide drought plan for the State of Georgia, creating decision support tools to aid negotiations between the US and Mexico on the Rio Bravo River and evaluating climate change impacts for the Central Valley of California and urban water supplies in the Pacific Northwest.

Roger Pielke, Jr., <u>pielke@colorado.edu</u>

Center for Science and Technology Policy Research

oger Pielke, Jr. has been on the faculty of the University of Colorado since 2001 and is a Professor in the Environmental Studies Program and a Fellow of the Cooperative Institute for Research in the Environmental Sciences (CIRES). At CIRES, Roger serves as the Director of the Center for Science and Technology Policy Research. Roger's current areas of interest include understanding the politicization of science, decision making under uncertainty, and policy education for scientists. He serves on the Advisory Panel of the NSF Program on Societal Dimensions of Engineering among other advisory committees. In 2000, Roger received the Sigma Xi Distinguished Lectureship Award and in 2001, he received the Outstanding Graduate Advisor Award by students in the University of Colorado's Department of Political Science. Before joining the University of Colorado, from 1993-2001 Roger was a Scientist at the National Center for Atmospheric Research. Roger sits on the

editorial boards of Policy Sciences, Bulletin of the American Meteorological Society, Environmental Science and Policy and Natural Hazards Review. He is author of numerous articles and essays and is also co-author or co-editor of three books.





Kelly Redmond, <u>kelly.redmond@dri.edu</u> Western Regional Climate Center, Desert Research Institute

r. Redmond is currently Deputy Director and Regional Climatologist at Western Regional Climate Center, Desert Research Institute. Dr. Redmond maintains an interest in all facets of climate and climate behavior. Over the past 17 years he has conducted studies on topics including forest climatologies, insect growth and development, mixing depth probabilities, tree ring core sampling intervals, low ceiling/visibility probabilities at airports, Crater Lake climate and hydrology, data quality, heavy precipitation episodes and landslides, development of information for energy consumption calculations, drought frequency and characteristics, climate indices, wind speed trends, spatial patterns of western U.S. climate

variability, ENSO links to western climate, water supply diagnostics, biases in historical temperature records, design criteria for engineering applications, salmon and hydropower issues in the Pacific Northwest, conditional forecast probabilities, and others, for federal, state and private organizations. Dr. Redmond has played an active role nationally in the development of the climate services sector, and has served on three National Academy of Science review panels. Dr. Redmond received his Ph.D. in Meteorology from University of Wisconsin, Madison.

Anja Reissberg, <u>reissbea@eastwestcenter.org</u>

Department of Geography, University of Hawaii at Manoa

nja Reissberg is a PhD student in Geography at the University of Hawaii at Manoa. Her focus is on climate-related disaster management in developing countries. She works for the Environment Program at the East-West Center under Eileen Shea, Pacific RISA program. She calls her home Munich, Germany and has lived in the islands for 4 years.

Edward S. Sarachik, <u>sarachik@atmos.washington.edu</u> Atmospheric Sciences, University of Washington

d Sarachik is Professor of Atmospheric Sciences and Adjunct Professor of Oceanography and of Applied Mathematics at the University of Washington. He co-leads the Center for Science in the Earth System, a combination of an Applied Research Center and a RISA. His areas of interest are: the physics of climate variability and change especially El Niño/Southern Oscillation; tropical oceanography; tropical meteorology; the thermohaline circulation and the applications of climate information. He has served on many NRC committees (including the Climate Research Committee and the Committee of the Human Dimensions of Seasonal-to-Interannual Variability), on Advisory Committees on Forecast Applications for the IRI, and on NOAA and NSF advisory committees. He is a fellow of the American Meteorological Society, the American Geophysical Union, and the American Association for the Advancement of Science.

Daniel Sarewitz, <u>Daniel.Sarewitz@asu.edu</u>

Consortium for Science, Policy & Outcomes, Arizona State University

aniel Sarewitz's work focuses on understanding the connections between scientific research and social benefit, and on developing methods and policies to strengthen such connections. His most recent book is Living with the Genie: Essays on Technology and the Quest for Human Mastery (co-edited with Alan Lightman and Christina Desser; Island Press, 2003).

He is also the co-editor of Prediction: Science, Decision-Making, and the Future of Nature (Island Press, 2000) and the author of Frontiers of Illusion: Science, Technology, and the Politics of Progress, (Temple University Press, 1996).









He has also written many other articles, speeches, and reports about the relationship between science and social progress. Prior to taking up his current position as director of the Consortium for Science, Policy and Outcomes, he was the director of the Geological Society of America's Institute for Environmental Education.

From 1989-1993 he worked on Capitol Hill, first as a Congressional Science Fellow, and then as science consultant to the House of Representatives Committee on Science, Space, and Technology, where he was also principal speech writer for Committee Chairman George E. Brown, Jr. Before moving into the policy arena he was a research associate in the Department of Geological Sciences at Cornell University, with field areas in the Philippines, Argentina, and Tajikistan. He received his Ph.D. in Geological Sciences from Cornell University in 1986.

Eileen Shea, <u>SheaE@EastWestCenter.org</u> East-West Center

s Shea currently serves as the Climate Projects Coordinator at the East-West Center in Honolulu, HI, USA. In this context, she continues work in climate forecast applications, climate vulnerability assessment and climate risk management with a primary focus on Pacific Islands. Ms Shea also currently serves as the Interim Director of the NOAA Integrated Environmental Applications and Information Center (NIEAIC) in Honolulu, HI. Recent and ongoing projects include: an initial assessment of the consequences of climate variability and change for Pacific Islands; a Pacific Islands Training Institute on Climate and Extreme Events organized in collaboration with the University of the South Pacific (USP) and the New Zealand National Institute of Water and Atmospheric Research (NIWA); an ongoing review



of the first decade of operation of the Pacific ENSO Applications Center (PEAC); and the Pacific Regional Integrated Science and Assessment (Pacific RISA) program focused on enhancing the resilience of Pacific Island communities, businesses and ecosystems in the face of climate-related extreme events such as droughts, floods and tropical cyclones. Ms Shea is involved in a number of Asia-Pacific regional endeavors focused on improving coordination among scientific institutions and government agencies engaged in climate and environmental observations, forecasting, assessment and risk management programs including: service on the Regional Committee of the Pacific Islands Global Climate Observing System (PI-GCOS) program and leading regional efforts to develop of a Pacific Islands Integrated Ocean Observing System (Pacific IOOS).

Prior to joining the East-West Center in 1998, Ms Shea served as the founder and Executive Director of the Center for the Application of Research on the Environment (part of the Maryland-based Institute for Global Environment and Society) and before that spent over eighteen years in government service in the U.S. National Oceanic and Atmospheric Administration (NOAA), culminating in her position as the Deputy Director of the NOAA Office of Global Programs. During her time in NOAA, Ms Shea helped organize the NOAA Climate and Global Change Program and the interagency U.S. Global Change Research Program. Ms Shea also served for two years as Environment and Natural Resources Staff Director for the Board on Sustainable Development of the U.S. National Research Council and has experience in congressional relations and budget and finance in NOAA. Her educational experience focused on marine science and environmental law and resource management at the University of Delaware and the Virginia Institute of Marine Science, College of William and Mary.

Amy Snover, snover@atmos.washington.edu

Joint Institute for the Study of the Atmosphere and Ocean, University of Washington

my K. Snover is a research scientist with the Climate Impacts Group at the Center for Science in the Earth System, Joint Institute for the Study of the Atmosphere and Ocean, University of Washington. Dr. Snover performs integrated assessment of the impacts of both natural climate variability and future human-caused climate change on the natural and human systems of the Pacific Northwest. Other foci include communication of complex scientific topics and facilitating a mutually beneficial relationship between science and decision making. Dr. Snover



received a BA in Chemistry from Carleton College in 1990 and a PhD in Analytical/Environmental Chemistry from the UW in 1998. She was a joint recipient of the American Water Resources Association W.R. Boggess Award for the best

Brad Udall, <u>bradley.udall@colorado.edu</u>

Western Water Assessment, NOAA-CIRES Climate Diagnostics Center

B rad Udall is the Western Water Assessment's Director. He is trained as an engineer (Stanford) and has an MBA (Colorado State). He was formerly a consulting engineer and the managing partner at Hydrosphere Resource Consultants. Hydrosphere specializes in modeling large western river basins with complicated water rights allocation and operational issues. While at Hydrosphere, Brad worked on South Platte River questions including studies of the proposed Two Forks Dam and the City of Boulder Raw Water Master Plan, an original jurisdiction Supreme Court case on the North Platte River in Wyoming and Nebraska, interstate compact issues on the Rio

Grande including its major tributary the Conejos, Colorado River hydrology and modeling, and flushing flows for native fishes on the Snake River in Idaho. In addition, he had overall management responsibility for the firm. As Director of the Western Water Assessment, Brad shares responsibility over the entire program including budget authority, outreach, and strategic direction with its PIs, Randy Dole and Susan Avery. In addition, Brad serves as 'Science Integrator' of the project, and hence has a broad working knowledge of all science and water questions key to the success of the project. He is especially interested in Colorado River policy and hydrology issues, and in the enhanced use of climate information by water managers.

Cameron Wake, <u>cameron.wake@unh.edu</u>

Climate Change Research Center, University of New Hampshire

n addition to directing an active ice core paleoclimate research in central Asia and the Arctic, Professor Wake is involved in the NOAA funded AIRMAP (Atmospheric Investigation, Regional Modeling, Analysis and Prediction) project (<u>http://airmap.unh.edu</u>). AIRMAP seeks to improve our understanding of New England's changing climate and air quality through the investigation of the physical and chemical aspects of the New England atmosphere, with a particular focus on the relationship between weather and air quality. Outreach and engagement efforts are focused on improving the public's awareness and knowledge of climate change and air quality information.

Dr. Wake is also leading the New England Integrated Sciences and Assessments - INHALE (Integrated Human Health and Air Quality Assessment) project (<u>http://inhale.unh.edu</u>) aimed at improving our understanding of how air pollution and weather effect human health. The results will be used to create informed public policy and guide the development of air quality forecasting tools. In addition to climate research at UNH, Dr. Wake serves on the board of the Kittery Land Trust and Seacoast Area Bicycle Routes, and is an avid photographer.

Misty Wing, <u>misty.wing@asu.edu</u>

Consortium for Science, Policy & Outcomes, Arizona State University

isty Wing has been supporting CSPO as the Administrative Associate for the past year. She assists with the administrative and business operations of CSPO as well as maintains the CSPO website. Prior to joining CSPO Misty worked for the Center for Solid State Science while she obtained her B.S. in Computer Science at Arizona State University.







Klaus Wolter, <u>klaus.wolter@noaa.gov</u> NOAA-CIRES Climate Diagnostics Center

laus Wolter is a climatologist at the NOAA-CIRES Climate Diagnostics Center. His main research interests lie in empirical climate research, in particular the application of statistical methods to societally relevant climate problems, such as the impact of ENSO (El Niño/Southern Oscilation) on world-wide climate. Klaus has developed and refined a "Multivariate ENSO Index" (MEI) based on tropical Pacific observations of sea level pressure, near-surface wind fields, sea – and air surface temperatures, as well as total cloudiness. The MEI is more robust than conventional indices in monitoring the ENSO phenomenon and appears to associate better with global impacts as well. Monthly updates and discussions of the MEI can be found under http://www.cdc.noaa.gov/people/klaus.wolter/MEI/.

In the last decade, Klaus has been able to devote more attention to the analysis and understanding of western U.S. climate, being involved in the Western Water Assessment (WWA) project at the University of Colorado. In the context of widespread drought conditions over Colorado and surrounding states, and prompted by repeated requests for better regional climate forecasts, Klaus has developed statistical tools that allow him to make seasonal precipitation predictions. Originally, these forecasts leaned heavily on statistical associations with ENSO, but became based on a much wider variety of influences on our climate since late 2001. Monthly updated discussions and forecasts are posted under http://www.cdc.noaa.gov/people/klaus.wolter/SWcasts/. Klaus received his Ph.D. in Meteorology at the University of Wisconsin, Madison.