Paul H. Kirshen

Education

- Ph.D. Civil Engineering, Massachusetts Institute of Technology, Division of Water Resources, 1975 (Thesis – "Spatial and Temporal Aggregation Issues in a Water Supply Planning Model for West Africa", advisors David Marks and David Major).
- M.S. Civil Engineering, Massachusetts Institute of Technology, Division of Water Resources, 1972 (Thesis – "Screening Model for Management of Combined Sewer Overflows", advisors David Marks, John Schaake, and Frank Perkins).
- Sc.B. Engineering, Brown University, 1970 (Engineering Project "Possible Use of Ferro Magnetism to Measure Stress in Structures", advisor Barton Roessler).

Experience

2015-Present

Professor, School for the Environment, University of Massachusetts Boston, Research Director, Stone Living Lab, Founding Director, Stone Living Lab, Past Founding Academic Director and Core Faculty Member, Sustainable Solutions Laboratory at UMass Boston, Past Affiliate Faculty, Honors College.

2015-Present

Affiliate Faculty, Department of Civil and Environmental Engineering, and Earth Systems Research Center of Institute for the Study of Earth, Oceans, and Space, University of New Hampshire.

2011-2015

Research Professor, Environmental Research Group of Department of Civil and Environmental Engineering, and Earth Systems Research Center of Institute for the Study of Earth, Oceans, and Space, Co-Founder and Co-Director of the UNH Center for Infrastructure Resilience to Climate, Senior Fellow, Carsey School of Public Policy, Faculty Fellow, Sustainability Institute, University of New Hampshire, Durham, NH.

2009-2018

Visiting Scientist, Department of Civil and Environmental Engineering, Tufts University.

2009-2011

Research Leader, Battelle Memorial Institute (Battelle).

2002-2009

Tufts University, Medford, MA. Director and Co-founder of the Water: Systems, Science, and

Society (WSSS) Interdisciplinary Graduate Education Program. Co-Director of the Tufts Institute of the Environment. Research Professor, Civil and Environmental Engineering Department, Affiliated Faculty, Department of Urban and Environmental Policy and Planning, and Adjunct Professor, Friedman School of Nutrition Science and Policy.

UCOWR Visiting Scholar Program Fellow to support the US Army Corps of Engineers Institute for Water Resources in Integrated Water Resources Management (2007-2009).

1996-2002

Tufts University, Medford, MA. Research Associate Professor, Civil and Environmental Engineering Department and the International Environment and Resource Policy Program of the Fletcher School of Law and Diplomacy. Co-Founder and Director of Tufts Water, Sustainability, Health, and Ecological Diversity (WaterSHED) Center. Co-Founder and Steering Committee Member of Mystic Watershed Collaborative.

1994-1996

Stockholm Environment Institute-Boston/Tellus Institute, Water Program Manager.

1986-1994

Private Consultant. Provided consulting services and management of other consultants and projects. Projects included decision support systems for reservoir operations, application of computer tools to manage sewer systems and restoration of Boston Harbor, impacts of global climate change on water resources, and environmental site assessment. Much of the reservoir operations consulting was proprietary. International consulting.

<u>1984-1986</u>

Principal Engineer, Environmental Research and Technology, Inc.

<u>1981-1984</u>

Private Consultant. Projects included decision support tools for real time reservoir operations, real time hydrologic data collection systems and applications, small-scale hydropower assessment, water resources planning. International consulting. Part-time teaching at Clark University.

1980-1981

Assistant Professor, Civil and Environmental Engineering Department, Virginia Polytechnic Institute and State University.

<u>1978-1980</u>

Assistant Research Professor, Thayer School of Engineering and Resource Policy Center, Dartmouth College.

<u>1976-1978</u>

Senior Engineer, Environmental Research and Technology. Inc. Manager, Water and Wastewater Engineering Group.

<u>1975-1976</u>

Research Associate, Massachusetts Institute of Technology. Field manager for development of simulation model for Vardar/Axios River Basin in Macedonia and Greece.

Professional Memberships

American Geophysical Union, American Society of Civil Engineers (Member and Past Chair of Operations Management Committee, Chair of the 1996 Operations Management Workshop, Steering Committee of several Operations Management Workshops including for 2006, 2010, 2015, Member of Water Resources and Environmental Systems Committee).

Journal Reviewing

Environmental Management, Water International, various journals of American Society of Civil Engineers, Environment International, Journal of Coastal Research, Journal of Applied Meteorology, Water Policy, Agricultural Systems, Water Resources Research, Natural Resources Forum, Climatic Change, Conservation & Recycling, Environmental Modeling and Software, Proceedings of the National Academy of Sciences (USA), Journal of Hydrology, Computers, Environment, and Urban Systems, Environmental Science & Technology, Journal of Environmental Management, Coastal Management Journal, International Journal of Water, Current Opinion in Environmental Sustainability, Water Management, Water Science and Technology: Water Supply, Global Environmental Change, Urban Climate, Climate Risk Management, European Journal of Transport and Infrastructure Research, Regional Environmental Change, Integrated Environmental Assessment and Management, Nature Climate Change, Sustainable Cities and Society, Science of the Total Environment, Land Use Policy, Natural Hazards and Earth System Sciences, Science Advances, Urban Planning, Cities, Journal of Risk Reduction, Journal of Flood Risk Management, International Journal of Emergency Management, Landscape and Urban Planning, Ocean and Coastal Management, Environmental Research: Infrastructure and Sustainability, Environmental Science and Policy, Journal of Risk Reduction, Aqua -Water Infrastructure, Ecosystems and Society

Other

Member of Town of Concord Climate Advisory Board, September 2021 to Present.

Clemens Herschel Award from Boston Society of Civil Engineers Section of ASCE for published papers "that have been useful, commendable, and worthy of grateful acknowledgement" – Paul Kirshen served a Principal Investigator of the report entitled "Feasibility of Harbor-wide Barrier Systems: Preliminary Analysis for Boston Harbor." The work provides a clear path forward for development of an effective, dynamic, and comprehensive response to the growing threat of climate change induced flooding", October 2020.

Member of John R. Freeman Fund Committee, Boston Society of Civil Engineers Section of ASCE, 2019 to Present.

Member of Scientific Working Group, Resilient MA Action Team, 2019-2022.

Contributing Author to the US Independent Advisory Committee on Applied Climate Assessment, 2019.

Member of the Trustees of Reservations Coastal Advisory Committee, 2018 to Present.

Recognized by the Neighborhood of Affordable Housing (NOAH) East Boston MA as one of 30 people who have made substantial contributions to NOAH as part of their 30 year anniversary: "A unique champion of East Boston climate work," 2018.

Shared University of Massachusetts Boston Chancellor's Award for Distinguished Service for Research on Climate Change Impacts in Metro Boston, May 2018.

Shared US Federal Highway Administration Environmental Excellence Award for Excellence in Adaptation and Resilience for Research on Vulnerability and Adaptation Options for Central Artery, 2017.

Norman B Leventhal Award from A Better City (Boston) for Excellence in City Building – Environment, 2016.

Best Policy-Oriented Paper, Journal of Water Resources Planning and Management for: Carlson, C., Barreteau, O., Kirshen, P., and Foltz, K., Stormwater Management as a Public Good Provision Problem: Survey to Understand Perspectives of Low Impact Development for Urban Stormwater Management Practices under Climate Change, Journal of Water Resources Planning and Management, 141(6), 2015, awarded 2016.

Editor's Choice Award from Water Resources Research for paper; Rosner, A., R. M. Vogel, and P. H. Kirshen (2014), A Risk-Based Approach to Flood Management Decisions in a Nonstationary world, Water Resources Research, 50, 1928–1942, doi:10.1002/2013WR014561m 2015.

Member of US NSF Research Collaboration Network (RCN) Sustainable Adaptive Gradients in the Coastal Environment (SAGE): Reconceptualizing the Role of Infrastructure in Resilience, 2014-2019.

Presented invited testimony to the US Senate Committee on Homeland Security and Governmental Affairs on "Extreme Weather Events: The Costs of Not Being Prepared", February 12, 2014.

State of New Hampshire Coastal Risk and Hazards Commission, Steering Committee Member, Chair of the Science and Technical Advisory Panel, Designee of the University of New Hampshire, 2013-2015.

Stakeholder Advisory Group on Climate Change and Adaptation Issues Related to MassDEP's Chapter 91(Waterways), 2013.

Member of US NSF Research Collaboration Network (RCN) Engineering Research Collaboratory for Sustainable Infrastructure in a Changing Climate, 2012-2019.

New Hampshire Coastal Adaptation Workgroup, Member representing UNH, 2011 to 2015.

Lead Author of Chapter 26, North America, of the Working Group II (Impacts, Adaptation and Vulnerability) contribution to the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5, 2014), 2010 to 2014.

Lead Author for Chapter 25, Coastal Zone Development and Ecosystems, of the US National Climate Assessment 2013 Report, 2011 to 2014.

Member of ICLEI USA– Local Governments for Sustainability's Climate Change Adaptation Steering Committee, 2010 – 2011.

Adaptation Working Group Participant, Sparking Boston's Climate Revolution, City of Boston, April 2010.

Member of Massachusetts Climate Change Adaptation Advisory Committee and Coastal Zone and Ocean Subcommittee, 2009-2014.

Project Associate, Urbanization and Global Environmental Change (UGEC) Project- an IHDP Core Project, 2008-2010.

Justice Stevens of the US Supreme Court cited my research on impacts of climate change induced sea level rise on metro Boston several times in the majority Supreme Court opinion (No. 05-1120, decided April 2, 2007) that the US Environmental Protection Agency has the authority to regulate greenhouse gases in automobile emissions. Provided invited briefings on climate change to staffs of US Congress Select Committee on Energy Independence and Global Warming and of some Senators and Representatives, 2007.

Member, Hazards Information Working Group, for report on Preparing for the Storm, Recommendations for Management of Coastal Hazards in Massachusetts, Massachusetts Coastal Hazards Commission, March 2007.

Tufts University undergraduate citations as "influential faculty member who made impacts on their educational experience" (2005 (2), 2002).

Received 2004 award from the Mystic Watershed Collaborative (the former partnership of Tufts University and the Mystic River Watershed Association) for "demonstrated qualities of leadership, active citizenship and community engagement in his work in the Mystic River Watershed".

Received 2004 award from the Journal of Water Resources Planning and Management for best practice oriented paper (Westphal, K., Vogel, R., Kirshen, P., and Chapra, S., Decision Support System for Adaptive Water Supply Management, Journal of Water Resources Planning and Management, May 2003).

Proposal Reviewing for US NSF, US EPA, US NOAA, multiple other organizations.

Recent Research Grants and Contracts with Total Value

Improving Rail Safety, Efficiency, and Climate Resilience by Using Drones and Sensors to Monitor and Analyze Railroad Infrastructure Threatened by Ground Water Variability for MA DOT (PI, October 2023, \$630,000).

Planning: CRISES: Climate Inequality and Integrative Resilience Center, US NSF (Co-PI, September 2023, \$100,000).

Nature-Based Solutions for Camp Harbor View, Long Island, Phase 1: Pre-Installation Coastal Research, Camp Harbor View (Co-PI, September 2023, \$188,000).

The Stone Living Laboratory, James M. and Cathleen D. Stone Foundation (Director, January 1, 2020, \$5,000,000).

Enhancement of Boston Harbor Islands 3, James M. and Cathleen D. Stone Foundation (PI, May 2019, \$380,000).

Enhancement of Boston Harbor Islands 2, James M. and Cathleen D. Stone Foundation (PI, November 2018-2019, \$70,000).

Development of Consensus Climate Change and Sea Level Rise Projections and Special Reports for Metro Boston, Barr Foundation, (Co-Director, October 2018-2021, \$550,000).

Enhancement of Boston Harbor Islands 1, James M. and Cathleen D. Stone Foundation (PI, May 2018, \$75,000).

Living with the Urban Ocean: Inquiring, Imagining, Embracing, National Endowment for the Humanities (Co-PI, 2018 – 2022, \$100,000).

Climate Change Adaptation Planning in East Boston, Neighborhood of Affordable Housing (PI, 2017-2018, \$20,000).

Climate Ready Boston Phase 2 B - Harbor-Wide Coastal Protection Feasibility Analysis, Barr Foundation (PI, 2017-2018, \$360,000).

Climate Ready Boston Phase 2 A - Governance and Finance, Barr Foundation (Co-PI, 2017-2018, \$330,000).

Improving the Environment while Protecting our Coasts: A Holistic Accounting of Ecosystem Services of "Green Infrastructure and Natural and Nature-Based Features (NNBF)" in an Urbanized Coastal Environment, US NOAA (Co-PI, 2016-2018, \$300,000).

Vulnerability of the Massachusetts Coastline to Surge Flooding under Present and Future Climates and Adaptation Strategies, Massachusetts Department of Transportation (Co-PI, 2015 – 2018, \$1,133,000).

Assessing the Vulnerability of People and Properties to Flooding along the Charles and Mystic Rivers, Eastern Massachusetts, Commonwealth of Massachusetts (Co-PI, 2015-2018, \$450,000).

Integrated Analysis of the Value of Wetland Services in Coastal Adaptation; Methodology and Case Study of Hampton-Seabrook Estuary, New Hampshire, NOAA (PI, 2013-2018, \$273,000).

City of Boston Climate Change Vulnerability Assessment Data Collection and Support, Arcadis US Inc. (Director, 2016, \$16,600).

Development of Consensus Climate Change and Sea Level Rise Projections for Boston MA, Boston Green River Committee and City of Boston (Co-Director, 2015-2016, \$150,000).

Climate Adaptation for Road Infrastructure in Coastal New Hampshire, NH Sea Grant (Co-PI, 2014-2016, \$130,000).

Flooded Pavement Assessment, FHWA (Adaptation Lead, 2013-2016, \$425,000).

Climate Change Vulnerability Assessment and Adaptation Plan, Massachusetts Port Authority Facilities in Boston Harbor, subcontract to Kleinfelder Company (Senior Technical Expert, 2013-2014, \$500,000).

Formulating Climate Change Mitigation/Adaptation Strategies through Regional Collaboration with the Ohio River Basin Alliance, US Army Corps of Engineers (Adaptation Task Leader, 2012-2014, \$200,000).

Collaborative Planning for Climate Change Adaptation: A Case Study (of Exeter NH) in Great Bay National Estuarine Research Reserve, NOAA (PI, 2012-2014, \$680,000).

RCN-SEES: Engineering Research Collaboratory for Sustainable Infrastructure in a Changing Climate, US NSF (Co-PI, 2012-2015, \$749,779).

Climate Change Mitigation and Adaptation at US Army Corps of Engineers Facilities (IPA, 2012-2014, \$145,000).

Climate Change Vulnerability Assessment and Adaptation Plan, City of Cambridge MA, subcontract to Kleinfelder Company, (Senior Technical Expert, 2012-2014, \$200,000).

Wastewater and Storm Drain System Facilities Plan for Boston Water and Sewer Commission (BWSC), subcontract to CH2M-Hill, Inc (Senior Technical Expert, 2012-2013, \$5,100,000).

Overcoming the Obstacles and Capitalizing on the Incentives for Climate Change Adaptation in Coastal Environmental Justice Communities, NOAA, subcontract to University of Massachusetts-Boston (Co-PI, 2011-2014, \$300,000).

Portsmouth NH Coastal Resilience Initiative, City of Portsmouth NH, subcontract to Rockingham Planning Commission (Senior Technical Expert, 2012-1013, \$30,000).

Climate Change Vulnerability Assessments for the US Army Corps of Engineers Projects, US Army Corps of Engineers Institute for Water Resources (Principal Investigator, 2010-2012, \$120,000).

Scenario-Based Risk Assessment for Adaptation of Coastal Municipalities to Climate Change, New England Environmental Finance Center (Principal Investigator, 2009-2013, \$41,000).

Coastal Flooding and Environmental Justice: Developing Strategies for Adapting to Climate Change, NOAA, subcontract to University of Massachusetts-Boston (Co-PI, 2008-2011, \$300,000).

Guidance Tools for Planning and Management of Urban Drainage Systems under a Changing Climate, NOAA, (Principal Investigator, 2007-2011, \$300,000 with Tufts University and University of Colorado).

Keeping Water Local- Cost Benefit Analysis of Water Resource Planning, Application of W.E.A.P. for Holistic Water Resources Management in Massachusetts: A Pilot Study in the Town of Sharon, Riverways Program of the Massachusetts Department of Fish and Game, subcontract to Stockholm Environment Institute-US Center (Tufts PI, 2007-2008, \$100,000).

Improved Water Resources Management in the Sahel-Sudan, a Case Study of Burkina Faso, NOAA (Principal Investigator, 2006-2009, \$340,000 with others at Tufts and University of Georgia).

Coastal Flooding under Climate Change, Union of Concerned Scientists Northeast Climate Impacts Assessment Report (Leader, 2005- 2007).

Training Program in Water and Health from National Institute for Diabetes and Digestive and Kidney Diseases, NIH (Co-Director, 2004-2009, \$1.1 million).

The Quito Integrated Environment and Policy Study for the National Institute of Health (Co-Principal Investigator, 2003-2005, \$317,000).

Improved Science and Decision Support for Managing Watershed Nutrient Loads for US Environmental Protection Agency (Co-Principal Investigator, 2003-2005, ~\$750,000).

Pilot Studies to Evaluate Interpretation Methods, Intermediary Effectiveness, and Appropriate Levels of Intervention in the Provision of Climate Forecasts in the Sahel-Sudan: Climate Forecasting for Agricultural Resources (CFAR) Project-Phase 2, for Economics and Human Dimensions Program, Office of Global Programs, US National Oceanic and Atmospheric Administration (Principal Investigator and Project Manager, 2002-2005, ~ \$500,000).

EMPACT Grant: Real-Time Water Quality Monitoring and Modeling for Equitable Recreation on the Mystic River, US EPA, subcontract to the City of Somerville (Technology and Science Manager, 2001-2003, \$359,000).

The Natural Cities Program: Restoring Critical Ecosystems Resources in the Greater Boston Harbor Region, US Department of Agriculture, subcontract to The Urban Ecology Institute at Boston College (2001-2003, \$180,000).

Impact of the Delivery of the Year 2000 Climate Forecast to Farmers and Pastoralists in Burkina Faso for Economics and Human Dimensions Program, Office of Global Programs, US National Oceanic and Atmospheric Administration (Principal Investigator and Project Manager, 2001, \$46,166).

Infrastructure Systems, Services and Climate Change: Integrated Impacts and Response Strategies for the Boston Metropolitan Area for US Environmental Protection Agency (Principal Investigator and Project Manager, 1999-2004, \$899,000).

A Hydro-Economic Approach to Representing Water Resources Impacts in Integrated Assessment Models for US Department of Energy (Principal Investigator and Project Manager, 1998-2003, \$450,000).

Opportunities and Constraints to Using Seasonal Precipitation Forecasting to Improve Agricultural Production Systems and Livelihood Security in the Sahel-Sudan Region, West Africa: Climate Forecasting for Agricultural Resources (CFAR) Project-Phase1, for Economics and Human Dimensions Program, Office of Global Programs, US National Oceanic and Atmospheric Administration (Principal Investigator and Project Manager, 1997- 2002, \$440,000).

Teaching at UMass Boston

ENVSCI 476, Environmental Science Capstone- Integration of Natural and Social Sciences

ENVSCI 607, Environmental Innovation Clinic

Honors 380, Climate Justice

ENVSCI 603, Coasts and Communities

ENVSCI 387, Climate Change Adaptation Planning (also offered as graduate student class)

Teaching at UNH

DPP 909, Environmental Sciences and Infrastructure for Sustainable Communities and Development

ENE797/CiE 896, Climate Change Adaptation Planning

Teaching at Tufts University

WSSS Research Practicum

Integrated Water Resources Management - Policy Review and the Planning Process

Water Science and Technology

Center for Interdisciplinary Studies (CIS) 99A/100A, The New Century Environmental Leadership Institute: An Experiential Inquiry into Watershed Restoration, with Dale Bryan

Independent Study on Integrated Resources Water Management (resulted in two papers published in Water International Journal and presentation in Netherlands)

CEE Senior Capstone Design Project, The Effects of Climate Change on Bridge Scour

Bringing the Real World to High School Science: Water Pollution Issues of the Mystic River, with J. Durant and assistance of D. Bryan

CEE Senior Capstone Design Project, Management of Arsenic Contamination in Spy Pond, with J. Durant

CEE Senior Capstone Design Project, Rain Harvesting System for Tufts University, with R. Vogel (students won ASCE award)

Supervision/Reading of Theses (ongoing)

Kalejaye, Adanna, Leapfrogging into Sustainable Development- Exploring the potential of climate adaptation strategies in sub-Saharan African through the leapfrog approach, UMass Boston PhD in Public Policy and Public Affairs. (Committee)

Velasquez, C., Improving Rail Safety, Efficiency, and Climate Resilience by Using Drones and Sensors to Monitor and Analyze Railroad Infrastructure Threatened by Ground Water Variability, UMass Boston PhD in Environmental Sciences. (Committee)

Roberts, K., Monitoring Nature-Based Approaches for Coastal Flood Reduction, UMass Boston MS in Environmental Sciences. (Committee)

Desai, S., Just Sea-Level Rise Adaptation Planning Under Uncertainty: A Case Study of Liberty Plaza/Border Street in East Boston, Massachusetts, UMass Boston PhD in Environmental Sciences. (Advisor)

Bartlett, N., Indicators for Coastal Management, UMass Boston PhD in Environmental Sciences. (Committee)

Lillquist, J., Developing Robust Policies for Nature-Based Solutions for Coastal Flood Protection in Boston, UMass Boston PhD in Environmental Sciences. (Advisor)

Supervision/Reading of Theses (completed)

Jenkins, D., Data Driven Decision Making for Sustainability, UMass Boston PhD in Management Science, 2023. (Committee)

Martello, M., Climate Change Adaptation Planning and Decision Making for Physical Infrastructure, MIT PhD in Civil and Environmental Engineering, 2022. (Committee)

Low, M., Quantifying Morphological Change of the Nauset Barrier System, Cape Cod, MA, UMass Boston MS in Environmental Sciences, 2022. (Committee)

Nagdee, M., Modeling the Impact of Sea Level Rise (SLR) Brought about by Climate Change on Beaches along the Barbados South Coast in the Near- and Medium-Term, The University of the West Indies PhD Thesis, 2022. (Committee)

Butler, D., Coastal Thriving Communities Resilience, UMass Boston PhD in Environmental Sciences, 2022. (Committee)

Humphries, C., Once and Future Tidelands: The Evolution of the Urban Waterfront in Boston, UMass Boston PhD in Environmental Sciences, 2022. (Committee)

Alleyne, M., Rethinking and Modelling Climate Change Vulnerability and Capacity Assessment (VCA) For Caribbean Small Island Developing States (SIDS): Barbados - A Case Study, University of the West Indies, Cave Hill Campus, Barbados, Ph.D. in Environmental Studies, 2022. (External Examiner)

Maranian, S., Urban Parks Reimagined: Utilizing City Parks for Stormwater Drainage during Flash Flood Events, UMass Boston MS in Environmental Sciences, 2020. (Advisor)

Guzman-Rolon, J., Building Resilience against Climate Effects: An Adaptation Plan for Communities in Everett near Hazardous Waste, UMass Boston MS in Environmental Sciences, 2020. (Advisor)

Malloy, J., Mainstreaming Urban Climate Resilience Planning and Implementation Impacts upon the Vulnerability of Marginalized Populations, UNH Department of Natural Resources and the Environment PhD Thesis, 2021. (Committee)

Guzman, S., Portable or Deployable Filtration and Reservoir Technologies for Flood Mitigation, UMass Boston MS Project, 2021. (Advisor)

Walsh, E., The Influence of Compound Events in Rhode Island and Their Associated Damage Costs, UMass Boston MS in Environmental Sciences, 2020. (Committee)

Valdez, A., Listening to Greater Boston's Climate Change Concerns, UMass Boston MS in Environmental Sciences, 2020. (Co-Advisor)

Stroud, H., Co-Benefits of Nature Based Solutions for Urban Adaptation to Climate Change, UMass Boston MS in Environmental Sciences, 2020. (Advisor)

Haitsma Mulier, M., Food Water Energy Nexus: Urban Farming, Delft University of Technology Master in Civil Engineering, 2019. (Co-Advisor)

Poulsen, J., Climate Change Vulnerability in Boston: Assessments under Different Socio-Economic Scenarios, University of Geneva, MS in Environmental Sciences, 2019. (Local Advisor)

Knott, J., Impacts of Climate Change on Groundwater in Coastal New Hampshire and Management Strategies, University of New Hampshire CEE PhD Thesis, 2019. (Co-Advisor)

Murphy, Shannon, Climate Change in East Boston: Its Impact & Community Outlook, Undergraduate Honors Thesis, UMass Boston School for the Environment, 2019.

Huizer, R., Building Bridges, Creation of Linking Social Capital in East Boston, Utrecht University, MS Thesis, 2018. (Local Advisor)

Metzer, A., Models that Matter: A Participatory Modeling Approach to Building a Better Flood Management Community, UMass Boston ENS PhD Thesis, 2018. (Co-Advisor)

Kooijmans, N., Resist, Delay, Store, Discharge Adaptation Strategy for Boston, MS, Landscape Architecture, University of Utrecht, 2018. (Co-Advisor)

Pologne, L., The Wind Power Resources of the Caribbean: Observed Variability and the Projected Impact of Climate Change on Energy Production and Viability, University of the West Indies PhD Thesis, 2017. (Examiner)

Barankin, R., Indicators and Information for Integrated Decisions on Climate Change: Quantitative Methodology for Understanding the Vulnerability in Coastal Communities, UMass Boston ENS PhD Thesis, 2017. (Co-Advisor)

Hecht, J., Making multi-stakeholder water resource decisions with limited streamflow information, Tufts University CEE PhD Thesis, 2016. (Committee)

Sun, E., Water Rights Trading: A Case Study in the Yellow River Basin in China, UMass-Boston Department of Environmental, Earth and Ocean Sciences PhD Thesis, 2016. (Committee)

Rumore, D., Science, Society, and Environmental Decision-Making in Climate Change Adaptation, MIT Department of Urban Studies and Planning PhD Thesis, 2015. (Committee)

Mather, L., Climate Change Adaptation in Exeter, NH, University of New Hampshire CEE MS Research Project, 2015. (Advisor)

Kesavan, V., Integrating GIS and Cultural Knowledge in Vulnerability Assessments of Coastal Environmental Justice Communities, UMass-Boston School of the Environment, MS Thesis, 2014. (Committee)

Carignan, B., Impact of Climate Change on Snow Water Equivalent in the Northeast, University of New Hampshire CiE MS Thesis, 2014. (Committee)

Walker, A., Climate Change Flood Analysis in Exeter, NH, University of New Hampshire Department of Earth Science MS Research Project, 2014. (Advisor)

Zhao, S., Impacts of Climate Change on Contaminant Sediment Transport, Tufts University CEE MS Thesis, 2013. (Co-Advisor)

Chase, R., Rising Sea Level Impacts on Road Infrastructure in Coastal New Hampshire, University of New Hampshire CiE BS Honors Thesis, 2013. (Committee)

Gao, X., Impacts of Small Reservoirs on Environmental Flows, Ghana, Tufts University CEE PhD Thesis, 2012. (Co-Advisor)

Spang, E., The Water-Energy Nexus, Tufts University Fletcher School of Law and Diplomacy PhD Thesis, 2012. (Committee, received first prize for the Emerging Scholar Award of the Global Water Forum)

Rosner, A., Risk_Based Trend Detection for Climate Change Adaptation, Tufts University CEE MS Thesis, 2012. (Co-Advisor)

Renaud, T., Management Planning for Combined Sewer Systems in Urban Areas under Climate Change, WPI CEE MS Thesis, 2012. (Committee)

Caputo, L., Robust Stormwater Management Strategies under Climate Change: A Case Study of Somerville MA, Tufts University MS Thesis, 2011. (Advisor)

Corson-Rikert, T., Use of Scientific and Technical information in Sustainable Water Management, MIT Department of Urban Studies and Planning MS Thesis, 2011. (Reader)

Kuhl, L., From a Culture of Disaster Response to a Culture of Adaptation: Addressing Flooding and Climate Change in Honduras, Fletcher School of Law and Diplomacy MALD Thesis, 2011. (Reader)

Ray, P., Robust Optimization of Water Supply Systems in the Middle East, Tufts University CEE PhD Thesis, 2010. (Co-Advisor)

Sylver ,S., Environmental Protection on Cape Cod, Tufts University UEPP MA, 2009. (Reader)

Elwell, H., Defining Capacity: Community-Based Watershed Management and Climate Change Adaptation Planning, Tufts University UEPP MA, 2009. (Reader)

Jagai, J., Seasonality in Waterborne Diseases: Global, National, and Local Watershed Assessments, Tufts University School of Nutrition PhD Thesis, 2009. (Committee)

Odeh, N., Towards Improved Partnerships in the Water Sector in the Middle East: A Case Study of Partnerships in Jordan's Water Sector, MIT Department of Urban Studies and Planning PhD Thesis, 2009. (Committee)

Etkin, D., Stochastic Optimization for Seasonal Reservoir Management in Burkina Faso, Tufts University CEE MS Thesis, 2009. (Advisor)

Gerstner, C., Imperviousness and the Urban Elastricity of Design Floods, Tufts University CEE MS Thesis, 2009. (Committee)

Kleyman, Alexandra, Growing Cities and Shrinking Rivers? An Investigation of Local Approaches to Balancing Rapid Urban Growth, Limited Water Supplies, and the Long-Term Ecological Health of Rivers, Tufts University UEPP MA, 2008. (Reader)

Milou, A., Stormwater Low-Impact Development Best Management Practices in Low Income Settlements in Latin America: Policies Promoting Implementation, Tufts University UEPP MA, 2008. (Reader)

Berkowitz, J., Into the Mystic, CSOs and Environmental Justice Communities in the Mystic River Watershed, Tufts University UEPP MA, 2008. (Reader)

Sergeant, K, Analysis of Developing a Maximum Contaminant Level for Perchlorate: How Science, Policy, State and National Politics Influence Drinking Water Policy, Tufts University UEPP MA, 2008. (Reader)

Lautze, J., Incorporating Malaria Control into Reservoir Management: A Case Study from Ethiopia, Tufts University CEE PhD Thesis, 2007. (Advisor)

Limbrunner, J., Watershed Models for Nonpoint Source Pollution Management Decision Support, Tufts University CEE Ph.D Thesis, 2007. (Co-Advisor)

Zoltay, V., Integrated Watershed Management Modeling: Optimal Decision for Natural and Human Components, Tufts University CEE MS Thesis, 2007. (Co-Advisor)

Hanson, Lars, On the Statistical Nature of Daily Rainfall and the Storage-Reliability-Yield Behavior of Rainwater Harvesting Systems in the United States, Tufts University CEE MS Thesis, 2007. (Co-Advisor)

Yenco, Abby, Role of Adaptation to Climate Change in Local Water Resources Management, Tufts University UEPP MA, 2007. (Reader)

Hall, P., Getting with the Program: Rural Radio and Water Resource Planning in Sub-Saharan Africa, Tufts University UEPP MA, 2006. (Reader)

Schilz., B., Does Integrated Water Resources Management Need Private Sector Participation in Developing Countries? Tufts University UEPP MA, 2006. (Reader)

Walsh, S., DCRA: Formulation of a Cost-Risk Tradeoff Model for Selection of Environmental Dredging Operations, Tufts University CEE MS Thesis, 2006. (Advisor)

Ray, Patrick, Least Cost Water Supply Planning for Lebanon, Tufts University CEE MS Thesis, 2005. (Advisor)

Fernandes, Ana Martha, Management of Domestic Fecal Sludge: St. Elizabeth, Jamaica, Tufts University CEE MS Thesis, 2005. (Advisor)

Rader, M., Incorporating Risk into a Decision Support System for Burkina Faso Farmers, Tufts University CEE MS Thesis, 2005. (Advisor)

Curtis, L., Watershed Management, Tufts University UEPP MA, 2005. (Reader).

Kossida, M., Effect of Sea Level Rise on Groundwater Resources: A Case Study of Southwest Coastal Rhode Island, Tufts University CEE MS Thesis, 2005. (Advisor)

Moore, David, Thirst for Certainty: Adapting to Climate Change in Water Supply Planning, Tufts University UEP MA Thesis, 2003. (Advisor)

Heberger, Matthew, Modeling Nonpoint Source Bacteria in Urban Rivers, Tufts University CEE MS Thesis, 2003. (Committee).

Forrester, R.N., Indicators of Regional Water Stress in Massachusetts, Tufts University CEE MS Thesis, 2003. (Committee)

Knee, K., The Impacts of Climate Change on Coastal Metro Boston, Tufts University CEE MS Thesis, 2003. (Advisor)

Wilson, C.R., The Impacts of Global Climate Change on Water Quality in the Boston Metropolitan Area: A Case Study of the Assabet River, Tufts University CEE MS Thesis, 2002. (Advisor)

Luftig, J.L., Paving the Way: Urban Adaptation to Climate Change, Tufts University UEPP MA Thesis, 2002. (Reader)

Levine, T.T., The Columbia River Basin Tribes and the All-H Paper, A Critique of a Government-to- Government Consultation Process, Tufts University UEPP MA Thesis, 2002. (Advisor)

Douglas, E.M., The Behavior of Floods and Low Flows in the United States, Tufts University CEE PhD Thesis, 2002. (Committee)

Alonge, J., Modeling the Effects of Soil-Structure Interaction on a Fifty Story Building, Tufts University CEE M.S. Thesis, 2001. (Committee)

Sankarasubramanian, A., Annual Hydro-Climatology of the Continental United States, Tufts University CEE Ph.D. Thesis, 2001. (Committee)

Ney, L., An Empirical Assessment of Virtual Water: The Impact of Liberalization of Agricultural Subsidies and International Trade on Irrigation Water Demand, Tufts University Fletcher School Ph.D. Thesis, 2001. (Reader).

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Ruth, M., Kirshen, P., and Coelho, D., Climate Change and Cities: Differential Impacts and Adaptation Options in Industrialized Countries in M. Ruth and M. Ibarraran (eds.), <u>Differential Impacts of Climate Change</u>, Edward Elgar, Cheltenham, UK, 2009.

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Kirshen, P., Donaghy, K., and Ruth, M., Conclusion: Assessing Impacts and Responses, Chapter 8 of Ruth, M., Donaghy, K., and Kirshen, P.H., (eds.) <u>Climate Change and Variability: Local Impacts and Responses</u>, Edward Elgar Publishers, Cheltenham, England, 2006.

Kirshen, P., Ruth, M., and Anderson, W., Climate's Long-term Impacts on Urban Infrastructures and Services: The Case of Metro Boston, Chapter 7 of Ruth, M., Donaghy, K., and Kirshen, P.H., (eds.) <u>Climate Change and Variability: Local Impacts and Responses</u>, Edward Elgar Publishers, Cheltenham, England, 2006.

Ruth, M., Amato, A., and Kirshen, P., Potential Impacts on Heat Related Mortality of Changing Temperatures in Urban Areas: Methodology and Application to Metropolitan Boston, in <u>Smart</u>

Growth and Climate Change: Regional Development, Infrastructure and Adaptation, M. Ruth (editor), Edward Elgar, 2006.

Kirshen, P., Ruth, M., and Anderson, W., Integrated Impacts of and Adaptation Strategies to Climate Change in Metropolitan Areas; A Case Study of the Boston Metropolitan Area, in <u>Urban</u> <u>Dimensions of Environmental Change: Science, Exposures, Policies, and Technologies,</u> H. Feng, L. Yu, and W. Solecki (editors), Science Press USA Inc, New Jersey, 2005.

Roncoli, C., Ingram, K., Jost, C., and Kirshen, P., Meteorological Meanings: Farmers' Interpretations of Seasonal Rainfall Forecasts in Burkina Faso. In Sarah Strauss and Benjamin Orlove eds. <u>Weather, Climate, Culture</u>, Berg, 2004.

Hurd, B., Callway, M., Smith, J., and Kirshen, P., Economic Effects of Climate Change on US Water Resources, Chapter 6 of <u>Economic Impacts of Climate Change on the US</u>, Mendelsohn, R. and Neumann, J., editors, Cambridge University Press, 1998.

Lynch, D., and Kirshen, P., Role of Optimization Techniques in the Operation and Management of Land Treatment Systems. Chapter 25 of <u>Modeling Wastewater Renovation: Land Treatment.</u> I.K. Iskandar, Ed., John Wiley & Sons, 1981.

Proceedings and Presentations

Kirshen, P, Seeking Climate Justice in East Boston USA due to Sea Level Rise, poster accepted for AGU Meeting, San Francisco, December 2023.

Knox, C., Kirshen, P., Lamontagne, J., and Islam, S., Exploring cooperation and coordination mechanisms in regional coastal adaptation planning under uncertainty using an Agent Based Model, poster accepted for presentation at 10th Annual Conference of the Society for Decision Making Under Deep Uncertainty (DMDU), Delft, NL, 30 October- 1 November 2023.

Kirshen, P., Global Warming: Applications for Water System Planning, presented at "The Biology of Water and Health" class, Tufts University, Medford MA, 11 October 2023.

Kirshen, P., In Reading, a solution for local flooding aims to help the whole watershed, interview with WBUR, 4 October 2023.

Kirshen, P., Panel on Understanding the Role of Higher Education in Supporting a Climate Collaborative, Climate Community Collaborative Symposium, MIT, Cambridge MA, 20-21 September 2023.

Kirshen, P., Plenary: The Biophysical Turn in our Research: Opportunities and Challenges, panel at Academy of Management Conference, Boston, August 7, 2023.

Kirshen, P., East Boston Climate Resilience Project, Walking Tour of East Boston with AEESP Conference, June 23, 2023.

Kirshen, P., Boston Harborwide Barrier Feasibility and Alternatives, Urban Climate Change Research Network (UCCRN) at Columbia University, Pratt Institute and MIT, Massive Open Online Course (MOOC), Cities and Climate Change, online June 2023.

Chen, R., Borrelli, M., Bosma, K., Byrnes, J., Kirshen, P., Lockwood, L., and Peri, F., The Stone Living Lab: An Adaptive, Complex Partnership to Promote Urban Coastal Resiliency, paper presented at ALSO Aquatic Sciences Meeting in Palma, Spain, June 2023.

Kirshen, P., Testimony for the Massachusetts Senate and House Joint Committee on Environment and Natural Resources in support of an act promoting nature-based approaches for resiliency and climate change adaptation throughout the Commonwealth, House Bill 3581 by Representative Hunt and it's Senate companion filed by Senator Crighton, Senate Bill 458, Boston MA, 17 May 2023.

Kirshen, P., Interview with Boston Globe, "It's not just faulty lines and failing cars, the MBTA has a climate problem", April 29, 2023.

Kirshen, P., Stroud, H., and Timmons, D., Monetary Evaluation of the Co-Benefits of Nature-Based Flood Risk Reduction Infrastructure to Promote Climate Justice, presentation at Stone Living Lab Conference on Nature-Based Coastal Resilience in Urban Settings, 26-27 April 2023.

Kirshen, P., Panel on Does Coastline Construction Have Boston in Hot Water ?, Boston Globe Sustainability Week, April 25, 2023.

Kirshen, P., Lighting talk on Climate Education and Community Collaborations, MIT Symposium on Advancing Climate Education, Cambridge MA 6-7 April 2023.

Kirshen, P., Addressing Climate Justice through Scientist and Community Collaboration: Case Studies of Burkina Faso and Boston USA, invited presentation and paper, Summit on Colonialism, Decolonialization & Neocolonialism: A Social Justice and Common Good Perspective, Pontifical Academy of Social Sciences, Vatican City, Italy, 30-31 March 2023.

Kirshen, P., Resilience Planning in Massachusetts, New Zealand Climate Change Commission, Wellington NZ, 6 March 2023.

Kirshen, P., Building Equitable Community Resilience to Coastal Flooding in East Boston, Poster, presented at UMass Boston Office of Community Partnerships (OCP) 6th Annual Fireside chat, February 23,2023.

Kirshen, P., Flooding in Boston, presentation at BPS Teachers Workshop, January 24, 2023.

Kirshen, P., Interview Boston Globe, Was 2022 good for the climate fight? Five Massachusetts climate leaders weigh in, December 26, 2022.

Kirshen, P., Interview, Boston Globe, , 'I was just blown away': State report shows climate change will take massive toll on Mass. without urgent action, December, 23, 2022.

Kirshen, P., Panel Moderator on Research on Nature-Based Solutions, RAE Conference, New Orleans, 6 December 2022.

Kirshen, P, Christo, J., and Dafforn, K, Living Seawalls for Coastal Resilience in Boston, presentation to Prince and Princess of Wales, Earthshot Prize, 1 December 2022.

Kirshen, P., and Christo, J., Interview on Stone Living Lab with WCVB, 29 November 2022.

Kirshen, P., Adapting to Climate Change: Case Study of Boston Harbor, Climate Science and Engineering Class, Tufts University 28 November 2022.

Kirshen, P., Interview on extreme precipitation and climate change with Paula Moura, WBUR, 22 November 2022.

Kirshen, P., Boston: le combat d'une ville construite à fleur d'eau and Boston menacée par la montée du niveau de la mer : Reportage de Karine Mateu. Interviews with Canadian Broadcasting Corporation French, 16 November 2023.

Kirshen, P., Urban Coastal Flood Risk Reduction under Climate Change, Environmental Science and Policy Seminar, Northeastern University, Boston MA, 8 November 2022.

Kirshen, P, Interview with John Hilliard, Boston Globe, re dam safety and climate change, 2 November 2023.

Kirshen, P., Coastal Resiliency Research, Watershed Management and Water Resources Policy Class, Harvard University, 1 November 2022.

Kirshen, P., Global Warming: Applications for Water System Planning, presented at "The Biology of Water and Health" class, Tufts University, Medford MA, 26 October 2022.

Kirshen, P., Panel on Sea Level Rise Flooding in East Boston, East Boston Resiliency Summit, Boston MA, 29 September 2022.

Kirshen, P., Panel on Rising Sea Levels: Preparing for Boston's Future, Climate Preparedness Week, Boston MA, 27 September 2022.

Kirshen, P., Flood Risk Reduction in Boston and Boston Harbor, presentation to Natixis Investment Managers, Boston MA, 21 September 2022.

Kirshen, P, Interview with Tiradentes University, Brazil, on Climate Change Management in Boston, September 16, 2022.

Kirshen, P., Climate Change Projections for Metro, Presentation to SWAP group of MAPC, Boston MA, 13 September 2022.

Kirshen, P., Boston Harbor Panel, Boston Harbor Boot Camp 2022, UMass Boston, 1 September 2022.

Kirshen, P, Interview, WBZ, Stone Living Lab is Helping Boston Find Nature-Based Solutions to Climate Change. August 13, 2022. Online at: https://boston.cbslocal.com/2021/08/13/stone-living-lab-boston-nature-based-solutions-climate-change/

Kirshen, P., and Dineen, K., Interview with Streetsblog re MBTA Blue Line, August 8, 2022.

Kirshen, P., and Abbott, Interview with Hadley Barndollar, USA Today, August 8, 2022.

Kirshen, P., Interview with Hannah Chanatry, WBUR, July 21, 2022.

Kirshen, P., Panel, Resilient Working Waterfronts: Opportunities and Challenges for the Northeast and Beyond, National Working Waterfront Conference, Boston MA, July 19, 2022.

Kirshen, P., Panel, Collaborative Centers for Resilient Working Waterfronts I: The Example of the Northeast Center for Coastal Resilience, National Working Waterfront Conference, Boston MA, July 19, 2022.

Kirshen, P., Flooding and Climate Change, UMass Boston Woods Hole Seagrant project: Traditional Ecological Art & Science: Designing Sustainable Shorelines (TEAS-DeSS), East Boston, July 19, 2022.

Douglas, E., and Kirshen, P., Greater Boston Research Advisory Group (GBRAG) 2022 Climate Change Projections, Mystic River Watershed Association, June 15, 2022, also GRCx, July 22, 2022, also Stone Living Lab Seminar, July 28,2022.

Kirshen, P., Greater Boston Research Advisory Group (GBRAG) 2022 Climate Change Projections, Charlestown RI Climate Group, June 9, 2022.

Kirshen, P., Climate Change Management, UMass Boston Honors College Seminar, May 10, 2022.

Kirshen, P., Flood Risk Reduction in Boston and Boston Harbor, WPI Climate Change Adaptation Seminar, April 13, 2022.

Kirshen, P., Flood Risk Reduction in Boston and Boston Harbor, Sustainable Water Management Seminar, Tufts University, April 5, 2022.

Kirshen, P., Panel Member at Kennedy Library Forum on Implications of SLR, March 9, 2022.

Kirshen, P., Interview with Jon Chesto of Boston Globe re Resiliency, March 9, 2022.

Chen, R., Bistany, S., Borrelli, M., Bosma, K., Byrnes, J., Kirshen, P., Lockwood, L., and Peri, F., The Stone Living Lab: Assessing the Effectiveness of Nature-Based Solutions, presented at Ocean Sciences Meeting, Honolulu Hawaii, 27 February- 4 March, 2022.

Kirshen, P., Interview on WCVB, February 20, 2022. https://flipboard.com/video/wcvb/a60875cbeb

Kirshen, P, Interview with Amanda Beland of WBUR, February 18, 2022.

Kirshen, P., Flooding in Central Square, East Boston, MIT Urbanism Studio and Environmental Systems Planning Class, February 15, 2022.

Kirshen, P., Interview with Scope re coastal flooding, January 24, 2022. https://thescopeboston.org/7534/climate-justice/in-the-race-to-solve-boston-harbors-coastal-flooding-problem-who-calls-the-shots/.

Kirshen, P., Managing Adaptation to Climate Change, "Climate Conversation", Cape Ann Climate Coalition and Gloucester Marine Station, January 19, 2022.

Kirshen, P., Managing Coastal Flooding in Boston, Beacon Hill Seminars, November 17, 2021.

Kirshen, P., Boston Harbor Barrier Alternatives, MIT CEE Capstone Class, November 15, 2021.

Kirshen, P., Coastal Flood Management under Climate Change, MIT Water and Ecosystems Seminar, November 15, 2021.

Kirshen, P., Managing Coastal Flooding in Boston, Tufts CEE Engineering and Climate Change, Class, November 10, 2021.

Kirshen, P., Global Warming: Applications for Water System Planning, guest lecture, Biology of Water and Health, Tufts University, October 6, 2021.

Kirshen, P., Climate Adaptation, Long Boston Panel, September 13, 2021.

Chen, R.F., Borrelli, M., Bosma, K., Byrnes, J., Kirshen, P.H., Lockwood, L., and Peri, F., The Stone Living Lab: An Urban Harbor Observation System for Promoting Coastal Resilience Stone Living Lab. Aquatic Sciences Meeting: ASM21, Virtual meeting. https://www.aslo.org/2021-virtual-meeting. June 22-27, 2021.

WBUR. June 16, 2021. The Seaport Cost Billions To Build. What Will It Take To Save It? Online at: https://www.wbur.org/news/2021/06/16/boston-seaport-fort-point-climate-change-sealevel.

Kirshen, P., Review of Sustainable Solutions Lab Reports, UMass Boston, May 2021.

Kirshen, P., Adaptive Capacity and Climate Change Adaptation, part of Recurrent Flooding Workshop: Identifying and Prioritizing Research Needs, Old Dominion University under US NSF Grant, Invited Speaker and Panel Moderator, 15-16 April 2021.

NBC10 Boston. January 21, 2021. adjusting-to-climate-change-harbor-island-sea-wall, https://www.nbcboston.com/on-air/as-seen-on/adjusting-to-climate-change-harbor-island-sea-wall-tile/2284954/

NBC10 Boston. January 8, 2021. Climate Change Researchers are Turning to Boston Harbor Islands. Online at: https://www.nbcboston.com/multimedia/climate-change-has-researchers-turning-to-boston-harbor-

islands/2275276/?fbclid=IwAR1j6AlN68F6Y0wMkDn6fLDZMZ5f559L-_L_jEy3MTJfuzJba7_YkgufgzU

Kirshen, P., Climate Change and Public Health, guest lecture, Biology of Water and Health, Tufts University, December 9, 2020.

Kirshen, P., Managing Coastal Flooding in Boston, guest lecture, Engineering and Climate Change, Tufts University, December 7, 2020.

Jenkins, D., Pajouh, F., and Kirshen, P., Applying Descriptive Analytics on Open-Source Data to Enhance Risk Understanding of Coastal Community Facing Rising Sea Levels, presented at 51st Annual Conference of the Decision Sciences Institute, 21-23 November 2020.

Kirshen, P., Feasibility of Harbor-wide Barrier System for Boston Harbor, Water: Systems, Science, and Society Seminar, Tufts University, November 9, 2020.

Kirshen, P., Implementing Resilience through Adaptation in Boston, presented at Climate Change and Urban Resilience, Master of Public Affairs Speaker Series, Brown University, November 16, 2020.

Kirshen, P., The Boston Harbor Barrier Study, guest lecture, Critical Infrastructures Resilience, Northeastern University, November 16, 2020.

Kirshen, P., The Stone Living Lab, presented at 2020 Summit, Restore America's Estuaries & Coastal States Organization, Providence, RI October 4-8, 2020.

Kirshen, P., Climate Change Adaptation, presentation to Climate Change and Local Waterways, CREW, August 19, 2020.

Kirshen, P., Managing Uncertainty in Coastal Infrastructure Planning, presentation to the NOAA Ecosystems Sciences and Management Working Group, Decision Making under Deep Uncertainty, July15, 2020.

Kirshen, P., Action on Equity and Environmental Justice in East Boston, MA, 2008-Present, presented at NOAA Community of Practice Webinar on Equity and Environmental Justice, July 9, 2020.

Kirshen, P., Hurricane Preparedness, support and review of Boston Public School Summer Program, July - August 2020.

Kirshen, P., Climate Change Adaptation Planning in Urban Areas, presentation to Teaching Climate Change and Civil Infrastructure, ICNet Global, June 30 & July 1, 2020.

Kirshen, P., Flood Management in Boston, presentation for Training of Seasonal Staff, National

Park Service, Boston, June 17, 2020.

Kirshen, P., Responding to the Impact of a Changing Climate in Boston, presentation to Orchard Cove Senior Retirement Community, Canton, MA, April 20, 2020.

Kirshen, P., Climate Change Management in Boston, Guest Lecture in Thinking about Climate Change Honors Colloquium, UMass Boston, April 9, 2020.

Jenkins, D., Pajouh, F., and Kirshen, P., Coastal City Climate Change Planning: A Network Optimization Cost-Benefit Approach for Coastal Cities Facing Flooding from Climate-Change-Induced Sea Level Rise, Presented at Northeast Decision Sciences Institute, Cambridge MA, March 26-28, 2020.

Kirshen, P., Climate Change and Coastal Flood Management in Boston, Guest Lecture in ENVSCI 604, UMass Boston, March 24, 2020.

Lippmann, T., Simpson, A., Cook., Kirshen, P., Effects of Sea Level Rise on Modeled Storm Surge and Current Speeds in New Hampshire Estuaries, presented at Ocean Sciences Meeting, 16-21 February 2020.

Chen, R.F., Borrelli, M., Bosma, K., Kirshen, P.H., Lockwood, L., and Peri, F., Designing a Living Laboratory on the Boston Harbor Islands to Support Transdisciplinary Research and Education on Coastal Resilience. Ocean Sciences Meeting 2020, San Diego, Feb 16-21, 2020.

Kirshen, P., Adaptation to Climate Change with Social Justice and Health Perspectives, Guest Lecture in Global Health, Tufts University, February 12, 2020,

Knott, J., Sias, J., Jacobs, J., Kirshen, P., Dave, E., Designing a Climate-Ready Coastal Road, abstract presented at the 99th Annual Meeting of the Transportation Research Board, 12-16 January 2020.

Kirshen, P., Coastal Flooding in Boston, invited talk at RisingEMOTIONS opening art exhibit, East Boston Public Library, December 7, 2019.

Kirshen, P., Climate Change and Flood Management in Boston, guest lecture in Climate Change Engineering, Tufts University, December, 4, 2019.

Kirshen, P., Climate Change and Health, guest lecture in Biology of Water and Health, Tufts University, December 4, 2019.

Kirshen, P., Climate Change in Metro Boston, Mass Boating and Yacht Clubs Association, November 22, 2019.

Kirshen, P., Climate Change Management in Boston with an Emphasis on Coastal Flooding, Guest Lecture, UMB ENVSCI 101, November 20, 2019.

Kirshen, P., Flood Management in Boston, presented to Beijing Drainage Group, Co, Ltd, November 20, 2019.

Chen, R.F., Bosma, K., Kirshen, P.H., Lockwood, L., and Borrelli, M., A Living Laboratory for Coastal Resilience on the Boston Harbor Islands. Coastal Estuarine Research Federation (CERF) 25th Biennial Conference, Mobile, AL, Nov. 3-7, 2019.

Aytur S., Kirshen, P., Burdick D., Lippman T., Nick S., Foster D., Walawender, M., Using Integrated Assessment and Health Impact Assessment (HIA) to inform climate change adaptation planning at the local level: Balancing health, environment, equity, and economic goals,

Abstract submitted to APHA Annual Meeting, Philadelphia, 2-6 November 2019.

Kirshen, P., Managing Climate Change Impacts to Built and Natural Environments, Nantucket Athenaeum, October 26, 2019.

Kirshen, P., Management of Uncertainty in Planning, Guest Lecture in ENVSCI 603, October, 17, 2019.

Kirshen, P., Interview on Coastal Flooding with Bob Dumas, Channel 25, Sept 17, 2019.

Kirshen, P., Interview on Clippership Wharf with Zoe Mitchell, WBUR, Sept 6, 2019.

Kirshen, P., Value of Boston Harbor Ecosystem Services, UMass Boston Coasts and Communities IGERT Program, August 28, 2019.

Hecht, J., and Kirshen, P., Optimizing choices between local adaptation and permanent retreat under deep climate change uncertainty, Paper presented at What Point Managed Retreat ? Resilience Building in the Coastal Zone, Columbia University, 19-21 June 2019.

Kirshen, P., Climate Change, Neponset River Watershed Association Annual Meeting, Quincy MA, 5 June 2019.

Kirshen, P., Panelist, Marine and Environmental Science at SFE: from the Past to the Future, UMass Boston, 16 May 2019.

Kirshen, P., Climate Change and Boston, Second Annual Archaeological Forum, Society for Graduate Archaeologists at the University of Massachusetts Boston and the Fiske Center for Archaeological Research, UMass Boston, April 26th, 2019. Jenkins, D., Mahdavi, F., Kirshen, P., A Network Optimization Approach for Flood Risk Management in Coastal Cities Facing Climate-Change-Induced Sea Level Rise, Presented at INFORMS ALIO International Conference, Cancun Mexico, 11 June 2019.

Kirshen, P., and Chen, R., One, if by land, and two, if by sea – Boston's Decision to Manage Present and Future Coastal Flooding, Meeting of the North Atlantic Chapter of the Society of Environmental Toxicology and Chemistry (NACSETAC), Boston MA, 9 April 2019.

Kirshen, P., Climate Change and Urban Environments, Climate Change Class, College of Management, UMass Boston, 26 March 2019.

Kirshen, P., Regional Climate Modeling and Adaptation Solutions, Land Use & Fiscal Vulnerability to Climate Change in Hull, Hingham and Cohasset, Cornell University Graduate School, 8 March 2019.

Chen, R.F., Bosma, K., Borelli, M., Kirshen, P., and Lockwood, L., Exploring the Use of Dredge Spoils to Enhance the Ecosystem Services Provided by the Boston Harbor Islands. Aquatic Sciences Summer Meeting, San Juan, Puerto Rico., February 23-March 2, 2019.

Chen, R., Bosma, K., Kirshen, Lockwood, L., Borrelli, M., Exploring the Use of Dredge Spoils to Enhance the Ecosystem Services Provided by the Boston Harbor Islands – Almost. Environmental Science 604, 28 February 2019.

Kirshen, P., Climate Change Management in Boston with Emphasis on Coastal Flooding. Honors College, Honors College, McCormack School, UMass Boston, 26 February 2019.

Kirshen, P., Climate Change in Boston: Preparing for the Impacts, National Engineers' Week, CEE, Northeastern University, 21 February 2019.

Kirshen, P., Adaptation to Climate Change with Social Justice and Health Perspectives, Global Health (PH 247) Class, Tufts University, 12 February 2019.

Aytur S., Kirshen, P., Burdick D., Lippman T., Nick S., Foster D., Walawender, M., Carlin, K., Integrating climate change adaptation planning and active living, Presented at the Active Living Research International Conference, Charleston, SC, Feb. 2019.

Panelist, Two if by Sea: How do we tell Boston's climate change story so that people will listen?, UMass Speaker Series, UMass Club, 5 February 2019.

Kirshen, P., Organizing for Community Action: Responses to Climate Change in Boston's Neighborhoods - Vulnerabilities and Solutions, Boston Chapter of the National Forum for Black Public Administrators Meeting, Boston MA, January 24, 2019.

Kirshen, P., Climate Change Adaptation, Freshmen Seminar, School of Engineering, Tufts

University, 5 December 2018.

Douglas, E., and Kirshen, P., Dealing with the Realities of Climate Change in Metro Boston, Distinguished Faculty Lecture, University of Massachusetts, 4 December 2018.

Kirshen, P., Adapting the Urban Built Environment to Coastal Flooding; Challenges with Design under Climate Uncertainty and Inclusion of Social Justice, Invited Lecture, Boston University Biogeosciences Program, November 26, 2018.

Kirshen, P., Climate Change Management in Boston with Emphasis on Coastal Flooding. Honors College, Environmental Science 101, UMass Boston, 21 November 2018.

Kirshen, P., Climate Change Management in Boston with Emphasis on Coastal Flooding. Honors College, UMass Boston, 15 November 2018.

Kirshen, P., One, if by land, and two, if by sea – Boston's Decision to Manage Present and Future Coastal Flooding, Invited Poster at Virginia Academy of Science, Engineering, and Medicine, Richmond VA, 7-8 November 2018.

Kirshen, P., and Bosma, K., Climate Change and the Future of the Boston Coastline, LONG NOW BOSTON, Cambridge MA, 5 November 2018.

Kirshen, P., Feasibility of Harborwide Barrier Systems: Preliminary Analysis for Boston Harbor, Lecture in Professional Issues, CEE Department, UMass Dartmouth, 2 Nov 2018.

Kirshen, P., Feasibility of Harborwide Barrier Systems: Preliminary Analysis for Boston Harbor, US Army Corps of Engineers, Concord MA, 1 Nov 2018.

Member of Panel Discussion on Climate Change in East Boston, What's Up Eastie Radio Show, East Boston, 24 October 2018.

Kirshen, P., Climate Change Adaptation, Invited Lecture, Biology and Water and Health Class, Tufts University, October 21, 2018.

Kirshen. P., Feasibility of Harborwide Barrier Systems: Preliminary Analysis for Boston Harbor, Hubweek Panel, Boston MA, 9 October 2018.

Panelist on Let's Talk about Water, CUAHSI, East Boston, MA, 4 October 2018.

Kirshen, P., Value of Boston Harbor Ecosystem Services, UMass Boston Coasts and Communities IGERT Program, August 30, 2018.

Stroud, H., Kirshen, P., Mavrommati, G., Sea Level Rise in Coupled Human and Natural Systems: A case study of East Boston, International System Dynamics Conference, Reykjavík, Iceland, 6-8 August 2018.

Kirshen, P., Climate Change Adaptation and Coastal Cities, Lecture presented at Climate Change: From Science to Solutions, MIT Professional Education, Cambridge MA, August 1, 2018.

Kirshen, P., Implications of Present and Increased Coastal Flooding, Statement of Paul Kirshen, PhD, Professor, UMass Boston School for the Environment, to Governor's Council on the Future of Transportation, on Threats of Increased Coastal Flooding, at UMass Dartmouth, July 10, 2018.

Kirshen, P., Climate Change Adaptation and Cities, Lecture presented at SAGE RCN Short Course on Coastal Adaptation, Northeastern University, Boston, MA, June 19, 2018.

Kirshen, P., Climate Change, Lecture presented at CEE 705/805: Sustainable Engineering at Shoals Marine Laboratory, UNH, Durham, NH, June 18, 2018.

Kirshen, P., Science of Climate Change, presented at Emergency Meet for Climate Justice, Dance for World Community, Jose Mateo Dance Company, June 7, 2018.

Kirshen, P., Freshwater Systems and Climate Change, Lecture in Water Resources Management, UMass Boston, April 20, 2018.

Bosma, K., Douglas, E., Kirshen, P., Watson, C., Miller, S., and McArthur, K., A probabilistic approach for assessing the vulnerability of transportation infrastructure to flooding from sea level rise and storm surge, invited paper presented at 2018 MassDOT Innovation & Tech Transfer Exchange, DCU Center, Worcester, MA April 10-11, 2018.

Kirshen, P, Climate Change, Water, and Health, Lecture presented to Tufts Public Health 247, Global Health Priorities and Approaches, Medford MA, February 20, 2018.

Kirshen, P., Climate Change and Cities, CoreNet, New York City, December 5, 2017.

Knott, J, Jacobs, J., Daniel, J., Kirshen, P., Modeling the Effects of Sea-Level Rise on Groundwater Levels in Coastal New Hampshire, Presented at AGU Annual Meeting, December, 2017.

Kirshen, P., Climate Change Management, Lecture in Biology 654, Sustainability Science, UMass Boston, November 30, 2017.

Kirshen, P., and Boscio, G., Resilience Planning in East Boston, presented at International High School, Boston Public Schools, Dorchester, MA, November 8, 2017.

Kirshen, P., Climate Change Adaptation, Invited Lecture, Biology and Water and Health Class, Tufts University, November 7, 2017.

Kirshen, P, et al, Local Charrette – Chelsea Creek Redevelopment, Greenbuild/ABX International Conference and Expo, Boston MA, November 7, 2017.

Aytur, S., Kirshen, P., et al, Assessing the Economic, Health, and Environmental Impacts of Climate Change, presented at the Injury Control and Emergency Health Services Late Breakers program of the APHA 2017 Annual Meeting & Expo, Nov. 4 - Nov. 8, 2017.

Aytur, S., Gautam, N., Dapprich, K., Carlin, K., Kirshen, P., Nick, S., Thorburn, A., Pinkham, M., Climate Change Adaptation Planning: From Global to Local. Poster presentation at the American Public Health Association National Conference, Atlanta, GA, November 6, 2017. (Abstract 393982: https://apha.confex.com/apha/2017/meetingapp.cgi/Paper/393982).

Aytur, S., Carlin. K., Nick, S., Kirshen, P., Foster, D., Burdick, D., et al. Promoting community resilience: Assessing the health, economic, and environmental impacts of climate change. Poster presentation at the American Public Health Association National Conference, Atlanta, GA, November 6, 2017. https://apha.confex.com/apha/2017/meetingapp.cgi/Paper/394823

Kirshen, P., Climate Change Adaptation Planning, Lecture in CEN 452, UMass Dartmouth, November 3, 2017.

Kirshen, P. and others, Practicality of Harbor-Wide Protection Strategies, presented at Boston Harbor Habitat Coalition Meeting, November 2, 2017, CERF, November 8, 2017, and A Better City, November 29, 2017 and December 19, 2017, Boston Port Operators, December 19, 2017, Boston Green Ribbon Commission, February 1, 2018, UMass Boston School for the Environment Seminar, February 21, 2018, Plum Island Estuary LTER Annual Meeting, WHOI, March 8, 2018, MA Executive Office of Energy and Environmental Affairs, March 9, 2018, US EPA Region 1, March 13, 2018, Beacon Hill Seminar Series on Climate Vulnerability, May 9, 2018, MIT Water Club, May 10, 2018, Boston Harbor Now, May 30, 2018, New England Environmental Business Council, June 22, 2018, Metropolitan Area Planning Council, June 27, 2018.

Kirshen, P., and others, Designing for Climate Change, HUBWeek Panel, Boston, MA, October, 15, 2017.

Kirshen, P., Value of Boston Harbor Ecosystem Services, UMass Boston Coasts and Communities IGERT Program, August 31, 2017.

Kirshen, P., Adaptation Strategies: Coastal Zones, MIT Science to Solutions Class, August 2, 2017.

Kirshen, P., The Sustainable Solutions Lab at UMB, Opportunities and Challenges on the Road to Innovation Inside and Outside the Academy, Despande Conference, UMass Lowell, June 14, 2017.

Kirshen, P., Community Engaged Adaptation Planning in East Boston, Workshop Panel for Jose Mateo Dance Company Dance for World Community, June 8, 2017.

Kirshen, P., Adaptation Planning in East Boston, From Research to Action: Lessons Learned for Developing and Implementing Climate Services in Underserved Communities Panel, National Adaptation Forum, St Paul MN, May 11, 2017.

Kirshen, P., Climate Justice, UMB IGERT Program Coasts and Communities, May 3, 2017.

Kirshen, P., Adaptation Approaches, Harvard Extension - Applied Corporate Responsibility Class, March 1, 2017.

Kirshen, P., Envisioning the Post-Columbian City; Adaptation Planning, Harvard Extension, February 21, 2017.

Kirshen, P., Climate Change Adaptation, Tufts University MPH Program, February 21, 2017.

Kirshen, P., Adaptation Approaches, The World of Tomorrow: Order and Chaos in the 21st Century, 2007 EPIIC Symposium, Tufts University, February 24, 2017.

Kirshen, P., Climate Change Adaptation, Invited Lecture, ES 93-09 Climate Change Engineering, Tufts University, November 29, 2016.

Kirshen, P., Change Change and Climate Justice in Boston, MIT SPURS Program, November 14, 2016.

Kirshen, P., Climate Change Adaptation, Invited Lecture, Biology and Water and Health Class, Tufts University, November 9, 2016.

Aytur, S., Kirshen, P., et al, Using Social Vulnerability Assessment to Support Emergency Preparedness and Promote Community Resilience, Injury Control and Emergency Health Services Late Breakers program of the APHA 2016 Annual Meeting & Expo, Oct. 29 - Nov. 2, 2016.

Kirshen, P., Climate Change, Invited Lecture, Harvard Law School Workshop on Displacement, October 19, 2016.

Kirshen, P., Climate Ready Boston, Invited Lecture, CoreNET Conference, BU, October 6, 2016.

Kirshen, P., Climate Change Now, Cambridge Climate Congress, October 1, 2016.

Kirshen, P., Responding to the Threat of Sea Level Rise in Boston, UMass Boston School for the Environment Seminar, September 22, 2016.

Kirshen, P., Invited Panel on Partners in Resilience: Higher Education's Role in Metro-Boston Adaptation Planning, WSSD, MIT, September 15, 2016.

Barankin, R., Bowen, R., Kirshen, P., Social Vulnerability to Climate Change: Automation and Validation of Indices, The R User Conference 2016, Stanford University, Stanford, California, June 27 - June 30 2016.

Barankin, R., Kirshen, P., Bowen, R., Measuring the Resilience of Coastal Transportation Assets Using Indicators and Various Data, CNREP 2016: Challenges of Natural Resource Economics & Policy, 5th National Forum on Socioeconomic Research in Coastal Systems, New Orleans, March 20-22, 2016.

Hecht, J., Kirshen, P., Vogel, R., Prescribing Long-Term Urban Floodplain Management Plans under Deep Uncertainty, AWWA Sustainable Water Management Conference, Providence, RI, March 7-10, 2016.

Kirshen, P., East Boston Resiliency Planning, ABX, Boston, November 19, 2015.

Hecht, J., Kirshen, P., Vogel, R., Using Minimax Regret Optimization to Search for Multi-Stakeholder Solutions to Deeply Uncertain Flood Hazards under Climate Change, presented at Third Annual Workshop on Decision-Making under Deep Uncertainty, November 3-4, 2015, Delft, The Netherlands.

Aytur, S., Hecht J., Kirshen P., et al., The Role of Health in Supporting Local Emergency Preparedness and Climate Adaptation Planning: A Community Based Participatory Research (CBPR) Approach, presentation at the American Public Health Association (APHA) National Meeting, Chicago, November 1, 2015.

Gray, S., Metzger, A., Douglas, E., Kirshen, P., Mental Modeling in Watershed Management, Innovations in Collaborative Modeling, Michigan State University, East Lansing MI 4-5 June 2015.

Hecht, J., Kirshen, P., and Vogel, R., Optimizing Long-Term Flood Management in an Estuarine Community Facing Uncertain Climate and Land Use Change, ASCE EWRI Conference, Austin TX, 17-21 May 2015.

Daniel, J., Jacobs, J., Kirshen, P., Climate Adaptation for Road Infrastructure in Coastal New Hampshire, NH Sea Grant Research Symposium, Durham NH, January 30, 2015.

Jacobs, J., Thomas, N., Mo, W., Kirshen, P., et al, Explorations Around "Graceful Failure" in Transportation Infrastructure; Lessons Learned by the Infrastructure and Climate Network (ICNet), AGU Meeting, San Francisco, 15-19 December, 2014.

Rumore, D., Kirshen, P., Susskind, L., New England Climate Adaptation Project, Poster Presented at AGU Meeting, San Francisco, 15-19 December, 2014.

Kirshen, P., Linking Science Knowledge with Social Sciences: Adaptation to Coastal Flooding— Case of East Boston, Invited Presentation to the US National Academies Roundtable on Science and Technology for Sustainability, Washington DC, December 11,2014.

Kirshen, P., Approaches to Decision Making and Environmental Management, Invited Lecture, University of Massachusetts-Boston, Boston MA, December 4, 2014.

Kirshen, P., Climate Change Adaptation, Invited Lecture, ES 93-09 Climate Change Engineering, Tufts University, November 25, 2014.

Kirshen, P., The Role of Integrated Urban Water Supply Management in Adapting to Climate Change, Seminar, MIT Joint Program in the Science and Policy of Global Change, Cambridge MA, November 21, 2014.

Kirshen, P., Discussant on Applications, Workshop on Decision Making under Deep Uncertainty, RAND Corporation, Santa Monica CA, 18-19 November, 2014.

Kirshen, P., Climate Change Adaptation, Invited Lecture, University of Massachusetts-Boston, Boston MA, November 13, 2014.

Kirshen, P., Climate Change Adaptation, Invited Lecture, Biology and Water and Health Class, Tufts University, November 12, 2014.

Kirshen, P., Using Scenario Planning for Integrated Coastal Adaptation Planning in Exeter NH, Systems Analysis of the Environment Class, UNH, November 11, 2014.

Kirshen, P., Aytur, S., Miller, S., Keeley, C., Holt-Shannon, M., Hecht, J., Using Scenario Planning for Integrated Coastal Adaptation Planning in Exeter NH, Inspiring Action, Creating Resilience, Restore America's Estuaries 7th National Summit on Coastal and Estuary Restoration and 24th Biennial Meeting of the Coastal Society, Washington DC, 1-6 November 2014.

Kirshen, P., Climate Adaptation and Scenario Planning for the Built Environment, Webinar for US NSF Infrastructure and Climate Network (ICNet), October 28, 2014.

Kirshen, P., Community Values and Adaptation Planning; A Case Study of East Boston, MA, Invited presentation at XXXVI MIT Global Change Forum, Cambridge, MA, 15-17 October, 2014.

Kirshen, P., Climate Change Adaptation, Invited Lecture, ENE 400, Environmental Engineering, UNH, October 10, 2104.

Aytur, S., Kirshen, P., Becker, M., VonAulock, S., Matso, K., Miller, S., Keeley, C., Holt-Shannon, M., Jones, S., Burdick, D., Hecht, J., Leonard D., Graichen, L., Jacobsen, R., Applying the Policy Sciences Framework to Assess Community Engagement for Climate-Resilient Communities: A Case Study in Exeter, NH, presented at the Policy Sciences Annual Institute, Brown University, Providence, R.I., September 25-27, 2014.

Kirshen, P., Climate Change and Infrastructure, SLR and Cape Ann –Taking Action Locally, The Friends of Good Harbor, Gloucester MA, September 17, 2014.

Kirshen, P., Ballestero, T., and Bosma, K., Adaptation for City Infrastructure; A Case Study of East Boston, MA, invited presentation at Energy Modeling Forum, Snowmass CO, July 22, 2014.

Kirshen, P., Aytur, S., Miller, S., Keeley, C., Holt-Shannon, M., Hecht, J., Climate Adaptation Planning in Exeter, NH, 2014 UCOWR-NIWR-CUAHSI Conference, Water Systems, Science, and Society under Global Change, Tufts University, Medford, Massachusetts, June 19, 2014.

Aytur, S., Kirshen, P., Miller, S., Keeley, C., Holt-Shannon, M., Hecht, J., Graichen, L. and Jacobsen, R., Community Engagement for Climate-Resilient Communities: A Case Study from Exeter, NH, 2014 UCOWR-NIWR-CUAHSI Conference Water Systems, Science, and Society under Global Change Meeting, Tufts University, Medford, Massachusetts, June 19, 2014.

Hecht, J. and Kirshen, P., Optimal Integrated Floodplain and Water Quality Long-term Management under Uncertain Climate Change: a Stakeholder-Friendly Linear Programming Formulation, Proceedings of ASCE World Environmental & Water Resources Congress, Portland, Oregon, June 1-5, 2014.

Aytur S. and Kirshen, P., Transdisciplinary Collaboration for Climate-Resilient Communities: A Case Study in Exeter, NH, UNH Sustainability Institute Fellows, Durham NH, May 29, 2014.

Kirshen, P., Urban Climate Adaptation Planning, LOCAL SOLUTIONS: Northeast Climate Change Preparedness Conference & Educators Summit, Manchester, NH, May 19-21, 2014.

Kirshen, P., Engineered Solutions for Climate Change Adaptation, Guest Lecture, Tufts University Graduate Program in Conservation Medicine, May 8, 2014.

Kirshen, P., Climate Change and Sea Level Rise in Metro Boston, Invited Lecture for Urban Climate Resiliency: High Tides and High Stakes for Businesses Panel, CERES Conference, Boston MA, 30 April-1 May 2014.

Kirshen, P., The Reality of Climate Change: Adaptation Planning for Coastlines, Invited Earth Day Lecture, Salem State University, April 17, 2014.

Kirshen, P., Climate Change: Local and Global Water Issues, Guest Lecture, Global Climate Change Course, Harvard Extension School, April 9, 2014.

Kirshen, P., Climate Change and Coastal Communities, Guest Lecture, CEE Capstone Class, Tufts University, March 27, 2014.

Kirshen, P., Climate Change Adaptation Planning, Graduate Environmental Seminar, Tufts University, February 25, 2014.

Kirshen, P., Climate Forecasting and Agricultural Resources (CFAR) in Burkina Faso, UNH Faculty Research Excellence Seminar Series, Research in Sustainability Science, February 17, 2014.

Kirshen, P., Extreme Weather Events: The Costs of Not Being Prepared, Invited Testimony for the US Senate Committee on Homeland Security and Governmental Affairs, Washington DC, February 12, 2014.

Kirshen, P., Adaptation to Coastal Flooding, Invited Lecture at Open Classroom, Water: Challenges of Extremes, Northeastern University, January 29, 2014.

Miller, S., Douglas, E., Watson, C., Kirshen, P., and Bosma, K., Massachusetts DOT-FHWA Pilot Project: Climate Change and Extreme Weather Vulnerability Assessment and Adaptation Options of the Central Artery, National Hydraulic Engineering Conference, August 19-22, 2014, Iowa City, IA, also at Transportation Infrastructure Resilience and Adaptation, Royal Netherlands Embassy, Washington, D.C. ,January 16, 2014.

Kirshen, P., Preparing for Coastal Climate Change: How Do We Assess Vulnerability and Plan to Adapt, Invited Presentation to National Park Service and Salem Sound Coastwatch Climate Change Lecture Series, Salem MA, December, 10, 2103 and also Storm Surge Series, Newburyport MA, December 16, 2013.

Kirshen, P., Adaptation to Coastal Flooding, Invited Presentation at Architecture Boston Expo, Boston MA, November 19, 2013.

Kirshen, P., Climate Change Adaptation, Guest Lecture. Biology of Water and Health, Tufts University, November 13, 2013.

Kirshen, P., Integrated Water Resources Management; Bringing All the Issues together for Effective Management of Water Resources, Water, Water Everywhere: A University Dialogue on the World's Most Critical Resource, UNH Durham, NH, November 12, 2013.

Kirshen, P., Water Infrastructure Engineering under a Changing Climate, Guest Lecture, ENE 400A/Introduction to Environmental Engineering, UNH, November 6, 2013, also ES 93-09 Climate Change Engineering, Tufts University, November 7, 2013.

Kirshen, P., Climate Change Adaptation Planning for Vulnerable Populations, Finding Your Place in the Evolving Commons, Environmental Justice and Community Decision-Making, Keene State College, Nov. 5, 2013.

Aytur, S., Kirshen, P., Wake, C., Holt-Shannon, M., Von Aulock, S., Keeley, C., Mallory, B., and Roseen, R., Community Engagement for Climate-Ready Communities: The Role of Community-Based Participatory Research in Local Climate Adaptation Planning and Evaluation, 141st APHA Annual Meeting, Boston MA, November 2 – 6, 2013.

Kirshen, P., Dynamic Adaptation of Coastal Infrastructure and Management Strategies, Global Sustainability Working Group (GSWG), MIT Center for International Studies, Cambridge MA, October 10, 2013.

Kirshen, P., Progressive Adaptation of Urban Infrastructure to Climate Change, Invited Presentation at Urban Landscapes and Climate Change: From Measurements to Modeling, Argonne National Laboratory, Argonne, IL, August 27-28, 2013.

Kirshen, P., Climate Change Adaptation: Decision-making under Uncertainty, Invited Presentation at the Society of Risk Analysis, Cambridge, MA, May 30, 2013.

Kirshen, P., Engineered Solutions for Climate Change, Guest Lecture, Engineered Solutions, Tufts University Conservation Medicine Program, May 2, 2013.

Kirshen, P., Processes for Climate Change Vulnerability Assessments and Adaptation Planning. Guest Lecture, CiE 721/821 Pavement Design, UNH, April 30, 2013.

Kirshen, P., Processes for Climate Change Vulnerability Assessments and Adaptation Planning, Civil and Environmental Engineering, Seminar, WPI, Worcester MA, April 22, 2013.

Kirshen, P., Remarks at Massachusetts Global Warming Solutions Act Oversight Hearing, Boston MA, April 22, 2013.

Kirshen, P., Climate Disruption; Crisis and Choices, Presentation at Organization for the Assabet, Sudbury, and Concord Rivers Annual Meeting, Maynard MA, April 6, 2013.

Kirshen. P., Climate Change; Local and Global Water Issues, Guest Lecture, Global Climate Change, Harvard Extension School, April 3, 2012.

Kirshen, P., Adapting to Coastal Flooding, Sea Level Rise Forum, Boston Museum of Science, Boston MA, March 20, 2013.

Kirshen, P., Panel on Climate Change, Rappaport Center for Law and Public Service, Suffolk University, Boston MA, March 5, 2013.

Kirshen, P., Planning for Sea Level Rise, Guest Lecture, UMass-Boston, Nantucket, MA, February 25, 2013.

Kirshen, P., Water Infrastructure Management under a Changing Climate, Presentation at AAAS Session Effective Science for Community-based Climate Change Adaptation Planning, Boston MA, February 17, 2013.

Kirshen, P., et al, Coastal Adaptation Planning for Vulnerable Communities: A Case Study of East Boston MA, Presentation at AAAS Session Environmental Changes and Adaptation in Cities, Boston MA, February 17, 2013.

Kirshen, P., Climate Change Impacts and Planning in Mystic River Watershed, Presentation at Mystic River Watershed Association Annual Meeting, Medford MA, February 11, 2013.

Kirshen, P., Planning for the Changing Climate, Guest Lecture in Climate Change and Public Health, UNH, Manchester NH, February 5, 2013.

Kirshen, P., Coastal Cities: Planning for Resilience, Adaptation, and Sustainability - Lessons from the Northeast and Superstorm Sandy, Presentation at National Center for Science Education Meeting, Washington DC, January 16, 2013.

Kirshen, P., Planning for Sea Level Rise, Seminar, Boston University School of Public Health, December 14, 2012.

Kirshen, P., Sea Level Rise Impacts in Boston Harbor, Presentation at Annual Meeting, The Boston Harbor Association, November 27, 2012.

Kirshen, P., Climate Change and Coastal Flooding, Presentation at forum organized and moderated by Representative Edward Markey on Hurricane Sandy, Faneuil Hall, Boston MA, November, 25, 2012.

Kirshen, P., Climate Change: Impacts and Adaptation, Guest Lecture, Biology of Water and Health, Tufts University, November 14, 2012.

Kirshen, P., Coastal Flooding, Panel on Climate Policy and the Campaign Spending Deluge, NH Institute of Politics, November 14, 2014.

Kirshen, P., Planning for the Changing Climate, Guest Lecture, Introduction to Environmental Issues, University of New England, November 2, 2012.

Kirshen, P., Water Resources, Guest Lecture, Environmental Engineering 400, Environmental Engineering Lectures, University of New Hampshire, October 31, 2012.

Kirshen, P., Climate Change in New Bedford and Fairhaven, MA, Presentation to Cities of New Bedford and Fairhaven, October 2, 2012.

Kirshen, P., Live Interview on Hurricane Sandy, NECN TV, June 26, 2012.

Kirshen, P., Climate Change and Community Planning, Guest Lecture in Integrative Approaches to Development Policy and Practice, UNH, May 29, 2012.

Kirshen, P., Role of Integrated Water Resources Management (IWRM), Systems Analysis, and Decision Support Tools (DST) in Sustainable Development, Guest Lecture in Sustainable Engineering for Development Practice, UNH, May 25, 2012.

Rosner, A., Vogel, R., and Kirshen, P., Caputo, L., and Mathisen, P., Method of Risk-Based Trend Detection for Urban Storm Water under Climate Change, ASCE EWRI Conference, Albuquerque, NM, May 20-24, 2012.

Kirshen, P., Caputo, L., Vogel, R., Rosner, A., Mathisen, P., Renaud, T., Climate Change Adaptation for Urban Drainage, ASCE EWRI Conference, Albuquerque, NM, May 20-24, 2012.

Renaud, T., Mathisen, P., Kirshen, P., and Vogel, R., Management of Storm Water and Combined Sewer Overflows under Climate Change; A Case Study of Worcester, MA, ASCE EWRI Conference, Albuquerque, NM, May 20-24, 2012.

Yaka, P., Roncoli, C., Sanon, M., Sanfo, B., Some, L., Jost, C., Kirshen, P., Hoogenboom, G. Opportunities and Constraints for Seasonal Rainfall Forecast Application to Agricultural Decisions in Burkina Faso, paper presented at a START Workshop on Improving Seasonal Forecast Information for Managing On-farm Decisions. University of Cape Town and University of the Free State (UFS), Bloemfontein, South Africa, May 20-25 2012.

Kirshen, P., Engineered Solutions for Climate Change, Guest Lecture, Engineered Solutions, Tufts University Conservation Medicine Program, May 3, 2012.

Kirshen, P., Planning for the Changing Climate, Concord MA Climate Action Network,

February 28, 2012 and September 25, 2012.

Kirshen, P., Climate Change and Adaptation, Presentation, MIT Sea Grant, May 11, 2012.

Kirshen. P., Climate Change; Local and Global Water Issues, Guest Lecture, Global Climate Change, Harvard Extension School, March 28, 2012.

Kirshen, P., Invited Testimony in Support of NH Senate Bill 163, March 6, 2013.

Kirshen, P., Panel on Climate Culture- Art, Action, Climate Change, MA College of Art and Design, Boston MA, February, 28, 2012.

Kirshen, P., Coastal Adaptation Decision Support Tools for Local Planning and National and Regional Policy Making, Invited Presentation at NOAA Workshop on Climate Science in Support of Coastal Management, Charleston SC, January 11, 2012.

Rosner, A., Vogel, R., and Kirshen, P., Risk-Informed Trend Detection for Climate Change Adaptation Decisions, paper presented at American Geophysical Union Fall Meeting, San Francisco, CA, 5-9 December 2011.

Rosner, A., Vogel, R., and Kirshen, P., Climate Change Adaptation Decisions Using Risk-Informed Trend Analysis, poster presented at NOAA's 36th Climate Diagnostics and Prediction Workshop, Fort Worth, Texas, 3-6 October 2011.

Gao, Y., Vogel, R., and Kirshen, P., Managing and Planning of Small Reservoirs in Upper East Region, Ghana, ASCE EWRI Conference, Palm Springs CA, May 22-26, 2011.

Kirshen, P., Panel on Climate Change Research Needs for Management of Water Resources, ASCE EWRI Conference, Palm Springs CA, May 22-26, 2011.

Arnold, J., White, K., Olsen, R., Vogel, R., Kirshen, P., and Ratick, S., Climate Change Vulnerability Assessments at the US Army Corps of Engineers Water Resources Projects, ASCE EWRI Conference, Palm Springs CA, May 22-26, 2011.

Kirshen, P., Assessment of Climate Change, Impacts, and Solutions in the Northeast United States, Paper presented at NEWEA Stormwater and Specialty Seminar, May 3, 2011, Portsmouth NH.

Kirshen, P., Climate Impacts and Adaptation, Tufts Environmental Alumni Event, Medford MA, April 25, 2012.

Kirshen, P., Ray, P., and Watkins, D., Incorporating Climate Change into Long-Range Water Supply Planning Using Scenario Analysis and Stochastic Programming, AWRA 2011 Spring Specialty Conference "Managing Climate Change Impacts on Water Resources: Adaptation Issues, Options, and Strategies, Baltimore, Maryland, April 18-20, 2011.

Enrici, A., Paolisso, M., Douglas, E., Kirshen, P., and Watson, C., Adaptation and Vulnerability: Adaptation to Sea Level Rise for Environmental Justice Communities, abstract submitted to Association of American Geographers Annual Meeting, April 12-16, 2011.

Kirshen, P., Coastal Climate Change Impacts and Adaptation, presented at Harvard University Extension School, March 9, 2011, at Massachusetts Division of Capital Asset Management, March 10, 2011, at Annual Meeting of Friends of Belle Isle Marsh, March 13, 2011.

Kirshen, P., Coastal Models, National Climate Assessment (NCA) Workshop on Climate Change Modeling and Downscaling, US Department of Energy, Washington DC, December 8-10, 2010.

Kirshen, P., Climate Change and Storm Water Management, Grappling with Stormwater Management in this Era of Climate Change, Maine DEP, Augusta ME, November 30, 2010.

Kirshen, P., Adaptation Planning, Boston Harbor Sea Level Rise Forum, the Boston Harbor Association, Boston MA, November 9-10, 2010.

Kirshen, P., Urban Adaptation to Climate Change, Envisioning Sustainable Cities Class, Lesley University, Cambridge, MA, November 7, 2010.

Kirshen, P., Adaptation Planning; Science, Strategy, and Risk Analysis, Course on Local Communities Adapting to Climate Change: Managing Risk in Decision Making, Lincoln Land Institute of Land Policy, Cambridge MA, November 4-5, 2010.

Kirshen, P., Climate Change Impacts in Metro Boston and Beyond, UMass- Lowell Teach-In on Climate Change, October 15, 2010.

Kirshen, P., and Knee, K., Understanding, Preparing For, & Communicating Coastal Sea Level Rise, presentation at Environmental Business Council of New England 5th Ocean Resource Management Conference, Waltham MA, July 16, 2010.

Kirshen, P, Adapting to Rising Sea Levels, Marine Technology Society Washington DC Section, June 17, 2010.

Kirshen, P., Challenges in Urban Adaptation Planning, panel on Synthesizing Recent Advances in Cross-Regional Knowledge on the Urban Responses to Climate Change, ICLEI Resilient Cities, Bonn, Germany, May 27-30, 2010.

Kirshen, P., Adaptation Planning, presentation to Netherlands Environmental Assessment Bureau (PBL), The Hague, May 27, 2010.

Kirshen, P, Strzepek, K., Carlson, C., Barreteau, O., and Foltz, K., Urban Drainage Management under a Changing Climate; A Case Study of Somerville MA, Proceedings ASCE World Environmental and Water Resources Congress, Providence RI, May 16-20, 2010.

Kirshen, P., Roncoli, C., Etkin, D., Sanon, M., Somé, L., Sanfo, J., Zoungrana, J., and Hoogenboom, G., Introducing Reservoir Management Decision Support Tools in a Multi-User Context in Burkina Faso, Proceedings ASCE World Environmental and Water Resources Congress, Providence RI, May 16-20, 2010.

Ray, P., Kirshen, P., Rosenberg, D., Hagan, R., An Overview of the Water Situation in Amman, Jordan, Proceedings ASCE World Environmental and Water Resources Congress, Providence RI, May 16-20, 2010.

Ray, P., Vogel, R., Kirshen, P., and Watkins, D., Robust Optimization of the Water System in Amman, Jordan, Proceedings ASCE World Environmental and Water Resources Congress, Providence RI, May 16-20, 2010.

Douglas, E., Kirshen, P., Watson, C., and Paolisso, M., Coastal Flooding and Environmental Justice: Identifying Vulnerable Communities and Feasible Adaptation Strategies for the Boston metro are, Proceedings ASCE World Environmental and Water Resources Congress, Providence RI, May 16-20, 2010.

Kirshen, P., Adaptation Planning for NPS Management Under a Changing Climate, 21st Annual NPS Conference, NEIWPCC, Plymouth MA, May 17-19, 2010.

Roncoli, C., Orlove, B., Kabugo, M., Kirshen, P., Sanon, M., Some, L., Sanfo, J., Jost, C., Hoogenboom, G., Assessing Causality in Participatory Projects: How Do We Know That Climate Forecasts Affect Farmers' Decisions?, paper presented at Workshop in Impact Evaluation of Projects Addressing Global Environmental Change, Earth Institute and International Research Institute for Climate and Society, Palisades, NY, April 20-21, 2010.

Kirshen, P., Climate Change and Water Resources, lecture for Global Climate Change class, Harvard Extension School, March 10, 2010.

Carlson, C., Barreteau, O., Foltz, K., and Kirshen, P., A Tale of Two Models: How Agent Based Modeling Filled in the Human Variables of Hydrologic Modeling for Low Impact Development in Somerville, MA, Proceedings of Cities of the Future 2010, Water Environment Federation, Boston MA, March 7 – 10, 2010.

Kirshen, P., Climate Change and Sea Level Rise, presented at the Cambridge Forum, January 28, 2010.

Kirshen, P., Climate Change Impacts in the Northeast, invited paper at Groton Climate

Adaptation Workshop, Groton, Connecticut, January 27, 2010.

Kirshen, P., Climate Change and Extreme Events, presentation to City of Cambridge Climate Advisory Committee, January 14, 2010.

Kirshen, P., The Process of Climate Adaptation Planning, presentation to City of Boston GHG Adaptation Working Group, January 13, 2010.

Jagai, J, Naumova, E., Griffiths, J., Webb, P., Kirshen, P., Variations in Seasonal Patterns of Gastrointestinal Infections within a Watershed, presented at the Environment program of the 137th APHA Annual Meeting, Philadelphia, PA, November 7-11, 2009.

Kirshen, P., Maxemchuk, A., Richardson, N., Wisneski, C., Hunt, C., Thom, R., and Gulbransen, T., Scenario-Based Risk Assessment Climate Change Adaptation Planning For Estuaries, presented at Coastal and Estuarine Research Federation 20th Biennial Conference, Portland OR, 1-5 November 2009.

Kirshen, P., Risk Scenarios: What Are We Adapting To ?, invited presentation at Lincoln Land Institute and Consensus Building Institute workshop on climate change adaptation, Cambridge, MA October 29, 2009.

Kirshen, P., Significant Findings from the Climate's Long-Term Impacts on Metro Boston (CLIMB) Case Study and Follow-on Research, invited paper at Energy Modeling Forum Adaptation Meeting, Snowmass CO, July 29, 2009.

Kirshen, P., Slovinsky, P., Neuman, J., and Merrill, S., Community Planning for Adaptation to Sea Level Rise due to Climate Change, presented at Maine Beaches Conference, Portland ME, 10 July 2009.

Hanson, L., Vogel, R., Kirshen, P., and Shanahan, P., Generalized Storage-Reliability-Yield Relationships for Rainwater Harvesting Systems, Proceedings, EWRI Annual Meeting, ASCE, Kansas City, Missouri, May 17 - May 21, 2009.

Kirshen, P., and Strzepek, K., Guidance Tools for Planning and Management of Urban Drainage Systems under a Changing Climate, Proceedings, EWRI Annual Meeting, ASCE, Kansas City, Missouri, May 17 - May 21, 2009.

Gao, Y., Kirshen, P., Vogel, R., and Walker, P., Environmental Flows in the Context of Small Reservoirs in Ghana, EGU General Assembly 2009, Vienna, Austria 19 – 24 April 2009.

Kirshen, P., Scenario-Based Risk Assessment: Climate Change Adaptation Planning in the Urban Coastal Zone, invited paper at APA Annual Meeting, Minneapolis, 28 April 2009.

Kirshen, P., Scenario-Based Risk Assessment for Planning for Climate Change Adaptation Planning in the Coastal Zone, invited presentation at the UNH Sustainability Speaker Series, Durham NH, 16 April 2009.

Kirshen, P., Richardson, N., and Knee, K, Integrated Climate Change Adaptation Planning for the Natural and the Built Environments in the Coastal Zone; Example of Wetlands and Storm Surges, paper presented at MA Water Resources Conference, Amherst MA, 7 April 2009.

Douglas, E., Kirshen, P., Watson, C., Wiggin, J., Gontz, A., Ruth, M., Paolisso, M., and Goodwin, S., Coastal Flooding and Environmental Justice: Identifying Vulnerable Communities and Feasible Adaptation Strategies in the Boston metro area and Maryland's Eastern Shore, SFAA Annual meeting, 17-21 March 2009. Also presented at AAG Annual Meeting, Las Vegas, 22-27 March 2009.

Kirshen, P., Scenario-Based Risk Assessment for Climate Change Adaptation Planning, invited presentation at US EPA Water Security Retreat, Office of Ground Water and Drinking Water, Shepherdstown, WV, 25 March 2009.

Roncoli,C., Kirshen, P., Etkin, D., Sanon, M., Some, L., Sanfo, J., Zoungrana, J., and Hoogenboom, G., Participatory Development of a Climate-Based Decision Support Tool for Improved Water Management (Burkina Faso), Climate Program Office, NOAA, Washington DC, March 18, 2009.

Kirshen, P., Adaptation to Climate Change, invited presentation at New England Water Environment Association Meeting, Boston MA, 26 January 2009.

Kirshen, P., Risk and Management Analysis for Progressive Adaptation of Water Supply in Metro Boston, invited paper at the First National Expert and Stakeholder Workshop on Water Infrastructure Sustainability and Adaptation to Climate Change, US EPA, Crystal City, VA, 6-8 January 2009.

Sanon, M., Roncoli, C., Hoogenboom, G., Kirshen, P., Some, L., Sanfo, J., Jost, C., Communicating Climate Forecasts to Rural Producers: Perspectives from Participatory Research, Invited paper presented at a workshop on Adaptation to Climate Change: Strengthening Capacities in Africa, German Development Institute and Stockholm Environment Institute, Bonn, Germany, November 26.-27, 2008.

Kirshen, P., Use of Seasonal Forecasting as a Climate Change Adaptation Tool for the Sahel-Sudan, West Africa, invited talk at UNDP, New York, NY, November 18, 2008.

Kirshen, P., and Strzepek, K., Guidance Tools for Planning and Management of Urban Drainage Systems under a Changing Climate: Example of Collaborative Risk Analysis with Stakeholders, paper presented at EMF Adaptation Workshop, Wesleyan University, October 30, 2008. Kirshen, P., Climate Change and Water Resources, Council of Infrastructure Financing Meeting, Invited paper, Providence, RI, 20-21 October, 2008.

Kirshen, P., Infrastructure Adaptation Planning under Climate Change Using a Risk-Based, Scenario Approach; A Case Study of Coastal Flooding and SLR in Metro Boston, Invited Paper, Indian Entrepreneur Association, Boston University, Boston, October 1, 2008.

Kirshen, P., Impacts of Climate Change on Coastal Flooding of Infrastructure in New England and Adaptation Policy, Invited speaker, EPA New England Climate Change Forum, UNH, Durham NH, June 19, 2008.

Kirshen, P., Climate Change and Freshwater Impacts in New England, Invited speaker, ICLEI Municipal Adaptation Workshop, Northeastern University, May 30, 2008.

Kirshen, P, Climate Models and Decision Making in the Context of Adaptation to Climate Change, Invited speaker, Tufts Faculty Workshop on Climate Change, May 19, 2008.

Kirshen, P, and Cardwell, H., The Role of Shared Vision Planning/Participatory Modeling in Integrated Water Resources Management, Proceedings ASCE World Environmental and Water Resources Congress, Honolulu, Hawaii, 13-16 May 2008.

Kirshen, P., Water Supply National Strategies and Costs for African Adaptation to Climate Change, Proceedings ASCE World Environmental and Water Resources Congress, Honolulu, Hawaii, 13-16 May 2008.

Lautze, J., Kirshen, P., and Griffiths, J., Reservoir Management to Improve Malaria Management in East Africa, Proceedings ASCE World Environmental and Water Resources Congress, Honolulu, Hawaii, 13-16 May 2008.

Etkin, D., Kirshen, P., Watkins, W., Diallo, A.A., Hoogenboom, G., Roncoli, M.C., Sanfo, J., Sanon, M., Somé, L., and Zoungrana, J., Risk Based Decision Support for Reservoir Scheduling in West Africa, Proceedings ASCE World Environmental and Water Resources Congress, Honolulu, Hawaii, 13-16 May 2008.

Kirshen, P., Water Supply and Climate Change in the Middle East North Africa Region, Invited paper presented to the World Bank, April 17, 2008.

Kirshen, P., Responding to Climate Change Impacts on Water Resources in the Massachusetts, Invited paper for Massachusetts Water Resources Research Center Fifth Annual Conference, Integrating Water Resources Management, Amherst MA, April 8, 2008.

Joyce, B., Sieber, J., and Kirshen, P., A Model for Combined Wastewater, Stormwater and Water Supply for Massachusetts, paper presented at Massachusetts Water Resources Research Center Fifth Annual Conference, Integrating Water Resources Management, Amherst MA, April 8, 2008.

Roncoli, C., Kirshen, P., Etkin, D., Some, L., Sanon, M., Sanfro, J., Zoungrana, J., and Hoggenboom, G., Managing Water or Mediating among Users: Introducing Climate-Based Decision Support Tools in A Multi-Stakeholder Context in Southwest Burkina Faso, paper presented at SfAA 2008 Annual Meeting, Memphis, Tennessee, March 25-29, 2008.

Kirshen, P., Climate Change and Water Resources in Massachusetts, Invited talk to the Massachusetts Water Resources Commission, February 14, 2008.

Kirshen, P., Rethinking Engineering Design Under Climate Change, Invited facilitated session at the Workshop on Climate Change Adaptation for (Western) Water Managers, Oracle, AZ, February 5, 2008.

Kirshen, P., Urban Adaptation to Climate Change: A Case Study of Metro Boston, Civil and Environmental Engineering Seminar, Northeastern University, December 6, 2007.

Kirshen, P., Terrestrial Impacts, Feedbacks, and Adaptation; The Issues of Sea Level Rise and Coastal Flooding, invited talk at 50th Anniversary of the Global Carbon Dioxide Record Symposium and Celebration, Kona, Hawaii, 28-30 November, 2007.

Roncoli, M.C., Hoogenboom, G., Kirshen, P.H., Orlove, B., The Role of Participation in Climate Services, presented at World Bank, Washington DC, November 29,2007.

Kirshen, P. Climate Change in New England: What Can We Expect, invited talk at New England Smart Growth Leadership Forum, Federal Reserve Bank, Boston, MA, November 1, 2007.

Roncoli, C., L. Some, M. Sanon, C. Jost, P. Kirshen, G. Hogenboom., Communication et Utilisation des Prévisions Saisonnières dans 3 Zones du Burkina Faso. Paper presented at a Stakeholder Workshop on Communication of Climate Information to Rural Communities, Ouagadougou, Burkina Faso, June 12-13, 2007.

Quattrochi, D., Wilbanks, T., Kirshen, P., Romero-Lankao, P., Rosenzweig, C., Ruth, M., Solecki, W., and Tarr, J., Effects of Global Change on U.S. Urban Areas: Vulnerabilities, Impacts, and Adaptation, presented at session on Remote Sensing of the Urban Environment, 2007 American Geophysical Union (AGU) Joint Session, Acapulco, Mexico, 22-25 May 2007.

Limbrunner, J., Kirshen, P., Vogel, R., and Chapra, S., Comparison of Linear and Non-Linear Optimization Models for Storm Water and Non-Point Source Pollution Best Management Practice Decision Support, Proceedings of ASCE EWRI World Environmental and Water Resources Congress, Tampa FL, 15-19 May 2007.

Kirshen, P., Vogel, R., and Zoltay, V., Management Options for Water Supply Planning: Optimizing within a Watershed Context, Proceedings of ASCE EWRI World Environmental and Water Resources Congress, Tampa FL, 15-19 May 2007.

Limbrunner, J., Kirshen, P., and Chapra, S., Optimization of BMP Selection using Linear Programming, Proceedings of ASCE EWRI World Environmental and Water Resources Congress, Tampa FL,15-19 May 2007.

Kirshen, P., Pedagogies of the Science Policy Interface: Challenges in Graduate Education in Integrated Water Resources Management, invited paper, Numerical Modeling – Policy Interface (MNPI) Workshop 2007, University of Stuttgart, 12-13 March 2007.

Kirshen, P, Climate Change Impacts on Metro Boston, invited talk at Belmont Hill School, Belmont MA, February 14, 2007.

Kirshen, P., Jost, C., Roncoli, M.C., Hoogenboom, G., Opportunities and Challenges in Using Hydrologic Information and Decision Support Tools to Improve Livelihoods in Burkina Faso, West Africa, Invited Paper, AGU Fall Meeting, 11-15 December 2006.

Lautze, J. and Kirshen, P., Dams, Health, and Livelihoods in Africa: Operational Lessons from the Senegal, Suggestions for the Nile, Proceedings of 2006 ASCE Operations Management Conference, Sacramento, California. August 14-16, 2006.

Ray, P., Kirshen, P., and Vogel, R., Optimization of Water and Wastewater Systems, Case Study of Beirut, Lebanon, ASCE World Environmental and Water Resources Congress, Omaha, Nebraska, May 21-25, 2006.

Zoltay Titcomb, V., Kirshen, P., and Vogel, R., Optimizing Management Efforts for Sustainable Long Range Water Supply Planning, ASCE World Environmental and Water Resources Congress, Omaha, Nebraska, May 21-25, 2006.

Limbrunner, J., and Kirshen, P., Nutrient Management Models, presentation to Environmental and Water Resources Group, Boston Society of Civil Engineers, ASCE, Boston MA, March 21, 2006.

Lautze, J., and Kirshen, P., Dams, Livelihoods, and Health in Africa: Lessons from the Senegal, Suggestions for the Nile, CGIAR Challenge Program on Water and Food Working Conference Enhancing Equitable Livelihood Benefits of Dams Using DSS, Nazareth, Ethiopia, 23-26 January 2006.

Kirshen, P., Climate Change Impacts and Adaptation Strategies for Coastal Metro Boston, Environmental, Earth and Ocean Sciences (EEOS) Department, University of Massachusetts, Boston, October, 26, 2005. Vogel, R., Limbrunner, J., Chapra, S., and Kirshen, P., A Distributed Decision Support System for Watershed Quality Management, EWRI Watershed Management Conference, Williamsburg, VA July 19-22, 2005.

Limbrunner, J., Chapra, S., Vogel, R., and Kirshen, P., Decision Support System for Optimal Watershed Nutrient Management, EWRI Watershed Management Conference, Williamsburg, VA July 19-22, 2005.

Kirshen, P. H., Use of Indicators in Integrated Water Resources Management, Proceedings of the ASCE World Water and Environmental Resources Congress, Anchorage Alaska, May 15-19, 2005.

Kirshen, P., Ruth, M., and Anderson, Integrated Impacts of Climate Change on and Adaptation Strategies for Metropolitan Areas; A Case Study of Metropolitan Boston, Proceedings of the ASCE World Water and Environmental Resources Congress, Anchorage Alaska, May 15-19, 2005.

Limbrunner, J., Chapra, S., Vogel, R., and Kirshen, P., Tufts Watershed Loading Function: Best Management Practice Model For Decision Support, Proceedings of the ASCE World Water and Environmental Resources Congress, Anchorage Alaska, May 15-19, 2005.

Fernandes, A.M., Kirshen, P., and Vogel, R., Linear Optimization of Faecal Sludge Management, St. Elizabeth, Jamaica, Proceedings of the ASCE World Water and Environmental Resources Congress, Anchorage Alaska, May 15-19, 2005.

Jost, C., Roncoli, M.C., Kirshen, P., Hoogenboom, G., Ouattara, F., Sanon, M., Incorporation of Seasonal Climate Forecasts into Decision Making by Pastoralists in Burkina Faso – Findings from the Climate Forecasting for Agricultural Resources Project. Vetérinaires Sans Frontières Europa Symposium, Belgium, April 15, 2005.

Roncoli, M.C., Jost, C., Hoogenboom, G., and Kirshen, P.H., Risk Management and Social Learning in Farmers' Responses to Seasonal Climate Forecasts in Burkina Faso, AAG meeting, Denver April 5-9, 2005.

Kirshen, P., Rader, M., Hoogenboom,G., Jost, C., Roncoli, C., Use of Decision Support Computer Tools to Improve Communication of Climate Forecast Information to Farmers in Burkina Faso, paper presented at Climate Prediction Applications Science Workshop, International Research Institute for Climate Prediction, New York, 15-17 March 2005.

Kirshen, P., Vogel, R., Griffiths, J., Naumova, E., Rogers, B., Durant, J., Reed, R.M., and Gute, D., Incentives and Challenges in Graduate Education in Integrated Water Resources Management (IWRM), Proceedings of ASCE World Water and Environmental Resources Congress 2004, Salt Lake City Utah, June 2004. Kirshen, P., Ruth, M., and Anderson, W., Climate Change and Urban Infrastructure: A Case Study of Metropolitan Boston in the Northeastern USA, invited paper at the International Conference on Urban Dimensions of Environmental Change: Science, Exposures, Policies, and Technologies, Shanghai China, 25-28 May 2004.

Ruth, M., Amato, A., and Kirshen, P., Potential Effects of Climate Variability and Change on Temperature-related Mortality in Metropolitan Boston, Centennial Meeting of the Association of American Geographers, Philadelphia, Pennsylvania, March 14-19, 2004.

Ruth, M, and Kirshen, P., Climate Impacts on Urban Infrastructure: Regional Cost and Adaptation Strategies, Annual Meeting of the Western Regional Science Association, Maui, Hawaii, February 23-28, 2004.

Kirshen, P., Adaptation of Urban Water Infrastructure to Long-Term Climate Change: A Case Study of Metro Boston, Invited talk at the Smart Growth and the Environment Lecture Series, University of Maryland, 2 December, 2003.

Kirshen, P., Ingram, K., Hoogenboom, G., Jost, C., Roncoli, C., Ruth, M., and Knee, K., Lessons Learned for Climate Change Adaptation; Part 1 - Implementation of Seasonal Climate Forecasting in West Africa; Part 2 - Impacts from and Adaptation to Climate Change in Metro Boston, USA. Invited. Insights and Tools for Adaptation: Learning from Climate Variability, NOAA Workshop, 18-20 November 2003, Washington, DC.

Kirshen, P., Long-Term Climate Change; Global and Local Issues, Weather Observers Conference, Boston Museum of Science, Keynote address, October 18, 2003.

Kirshen, P., Ingram, K., Hoogenboom, G., Jost, C., Roncoli, C., Taking Stock and Moving Forward; the Role of Seasonal Forecasting in Adaptation to Long-Term Climate Change, What the CFAR Project in Burkina Faso Has Learned, invited panel presentation at 2003 Open Meeting of the Human Dimensions of Global Environmental Change Research Community, Montreal Canada, 16-18 October 2003.

Lautze, J, Reeves, M., Vega., R., and Kirshen, P.H., "Climate" for Peace: Climate Change and Sustainable Peace in Israel/Palestine, Proceedings, Information to Support Sustainable Water Management: From Local to Global Levels, Monitoring Tail-Made IV, The Netherlands, 15-18 September 2003.

Ruth, M., and Kirshen, P., Urban Infrastructure and Sustainability in a Changing Environment, paper presented at the Second International Society for Industrial Ecology Conference, Ann Arbor MI, 29 June -2 July 2003.

Kirshen, P., Wilson, C., Knee, K., Suarez, P., Ruth, M., Anderson, W., and Lakshmanan, T.R.,

Integrated Impacts of Long-Term Climate Change on the Water Resources Systems in the Boston Metropolitan Area and Adaptation Responses, abstract for ASCE World Water and Environmental Resources Congress, Philadelphia, PA, June 23-26, 2003.

Kirshen, P.H., Knee, K., Ruth, M., and Suarez, P., Infrastructure Impacts of Climate Change on Coastal Metro Boston, AAAS Special Symposium on "Cities in Transition: Climate Change Impacts, Adaptation, and Mitigation", AAAS Annual Meeting and Science Innovation Exposition, Denver CO, 13-18 February 2003.

Ruth, M., Kirshen, P.H., Anderson, W., Lakshmanan, T.R., Amato, A., Suarez, P., Knee, K., Gute, D., and Horowitz, J., Synergies between Mitigation and Adaptation to Climate Change in Cities, AAAS Special Symposium on "Cities in Transition: Climate Change Impacts, Adaptation, and Mitigation", AAAS Annual Meeting and Science Innovation Exposition, Denver CO, 13-18 February 2003.

Roncoli, C., Hoogemboom, G., Ingram, K., Jost, C., and Kirshen, P., Scientific Discourse and Social Meanings in the Dissemination of Seasonal Rainfall Forecasts in the Sudan-Sahel Region of West Africa, paper presented the Conference on the Human Dimensions of Global Environmental Change, Berlin, Germany, December 6-7, 2002.

Roncoli, C., Ingram, K., Kirshen, P., and Jost, C., Packaging Predictions: Experiences in the Communication of Climate Information to Farmers of Burkina Faso, paper presented at the Meetings of the African Studies Association, Washington, DC, December 5-9, 2002.

Ruth, M. and Kirshen, P., Climate's Long-term Impacts on Metro Boston, U.S. Environmental Protection Agency, 5th State and Local Climate Change Partner's Conference, Annapolis, Maryland, November 20 - 22, 2002.

Kirshen, P., Edgers, L., Edelmann, J., Percher, M., Bettencourt, B., Lewandowski, E., and Limbrunner, J., A Case study of the Possible Effects of Climate Change on Bridge Scour, Proceedings of First International Conference on Scour of Foundations, Texas A&M University, College Station TX, 17-20 November, 2002.

Roncoli, C., Ingram, K.T., Jost, C. and Kirshen, P. and Yaka, P., Farmers' Behavioral Responses to Seasonal Rainfall Forecasts in the Sudan-Sahel Region, paper presented at 17th Symposium of the International Farming Systems Association (IFSA), Orlando, Florida, November 17-20, 2002.

Kirshen, P.H., Integrated Impacts of Climate Change on the Infrastructure Services of Metro Boston and Policy Options for Adaptation, invited paper at US EPA Region 1 Environmental Research Seminar, Boston MA November 14, 2002.

Kirshen, P.H., Ingram, K., Hoogenboom, G., Jost, C., Roncoli, C., Value of Short Term Coping

Strategies for Adapting to Long Term Climate, Environmental, and Socio-Economic Changes ?, invited presentation for NOAA Human Dimensions of Global Change Principal Investigator Meeting, Seabrook Island SC, October 23-25, 2002.

Roncoli, C., Ingram, K., Kirshen, P., Jost, C., and Hoogemboom, G., Salience and Meaning in Knowledge Encounters: Anthropological Perspectives on Eliciting Users' Needs, invited paper for the NOAA-Office for Global Program Principal Investigators' meeting, Seabrook Island, SC, October 22-25, 2002.

Swan, C., Kirshen, P., and Durant, J., Environmental Engineering Education and Community Service: A Synergistic Partnership, Proceedings of American Society of Engineering Education Annual Meeting, 2002.

Kirshen, P., Ruth, M., Knee. K., Wilson, C., and Amato. A., Preliminary Findings of Climate Impacts on Metro Boston, invited paper at Energy Modeling Forum, Snowmass, CO, August 1-2 2002.

Kirshen, P, Jost, C., Ingram, K., Roncoli, C., and Hoogenboom, G., Integrated Analysis of Impacts of and Adaptation to Climate Change in the Sahel-Sudan, A Case Study of Farmers and An Urban Area in Burkina Faso, invited paper at Spring American Geophysical Union Meeting, 28-31 May 2002.

Kirshen, P.H., Coastal Impacts of Climate Change on Metro Boston, presentation to Meet the Scientists Program, Tufts University, March 19, 2002.

Kirshen, P.H., The Impacts and Costs of Climate Change to the Boston Region, presentation to the Boston Area Solar Energy Association, March 14, 2002.

Roncoli, C., Ingram, K., Kirshen, P., and Jost, C., Climate Information and Gender Negotiations: Domestic Budgeting among Farmers of Burkina Faso, paper presented at the Meetings of the Society for Applied Anthropology, Atlanta, Georgia, March 6-9, 2002.

Kirshen, P.H., Impact of Global Warming-Induced Climate Change on the Hydrology of Massachusetts, invited paper at 2002 Annual Meeting of the Association of Massachusetts Wetland Scientists (AMWS), Boxboro MA, March 23, 2002, also presented the Waste Water Advisory Committee of the Massachusetts Water Resources Authority, March 1, 2002.

Ruth, M. and Kirshen, P.H., Dynamic Investigations into Climate Change Impacts on Urban Infrastructure: Background, Examples, and Lessons, Proceedings of Western Regional Science Association Annual Meeting, Monterey, California, Feb. 18 - 20, 2002.

Roncoli, C., Ingram, K., Kirshen, P., and Jost, C., Meteorological Meanings: Farmers' Interpretations and Applications of Seasonal Rainfall Forecasts in Burkina Faso. Paper presented at the Annual Meetings of the American Anthropological Society, Washington DC, November 28-December 2, 2001.

Kirshen, P., Invited discussant of "Bostonians and Their Weather", talk by William Meyer at Boston Environmental History Seminar, Massachusetts Historical Society, 11 December 2001.

Roncoli, C., Ingram, K., Kirshen, P., and Jost, C., Gender Dimensions of Climate Forecasting: How Rainfall Information May Shape Resource Management and Decision Making within Rural Households of Burkina Faso. Paper presented at the Women and Development Office of the United States Agency for International Development, Washington DC, November 30, 2001.

Roncoli, C., Ingram, K., Kirshen, P., and Jost, C., Figuring Forecasts: Perceptions and Predictions of Seasonal Rainfall among Rural Producers of Burkina Faso. Paper presented at the Bureau of Applied Research in Anthropology, University of Arizona, Tucson, Arizona, November 9, 2001.

Kirshen, P. and Ruth, M., The CLIMB Project – Update and Progress, presented at Climate Change and Action in the Region, An Update on Activities to Reduce and Prepare for Climate Change, Metropolitan Area Planning Council, Boston MA, 1 October, 2001.

Kirshen, P., Roncoli, C., Ingram, K., and Jost, C., What Adaptation to Climate Variability in West Africa Tells Us about Adaptation to Long-Term Climate Change. Invited paper at Energy Modeling Forum, Snowmass, CO, 30 July 2001.

Roncoli, C., Ingram, K., Kirshen, P., and Jost, C., Meteorological Meetings: Indigenous and Scientific Rainfall Forecasting in Burkina Faso. Paper presented at the Workshop on Communication of Climate Forecasts, International Research Institute for Climate Prediction, Palisades, New York, June 6-8, 2001.

Roncoli, C., Ingram, K., Kirshen, P., and Jost, C., Évaluation d'une Expérience de Diffusion des Prévisions Saisonnières: le Cas du Burkina Faso. Paper presented at a Workshop on Communication and Application of Climate Information in Rural Areas, Nouakchott, Mauritania, May 29-31, 2001.

Westphal, K.S., Vogel, R., and Kirshen, P., A Decision Support Model for Operating the Eastern Massachusetts Water Supply System, Proceedings of ASCE World Water Resources and Environmental Congress, 20-24 May 2001, Orlando, FL, also presented at Decision Support Systems for Water Resources Management, American Water Resources Association Specialty Conference, Snowbird, UT, 27-30 June 2001.

Kirshen, P.H., and Ruth, M., Integrated Impacts of Climate Change on the Infrastructure Systems and Services of the Boston Metro Area, invited for Proceedings of ASCE World Water Resources and Environmental Congress, 20-24 May 2001, Orlando, FL.

Kirshen, P., Integrated Water Resources Management: The Process, Models, and Stakeholders, paper presented at Mauritius Environmental Resource Management and Industrial Management (MERMAID) Meeting, University of Maryland and University of Mauritius, Reduit, Mauritius, May, 2001.

Kirshen, Paul H., Coastal Infrastructure and Climate Change in Metro Boston, invited paper for The Conference of New England Governors and Eastern Canadian Premiers Climate Change Workshop, Fredericton, New Brunswick, 29-30 March 2001.

Pak D., Vogel R., Kirshen P., Griffiths J.K., Naumova E.N., Morris R.D., Occurrence of Cryptosporidium Oocysts in a Multi-use Watershed in Relation to Land Use and Rainfall. In the Proceedings of the Microbial/Disinfection By-Products Health Effects Symposium. AWWA, Lisle, IL. March 24-26, 2001.

Roncoli, C., Ingram, K.I., Jost, C. and , Kirshen, P., Modernity Meets Marginality: Impacts of Seasonal Rainfall Forecasts on Rural Livelihoods in Burkina Faso, Presented at Society for Applied Anthropology Annual Meeting, Merida, Mexico, March 2001.

Kirshen, Paul H., The CLIMB Project, presented at Winter Council Meeting of the Metropolitan Area Planning Council, Boston MA, 28 February 2001.

Roncoli, C., Ingram, K., and Kirshen, P. Local Knowledge and Rainfall Forecasting in the Central Plateau of Burkina Faso, paper presented at the Annual Meeting of the African Studies Association, Nashville, TN, November 16-19, 2000.

Roncoli, C., Ingram, K., and Kirshen, P., Opportunities and Constraints to Using Seasonal Precipitation Forecasting to Improve Agricultural Production Systems and Livelihood Security in the Sahel-Sudan Region: A Case Study of Burkina Faso, CFAR-Phase 1, Proceedings of the International Forum on Climate Prediction, Agriculture, and Development, 26-28 April 2000, International Research Institute for Climate Predictions, IRI-CW/OO/1, pp. 265-277, November 2000.

Kirshen, P.H., Roncoli, C., Ingram, K., "Lessons Learned" from the Research Project "Opportunities and Constraints to Using Seasonal Precipitation Forecasting to Improve Agricultural Production Systems and Livelihood Security in the Sahel-Sudan Region: A Case Study of Burkina Faso, invited for Global Review Meeting on Regional Climate Outlook Forums, Pretoria, South Africa, 16-20 October 2000.

Kirshen, P, Adaptation to Climate Variability in West Africa – Security of Occupations of Subsistence Agricultural Producers, invited paper at Energy Modeling Forum, Snowmass, CO, 26-26 July 2000.

Kirshen, P.H., and Durant, J., The Mystic River Collaborative: A University and Community Partnership for Watershed Restoration, Proceedings of Watershed Management 2000, ASCE, held at Fort Collins, CO, June 2000.

Kirshen, P.H., Fernandez, W., and Vogel, R., Regional Model to Study Impacts of Global Climate Change upon US Water Resources; A Case Study of the Southeastern USA, Proceedings of Operations Management 2000, ASCE, held at Fort Collins, CO, June 2000.

Kirshen, P.H., Fresh Water Resources Impacts and Adaptation, invited presentation at Harvard Institute for International Development Program on Climate Change and Development, Cambridge, MA, June 13, 2000.

Roncoli, C., Ingram, K., and Kirshen, P. The Potential Role of Forecast Information in the Agroecological Zones of Burkina Faso. Invited paper presented at the West Africa Climate Outlook Forum (PRESAO-03), African Center for Meteorological Applications to Development, Ouagadougou, Burkina Faso, May 8-12, 2000.

Ruth, M., and Kirshen, P., Integrated Impacts of Climate Change upon Infrastructure Systems and Services in the Boston Metropolitan Area, presented at XIth Global Warming International Conference and Expo (GWXI), Boston, MA, 25-28 April 2000.

Roncoli, C., Ingram, K, and Kirshen, P. Traditional Indicators of Rainfall Forecasting in Burkina Faso. Paper presented at a Workshop on Advising Sudano-Sahelian Producers on Climatic and Hydrological Risk, AGRHYMET, Niamey, Niger, March 19-23, 2000.

Kirshen. P.H., Ingram, K.I., and Roncoli, C., Use of Climate Forecasts to Improve Agriculture in West Africa – A Case Study of Burkina Faso, presented at American Geophysical Union Spring Meeting, Boston, MA, 31 May – 4 June, 1999, also at ASCE Water Resources Planning and Management Division Meeting, Tempe, Arizona, 6-9 June 1999.

Roncoli, C., Kirshen, P., and Ingram, K. Opportunities and Constraints to Using Seasonal Precipitation Forecasting to Improve Agricultural Production Systems and Livelihood Security in the Sahel-Sudan Region. Paper Presented at the Principal Investigator Meeting, NOAA Economics and Human Dimensions of Climate Fluctuations, Tuscon, Arizona, April 26-28, 1999.

Kirshen, P.H., Flitcroft, I., Roncoli, C., and Ingram, K., Climate Forecasting and Agricultural Resources (CFAR) Project, paper presented at Program of the Technical Meeting on the Evaluation of Seasonal Predictions in West Africa, Dakar, Senegal, 30 November – 4 December, 1998.

Kirshen, P.H., Education and Research Issues involved in Development and Implementation of Global Water Management Programs, invited presentation at International Roundtable, ASCE Annual Convention, Boston MA, 18-21 October 1998.

Lane, M., Kirshen, P.H., and Vogel, R.V., The Use of Indicators to Evaluate Impacts of Global Warming on Water Resources in the United States, Proceedings of 1998 ASCE Annual Conference on Water Resources Planning and Management, Chicago, IL, 6-10 June 1998.

Vogel, R.M., Lane, M., and Kirshen, P.H., The Resilience, Reliability, and Vulnerability of Storage Reservoirs in the United States under Climate Change, Proceedings of Symposium on Climate Variability, Climate Change, and Water Resource Management, Colorado Springs, CO, October 26-29, 1997, also Proceedings of 1998 ASCE Annual Conference on Water Resources Planning and Management, Chicago, IL, 6-10 June 1998.

Kirshen, P.H., and Strzepek, K.M., Comprehensive Assessment of the Freshwater Resources of the World, Proceedings of XXVII IAHR Congress and ASCE Conference, Water for a Changing Global Community, San Francisco, CA, 10-15 August 1997.

Bridgeman, S., Olason, T., Huysentruty, J., Hurdowar-Castro, P., Kirshen, P., Econopouly, T., and Shedd, R., Inflow Forecasting for Short-Term Hydro Scheduling, Proceedings of Waterpower '97, Atlanta, GA, August 5-8, 1997.

Kirshen, P.H., Bridgeman, S., and Olason, T., Hydroelectric Generation Scheduling for the Connecticut and Deerfield River Systems, Proceedings of the Fifth ASCE Operations Management Workshop, Arlington, VA, March 3-5, 1996.

Kirshen, P.H., Methodology for Rapid Integrated River Basin Assessment, Proceedings of UNEP Workshop on Rapid Integrated River Basin Assessment, Tarleton State University, Texas, 20-22 February 1996.

Raskin, P., and Kirshen, P.H., "Conventional Development Scenario," presented at the Workshop on Scenarios and Water Futures, Stockholm Environment Institute, Boston, September 28-30, 1995.

Hurd, B., Kirshen, P.H., Callaway, M., and Smith, J., Economic Effects of Climate Change on U.S. Water Resources, Proceedings of the 22nd Annual Water Resources Planning and Management Division Conference, ASCE, Integrated Water Resources Planning for the 21st Century, Cambridge, MA. May 7-11, 1995.

Kirshen, P.H., Johnson, W., and Raskin, P., WEAP: A Tool for Sustainable Water Resources Planning in the Border Region, Proceedings of the 22nd Annual Water Resources Planning and Management Division Conference, ASCE, Integrated Water Resources Planning for the 21st Century, Cambridge, MA. May 7-11, 1995.

Kirshen, P.H., and Johnson, W., WEAP: A Comprehensive and Integrated Model of Supply and Demand, prepared for: Proceedings of the 1995 Georgia Water Resources Conference,

University of Georgia, Athens, GA. April 11-12, 1995.

Raskin, P., Kirshen, P., and Margolis, R., Water and Sustainability: A Global Outlook, Proceedings of Seminar on Water Environment Management in LDC's and International Cooperation - Towards Sustainable Development in Big Cities, co-Organized by Thailand Environment Institute (TEI) and Global Industrial and Social Progress Research Institute (GISPRI). January 24-25, 1995.

Kirshen, P.H., Policy Response to Water Resources Impacts from Climate Change in the Boston Metropolitan Area, presented at Water Policy and Management: Solving the Problems Conference, ASCE, Denver, CO, May, 1994, also presented at American Water Works Association Annual Conference, New York, NY, June, 1994.

Kirshen, P.H., Extended Experience with a Short-term Hydroelectric Scheduling Model, presented at Water Forum '92, ASCE, Baltimore, MD, August, 1992.

Kirshen, P.H., Nvule, D., and Corliss, J.M., Estimating Urban and Suburban Sewage Flows with Assistance of GIS Technology, presented at Water Forum '92, ASCE, Baltimore, MD, August, 1992.

Kirshen, P.H., and Fennessey, N.M., Potential Impacts of Climate Change upon Water Supply in Eastern Massachusetts, invited paper presented at The First National Conference on Climate Change and Water Resources, Albuquerque, NM, November, 1991.

Phelps, D., Kirshen, P.H., and Lavigne, J.R., A Simulation Model for Enhanced Operation of the Winnipesaukee River Basin System, presented at AWRA Annual Conference, New Orleans, LA, September, 1991.

Gutowski, W.L., McMahon, G.F., Kirshen, P.H., and Schluchter, S., Potential Impact of Global Warming on Flooding in South Florida, presented at Chapman Conference on Hydrological Aspects of Global Climate Change, Lake Chelan, WA, June, 1990.

Kirshen, P.H., Colton, D.E., and Jones, C.T., Hydroelectrical Scheduling Model for the Upper American River Project, poster presented at ASCE Water Resources Planning and Management Conference, Sacramento, CA, 22-24 May, 1989.

Kirshen, P.H., Miller, T., and Scott, J.F., Short Term Hydroelectric Scheduling Model of the Loveland Area Office of the Western Area Power Administration, Proceedings of the ASCE Third Water Resources Operations and Management Workshop, Computerized Decision Support Systems for Water Managers, Ft. Collins, Colorado, June 27-29, 1988.

Kirshen, P.H., and Gruber, N.J., Decision-support Tools for the Short-term Operation and Management of Hydropower Systems, presented at Sixth IWRA World Congress on Water Resources, Ottawa, Canada, May 29 - June 3, 1988.

Gruber, N.J., Kirshen, P.H., and Gabrielsen, P.J., Real-time Hydropower Scheduling for Niagara Mohawk Power Corporation, presented at Water Power 1987, Portland, Oregon, August 1987.

Scott, J.F., Kirshen, P.H., Ambrose, D., and Botkin, B.C., Development of Hydroelectric Scheduling Model (for Western Area Power Administration), presented at Water Power 1987, Portland, Oregon, August 1987.

Kirshen, P.H., Experience with a Hydropower Scheduling Database and Optimization Model in New England, presented at ASCE National Convention, Atlantic City, NJ, 27-30 April 1987.

Ginnetti, J.A., Malouin, R.P., and Kirshen, P.H., Optimized Scheduling of Hydroelectric Power In New England, presented at EEI Engineering and Operating Division, Computer Committee, Lexington, Kentucky, 24 June 1986.

LaChance, J.C., Lee, S., Gabrielsen, P.J., Gruber, N.J., and Kirshen, P.H., Real-time Streamflow Forecasting Using a Snowmelt Index Model and Time Series Analysis Techniques, Proceedings of Eastern Snow Conference, U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, NH, 1986.

Kirshen, P., and Ginnetti, J., HydroMAX: Computerized Hydropower Scheduling, Proceedings of Waterpower 1985, Las Vegas, NV, 25-27 September 1985.

Kirshen, P., Mlot, T., and Puri, A., Joint Operation of Small Hydropower Plants, presented at ASCE St. Louis convention, 26-30 October 1982.

Tatnall, R., and Kirshen, P., A Real-Time Hydrologic Data Acquisition Network for the Arkansas River Basin, Colorado, Proceedings of International Symposium on Hydrometeorology, American Water Resources Association and Others, Denver, CO, 13-17 June 1982.

Kirshen, P., Hydrologic, Environmental, and Geologic Factors in Mini-hydro Site Selection. Proceedings of Ivory Coast Mini-Hydro Workshop, sponsored by National Rural Electric Cooperative Association and others, Washington, DC, 1-5 March 1982.

Kirshen, P., Lawrence, W., and Lanou, T., Hydrological Aspects of Small Hydro Development in Togo, Proceedings of Water Power 1981, Washington, DC, 22-24 June 1981.

Kirshen, P., Kaye, R., and Counihan, C., Planning Process Guidelines for Water Resources Planning, presented at Inland Waters 1980, ASCE, Green Bay, WI, 29 July - 1 August 1980.

Kirshen, P., Analysis of Selected Regional Forecasts and Projections of Water Demand, Water

Quality, and Water Supply Costs in New England, Proceedings of Workshop on Water, Energy, and Economic Development, New England Council of Water Center Directors and U.S. Office of Water Research and Technology, Boston, MA, 4-5 October 1979.

Kirshen, P., Amlin, J., Lynch, D., and Meadows, D., Systems Modeling of Small Scale Hydropower Development, presented at Water Systems 1979, ASCE, Houston, TX, 25-28 February 1979.

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Synapse Energy Economics, Inc. (hydropower evaluation)

Charles River Watershed Association, Tellus Institute, and US EPA, (ground and surface water interactions in the Charles River basin under climate change) 1999

Charles River Watershed Association, Tellus Institute, and US EPA, (ground and surface water interactions in the Charles River basin under climate change)

1998

Charles River Watershed Association, Tellus Institute and US EPA, (ground and surface water interactions in the Charles River basin under climate change)

HydroAnalysis, Inc. (combined sewer modeling, Fitchburg MA)

Hagler Bailly, Inc. (water resources indicators for climate change impacts) 1997

Charles River Watershed Association, Tellus Institute, and US EPA, (ground and surface water interactions in the Charles River basin)

HydroAnalysis, Inc. (combined sewer modeling, Fitchburg MA) 1996

Charles River Watershed Association, Tellus Institute, and US EPA, (ground and surface water interactions in the Charles River basin)

HydroAnalysis, Inc. (combined sewer modeling, Fitchburg MA) 1994

Massachusetts Water Resources Authority, Boston, MA (software design, interceptor modeling, project design, support to the combined sewer overflow control project, project management)

RCG/Hagler Bailly, Boulder, CO (economic impacts of climate change upon water resources in the United States, for the Electric Power Research Institute (EPRI), Palo Alto, CA)

1993

Massachusetts Water Resources Authority, Boston, MA (software design, interceptor modeling, project design, support to the combined sewer overflow control project, project management)

US Environmental Protection Agency, Washington, DC (potential impacts of climate change on yield of Quabbin Reservoir, Massachusetts)

RCG/Hagler Bailly, Boulder, CO (economic impacts of climate change upon water resources in the United States, for the Electric Power Research Institute (EPRI), Palo Alto, CA)

1992

Massachusetts Water Resources Authority, Boston, MA (software design, interceptor modeling, project design, support to the combined sewer overflow control project, project management)

US Environmental Protection Agency, Washington, DC (potential impacts of climate change on yield of Quabbin Reservoir, Massachusetts)

Electric Power Research Institute/Tennessee Valley Authority (Multi-Objective Reservoir Scheduling)

1991

Massachusetts Water Resources Authority, Boston, MA (needs assessment for computer tools for interceptor modeling and management and state-of-art review)

US Environmental Protection Agency, Washington, DC (potential impacts of climate change on yield of Quabbin Reservoir, Massachusetts)

1990

US Agency for International Development, Cairo, Egypt (evaluation of planning models for water resources management, Egypt)

Massachusetts Water Resources Authority, Boston, MA (needs assessment for computer tools for interceptor modeling and management and state-of-art review) 1983

Environmental Research and Technology, Inc (ERT) (real-time operation of hydropower systems)

Institute for Development Anthropology, Binghamton, NY (design and evaluation of forest irrigation systems, Pakistan)

Virginia Polytechnic Institute (VPI) (farm level irrigation management, Sri Lanka) Webster College, Vienna, Austria (workshop on managerial and technical issues in small hydro)

White Current Corporation (expert testimony on small hydro)

World Bank, Washington, DC (design of watershed monitoring program, Pakistan) 1982

ERT (real-time collection and use of hydrologic data)

Louis Berger International, Inc., E. Orange, NJ (small hydro potential for irrigation, Nepal)

National Rural Electric Cooperative Association (NRECA), Washington, DC (speaker on hydrologic, environmental, and geologic factors in mini hydro site selection, mini hydro workshop, Ivory Coast)

VPI (farm level irrigation management, Sri Lanka)

1981

Curran Associates, Inc., Northampton, MA (small hydropower assessment of Togo, West Africa)

ERT (real-time collection and use of hydrologic data)

1980

ERT (real-time collection and use of hydrologic data)

New England Renewables, Augusta, ME (small hydropower)

White Current Corp., No. Hartland, VT (small hydropower)

New England River Basins Commission (assessment methodologies)

Cold Regions Research Laboratory (CRREL), Hanover, NH (land treatment of

wastewater)

1979

ERT (community water planning)

1978

ERT (community water planning)

1975

Dr. Hans Guggenheim, Boston, MA (grazing strategies for the Sahel-Sudan, Africa) Environmental Defense Fund (Tocks Island Dam)

1973

Resource Analysis, Inc., Cambridge, MA (stormwater management)

1972

Resource Analysis, Inc., Cambridge, MA (flood management)

1971

New England Rivers Basin Commission (NERBC), Boston, MA (coastal zone management)