

Overview

Dr. Boehlert specializes in water resources engineering and economics, with a focus on climate change and water systems analysis. He has extensive experience analyzing the effects of changes in water availability and allocation, climate change impacts and adaptation responses, and the economic impacts of environmental regulations. Dr. Boehlert has led more than 30 projects in over 15 countries, and has served as an advisor to the Ugandan Government on strategic infrastructure planning and to the Zimbabwean Government on their Water Master Plan. His other clients include the World Bank, U.S. Environmental Protection Agency, U.S. Department of Interior, Bonneville Power Administration, U.S. Department of Justice, Tennessee Valley Authority, various state agencies, and clients in the private sector. He has published peer-reviewed articles in journals such as *Nature Communications*, *Proceedings of the National Academy of Sciences*, *Water Resources Research*, *Environmental Research Letters*, *Journal of Climate*, and *Philosophical Transactions of the Royal Society*, and has served as reviewer for several journals, including *Climatic Change* and *Applied Energy*.

Education

Ph.D. in Environmental and Water Resources Engineering, Tufts University

Master of Science in Natural Resource Economics, Oregon State University

Bachelor of Arts in Engineering, Dartmouth College

Highlighted Project Experience

Dr. Boehlert's experience falls within international water resources planning and investment; international and U.S. climate change impacts and adaptation; U.S. natural resources valuation and policy; and natural resources damage assessment. The following highlights a recent and representative set of projects across these categories.

For **GIZ**, Germany's development agency, led development of a Water Security Action and Investment Plan for the Greater Kampala Metropolitan Area, in Uganda. This plan is establishing baseline and no-action water security conditions in the city, and providing a framework to select investment projects to improve the water security situation. Led three one-week workshops in Uganda.

For the **BONNEVILLE POWER ADMINISTRATION**, led the socioeconomic impact analysis on power and transmission resources for updates to the Columbia River Systems Operations Plan. Led development of a methodology for how power and transmission rates are affected under various management alternatives, and the resulting welfare and regional economic consequences.

For the **WORLD BANK'S WATER PRACTICE**, conducted an analysis of the water-related threats to Indonesia's economy, whereby biophysical modelling outputs were "channeled" into a CGE model to evaluate the economy-wide consequences of various business-as-usual and investment scenarios.

For the **CANADIAN INSTITUTE FOR CLIMATE CHOICES**, led an analysis of the vulnerability of Canada's economy to climate change, including both a high-level screening analysis and a deep dive into eight categories of impact covering permafrost thaw effects, transportation, energy generation, flooding, and sea level rise.

For the **WORLD BANK'S AGRICULTURE PRACTICE**, led development of a Climate Smart Agricultural Investment Plan for Zimbabwe. The plan integrates analysis with stakeholder input gathered over three weeks in

IEc

Zimbabwe to recommend investments that enhance productivity, build resilience, and reduce the greenhouse gas emissions from Zimbabwe's agricultural sector. The plan is being integrated into government policy.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, led an analysis of the economic impacts of harmful algal blooms (HABs) under climate change. Worked with experts to integrate HABs functionality into a detailed contiguous U.S.-wide water systems and quality model built by IEc. Valuing impacts to reservoir recreation and municipal water supply. Results were published in *Environmental Science & Technology*.

For the **WORLD BANK'S WATER PRACTICE**, developing a set of six guidance notes on climate resilient investment in African infrastructure. Coordinating a team of over 10 experts in drafting, revising, and consulting on the notes. The compendium of notes will be used to help guide the donor community and national governments in procuring climate resilient projects.

For the **CALIFORNIA TAHOE COMMISSION**, evaluated the vulnerability of the Lake Tahoe Basin to climate change from an economic perspective, and prioritizing a range of adaptation options provided by stakeholders. The resulting adaptation plan will seek to gain Federal or state funding for climate change adaptation in the basin.

For **CHESTNUT LAW, PC**, analyzed the costs to the Pueblo of Acoma of actions and inactions by the U.S. government in protecting the Pueblo's historical water rights. Reconstructed historical water availability to understand past irrigated acreage with and without U.S. actions and inactions, and monetized the difference.

Detailed Project Experience

International Water Resources Planning and Investment

For the **WORLD BANK WATER PRACTICE**, leading development of a water security outlook for Poland. The outlook is characterizing the current situation, comparing Poland to peers, and prioritizing future investment measures. Managing a local Polish team of experts, and developed a water systems tool to compare investment viability.

For the **WORLD BANK'S CHIEF ECONOMIST'S OFFICE**, conducting a screening analysis of the pre-conditions for water markets across the South Asia Region. Validating the methodology based on successful water markets internationally, and recommending case study options for Phase 2 testing.

For the **WORLD BANK'S WATER PRACTICE**, Developing a water security profile for North Macedonia. The profile will include a situation analysis and recommend investment priorities to maximize the value of water use. Employing a water systems tool that considers a range of potential futures to ensure resilient planning.

For the **WORLD BANK'S WATER PRACTICE**, served as economic expert on water security analytical studies. Provided high level methodological advice on economic analyses for the Water Security Core Team to guide task teams more broadly on their analysis, and to provide guidance on the economic analyses for their regional case studies.

For the **WORLD WILDLIFE FEDERATION**, in a consortium led by Pegasys Consulting, used a Zambezi River water system model to evaluate the potential economic vs. ecological tradeoff of altering flows into the ecologically rich Kafue Wetland.

For the **ZAMBEZI WATERCOURSE COMMISSION**, analyzed the benefits and costs of various water-related investments as part of the Zambezi Strategic Investment plan. Ran a water systems model under a range of future climates to test the robustness of these investments to uncertainty. Results will inform investments and planning in the basin for the next 20 years or more.

For the **INSTITUTE OF CLIMATE AND CIVIL SYSTEMS**, analyzed the macroeconomic impacts on Egypt of various Grand Ethiopian Renaissance Dam filling strategies. Built a water systems model of the High Aswan Dam, and

running that model dynamically with a computable general equilibrium (CGE) model. Study results will be used to inform decisionmaking over transboundary water management.

For **UGANDA'S MINISTRY OF WATER AND ENVIRONMENT**, led development of the Strategic Investment Plan for the water resources and environment sector. This was the first cross-sectoral plan MWE has created. Interacted extensively with ministry staff and in-country experts to construct a database from which our team developed a "Strategic Investment Model". Trained MWE staff in use of the model for future planning.

For the **WORLD BANK'S ENVIRONMENT PRACTICE**, provided expert guidance to Zimbabwe's government in developing Terms of Reference (TORs) for their National Water Resources Master Plan. Serving as a technical advisor to the World Bank and the government to ensure the TORs are being followed and that climate change and other uncertainties are carefully considered.

For **UGANDA'S MINISTRY OF WATER AND ENVIRONMENT**, managed an analysis of the contribution of water resources development and environmental management to Uganda's economy. The study integrates biophysical and macro-economic models to estimate the GDP and employment implications of a range of management and investment strategies under an uncertain future. Coordinated a one-year training program.

For the **WORLD BANK'S WATER PRACTICE**, managed a study of water security and governance in Vietnam. Modeled the key threats to Vietnam's future water security from a biophysical perspective, and then routed those as inputs to a Computable General Equilibrium model of Vietnam's economy. Outputs were reported in GDP terms and were the central contribution to a recent World Bank report on the topic.

For the **WORLD BANK'S WATER PRACTICE**, managed an analysis in Uganda of the vulnerability and adaptability of existing catchment management and project infrastructure plans under climate change. Analyzed the robustness of alternative infrastructure designs to a range of climate futures. Led a set of training workshops focused on transferring technical knowledge of river basin planning tools to Ugandan counterparts.

For the **WORLD BANK'S WATER PRACTICE**, managed an economic analysis of a proposed \$1 billion groundwater management investment program in India. Employed two approaches: (1) an input-output modeling approach to evaluate the macroeconomic benefits of improved management, and (2) a case study approach, focusing on the benefits and costs of specific interventions envisioned under the program.

For the **WORLD BANK'S WATER PRACTICE**, led an economic assessment of a \$350 million flood and erosion management investment program in the Indian state of Assam. Conducted a benefit cost analysis of the program generally, and of an investment portfolio of flood and erosion management interventions. The interventions included a range of both structural and non-structural (e.g., catchment management) options.

For the **WORLD BANK**, assessed the economic performance of various green growth infrastructure trajectories in Romania and FYR Macedonia using a number of biophysical models and water resource availability forecasts under a range of climate scenarios. Analyzed the economic implications on water supply, hydropower generation, and irrigator revenues.

International Climate Change Impacts and Adaptation

For the **MILLENNIUM CHALLENGE CORPORATION**, in a consortium led by the University of Massachusetts, developing guidance on decisionmaking under uncertainty and robust benefit cost analysis. MCC is seeking to enhance their procedures based on the latest research.

For the **WORLD BANK'S TRANSPORT PRACTICE**, managing an analysis of the climate vulnerability of Kenya's road network and planned investments, and prioritizing adaptation measures to build the resilience of its annuity program.

For the **WORLD BANK'S ENERGY PRACTICE**, conducted a climate change risk assessment for the planned Mpatamanga hydropower project on the Shire River in Malawi. Developed the Shire River Basin water systems tool used in analysis, as well as the climate change scenarios used to bound the broad range of possible futures used to ensure resilience.

For the **WORLD BANK'S ENVIRONMENT PRACTICE**, analyzed the risks of climate change to achieving Zimbabwe's NDCs on greenhouse gas emissions, which rely on planned large-scale hydropower investments that are vulnerable to a likely drying climate. Integrated river runoff projections into an energy planning model.

For the **WORLD BANK'S TRANSPORT PRACTICE**, served as a climate resilience expert in developing a climate change vulnerability and adaptation assessment for highway infrastructure in Ethiopia. Led climate change analytics components of the study, and advised the lead engineering firm in logistics and client engagement.

For the **WORLD BANK'S ENVIRONMENT PRACTICE**, provided technical assistance on water and energy issues to the Government of Zimbabwe. Conducted analyses of priority hydropower investments projects, developed guidance for integrating climate change into hydropower systems, and led capacity building activities related to water and energy modeling. Also contributed to the World Bank's Country Diagnostic for Zimbabwe.

For the **WORLD BANK'S AGRICULTURE PRACTICE**, modeled the hydrology and economics of agricultural systems in Albania, Macedonia, Moldova, Uzbekistan to evaluate vulnerability to climate change, and to identify the most effective adaptation options. Spent several weeks in each country consulting with farmers and policymakers. This study won the prestigious World Bank green award. Conducted a follow on study in Azerbaijan, Armenia, and Georgia.

For the **WORLD BANK'S ENVIRONMENT PRACTICE**, analyzed the climate vulnerability of Africa's infrastructure in seven of Africa's primary river basins. Bias corrected and downscaled over 120 climate model outputs relative to an observed gridded dataset. Developed and applied an economic optimization tool used to analyze "perfect foresight" water resource adaptation options under these scenarios, and potential regrets.

For the **WORLD BANK WATER ANCHOR**, analyzed the effect of climate change on hydrological indicators in nearly 9,000 river basins around the globe. These indicators include storage yield, flood and drought risk, and mean annual runoff, among others. Data and analytical outputs are available on the World Bank data portal, where they will be used by Bank staff and others as a screening tool for planning and investment.

For the **WORLD BANK**, analyzed the potential conflicts between planned hydropower and irrigation projects in the Zambezi basin under climate change. Used a hydrological model to project runoff in the basin between 2011 and 2100 under the full range of IPCC AR4 GCM/SRES outputs.

For Canada's **NATIONAL ROUNDTABLE ON THE ENVIRONMENT AND THE ECONOMY**, analyzed how climate change will affect storage yield in Canada's river basins using inputs from dry, mid-level, and wet general circulation models (GCMs). Used these changes in yield to estimate potential adaptation costs.

For the **FORESIGHT PROGRAM**, reviewed competing uses of water that could affect global water for agriculture, and coupled these uses with changing water availability under climate change to assess how total water available for agriculture could change. Model outputs identified river basins where water for the food system is most threatened. Culminated in a published article in *Philosophical Transactions of the Royal Society*.

For the **WORLD BANK'S Economics of Adaptation to Climate Change (EACC)** study, developed a river basin model for Ethiopia to assess the impacts of climate change and growing water demand on irrigated agriculture, hydropower, municipal and industrial water supply, and Nile River flows to downstream Sudan and Egypt. Analyzed these impacts under four climate change scenarios.

For the **WORLD BANK'S EACC** study, analyzed the impacts of rising temperatures on livestock incomes in Ethiopia, Mozambique, and Ghana. In addition, developed a statistical model of drought occurrences and cost

of government response in Ethiopia. Time series of projected yearly livestock income impacts and drought expenditures were added to CGE models for each country to estimate economic impacts of climate change.

U.S. Climate Change Impacts and Adaptation

For the **DELAWARE NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**, led the water resources and agriculture components of a statewide climate change vulnerability assessment. These components included costing changes in crop, dairy, and poultry production; impacts on water supply; and effects on coastal ecosystems.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, led an analysis of the economic impacts of climate change on the U.S. electricity transmission and distribution system. Developed a set of stressor-response functions relating climate drivers to infrastructure lifespan, performance, and O&M costs, and monetized these impacts through 2099 under five climate and two emissions scenarios.

For the **U.S. DEPARTMENT OF INTERIOR, OFFICE OF POLICY ANALYSIS**, led an analysis of the costs of climate change inaction on lands managed by the Department of Interior in the U.S. southeast. Estimated impacts on coastal and inland infrastructure, coastal wetlands, recreation, and invasive species management, and evaluating the economic benefits of adaptation.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, led a study of the economic implications of climate change on public infrastructure in Alaska. This study focuses on impacts of freeze thaw events, permafrost thaw, coastal erosion, and a range of other drivers that affect buildings, roads, and other infrastructure. Work published in *Proceedings of the National Academy of Sciences*.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, and in partnership with LBNL, evaluated the impacts of climate change on the costs of power interruptions in the U.S. Published articles on both studies in the peer-reviewed journal *Energy*.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, led a study analyzing the economic impacts of climate change on hydropower generation across the contiguous U.S., and the economic benefits of greenhouse-gas mitigation. Analyzed changes in generation across 18 climate change scenarios at over 500 facilities, using a water systems model of the U.S., and published the work in *Applied Energy*.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, led an R-based analysis of the economic benefits of EPA programs in reducing global methane emissions. Benefits focused on avoided climate change impacts due to reduced greenhouse gas contributions to the atmosphere.

For the **ENVIRONMENTAL DEFENSE FUND**, served as an expert on modeling of the economic impacts of harmful algal blooms (HABs). EDF evaluated the potential benefits of agricultural management practices in the Upper Mississippi basin that lower nutrient loadings.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, led a study that compares the baseline and projected outputs of two water quality models for the contiguous U.S.: QUALIDAD (built by IEc) and HAWQS (from Texas A&M). Although the models produce different baseline water quality patterns, projected changes in a water quality under climate change are similar. Results will be published in a peer reviewed journal.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, led a study of the economic impacts of fire occurrence in Alaska under climate change. Managing subcontractors at the University of Alaska at Fairbanks, who built a stochastic wildfire model. Work submitted to *Climatic Change Letters*.

For the **TENNESSEE VALLEY AUTHORITY**, evaluated anticipated effects of climate change on water, agricultural, and recreational resources in the Tennessee Valley. Coordinated with experts in these fields to produce a final report to TVA synthesizing and summarizing ranges of potential impacts based on conclusions of the latest literature.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, managed an assessment of the potential economic effects of water quality changes that would result from climate change mitigation. Constructed a water supply and demand model of the US water system that feed into a water quality module. Managing the efforts of international experts. Published the work in *Journal of Advances in the Modeling of Earth Systems*.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, analyzed drought risk across the U.S. under various climate change scenarios. This analysis applied the most recent global circulation model (GCM) outputs coupled with various definitions of drought to develop geographic representations of drought risk under climate change in the U.S. Culminated in a publication in *Environmental Research Letters*.

For the **U.S. ENVIRONMENTAL PROTECTION AGENCY**, analyzed the effect of climate change on storage yield in U.S. basins using a range of GCM/SRES scenarios. Quantified the potential costs of adapting to modeled reductions in storage yield.

U.S. Natural Resources Valuation and Policy

For the **NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY**, developing a tool to evaluate prospective electricity outage costs under a wide range of future scenarios. Using parameters from the Interruption Cost Estimate (ICE) Calculator and considered the benefits of resilience investments.

For the **NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM**, developed guidance for integrating ecological co-benefits of transportation mitigation projects into economic analyses for U.S. states. Developed a series of case studies to illustrate practical applications.

For the **CALIFORNIA ENERGY COMMISSION**, developed five water-related methodologies for estimating the benefits of energy-savings grants awarded under CEC's Electric Program Investment Charge (EPIC). Benefit categories include water conservation, on-bill savings, drought mitigation, reduced groundwater pumping, and water quality improvements. Building tools to capture these benefits.

For the **U.S. DEPARTMENT OF INTERIOR, SECRETARY OF INDIAN WATER RIGHTS OFFICE**, led a study of the economic benefits of Indian water rights settlements. Evaluated the economic effects of four settlements on ecosystem services, incomes, employment, and a number of other outcomes. Study provided much needed input on the benefits of these programs to the Office of Management and Budget and others.

For the **TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION**, developed guidance for Tennessee's anti-degradation policy. Developed methods for the department to quantify and monetize the socioeconomic benefits of a proposed project, so that they can compare those to the environmental costs.

For the **U.S. DEPARTMENT OF THE INTERIOR, MINERALS MANAGEMENT SERVICE**, conducted a cost benefit analysis to support the rulemaking process for alternative energy production on the outer continental shelf. Developed a financial model that identified whether specific wind, wave, and current projects met minimum financial requirements and estimated the government revenues and costs from the proposed regulatory rule.

For the **U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE**, managed an analysis of the potential costs of designating critical habitat for the threatened Oregon chub. Focused on potential impacts to water management-related activities (e.g., hydropower generation and reservoir recreation), agriculture, forestry, and transportation activities.

For the **U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE**, managed an analysis of the incremental costs of designating critical habitat for the Altamaha Spiny mussel critical habitat in Georgia. Key activities analyzed were recreation, forestry, and agriculture.

For the **U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE**, analyzed potential economic impacts related to the proposed critical habitat designation for the endangered Alabama sturgeon. Focused on the

potential impacts to a variety of economic activities affected by water management in the Alabama and Cahaba River systems, including hydropower generation, reservoir recreation, and barging.

For the **U.S. DEPARTMENT OF THE INTERIOR, MINERALS MANAGEMENT SERVICE**, created a framework of the social costs and benefits associated with offshore renewable energy production and identified which of these costs and benefits were readily quantifiable given currently available information. Developed a model that aggregated available information to monetize the annual benefits of typical wind, wave, and current projects.

For the **U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE**, developed economic models investigating the potential welfare and distributional impacts associated with designation of proposed critical habitat for seven species of threatened freshwater mussels in Georgia, Florida, and Alabama. The models estimated economic impacts to the agricultural and recreational sectors.

For the **U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE**, developed an analysis evaluating the potential costs associated with proposed critical habitat designation for the threatened Flatwoods salamander in Georgia, South Carolina, and Florida. Created economic models estimating potential impacts to the timber and development industries associated with the proposed designation.

For the **U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE**, assisted national experts in developing stated preference surveys to evaluate the public's willingness to pay for improved visibility in U.S. National Parks. Collected data from focus groups and analyzed the resulting statistics to improve the efficacy of the survey instrument. The survey results are being used to evaluate the potential benefits of Federal efforts.

For the **U.S. DEPARTMENT OF HOMELAND SECURITY**, managed the development of a database and accompanying report describing and summarizing available literature on the costs of terrorist attack events. DHS intends to use this database, which contains over 150 citations, for future break-even analyses of proposed regulations.

For **U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE**, modeled the economic impacts of the proposed critical habitat designation for the Canada Lynx on development and wind power activities in parts of Maine, Montana, Minnesota, Washington, and Wyoming. Summarized findings in a report to FWS.

Natural Resources Damage Assessment

For a **BROAD RANGE OF GOVERNMENTAL ENTITIES**, lead water-related fire damage analyses in the 2017 North Bay Fires, 2017 Thomas Fire, 2018 Camp Fire, and 2018 Woolsey Fire. These included valuation of damages to water supply due to loss of reservoir storage for several entities, and evaluation of the impacts of fire-related erosion damages and cleanup.

For the **ATLANTA REGIONAL COMMISSION**, estimated the economic impacts of reductions in water availability to Atlanta stemming from a federal court ruling. Co-developed a hydrologic-economic model to evaluate the effects of changes in water availability in various parts of the Apalachicola-Chattahoochee-Flint river system. Focused on economic impacts to water supply, hydropower, and reservoir recreation.

For **BAKER, DONELSON, BEARMAN, CALDWELL & BERKOWITZ, PC**, valued in situ groundwater in the Memphis Sands Aquifer underlying Memphis, Tennessee and critiqued the valuation approaches of the plaintiff's experts. Mississippi argued that Memphis had been illegally pumping groundwater over the border for over four decades, and was seeking both welfare- and market-based damages totaling roughly \$1 billion.

For **MCELROY, MEYER, WALKER & CONDON, P.C.**, valued a right-of-way through the Kaibab Indian Reservation for the state of Utah's proposed Lake Powell water pipeline, which will convey water from Lake Powell to southwestern Utah. Estimated direct costs of the right-of-way to the Tribe, the added costs of an alternate pipeline route, and the benefits of the pipeline to the state.

For the **MISSOURI DEPARTMENT OF NATURAL RESOURCES**, developed a model of economic damages to recreational fisheries due to lead contamination in eastern Missouri.

For the **U.S. DEPARTMENT OF ENERGY**, provided technical assistance in estimating damages to commercial fisheries due to contamination of the Watts Bar Lake in Tennessee.

For the **CITY OF SAN DIEGO**, assessed the economic impacts of reservoir sedimentation associated with the 2007 Witch and Guejito fires.

For the **U.S. DEPARTMENT OF JUSTICE**, provided technical assistance in estimating natural resource damages to an area of southwestern Ohio above a contaminated aquifer.

For a private law firm, developed a hedonic model of impacts to housing prices related to the presence of a groundwater contaminant plume in a mid-Atlantic urban area. For another law firm, estimated added cost damages to a northeastern water utility associated with contamination of a wellfield.

Selected Publications and Presentations

Peer-Reviewed Publications and Book Chapters

Fant, C., B. Boehlert, K. Strzepek, P. Larsen, A. White, S. Gulati, Y. Li, and J. Martinich. 2020. Climate change impacts and costs to US electricity transmission and distribution infrastructure. *Energy*. doi: 10.1016/j.energy.2020.116899.

Sridharan, V. E. Ramos, E. Zepeda, B. Boehlert, A. Shivakumar, C. Taliotis, and M. Howells. 2019. The impact of climate change on crop production in Uganda – an integrated systems assessment with water and energy implications. *Water*. 11(9): 1805. doi: 10.3390/w11091805.

Sridharan, V., O. Broad, A. Shivakumar, M. Howells, B. Boehlert, D. Groves, H. Rogner, C. Taliotis, J. Neumann, K. Strzepek, R. Lempert, B. Joyce, A. Huber-Lee, and R. Cervigni. 2019. Resilience of the Eastern African electricity sector to climate driven changes in hydropower generation. *Nature Communications*. 10(302). doi: 10.1038/s41467-018-08275-7.

Boehlert, B., K. Strzepek, and S. Robinson. 2018. Analyzing the Economy-Wide Impacts on Egypt of Alternative GERD Filling Policies. Chapter 3 in: *The Grand Ethiopian Renaissance Dam and the Nile Basin Implications for Transboundary Water Cooperation*. Edited by Z. Yihdego, A. Rieu-Clarke, A. Cascão. Routledge.

Larsen, P., B. Boehlert, J. Eto, K. Hamachi-LaCommare, J. Martinich, and L. Rennels. 2018. Projecting future costs to U.S. electricity customers from power interruptions. *Energy*. doi: 10.1016/j.energy.2017.12.081.

Chapra, S., B. Boehlert, C. Fant, V. Bierman, Jr., J. Henderson, D. Mills, D. Mas, L. Rennels, L. Jantarasami, J. Martinich, K. Strzepek, H. Paerl. 2017. Climate Change Impacts on Harmful Algal Blooms in U.S.: A Screening-Level Assessment. *Environmental Science & Technology*. doi: 10.1021/acs.est.7b01498.

Melvin, A.M., Murray, J., Boehlert, B., Martinich, J.A., Rennels, L., and T.S. Rupp. 2017. Estimating wildfire response costs in Alaska's changing climate. *Climatic Change*. doi:10.1007/s10584-017-1923-2.

Fant, C., R. Srinivasan, B. Boehlert, L. Rennels, S. Chapra, K. Strzepek, J. Corona, A. Allen, J. Martinich. 2017. Climate Change Impacts on US Water Quality using two Models: HAWQS and US Basins. *Water*. doi:10.3390/w9020118

Boehlert, B., K. Strzepek, Y. Gebretsadik, R. Swanson, A. McCluskey, J. Neumann, J. McFarland, and J. Martinich. 2016. Climate change impacts and greenhouse gas mitigation effects on US hydropower generation. *Applied Energy*. doi: 10.1016/j.apenergy.2016.09.054.

- Melvin, A., P. Larsen, B. Boehlert, J. Neumann, P. Chinowsky, X. Espinet, J. Martinich, M. Baumann, L. Rennels, A. Bothner, D. Nicolsky, and S. Marchenko. 2016. Climate change damages to Alaska public infrastructure and the economics of proactive adaptation. *Proceedings of the National Academy of Sciences*. doi: 1611056113v1-201611056.
- Boehlert, B., S. Solomon, K.M. Strzepek. 2015. Water under a changing and uncertain climate: Lessons from climate model ensembles. *Journal of Climate*. doi: 10.1175/JCLI-D-14-00793.1.
- Boehlert, B., Strzepek, K. M., Chapra, S. C., Fant, C., Gebretsadik, Y., Lickley, M., Swanson, R., McCluskey, A., Neumann, J. E. and Martinich, J. 2015, Climate change impacts and greenhouse gas mitigation effects on U.S. water quality. *J. Adv. Model. Earth Syst.*. doi:10.1002/2014MS000400.
- Boehlert, B., E. Fitzgerald, J. Neumann, K. Strzepek, and J. Martinich, 2015. The effect greenhouse gas mitigation on drought impacts in the U.S. *Weather, Climate, and Society*. doi: 10.1175/WCAS-D-14-00020.1.
- Beach, R., Y. C. A. Thomsom, X. Zhang, R. Jones, B. McCarl, A. Crimmins, J. Martinich, J. Cole, S. Ohrel, B. DeAngelo, J. McFarland, K. Strzepek, and B. Boehlert. 2015. Climate change impacts on US agriculture and forestry: benefits of global climate stabilization. *Environmental Research Letters*. doi:10.1088/1748-9326/10/9/095004.
- Strzepek, K., J. Neumann, J. Smith, J. Martinich, B. Boehlert, M. Hejazi, J. Henderson, C. Wobus, R. Jones, K. Calvin, D. Johnson, E. Monier, J. Strzepek, J.-H. Yoon (2014) Benefits of greenhouse gas mitigation on the supply, management, and use of water resources in the United States. *Climatic Change*. doi: 10.1007/s10584-014-1279-9.
- Strzepek, K., M. Jacobsen, B. Boehlert, and J. Neumann. 2013. Toward evaluating the effect of climate change on investments in the water resources sector: insights from the forecast and analysis of hydrological indicators in developing countries. *Environmental Research Letters* 8 044014 doi:10.1088/1748-9326/8/4/044014
- Boyle, K., C. Parmeter, B. Boehlert, and R. Paterson. 2013. Due Diligence in Meta-Analysis to Support Benefit Transfers. *Environmental and Resource Economics*. 55(3): 357-386.
- Strzepek, K., G. Yohe, J. Neumann, and B. Boehlert. 2010. Characterizing changes in drought risk for the United States from climate change. *Environmental Research Letters*. 5(4). doi: 10.1088/1748-9326/5/4/044012.
- Boehlert, B., and W. Jaeger. 2010. Past and future water conflicts in the Upper Klamath Basin: An economic appraisal, *Water Resources Research*, 46, W10518, doi:10.1029/2009WR007925.
- Strzepek, K. and B. Boehlert. 2010. Competition for Water for the Food System. *Philosophical Transactions of the Royal Society: Biological Sciences*. 365(1554): 2765-3097.

Selected Presentations

- Boehlert, B. 2019. Responding to climate change. *20th Annual Tribal Climate Service Seminar*. Seattle, Washington.
- Boehlert, B. and R. Unsworth. 2017. Environmental and Natural Resource Valuation in Practice: Water Wars in the American South. *Economics of Environmental & Natural Resource Management Course, Yale School of Forestry and Environmental Studies*. New Haven, Connecticut.
- Boehlert, B. 2017. The impact of climate change on water quality in the U.S. *MIT Joint Program on the Science and Policy of Global Change: Water Workshop*. Cambridge, Massachusetts.

- Boehlert, B. K. Strzepek, J. Thurlow, S. Robinson. 2017. Quantifying the contribution of water and environmental management to the economies of developing countries. *INFORMS Annual Meeting*. Houston, Texas.
- Boehlert, B. and K. Strzepek. 2016. Analyzing the economy-wide impacts of alternative GERD filling policies. *Land and Water Investments in the Eastern Nile Basin: Challenges and Opportunities for Regional Development*. Wad Medani, Sudan.
- Boehlert, B., W.H. Farmer, K.M. Strzepek. 2015. Improved bias correction approaches for climate change impact analysis. *World Environmental & Water Resources Congress*, Austin, Texas.
- Boehlert, B., S. Solomon, K.M. Strzepek. 2014. Water under a changing and uncertain climate: Lessons from climate model ensembles. *American Geophysical Union*, San Francisco, California.
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