

DONALD SCAVIA

Professor Emeritus

School for Environment and Sustainability

University of Michigan

scavia@umich.edu

EDUCATION

Ph.D., Environmental Engineering, University of Michigan, 1980

MS, Environmental Engineering, Rensselaer Polytechnic Institute, 1974

BS, Environmental Engineering, Rensselaer Polytechnic Institute, 1973

EMPLOYMENT HISTORY

University of Michigan

Professor Emeritus of Environment and Sustainability, University of Michigan (2018-present)

Professor of Environment and Sustainability, University of Michigan (2004-2017)

Professor of Environmental Engineering, University of Michigan (2009-2016)

Graham Family Professor of Environmental Sustainability (2009-2016)

Special Counsel to U-M President for Sustainability (2009-2016)

Director, Graham Environmental Sustainability Institute (2009-2016)

Director, Michigan Sea Grant Program (2004-2009)

Director, NOAA Cooperative Institute for Limnology and Ecosystems Research (2005-2007)

Research Assoc. Dean, School of Natural Resources & Environment, UM (2004-2006)

Adjunct professor, Division of Biological Sciences, University of Michigan (1980-1990)

National Oceanic and Atmospheric Administration

Chief scientist, National Ocean Service (2002 - 2003)

Director, National Centers for Coastal Ocean Science (1998-2002)

Director, Coastal Ocean Program Office (1990 - 1998)

Visiting scientist, National Sea Grant College Program Office, (1987 - 1988)

Visiting scientist, Office of the Chief Scientist (1988 - 1990)

Research scientist, Great Lakes Environmental Research Lab, (1975 - 1990)

PUBLICATIONS

Authored papers in refereed journals, including *Proceedings of the National Academy of Science*, *Science*, *BioScience*, *Frontiers in Ecology and Environment*, *Limnology and Oceanography*, *Environmental Science & Technology*, *Oceanography*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Estuaries and Coasts*, *Water Resources Research*, *Journal of Great Lakes Research*, and *Ecological Modelling*.

Co-editor of Ecological Modeling of Lake Ecosystems, and From the Corn Belt to the Gulf: Assessment of Alternative Agricultural Futures.

OTHER POSITIONS

Scientific Society Journal Editor

Editorial Board, *Journal of Environmental Science and Ecotechnology*, 2019-present

Associate Editor, *Frontiers in Ecology and Environment*, ESA, 2002-2006

Associate Editor, *Estuaries and Coasts*, Estuarine Research Federation, 1998-2007.

Board of Directors/Trustee

Great Lakes Observing System Board of Directors, 2009-2013

Mpala Wildlife Conservancy Research Center, Trustee, 2011-2014

Secretary, International Association for Great Lakes Research, 1983-1986.

Board of Directors, American Society for Limnology and Oceanography, 1987-1990.

Advisory Boards

NAS Roundtable on Science and Technology for Sustainability, 2016-present
External Review Board, LA Center of Excellence, Water Institute of the Gulf, 2016-present
National Wildlife Federation Great Lakes Leaders Council, 2009 – present
Annis Water Resources Institute, Grand Valley State, 2007 - present
Technical Advisory Committee, Healing our Waters Great Lakes Coalition, 2006-present
Erb Institute for Global Sustainable Enterprise, University of Michigan, 2005 - 2016
North American Nitrogen Center, Cornell University, 2005-2016
Environmental Law and Policy Center, 2010-2013
Risk Science Center, University of Michigan, 2010-2015
National Research Council Committee on Missouri River Recovery 2008-2010
CLEANER/WATERS Network Science Committee, National Science Foundation, 2005-2007
Central Michigan University Biological Station, 2008-2010
Graham Environmental Sustainability Institute, University of Michigan, 2005 – 2007
Key National Indicators Initiative Environment Domain Committee, 2004-2007
State of Nation's Ecosystems, Design Committee, Heinz Center, 1993-2004
Science and Technology Advisory Committee, National Sea Grant College Program, 1995-2000
Cooperative Inst. for Coastal & Estuarine Environ. Technology, Univ. of NH, 1995-2000

Review Committee Membership

University of Vermont's EPSCoR [BREE](#) program, 2017, 2020
Minnesota Sea Grant Program Review, 2019
Oregon Sea Grant Program, 2018
Georgia Sea Grant Program Review, 2015
Hawaii Sea Grant Program Review, 2014
EPA Science Advisory Board Panel to review the Great Lakes Restoration Initiative, 2012
NRC Panel to review Missouri River Sediment Planning, 2011
EPA Board of Scientific Counselors Subcommittee to Review EPA Fellowship programs, 2006
Review of Darren Freshwater Institute, Rensselaer Polytechnic Institute, 2005
NOAA Office of Satellite Data, Processing, and Distribution program review 2003
Ecosystem Based Fisheries Management, Marine Fisheries Advisory Committee, 2000-2004
Multi-scale Experimental Ecosystem Research Center, University of Maryland, 1997
New Jersey Sea Grant Program review, 1989
Puerto Rico Sea Grant Program review, 1988

Interagency, Intergovernmental, and Multi-sector Committees

Vice Chair, National Ocean Partnership Program Working Group, 1996-1999
Chair, Subcommittee on U.S. Coastal Ocean Science, NSTC/CENR
Co-Chair Ecosystem Work Group, NSTC/CENR
Co-Chair Subcommittee on Ecological Systems, CENR
Chair, Hypoxia Assessment Team, CENR
Co-Chair Coastal Research and Monitoring Team, Clean Water Action Plan
Co-Chair, USGCRP Coastal Assessment Team

HONORS AND AWARDS

Best Paper Award for *Journal of Great Lakes Research*, 2016
Certified Senior Ecologist, Ecological Society of America
Recognized as Extraordinary Commerce Employee, 2002
Department of Commerce Gold Medal, 2001

NOAA Administrator's Award, 1989, 2003
Outstanding or Sustained Superior Performance Awards, 1977, 1981-82, 1984-2004
Best Paper Award for *Journal of Great Lakes Research*, 1987
Tau Beta Pi, University of Michigan, 1976
Draper High School Hall of Fame, 1992

STUDENT ADVISING

PostDocs: Awoke Teshager, Yao Hu, Rebecca Logsdon Muenich, Serghei Bocaniov, Isabella Bertani, Margaret Kalcic, Daniel Obenour, Ibrahim Alameddine, Kyung Hwa Cho, David Bidwell, Mary Anne Evans, Myriam Larose, Yong Liu

PhD Chair/co-Chair: Daniel Rucinski, Irem Daloglu, Daniel Obenour, James Roberts, Andrew Bell

Other PhD Committees: Yuntao Zhou, Jeremy Guest, Alanood Alkhaled (Civil and Environmental Engineering, U-M); Ling Cao, Haejin Han, Kendra Walker, Christine Kirchoff (SNRE/U-M)

Masters: Yuntao Zhou, Emily Kelly, Emily Wilke, Erica Zontek, Brian Colleran, Ken Mori, Kristina Donnelly, Daniel Fishman, Gregory Jacobs, Julie Mida, Melissa Antokal, Caitlin Ryan, Ajay Varadharajan, Nagapooja Seeba, Chelsea Ransom, Rachel Fletcher, Alicia Ritzenthaler, Steven Rippberger, Daneil Gerding, Berry Kennedy, Makely Lyon, Joshua Rego, Emily Taylor

Undergraduate Honor Students: Carolyn Hwang, Jennifer Kullgren; 2005; 2016 UROP Students (Jaylene Gutierrez, Steve Beattie, E'Lise Harden, Sara Hansen, Ashley Gignac)

MANAGED OVER \$110,000,000 IN GRANTS, CONTRACTS, GIFTS SINCE 2005

Graham Sustainability Institute (**Graham Foundation & U-M: \$40,000,000**) Principle Investigator

NERRS Collaborative Science Program (**NOAA: \$20,000,000**) Principle Investigator

Dow Sustainability Fellowship Program (**Dow Chemical Co.: \$10,000,000**) Principle Investigator

Science support for Great Lakes restoration (**Erb Foundation & U-M: \$9,000,000**) Principle Investigator

Water Sustainability and Climate (**NSF: \$5,000,000**) Co-Principle Investigator

Integrated Ecosystem Modeling of the Causes of Hypoxia (**NOAA: \$5,000,000**) Co-Investigator

Great Lakes Integrated Sciences and Assessment Center (**NOAA: \$4,200,000**) Principle Investigator

Providing Support for Watershed-based Policy and Management Decisions: Lake Erie and City of Detroit (**Erb Foundation: \$3,000,000**) Principle Investigator

Coastal SEES: Enhancing sustainability in coastal communities threatened by harmful algal blooms (**NSF: \$3,000,000**) Co-Investigator

Great Lakes Biological Surveillance (**EPA: \$2,500,000**) Principle Investigator

Watershed-Estuary-Species Nutrient Susceptibility (**NOAA: \$2,500,000**) Principle Investigator

Forecasting Causes/Impacts of Lake Erie Hypoxia (**NOAA: \$2,200,000**) Principle Investigator

Center for Ocean Science Education Excellence-Great Lakes (**NSF/NOAA: \$2,500,000**) Principle Investigator

Climate Change Education (**NSF: \$1,000,000**) Co-Investigator

Urban Climate Adaptation (**Kresge Foundation: \$600,000**) Co-Investigator

Building cohorts of Great Lakes Scientists (**NOAA & USGS: \$549,320**) Principle Investigator

Validating and expanding the Great Lakes adaptation data suite (**GLOS: \$392,916**)
Principle Investigator

Phosphorus load response modeling for Lake Erie (**EPA/Environment Canada: \$308,018**)
Principle Investigator

Informing coastal adaptation in future climates: valuation of harmful algal bloom impact on ecosystem services in Lake Erie (**NOAA: \$299,525**) Principle Investigator

Enhancing stakeholder awareness of and responses to extreme precipitation effects on

Lake Erie (**NOAA: \$275,617**) Principle Investigator

Transitioning to Operations NOAA-Supported Models the Gulf of Mexico and Chesapeake Bay (**NOAA: \$200,000**) Principle Investigator

Engaging Farmers in Nutrient Management (**EPA: \$50,000**) Principle Investigator

How quickly can target phosphorus reductions be met? Robust predictions from multiple watershed and lake models. (**Ohio Sea Grant: \$23,435**) Co-Investigator

RESTOR Act Review Board (**Water Center of the Gulf: \$12,400**) Co-Principle Investigator

PEER-REVIEWED PUBLICATIONS

[Links to papers since 2012 are below, others can be found [here](#)]

Articles published in The Conversation:

- [To reduce harmful algal blooms and dead zones, the US needs a national strategy for regulating farm pollution](#)
- [How your diet contributes to nutrient pollution and dead zones in lakes and bays](#)
- [Dead zones are a global water pollution challenge – but with sustained effort they can come back to life](#)
- [Nutrient pollution: Voluntary steps are failing to shrink algae blooms and dead zones](#)
- [A Bad Year for Lake Erie: Forecasting dead zones and toxic algae in US waterways](#)
- [Industrial corn farming is ruining our health and polluting our watersheds](#)

Bocaniov, S.A., D. Scavia, P. Van Cappellen. Long-term phosphorus mass balance suggests a major role of in-lake mobilization processes in nutrient enrichment of Lake Erie (Canada-USA). *Ecological Informatics*.

Scavia, D. 2023. [Updated Phosphorus loads from Lake Huron and the Detroit River: Implications](#). *J. Great Lakes Res.* 49: 422-428 <https://doi.org/10.1016/j.jglr.2023.01.008>

Scavia, D., Y-C. Wang, D.R. Obenour. 2023 [Advancing Freshwater Ecological Forecasts: Harmful Algal Blooms in Lake Erie](#). *Sci. Total Environ.* <https://doi.org/10.1016/j.scitotenv.2022.158959>

Meng, J-N, H. Fang, L. Huang, G. He, X. Liu, C. Xu, X. Wu, D. Scavia. 2022. [Multidimensional ecosystem assessment of Poyang Lake under anthropogenic influences](#). *Ecological Modeling* 473: 110134

Scavia, D., T. J. Calappi, C. M. Godwin, B. Hill, M. Veliz, Y-C Wang. 2022. [Wind-driven sediment resuspension in the world's fourth-largest lake contributes a substantial phosphorus load to the eleventh-largest lake](#). *ES&T* <https://doi.org/10.1021/acs.est.2c02820> [Supporting Information](#)

Kujawa, H., M. Kalcic, J. Martin, A. Apostel, J. Kast, A. Murumkar, G. Evenson, N. Aloysius, R. Becker, C. Boles, R. Confesor, A. Dagnew, T. Guo, R.L. Muenich, T. Redder, Y-C Wang, D. Scavia. 2022. [Using a multi-institutional ensemble of watershed models to](#)

- [assess agricultural conservation effectiveness and uncertainty in a future climate.](#)
JAWRA
- Scavia, D., I. Bertani, A. J. Bever, J. D. Blomquist, M.A.M. Friedrichs, L. C. Linker, B. D. Michael, R. R. Murphy, G. W. Shenk, J. M. Testa. 2021. [Advancing Estuarine Ecological Forecasts: Seasonal Hypoxia in Chesapeake Bay.](#) Ecol. Appl. <https://doi.org/10.1002/eap.2384>
- Meng, J-N, H. Fang, D. Scavia. 2021 [Application of ecosystem stability and regime shift theories in ecosystem assessment.](#) Ecol. Indicators 125:107529
- Martin, J., M. Kalcic, N. Aloysius, A. Apostel, M. Brooker, G. Evenson, J. Kast, H. Kujawa, A. Murumkar, R. Becker, C. Boles, R. Confesor, A. Dagnew, T. Guo, C. Long, R. Muenich, D. Scavia, T. Redder, D. Robertson, Y-C Wang. 2021. Evaluating Management Options to Reduce Lake Erie Algal Blooms Using an Ensemble of Watershed Models. J. Environ. Management.
- Scavia, D., Y-C Wang, D. R. Obenour, A. Apostel, S. J. Basile, M. M. Kalcic, C. J. Kirchhoff, L. Miralha, R. L. Muenich, A.L. Steiner. 2020 [Quantifying uncertainty cascading from climate, watershed, and lake models in harmful algal bloom predictions.](#) Sci. Total Environ. <https://doi-org.proxy.lib.umich.edu/10.1016/j.scitotenv.2020.143487>.
- Apostel, A., M. Kalcic, R. Muenich, G. Evenson, A. Dagnew, J. Kast, R. Muenich, K. King, J. Martin, D. Scavia. 2020 Impacts of inputs and spatial resolution on internal watershed processes: a SWAT Maumee River case study. Sci. Total Environ.
- Miralha, L., R. Muenich, D. Scavia, A. Steiner, M. Kalcic. 2020 [Bias correction of climate model outputs influences watershed model nutrient load predictions.](#) Sci. Total Environ. <https://doi.org/10.1016/j.scitotenv.2020.143039>
- Evenson, G.E., M. Kalcic, Y-C Wang, D. Robertson, D. Scavia, J. Martin, A. Apostel, N. Aloysius, J. Kast, H. Kujawa, C. Boles, T. Redder, R. Confesor, T. Guo, R. L. Muenich, A. Dagnew, A. Murumkar, M. Brooker. 2020 [Uncertainty in critical source area predictions from watershed-scale hydrologic models.](#) J. Environ. Management. <https://doi.org/10.1016/j.jenvman.2020.111506>
- Del Giudice, D., S. Fang, D. Scavia, T. W. Davis, M. A. Evans, D. R. Obenour 2021 [Elucidating controls on cyanobacteria bloom timing and intensity via Bayesian mechanistic modeling.](#) Sci.Total Environ. 755:142487
- Scavia, D., E. J. Anderson, A. Dove, B. Hill, C. M. Long, Y-C Wang. 2020 [Lake Huron's Phosphorus Contributions to the St. Clair-Detroit River Great Lakes Connecting Channel.](#) Environ Sci. Tech. 54:5550-5559 DOI: 10.1021/acs.est.0c00383
- Kujawa, H., M. Kalcic, J. Martin, N. Aloysius, A. Apostel, J. Kast, A. Murumkar, G. Evenson, R. Becker, C. Boles, R. Confesor, A. Dagnew, T. Guo, R. L. Muenich, T. Redder, D. Scavia, Y-C Wang. 2020 [The hydrologic model as a source of nutrient loading uncertainty in a future climate.](#) Science of the Total Environment <https://doi.org/10.1016/j.scitotenv.2020.138004>
- Bocanirov, S.A., P. Van Cappellen, D. Scavia. [On the role of a large shallow lake \(Lake St. Clair, USA-Canada\) in modulating phosphorus loads to Lake Erie.](#) Water Resources Res. 10.1029/2019WR025019

- Xu, X., Y-C Wang, M. Kalcic, R. L. Muenich, Y.C.E. Yang, D. Scavia. 2019. [Evaluating the impact of climate change on fluvial flood risk in a mixed-use watershed](#). Environmental Modeling and Software. 122:1-11
- Scavia, D. [Time to pick up our heads and look inland](#). Limnol. Oceanogr. Bulletin November 2019
- Scavia, D., S. Bocaniov, A. Dagnew, Y. Hu, B. Kerkez, C. Long, R. Muenich, J. Read, L. Vaccaro, Y-C. Wang. [Detroit River phosphorus loads: Anatomy of a binational watershed](#). J Great Lakes Res. <https://doi.org/10.1016/j.jglr.2019.09.008>
- Hu, Y., C.M. Long, Y-C Wang, B.Kerkez, D.Scavia. [Urban Total Phosphorus Loads to the St. Clair-Detroit River System](#). J. Great Lakes Res. <https://doi.org/10.1016/j.jglr.2019.09.009>
- Fang, S., D.D. Giudice, D. Scavia, C.E. Binding, T. B. Bridgeman, J. D. Chaffin, M. A. Evans, J. Guinness, T. H. Johengen, D. R. Obenour. [A Space-time geostatistical model for probabilistic estimation of harmful algal bloom biomass and areal extent](#). Science of the Total Environment <https://doi.org/10.1016/j.scitotenv.2019.133776>
- Kalcic, M.M., R. L. Muenich, S. Basile, A. L. Steiner, C. Kirchhoff, D. Scavia. 2019 [Climate change and nutrient loading: warming can counteract a wetter future](#). Environ. Sci. Technol.
- Dagnew, A. D. Scavia, Y-C Wang, R. Muenich, C. Long, M. Kalcic. 2019 [Modeling Nutrient and Sediment Delivery from a Complex International Watershed with Highly Variable Land Cover](#). JAWRA <https://doi.org/10.1111/1752-1688.12779>
- Manning, N.F., Y.C. Wang, C. M. Long, I. Bertani, M. J. Sayers, K. R. Bosse, R. A. Shuchman, D. Scavia. 2019 [Extending the Forecast Model: Predicting Harmful Algal Blooms at Multiple Spatial Scales](#). J. Great Lakes Res. <https://doi.org/10.1016/j.jglr.2019.03.004>
- Scavia, D. 2019. [Sustainability in a politically polarized society](#). Michigan J. Sustainability 6 (1)
- Scavia, D., D. Justic, D. Obenour, K. Craig, L. Wang. 2018. [Hypoxic volume is more responsive than hypoxic area to nutrient load reductions in the northern Gulf of Mexico – and it matters to fish and fisheries](#). Env. Res. Lett.
- Scavia, D., S.A. Bocaniov, A. Dagnew, C. Long, Y-C Wang. 2018. [St. Clair-Detroit River system: Phosphorus mass balance and implications for Lake Erie load reduction, monitoring, and climate change](#). J. Great Lakes Res. 2019. [10.1016/j.jglr.2018.11.008](https://doi.org/10.1016/j.jglr.2018.11.008)
- Hu, Y., D. Scavia, B.Kerkez. 2018. [Are all data useful? Inferring causality to predict flows across sewer and drainage systems using Directed Information and Boosted Regression](#) Trees. Water Res. 145: 697-706
- Bocaniov, S. A. and D. Scavia. 2018. [Nutrient loss rates in relation to transport time scales in a large shallow lake \(Lake St. Clair, USA – Canada\): insights from a three-dimensional lake model](#). Water Resources. Res. 54: 3825-3840
- Del Giudice, D., R.L. Muenich, M. Kalcic, N.S. B., D. Scavia, A. M. Michalak. 2018. [On the practical usefulness of least squares for assessing uncertainty in hydrologic and water quality predictions](#). Env. Modeling and Software 105: 286–295
- Long, C., R. L. Muenich, M. Kalcic, D. Scavia. 2018. [Use of manure nutrients from Concentrated Animal Feeding Operations](#). J. Great Lakes. Res. 44: 245–252

- Muenich, R.L., M.M. Kalcic, J. Winsten, K. Fisher, M. Day, G. O'Neil, Y.-C. Wang, D. Scavia. 2017. [Pay-For-Performance Conservation Using SWAT Highlights Need for Field-Level Agricultural Conservation](#). *Trans. ASABE*. 60:1925-1937
- Xu, X., Y-C Wang, M. Kalcic, R. L. Muenich, Y.C.E. Yang, D. Scavia. 2017. [Evaluating the impact of climate change on fluvial flood risk in a mixed-use watershed](#). *Environmental Modeling and Software*. <https://doi.org/10.1016/j.envsoft.2017.07.013>
- Scavia, D., I. Bertani, D.R. Obenour, R.E. Turner, D.R. Forrest, A. Katin. 2017 [Ensemble modeling informs hypoxia management in the northern Gulf of Mexico](#). *Proc. Nat. Acad. Sci.* 114:8823-8828
- Lipor, J., B. Wong, D. Scavia, B. Kerkez, L. Balzano, 2017. [Distance-penalized active learning algorithm using quantile search](#). *IEEE Trans. Signal Processing*. in press.
- Testa, J.M., J.B. Clark, W.C. Dennison, E.C. Donovan, A.W. Fisher, W. Ni, M. Parker, D. Scavia, S.E. Spitzer, A.M. Waldrop, V.M.D. Vargas, G. Ziegler. 2017 [Ecological forecasting and the science of hypoxia in Chesapeake Bay](#) *BioScience*. doi:10.1093/biosci/bix048
- Scavia, D., M. Kalcic, R. Logsdon Muenich, N. Aloysius, I. Bertani, C. Boles, R. Confesor, J. DePinto, M. Gildow, J. Martin, J. Read, T. Redder, D. Robertson, S. Sowa, Y. Wang, H Yen. 2017 [Multiple models guide strategies for agricultural nutrient reductions](#). *Frontiers in Ecology and the Environment*. 15: 126–132
- Bertani, I., C. E. Steger, D. R. Obenour, G. L. Fahnenstiel, T. B. Bridgeman, T. H. Johengen, M. J. Sayers, R. A. Shuchman, D. Scavia. 2016. [Tracking cyanobacteria blooms: do different monitoring approaches tell the same story?](#) *Science of the Total Environment* 575: 294-308
- Scavia, D., J.V. DePinto, I. Bertani. 2016. [A Multi-model approach to evaluating target phosphorus loads for Lake Erie](#). *J. Great Lakes Res.* 42: 1139-1150
- Zhang, H., L. Boegman, D. Scavia, D. A. Culver. 2016. [Spatial distributions of external and internal phosphorus loads in Lake Erie and their impacts on phytoplankton and water quality](#). *J Great Lakes Res.* 42: 1212-1227
- Bocaniov, S.A, L.F. Keon, Y.R. Rao, D.J. Schwab, D. Scavia. 2016 [Simulating the effect of nutrient reduction on hypoxia in a large lake \(Lake Erie, USA-Canada\) with a three-dimensional lake model](#). *J. Great Lakes. Res* 42: 1228-1240
- Kalcic, M., C. Kirchhoff, N. Bosch, R. L. Muenich, M. Murray, J. Gardner. D. Scavia. 2016. [Engaging stakeholders to define feasible and desirable agricultural conservation in western Lake Erie watersheds](#). *Env. Sci. Technol.* 50:8135-5145
- Muenich, R.L., M. Kalcic, D. Scavia. 2016. [Evaluating the impact of legacy P and agricultural conservation practices on nutrient loads from the Maumee River Watershed](#). *Env. Sci. Technol.* 50: 8146-8154
- Rucinski, D., DePinto, J., Beletsky, D., Scavia, D. 2016 [Modeling hypoxia in the Central Basin of Lake Erie under potential phosphorus load reduction scenarios](#). *J. Great. Lakes Res.* 42: 1206-1211
- Bocaniov, S. and D. Scavia 2016 [Temporal and spatial dynamics of large lake hypoxia: Integrating statistical and three-dimensional dynamic models to enhance lake management criteria](#). *Water Resources Res.* ([Supplemental Information](#)) 52: 4247-4263
- Bertani, I, D.R. Obenour, C. E. Steger, C. A. Stow, A. D. Gronewold, D. Scavia 2016. [Probabilistically assessing the role of nutrient loading in harmful algal bloom formation in western Lake Erie](#). *J Great Lakes. Res.* 42: 1184:1192
- Scavia, D., M. Kalcic, R. Logsdon Muenich, J. Read, N. Aloysius, C. Boles, R. Confessor, J. DePinto, M. Gildow, J. Martin, T. Redder, S. Sowa, Y. Wang, H. Yen. [Informing Lake Erie Agriculture Nutrient Management via Scenario Evaluation](#) April, 2016

- Lipor, J., L. Balzano, B. Kerkez, D. Scavia. 2015. [Quantile Search: A Distance-Penalized Active Learning Algorithm for Spatial Sampling](#). Proc. 53rd Annual Allerton Conf. on Communication, Control, and Computing.
- Great Lakes Water Quality Agreement [Annex 4 Objectives and Targets Task Team Final Report to the Nutrients Annex Subcommittee](#). May 11, 2015
- Obenour, D.R., A M. Michalak, and D. Scavia 2015 [Assessing biophysical controls on Gulf of Mexico hypoxia through probabilistic modeling](#). Ecol. Applications 25: 492-505
- Bartolai, AM, L. He, L. Motsch, R, Paehlke, D. Scavia 2015 [Climate Change as a driver of change in the Great Lakes-St. Lawrence River Basin](#). J. Great Lakes Res. 41 (Supplement 1): 45-58
- Comer, B., D.A., Fera, A.S. Splawinski, K.L Laurent, K.B. Friedman, G. Krantzberg, D. Scavia, I.F. Creed 2015 [Thriving and prosperous: How we rallied to confront collective challenges in the Great Lakes basin](#). J. Great Lakes Res. 41 (Supplement 1): 161-170
- Friedman, K. B., K. Laurent, G. Krantzberg, D. Scavia, I. F. Creed 2015 [The Great Lakes Futures Project: Principles and Policy Recommendations for Making the Lakes Great](#). J. Great Lakes Res. 41 (Supplement 1): 171-179
- Kalafatis, S.E., M. Campbell, F. Fathers, K. L. Laurent, K. B. Friedman, G. Krantzberg, D. Scavia, I. F. Creed 2015. [Out of control: How we failed to adapt and suffered the consequences](#). J. Great Lakes Res. 41 (Supplement 1): 20-29
- Krantzberg, G., I.F. Creed, K.B. Friedman, K.L., Laurent, J.A. Jackson, J. Brammeier, D. Scavia 2015 [Community Engagement Is Critical To Achieve A “Thriving And Prosperous” Future For The Great Lakes-St. Lawrence River Basin](#). J. Great Lakes Res. 41 (Supplement 1): 188-191
- Laurent, K., L. B. Friedman, G. Krantzberg, D. Scavia, I.F. Creed 2015 [Scenario analysis: a tool for strategic planning to achieve a thriving Great Lakes-S. Lawrence river basin](#). J. Great Lakes Res. 41 (Supplement 1): 12-19
- Laurent, K..L. D. Scavia, K. B. Friedman, G K. Krantzberg, I. F. Creed 2015. [Critical forces defining alternative futures for the Great Lakes–St. Lawrence River basin](#). J. Great Lakes Res. 41 (Supplement 1): 131-138
- Orr, C.J., K.C. Williams, K. L Laurent, K. B. Friedman, G. Krantzberg, D. Scavia, I. Creed 2015 [Trying Hard to Adapt to a Chaotic World: How Complex Challenges Overwhelmed Best Intentions in the Great Lakes region](#). J. Great Lakes Res. 41 (Supplement 1):139-149
- Steenberg, J., Timm, M., Laurent, K.L., Friedman, K.B., Krantzberg, G., Scavia, D., Creed, I.F., 2015 [Living on the Edge: How we converted challenges into profitable opportunities](#). J. Great Lakes Res. 41 (Supplement 1): 150-160
- Steenberg, J., Timm, M., Laurent, K.L., Friedman, K.B., Krantzberg, G., Scavia, D., Creed, I.F., 2015 [Living on the Edge: How we converted challenges into profitable opportunities](#). J. Great Lakes Res.
- Obenour, D.R. A.D. Gronewold, C.A. Stow, and D. Scavia 2014 [Using a Bayesian hierarchical model with a gamma error distribution to improve Lake Erie cyanobacteria bloom forecasts](#). Water Resources Res.
- Obenour, D.R., A M. Michalak, and D. Scavia 2014 [Assessing biophysical controls on Gulf of Mexico hypoxia through probabilistic modeling](#). Ecol. Applications <http://dx.doi.org/10.1890/13-2257.1>
- Daloglu, I. J.I. Nassauer, R.L. Riolo, D. Scavia 2014 [Developing a farmer typology to link agent-based models with SWAT](#) Agricultural Systems 129:93-102
- Bosch, N.S., M.A. Evans, D. Scavia, J.D. Allan 2014 [Interacting effects of climate change and agricultural BMPs on nutrient runoff](#). J. Great Lakes Res. 40: 581-589
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