

KELLY M. KIBLER

Assistant Professor of Water Resources Engineering
University of Central Florida

Department of Civil, Environmental & Construction Engineering
Office: Engineering II, 442H
4000 Central Florida Blvd.
Orlando, FL 32816-1361
phone: 407-823-4150 | email: kelly.kibler@ucf.edu

EDUCATION

Ph.D. Water Resources Engineering, Oregon State University, 2011

Minor degree: Transboundary Water Conflict Management & Transformation

Dissertation: *Development and decommissioning of small dams: analysis and context*

M.Sc. Forest Engineering, Oregon State University, 2007

Thesis: *The influence of contemporary forest harvesting on summer stream temperatures in headwater streams of Hinkle Creek, Oregon*

B.Sc. Environmental Science, University of North Carolina at Chapel Hill, 2003

RESEARCH INTERESTS

My research targets coupled biological and physical variables in river and estuarine systems. I am particularly interested in flow and sediment interaction and their influence to aquatic organisms. I study both natural hydrologic phenomena as well as waterways that are modified for human benefit; for instance by, dams, dredging, levies and hardened structures. Applications for my research include development pathways and infrastructure that minimize ecosystem disruption and promote preservation or restoration of aquatic ecosystem services.

ACADEMIC POSITIONS

Dec. 2014-present	Assistant Professor, Water Resources Engineering Department of Civil, Environmental & Construction Engineering University of Central Florida
2013-2014	Research Specialist, International Centre for Water Hazard & Risk Management (ICHARM), UNESCO
2013-2014	Adjunct Assistant Professor, Japanese Graduate Institute for Policy Studies, Water-related Disaster Management Program

2012-2013	Independent Researcher, Department of Economics, Colby College
2007-2011	Graduate Research Assistant (Ph.D.), Oregon State University
2009-2010	Visiting Scholar, Asian International Rivers Centre, Yunnan University, P.R. China
2005-2007	Graduate Research Assistant (M.Sc.), Oregon State University

EXTERNAL FUNDING

2016-2017	National Estuary Program (Co-PI, \$100k, 20% credit) , Indian River Lagoon Council Grants, <i>Developing a Shoreline Habitat Restoration and Management Plan for Brevard County – Phase I</i>
2016-2020	National Science Foundation (Co-PI, \$1.6 million, 17% credit) , Dynamics of Coupled Natural and Human Systems, <i>Restoration and Resilience in Coupled Human-Natural Systems: Reciprocal Dynamics of a Coastal ‘Lagoon in Crisis’</i>
2016-2018	Florida Department of Environmental Protection (Co-PI, \$152k, 40% credit) , <i>Optimal Design of Stormwater Basins with Bio-Sorption Activated Media (BAM) in Karst Environments – Phase II: Field Testing of BMPs</i> (recommended for full funding)
2016-2018	Florida Department of Transportation (Co-PI, \$231k, 40% credit) , <i>Optimal Design of Stormwater Basins with Bio-Sorption Activated Media (BAM) in Karst Environments – Phase II: Field Testing of BMPs</i> (recommended for full funding)
2016-2017	University of Central Florida (PI, \$7.5k, 100% credit) , In-House Award, <i>Mangrove Recruitment Success in Restored Shorelines: an Investigation of Dynamic Three-Dimensional Flow Hydraulics and Benthic Substrate Texture</i>
2015-2017	National Science Foundation (Co-PI, \$365k, 30% credit) , Chemical, Bioengineering, Environmental, and Transport Systems (CBET) with supplement from Innovations at the Nexus of Food Water and Energy (INFEWS), <i>Municipal Solid Waste Leachate Organic Matter Generation and Removal</i> (supplement: <i>Food Waste, Water and Energy</i>)
2008-2010	Ann Campana Judge Foundation (PI, \$10k) ; <i>Potable water for two Salvadoran villages: Rainwater harvesters, gravity-fed distributions, and point-of-use filtration units</i>

PEER-REVIEWED JOURNAL ARTICLES

* denotes student advisees

1. Juarez Lucas, A.M.*, **Kibler**, K.M., Sayama, T., Ohara, M. (2016). Benefits of flood-prone land use and the role of coping capacity, Candaba floodplains, Philippines. *Natural Hazards*, in press.

2. Dimri, A.P, R.J. Thayen, K.M. **Kibler**, V.P. Singh, D.D., Tullos, A. Stanton, (2016). A review of atmospheric and land surface processes with emphasis on flood generation in the Southern Himalayan rivers, *Science of the Total Environment*, 556: 98-115.
DOI:10.1016/j.scitotenv.2016.02.206
3. Juarez-Lucas, A.M*, and K.M. **Kibler**, (2015). Integrated Flood Management in developing countries: balancing flood risk, sustainable livelihoods, and ecosystem services. *International Journal of River Basin Management*, 14(1): 19-31.
DOI:10.1080/15715124.2015.1068180
4. **Kibler**, K.M., R.K. Biswas*, and A.M. Juarez-Lucas*, (2014). Hydrologic data as a human right? Equitable access to information for disaster risk reduction in transboundary river basins. *Water Policy*, 16: 36-58.
5. **Kibler**, K.M. (2014). Minimizing geopolitically ungauged catchment area of transboundary river basins to support disaster risk reduction. Hydrology in a Changing World: Environmental and Human Dimensions. IAHS Publ. 363.
6. Vink, M.K.*, K. Takeuchi, and K.M. **Kibler**, (2014). A quantitative estimate of vulnerable people and evaluation of flood evacuation policy. *Journal of Disaster Research*, 9(5): 887-900.
7. **Kibler**, K.M. and D.D. Tullos, (2014). Reply to comment on “Cumulative biophysical impact of small and large hydropower development in Nu River, China”. *Water Resources Research*, 50(1): 760-761.
8. **Kibler**, K.M., and D.D. Tullos, (2013). Cumulative biophysical impact of small and large hydropower development in Nu River, China. *Water Resources Research* 49(6): 3104-3118.
9. **Kibler**, K.M., A.E. Skaugset, L.M. Ganio, and M.M. Huso, (2013). Influence of contemporary forest harvesting practices on headwater stream temperatures: initial response of the Hinkle Creek catchment, Pacific Northwest, USA. *Journal of Forest Ecology and Management*, 310: 680-691.
10. Tullos, D.D., E. Foster-Moore, D. Magee, B. Tilt, A.T. Wolf, E. Schmitt, K.M. **Kibler**, (2013). Biophysical, socioeconomic, and geopolitical vulnerabilities to hydropower development on the Nu River, China. *Ecology and Society*, 18(3), 16.
11. **Kibler**, K.M., D.D. Tullos, and G.M. Kondolf, (2011). Learning from dam removal monitoring: challenges to selecting experimental design and establishing significance of outcomes. *River Research and Applications* 27(8): 967-975.
12. **Kibler**, K.M., D.D. Tullos, and G.M. Kondolf, (2011). Evolving expectations of dam removal outcomes: downstream geomorphic effects following removal of a small, gravel-filled dam. *Journal of the American Water Resources Association* 47(2): 408-423.
13. Tullos, D.D., P.H. Brown, K.M. **Kibler**, D. Magee, B. Tilt, and A.T. Wolf, (2010). Perspectives on salience and magnitude of dam impacts for hydrodevelopment scenarios in China. *Water Alternatives* 3(2): 71-90.

PEER-REVIEWED JOURNAL ARTICLES- IN PREPARATION AND REVIEW

1. **Invited submission:** **Kibler**, K.M. and M.H. Alipour*, Flow alteration signatures of small, diversion hydropower: an analysis of 32 rivers in southwestern China. *Ecohydrology*, in review.
2. Alipour, M.H.* and K.M. **Kibler**, A practical framework for prediction in ungauged

- basins: assisting water managers by bridging scientific advancement with applications. *River Research & Applications*, projected submission September 15.
3. Sarker, T.*, K.M. **Kibler**, and D. Reinhart, Water and energy footprints of landfilled food waste. *Environmental Management*, projected submission September 30.
 4. Juarez Lucas, A.M.*, **Kibler**, K.M., Sayama, T., Ohara, M. Flood risk-benefit assessment. *Journal of Flood Risk Management*, projected submission September 30.
 5. **Kibler**, K.M., Reinhart, D., Wright, J., Hawkins, C., Sarker, T., Bolyard, S. and Ninah, C. Food waste and the food-energy-water nexus. *Journal of Environmental Management*, in preparation.
 6. **Kibler**, K.M. A review of geomorphic and ecological impact of diversion hydropower dams. *River Research & Applications*, in preparation.
 7. **Kibler**, K.M. Is small hydropower a panacea for sustainable rural energy in the developing world? *International Journal of Water Resources Development*, in preparation.

NON-REFEREED PUBLICATIONS

1. **Kibler**, K.M., D.D. Tullos, B.Tilt, A.T. Wolf, D.M. Magee, and F. Gassert, Vulnerabilities to hydropower development on the Nu River, China. Global Water Forum, UNESCO. (<http://www.globalwaterforum.org/2014/06/30/vulnerabilities-to-hydropower-development-on-the-nu-river-china/>)
2. **Kibler**, K.M., Stewart, B., Besabe, P., and Chiramba, T. (2013). Background paper: Resilience to water-related disasters in a UN-Water Sustainable Development Goal. UN-Water, Geneva.
3. **Kibler**, K.M., D.D. Tullos, B.Tilt, A.T. Wolf, D.M. Magee, E. Foster-Moore, and F. Gassert, (2012). Integrative Dam Assessment Model (IDAM) Documentation: Users Guide to the IDAM Methodology and a Case Study from Southwestern China. Oregon State University, Corvallis, Oregon.

SCHOLARLY PRESENTATIONS

1. **Invited seminar:** **Kibler**, K.M., Flow alteration signatures of small, diversion hydropower: an analysis of 32 rivers in southwestern China. Presented at the International Centre for Water Hazard and Risk Management- UNESCO 53rd R&D Seminar, July 21, 2016.
2. **Kibler**, K.M., Red mangrove (*Rhizophora mangle*) recruitment into restored shorelines: an investigation of dynamic three-dimensional flow hydraulics and benthic substrate texture. Proceedings of the World Environmental and Water Resources Congress, American Society of Civil Engineers, May 22-26, 2016, West Palm Beach.
3. Sarker, T.*, K.M. **Kibler**, and D. Reinhart, Concept mapping of food waste management alternatives within the Food-Energy-Water Nexus. Proceedings of the World Environmental and Water Resources Congress, American Society of Civil Engineers, May 22-26, 2016, West Palm Beach.
4. **Kibler**, K.M. and M.H. Alipour*, Opportunities for process-based management of rivers below water diversions: flow alteration signatures of small, diversion hydropower. Presented at Working with Natural Processes to Restore Rivers and

- Floodplains, 48th Fall Meeting of the American Geophysical Union, Dec. 14-18, 2015, San Francisco.
5. Juarez Lucas, A.M.*, **Kibler**, K.M. and Ohara, M., Evaluating coping capacity and benefits of flood-prone land use to support Integrated Flood Management in developing countries: community assessment in Candaba, Philippines. Presented at Hydrometeorological and Geophysical Hazards and Disasters in Developing Countries: Risk Perception, Management, and Adaptation I, 48th Fall Meeting of the American Geophysical Union, Dec. 14-18, 2015, San Francisco
 6. **Best poster award:** Pilato, C.*, Walters, L., and **Kibler**, K.M., Effects of sediment grain size on red mangrove root development in Canaveral National Seashore. Sharing Our Research with Everyone on the Indian River Lagoon. Daytona Beach, FL. November 6, 2015.
 7. **Invited seminar:** **Kibler**, K.M., Ecohydraulics: Fundamental Linkages in Physical Processes and Biological Responses in Engineered and Natural Aquatic Systems. Presented at the UCF Biology Department Fall seminar series. October 12, 2015.
 8. **Kibler**, K.M., Mangrove recruitment in Mosquito Lagoon shoreline restoration: the role of sediment size. Presented at the Indian River Lagoon Technical Conference, Melbourne, FL. September 25, 2015.
 9. Juarez Lucas, A.M.*, **Kibler**, K.M. and Ohara, M., Risk-Benefit Assessment for Integrated Flood Management: supporting sustainable livelihoods in Candaba, Philippines. Presented at: 18th International Riversymposium, Brisbane, Australia. September 21-23, 2015.
 10. **Kibler**, K.M., Managing biophysical impacts of diversion hydropower. Presented at: Freshwater ecosystems and human development. World Water Week. Stockholm, Sweden, August 24-28, 2015.
 11. **Invited seminar:** **Kibler**, K.M., Hydrologic forecasting for flood risk management: Predicting flows and inundation in data-limited catchments. Presented at: Modeling and managing floods in mountain areas, Folsom, CA. Feb 16-19, 2015.
 12. **Invited seminar:** **Kibler**, K.M., Hydrologic data as a human right? Equitable access to information as a resource for disaster risk reduction in transboundary river basins. Presented at the 1st Annual International Water Law Symposium, China International Water Law Programme, Xiamen University Law School, Xiamen, P.R. China. May 20-22, 2014.
 13. **Invited seminar:** Establishing 'environmental flows' of sediment below diversion hydropower dams: an ecohydraulic approach to enhance downstream aquatic habitat. Presented at the Reservoir Sedimentation Management Meeting, Kyoto University, Kyoto, Japan. April 16, 2014.
 14. Biswas, R.K., S. Egashira, A. Yorozya, **K. Kibler** (2014). Treatment of suspended sediment in near bank regions. Presented at the Japan Society of Civil Engineers, International Summer Symposium, Osaka, Japan. September 10, 2014.
 15. **Kibler**, K.M. (2013). Comparing cumulative biophysical impacts of small and large hydropower development. 6th Conference of the Asia Pacific Association of Hydrology & Water Resources, 19-21 August, 2013, Seoul, Korea.
 16. **Kibler**, K.M., (2011). China's renewable energy futures: small and large hydropower, Nujiang Prefecture, Yunnan. American Association of Geographers Spring Meeting, April 12-16, Seattle, Washington.

17. Tullos, D.D., C. Walter, M. Cox, K. **Kibler**, and G. Woloveke, (2010). Processing of sediment pulses following the removal of three small, gravel-filled barriers. 7th Gravel Bed Rivers Conference, 6-10 September, Tadoussac, Quebec.
18. Clark, M., K.M. **Kibler**, E.P. Lin, (2009). A Multidisciplinary Approach to Enhance Sustainability of Dams. Oregon State University Water Resources Graduate Program Open House. Corvallis, Oregon.
19. **Kibler**, K.M. and D.D. Tullos, (2008). Analysis of Level of Analysis: Data Design, Sampling, and Treatment for Dam Removal Studies. Presented at the 41st Fall Meeting of the American Geophysical Union, San Francisco.
20. **Kibler**, K.M. and A.E. Skaugset, (2007). Changes in stream temperature and canopy cover following timber harvesting adjacent to non-fish bearing headwater streams. Proceedings of the International Mountain Logging and 13th Pacific Northwest Skyline Symposium. 1-6 April, Corvallis, Oregon.
21. **Kibler**, K.M. and A.E. Skaugset, (2007). Changes in stream temperature and canopy cover following timber harvesting adjacent to non-fish bearing headwater streams. Watershed Management to Meet Water Quality Standards and TMDLS (Total Maximum Daily Load). Proceedings of the American Society of Agricultural and Biological Engineers, 10-14 March 2007, San Antonio, Texas.

TEACHING

(* indicates course that was developed and added to curriculum)

Ecohydraulics* (CWR 6007, graduate)	Spring 2016
Engineering Fluid Mechanics (CWR 3201, undergraduate)	Spring, Fall 2015, Fall 2016
River Ecohydraulics* (graduate)	Spring, Fall 2014
Field Investigation (graduate)	Fall-Summer 2014
Capacity Development for Flood Risk Management with the Integrated Flood Analysis System (IFAS) (continuing ed.)	Summer 2013, 2014
Capacity Development for Integrated Flood Risk Management, Pakistan* (continuing ed.)	Spring 2013
River Engineering (co-Instructor, graduate/undergrad)	Winter 2011

ADVISING & MENTORING

CURRENT STUDENTS

Andrea Juarez Lucas , Ph.D. student <i>Risk-Benefit analyses to balance flood risk, livelihoods, and ecosystem services</i>	Advisor , 4/2013-present
Mohammadhossein Alipour , Ph.D. student	Advisor , 8/2015-present
Tonmoy Sarker , Ph.D. student	Advisor , 8/2015-present
Nyle Rice , M.Sc. student	Advisor , 8/2016-present
Yin Tang , Ph.D. student	Committee member , 2015-present

Milad Hooshyaar, Ph.D. student

Committee member,
2015-present

FORMER STUDENTS

Fernanda Paula de Campos, undergraduate student, Brazil
Scientific Mobility Program, UN

Research mentor,
summer 2016

Lacie Anderson, Honors undergraduate student
*Quantifying the success of reintroduced Eastern oysters in
Brevard County, Florida*

Committee member,
2015-2016

Nick Hartshorn, M.Sc. student
*Low impact development analysis and comparative assessment of
wet detention ponds with floating treatment wetlands*

Committee member,
2015-2016

Paige Hovenga, M.Sc. student
*Response of streamflow and sediment loading in the Apalachicola
River, Florida to climate and land use land cover change*

Committee member,
2015-2016

Guilherme Sulz Dantas, undergraduate student, Brazil Scientific
Mobility Program, UN

Research mentor,
summer 2015

Christian Pilato, undergraduate student

Research mentor, 2015-
present

Christopher Rowney, M.Sc. student
*Deveolopment of an automated method for identification of wet
and dry channel segments using LiDAR data and fuzzy logic
cluster analysis*

Committee member,
2015

Karanja Joseph, Intern

Internship advisor,
2014

Karina Vink, Ph.D. student
*Quantifying effectiveness of policies to address intrinsic
vulnerability*

Co-advisor,
01/2013-09/2014

Emar Guevara Basilan, M.Sc. student
*Flood hazard mapping by paleoflood and hydrologic modeling
techniques*

Advisor,
10/2013-09/2014

Muhammad Jahangir Alam, M.Sc. student
Morphological changes of Jamuna River at Sirajganj Hard Point

Advisor,
10/2013-09/2014

Noman Hyder, M.Sc. student
*Flood Risk Assessment of the Surma River Basin of Bangladesh
Using the Rainfall-Runoff-Inundation Model*

Advisor,
01/2013 – 09/2013

Nikola Zlatanović, M.Sc. student
*An Integrated Design Discharge Calculation System for Small to
Mid-sized Ungauged Catchments in Serbia*

Advisor,
01/2013 – 09/2013

AWARDS & HONORS

2015-2016 Selected participant, UCF-NSF CAREER Award Mentoring Program

2015-2016 Selected participant, UCF Faculty Mentoring Community, UCF Center for Success of
Women Faculty

2010 Kenneth Williamson Water Award, Oregon State University, Water Res. Dept.

2009 Edward S. Allen Scholarship, Oregon State University, Dept. of Biol. & Ecol. Eng.
 2009 Poster award, Oregon State University, Water Res. Graduate Program Open House
 2008 Edward S. Allen Scholarship, Oregon State University, Dept. of Biol. & Ecol. Eng.
 2007 Oregon Laurels Award, Oregon State University

SERVICE

Service to University

April 2016	Panelist, She's the First, Women in STEM seminar
February 2016	Panelist, UCF Dissertation Forum
Spring 2016	Committee member: development of a multi-disciplinary Water summer camp for middle school children
2015 - 2016	Selected mentoring program participant- Center for the Success of Women Faculty
2015	Reviewer, UCF Undergraduate Research Journal

Service to Department

2016	Steering Committee member , prospective CECE/UCF Water Center
2016	Committee member , CECE Geotechnical search
2016	Committee member: STEM Day representative for CECE department
2016	Departmental Advisory Committee Member: Coastal engineer search for Coastal Cluster hire

Service to Profession

Journal reviewer: River Research & Applications, Restoration Ecology, Hydrology and Earth Systems Science, Environmental Management, International Journal of River Basin Management, Energies, Journal of Forest Ecology & Management

Proposal reviewer: Maryland Industrial Partnerships Program

Outreach & Service to Community

2016	Physics Water Summer Camp Outreach event for middle/high school students
	Camp Connect II Outreach event for middle/high school students
	Invited speaker: UCF Stormwater Management Academy Lab Tour for Brevard County Natural Resources staff
	STEM Day Outreach event for K-12 students
2015	Reviewer, <i>This Amazing Place Where the Sea Meets the Land</i> , an educational and inspirational children's book about estuaries
2015 and 2016	Mentor to students from Brazil Scientific Mobility Initiative

2006 - 2008 ***Project coordinator:*** Water for two villages in El Salvador, Engineers
Without Borders

Professional memberships:

American Geophysical Union (AGU)

Hydrology focus group member

Global Environmental Change focus group member

Natural Hazards focus group member

American Society of Civil Engineers (ASCE)

Environmental & Water Resources Institute, Restoration Committee member

American Water Resources Association