

PROFESSIONAL PREPARATION:

Ph.D. in Civil Engineering, University of Colorado, 2006

Thesis: *Integrated Management of the Blue Nile Basin in Ethiopia: Precipitation Forecast, Hydropower, and Irrigation Modeling*

Advisors: Dr. Kenneth Strzepek & Dr. Balaji Rajagopalan

M.S. in Civil Engineering, University of Colorado, 2004

Thesis: *Inclusion of Climate Variability in an Agro-Economic Model: Analytic Applications in Ethiopia*

Advisor: Dr. Kenneth Strzepek

B.S. in Civil Engineering, Valparaiso University, 1995

Independent Study Project: *Determining the Dimensions of a Discharge Well's Capture Zone*

Graduated Magna cum Laude

APPOINTMENTS:

2013- Assistant Professor, Civil and Environmental Engineering, University of Wisconsin - Madison

2011- Adjunct Associate Research Scientist, International Research Institute for Climate & Society (IRI), Columbia University

2011-2013 Assistant Professor, Civil, Architectural, and Environmental Engineering, Drexel University

2009-2011 Associate Research Scientist, IRI, Columbia University;
Researcher, Columbia Water Center, Columbia University

2007-2009 Postdoctoral Research Scientist, IRI, Columbia University

2006-2007 Assistant Professor Adjunct, Civil, Environmental, and Architectural Engineering, University of Colorado

2005-2006 Research Assistant, Civil, Environmental, and Architectural Engineering, University of Colorado, and International Food Policy Research Institute, Washington DC

2005 Research Assistant, National Center for Atmospheric Research, Boulder, Colorado and Electric Power Research Institute, Palo Alto, California

2003-2004 Teaching Assistant, Civil, Environmental, and Architectural Engineering, University of Colorado

2001-2003 Project Engineer, Short Elliot Hendrickson Inc., Rochester, Minnesota

2001-2003 Instructor, Rochester Community and Technical College, Rochester, Minnesota

1997-1999 Project Manager and Engineer, Environmental Concepts and Design, St. Paul, Minnesota

1993-1994 Staff Engineer (Co-op), Harza Engineering Company, Chicago, Illinois

RESEARCH PROPOSALS & FUNDING AWARDED:

1. *NILE_NEXUS: Opportunities for a sustainable food-energy-water future in the Blue Nile Mountains of Ethiopia*, Belmont Forum, co-PI (B. Zaitchik, JHU, PI), 2016-2019: \$1,000,000

2. *Taming water in Ethiopia: An interdisciplinary approach to improve human security in a water-dependent emerging region*, NSF, co-PI (E. Anagnostou, UConn, PI), 2016-2020: \$4,275,000
3. *Flood Prediction to Support Advanced Disaster Preparedness and Public Health Risks: Understanding, Development, and Application*, Global Health Institute (University of Wisconsin), PI, 2016-2017: 50,000
4. *The Sands of Time: Developing and evaluating groundwater forecasts in Wisconsin's Central Sands*, University of Wisconsin, PI, 2016-2017: \$55,000
5. *Season-ahead Drought Prediction in Southern Peru to Support Water Resources Management*, Southern Peru Copper Corporation, PI, 2015-2016: \$232,000
6. *Agroecosystem-based Climate Resilience Strategies in the Blue Nile Headwaters of Ethiopia – FEW Supplemental Request*, NSF, co-PI (B. Zaitchik, JHU, PI), 2015-2016: \$297,000.
7. *Projecting Nile Basin Climate for GERD Reservoir Filling and Downstream Impacts*, United Nations – WIDER, PI, 2015-2016: \$12,000
8. *Flood prediction: Can a global scale analysis be informative?*, University of Wisconsin, PI, 2015-2016: \$39,000
9. *Predicting Water Quality Extremes using Season-ahead Climate Information*, NOAA SARP, PI, 2014-2015: \$100,000
10. *Historic and Future Flows of Wisconsin Rivers and Associated Impacts on River Island Resources*, Wisconsin Department of Natural Resources, PI, 2014-2015: \$90,000
11. *Seasonal Prediction of Hydro-Climatic Extremes in the Greater Horn of Africa under Evolving Climate Conditions to Support Adaptation Strategies*, NOAA IDS (T. Tadesse, UNL, PI), 2013-2016: \$1,400,000
12. *Integrated Seasonal Drought Forecast-Adaptive Management System for the Lower Colorado River Basin in Texas*, NOAA SARP, co-PI (D. Watkins, Mich Tech, PI), 2013-2015: \$285,000
13. *Predicting Change: A mentorship and collaboration plan to foster knowledge advancement across physical and social science systems*, Drexel Career Development Award, PI, 2012-2013; \$7,500
14. *Elucidating near-term climate change information to guide water resources decisions and foster sustainability*, Earth Institute at Columbia University, PI, 2010; \$34,000
15. *Continuation and Expansion of the Water Capture System in Koraro, Ethiopia*, Pulitzer Family Foundation, Co-PI (U. Lall, Columbia, PI), 2010: \$250,000
16. *Tailoring Extreme Weather and Climate Information Products in Preparedness for Climate Change*, IFRC, Co-PI (S. Mason, Columbia, PI), 2010: \$120,000
17. *Nile Basin Initiative training and model development*, World Bank, PI, 2009: \$20,000
18. *Economics of Adaptation to Climate Change in Ethiopia*, World Bank, PI, 2009; \$50,000
19. *Water and Climate Risk Management Training*, UNESCO, PI, 2009; \$15,000
20. *Coming Down the Mountain: Understanding the Vulnerability of Andean Communities to Hydroclimatologic Variability and Global Environmental Change*, Inter-American Institute for Global Change Research, Co-PI (C. Brown, Columbia, PI), 2007-2009; \$50,000

21. Joint Assembly Student Grant, 2006; \$300
22. *Integrated Management of the Blue Nile Basin in Ethiopia*, U.S. Agency for International Development (USAID) through the International Food Policy Research Institute (IFPRI), PI, 2005-2006; \$30,000
23. *Model for the Assessment of Greenhouse Gas Induced Climate Change*, Electric Power Research Institute (EPRI), PI, 2005; \$20,000

PEER-REVIEWD PUBLICATIONS:

- Zimmerman, B., D. Vimont, and P. Block, 2016: Utilizing the State of ENSO as a Means for Season-ahead Precipitation Predictor Selection, *Water Resources Research*, DOI: 10.1002/2015WR017644.
- Zhang, Y., S. Moges, and P. Block, 2016: Optimal Cluster Analysis for Objective Regionalization of Seasonal Precipitation in Regions of High Spatial-Temporal Variability: Application to Western Ethiopia, *Journal of Climate*, DOI: 10.1175/JCLI-D-15-0582.1.
- Zhang, Y., S. Erkyihun, and P. Block, 2016: Filling the GERD: Evaluating hydroclimatic variability and impoundment strategies on Blue Nile riparian countries, *Water International*, DOI: 10.1080/02508060.2016.1178467.
- Taye, M., T. Tadesse, G. Senay, and P. Block, 2016: The Grand Ethiopian Renaissance Dam: a Source of Cooperation or Contention?, *Journal of Water Resources Planning and Management*, DOI: 10.1061/(ASCE)WR.1943-5452.0000708, 02516001.
- Reis, T. Culver, P. Block, M. McCartney, 2016: Evaluating the impact and uncertainty of reservoir operation for malaria control as climate changes in Ethiopia, *Climatic Change*, DOI: 10.1007/s10584-016-1639-8.
- Lee, D., P. Ward, and P. Block, 2015: Defining high-flow seasons using temporal streamflow patterns from a global model, *Hydrology and Earth System Sciences* 19: 4689-4705; doi:10.5194/hess-19-4689-2015
- Taye, M., P. Willems, and P. Block, 2015: Implications of climate change on hydrological extremes in the Blue Nile basin: A review, *Journal of Hydrology: Regional Studies* 4 (2015): 280-293.
- Zhang, Y., P. Block, M. Hammond, and A. King, 2015: Ethiopia's Grand Renaissance Dam: Implications for Downstream Riparian Countries, *Journal of Water Resources Planning and Management* 141(9), 05015002.
- Gyawali, R., S. Greb, and P. Block, 2015: Temporal changes in streamflow and attribution of changes to climate and land use in Wisconsin watersheds, *Journal of the American Water Resources Association* 51(14): 1138-1152.
- Dinku, T., P. Block, J. Sharoff, K. Hailermariam, D. Osgood, J. Del Corral, R. Cousin, and M. Thomson, 2014: Bridging critical gaps in climate services and applications in Africa, *Earth Perspectives* 1:15.
- Robertson, A., W. Baethgen, P. Block, U. Lall, A. Sankarasubramanian, F. Souza Filho, and K. Verbist, 2014: Climate risk management for water in semi-arid regions, *Earth Perspectives* 1:12.
- King, A., and P. Block, 2014: An assessment of reservoir filling policies for the Grand Ethiopian Renaissance Dam, *Journal of Water and Climate Change* 5(2): 233-243.
- Baker, J., P. Block, K. Strzepak, R. de Neufville, 2014: Power of Screening Models for Developing Flexible Design Strategies in Hydropower Projects: Case Study of Ethiopia, *Journal of Water Resources Planning and Management* 140(12).

Block, P., and L. Goddard, 2012: Statistical and Dynamical Climate Predictions to Guide Water Resources in Ethiopia, *Journal of Water Resources Planning and Management* 138(3): 287-298.

Block, P., and K. Strzepek, 2012: Power Ahead: Meeting Ethiopia's Energy Needs Under a Changing Climate, *Review of Development Economics* 16(3): 476-488.

Block, P., 2011: Tailoring seasonal climate forecasts for hydropower operations, *Hydrology and Earth System Sciences* 15: 1355-1368.

Kwon, H-H, F.A. Souza Filho, P. Block, L. Sun, U. Lall, D.S. Reis Jr., 2011: Uncertainty Assessment of Hydrologic and Climate Forecast Models in Northern Brazil, *Hydrological Processes*, DOI: 10.1002/hyp.8433.

Block, P., and K. Strzepek, 2010: Economic Analysis of Large-scale Upstream River Basin Development on the Blue Nile in Ethiopia Considering Transient Conditions, Climate Variability, and Climate Change, *Journal of Water Resources Planning and Management* 136(2): 156-166.

Block, P., A. Souza Filho, L. Sun, and H. Kwon, 2009: A Streamflow Forecasting Framework using Multiple Climate and Hydrological Models, *Journal of the American Water Resources Association* 45(4): 828-843.

Block, P., and B. Rajagopalan, 2009: Statistical-Dynamical Approach for Streamflow Modeling at Malakal, Sudan, on the White Nile River, *Journal of Hydrologic Engineering* 14(2): 185-196.

Block, P., K. Strzepek, M. Rosegrant, and X. Diao, 2008: Impacts of Considering Climate Variability on Investment Decisions in Ethiopia, *Journal of Agricultural Economics* 39: 171-181.

Morin, J., P. Block, B. Rajagopalan and M. Clark, 2008: Identification of Large Scale Climate Patterns Affecting Snow Variability in the Eastern United States, *International Journal of Climatology*, 28(3): 315-328.

Block, P., and B. Rajagopalan, 2007: Interannual Variability and Ensemble Forecast of Upper Blue Nile Basin Kiremt Season Precipitation, *Journal of Hydrometeorology*, 8(3): 327-343.

OTHER PUBLICATIONS:

Strzepek and co-authors, 2015: The Grand Ethiopian Renaissance Dam: An opportunity for collaboration and shared benefits in the eastern Nile basin, MIT, Cambridge, MA, 17 pages.

Cervigni, R. and co-authors, 2010: The Economics of Adaptation to Climate Change: Ethiopia, The World Bank: Washington D.C., 96 pages.

Block, P. and C. Brown, 2009: Does Climate Matter? Evaluating the Effects of Climate Change on Future Ethiopian Hydropower, *Planning for an uncertain future - Monitoring, integration, and adaptation. Proceedings of the Third Interagency Conference on Research in the Watersheds*, United States Geological Survey, R. Webb and D. Semmens, editors.

Baroang, K. M., M. Hellmuth, and P. Block, 2009: Identifying uncertainty and defining risk in the context of the WWDR-4. *Discussion Paper prepared for the United Nations World Water Assessment Program*, Perugia, Italy, 33 pages.

Block, P., 2008: An Assessment of Investments in Agriculture and Transportation Infrastructure, Energy, and Hydroclimatic Forecasting to Mitigate the Effects of Hydrologic Variability in Ethiopia, *CPWF Working Paper 01*, The CGIAR Challenge Program on Water and Food, Colombo, Sri Lanka, 53 pages.

Block, P., K. Strzepek, and B. Rajagopalan, 2007: Integrated management of the Blue Nile Basin in Ethiopia: Hydropower and irrigation modeling, *IFPRI Discussion Paper 700*, International Food Policy Research Institute (IFPRI): Washington, D.C., 25 pages.

Sadoff, C. and co-authors, 2006: Ethiopia: Managing water resources to maximize sustainable growth, *A World Bank Water Resources Assistance Strategy for Ethiopia*, The World Bank: Washington D.C., 73 pages.

Block, P., K. Strzepek, M. Rosegrant, and X. Diao, 2006: Impacts of considering climate variability on investment decisions in Ethiopia, *EPT Discussion Paper 150*, International Food Policy Research Institute (IFPRI): Washington, D.C., 38 pages.

SELECTED PRESENTATIONS:

Zhang, Y., S. Moges, and P. Block: Comparison of Season-ahead Prediction Techniques on Regionalized Grid-level Precipitation: Application to Western Ethiopia. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2015.

Lee, D., P. Ward, and P. Block: A Preliminary Evaluation of Season-ahead Flood Risks Globally. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2015.

Zimmerman, B. and P. Block: Utilizing the State of ENSO as a Means for Season-ahead Predictor Selection. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2015.

Block, P.: Precipitation Forecasts and Water Resources Management in Ethiopia. *Africa and the Environment Symposium*, October 2015.

A Look at Ethiopia's Grand Dam Plan: Implications for Downstream Countries. *Global Science at the Wisconsin Science Festival*, October 2015.

Block, P.: A Look at Ethiopia's Grand Dam Plan: Implications for Riparian Countries. *Wednesday Nite @ The Lab Public Science Series*, September 2015.

Block, P.: Filling the Grand Ethiopian Renaissance Dam and Implications for Riparian Neighbors. *World Water Congress XV (IWRA)*, Edinburgh, Scotland, May 2015.

Zimmerman, B. and P. Block: Utilizing the State of ENSO as a Means for Season-ahead Predictor Selection. *World Environmental and Water Resources Congress (ASCE)*, Austin, TX, May 2015.

Grzegorzewski, M., D. Watkins, and P. Block: Coupling Reservoir Inflow Forecasts and Decision Tools: Bolstering Decision-making in the Lower Colorado River Basin. *World Environmental and Water Resources Congress (ASCE)*, Austin, TX, May 2015.

Zhang, Y. and P. Block: Regionalization and Prediction of Seasonal Precipitation in Ethiopia. *World Environmental and Water Resources Congress (ASCE)*, Austin, TX, May 2015.

Lee, D., P. Ward, and P. Block: Flood Prediction: Can a Global Scale Analysis be Informative? *World Environmental and Water Resources Congress (ASCE)*, Austin, TX, May 2015.

Gyawali, R., S. Greb, and P. Block: Application of hydraulic and regression based models to assess hydrologic impacts on Wisconsin River Islands. *World Environmental and Water Resources Congress (ASCE)*, Austin, TX, May 2015.

Block, P.: Filling the Grand Ethiopian Renaissance Dam: Implications for Riparian Countries. *Blue Nile Water Institute 2nd National Symposium*, Bahir Dar, Ethiopia, April 2015.

- Y. Zhang and P. Block: Regionalization and Prediction of Seasonal Precipitation in Ethiopia. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2014.
- R. Gyawali, S. Greb, D. Watkins, and P. Block: Adaptive Decision Modeling in Wisconsin River Islands. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2014.
- D. Lee, P. Block, and P. Ward: Prospects for Season-ahead Global Flood Forecasts. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2014.
- M. Teferi Taye and P. Block: Evaluation of CMIP5 climate models for precipitation projections over the upper Blue Nile basin. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2014.
- P. Block, B. Zimmerman, M. Grzegorzewski, D. Watkins, and R. Anderson: Season-ahead Drought Forecast Models for the Lower Colorado River Authority in Texas. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2014.
- T. Tadesse and co-authors: Seasonal Prediction of Hydro-Climatic Extremes in the Greater Horn of Africa Under Evolving Climate Conditions to Support Adaptation Strategies. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, December 2014.
- P. Block: Ethiopia's Grand Renaissance Dam: Upstream/downstream implications and plausible scenarios for policy makers. *Independent International Workshop on the GERD*, MIT, Cambridge, Massachusetts, November 2014.
- P. Block: Tailoring seasonal forecasts for water resources management: challenges and opportunities. *Colloquium on Seasonal Forecasting – current challenges and potential benefits for decision makers in the water sector*, Koblenz, Germany, October 2014.
- B. Zimmerman and P. Block: Improving spring precipitation forecasting in the lower Colorado river basin based on phases of AMO and PDO. *University of Texas – Austin*, September 2014.
- Y. Zhang, P. Block, M. Hammond: Ethiopia's Grand Renaissance Dam: Filling Policies and Implications for Downstream Countries. *Water Systems, Science and Society under Global Change, UCOWR/NIWR/CUAHSI Conference*, Tufts University, Medford, Massachusetts, June 2014.
- D. Lee, P. Block, and P. Ward: Prospects for seasonal global flood forecasting. *Water Systems, Science and Society under Global Change, UCOWR/NIWR/CUAHSI Conference*, Tufts University, Medford, Massachusetts, June 2014.
- B. Zimmerman, M. Grzegorzewski, P. Block, and D. Watkins: Advancing Statistical Seasonal Forecast Models for the Lower Colorado River Authority. *World Environmental and Water Resources Congress (ASCE)*, Portland, OR, June 2014.
- Y. Zhang, P. Block, M. Hammond: Ethiopia's Grand Renaissance Dam: Filling Policies and Implications for Downstream Countries. *World Environmental and Water Resources Congress (ASCE)*, Portland, OR, June 2014.
- D. Lee, P. Block, and P. Ward: Prospects for seasonal global flood forecasting. *World Environmental and Water Resources Congress (ASCE)*, Portland, OR, June 2014.
- P. Block: Tailoring climate information for water resources management. *University of Illinois – Urbana-Champaign*, April 2014.

Block, P., and K. Leung: Season-ahead water quality forecasts for the Schuylkill River, Pennsylvania. American Geophysical Union (AGU) Fall Meeting, San Francisco, California, December 2013.

Zhang, Y., P. Block, M. Hammond, and A. King: Ethiopia's Grand Renaissance Dam: Implications for Downstream Riparian Countries. American Geophysical Union (AGU) Fall Meeting, San Francisco, California, December 2013.

Zhang, Y., P. Block, M. Hammond, and A. King: An assessment of reservoir filling policies and downstream impacts under a changing climate: Ethiopia's Grand Renaissance Dam. *International Water Conference, University of Oklahoma, Norman, Oklahoma, September 2013.*

Block, P.: The Nile Basin: A Look at Ethiopia's Grand Dam Plan. *Teaching Water: Global Perspectives on a Resource in Crisis, Harvard University, Cambridge, Massachusetts, August 2013.*

Block, P., E. Gonzalez, K. Verbist, M. Dominguez: Streamflow forecasts to guide water resources decisions and water rights in Chile. *AGU Chapman Conference on Seasonal to Interannual Hydroclimate Forecasts, Portland, Oregon, July 2013.*

Block, P., E. Gonzalez, K. Verbist, M. Dominguez: Two stage seasonal streamflow forecasts to guide water resources decisions and water rights in Chile. *World Environmental and Water Resources Congress (ASCE), Cincinnati, Ohio, May 2013.*

Leung, K. and P. Block: Water quality in the Schuylkill River, Pennsylvania: the potential for long-lead forecasts. *World Environmental and Water Resources Congress (ASCE), Cincinnati, Ohio, May 2013.*

Reis, J., T.B. Culver, M.P. McCartney, and P. Block: Exploring the impact and uncertainty of reservoir management with malaria control as climate changes. *World Environmental and Water Resources Congress (ASCE), Cincinnati, Ohio, May 2013.*

Block, P.: Climate risk management applications in water resources. *ENACTS Stakeholder Workshop, Addis Ababa, Ethiopia, June 2013 (recorded.)*

Block, P.: Tailoring Climate Information for Water Resources System Management in Ethiopia. *Johns Hopkins University, Baltimore, Maryland, February 2013.*

King A. and P. Block: An Assessment of Reservoir Filling Policies under a Changing Climate for Ethiopia's Grand Renaissance Dam. *American Geophysical Union (AGU) Fall Meeting, San Francisco, California, December 2012.*

Block, P. and J. Peralez: Water quality in the Schuylkill River, Pennsylvania: the potential for long-lead forecasts. *American Geophysical Union (AGU) Fall Meeting, San Francisco, California, December 2012.*

Block, P.: Innovative approaches to adaptive water management. *Training Institute on Adaptive Management of Water Resources under Climate Change in Vulnerable Basins, La Serena, Chile, October 2012.*

Mitchell, J., P. Adler, P. Block, and S. Spatari: Integrating Geospatial and Hydrologic Analytical Tools. *The American Center for Life Cycle Assessment Conference on "Life Cycle Thinking, Life Cycle Living", Tacoma, WA, September 2012. (Poster won 1st Prize for student submissions.)*

Block, P.: Climate change and hydropower development in Ethiopia: A first look. *Brown International Advanced Research Institute, Brown University, Providence, Rhode Island, June 2012.*

Block, P. and Z. Alemayehu: Ethiopia's Grand [Renaissance Dam] Plan: Does it Make Cents? *World Environmental and Water Resources Congress (ASCE), Albuquerque, New Mexico, May 2012.*

Block, P., E. Gonzalez, L. Bonnafous, and K. Verbist: Two stage seasonal streamflow forecast to guide water resources decisions and allocation. *American Geophysical Union (AGU) Fall Meeting, San Francisco, California, December 2011; World Environmental and Water Resources Congress (ASCE), Albuquerque, New Mexico, May 2012.*

Block, P.: Tailoring Climate Information for Water Resources. *Pennsylvania State University, State College, Pennsylvania, October 2011.*

Block, P., A. Greene, S. Marx, and L. Davi: Elucidating Near-term Climate Change Information to Guide Water Resources Decisions and Foster Sustainability. *World Environmental and Water Resources Congress (ASCE), Palm Springs, California, May 2011.*

Block, P.: Costs and Benefits of Climate Change Adaptation in Ethiopia. *United Nations Development Programme, New York, New York, April 2011.*

Block, P.: Linking Africa's climate and water-related infrastructure. *Investing in Infrastructure in Africa, The Earth Institute, Columbia University, March 2011.*

Block, P., and L. Goddard: Statistical and Dynamical Climate Predictions to Guide Water Resources in Ethiopia. *American Geophysical Union (AGU) Fall Meeting, San Francisco, California, December 2010.*

Block, P.: Hydropower and climate. *United Nations University – World Institute for Development Economics Research Planning Meeting, Washington D.C., October 2010.*

Block, P.: Tailoring Seasonal Climate Forecasts for Hydropower Operations in Ethiopia's upper Blue Nile Basin. *American Geophysical Union (AGU) Fall Meeting, San Francisco, California, December 2009; 2nd University of Florida Water Institute Symposium, February 2010; University of Connecticut, September 2010.*

Block, P.: Climate Change in Ethiopia: Adaptation in the Energy and Agriculture Sectors. *First workshop on the Economics of Adaptation to Climate Change, World Bank, Washington, D.C., June 2009.*

Block, P.: Inclusion of Climate Variability in Modeling: Applications for Ethiopia. *Retreat on methodologies for modeling climate change adaptation in Ethiopia, World Bank, Washington, D.C., December 2008.*

Block, P., U. Lall, Y. Kaheil, A. Khalil, and M. Hellmuth: Applications of Insurance Mechanisms in Water Resources. *Workshop on Technical Issues in Index Insurance, Columbia University – Lamont Campus, Palisades, New York, October 2008.*

Block, P. and C. Brown: Does Climate Matter? Evaluating the Effects of Climate Change on Future Ethiopian Hydropower. *Planning for an uncertain future: monitoring, integration, and adaptation. Interagency conference on research in the watersheds, Estes Park, Colorado, September 2008.*

Block, P.: Applying IWRM Principles into a Climate Risk Management Framework. *Building adaptive capacity – Mainstreaming adaptation strategies to climate change in managing African transboundary river basins, Entebbe, Uganda, August 2008.*

Block, P. and A. Souza Filho: Accounting for Uncertainty Propagation: A Streamflow Forecasting Framework using Multiple Climate and Hydrological Models. *AGU Fall Meeting, San Francisco, California, December 2007.*

Block, P.: Stability within Variability: Is it Possible for Ethiopian Agriculture? *How Can African Agriculture Adapt to Climate Change? Insights for Ethiopia Workshop (Invited), Addis Ababa, Ethiopia, September 2007.*

RESEARCH EXPERIENCE:

Associate Research Scientist, 2009-2011 & Postdoctoral Research Scientist, 2007-2009
International Research Institute for Climate and Society (IRI), Columbia University
Researcher, 2008-2011

Columbia Water Center, Columbia University

Advisors: Dr. Upmanu Lall & Dr. Casey Brown

- Sustainability and climate risk management of water resources
- Effect of climate variability and change on water systems, particularly in developing countries
- Hydrologic forecasting and uncertainty
- Index insurance for flooding and agriculture
- Policy and mechanisms for increased reliability and poverty reduction through water management

Doctoral Research Assistant, 2005-2006

Department of Civil, Environmental, and Architectural Engineering, University of Colorado, and the International Food Policy Research Institute (IFPRI), Washington, DC

Advisors: Dr. Balaji Rajagopalan (UCB), Dr. Mark Rosegrant (IFPRI) & Dr. Kenneth Strzepek (UCB)

- Assessment of interannual variability and ensemble forecast of precipitation in Ethiopia
- Stochastic analysis of hydropower and irrigation investments in Ethiopia under climate change, considering implications to downstream riparian countries.

Research Assistant, 2005

National Center for Atmospheric Research, Boulder, Colorado, and Electric Power Research Institute, Palo Alto, California

Advisors: Dr. Tom Wigley (NCAR) & Dr. Allen Manne (Stanford)

- Creation of a climate model depicting appropriate life cycles and impacts of greenhouse gases, dependent upon emission levels, to mimic MAGICC
- Aggregation of climate model with the energy policy model MERGE to form a complete integrated assessment model for emission optimization.

Masters Research Assistant, 2004

Department of Civil, Environmental, and Architectural Engineering, University of Colorado

Advisor: Dr. Kenneth Strzepek

- Hydroclimatic and water resources modeling evaluating viable trade-offs between investment in agricultural irrigation and/or road construction in Ethiopia

TEACHING EXPERIENCE:

Assistant Professor, *University of Wisconsin – Madison, 2013-*

- Fluid Mechanics, Hydroclimatology for Water Resources, Water Resources Systems Analysis

Assistant Professor, *Drexel University, 2011-2013*

- Open Channel Flow, Watershed Analysis, Hydroclimatology, Fluid Mechanics

Co-Instructor, *Columbia University, 2009-2011*

- Management and Development of Water Systems

Assistant Professor Adjunct, *University of Colorado, 2006-2007*

- Modeling of Hydrologic Systems, Senior Design, Introduction to Geomatics (co-instructor)

Teaching Assistant, *University of Colorado, 2003-2004*

- Undergraduate Fluid Mechanics

Instructor, *Rochester Community and Technical College, Rochester, Minnesota, 2001-2003*

- Introduction to Engineering and Fluid Mechanics for civil engineering technology students

Instructor, *Liberian Refugee School, Toulepleu, Ivory Coast, 1999-2000*

- Math and physics courses for high school level refugee students

ADDITIONAL PROFESSIONAL EXPERIENCE:

Project Engineer, *Short Elliott Hendrickson Inc., Rochester, Minnesota, 2001-2003*

- Civil and municipal engineering work, primarily utility extension design, storm water design, site grading plans, and construction observation

Project Manager and Engineer, *Environmental Concepts and Design, St. Paul, Minnesota, 1997-1999*

- Environmental, civil, and hydrogeologic engineering, primarily subsurface conditions, groundwater monitoring and analysis, landfill design, monitoring, and construction oversight.

Staff Engineer, *Harza Engineering Company, Chicago, Illinois, 1993-1994*

- Cooperative engineering opportunity in water, structural, and geotechnical divisions

AWARDS AND RECOGNITION:

Polygon Outstanding Engineering Faculty Teaching Award	2014
Drexel University Career Development Award	2012
Best Reviewer Award, Journal of Water Resources Planning and Management	2010
DISCCRS Scholar (Dissertation Initiative for the Advancement of Climate Change Research) for early career professionals; NSF sponsored	2008
NCAR Colloquium on Climate & Health Invited Participant	2006
Joint Assembly Student Grant Awardee	2006
IFPRI/USAID Fellowship	2005-06
Graduate Teacher Program Teacher Training Certificate, University of Colorado at Boulder	2005
Tau Beta Pi – National Engineering Honor Society, Valparaiso University	1995
Distinguished Student Award, Valparaiso University	1995

LICENSURE:

Licensed Professional Engineer in Colorado

PROFESSIONAL AFFILIATIONS:

American Geophysical Union	American Society of Civil Engineers, EWRI
Tau Beta Pi National Engineering Society	National Society of Professional Engineers (inactive)

UNIVERSITY OF WISCONSIN - MADISON AFFILIATIONS:

Center for Climatic Research	Freshwater and Marine Sciences
Wisconsin Initiative on Climate Change Impacts	African Studies Program
Gaylord Nelson Institute for Environmental Science	

TRAININGS AND CURRICULUM DEVELOPMENT:

Training Institute on Adaptive Management of Water Resources	2012
Hydrologic outlooks for hydrologists (training trainers)	2010
Water and climate risk management for NOAA Africa Desk scientists	2010

Water and climate risk management for Ethiopian water professionals 2009
Hydroclimatic forecast tools for Chilean scientists 2007

SERVICE:

Associate Editor, Journal of Water Resources Planning and Management (ASCE)

Journal Reviewer: Advances in Water Resources, Bulletin of the American Meteorological Society, Climatic Change, Earth Science Informatics, Energy Science and Engineering, Environmental Modelling & Software, Geophysical Research Letters, Hydrological Processes, Hydrology and Earth System Sciences, International Journal of Climatology, Journal of Hydrologic Engineering, Journal of Hydrology, Journal of Hydrometeorology, Journal of Water Resources Planning & Management, Theoretical and Applied Climatology, Water, Water Resources Research

WMO Climate and Hydrology Expert Group on Seasonal Streamflow Forecasting

Proposal Reviewer: National Science Foundation, NOAA Climate Program Office, Sea Grant

ASCE EWRI International Council Vice-President; Track Chair for 2012-13 Conferences

ASCE EWRI Environmental and Water Resources Systems Committee Vice-President; Task committee lead

Engineers without Borders Faculty mentor, 2014-

Energy Summit 2014 (UW) panel organizer, chair, moderator

Session convener/moderator for 2012-2015 AGU Fall Meetings and EWRI Congress

Session convener/moderator for 2014 UCOWR/NIWR/CUAHSI Conference

Session chair for January 2010 Conference on Water Resources in Ethiopia, Addis Ababa, Ethiopia

Panel participant: *Adapting to climate change: the water challenge*, Earth Institute, Columbia University 2010

Postdoctoral search committee, Columbia University

REU summer internship mentor at Drexel University 2012

IRI/International Federation of the Red Cross summer internship mentor 2009, 2010

Hosted undergraduate student from Ecole Nationale Supérieure des Mines de Nancy (France), Mar-Aug 2011

A+ Freshman Engineering Council (pedagogical committee)