

KYLE ONDA

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EDUCATION

University of North Carolina at Chapel Hill

PhD, City & Regional Planning

August 2014- Expected 2020

Dissertation: "Converting from intermittent to continuous water supply: Implications for water consumption, equity, and infrastructure planning"

University of North Carolina at Chapel Hill

MCRP, City & Regional Planning

August 2011-May 2014

University of North Carolina at Chapel Hill

MSPH, Environmental Sciences and Engineering

August 2011-May 2014

Stanford University

BS, Environmental Engineering

September 2007-June 2011

Conferred with Distinction, *Phi Beta Kappa*

PEER-REVIEWED PUBLICATIONS

Onda, K., Sinha, P., Gaughan A.E., Stevens, F.R., and Kaza, N. "Missing Millions: Undercounting Urbanization in India." *Population and Environment*, 41(2):126-150, 2019.

Bain, R., Cronk, R., Hossain, R., Bonjour, S., **Onda, K.,** Wright, J., Yang, H., Slaymaker, T., Hunter, P., Pruss-Ustun, A., and Bartram, J. "Global Assessment of Exposure to Faecal Contamination through Drinking Water Based on a Systematic Review." *Tropical Medicine & International Health*, 19(8):920-927, 2014.

Onda, K., Crocker, J., Kayser, G., and Bartram, J. "Country clustering applied to the water and sanitation sector: A new tool with potential applications in research and policy." *International Journal of Hygiene and Environmental Health*, 217(2):379-385, 2014.

Marks, S.J., **Onda, K.,** and Davis, J. "Does sense of ownership matter for rural water system sustainability? Evidence from Kenya." *Journal of Water, Sanitation, and Hygiene for Development*, 2(3):122-133, 2013.

Onda, K., LoBuglio, J., and Bartram, J. "Global Access to Safe Water: Accounting for Water Quality and the Resulting Impact on MDG Progress." *International Journal of Environmental Research and Public Health*, 9(3):880-894, 2012.

PAPERS IN DEVELOPMENT AND CONFERENCE PRESENTATIONS & POSTERS

Onda, K., (September 2019). "The Internet of Water and Regional Water Use Estimation and Reporting" Presentation at the USGS/Western States Water Council Water Information Management Systems Workshop, Fort Collins, CO.

Onda, K., Branham, J., Kaza, N., BenDor, T., Ganser, B., and Plaugic, M. (October 2018). "Does removal of federal subsidies discourage development? An evaluation of the US Coastal Barrier Resources Act" Paper presented at the Association of Collegiate Schools of Planning Conference, Buffalo, NY. (Presented by Nikhil Kaza, Under Review)

Onda, K. (October 2018). "Equity in Water and Sewer Expansion Patterns in Brazil, 1980-2010." Paper presented at the Association of Collegiate Schools of Planning Conference, Buffalo, NY.

Onda, K. (November 2016). "Efficiency as a function of organizational form in water services provision: A comparison of Indian and Brazilian water utilities." Paper presented at the Association of Collegiate Schools of Planning Conference, Portland, OR.

Onda, K. (October 2014), "Intermittent vs. Continuous Water Supply: What happens to households?" Paper presented at the annual Water and Health Conference at UNC, Chapel Hill, NC.

Onda, K. (April 2014), "Assessment of Plumbing Code Enforcement in the United States" Paper presented at the Emerging Technology Symposium of the International Association of Plumbing and Mechanical Officials (IAPMO), Alexandria, VA.

Onda, K. (May 2012), "The Last Mile of Water Safety: A Global Problem" Paper presented at the Emerging Technology Symposium of the International Association of Plumbing and Mechanical Officials (IAPMO), Bethesda, MD.

Marks, S.J., **Onda, K.**, and Davis, J. (April 2010), "Sense of Ownership and Water System Sustainability in Rural Senegal and Kenya." Poster presented at the Annual Meeting of the Association of American Geographers, Washington, DC.

RELATED EXPERIENCE

[Internet of Water](#), Nicholas Institute of Environmental Policy Solutions, Duke University (Durham, NC)

Data Architect

June 2019 – Present

- Developed templates, tutorials, and curricula for data architecture modernization and data science for local and state public agencies producing water-related data.
- Convened and facilitated stakeholder meetings with representatives from Federal government agencies, state water resources and environmental protection agencies, and non-governmental organizations for mutual learning about data architecture for open data, and data and metadata standardization
- Created software tools and community processes to aid in comparison and eventual harmonization of scientific, legal, and administrative data standards and controlled vocabularies used by federal and state agencies for water resources management and water quality science and regulation

[Valor Water Analytics](#) (San Francisco, CA)

Lead Statistician (Consultant)

March 2017 – Present

- Evaluated impact of experimental and quasi-experimental interventions to detect water leaks and encourage water conservation in Southern California
- Designed randomization blocking scheme of water bill reminder program experiment for customers at risk of bill nonpayment
- Designed water demand and revenue forecasting tool based on hierarchical time series modeling of customer-level water meter data with mixed hourly, daily, and monthly frequency, daily weather observations, and parcel characteristics
- Developed time series analysis software to detect under-registering water meters

[Department of City & Regional Planning](#), University of North Carolina at Chapel Hill (Chapel Hill, NC)

Research Assistant

August 2015 – Present

- Compiled, managed, cleaned, analyzed nationwide parcel, real estate, aerial imagery, land cover, building footprint, and utility service areas for study of impact of U.S. Coastal Barrier Resources Act on development rates
- Compiled, managed, cleaned, analyzed, and spatially and temporally harmonized multiresolution nationwide (India) data on population, employment, climate, industrial activity, land cover, freshwater availability, groundwater levels, groundwater quality for study of drivers of urbanization in India

[Jameel Abdul Latif Poverty Action Lab](#) (Patna, Bihar, India)

Intern

May 2015 – August 2015

- Supported enumerator training and fieldwork for randomized evaluation of neighborhood-level electricity billing intervention
- Provided data quality assurance for baseline and midline surveys using statistical detection of multivariate outliers

[Croatan Institute](#) (Durham, NC)

Summer Associate

May 2014 – August 2014

- Designed data management, summary, and visualization tools in Excel for survey of financial institutions' socially responsible investment activities

[Department of Environmental Sciences & Engineering](#), University of North Carolina at Chapel Hill

Research Assistant

August 2011 – May 2014

- Helped conduct systematic literature review of water quality tests and water infrastructure access worldwide for study measuring the prevalence of global exposure to water supplies at high risk of fecal contamination.
- Designed, implemented, analyzed nationally representative survey of plumbing code enforcement officials to measure the legal and practical degree of last-mile domestic water safety regulation in the United States

[Department of Civil & Environmental Engineering](#), Stanford University (Stanford, CA)

Research Assistant

June 2009 – August 2011

- Managed survey fieldwork in rural Senegal on village water system technical and financial sustainability.
- Analyzed primary household surveys and source and point-of-use water quality testing for indicator bacteria for studies of hygiene behavior and child health in Tanzania and Mozambique

[South African Municipal Workers' Union](#) (Cape Town, Western Cape, South Africa)

Volunteer

March 2010 – June 2010

- Organized, promoted, attended community meetings in peri-urban townships discussing the impacts of pre-paid water meters on community sanitation and health
- Reorganized electronic documents and records filing system for water and sanitation studies

[Water Quality Control Division](#), Colorado Department of Public Health and Environment (Denver, CO)

Engineering Aide

May 2008 – August 2008

- Assembled and formatted data for lakes and streams biological habitat data (temperature, DO, BOD, nitrates, phosphorous)
- Sampled streams for flow, water chemistry, periphyton, macroinvertebrate and fish populations

TEACHING EXPERIENCE

Department of City & Regional Planning University of North Carolina at Chapel Hill

Instructor of Record – PLAN 247 Solving Urban Problems (Undergraduate)

August-December 2016

Developed syllabus and overall course structure, and administered all grades.

Teaching Assistant – PLAN 745 Development Impact Assessment (Graduate)

January 2017-May 2017

Administered all grades, provided 1 guest lecture

Teaching Assistant – PLAN 637 Public Transportation Planning (Graduate)

January 2015-May 2015

Administered all grades

Teaching Assistant – PLAN 710 Microeconomics for Planning and Policy (Graduate)

August-December 2014

Taught weekly recitations, provided 3 guest lectures, administered all grades

AWARDS

Royster Doctoral Fellowship

May 2014 - August 2019

Best Master's Project, UNC-Chapel Hill Department of City & Regional Planning

May 2014

Student Achievement Award, UNC-Chapel Hill Department of Environmental Sciences & Engineering

May 2014

Undergraduate Summer Research Scholarship, Stanford University

June-September 2009

Undergraduate Summer Research Scholarship, Stanford University

June-September 2010

SERVICE

PhD Admissions Coordinator, Department of City & Regional Planning, UNC-Chapel Hill (2015, 2016, 2017)

PhD Student-Faculty Liaison, Department of City & Regional Planning, UNC-Chapel Hill (2015)

Survey Design Contributor - [Stigma Free Carolina](#) (2016)

LANGUAGES

English-- fluent

French-- advanced

Portuguese-- basic

SKILLS

Data Science & Architecture: R, Stata, Python, Google Cloud Platform, Amazon Web Services

Spatial: ArcGIS, QGIS, R spatial packages

Research Design: Qualitative case studies, randomized control trials, quasi-experimental quantitative (instrumental variables, regression discontinuity, comparative interrupted time series/ panel methods, matching)

Survey: Qualtrics, ODK, TSS

Engineering: EPANET 2, WaterGEMS

Communication and Publishing: Photoshop, LaTeX, Markdown, R Shiny web applications