

KYLE ONDA

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EDUCATION

University of North Carolina at Chapel Hill

PhD, City & Regional Planning

Expected 2022

University of North Carolina at Chapel Hill

MCRP, City & Regional Planning (Land Use & Env. Planning) **August 2011-May 2014**

MSPH, Environmental Sciences and Engineering (Water Supply & Sanitation)

Stanford University

BS, Environmental Engineering

September 2007-June 2011

Conferred with Distinction, *Phi Beta Kappa*

PROFESSIONAL EXPERIENCE

Internet of Water, Nicholas Institute of Environmental Policy Solutions, Duke University

Data Architect

June 2019 – Present

- Developed community-managed system for persistent identification of environmental features and best practices for publishing data linked to these features.
- Developed templates, tutorials, and curricula for data architecture modernization and data science for local and state public agencies producing water-related data.
- Supervised development of open source spatial data infrastructure components for serving hydrologic feature data linked to environmental sensor data streams.
- Developed (successful) proposal for \$150,000 USGS WRI grant supporting the development of an open linked water data system, and managed the resulting project.
- 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 open-source 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

Xylem, Inc

Data Scientist (Consultant)

January 2021 - Present

- Developed the [Water Equity Lens](#), a proof-of-concept suite of metrics visualized in ArcGIS Online for water and wastewater utilities to evaluate the spatial and social equity of their service delivery.
- Developed data models, data standards, and data ingestion workflows for utility operational data and U.S. Census data for implementation of the Water Equity Lens with pilot client utilities.

Valor Water Analytics

Lead Statistician (Consultant)

March 2017 – December 2020

- Designed water demand and revenue forecasting tool in R 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.
- 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

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

Research Assistant

August 2015 – May 2019

- 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

Croatian Institute

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

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

Research Assistant

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

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

PEER-REVIEWED PUBLICATIONS

Onda K., Tewari M. Water systems in California: Ownership, geography, and affordability. *Utilities Policy*, 72(101279), 2021.

Branham, J., **Onda, K.**, BenDor, T., Kaza, N., and Salvesen, J. "How Does the Removal of Federal Subsidies Affect Investment in Coastal Protection Infrastructure?" *Land Use Policy*, 102, 2021.

Onda, K., Branham, J., BenDor, T., Kaza, N., and Salvesen, J. "Does Removal of Federal Subsidies Discourage Urban Development? An Evaluation of the US Coastal Barrier Resources Act." *PLOS ONE*, 15(6), 2020.

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.

LANGUAGES

English-- fluent; French-- advanced; Portuguese-- basic

SKILLS

Data Science & Architecture: R, Stata, GCP, AWS, DigitalOcean, ArcGIS, QGIS, R spatial packages, OGC APIs, GitHub, Docker.

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

PROFESSIONAL ACTIVITIES

Co-Chair, Technology Committee, American Water Resources Association (2021-23)

AWARDS

Royster Doctoral Fellowship	May 2014 - August 2019
Best Master's Project, UNC-Chapel Hill Dept. of City & Regional Planning	May 2014
Student Achievement Award, UNC-Chapel Hill Dept. of Environmental Sciences & Engineering	May 2014
Undergraduate Summer Research Scholarship, Stanford University	June-September 2009
Undergraduate Summer Research Scholarship, Stanford University	June-September 2010