UC ANR Water Webinar

Water, Health, and Environmental Justice in California's Central Valley: Geospatial Analysis of Water Contamination and Health Disparities

By: Dr. Colleen Naughton, Professor, and Ariana Tariqi, Undergraduate Researchers, Civil and Environmental Engineering, UC Merced

Day/Time: Friday 01/15/2020, 3 - 4 PM

Join Zoom Meeting:
https://ucmerced.zoom.us/j/93722796133?pwd=a2FsKzBTUGVtOEovSTNVanRSNjZMdz09; Meeting ID: 937 2279 6133; Passcode: 92837

Speaker Bio: Dr. Colleen C. Naughton is an Assistant Professor in Civil and Environmental Engineering at UC Merced. Her lab designs sustainable and culturally sensitive food-energy-water systems through Life Cycle Analysis, Geographic Information Systems, integration of Anthropology and Engineering, and effective science policy. Before coming to UC Merced, she completed over a year Science and Technology Policy Fellowship through the American Association for the Advancement of Science (AAAS) in Washington D.C. with the Millennium Challenge Corporation (an international development agency started in 2005 whose mission is poverty reduction through economic growth). Dr. Naughton was a postdoctoral researcher and obtained her doctorate at the University of South Florida (USF) in the Department of Civil and Environmental Engineering. She was also part of the Peace Corps Master's International Program where she served and conducted research in Mali, West Africa for three years as a Water, Sanitation, and Hygiene (WASH) Engineer and worked closely with the women in her village to find a shea butter cooperative and conduct a Life Cycle Assessment of shea butter production processes. She obtained her bachelor's degree in Civil Engineering from Purdue University in Indiana. Dr. Naughton grew up in Michigan but is enjoying her new California home. She enjoys competing in triathlons and marathons.

Abstract: Over one million Californians do not have access to clean drinking water with approximately half in the Central Valley of California. One in five residents in California's Central Valley live in poverty according to the Public Policy Institute of California. Over half of these residents are of non-white ethnicities including those of Hispanic/Latino, Black/African, and Asian dissent. One fourth of the United States' food production comes from the agriculture in Central Valley. This concentration of agriculture contaminates surface and groundwater used for drinking with fertilizers and pesticides. Historical industrial pollution and natural geology also contribute to harmful chemicals in the drinking water. The top five contaminants are arsenic, nitrate, uranium, total trihalomethanes, and halocetic acids. Also, 1,2,3- Tricholoropropane (1,2,3- TCP) from a now banned soil fumigant is of particular concern for a number of municipalities in the Central Valley. While previous literature has focused on the clear economic and ethnic disparities in clean drinking water access for disadvantaged communities in California, there is a gap in overlaying this with health data. The Central Valley has higher incidences of thyroid cancer, premature death rates, and score lowest on county health ratings. From geographic and statistical analysis of agriculture, water, contaminants, health, and socio-economic data, there is clear overlap between disadvantaged communities and health disparities. This seminar will focus particularly on nitrate contamination of groundwater in California related to thyroid cancer incidence and disadvantaged communities. These maps and analysis will help inform the public and policy leaders of the types of health-related concerns in relation to water pollution in California and where to target interventions.

Host: Safeeq Khan, CE Specialist in Water and Watershed Sciences & Ellen Bruno, CE Specialist in Agriculture and Resource Economics

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