

Healthy and Resilient Communities Research Webinar Series

Available Tools to Advance Our Understanding of Cumulative Impacts



A certificate of
attendance will
be offered for
this webinar

Registration: us02web.zoom.us/webinar/register/WN_MXnmm8JIS3CCwBNf_BF91A

Tuesday, July 11, 2023 from 3 to 4:30 p.m. ET

EPA is working to improve its publicly available tools and analytical methods that help measure community assets and vulnerabilities for analyzing changes in cumulative impacts from exposure to multiple chemical stressors in environmental media (air, water, land) and non-chemical stressors, such as social determinants of health and extreme weather events. This webinar will highlight three of these tools that can be used to assist in our understanding of cumulative impacts, particularly in communities already overburdened by disproportionate impacts that can arise from unequal environmental conditions. The presentations will be followed by a Q&A session.

Presentation 1:

Marc Russell will highlight EPA's [Eco-Health Relationship Browser](#), a useful resource for anyone interested in nature's positive contributions to cumulative impacts. It allows users to search through 1,200+ peer reviewed research articles using a visually dynamic web-based interface, which diagrams linkages between ecosystems, ecosystem services, and human health outcomes. The latest update adds hundreds of articles on air quality, water quality, urban heat islands, and engagement and recreation in green spaces and resulting physical and mental health effects.

Presentation 2:

Kristen Rappazzo will highlight EPA's [Environmental Quality Index \(EQI\)](#), a tool to help researchers better understand how health outcomes relate to cumulative environmental exposures that typically are viewed in isolation. It provides county-by-county snapshots of overall environmental quality data across the entire U.S. within five domains: air, water, land, built, and sociodemographic environments. An overview of the EQI and a summary of the health outcome research that has been conducted to date will be provided.

Presentation 3:

Matthew Lee will highlight EPA's [Environmental Justice Screening and Mapping Tool \(EJScreen\)](#), the Agency's award-winning environmental justice (EJ) screening and mapping tool. It has recently been updated and enhanced with important improvements to better meet the needs of users and provide expanded insight into potential EJ concerns in overburdened communities. The update features new indicators on environmental burdens, socioeconomic factors, climate change, health, and critical service gaps.

See back page to
meet the presenters

About the Presenters



Marc Russell, Ph.D.

Marc is a research ecologist and assistant center director in EPA's Office of Research and Development, Center for Computational Toxicology and Exposure. His current research includes ecosystem goods and services assessment, natural capital accounting and eco-health relationships. Marc has also worked on net anthropogenic nutrient inputs to Chesapeake Bay, net ecosystem metabolism in Texas estuaries, and coral recruitment surveys in the Virgin Islands. Prior to joining EPA, he worked at the Smithsonian Environmental Research Center as a postdoc. Marc has a Ph.D. in marine science from The University of Texas, an M.S. in biology from Bucknell University, and a B.S. in marine biology from Florida Atlantic University.



Kristen Rappazzo, Ph.D.

Kristen is an epidemiologist in EPA's Center for Public Health and Environmental Assessment, where she performs research examining human health outcomes to a variety of environmental exposures, including air pollution, ecosystems goods and services, hazardous waste sites, brownfields, greenspace, climate related factors, and social and environmental interactions. She has contributed to government assessments of criteria air pollutants and PFAS for reproductive and developmental outcomes and has led or contributed to several systematic reviews and meta-analyses on environmental epidemiology topics. Kristen has a Ph.D. in epidemiology from the University of North Carolina Gillings School of Global Public Health, an MPH in environmental and occupational health from Drexel University Dornsife School of Public Health, and a B.A. in brain and cognitive sciences from the University of Rochester.



Matthew Lee

Matthew is environmental protection specialist in EPA's Office of Environmental Justice and External Civil Rights, where he co-leads EJScreen. Matthew began his career with EPA in the Agency's Region 3 Office and has dedicated his entire career to mapping for environmental justice. In addition to his work at EPA, he also serves as a Lecturer at the University of Pennsylvania, where he teaches a course on the principles of mapping for environmental justice. Matthew has an MES from the University of Pennsylvania and a B.S. from the University of Delaware.