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Positions

2025 - present	Associate Director MPH Program University of California San Diego Herbert Wertheim School of Public Health and Human Longevity Sciences	San Diego, CA
2023 - present	Assistant Professor University of California San Diego Herbert Wertheim School of Public Health and Human Longevity Sciences	San Diego, CA
2021 – 2023	Lecturer University of California, Berkeley School of Public Health Division of Environmental Health Sciences	Berkeley, CA
2019 – 2023	Postdoctoral Scholar University of California, Berkeley School of Public Health Division of Environmental Health Sciences	Berkeley, CA

Education

Columbia University Ph.D., Environmental Health Sciences, 2019 Columbia University Mailman School of Public Health Climate and Health Program	New York, NY
Stanford University B.A. with honors, Human Biology, 2014	Stanford, CA

Publications

1. Lu, W; **Heaney, AK**. (2026) A raster-free method for rapid buffer-based exposure assessment in environmental epidemiology. *Environmental Research*. 302, 124650.
<https://doi.org/10.1016/j.envres.2026.124650>
2. Adlakha, D; **Heaney, AK**; Olazabal, M; Grafakos, S; Lowe, M; Pathak, M; Frumkin, H; Bikomeye, JC; Reis, R; Capretz, N; Sallis, JF. (2026) A global research and evaluation agenda for centering health and equity in city Climate Action Plans. *PLOS Climate*. 5(4): e0000891.
<https://doi.org/10.1371/journal.pclm.0000891>

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3. Kruger, SE; Ruberto, I; Williamson, T; Remais, JV; **Heaney, AK**; Head, JR. (2026) Regional Increases in Incidence of Coccidioidomycosis (Valley Fever) — Arizona, 2005–2022. *MMWR Morb Mortal Wkly Rep.* 75(6):85
 4. Schollaert, CL; Camponuri, S; Couper, L; Head, JR; **Heaney, AK**; Rahimi, S; Remais, JV; Marlier, ME. (2026) Choice of Downscaled Climate Product Matters: Projections of Valley Fever Seasonality in a Warming Climate. *GeoHealth*, 10, e2025GH001624. <https://doi.org/10.1029/2025GH001624>
 5. Gould, CF, Heft-Neal, S, **Heaney, AK**, Bendavid, E, Callahan, CW, Kiang, MV, ... & Burke, M. (2025). Temperature extremes impact mortality and morbidity differently. *Science Advances*, 11(31), eadr3070.
 6. Adebiyi, AA; Kibria, MM; Abatzoglou, JT; Ginoux, P; Pandey, S; **Heaney, AK**; Chen, S; Akinsanola, AA. (2025) Fallowed agricultural lands dominate anthropogenic dust sources in California. *Commun Earth Environ* 6, 324. <https://doi.org/10.1038/s43247-025-02306-0>
 7. **Heaney, AK***; Camponuri, SK*; Sondermeyer Cooksey, G; Vugia, DJ; Jain, S; Swain, DL; Balmes, J; Remais, JV; Head, JR. (2025) Recent and Forecasted Increases in Coccidioidomycosis Incidence Linked to Hydroclimatic Swings, California, USA. *Emerging Infectious Diseases*. 31(5). DOI: 10.3201/eid3105.241338. *co-first authors
 8. Camponuri, SK; Head, JR; Collender, PA; Weaver, A; **Heaney, AK**; Colvin, KA; Bhattachan, A; Sondermeyer-Cooksey, G; Vugia, DJ; Jain, S; Remais, JV. (2025) Prolonged coccidioidomycosis transmission seasons in a warming California: a Markov state transition model of shifting disease dynamics. *Journal of Royal Society Interface*. 21(223). DOI: 10.1098/rsif.2024.0821
 9. Weaver, A; Keeney, N; **Heaney, AK**; Head, JR; Collender, P; Camponuri, SK; Bhattachan, A; Okin, GS; Eisen, EA; Sondermeyer-Cooksey, G; Vugia, D; Yu, A; Jain, S; Balmes, J; Taylor, J; Remais, JV; Strickland, M. (2024) Estimating the exposure-response relationship between fine mineral dust concentration and coccidioidomycosis incidence using speciated particulate matter data: A longitudinal surveillance study. *Environmental Health Perspectives*. 133(1). DOI: 10.1289/EHP1387
 10. **Heaney, AK**; Camponuri, SK; Head, JR; Collender, P; Weaver, A; Sondermeyer-Cooksey, G; Yu, A; Vugia, D; Jain, S; Bhattachan, A; Taylor, J; Remais, JV. Coccidioidomycosis seasonality in California: a longitudinal surveillance study of the climate determinants and spatiotemporal variability of seasonal dynamics, 2000–2021. *Lancet Regional Health Americas* (2024) DOI: 10.1016/j.lana.2024.100864
 11. Phillips, S; Jones, I; Sondermeyer-Cooksey, G; Yu, A; **Heaney, AK**; Zhou, B; Bhattachan, A; Weaver, A; Campo, SK; Mgbara, W; Wagner, R; Taylor, J; Lettenmaier, D; Okin, G; Jain, S; Vugia, D; Remais, JV; Head, JR. “Association between wildfires and coccidioidomycosis incidence in California, 2000–2018: a synthetic control analysis.” *Environmental Epidemiology* 7 (2023): e254.
 12. Head, JR; Sondermeyer-Cooksey, G; **Heaney, AK**; T Yu, Alexander; Jones, I; Bhattachan, A; Campo, SK; Wagner, R; Mgbara, W; Phillips, S; Keeney, N; Taylor, J; Eisen, E; Lettenmaier DP; Hubbard, A; Okin, GO; Vugia, DJ; Jain, S; Remais, JV. (2022) Effects of Precipitation, Heat, and Drought on Incidence and Expansion of Coccidioidomycosis in Western USA: a Longitudinal Surveillance Study. *The Lancet Planetary Health*. 6(10) DOI: 10.1016/S2542-5196(22)00202-9
 13. Cheng, Q; Collender, PA; **Heaney, AK**; McLoughlin, A; Zhang, Y; Head, J; Dasan, R; Liang, S; Lv, Q; Liu, Y; Yang, C; Chang, HH; Waller, LA; Zelner, J; Lewnard, JA; Remais, JV. (2022) Optimizing laboratory-based surveillance networks for monitoring multi-genotype or multi-serotype infections. *PLOS Computational Biology*. 18(9). DOI: 10.1371/journal.pcbi.1010575

14. **Heaney, AK**; Stowell, J; Liu, J; Marlier, M; Basu, R; Kinney, P. (2022) Impacts of Fine Particulate Matter from Wildfire Smoke on Respiratory and Cardiovascular Health in California. *GeoHealth*. 6(6). DOI: 10.1029/2021GH000578
15. Head, JR; Andrejko, KL; Cheng, Q; Collender, P; Phillips, S; Boser, A; **Heaney, AK**; Hoover, C; Wu, SL; Northrup GR; Click, K; Harrison, R; Bardach, N; Lewnard, JA; Remais, JV. (2021) School closures reduced social mixing of children during COVID-19 with implications for transmission risk and school reopening policies. *Journal of the Royal Society Interface*. 18(177). DOI: 10.1098/rsif.2020.0907
16. **Heaney, AK**; Head, JR; Broen, K; Click, K; Taylor, J; Balmes, J; Zelner, J; Remais, JV. (2021) Coccidioidomycosis and COVID-19 Co-Infection, United States, 2020. *Emerging Infectious Diseases*. 27(5). DOI: 10.3201/eid2705.204661.
17. **Heaney, AK***; Cheng, Q*; Collender, P*; Li, X; Dasan, R; Li, C; Lewnard, JA; Zelner, J; Liang, S; Chang, H; Waller, LA; Lopman, BA; Changhong, Y; Remais, JV. (2020) The DIOS framework for optimizing infectious disease surveillance: numerical methods for simulation and multi-objective optimization of surveillance network architectures. *PLoS Computational Biology*. 16(12): e1008477. DOI: 10.1371/journal.pcbi.1008477 *co-first authors
18. **Heaney, AK**; Alexander, K; Shaman, J. (2019) El Niño-Southern Oscillation and Under-5 Diarrhea in Botswana. *Nature Communications*. 10, 5798. DOI: 10.1038/s41467-019-13584-6
19. **Heaney, AK**; Alexander, K; Shaman, J. (2019) Ensemble Forecast and Parameter Inference of Childhood Diarrhea in Chobe District, Botswana. *Epidemics*. DOI: 10.1016/j.epidem.2019.100372
20. **Heaney, AK**; Carrión, D; Burkhart, K; Lesk, C; Jack, DW. (2019) Climate change and physical activity: Estimated impacts of ambient temperature on bikeshare usage in New York City. *Environmental Health Perspectives*. 127(3). DOI: 10.1289/EHP4039
21. Alexander, K; **Heaney, AK**; Shaman, J. (2018) Hydrometeorology and flood pulse dynamics drive diarrheal disease outbreaks and increase vulnerability to climate change in surface-water-dependent populations: A retrospective analysis. *PLoS Medicine*. 15(11). DOI:10.1371/journal.pmed.1002688
22. Morita, H; Kramer, S; **Heaney, AK**; Gil, H; Shaman, J. (2018) Influenza forecast optimization when using different surveillance data types and geographic scales. *Influenza and other respiratory viruses*. DOI:10.1111/irv.12594
23. Li, R; Bai, Y; **Heaney, AK**; Kandula, S; Cai, J; Zhao, X; Xu, B; Shaman, J. (2017) Inference and forecast of H7N9 Influenza in China, 2013 to 2015. *Eurosurveillance*. 22(7). DOI:10.1111/irv.12594
24. **Heaney, AK**; Little, E; Ng, S; Shaman, J. (2016) Meteorological variability and infectious disease in Central Africa: A review of meteorological data quality. *Annals of the New York Academy of Sciences*. 1382(1), 31-34. DOI:10.1111/nyas.13090
25. **Heaney, AK**; Winter, S. (2015) Climate driven migration: An exploratory case study of Maasai health perceptions and help seeking behaviors. *International Journal of Public Health*. 61(6), 641-649. DOI:10.1007/s00038-015-0759-7

Submitted Articles

1. **Heaney, AK**; Jones, IJ; Camponuri, SK; Head, J; Weaver, AK; Collender, P; Sondermeyer-Cooksey, G; Jain, S; Vugia, D; Balmes, J; Eisen, EA; Taylor, J; Bhattachan, A; Remais, JV. The impact of land use and fallowing on coccidioidomycosis incidence in California: a population-based longitudinal study. (under review at *Sciences Advances*)

2. Head, JR; Camponuri, SK; Weaver, A; Montoya, L; Lee, E; Radosevich, M; Jones, I; Wagner, R; Bhattachan, A; Campbell, G; Keeney, N; Collender, PA; **Heaney, AK**; Colvin, K; Bean, WT; Taylor, J; Remais, JV. Small mammals and their burrows shape the distribution of *Coccidioides* in soils: evidence from a long-term ecological experiment in the Carrizo Plain National Monument, California, USA. (under review at *Ecology*)

Awards and Grants

2026	2026 — GeoCAFE Scholar (2026 cohort). NSF-funded Research Coordination Network connecting geosciences researchers with public health and medical professionals.
2025	UCSD Academic Senate Research Grant (\$15,000 direct costs) 11/2025 – 11/2026 “Climate Sensitivity of Coccidioidomycosis: Investigating Meteorological Precursors in Arizona” Role: Primary Investigator
2025	Climate and Health CAFE Pilot Project Award (\$20,000 direct costs) 09/2025-09/2026 “Climate Sensitivity of Coccidioidomycosis: Investigating Meteorological Precursors in Arizona” Role: Primary Investigator
2025	NIAID 1R21AI188113-01A1 (\$419,274 direct costs) 06/2025-06/2027 “Understanding the influence of climate and other environmental factors on blastomycosis incidence and seasonality in northern Great Lakes states” Role: Co-Investigator
2025	NIEHS K01 ES036991-01 (\$485,269 direct costs) 02/2025-02/2028 “From Risk to Resilience: Assessing Adverse Birth Outcome Risks and Adaptive Capacity to Fine Soil Dust and Heat Exposures in California” Role: Primary Investigator
2025	California Air Resources Board Contract 24RD001 (\$929,858 direct costs) 03/2025 – 03/2027 “Dust on the Horizon: Assessing Current and Projecting Future Health Risks from the Shrinking Salton Sea” Role: Co-Primary Investigator
2025	National Center of Leadership in Academic Medicine Faculty Scholar (\$2,000) Health-sciences professional development program with mentoring component for junior faculty at UC San Diego.
2024	TU Delft 2024-I climate action programme research and education seed fund. (€30,000 direct costs) 06/01/2024 – 06/01/2025 “Beyond ‘business as usual’: Assessing the scope and quality of climate action plans to lower current emissions trajectories.” Role: Co-Investigator
2023	Global Center on Climate Change and Water Energy Food Health Systems. NIH-Fogarty P20. \$4,043,930 total costs. 09/01/2023–07/01/2026. PI: Wael Al-Delaimy, UC San Diego. Role: Co-Investigator (~5% salary support; ~0% of direct costs controlled).
2023	NIH-NIAID R01AI176770 (\$3,944,289 total costs) 09/01/2023 – 08/30/2028 “Using massive, multi-regional EHR data to estimate the impacts of climate change on fungal disease epidemiology in the U.S.”

Role: equivalent to co-I but not eligible in 2022; led proposal writing as member of three-person team

- 2019 NIH-NIAID R01AI148336 (\$3,750,012 total costs) 12/09/2019 – 11/30/2024
“Integrating epidemiologic and environmental approaches to understand and predict Coccidioides exposure and coccidioidomycosis emergence”
Role: equivalent to co-I but not eligible in 2019; led proposal writing as member of three-person team
- 2019 *Bernard Weinstein Award for Academic Excellence in Environmental Health*
Given to a student in the Environmental Health Sciences department for outstanding academic achievement and promise in the field of public health
- 2014 *Phi Beta Kappa*

Selected Conference Presentations

AK Heaney, SK Camponuri, GS Cooksey, S Jain, D Vugia, D Swain, J Balmes, J Remais, J Head. *Recent and Forecasted Increases in Coccidioidomycosis Incidence Linked to Hydroclimatic Swings in California*. Oral Presentation at American Geophysical Union Annual Meeting. New Orleans, LA. December, 2025.

AK Heaney, IJ Jones, SK Camponuri, J.R. Head, N. Keeney, E. Lee, W. Mgbara, A. K. Weaver, P. A. Collender, R. Wagner, B. Zhou, G. Sondermeyer-Cooksey, S. Jain, D.J. Vugia, J. Balmes, E. Eisen, D. Lettenmaier, G. Okin, A. Adebiyi, J. Taylor, A. Bhattachan, J.V. Remais. *The impact of land cover and land use change on coccidioidomycosis incidence in California: a population-based longitudinal study*. ISEE-ISES Annual Meeting. Atlanta, Georgia, USA. August 19, 2025

Chen, W; Kruger, SE; Head, JR; **Heaney, AK**. *Tracking Coccidioidomycosis in Arizona: Regional Trends and Seasonal Cycles of a Climate Sensitive Disease*. Poster presentation at Coccidioidomycosis Study Group 69th Annual Meeting; 2025; Pheonix, AZ.

Heaney, AK; Camponuri, S; Head, JR; Collender, P; Weaver, A; Sondermeyer-Cooksey, G; Yu, A; Vugia, D; Jain, S; Bhattachan, A; Taylor, J; Remais, JV. *Coccidioidomycosis Seasonality in California: Climate Determinants and Spatiotemporal Variability of Seasonal Dynamics, 2000-2021*. Poster presented at the International Society for Environmental Epidemiologists; 2024; Santiago, Chile

Heaney, AK. *Estimating the Impacts of Climate Variability and Dust Exposure on Valley Fever Risk in Arizona*. Oral presentation at UC Dust Symposium; 2024; Davis, California.

Heaney, AK; Camponuri, S; Head, JR; Collender, P; Weaver, A; Sondermeyer-Cooksey, G; Yu, A; Vugia, D; Jain, S; Bhattachan, A; Taylor, J; Remais, JV. *Coccidioidomycosis Seasonality in California: Climate Determinants and Spatiotemporal Variability of Seasonal Dynamics, 2000-2021*. Oral presentation at Coccidioidomycosis Study Group 68th Annual Meeting; 2024; San Antonio, Texas.

Heaney, AK. *Building epidemiological evidence and prediction capabilities for climate-sensitive diseases: A case study of Valley Fever in California*. Oral presentation at the Human Behavior and Sustainability Conference; 2024; Stanford University, Stanford, California.

Heaney, AK; Alexander, K; Shaman, J. (2019) *Ensemble Forecast and Parameter Inference of Childhood Diarrhea in Chobe District, Botswana*. Poster presented at Epidemics 7; 2019; Charleston, South Carolina

Heaney, AK; Alexander, K; Shaman, J. *El Niño and Under-5 Diarrhea in Botswana*. Poster presented at the International Society for Environmental Epidemiologists by Carlos Gould; 2019; Utrecht, Netherlands

Heaney, AK; Winter, S. *Climate Driven Migration: Understanding Health Perceptions and Help Seeking Behaviors of Maasai Migrants*. Poster presented at Human Health in the Face of Climate Change: Science, Medicine, and Adaptation; 2015; Barcelona, Spain

Teaching Experience

2023-present	<i>Lead Instructor</i>	PH491: Health Impacts of Climate Change University of California San Diego
2021-2023	<i>Lead Instructor</i>	PH271G: Global Climate Change and Health University of California, Berkeley
2020	<i>Guest Lecturer</i>	<i>Environmental Drivers of COVID-19: current understanding and relationship to control and prevention</i> PH273: Environmental Determinants of Infectious Diseases University of California, Berkeley Professor: Justin Remais, Ph.D.
2020	<i>Guest Lecturer</i>	<i>From projection to policy: Understanding the methods, interpretations and policy implications of climate projections</i> PH271G: Global Climate Change and Health University of California, Berkeley Professor: Justin Remais, Ph.D.
2018	<i>Guest Lecturer</i>	<i>Introduction to Environmental Health</i> Summer Public Health Scholars Program Columbia University
2015 & 2017	<i>Guest Lecturer</i>	<i>Climate Change and Health</i> Johns Hopkins Center for Talented Youth Workshops Columbia University
2017 & 2018	<i>Graduate Student Teaching Fellow</i>	<i>Atmospheric and Climate Science for Public Health</i> Environmental Health Sciences Columbia University Professor: Jeffrey Shaman, Ph.D.
2015 & 2016	<i>Graduate Student Teaching Fellow</i>	<i>Water, Sanitation and Human Health</i> Environmental Health Sciences Columbia University

Professor: Jeffrey Shaman, Ph.D.

Professional Service

Selected peer review: *Proceedings of the National Academy of Sciences (PNAS)*, *Nature Communications*, *Lancet Planetary Health*, *American Journal of Epidemiology (AJE)*, *PLOS One*, *Environmental Research*, *Biometeorology*, *PLOS Neglected Tropical Diseases*, *American Journal of Tropical Medicine and Hygiene (AJTMH)*, *GeoHealth*, *Environmental Health Perspectives*, *Environmental Research: Health*, *Environmental Research Letters*, *Journal of Transport Geography*

Section Editor (2023-2025): *PLOS Neglected Tropical Diseases*

Abstract Reviewer (2025): Climate and Health CAFE Annual Conference

Active Membership: International Society of Environmental Epidemiology, American Geophysical Union

Member, MPH Curriculum Committee (2023–2025); Chair (2025–present): As a member of this HWSPH committee, I attended quarterly meetings to evaluate proposed new courses for the MPH program, read submitted syllabi and applications, and discussed questions and concerns with the committee and faculty proposing new courses. As Chair, I facilitate quarterly meetings, lead discussion on broader MPH program issues including policies on AI in the classroom and curriculum development, and am spearheading a new process of regular audits and reviews of MPH Core Courses to support the school's CEPH accreditation process.

Member, MPH Admissions Committee (Fall 2025–present): As a member of the MPH Admissions Committee, I review applications and contribute to decisions on student admissions to the HWSPH MPH program.

Member, Epidemiology Joint Doctoral Program Curriculum Committee (Fall 2025–present): I serve on the Epidemiology JDP Curriculum Committee, contributing to the review and development of the joint doctoral curriculum in Epidemiology.

UCSD Grand Rounds Committee Member (2023-2026): I help to identify and invite speakers for the School's Grand Rounds seminar, focusing on individuals who are conducting cutting edge research across diverse topics related to public health.

UCSD Climate and Environmental Health Communications Lead (2023-2025): I am working to develop a new website for the Climate and Environmental Health Research group.

Faculty Committee for Advancing Diversity, Equity, and Inclusion (2022-2023): While a lecturer at UC Berkeley, I contributed to the Environmental Health Sciences faculty committee focused on improving faculty-student relationships, furthering the anti-racist pedagogy agenda among faculty members, developing new strategies to support students who are struggling, and to recruit and retain a diverse student body. I specifically focused on educating our faculty on the principles of holistic and anti-racist mentoring.

Co-chair of the Global Consortium for Climate and Health Education (GCCHE) Public Health Working Group (2022-2024): I co-lead the GCCHE PWG, which is working to develop a series of workshops designed to teach key, actionable skills to public health workers on the ground in health departments around the world. The goal of these workshops is to equip public health workers at the federal, regional and local level with the knowledge and skills needed to prepare their departments and communities for the climate crisis. We are currently developing workshops, working with the members of the PHWG to frame the conversation, identify appropriate topics, ensure that the needs of diverse stakeholders are met, and identify leading experts to provide expertise to teach in the workshops.