

# Gabriel Carrasco Escobar

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## EDUCATION

2018 - 2023	<b>University of California, San Diego</b> , San Diego, CA Doctor of Philosophy in Public Health – Global Health track, School of Public Health.
2015 - 2016	<b>Universidad Peruana Cayetano Heredia</b> , Lima, Peru Master of Science in Epidemiology, School of Public Health.
2010 - 2014	<b>Universidad Peruana Cayetano Heredia</b> , Lima, Peru Bachelor of Science in biology, School of Science and Philosophy.

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## WORK / RESEARCH EXPERIENCE

2025 - present	<b>Member of Board of Directors.</b> Institute of Tropical Medicine “Alexander von Humboldt”. Universidad Peruana Cayetano Heredia (UPCH). <a href="#">Website</a>
2024 - present	<b>Associate Professor.</b> School of Public Health, Universidad Peruana Cayetano Heredia (UPCH). <a href="#">Website</a>
2024 - present	<b>Director, Graduate Division.</b> School of Public Health, Universidad Peruana Cayetano Heredia (UPCH). <a href="#">Website</a>
2022 - present	<b>Titular Researcher.</b> Institute of Tropical Medicine “Alexander von Humboldt”. Universidad Peruana Cayetano Heredia (UPCH). <a href="#">Website</a>
2021 - 2024	<b>Member of Board of Directors.</b> CLIMA – Centro Latinoamericano de Excelencia en cambio climático y Salud. Universidad Peruana Cayetano Heredia (UPCH). <a href="#">Website</a>
2023 - 2024	<b>Postdoctoral Researcher.</b> School of Global Policy and Strategy and Scripps Institution of Oceanography. University of California, San Diego. <a href="#">Website</a>
2021 - 2024	<b>Assistant Professor.</b> School of Public Health, Universidad Peruana Cayetano Heredia (UPCH). <a href="#">Website</a>
2020 - 2021	<b>Consultant in Epidemiology.</b> 2021 School Re-opening Plan. Ministry of Education, Peru.
2019 - 2022	<b>Associate Researcher.</b> Institute of Tropical Medicine “Alexander von Humboldt”. Universidad Peruana Cayetano Heredia (UPCH). <a href="#">Website</a>
2019 - 2021	<b>Visiting Researcher.</b> Planetary Health and Infectious Disease Lab. London School of Hygiene and Tropical Medicine (LSHTM).
2018 - 2023	<b>Graduate Student Researcher.</b> Scripps Institution of Oceanography. University of California, San Diego.
2017 - 2018	<b>Consultant in health metrics.</b> Direction of monitoring and evaluation of health, General Direction of health operations. Ministry of Health
2016 - 2018	<b>Leader Data Management Core.</b> Amazonia International Center of Excellence in Malaria Research (ICEMR). Peruvian Site, UCSD - UPCH. PIs: Dr. Dionicia Gamboa, Dr. Joseph M. Vinetz
2015 - 2016	<b>Research Fellow.</b> Malaria Research Group. Circulos de Investigacion: ‘Hacia la Eliminacion de la Malaria’. Universidad Peruana Cayetano Heredia. PIs: Dr. Alejandro Llanos-Cuentas, Dr. Dionicia Gamboa.

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## TEACHING EXPERIENCE

2023 – present	<b>Professor, Spatial Analysis.</b> Graduate program, School of Public Health at Universidad Peruana Cayetano Heredia.
2022 – present	<b>Professor, Epidemiological Analysis with R.</b> Graduate program, School of Public Health at Universidad Peruana Cayetano Heredia.

2021 - present	<b>Professor, Epidemiology and Statistical Analysis.</b> Master in Control of Infectious Diseases, Institute of Tropical Medicine at Universidad Peruana Cayetano Heredia.
2018	<b>Adjunct Lecturer, Introduction to R Course.</b> Undergraduate program, School of Science and Philosophy at Universidad Peruana Cayetano Heredia.
2018	<b>Adjunct Lecturer, Biostatistics Course.</b> Postgraduate program, School of Science and Philosophy at Universidad Peruana Cayetano Heredia.
2017 - 2018	<b>Adjunct Lecturer, Epidemiology Course.</b> Undergraduate program, School of Public Health and administration at Universidad Peruana Cayetano Heredia.
2014 - 2017	<b>Teaching Assistant, Epidemiology Course.</b> Undergraduate program, School of Public Health and administration at Universidad Peruana Cayetano Heredia.

### ***PEER REVIEWED SCIENTIFIC PUBLICATIONS***

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1. Ascencio EJ, Carcamo PM, Carrasco-Escobar G. Rapid geographic expansion of local dengue community transmission in Peru. *PLoS Negl Trop Dis.* 2025;19(4):e0013001. doi:10.1371/journal.pntd.0013001
2. Kephart JL, Bilal U, Gouveia N, Sarmiento OL, Shingara E, Rangel Moreno K, Bakhtsiyarava M, Rodriguez JP, Ayala S, Carrasco-Escobar G, Diez Roux AV. Social disparities in neighborhood flood exposure in 44,698 urban neighborhoods in Latin America. *Nat Cities.* Published online February 10, 2025:1-8. doi:10.1038/s44284-025-00203-3
3. Carrasco-Escobar G, Moreno M, Fornace K, Herrera-Varela M, Manrique E, Conn JE. The Use of Drones for Mosquito Surveillance and Control. In: *Practical Control of Mosquitoes Disease Vectors.* CABI Books. ; 2025:80-106. doi:10.1079/9781789248845.0005
4. Feurer D, Riffe T, Kniffka MS, Acosta E, Armstrong B, Mistry M, Lowe R, Royé D, Hashizume M, Madaniyazi L, Ng CFS, Tobias A, Íñiguez C, Vicedo-Cabrera AM, Ragettli MS, Lavigne E, Correa PM, Ortega NV, Kysely J, Urban A, Orru H, Indermitte E, Maasikmets M, Dallavalle M, Schneider A, Honda Y, Alahmad B, Zanobetti A, Schwartz J, **Carrasco G**, Holobâca IH, Kim H, Lee W, Bell ML, Scovronick N, Acquattro F, Coêlho M de SZS, Diaz MH, Arellano EEF, Michelozzi P, Stafoggia M, de'Donato F, Rao S, Di Ruscio F, Seposo X, Guo Y, Tong S, Masselot P, Gasparrini A, Sera F. Meteorological factors, population immunity, and COVID-19 incidence: A global multi-city analysis. *Environ Epidemiol.* 2024;8(6):e338. doi:10.1097/EE9.0000000000000338
5. **Carrasco-Escobar G**, Villa D, Barja A, Lowe R, Llanos-Cuentas A, Benmarhnia T. The role of connectivity on malaria dynamics across areas with contrasting control coverage in the Peruvian Amazon. *PLoS Negl Trop Dis.* 2024;18(11):e0012560. doi:10.1371/journal.pntd.0012560
6. He C, Breitner-Busch S, Huber V, Chen K, Zhang S, Gasparrini A, Bell M, Kan H, Royé D, Armstrong B, Schwartz J, Sera F, Vicedo-Cabrera AM, Honda Y, Jaakkola JJK, Ryti N, Kysely J, Guo Y, Tong S, de'Donato F, Michelozzi P, Coelho M de SZS, Saldiva PHN, Lavigne E, Orru H, Indermitte E, Pascal M, Goodman P, Zeka A, Kim Y, Diaz MH, Arellano EEF, Overcenco A, Klompmaker J, Rao S, Palomares ADL, **Carrasco G**, Seposo X, Silva S das NP da, Madureira J, Holobaca IH, Scovronick N, Acquattro F, Kim H, Lee W, Hashizume M, Tobias A, Íñiguez C, Forsberg B, Ragettli MS, Guo YL, Pan SC, Osorio S, Li S, Zanobetti A, Dang TN, Dung DV, Schneider A. Rainfall events and daily mortality across 645 global locations: two stage time series analysis. *BMJ.* 2024;387:e080944. doi:10.1136/bmj-2024-080944

7. Orlov A, De Hertog SJ, Havermann F, Guo S, Manola I, Lejeune Q, Schleussner CF, Thierry W, Pongratz J, Humpenöder F, Popp A, Aunan K, Armstrong B, Royé D, Cvijanovic I, Lavigne E, Achilleos S, Bell M, Masselot P, Sera F, Vicedo-Cabrera AM, Gasparrini A, Mistry MN, **Network MCMC (MCC) CR**. Impacts of land-use and land-cover changes on temperature-related mortality. *Environ Epidemiol*. 2024;8(6):e337. doi:10.1097/EE9.0000000000000337
8. Tobías A, Íñiguez C, Hurtado Díaz M, Riojas H, Cifuentes LA, Royé D, Abrutzky R, Coelho M de SZS, Saldiva PHN, Valdés Ortega N, Matus Correa P, Osorio S, **Carrasco G**, Colistro V, Pascal M, Chanel O, Madaniyazi L, Gasparrini A. Mortality burden and economic loss attributable to cold and heat in Central and South America. *Environ Epidemiol*. 2024;8(6):e335. doi:10.1097/EE9.0000000000000335
9. Garber MD, Teyton A, Jankowska MM, **Carrasco-Escobar G**, Rojas-Rueda D, Barja-Ingaruca A, Benmarhnia T. Is home where the heat is? comparing residence-based with mobility-based measures of heat exposure in San Diego, California. *J Expo Sci Environ Epidemiol*. Published online September 11, 2024. doi:10.1038/s41370-024-00715-5
10. Guo Q, Mistry MN, Zhou X, Zhao G, Kino K, Wen B, Yoshimura K, Satoh Y, Cvijanovic I, Kim Y, Ng CFS, Vicedo-Cabrera AM, Armstrong B, Urban A, Katsouyanni K, Masselot P, Tong S, Sera F, Huber V, Bell ML, Kyselý J, Gasparrini A, Hashizume M, Oki T, **Multi-Country Multi-City (MCC) Collaborative Research Network**. Regional variation in the role of humidity on city-level heat-related mortality. *PNAS Nexus*. 2024;3(8):pgae290. doi:10.1093/pnasnexus/pgae290
11. Chua PLC, Tobias A, Madaniyazi L, Ng CFS, Phung VLH, Fu SH, Rodriguez PS, Brown P, Coelho M de SZS, Saldiva PHN, Scovronick N, Deshpande A, Salazar MAS, Dorotan MMC, Tantrakarnapa K, Kliengchuay W, Abrutzky R, **Carrasco-Escobar G**, Roye D, Hales S, Hashizume M. Association between precipitation and mortality due to diarrheal diseases by climate zone: A multi-country modeling study. *Environ Epidemiol Phila Pa*. 2024;8(4):e320. doi:10.1097/EE9.0000000000000320
12. Chen G, Guo Y, Yue X, Xu R, Yu W, Ye T, Tong S, Gasparrini A, Bell ML, Armstrong B, Schwartz J, Jaakkola JJK, Lavigne E, Saldiva PHN, Kan H, Royé D, Urban A, Vicedo-Cabrera AM, Tobias A, Forsberg B, Sera F, Lei Y, Abramson MJ, Li S, Abrutzky R, Alahmad B, Ameling C, Åström C, Breitner S, **Carrasco-Escobar G**, Coêlho M de SZS, Colistro V, Correa PM, Dang TN, de'Donato F, Dung DV, Entezari A, Garcia SDO, Garland RM, Goodman P, Guo YL, Hashizume M, Holobaca IH, Honda Y, Houthuijs D, Hurtado-Díaz M, Íñiguez C, Katsouyanni K, Kim H, Kyselý J, Lee W, Maasikmets M, Madureira J, Mayvaneh F, Nunes B, Orru H, Ortega NV, Overcenco A, Pan SC, Pascal M, Ragettli MS, Rao S, Rytí NRI, Samoli E, Schneider A, Scovronick N, Seposo X, Stafoggia M, Valencia CD la C, Zanobetti A, Zeka A. All-cause, cardiovascular, and respiratory mortality and wildfire-related ozone: a multicountry two-stage time series analysis. *Lancet Planet Health*. 2024;8(7):e452-e462. doi:10.1016/S2542-5196(24)00117-7
13. Hundessa S, Huang W, Zhao Q, Wu Y, Wen B, Alahmad B, Armstrong B, Gasparrini A, Sera F, Tong S, Madureira J, Kyselý J, Schwartz J, Vicedo-Cabrera AM, Hales S, Johnson A, Li S, Guo Y, Jaakkola JJK, Rytí N, Urban A, Tobias A, Royé D, Lavigne E, Ragettli MS, Åström C, Raz R, Pascal M, Kan H, Goodman P, Zeka A, Hashizume M, Diaz MH, Seposo X, Nunes B, Kim H, Lee W, Íñiguez C, Guo YL, Pan SC, Zanobetti A, Dang TN, Van Dung D, Schneider A, Entezari A, Analitis A, Forsberg B, Ameling C, Houthuijs D, Indermitte E, Mayvaneh F, Acquafredda F, de'Donato F, **Carrasco-Escobar G**, Orru H, Katsouyanni K, de Sousa Zanotti Stagliorio Coelho M, Ortega NV, Scovronick N, Michelozzi P, Correa PM, Nascimento Saldiva PH, Abrutzky R, Osorio S,

- Colistro V, Huber V, Honda Y, Kim Y, Bell M, Xu R, Yang Z, Roradeh H, Félix Arellano EE, Rao S, Carlos Chua PL, da Silva S das NP, da Silva S das NP, De la Cruz Valencia C. Global and Regional Cardiovascular Mortality Attributable to Nonoptimal Temperatures Over Time. *J Am Coll Cardiol.* 2024;83(23):2276-2287. doi:10.1016/j.jacc.2024.03.425
14. Madaniyazi L, Alpizar J, Cifuentes LA, Riojas-Rodríguez H, Hurtado Díaz M, de Sousa Zanolli Stagliorio Coelho M, Abrutzky R, Osorio S, **Carrasco Escobar G**, Valdés Ortega N, Colistro V, Roye D, Tobías A. Health and Economic Benefits of Complying With the World Health Organization Air Quality Guidelines for Particulate Matter in Nine Major Latin American Cities. *Int J Public Health.* 2024;69:1606909. doi:10.3389/ijph.2024.1606909
  15. Trujillano F, Jimenez G, Manrique E, Kahamba NF, Okumu F, Apollinaire N, **Carrasco-Escobar G**, Barrett B, Fornace K. Using image segmentation models to analyse high-resolution earth observation data: new tools to monitor disease risks in changing environments. *Int J Health Geogr.* 2024;23(1):13. doi:10.1186/s12942-024-00371-w
  16. Zhao Q, Li S, Ye T, Wu Y, Gasparrini A, Tong S, Urban A, Vicedo-Cabrera AM, Tobias A, Armstrong B, Royé D, Lavigne E, de' Donato F, Sera F, Kan H, Schwartz J, Pascal M, Rytí N, Goodman P, Saldiva PHN, Bell ML, Guo Y, **Network on behalf of the MCR.** Global, regional, and national burden of heatwave-related mortality from 1990 to 2019: A three-stage modelling study. *PLOS Med.* 2024;21(5):e1004364. doi:10.1371/journal.pmed.1004364
  17. Wen B, Wu Y, Guo Y, Gasparrini A, Tong S, Overcenco A, Urban A, Schneider A, Entezari A, Vicedo-Cabrera AM, Zanobetti A, Analitis A, Zeka A, Tobias A, Nunes B, Alahmad B, Armstrong B, Forsberg B, Pan SC, Íñiguez C, Ameling C, Valencia CD la C, Åström C, Houthuijs D, Van Dung D, Royé D, Indermitte E, Lavigne E, Mayvaneh F, Acquaotta F, de' Donato F, Rao S, Sera F, **Carrasco-Escobar G**, Kan H, Orru H, Kim H, Holobaca IH, Kyselý J, Madureira J, Schwartz J, Jaakkola JJK, Katsouyanni K, Diaz MH, Ragettli MS, Hashizume M, Pascal M, Coélho M de SZS, Ortega NV, Rytí N, Scovronick N, Michelozzi P, Matus Correa P, Goodman P, Saldiva PHN, Raz R, Abrutzky R, Osorio S, Dang TN, Colistro V, Huber V, Lee W, Seposo X, Honda Y, Kim Y, Guo YL, Bell ML, Li S. Comparison for the effects of different components of temperature variability on mortality: A multi-country time-series study. *Environ Int.* 2024;187:108712. doi:10.1016/j.envint.2024.108712
  18. Wu Y, Wen B, Gasparrini A, Armstrong B, Sera F, Lavigne E, Li S, Guo Y, Overcenco A, Urban A, Schneider A, Entezari A, Vicedo-Cabrera AM, Zanobetti A, Analitis A, Zeka A, Tobias A, Nunes B, Alahmad B, Forsberg B, Íñiguez C, Ameling C, la Cruz Valencia CD, Houthuijs D, Van Dung D, Roye D, Indermitte E, Mayvaneh F, Acquaotta F, de' Donato F, **Carrasco-Escobar G**, Kan H, Carlsen HK, Orru H, Kim H, Holobaca IH, Kyselý J, Madureira J, Schwartz J, Jaakkola JJK, Katsouyanni K, Diaz MH, Ragettli MS, Hashizume M, Pascal M, de Sousa Zanolli Stagliorio Coelho M, Ortega NV, Rytí N, Scovronick N, Michelozzi P, Correa PM, Goodman P, Nascimento Saldiva PH, Raz R, Abrutzky R, Osorio S, Pan SC, Rao S, Tong S, Achilleos S, Dang TN, Colistro V, Huber V, Lee W, Seposo X, Honda Y, Kim Y, Guo YL, Li S, Guo Y. Temperature frequency and mortality: Assessing adaptation to local temperature. *Environ Int.* Published online May 1, 2024:108691. doi:10.1016/j.envint.2024.108691
  19. Chen K, de Schrijver E, Sivaraj S, Sera F, Scovronick N, Jiang L, Roye D, Lavigne E, Kyselý J, Urban A, Schneider A, Huber V, Madureira J, Mistry MN, Cvijanovic I, Gasparrini A, Vicedo-Cabrera AM. **Multi-Country Multi-City (MCC) Collaborative**

- Research.** Impact of population aging on future temperature-related mortality at different global warming levels. *Nat Commun.* 2024;15(1):1796. doi:10.1038/s41467-024-45901-z
20. Gao Y, Huang W, Zhao Q, Ryti N, Armstrong B, Gasparrini A, Tong S, Pascal M, Urban A, Zeka A, Lavigne E, Madureira J, Goodman P, Huber V, Forsberg B, Kyselý J, Sera F, Guo Y, Li S, Gao Y, Huang W, Zhao Q, Ryti N, Armstrong B, Gasparrini A, Tong S, Pascal M, Urban A, Zeka A, Lavigne E, Madureira J, Goodman P, Huber V, Forsberg B, Kyselý J, Sera F, Bell M, Hales S, Honda Y, Jaakkola JJK, Tobias A, Vicedo-Cabrera AM, Abrutzky R, Coelho M de SZS, Saldiva PHN, Correa PM, Ortega NV, Kan H, Osorio S, Roye D, Orru H, Indermitte E, Schneider A, Katsouyanni K, Analitis A, Carlsen HK, Mayvaneh F, Roradeh H, Raz R, Michelozzi P, de'Donato F, Hashizume M, Kim Y, Alahmad B, Cauchy JP, Diaz MH, Arellano EEF, Valencia CD la C, Overcenco A, Houthuijs D, Ameling C, Rao S, **Carrasco G**, Seposo X, Chua PLC, Silva S das NP da, Nunes B, Holobaca IH, Cvijanovic I, Mistry M, Scovronick N, Acquattro F, Kim H, Lee W, Íñiguez C, Åström C, Ragettli MS, Guo YL, Pan SC, Colistro V, Zanobetti A, Schwartz J, Dang TN, Dung DV, Guo Y, Li S. Global, regional, and national burden of mortality associated with cold spells during 2000–19: a three-stage modelling study. *Lancet Planet Health.* 2024;8(2):e108-e116. doi:10.1016/S2542-5196(23)00277-2
  21. Madaniyazi L, Armstrong B, Tobias A, Mistry MN, Bell ML, Urban A, Kyselý J, Ryti N, Cvijanovic I, Ng CFS, Roye D, Vicedo-Cabrera AM, Tong S, Lavigne E, Íñiguez C, da Silva S das NP, Madureira J, Jaakkola JJK, Sera F, Honda Y, Gasparrini A, Hashizume M, Abrutzky R, Acquattro F, Alahmad B, Analitis A, Carlsen HK, **Carrasco-Escobar G**, de Sousa Zanotti Stagliorio Coelho M, Colistro V, Matus Correa P, Dang TN, de'Donato F, Hurtado Diaz M, Dung DV, Entezari A, Forsberg B, Goodman P, Guo YL, Guo Y, Holobaca IH, Houthuijs D, Huber V, Indermitte E, Kan H, Katsouyanni K, Kim Y, Kim H, Lee W, Li S, Mayvaneh F, Michelozzi P, Orru H, Valdés Ortega N, Osorio S, Overcenco A, Pan SC, Pascal M, Ragettli MS, Rao S, Raz R, Saldiva PHN, Schneider A, Schwartz J, Scovronick N, Seposo X, De la Cruz Valencia C, Zanobetti A, Zeka A. Seasonality of mortality under climate change: a multicountry projection study. *Lancet Planet Health.* 2024;8(2):e86-e94. doi:10.1016/S2542-5196(23)00269-3
  22. Fernandez-Camacho B, Peña-Calero B, Guillermo-Roman M, Ruiz-Cabrejos J, Barboza JL, Bartolini-Arana L, Barja-Ingaruca A, Rodriguez-Ferrucci H, Soto-Calle VE, Nelli L, Byrne I, Hill M, Dumont E, Grignard L, Tetteh K, Wu L, Llanos-Cuentas A, Drakeley C, Stresman G, **Carrasco-Escobar G**. Malaria seroepidemiology in very low transmission settings in the Peruvian Amazon. *Sci Rep.* 2024;14(1):2806. doi:10.1038/s41598-024-52239-5
  23. Spaans RH, Drumond B, Daalen KR van, Vitor ACR, Derbyshire A, Silva AD, Lana RM, Vega MS, **Carrasco-Escobar G**, Escada MIS, Codeço C, Lowe R. Ethical considerations related to drone use for environment and health research: A scoping review protocol. *PLOS ONE.* 2024;19(1):e0287270. doi:10.1371/journal.pone.0287270
  24. Fornace KM, Johnson E, Moreno M, Hardy A, **Carrasco-Escobar G**. Leveraging Earth observation data for surveillance of vector-borne diseases in changing environments. In: *Planetary Health Approaches to Understand and Control Vector-Borne Diseases.* Wageningen Academic; 2023:319–346. doi:10.3920/9789004688650\_013\
  25. Ante-Testard PA, **Carrasco-Escobar G**, Benmarhnia T, Temime L, Jean K. Investigating inequalities in HIV testing in sub-Saharan Africa: spatial analysis of cross-sectional population-based surveys in 25 countries. *BMJ Open.* 2023;13(12):e072403. doi:10.1136/bmjopen-2023-072403
  26. Stafoggia M, Michelozzi P, Schneider A, Armstrong B, Scortichini M, Rai M, Achilleos S, Alahmad B, Analitis A, Åström C, Bell ML, Calleja N, Krage Carlsen H, **Carrasco G**,

- Paul Cauchi J, DSZS Coelho M, Correa PM, Diaz MH, Entezari A, Forsberg B, Garland RM, Leon Guo Y, Guo Y, Hashizume M, Holobaca IH, Íñiguez C, Jaakkola JJK, Kan H, Katsouyanni K, Kim H, Kysely J, Lavigne E, Lee W, Li S, Maasikmets M, Madureira J, Mayvaneh F, Fook Sheng Ng C, Nunes B, Orru H, V Ortega N, Osorio S, Palomares ADL, Pan SC, Pascal M, Ragetti MS, Rao S, Raz R, Roye D, Rytí N, HN Saldiva P, Samoli E, Schwartz J, Scovronick N, Sera F, Tobias A, Tong S, DLC Valencia C, Maria Vicedo-Cabrera A, Urban A, Gasparrini A, Breitner S, de' Donato FK. Joint effect of heat and air pollution on mortality in 620 cities of 36 countries. *Environ Int.* 2023;181:108258. doi:10.1016/j.envint.2023.108258
27. Yang Z, Huang W, McKenzie JE, Xu R, Yu P, Ye T, Wen B, Gasparrini A, Armstrong B, Tong S, Lavigne E, Madureira J, Kysely J, Guo Y, Li S, **MCC Collaborative Research Network**. Mortality risks associated with floods in 761 communities worldwide: time series study. *BMJ.* 2023;383:e075081. doi:10.1136/bmj-2023-075081
28. Letellier N, Yang JA, Cavallès C, Casey JA, **Carrasco-Escobar G**, Zamora S, Jankowska MM, Benmarhnia T. Aircraft and road traffic noise, insulin resistance, and diabetes: The role of neighborhood socioeconomic status in San Diego County. *Environ Pollut.* 2023;335:122277. doi:10.1016/j.envpol.2023.122277
29. Ascencio EJ, Barja A, Benmarhnia T, **Carrasco-Escobar G**. Disproportionate exposure to surface-urban heat islands across vulnerable populations in Lima city, Peru. *Environ Res Lett.* 2023;18(7):074001. doi:10.1088/1748-9326/acdca9
30. Trujillano F, Jimenez Garay G, Alatrística-Salas H, Byrne I, Nunez-del-Prado M, Chan K, Manrique E, Johnson E, Apollinaire N, Kouame Kouakou P, Oumbouke WA, Tiono AB, Guelbeogo MW, Lines J, **Carrasco-Escobar G**, Fornace K. Mapping Malaria Vector Habitats in West Africa: Drone Imagery and Deep Learning Analysis for Targeted Vector Surveillance. *Remote Sens.* 2023;15(11):2775. doi:10.3390/rs15112775
31. O'Brien Edward, Masselot P, Sera F, Roye D, Breitner S, Ng CFS, de SZSCM, Madureira J, Tobias A, Vicedo -Cabrera Ana Maria, Bell ML, Lavigne E, Kan H, Gasparrini A, **MCC Collaborative Research Network**. Short-Term Association between Sulfur Dioxide and Mortality: A Multicountry Analysis in 399 Cities. *Environ Health Perspect.* 131(3):037002. doi:10.1289/EHP11112
32. Dimitrova A, **Carrasco-Escobar G**, Richardson R, Benmarhnia T. Essential childhood immunization in 43 low- and middle-income countries: Analysis of spatial trends and socioeconomic inequalities in vaccine coverage. *PLOS Med.* 2023;20(1):e1004166. doi:10.1371/journal.pmed.1004166
33. **Carrasco-Escobar G**, Moreno M, Fornace K, Herrera-Varela M, Manrique E, Conn JE. The use of drones for mosquito surveillance and control. *Parasit Vectors.* 2022;15(1):1-21. doi:10.1186/s13071-022-05580-5
34. Navarro R, Paredes JL, Tucto L, Medina C, Angles-Yanqui E, Nario JC, Ruiz-Cabrejos J, Quintana JL, Turpo-Espinoza K, Mejía-Cordero F, Aphanh-Lam M, Florez J, **Carrasco-Escobar G**, Ochoa TJ. Bovine lactoferrin for the prevention of COVID-19 infection in health care personnel: a double-blinded randomized clinical trial (LF-COVID). *BioMetals.* Published online December 7, 2022. doi:10.1007/s10534-022-00477-3
35. **Carrasco-Escobar G**, Rosado J, Nolasco O, White MT, Mueller I, Castro MC, Rodríguez-Ferruci H, Gamboa D, Llanos-Cuentas A, Vinetz JM, Benmarhnia T. Effect of out-of-village working activities on recent malaria exposure in the Peruvian Amazon using parametric g-formula. *Sci Rep.* 2022;12(1):19144. doi:10.1038/s41598-022-23528-8
36. Nottmeyer L, Armstrong B, Lowe R, Abbott S, Meakin S, O'Reilly K, von Borries R, Schneider R, Royé D, Hashizume M, Pascal M, Tobias A, Vicedo-Cabrera AM, Lavigne

- E, Correa PM, Ortega NV, Kynčl J, Urban A, Orru H, Ryti N, Jaakkola J, Dallavalle M, Schneider A, Honda Y, Ng CFS, Alahmad B, **Carrasco G**, Holobâc IH, Kim H, Lee W, Íñiguez C, Bell ML, Zanobetti A, Schwartz J, Scovronick N, Coélho M de SZS, Saldiva PHN, Diaz MH, Gasparrini A, Sera F. The association of COVID-19 incidence with temperature, humidity, and UV radiation – A global multi-city analysis. *Sci Total Environ*. Published online September 7, 2022:158636. doi:10.1016/j.scitotenv.2022.158636
37. **Carrasco-Escobar G**, Matta-Chuquisapon J, Manrique E, Ruiz-Cabrejos J, Barboza JL, Wong D, Henostroza G, Llanos-Cuentas A, Benmarhnia T. Quantifying the effect of human population mobility on malaria risk in the Peruvian Amazon. *R Soc Open Sci*. 9(7):211611. doi:10.1098/rsos.211611
  38. Matta-Chuquisapon J, Gianella C, **Carrasco-Escobar G**. Missed opportunities for vaccination in Peru 2010–2020: A study of socioeconomic inequalities. *Lancet Reg Health – Am*. 2022;14. doi:10.1016/j.lana.2022.100321
  39. Moreno M, Torres K, Tong C, Castillo SSG, **Carrasco-Escobar G**, Guedez G, Torres L, Herrera-Varela M, Guerra L, Guzman M, Wong D, Ramirez R, Llanos-Cuentas A, Conn JE, Gamboa D, Vinetz JM. Insights into Plasmodium vivax Asymptomatic Malaria Infections and Direct Skin-Feeding Assays to Assess Onward Malaria Transmission in the Amazon. *Am J Trop Med Hyg*. 2022;1(aop). doi:10.4269/ajtmh.21-1217
  40. Wu Y, Li S, Zhao Q, Wen B, Gasparrini A, Tong S, Overcenco A, Urban A, Schneider A, Entezari A, Vicedo-Cabrera AM, Zanobetti A, Analitis A, Zeka A, Tobias A, Nunes B, Alahmad B, Armstrong B, Forsberg B, Pan SC, Íñiguez C, Ameling C, Valencia CD la C, Åström C, Houthuijs D, Dung DV, Royé D, Indermitte E, Lavigne E, Mayvaneh F, Acquavotta F, de' Donato F, Rao S, Sera F, **Carrasco-Escobar G**, Kan H, Orru H, Kim H, Holobaca IH, Kyselý J, Madureira J, Schwartz J, Jaakkola JJK, Katsouyanni K, Diaz MH, Ragettli MS, Hashizume M, Pascal M, Coélho M de SZS, Ortega NV, Ryti N, Scovronick N, Michelozzi P, Correa PM, Goodman P, Saldiva PHN, Abrutzky R, Osorio S, Dang TN, Colistro V, Huber V, Lee W, Seposo X, Honda Y, Guo YL, Bell ML, Guo Y. Global, regional, and national burden of mortality associated with short-term temperature variability from 2000–19: a three-stage modelling study. *Lancet Planet Health*. 2022;6(5):e410-e421. doi:10.1016/S2542-5196(22)00073-0
  41. Rosado J, **Carrasco-Escobar G**, Nolasco O, Garro K, Rodriguez-Ferruci H, Guzman-Guzman M, Llanos-Cuentas A, Vinetz JM, Nekkab N, White MT, Mueller I, Gamboa D. Malaria transmission structure in the Peruvian Amazon through antibody signatures to Plasmodium vivax. *PLoS Negl Trop Dis*. 2022;16(5):e0010415. doi:10.1371/journal.pntd.0010415
  42. Alvarez MVN, Alonso DP, Kadri SM, Rufalco-Moutinho P, Bernardes IAF, de Mello ACF, Souto AC, **Carrasco-Escobar G**, Moreno M, Gamboa D, Vinetz JM, Conn JE, Ribolla PEM. Nyssorhynchus darlingi genome-wide studies related to microgeographic dispersion and blood-seeking behavior. *Parasit Vectors*. 2022;15(1):106. doi:10.1186/s13071-022-05219-5
  43. Wu Y, Wen B, Li S, Gasparrini A, Tong S, Overcenco A, Urban A, Schneider A, Entezari A, Vicedo-Cabrera AM, Zanobetti A, Analitis A, Zeka A, Tobias A, Alahmad B, Armstrong B, Forsberg B, Íñiguez C, Ameling C, Valencia CD la C, Åström C, Houthuijs D, Dung DV, Royé D, Indermitte E, Lavigne E, Mayvaneh F, Acquavotta F, de' Donato F, Sera F, **Carrasco G**, Kan H, Orru H, Kim H, Holobaca IH, Kyselý J, Madureira J, Schwartz J, Katsouyanni K, Hurtado-Diaz M, Ragettli MS, Hashizume M, Pascal M, Coélho M de SZS, Scovronick N, Michelozzi P, Goodman P, Saldiva PHN, Abrutzky R, Osorio S, Dang TN, Colistro V, Huber V, Lee W, Seposo X, Honda Y, Bell ML, Guo Y.

- Fluctuating temperature modifies heat-mortality association in the globe. *The Innovation*. 2022;0(0). doi:10.1016/j.xinn.2022.100225
44. Letellier N, Zamora S, Spoon C, Yang JA, Mortamais M, **Carrasco-Escobar G**, Sears DD, Jankowska MM, Benmarhnia T. Air pollution and metabolic disorders: Dynamic versus static measures of exposure among Hispanics/Latinos and non-Hispanics. *Environ Res*. 2022;209:112846. doi:10.1016/j.envres.2022.112846
  45. Schwarz L, Castillo EM, Chan TC, Brennan JJ, Sbiroli ES, **Carrasco-Escobar G**, Nguyen A, Clemesha RES, Gershunov A, Benmarhnia T. Heat Waves and Emergency Department Visits Among the Homeless, San Diego, 2012–2019. *Am J Public Health*. 2022;112(1):98-106. doi:10.2105/AJPH.2021.306557
  46. Byrne I, Chan K, Manrique E, Lines J, Wolie RZ, Trujillano F, Garay GJ, Del Prado Cortez MN, Alatrista-Salas H, Sternberg E, Cook J, N'Guessan R, Koffi A, Ahoua Alou LP, Apollinaire N, Messenger LA, Kristan M, **Carrasco-Escobar G**, Fornace K. Technical Workflow Development for Integrating Drone Surveys and Entomological Sampling to Characterise Aquatic Larval Habitats of *Anopheles funestus* in Agricultural Landscapes in Côte d'Ivoire. *J Environ Public Health*. 2021;2021:e3220244. doi:10.1155/2021/3220244
  47. Sera F, Armstrong B, Abbott S, Meakin S, O'Reilly K, von Borries R, Schneider R, Royé D, Hashizume M, Pascal M, Tobias A, Vicedo-Cabrera AM, Gasparrini A, Lowe R. A cross-sectional analysis of meteorological factors and SARS-CoV-2 transmission in 409 cities across 26 countries. *Nat Commun*. 2021;12(1):5968. doi:10.1038/s41467-021-25914-8
  48. **Carrasco-Escobar G**, Quellon J, Villa D, Cava R, Llanos-Cuentas A, Benmarhnia T. Time-Varying Effects of Meteorological Variables on Malaria Epidemiology in the Context of Interrupted Control Efforts in the Amazon Rainforest, 2000–2017. *Front Med*. 2021;8:1649. doi:10.3389/fmed.2021.721515
  49. Tobias A, Hashizume M, Honda Y, Sera F, Ng CFS, Kim Y, Roye D, Chung Y, Dang TN, Kim H, Lee W, Íñiguez C, Vicedo-Cabrera A, Abrutzky R, Guo Y, Tong S, Coelho M de SZS, Saldiva PHN, Lavigne E, Correa PM, Ortega NV, Kan H, Osorio S, Kyselý J, Urban A, Orru H, Indermitte E, Jaakkola JJK, Rytí NRI, Pascal M, Huber V, Schneider A, Katsouyanni K, Analitis A, Entezari A, Mayvaneh F, Goodman P, Zeka A, Michelozzi P, de'Donato F, Alahmad B, Diaz MH, De la Cruz Valencia C, Overcenco A, Houthuijs D, Ameling C, Rao S, Di Ruscio F, **Carrasco G**, Seposo X, Nunes B, Madureira J, Holobaca I-H, Scovronick N, Acquafatta F, Forsberg B, Åström C, Ragettli MS, Guo Y-LL, Chen B-Y, Li S, Colistro V, Zanobetti A, Schwartz J, Dung DV, Armstrong B, Gasparrini A. Geographical Variations of the Minimum Mortality Temperature at a Global Scale: A Multicountry Study. *Environ Epidemiol*. 2021;5(5):e169. doi:10.1097/EE9.000000000000169
  50. Chen G, Guo Y, Yue X, Tong S, Gasparrini A, Bell ML, Armstrong B, Schwartz J, Jaakkola JJK, Zanobetti A, Lavigne E, Nascimento Saldiva PH, Kan H, Royé D, Milojevic A, Overcenco A, Urban A, Schneider A, Entezari A, Vicedo-Cabrera AM, Zeka A, Tobias A, Nunes B, Alahmad B, Forsberg B, Pan S-C, Íñiguez C, Ameling C, De la Cruz Valencia C, Åström C, Houthuijs D, Van Dung D, Samoli E, Mayvaneh F, Sera F, **Carrasco-Escobar G**, Lei Y, Orru H, Kim H, Holobaca I-H, Kyselý J, Teixeira JP, Madureira J, Katsouyanni K, Hurtado-Díaz M, Maasikmets M, Ragettli MS, Hashizume M, Stafoggia M, Pascal M, Scortichini M, de Sousa Zanotti Stagliorio Coelho M, Valdés Ortega N, Rytí NRI, Scovronick N, Matus P, Goodman P, Garland RM, Abrutzky R, Garcia SO, Rao S, Fratianni S, Dang TN, Colistro V, Huber V, Lee W, Seposo X, Honda Y, Guo YL, Ye T, Yu W, Abramson MJ, Samet JM, Li S. Mortality risk attributable to

- wildfire-related PM<sub>2.5</sub> pollution: a global time series study in 749 locations. *Lancet Planet Health*. 2021;5(9):e579-e587. doi:10.1016/S2542-5196(21)00200-X
51. **Carrasco-Escobar G**, Fornace K, Benmarhnia T. Mapping socioeconomic inequalities in malaria in Sub-Saharan African countries. *Sci Rep*. 2021;11(1):15121. doi:10.1038/s41598-021-94601-x
  52. Zhao Q, Guo Y, Ye T, Gasparrini A, Tong S, Overcenco A, Urban A, Schneider A, Entezari A, Vicedo-Cabrera AM, Zanobetti A, Analitis A, Zeka A, Tobias A, Nunes B, Alahmad B, Armstrong B, Forsberg B, Pan S-C, Íñiguez C, Ameling C, De la Cruz Valencia C, Åström C, Houthuijs D, Dung DV, Royé D, Indermitte E, Lavigne E, Mayvaneh F, Acquaotta F, de' Donato F, Di Ruscio F, Sera F, **Carrasco-Escobar G**, Kan H, Orru H, Kim H, Holobaca I-H, Kyselý J, Madureira J, Schwartz J, Jaakkola JJK, Katsouyanni K, Hurtado Diaz M, Ragettli MS, Hashizume M, Pascal M, de Sousa Zanotti Stagliorio Coêlho M, Valdés Ortega N, Ryti N, Scovronick N, Michelozzi P, Matus Correa P, Goodman P, Nascimento Saldiva PH, Abrutzky R, Osorio S, Rao S, Fratianni S, Dang TN, Colistro V, Huber V, Lee W, Seposo X, Honda Y, Guo YL, Bell ML, Li S. Global, regional, and national burden of mortality associated with non-optimal ambient temperatures from 2000 to 2019: a three-stage modelling study. *Lancet Planet Health*. 2021;5(7):e415-e425. doi:10.1016/S2542-5196(21)00081-4
  53. Marks C, Abramovitz D, Donnelly CA, **Carrasco-Escobar G**, Carrasco-Hernández R, Ciccarone D, González-Izquierdo A, Martin NK, Strathdee SA, Smith DM, Bórquez A. Identifying counties at risk of high overdose mortality burden during the emerging fentanyl epidemic in the USA: a predictive statistical modelling study. *Lancet Public Health*. 2021;0(0). doi:10.1016/S2468-2667(21)00080-3
  54. Vicedo-Cabrera AM, Scovronick N, Sera F, Royé D, Schneider R, Tobias A, Astrom C, Guo Y, Honda Y, Hondula DM, Abrutzky R, Tong S, Coelho M de SZS, Saldiva PHN, Lavigne E, Correa PM, Ortega NV, Kan H, Osorio S, Kyselý J, Urban A, Orru H, Indermitte E, Jaakkola JJK, Ryti N, Pascal M, Schneider A, Katsouyanni K, Samoli E, Mayvaneh F, Entezari A, Goodman P, Zeka A, Michelozzi P, de' Donato F, Hashizume M, Alahmad B, Diaz MH, Valencia CDLC, Overcenco A, Houthuijs D, Ameling C, Rao S, Di Ruscio F, **Carrasco-Escobar G**, Seposo X, Silva S, Madureira J, Holobaca IH, Fratianni S, Acquaotta F, Kim H, Lee W, Iniguez C, Forsberg B, Ragettli MS, Guo YLL, Chen BY, Li S, Armstrong B, Aleman A, Zanobetti A, Schwartz J, Dang TN, Dung DV, Gillett N, Haines A, Mengel M, Huber V, Gasparrini A. The burden of heat-related mortality attributable to recent human-induced climate change. *Nat Clim Change*. Published online May 31, 2021:1-9. doi:10.1038/s41558-021-01058-x
  55. Rosas-Aguirre A, Moreno M, Moreno-Gutierrez D, Llanos-Cuentas A, Saavedra M, Contreras-Mancilla J, Barboza J, Alava F, Aguirre K, **Carrasco-Escobar G**, Prussing C, Vinetz J, Conn JE, Speybroeck N, Gamboa D. Integrating Parasitological and Entomological Observations to Understand Malaria Transmission in Riverine Villages in the Peruvian Amazon. *J Infect Dis*. 2021;223(Supplement\_2):S99-S110. doi:10.1093/infdis/jiaa496
  56. Lowe R, Lee SA, O'Reilly KM, Brady OJ, Bastos L, **Carrasco-Escobar G**, Catão R de C, Colón-González FJ, Barcellos C, Carvalho MS, Blangiardo M, Rue H, Gasparrini A. Combined effects of hydrometeorological hazards and urbanisation on dengue risk in Brazil: a spatiotemporal modelling study. *Lancet Planet Health*. 2021;5(4):e209-e219. doi:10.1016/S2542-5196(20)30292-8
  57. Rufalco-Moutinho P, Kadri SM, Alonso DP, Moreno M, **Carrasco-Escobar G**, Prussing C, Gamboa D, Vinetz JM, Sallum MAM, Conn JE, Ribolla PEM. Ecology and larval population dynamics of the primary malaria vector *Nyssorhynchus darlingi* in a high

- transmission setting dominated by fish farming in western Amazonian Brazil. PLOS ONE. 2021;16(4):e0246215. doi:10.1371/journal.pone.0246215
58. Marks C, **Carrasco-Escobar G**, Carrasco-Hernandez R, Johnson D, Ciccarone D, Strathdee SA, Smith D, Bórquez A. Methodological approaches for the prediction of opioid use-related epidemics in the United States: a narrative review and cross-disciplinary call to action. *Transl Res*. Published online March 31, 2021. doi:10.1016/j.trsl.2021.03.018
  59. Bussalleu A, Di-Liberto A, Carcamo C, **Carrasco-Escobar G**, Zavaleta-Cortijo C, King M, Berrang-Ford L, Maurtua D, Llanos-Cuentas A, Garcia P, Harper SL, Edge V, Ford J, Lwasa S, Namanya DB, Indigenous Health and Adaption to Climate Change Research Group (IHACC). Cultural Values and the Coliform Bacterial Load of “Masato,” an Amazon Indigenous Beverage. *EcoHealth*. Published online November 20, 2020. doi:10.1007/s10393-020-01498-5
  60. **Carrasco-Escobar G**, Fornace K, Wong D, Padilla-Huamantínco PG, Saldaña-Lopez JA, Castillo-Meza OE, Caballero-Andrade AE, Manrique E, Ruiz-Cabrejos J, Barboza JL, Rodriguez H, Henostroza G, Gamboa D, Castro MC, Vinetz JM, Llanos-Cuentas A. Open-Source 3D Printable GPS Tracker to Characterize the Role of Human Population Movement on Malaria Epidemiology in River Networks: A Proof-of-Concept Study in the Peruvian Amazon. *Front Public Health*. 2020;8. doi:10.3389/fpubh.2020.526468
  61. **Carrasco-Escobar G**, Manrique E, Tello-Lizarraga K, Miranda JJ. Travel Time to Health Facilities as a Marker of Geographical Accessibility Across Heterogeneous Land Coverage in Peru. *Front Public Health*. 2020;8. doi:10.3389/fpubh.2020.00498
  62. Fletcher IK, Stewart-Ibarra AM, Sippy R, **Carrasco-Escobar G**, Silva M, Beltran-Ayala E, Ordoñez T, Adrian J, Sáenz FE, Drakeley C, Jones KE, Lowe R. The Relative Role of Climate Variation and Control Interventions on Malaria Elimination Efforts in El Oro, Ecuador: A Modeling Study. *Front Environ Sci*. 2020;8. doi:10.3389/fenvs.2020.00135
  63. Rosas-Aguirre A, Guzman-Guzman M, Chuquiyaui R, Moreno M, Manrique P, Ramirez R, **Carrasco-Escobar G**, Rodriguez H, Speybroeck N, Conn JE, Gamboa D, Vinetz JM, Llanos-Cuentas A. Temporal and micro-spatial heterogeneity in transmission dynamics of co-endemic *Plasmodium vivax* and *Plasmodium falciparum* in two rural cohort populations in the Peruvian Amazon. *J Infect Dis*. Published online August 24, 2020. doi:10.1093/infdis/jiaa526
  64. Curioso WH, **Carrasco-Escobar G**. Collaboration in times of COVID-19: the urgent need for open-data sharing in Latin America. *BMJ Health Care Inform*. 2020;27(1). doi:10.1136/bmjhci-2020-100159
  65. Loyola S, Valle A, Montero S, **Carrasco-Escobar G**. Recomendaciones para describir de forma adecuada una curva epidémica de COVID-19. *Rev Peru Med Exp Salud Pública*. 2020;37(2):378-380. doi:10.17843/rpmesp.2020.372.5461
  66. **Carrasco-Escobar G**, Schwarz L, Miranda JJ, Benmarhnia T. Revealing the air pollution burden associated with internal Migration in Peru. *Sci Rep*. 2020;10(1):1-12. doi:10.1038/s41598-020-64043-y
  67. **Carrasco-Escobar G**, Schwalb A, Tello-Lizarraga K, Vega-Guerovich P, Ugarte-Gil C. Spatio-temporal co-occurrence of hotspots of tuberculosis, poverty and air pollution in Lima, Peru. *Infect Dis Poverty*. 2020;9. doi:10.1186/s40249-020-00647-w
  68. Castro MC, Baeza A, Codeço CT, Cucunubá ZM, Dal’Asta AP, Leo GAD, Dobson AP, **Carrasco-Escobar G**, Lana RM, Lowe R, Monteiro AMV, Pascual M, Santos-Vega M. Development, environmental degradation, and disease spread in the Brazilian Amazon. *PLOS Biol*. 2019;17(11):e3000526. doi:10.1371/journal.pbio.3000526

69. Manrique P, Miranda-Alban J, Alarcon-Baldeon J, Ramirez R, **Carrasco-Escobar G**, Herrera H, Guzman-Guzman M, Rosas-Aguirre A, Llanos-Cuentas A, Vinetz JM, Escalante AA, Gamboa D. Microsatellite analysis reveals connectivity among geographically distant transmission zones of *Plasmodium vivax* in the Peruvian Amazon: A critical barrier to regional malaria elimination. *PLoS Negl Trop Dis*. 2019;13(11):e0007876. doi:10.1371/journal.pntd.0007876
70. Saavedra MP, Conn JE, Alava F, **Carrasco-Escobar G**, Prussing C, Bickersmith SA, Sangama JL, Fernandez-Miño C, Guzman M, Tong C, Valderrama C, Vinetz JM, Gamboa D, Moreno M. Higher risk of malaria transmission outdoors than indoors by *Nyssorhynchus darlingi* in riverine communities in the Peruvian Amazon. *Parasit Vectors*. 2019;12(1):374. doi:10.1186/s13071-019-3619-0
71. Prussing C, Saavedra MP, Bickersmith SA, Alava F, Guzmán M, Manrique E, **Carrasco-Escobar G**, Moreno M, Gamboa D, Vinetz JM, Conn JE. Malaria vector species in Amazonian Peru co-occur in larval habitats but have distinct larval microbial communities. *PLoS Negl Trop Dis*. 2019;13(5):e0007412. doi:10.1371/journal.pntd.0007412
72. **Carrasco-Escobar G**, Castro MC, Barboza JL, Ruiz-Cabrejos J, Llanos-Cuentas A, Vinetz JM, Gamboa D. Use of open mobile mapping tool to assess human mobility traceability in rural offline populations with contrasting malaria dynamics. *PeerJ*. 2019;7:e6298. doi:10.7717/peerj.6298
73. **Carrasco-Escobar G**, Manrique E, Ruiz-Cabrejos J, Saavedra M, Alava F, Bickersmith S, Prussing C, Vinetz JM, Conn JE, Moreno M, Gamboa D. High-accuracy detection of malaria vector larval habitats using drone-based multispectral imagery. *PLoS Negl Trop Dis*. 2019;13(1):e0007105. doi:10.1371/journal.pntd.0007105
74. Moreno-Gutierrez D, Llanos-Cuentas A, Luis Barboza J, Contreras-Mancilla J, Gamboa D, Rodriguez H, **Carrasco-Escobar G**, Boreux R, Hayette M-P, Beutels P, Speybroeck N, Rosas-Aguirre A. Effectiveness of a Malaria Surveillance Strategy Based on Active Case Detection during High Transmission Season in the Peruvian Amazon. *Int J Environ Res Public Health*. 2018;15(12). doi:10.3390/ijerph15122670
75. Moreno M, Tong-Rios C, Orjuela-Sanchez P, **Carrasco-Escobar G**, Campo B, Gamboa D, Winzeler EA, Vinetz JM. Continuous Supply of *Plasmodium vivax* Sporozoites from Colonized *Anopheles darlingi* in the Peruvian Amazon. *ACS Infect Dis*. Published online February 21, 2018. doi:10.1021/acsinfecdis.7b00195
76. **Carrasco-Escobar G**, Miranda-Alban J, Fernandez-Miño C, Brouwer KC, Torres K, Calderon M, Gamboa D, Llanos-Cuentas A, Vinetz JM. High prevalence of very-low *Plasmodium falciparum* and *Plasmodium vivax* parasitaemia carriers in the Peruvian Amazon: insights into local and occupational mobility-related transmission. *Malar J*. 2017;16:415. doi:10.1186/s12936-017-2063-x
77. **Carrasco-Escobar G**, Gamboa D, Castro MC, Bangdiwala SI, Rodriguez H, Contreras-Mancilla J, Alava F, Speybroeck N, Lescano AG, Vinetz JM, Rosas-Aguirre A, Llanos-Cuentas A. Micro-epidemiology and spatial heterogeneity of *P. vivax* parasitaemia in riverine communities of the Peruvian Amazon: A multilevel analysis. *Sci Rep*. 2017;7(1):8082. doi:10.1038/s41598-017-07818-0
78. Serra-Casas E, Manrique P, Ding XC, **Carrasco-Escobar G**, Alava F, Gave A, Rodriguez H, Contreras-Mancilla J, Rosas-Aguirre A, Speybroeck N, González JJ, Rosanas-Urgell A, Gamboa D. Loop-mediated isothermal DNA amplification for asymptomatic malaria detection in challenging field settings: Technical performance and pilot implementation in the Peruvian Amazon. *PLOS ONE*. 2017;12(10):e0185742. doi:10.1371/journal.pone.0185742

79. Rosas-Aguirre A, Guzman-Guzman M, Gamboa D, Chuquiyaury R, Ramirez R, Manrique P, **Carrasco-Escobar G**, Puemape C, Llanos-Cuentas A, Vinetz JM. Micro-heterogeneity of malaria transmission in the Peruvian Amazon: a baseline assessment underlying a population-based cohort study. *Malar J.* 2017;16(1):312. doi:10.1186/s12936-017-1957-y
80. Rovira-Vallbona E, Contreras-Mancilla JJ, Ramirez R, Guzmán-Guzmán M, **Carrasco-Escobar G**, Llanos-Cuentas A, Vinetz JM, Gamboa D, Rosanas-Urgell A. Predominance of asymptomatic and sub-microscopic infections characterizes the Plasmodium gametocyte reservoir in the Peruvian Amazon. *PLoS Negl Trop Dis.* 2017;11(7):e0005674. doi:10.1371/journal.pntd.0005674
81. Ruiz-Grosso P, Miranda JJ, Gilman RH, Walker BB, **Carrasco-Escobar G**, Varela-Gaona M, Diez-Canseco F, Huicho L, Checkley W, Bernabe-Ortiz A, CRONICAS Cohort Study Group. Spatial distribution of individuals with symptoms of depression in a periurban area in Lima: an example from Peru. *Ann Epidemiol.* 2016;26(2):93-99.e2. doi:10.1016/j.annepidem.2015.11.002
82. Rosas-Aguirre A, Speybroeck N, Llanos-Cuentas A, Rosanas-Urgell A, **Carrasco-Escobar G**, Rodriguez H, Gamboa D, Contreras-Mancilla J, Alava F, Soares IS, Remarque E, D Alessandro U, Erhart A. Hotspots of Malaria Transmission in the Peruvian Amazon: Rapid Assessment through a Parasitological and Serological Survey. *PloS One.* 2015;10(9):e0137458. doi:10.1371/journal.pone.0137458
83. Rosas-Aguirre A, Ponce OJ, **Carrasco-Escobar G**, Speybroeck N, Contreras-Mancilla J, Gamboa D, Pozo E, Herrera S, Llanos-Cuentas A. Plasmodium vivax malaria at households: spatial clustering and risk factors in a low endemicity urban area of the northwestern Peruvian coast. *Malar J.* 2015;14:176. doi:10.1186/s12936-015-0670-y

#### **PRESENTATIONS**

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- Symposium: “**Emerging technologies to track climate-sensitive diseases**”. Presented at the National Academy of Science – Regional meeting, Universidad del Norte, Barranquilla, 2024.
- Conference: “**Surveillance and Interventions of larval habitats**”. Presented at the Alan J. Magill Malaria Eradication Symposium, ASTMH, 2023
- Symposium Chair: “**Surveillance for Malaria Elimination: What Does it Take to be Sure of Zero Infections?**”. Presented at ASTMH, 2023
- Conference: “**Monitoring the impact of meteorological factors and intermittent control interventions on the malaria dynamics in the Peruvian Amazon**”. Presented at World Malaria Day 2022: Climate change and vector-borne disease, LSHTM, 2022.
- Conference: “**Academic contributions to improve the surveillance of malaria and other climate-sensitive diseases in the Peruvian Amazon**”. Presented at XI Foro Andino de Vigilancia en Salud Pública, ORAS-CONHU, 2022.
- Conference: “**Mapping of the Micro-environmental composition to identify potential breeding sites of malaria vectors in the Peruvian Amazon**”. Presented at Mapping malaria risks by drone webinar, LSHTM, 2020
- Oral Presentation: “**High-accuracy detection of malaria vector larval habitats using drone-based multispectral imagery**”. Presented at ASTMH 67th Annual Meeting, New Orleans, LA, USA, 2018.
- Poster: “**Genetic Population Structure in hotspots of P. vivax infections in the Peruvian Amazon: Closing the gap between Genetics and Epidemiology**”. Presented at ASTMH 65th Annual Meeting, Atlanta, GA, USA, 2016.
- Oral Presentation: “**Spatial analysis using serological markers for the identification of areas of high malaria transmission in the low endemic Northern Coast of Peru**”. Presented at ASTMH 64th Annual Meeting, Philadelphia, PA, USA, 2015.

- Poster: “**District level influence of climate on the incidence of infectious diseases in the Peruvian amazon region of Loreto**”. Presented at ‘Impact of Environmental Changes on Infectious Diseases’, Sitges, España, 2015.
- Poster: “**Modeling the climate impact in the incidence of malaria in the Peruvian Amazon Region of Loreto, a retrospective analysis of 11 years**”. Presented at ASTMH 63rd Annual Meeting, New Orleans, USA, 2014.
- Poster: “**Building an Interdisciplinary Health Professional Research Team at New York University and Universidad Peruana Cayetano Heredia: A Feasibility Study**” Presented at Consortium of Universities for Global Health (CUGH), Washington, DC, 2013.

### ***AWARDS AND FELLOWSHIPS***

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2024	<b>The 100 Innovators of Latin America 2024.</b> Bloomberg Línea
2024	<b>Innovator Under 35 Award. Latin America Edition.</b> MIT Review
2020	<b>Friends fellowship - Friends of the International Center at UC San Diego (UCSD).</b> For PhD. degree support at UCSD. California, United States.
2019	<b>Travel fellowship - Peruvian National Council of Science (CONCYTEC).</b> For visiting the London School of Hygiene and Tropical Medicine. April 27 <sup>th</sup> – July 18 <sup>th</sup> , London, United Kingdom.
2018-2020	<b>Fellowship - NIH-Fogarty.</b> For Joint Doctoral Program in Public Health, Global Health Track. UCSD-SDSU. 2018 – 2020. California, United States.
2017	<b>Travel Award - ICPVR committee.</b> For 6 <sup>th</sup> International Conference on <i>Plasmodium vivax</i> Research (ICPVR). June 10 <sup>th</sup> – 16 <sup>th</sup> , Manaus, Brazil.
2017	<b>Travel Award – ICTP committee.</b> For “Workshop on Mathematical Models of Climate Variability, Environmental Change and Infectious Diseases” followed by 2 <sup>nd</sup> Conference on “Impact of Environmental Changes on Infectious Diseases”. May 7 <sup>th</sup> – 20 <sup>th</sup> , ICTP, Trieste, Italy.
2016	<b>Travel Award - Wellcome Trust.</b> For “Genomic Epidemiology of Malaria” Conference. June 4 <sup>th</sup> – 10 <sup>th</sup> , Wellcome Genome Campus, Cambridge, UK.
2015	<b>Travel Award – Science of Eradication committee.</b> For Science of Eradication: Malaria, Regional Edition. Brazil. Institute of Biomedical Sciences at the University of São Paulo in partnership with the Barcelona Institute for Global Health (ISGlobal), Harvard University, and Swiss Tropical and Public Health Institute (Swiss TPH)
2015	<b>Fellowship - Commission universitaire pour le Développement (CIUF-CUD).</b> Université Catholique de Louvain, Belgium. For Master program at Universidad Peruana Cayetano Heredia
2014	<b>New Investigator Award, Best Poster category,</b> Climate and Health Summit, Lima.

### ***RESEARCH SUPPORT***

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2024	Stanford King Center: “ <b>Climate Resilience Measurement Lab</b> ”. Role: Local Principal Investigator
2024	Wellcome Trust. Project: “ <b>TACTIC– Health ImpAct ToolIt for Climate Change Attribution</b> ”. Role: Local Principal Investigator
2023	GLIDE, Falcon Award. Project: “ <b>Use of novel low-cost technologies to reduce the barriers of vector-borne diseases forecasting in the Peruvian Amazon</b> ”. Role: Principal Investigator
2023	University of Glasgow, BBSRC Impact Accelerator Account. Project: “ <b>New tools to identify disease vector habitats from high resolution Earth Observation data</b> ”. Role: Local Principal Investigator

2022	NIH. Project: “ <b>FocaL mass drug Administration for vivax Malaria Elimination (FLAME)</b> ”. Role: Co-Investigator
2022	NIH. Project: “ <b>One-health approach to study human fasciola hepatica transmission and inform strategic control</b> ”. Role: Co-Investigator
2022	Wellcome Trust. Project: “ <b>Dynamic Infectious Disease Risk Platform for Decision-Makers</b> ”. Role: Local Principal Investigator
2021	Wellcome Trust. Project: “ <b>HARMONIZE: Harmonizing environment and health multi-scale spatiotemporal data in climate change hotspots in Latin America &amp; the Caribbean</b> ”. Role: Local Principal Investigator
2020	Bill and Melinda Gates Foundation. Project: “ <b>Freedom from Infection Peru</b> ”. Role: Local Principal Investigator
2020	CGIAR Agriculture for Nutrition and Health Research Programme (A4NH): “ <b>Using deep-learning algorithms to support analysis of high-resolution Earth Observation data for vector-borne disease control in agricultural landscapes</b> ”. Role: Local Principal Investigator
2020	Tinker Field Research Grant – San Diego State University (SDSU)/ Tinker Foundation. Project: “ <b>High-resolution mapping of micro-environmental regulators of malaria in the Peruvian Amazon</b> ”. Role: Principal Investigator
2019	Tinker Grant – San Diego State University (SDSU)/ Tinker Foundation Incorporated (TFI). Project: “ <b>Role of human population mobility in the malaria epidemiology in the Peruvian Amazon</b> ”. Role: Principal Investigator
2017	Gorgas Grant - Institute of Tropical Medicine “Alexander von Humboldt” and University of Alabama at Birmingham. Project: “ <b>Malaria and Human mobility in the Peruvian Amazon: An evaluation of vulnerability, receptivity and malariogenic potential</b> ”. Role: Principal Investigator
2016	Research Grant, National Council of Science (FONDECYT, CONCYTEC). Project: “ <b>Implementation of a diagnostic platform based on molecular tools and ICTs for surveillance of zika, dengue, chikungunya y malaria</b> ”. Role: Co-Principal Investigator
2015	Research Grant, Universidad Peruana Cayetano Heredia. Project: “ <b>Characterization of malaria sub-microscopic infections in a rural community in the Amazon Region</b> ”. Role: Principal Investigator
2013	Seed Grant, Universidad Peruana Cayetano Heredia. Project: “ <b>Promoting exclusive breastfeeding in a rural community of Lima Peru</b> ”. Role: Principal Investigator

### ***MEDIA COVERAGE***

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2024, December	The 100 Innovators of Latin America 2024. <b>Bloomberg Línea</b> - <a href="#">Link</a>
2024, September	Innovator Under 35 Award. Latin America Edition. <b>MIT Review</b> - <a href="#">Link</a>
2024, June	Peruvian research team works to track infectious disease in tropical regions. <b>CBS</b> - <a href="#">Link</a>
2024, February	Beyond COP28: Bill Gates on investing in our planet's future. <b>CNN</b> - <a href="#">Link</a>
2023, December	On the hunt for climate disease. <b>The Washington Post</b> - <a href="#">Link</a>
2023, November	Sensors and drones deployed to fight disease in Peruvian Amazon. <b>Forbes</b> - <a href="#">Link</a>
2021, March	Vacuna-gate escalates in Peru. <b>The Lancet Infectious Diseases, Newdesk</b> - <a href="#">Link</a>
2020, May	COVID-19 strains remote regions of Peru. <b>The Lancet, World Report</b> - <a href="#">Link</a>
2019, December	What should Peru do to improve its science?. <b>Nature, Spotlight</b> - <a href="#">Link</a>
2019, October	Protecting the planet for future generations. <b>The Guardian, Letters</b> - <a href="#">Link</a>

2019, February      Doctoral Student Publishes Article on Detection of Malaria Vector Larval Habitats Using Drone-Based Multispectral Imagery. **Association of Schools & Programs of Public Health, *Connect*** - [Link](#)

***SOCIAL SERVICE***

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2013      Founder of multidisciplinary group to tackle child malnutrition “Nutre-Perú” – Universidad Peruana Cayetano Heredia

2011      Founder of multidisciplinary group in global health and social responsibility “Cayetano en Acción” – Universidad Peruana Cayetano Heredia.