

Rachel Lowe

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Research interests

Global environmental change; planetary health; spatial epidemiology; infectious diseases; statistical and mathematical modelling; probabilistic forecasts; climate change; disaster risk management.

Higher Education

Oct 2007 – Jan 2011: PhD in Mathematics (Statistical Modelling)

University of Exeter, College of Engineering, Mathematics and Physical Sciences (6 months in Brazilian institutes including Oswaldo Cruz Foundation). PhD awarded 31 Jan 2011.

Thesis: Spatio-temporal modelling of climate sensitive disease risk: towards an early warning system for dengue in Brazil.

Supervisors: Prof. David Stephenson, Prof. Trevor Bailey, Dr. Richard Graham OBE (Met Office)

Sponsor: The Leverhulme Trust.

Oct 2006 – Aug 2007: MSc in Geophysical Hazards

University College London, Department of Earth Sciences

Result: Distinction

Scholarship: UCL Graduate Master's Award 2006 – 2007.

Units: Geophysical Hazards, Advanced Volcanology, Research Methods, Meteorological Hazards, Advanced Meteorological and Hydrogeological Hazards, Advanced Seismology.

Independent Research Project: Volcano lateral collapse events in the Quaternary.

Result: 84%. Supervisor: Prof. Bill McGuire. Field work: Stromboli volcano - research conducted in flank instability, monitoring of an active volcano and tsunami risk (funded by University of Florence, Italy).

Sep 2000 – Jun 2004: BSc (Hons.) Meteorology and Oceanography with a year in Europe

University of East Anglia, School of Environmental Sciences

Result: First Class

Units: Meteorology & Climate, Physical Oceanography, Mathematics for Geophysical Sciences, Dynamical Meteorology and Spanish.

Dissertation: Rainfall induced volcanic activity at the island of Montserrat: the viability of incorporating meteorological forecasts into volcanic hazard warnings.

Oct 2002 – Aug 2003: Ciencias Ambientales (Environmental Science)

Universidad de Granada, Spain (Erasmus Programme)

Units: Advanced Spanish, Meteorology, Statistics, and Economics (in Spanish).

Appointments

Jan 2017 – present: Royal Society Dorothy Hodgkin Fellow / Associate Professor

London School of Hygiene & Tropical Medicine (LSHTM), Department of Infectious Disease Epidemiology

- Principal Investigator 'Modelling the impact of global environmental change on vector-borne disease risk', funded by **Global Challenge Research Fund** (budget: £422,157.06; Jan 2017 – Dec 2021).
- Principal Investigator 'PhD studentship: The role of climate, cities and connectivity in the spread of vector-borne diseases in Brazil', funded by **Royal Society** 'Research Grants for Research Fellows' (budget: £105,056; Mar 2018 – Mar 2022).
- LSHTM Principal Investigator 'An integrated dengue early warning system driven by Earth Observations in Vietnam', Lead: HR Wallingford, funded by **UK Space Agency** (Total budget: £4,094,866, LSHTM budget: £473,178; Feb 2018 – Feb 2021).
- Principal Investigator 'Environmental change, climate extremes and emerging infectious disease threats', funded by **Royal Society** 'Enhancement Award' (budget: £ 38,480; Mar 2020 – Mar 2021).
- Vector-borne disease theme leader for Centre for Mathematical Modelling of Infectious Diseases.
- Management Committee for Centre on Climate Change and Planetary Health.
- Consultancies for University of Texas (DeCode Zika project) and the Pan American Health Organization (online climate and health course).

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Appointments

Mar 2012 – Dec 2016: Postdoctoral Scientist / Head of Climate Services for Health

Catalan Institute for Climate Sciences (IC3), Climate Dynamics and Impacts Unit, Barcelona, Spain
Involved in the EU FP7 projects: DENFREE (Dengue research Framework for Resisting Epidemics in Europe); QWeCI (Quantifying Weather and Climate Impacts on Health in Developing Countries); EUPORIAS (EUropean Provision Of Regional Impact Assessment on a Seasonal-to-decadal timescale), and SECTEUR (Sector Engagement for the Copernicus Climate Change Service: Translating European User Requirements).

- Research involved modelling climate-sensitive disease risk and finding novel ways to communicate probabilistic forecasts to public health decision makers.
- Lectured and supervised Masters students at the University of Barcelona.
- Extensive international travel to engage with public health stakeholders, disseminate research and train the next generation of climate and health leaders.

Oct 2010 – Feb 2012: Visiting Scientist

Abdus Salam International Centre for Theoretical Physics (ICTP), Earth System Physics, Trieste, Italy.

- Involved in the EU FP7 projects: QWeCI and Healthy Futures. Duties included the development and implementation of statistical models to predict vector-borne disease risk in Africa.
- Establish links with the Malawi Ministry of Health, National Malaria Programme and Meteorological Services in Malawi. Collaboration involved regular online meetings with partners in the Ministry of Health, exchange of spatio-temporal datasets, invitation of Malawian scientists to ICTP for training and knowledge exchange, and the development of sophisticated tools to contribute to an integrated climate based epidemic early warning system for Malawi.
- Responsible for writing field visit reports, project deliverables and grant proposals.

Oct 2007 – Dec 2010: Network Facilitator EURO-Brazilian Leverhulme research network

Exeter Climate Systems, University of Exeter, UK. EUROBRISA: Euro-Brazilian initiative for improving South American seasonal climate forecasts, funded by the Leverhulme Trust.

- Responsibilities included strengthening collaboration and promoting exchange of expertise and information and data transfer between European and South American participating institutions (University of Exeter, Centre for Weather Prediction and Climate Studies (CPTec/INPE) Brazil, European Centre for Medium-range Weather Forecasts (ECMWF), Met Office, Météo-France, Federal University of Paraná (UFPR) Brazil, Brazilian National Institute of Meteorology (INMET), University of São Paulo (USP).
- Organised research workshops for the network in Brazil and UK, prepared project summary reports.
- Annual long-term visits to CPTec/INPE in Brazil. Collaborative research with health scientists at Oswaldo Cruz Foundation (Fiocruz), Brazilian Institute for Geography and Statistics (IBGE) and Brazilian Ministry of Health.

Oct 2009 – May 2010: INTO University of Exeter

University of Exeter, UK.

- Part-time mathematics teacher for a 'Foundation Programme for International Students' preparing for a degree in business, computer science, engineering, mathematics and science.
- Responsible for preparing and delivering lessons, marking coursework and exams.

Feb – Mar 2005: Research Assistant (voluntary)

Centre of Exchange and Research in Volcanology, Colima, Mexico.

- Monitoring of the active Colima volcano.
- Attended meetings between volcano observatory, civil protection and local politicians.

Fellowships, Awards & Prizes

2020 – 2021 Royal Society Enhancement Award

2019 Royal Society Public Engagement Masterclass Bursary

2018 International Society for Neglected Tropical Diseases (ISNTD) Water Award for Research

2018 – 2021 Royal Society Research Grant for Research Fellows

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Fellowships, Awards & Prizes

2017 Royal Society of Tropical Medicine & Hygiene Travel Scholarship

2017 eLife Travel Grant

2017 – 2021 Royal Society Dorothy Hodgkin Fellowship

2017 – 2019 Juan de la Cierva Incorporation Fellowship (declined in favour of Dorothy Hodgkin Fellowship)

2015 American Society of Tropical Medicine and Hygiene / Bill & Melinda Gates Foundation Travel Award

2014 BBVA OpenMind five most impressive innovations of the World Cup in Brazil: #1 A pioneering system to predict the risk of epidemics in large events (Lowe et al. Lancet Infect. Dis. 2014)

2009 Google's KML Research Prize (joint prize City University London and University of Exeter)

2006 – 2007 UCL Graduate Master's Award

Teaching: Postgraduate level

London School of Hygiene & Tropical Medicine, Jan 2017 – to date

Organiser of 'Modelling infectious Disease Risk in a Changing Climate' short course

Lecturer for Spatial Epidemiology for Public Health Masters module.

Facilitator for 'An introduction to R and spatial statistics' short course.

Exam marking for Basic Epidemiology module.

MSc project supervision and marking for distance learning Epidemiology module.

University of Barcelona, Mar 2013 – to date

'Climate Change and Human Health' in the 'Global Health' International Relations Masters module.

Student Evaluation 2013: 4.47/5 (89.4%).

Barcelona Institute for Global Health, Jul 2015

Barcelona Global Health Summer School 12-17 July 2015 - Climate Change & Health: Addressing the Challenge, Exploring Solutions (officially accredited as a side-event of Our Common Future under Climate Change Conference and granted the COP21 label by the French Ministry of Ecology, Sustainable development and Energy). Lecture: Climate change and human health.

University of Cantabria, Jul 2015

Curso de Verano (Summer School): Organizational strategies to address global environmental change research in Europe, Invited lecture: Climate change and human health.

International Centre for Theoretical Physics (ICTP), Trieste, Italy: Lecturer

Apr – May 2013

Workshop: Mathematical models of Climate Variability, Environmental Change and Infectious Diseases.

Provided lecture on spatio-temporal modelling of vector-borne diseases.

Apr 2013

Spring School on Modelling Tools and Capacity Building in Climate and Public Health, sponsored by ICTP and the World Meteorological Organization (WMO).

Role: Organiser.

Sep 2011

Summer School on Climate Impacts Modelling for Developing Countries: Water, Agriculture and Health, sponsored by ICTP and the World Meteorological Organization (WMO).

Teaching: International and regional training schools for climate and health postgraduate students and decision makers

Jun 2018

Climate and Health Webinar Series, Caribbean Institute for Meteorology and Hydrology (CIMH),

Programme for Building Regional Climate Capacity in the Caribbean.

Provided lecture on climate-driven early warning systems for vector-borne diseases.

Jul 2015

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Teaching: International and regional training schools for climate and health postgraduate students and decision makers

School on Modelling Tools and Capacity Building in Climate and Public Health, sponsored by ICTP, FIOCRUZ and Global Framework for Climate Services (GFCS/WMO). Petropolis, Rio de Janeiro, Brazil
Role: Organiser.

Feb 2014

Workshop: Integration of environmental remote sensing products to inform health early warning systems, Fiocruz, Rio de Janeiro, Brazil.

Dec 2013

International Conference Climate Services 3, Montego Bay, Jamaica.

Nov 2011

Inter-American Institute for Global Change Research (IAI) Training Institute on Climate and Health, sponsored by IAI/IRI/PAHO/MERCOSUR, Piriápolis, Uruguay (all material delivered in Spanish).

May 2011

Summer Institute on Climate Information for Public Health, International Research Institute for Climate and Society (IRI), New York, USA, (awarded Best Facilitator).

Communicating research to a wider audience (STEM)

Mar 2019: Climate change and vector-borne diseases. Gave a public lecture and participated in a round table as part of the City and Science Biennial, organised by the Barcelona town hall.

Nov 2018: A day in the life of a climate and health scientist, Semana de la Ciencia, Centre d'Estudis Dolmen, Spain. Presented my research to a group of biomedical students, as part of the Women in Science cycle for Barcelona Science Week.

Sep 2018: Horizon lecture, King's College Taunton, UK. Delivered lecture on 'Climate change, planetary health and infectious diseases' to Mathematics, Science and Geography GCSE and A level students.

Supervision

Postdoctoral / visiting scientists

2019 – 2021: Dr Leonardo Bastos. Project: 'An integrated dengue early warning system driven by Earth Observations in Vietnam (UK Space Agency Grant).

2018 – 2021: Dr Felipe Colon-Gonzalez. Project: 'An integrated dengue early warning system driven by Earth Observations in Vietnam (UK Space Agency Grant).

2020: Dr David Soeiro. Epidemic patterns of infectious diseases and their determinants in Brazil (CAPES, Brazil grant £ 15.690,00).

2019: Gabriel Carrasco Escobar. Project: Bayesian spatio-temporal models to understand the impact of climatic factors on malaria epidemiology in the Peruvian Amazon (CONCYTEC, Peru grant £5,386).

PhD

2020 – 2024: Emilie Finch. PhD MRC-LID programme, London School of Hygiene & Tropical Medicine
Project: Combining novel data streams to forecast acute febrile illness in the Dominican Republic. Role: second supervisor. First supervisor: Dr. Adam Kucharski (LSHTM).

2020 – 2022: Martin Lotto. PhD Epidemiology, Helmholtz Centre for Infectious Disease Research, Germany. Project: Predicting tick-borne disease transmission potential in Europe. Role: co-supervisor. First supervisors: Dr Stefanie Castell & Prof. Gérard Krause (HZI).

2019 – 2022: Sophie Lee. PhD Royal Society studentship, London School of Hygiene & Tropical Medicine. Project: The role of climate, cities and connectivity in the spread of vector-borne diseases in Brazil. Role: first supervisor. Co-supervisors: Dr Theo Economou (Uni. Exeter) and Prof. John Edmunds (LSHTM).

2018 – 2022: Eleanor Rees. PhD MRC-LID programme, London School of Hygiene & Tropical Medicine. Project: Modelling leptospirosis at the animal-human interface in island populations. Role: second supervisor. First supervisor: Dr. Adam Kucharski (LSHTM).

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Supervision

2018 – 2021: Isabel Fletcher. PhD BBSRC-LIDO programme, London School of Hygiene & Tropical Medicine. Project: The relative impact of climate change and eradication initiatives on malaria risk in the Ecuador-Peru border region. Role: first supervisor. Co-supervisor: Prof. Chris Drakeley (LSHTM) & Prof. Kate Jones (UCL).

2014 – 2016: Rafael De Castro Catão. PhD Geography, São Paulo State University, Brazil. Thesis: Geography of dengue fever in São Paulo state: the geographical barriers to spatial diffusion. International Internship Supervisor Nov 2014 – Jul 2015 (FAPESP/BEPE, Brazil grant). Supervisor in Brazil: Prof. Raul Borges Guimarães. PhD awarded 9 May 2016.

Masters

2020: Beatriz Calvo. MSc Epidemiology, London School of Hygiene & Tropical Medicine. Project: Socio-ecological drivers of dengue in Minas Gerais, Brazil: a causal inference ecological study. Role: Sole supervisor.

2018: Martin Lotto. MSc Epidemiology, London School of Hygiene & Tropical Medicine. Project: El Niño-Southern Oscillation (ENSO) and leptospirosis in Entre Ríos, Argentina: a spatio-temporal modelling approach. Role: first supervisor. Second supervisor: Dr. Gabriela Müller (CONICET / National Littoral University, Argentina).

2013 – 2014: Aleksandra Karczewska-Gibert. MA International Relations, University of Barcelona. Thesis: Socio-economic and demographic aspects of dengue epidemiology evolution in Thailand, 1982-2012. Sole supervisor. Successfully defended: 2 Jun 2014. Result: 9/10.

2013 – 2014: Sophie Steffen, MA International Relations, University of Barcelona. Thesis: Challenges in communicating climate forecast information to decision-makers. Co-supervised with Ms. Melanie Davis. Successfully defended: 28 May 2014. Result: 9/10.

2010 – 2012: James Chirombo. MSc Biostatistics, University of Malawi. Thesis: Geostatistical modelling and analysis of under-five malaria risk in Malawi. Co-supervisor: Dr. Lawrence Kazembe, University of Namibia. Successfully defended: 26 Jul 2013. Result: 69% (Merit).

Training

Dec 2019: Grant writing workshop, London School of Hygiene & Tropical Medicine, UK.

Nov 2019: Copernicus Climate Data Store Training Course, CosmoCaixa, Barcelona, Spain.

Jul 2019: Public Engagement Masterclass, Wellcome Genome Campus, UK.

May 2019: Dance your science - kinaesthetics for cognitive agility, Barcelona Biomedical Research Park, Spain.

Feb 2019: Mathematical Models for Infectious Disease Dynamics, Wellcome Genome Campus, UK.

Jun 2018: Computational and Data Literacy Course, Natural History Museum, UK.

2018 – 2019: Postgraduate Certificate in Learning and Teaching (PGCILT), London School of Hygiene & Tropical Medicine, UK.

2017 – 2018: SUSTAIN leadership development programme for women scientists. Funded by the Academy of Medical Sciences, the Medical Research Council and the Royal Society.

2017 – 2019: Royal Society training schemes: writing about your research; media skills training; introduction to public engagement; engaging with schools; presentation skills.

2017 – 2019: Talent and Educational Development Programme, London School of Hygiene & Tropical Medicine, UK. Courses taken in research degree supervision for new supervisors; starting a research grant at LSHTM - things you should know for the first year; writing skills; essential skills for line managers; research degree supervisors update; recruitment and selection skills; applying for research funding; effective performance development reviews - workshop for reviewers.

Nov 2017: Outbreak analysis using R: An introduction to new tools. EPIDEMICS pre-conference workshop, Sitges, Spain.

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Training

Sep 2017: Health Applications of Google Earth Engine. GEOMED pre-conference workshop, University of Porto, Portugal.

Jul 2017: Vector Behavior in Transmission Ecology Research Coordination Network – VectorBITE RCN 2017 Workshop. Royal Holloway University, UK.

June 2017: Introduction to the News Media, Science Media Centre, Francis Crick Institute, UK.

Jan 2015: DwB-Training Course: European Census Data. Centre for Demographic Studies (CED), Universitat Autònoma de Barcelona, Barcelona, Spain.

Oct 2013: Bayesian computing and spatial modelling with INLA. University of Bergamo, Italy.

Nov 2010: United Nations Advanced Security in the Field. International Centre for Theoretical Physics/UNESCO, Italy.

Jun 2009: IRI Summer Institute Climate Information for Public Health, International Research Institute for Climate and Society. New York, USA. Funded by: The Met Office.

Jun 2008: Bayesian Statistics Workshop. University of Exeter, Tremough Campus, UK.

Academy for PhD Training in Statistics (APTS)

Apr 2008: Statistical Modelling, Statistical Asymptotics. University of Oxford, UK.

Jul 2008: Applied Stochastic Processes, Computer Intensive Statistics. University of Bristol, UK.

Jan 2008: Advanced Statistics Course. Met Office, UK.

Publications – Peer reviewed journal articles

- **Lowe R**, Ryan SJ, Van Meerbeeck CJ, Mahon R, Trotman AR, Boodram L, Borbor-Cordova MJ, Stewart-Ibarra AM. (2020). Building resilience to mosquito-borne diseases in the Caribbean. *PLoS Biology* (in review).
- Fletcher IK, Stewart-Ibarra AM, Sippy R, Carrasco-Escobar G, Silva M, Beltran-Ayala E, Ordoñez T, Adrian J. Sáenz FE, Drakeley C, Jones K, **Lowe R** (2020). The relative role of climate variation and control interventions on malaria elimination efforts in El Oro, Ecuador: a modelling study. *Frontiers in Environmental Science* (in review).
- Santos-Vega M, **Lowe R**, Anselin L, Desai V, Vaishnav KG, Naik A, Pascual M. (2019). Spatio-temporal variability of urban malaria across scales: role of climate and socioeconomic conditions. *Malaria Journal* (in review).
- Lippi C, Stewart Ibarra AM, Romero M, Hinds AQ, **Lowe R**, Mahon R, Van Meerbeeck C, Rollock L, Gittens-St.Hilaire M, Trotman AR, Holligan D, Kirton S, Borbor-Cordova M, Ryan SJ. (2020). Spatiotemporal tools for emerging and endemic disease hotspots in small areas – an analysis of dengue and chikungunya in Barbados, 2013 – 2016. *American Journal of Hygiene and Tropical Medicine* (in press).
- Liu K, Houb X, Renc Z, **Lowe R**, Wang Y, Liu X, Sun J, Lua L, Song X, Wu, Wang J, Yao W, Zhang C, Gao Y, Li J, Li J, Xu L, Liu Q. (2020). Climate factors and the East Asian summer monsoon may drive large outbreaks of dengue in China. *Environmental Research* (<https://doi.org/10.1016/j.envres.2020.109190>).
- Chirombo J, Ceccato P, **Lowe R**, Terlouw DJ, Thomson MC, Gumbo A, Diggle PJ and Read JM. (2020). Childhood malaria case incidence in Malawi between 2004 and 2017: spatio-temporal modelling of climate and non-climate factors. *Malaria Journal*, 19(5) (<https://doi.org/10.1186/s12936-019-3097-z>)
- Watts N, ..., **Lowe R**, ..., Montgomery H. (2019). The 2019 Report of The Lancet Countdown on Health and Climate Change: ensuring that the health of a child born today is not defined by a changing climate. *The Lancet* 394(10211), 1836-1878 ([https://doi.org/10.1016/S0140-6736\(19\)32596-6](https://doi.org/10.1016/S0140-6736(19)32596-6)).
- Johansson MA, ..., **Lowe R**, ..., Chretien JP. (2019). Advancing probabilistic epidemic forecasting through an open challenge: The Dengue Forecasting Project. *Proceedings of the National Academy of Sciences* (<https://doi.org/10.1073/pnas.1909865116>).
- Castro MC, Baeza A, Carrasco-Escobar G, Codeço CT, Cucunubá ZM, Dal'Asta AP, De Leo G, Dobson AP, Jina A, Matins Lana R, **Lowe R**, Vieira Monteiro AM, Pascual M, Santos-Vega M. (2019).

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Publications – Peer reviewed journal articles

- Development, environmental degradation and disease spread in the Amazon. *PLOS Biology*, 17(11): e3000526 (<https://doi.org/10.1371/journal.pbio.3000526>).
- Auzenberg M, Correia-Gomes C, Economou T, **Lowe R**, O'Reilly K. (2019). Desirable BUGS in models of infectious diseases. *Epidemics* (<https://doi.org/10.1016/j.epidem.2019.100361>).
 - Stewart-Ibarra AM, Romero M, Hinds AQ, **Lowe R**, Mahon R, Van Meerbeeck C, Rollock L, Gittens-St. Hilaire M, St. Ville S, Ryan SJ, Trotman A, Borbor-Cordova MJ. (2019). Co-developing climate services for public health: stakeholder needs and perceptions for the prevention and control of Aedes-transmitted diseases in the Caribbean. *PLoS Neglected Tropical Diseases* (<https://doi.org/10.1371/journal.pntd.0007772>).
 - Freitas LP, Cruz OG, **Lowe R**, Sá Carvalho M. (2019). Space-time dynamics of a triple epidemic: dengue, chikungunya and Zika clusters in the city of Rio de Janeiro. *Proceedings of the Royal Society B*. 286(1912) (<https://doi.org/10.1098/rspb.2019.1867>).
 - O'Reilly KM, Hendrickx E, Kharisma D, Wilstonegoro NN, Carrington LB, Elyazar IRF, Kucharski AJ, **Lowe R**, Flasche S, Pigott DM, Reiner Jr RC, Edmunds WJ, Hay SI, Yakob L, Shepard DS, Brady OJ. (2019). Estimating the burden of dengue and the impact of release of Wolbachia infected mosquitoes in Indonesia: a modelling study. *BMC Medicine*, 17:172 (<https://doi.org/10.1186/s12916-019-1396-4>).
 - Petrova D*, **Lowe R***, Stewart-Ibarra AM, Ballester J, Koopman SJ, Rodó X. (2019). Sensitivity of large dengue epidemics in Ecuador to long-lead predictions of El Niño. *Climate Services*, 15 (<https://doi.org/10.1016/j.cliser.2019.02.003>).
 - Funk S, Camacho A, Kucharski AJ, **Lowe R**, Eggo RM, Edmunds WJ. (2019). Assessing the performance of real-time epidemic forecasts: A case study of Ebola in the Western Area region of Sierra Leone, 2014-15. *PLOS Computational Biology* (doi:10.1371/journal.pcbi.1006785).
 - Watts N, Amann M, Arnell N, ..., **Lowe R**, ..., Costello A. (2018). The 2018 report of the Lancet Countdown on health and climate change: shaping the health of nations for centuries to come. *The Lancet*, 392(10163): 2479-2514 (doi:10.1016/S0140-6736(18)32594-7).
 - **Lowe R**, Gasparrini A, Van Meerbeeck CJ, Lippi CA, Mahon R, Trotman AR, Rollock L, Hinds AQJ, Ryan SJ, Stewart Ibarra AM (2018). Nonlinear and delayed impacts of climate on dengue risk in Barbados: A modelling study. *PLoS Medicine*, 15(7): e1002613 (doi:10.1371/journal.pmed.1002613).
 - O'Reilly, **Lowe R**, Edmunds WJ, Mayaud P, Kucharski AJ, Eggo R, Bhatia D, Khan K, Kraemar M, Wilder-Smith A, Rodrigues L, Brasil P, Massad E, Jaenisch T, Cauchemez S, Brady O, Yakob L. (2018). Projecting the end of the Zika virus epidemic in Latin America: a modelling analysis. *BMC Medicine*, 16:180 (doi:10.1186/s12916-018-1158-8).
 - **Lowe R**, Barcellos C, Brasil P, Cruz OG, Honório NA, Kuper H, Sá Carvalho M (2018). The Zika Virus Epidemic in Brazil: From Discovery to Future Implications. *International Journal of Environmental Research and Public Health*, 15(1), 96 (doi:10.3390/ijerph15010096).
 - **Lowe R**, Stewart-Ibarra AM, Petrova D, García-Díez M, Borbor-Cordova MJ, Mejía R, Regato M, Rodó X. (2017). Climate services for health: predicting the evolution of the 2016 dengue season in Machala, Ecuador. *The Lancet Planetary Health*, 1(4): e142-e151 (doi:10.1016/S2542-5196(17)30064-5).
 - **Lowe R**, Coelho CAS, Barcellos C, Sá Carvalho M, De Castro Catão R, Coelho GE, Massa Ramalho W, Bailey TC, Stephenson DB, Rodó X. (2016). Evaluating probabilistic dengue risk forecasts from a prototype early warning system for Brazil. *eLife*, p. e11285 (doi:10.7554/eLife.11285).
 - Ballester J*, **Lowe R***, Diggle P, Rodó X. (2016). Modelling and prediction of climate and health impacts: challenges and opportunities. *Annals of the New York Academy of Sciences*, 1382: 8-20 (doi:10.1111/nyas.13129).
 - **Lowe R**, García-Díez M, Ballester J, Creswick J, Robine JM, Herrmann FR, Rodó X. (2016). Evaluation of an early-warning system for heat wave-related mortality in Europe: implications for sub-seasonal to seasonal forecasting and climate services. *International Journal of Environmental Research and Public Health*, 13(2): 206 (doi:10.3390/ijerph13020206).
 - **Lowe R**. (2015). Understanding the relative importance of global dengue risk factors. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 109 (10): 607-608 (doi:10.1093/trstmh/trv068).

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Publications – Peer reviewed journal articles

- **Lowe R**, Cazelles B, Paul R, Rodó X. (2015). Quantifying the added value of climate information in a dengue spatio-temporal model. *Stochastic Environmental Research and Risk Assessment*, 30(8): 2067-2078 (doi:10.1007/s00477-015-1053-1).
- **Lowe R**, Ballester, J, Creswick J, Robine JM, Herrmann FR, Rodó X. (2015). Evaluating the performance of a climate-driven mortality model during heat waves and cold spells in Europe. *International Journal of Environmental Research and Public Health*, 12(2): 1279-1294 (doi:10.3390/ijerph120201279).
- **Lowe R**, Barcellos C, Coelho CAS, Bailey TC, Sá Carvalho M, Stephenson DB, Rodó X. (2015). Interpretation of probabilistic forecasts of epidemics. *The Lancet Infectious Diseases*, 15(1): 20 (doi:10.1016/S1473-3099(14)71031-X).
- **Lowe R**, Barcellos C, Coelho CAS, Bailey TC, Coelho GE, Graham R, Jupp TE, Massa Ramalho W, Sá Carvalho M, Stephenson DB, Rodó X. (2014). Dengue outlook for the World Cup in Brazil: an early warning model framework driven by real-time seasonal climate forecasts. *The Lancet Infectious Diseases*, 14(7): 619-626 (doi: 10.1016/S1473-3099(14)70781-9).
- Barcellos C & **Lowe R**. (2014). Dengue and the World Cup: a matter of timing. *PLoS Neglected Tropical Diseases*, 8(7): e3022 (doi:10.1371/journal.pntd.0003022).
- Barcellos C & **Lowe R**. (2014). Expansion of the dengue transmission area in Brazil: the role of climate and cities. *Tropical Medicine & International Health*, 19(2): 159-168 (doi:10.1111/tmi.12227).
- Chirombo J, **Lowe R**, Kazembe L. (2014). Using structured additive regression models to estimate risk factors of malaria: analysis of 2010 Malawi Malaria Indicator Survey data. *PLOS One*, 9(7): e101116 (doi:10.1371/journal.pone.0101116).
- Jancloes M, Thomson M, Costa MM, Hewitt C, Corvalan C, Dinku T, **Lowe R**, Hayden, M. (2014). Climate services to improve public health. *International Journal of Environmental Research and Public Health*, 11(5): 4555-4559 (doi:10.3390/ijerph110504555).
- Dommar CJ*, **Lowe R***, Robinson M*, Rodó X. (2014). An agent-based model driven by tropical rainfall to understand the spatio-temporal heterogeneity of a chikungunya outbreak. *Acta Tropica*, 129: 61-73 (doi:10.1016/j.actatropica.2013.08.004).
- **Lowe R**, Chirombo J, Tompkins AM. (2013). Relative importance of climatic, geographic and socio-economic determinants of malaria in Malawi, *Malaria Journal*, 12(1): 416 (doi:10.1186/1475-2875-12-416).
- Stewart-Ibarra AM* & **Lowe R***. (2013). Climate and non-climate drivers of dengue epidemics in southern coastal Ecuador. *American Journal of Hygiene and Tropical Medicine*, 88(5): 971-981 (doi:10.4269/ajtmh.12-0478).
- **Lowe R**, Bailey TC, Stephenson DB, Jupp TE, Graham RJ, Barcellos C, Sá Carvalho M. (2013). The development of an early warning system for climate-sensitive disease risk with a focus on dengue epidemics in Southeast Brazil. *Statistics in Medicine*, 32(5): 864-883 (doi: 10.1002/sim.5549).
- Jupp TE, **Lowe R**, Coelho CAS, Stephenson DB. (2012). On the visualization, verification and recalibration of ternary probabilistic forecasts. *Philosophical Transactions of the Royal Society A*, 370(1962): 1100-1120 (doi:10.1098/rsta.2011.0350).
- **Lowe R**, Bailey TC, Stephenson DB, Graham RJ, Coelho CAS, Sá Carvalho M, Barcellos C. (2011). Spatio-temporal modelling of climate-sensitive disease risk: Towards an early warning system for dengue in Brazil. *Computers & Geosciences*, 37(3): 371-381 (doi:10.1016/j.cageo.2010.01.008).

*equal contribution

Publications – Peer reviewed book chapters

- Tompkins AM, **Lowe R**, Nissan H, Nadege M, Roucou P, Thomson MC, Nakazawa T. (2018) Predicting climate impacts on health at sub-seasonal to seasonal timescales. *In: Robertson AW and Vitart F (eds). The Gap Between Weather and Climate Forecasting: Sub-seasonal to seasonal prediction.* Elsevier, Boston.
- **Lowe R** and Rodó X. (2016). Modelling climate-sensitive disease risk: A decision support tool for public health services. *In: Communicating Climate Change and Natural Hazard Risk and Cultivating Resilience:*

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Publications – Peer reviewed book chapters

Case Studies for a Multi-Disciplinary Approach. *Springer International Publishing*, pp. 115–130 (doi:10.1007/978-3-319-20161-0_8).

- Davis M, **Lowe R**, Steffen S, Doblas-Reyes F, Rodó X. (2016). Barriers to using climate information: Challenges in communicating probabilistic forecasts to decision makers. *In: Communicating Climate Change and Natural Hazard Risk and Cultivating Resilience: Case Studies for a Multi-Disciplinary Approach. Springer International Publishing*, pp. 95–113 (doi:10.1007/978-3-319-20161-0_7).

Publications – Policy reports

- Trotman A, Mahon R, Shumake-Guillemot J, **Lowe R**, Stewart-Ibarra AM. (2018). Strengthening Climate Services for the Health Sector in the Caribbean. *World Meteorological Organization Bulletin* 67(2): 14-19 (https://library.wmo.int/doc_num.php?explnum_id=5439).
- Muñoz AG, **Lowe R**, Stewart-Ibarra AM, Shumake-Guillemot J, Thomson M. (2018). Vector-borne diseases: Zika in the Americas. *In: WMO Statement on the State of the Global Climate in 2017. World Meteorological Organization*, Geneva (https://library.wmo.int/doc_num.php?explnum_id=4453).
- **Lowe R**, Barcellos C, Coelho CAS, Bailey TC, Coelho GE, Graham R, Jupp TE, Massa Ramalho W, Sá Carvalho M, Stephenson DB, Rodó X. (2016). Using climate knowledge to guide dengue prevention and risk communication ahead of Brazil's 2014 Football World Cup. *In: Climate Services for Health: Improving public health decision-making in a new climate. Eds. J.Shumake-Guillemot and L.Fernandez-Montoya. World Health Organization / World Meteorological Organization*, Geneva (<https://public.wmo.int/en/resources/library/climate-services-health-case-studies>).
- **Lowe R**, Mantilla G, Ceccato P, Sá Carvalho M, Barcellos C, Tompkins AM. (2016). Training a new generation of professionals to use climate information in public health decision making. *In: Climate Services for Health: Improving public health decision-making in a new climate. Eds. J.Shumake-Guillemot and L.Fernandez-Montoya. World Health Organization / World Meteorological Organization*, Geneva (<https://public.wmo.int/en/resources/library/climate-services-health-case-studies>).

Publications – Technical reports

- **Lowe R**, Barcellos C, Coelho CAS, Bailey TC, Coelho GE, Graham R, Jupp TE, Massa Ramalho W, Sá Carvalho M, Stephenson DB, Rodó X. (2015). Dengue epidemic early warning system for Brazil. *In: United Nations International Strategy for Disaster Reduction (UNISDR) Science and Technical Advisory Group Case Studies - 2015* (http://www.preventionweb.net/files/workspace/7935_loweetaldengueews.pdf).
- **Lowe R**, Mantilla G, Ceccato P, Sá Carvalho M, Barcellos C, Tompkins AM. (2015). Modelling tools and capacity building in climate and public health. *In: United Nations International Strategy for Disaster Reduction (UNISDR) Science and Technical Advisory Group Case Studies - 2015* (http://www.preventionweb.net/files/workspace/7935_loweetalpublichealth.pdf).
- **Lowe R**, Mantilla G, Mendiola L. (2011). Final Report: Summer Institute on Climate Information for Public Health, International Research Institute for Climate and Society Technical Report (http://iri.columbia.edu/docs/publications/SI2011Report_web.pdf).

Publications – conference contributions (selected)

- **Lowe R**. (2019). Early warning systems for climate-sensitive diseases, *In: Resúmenes de ponencias de la IX Jornada de Enfermedades Emergentes, Revista Enfermedades Emergentes*, 18(2): 65-88.
- Fletcher IK, Stewart-Ibarra AM, Silva M, Beltran-Ayala E, Ordoñez T, Adrian J. Jones K, **Lowe R** (2019). Environmental change and malaria risk in El Oro Province, Ecuador. *In: International Journal of Infectious Diseases*, 79:28-29 (doi:10.1016/j.ijid.2018.11.084).
- **Lowe R**. (2018). Modeling the impact of environmental change on infectious diseases. *In: International Journal of Infectious Diseases* 73: 60-61 (doi:10.1016/j.ijid.2018.04.3562).
- **Lowe R**. (2018). The impact of global environmental change on vector-borne disease risk: a modelling study. *In: Booklet of Best Abstracts in Planetary Health. The Lancet Planetary Health* (doi:10.1016/S2542-5196(18)30086-X).

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Publications – conference abstracts (selected)

- Rees E, Lau C, Togami E, Edmunds WJ, **Lowe R**, Kucharski A (2019). Using cross-sectional serology to infer leptospirosis transmission dynamics in Fiji. EPIDEMICS⁷, 3 – 6 Dec 2019, Charleston, SC, USA (oral presentation).
- Quandelacy TM, **Lowe R**, Stewart-Ibarra AM, Vincenti M, Ortiz Prado E, Munayco C, Borbor-Cordova M, Rollock L, Figueroa L, Masis R, Rodriguez DM, Grillet ME, Paz-Bailey G, Waterman S, Rodriguez I, Cummings D, Johansson MA. (2019). Dengue epidemic synchrony across the Americas. American Society of Tropical Medicine and Hygiene, ASTMH 68th Annual Meeting, 20 – 24 Nov 2019, Maryland, USA (poster presentation).
- **Lowe R**. (2019). A coupled model framework to detect nonlinear and delayed impacts of climate on dengue risk. GEOMED 2019, 27 – 29 Aug 2019, Glasgow, UK (oral presentation).
- Lee S, Economou T, Barcellos C, Catão R, Cruz OG, Codeço C, Edmunds WJ, Carvalho MS, **Lowe R**. (2019). The role of climate, cities and connectivity in the spread of mosquito-borne diseases in Brazil. GEOMED 2019, 27 – 29 Aug 2019, Glasgow, UK (poster presentation).
- Jarvis CI, Fletcher I, Hernandez JV, Carrasco-Escobar G, Edmunds WJ, Moreno JE, Grillet ME, **Lowe R**. (2019). Malaria upsurge and illegal gold mining activities in southern Venezuela. GEOMED 2019, 27 – 29 Aug 2019, Glasgow, UK (poster presentation).
- **Lowe R**. (2019). Probabilistic forecasts of climate-sensitive disease risk. ENTO 19: Vectors of diseases, LSHTM, 20 – 22 Aug 2019, London, UK (invited oral presentation).
- **Lowe R**. (2018). Emerging infectious diseases in a new climate. International Meeting on Emerging Diseases and Surveillance (IMED), 9 – 12 Nov 2018, Vienna, Austria (invited oral presentation).
- Fletcher I, Stewart-Ibarra AM, Silva M, Beltran-Ayala E, Ordonez T, Adrian J, Jones K, **Lowe R**. (2018). Exploring the role of environmental and socio-political drivers of malaria incidence in El Oro province, Ecuador. American Society of Tropical Medicine and Hygiene, ASTMH 67th Annual Meeting, 28 Oct – 1 Nov 2018, New Orleans, USA.
- **Lowe R**. (2018). Modelling the impact of environmental change on infectious diseases, 18th International Congress on Infectious Diseases, 1 – 4 March 2018, Buenos Aires, Argentina (invited oral presentation).
- **Lowe R**, Stewart-Ibarra AM, Petrova D, García-Díez M, Borbor-Cordova MJ, Mejía R, Regato M, Rodó X. (2017). El Niño and dengue epidemic prediction in Ecuador. Sixth International Conference on Infectious Disease Dynamics EPIDEMICS⁶, 29 Nov – 1 Dec 2017, Sitges, Spain (poster presentation).
- **Lowe R**. (2017). Probabilistic dengue predictions based on ensemble seasonal climate forecasts. GEOMED 2017: International Conference on Spatial Statistics, Spatial Epidemiology and Geographical Aspects of Public Health, 7 – 9 Sep 2017, Porto, Portugal (invited oral presentation).
- **Lowe R**, Stewart-Ibarra AM, Petrova D, García-Díez M, Borbor-Cordova MJ, Mejía R, Regato M, Rodó X. (2017). Using climate forecasts to predict the 2016 dengue season in Machala, Ecuador. Impact of Environmental Changes on Infectious Diseases, 17 – 19 May 2017, Trieste, Italy (oral presentation).
- Chirombo J, **Lowe R**, Terlouw DJ, Read JM, Ceccato P, Thomson MC Diggle PJ. (2016). Mapping Climatic and Non-Climatic Determinants of Malaria in Malawi for Designing Transmission Reduction Tools. Health and Climate Colloquium 2016, International Research Institute for Climate and Society (IRI), 8 – 10 Jun 2016, Palisades, USA (poster presentation).
- **Lowe R**, Rodó X. (2015). Integrating climate information into decision support tools for public health. Our Common Future Under Climate Change, UNESCO, 7 – 10 Jul 2015, Paris, France (poster presentation).
- **Lowe R**, Barcellos C, Coelho CAS, Bailey TC, Coelho GE, Graham R, Jupp TE, Massa Ramalho W, Sá Carvalho M, Stephenson DB, Rodó X. (2015). Hot topic talk: Evaluation of a climate-driven dengue early warning system. Human Health in the Face of Climate Change: Science, Medicine, and Adaptation, New York Academy of Sciences, May 14 – 15, 2015, CosmoCaixa, Barcelona, Spain (oral presentation).
- **Lowe R**, Barcellos C, Coelho CAS, Bailey TC, Coelho GE, Graham R, Jupp TE, Massa Ramalho W, Sá Carvalho M, Stephenson DB, Rodó X. (2014). A real-time dengue early warning driven by seasonal climate forecasts. 14th European Meteorological Society Annual Meeting 2014. 08 Oct 2014, Prague, Czech Republic (oral presentation).

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Publications – conference abstracts (selected)

- **Lowe R**, Cazelles B, Paul R, Rodó X. (2014). Towards a climate-driven dengue decision support system for Thailand. European Geosciences Union General Assembly, 30 Apr 2014, Vienna, Austria (oral presentation).
- **Lowe R**, Ballester J, Robine JM, Herrmann FR, Jupp TE, Stephenson DB, Rodó X. (2013). A novel visualisation tool for climate services: a case study of temperature extremes and human mortality in Europe. American Geophysical Union Fall Meeting, 9 Dec 2013, San Francisco, USA.
- **Lowe R**, Chirombo J, Tompkins AM, Rodó X. (2012). A combined statistical-dynamical approach to modelling spatio-temporal variations of malaria risk, 4th AMMA International Conference, 6 Jun 2012, Toulouse, France (oral presentation).
- **Lowe R**, Chirombo J, Tompkins AM. (2012). Challenges for modelling spatio-temporal variations of malaria risk in Malawi. European Geosciences Union General Assembly, 24 Apr 2012, Vienna, Austria (oral presentation).
- **Lowe R**, Stephenson DB, Bailey TC, Jupp TE, Graham R, Tompkins AM. (2011). Communicating probabilistic climate-sensitive disease risk forecasts, European Geosciences Union General Assembly 2011, 7 Apr 2011, Vienna, Austria.
- **Lowe R**, Bailey TC, Stephenson DB. (2010). Spatio-temporal modelling of dengue risk sensitivity to climate variability in Brazil, XXVth International Biometric Conference, 5 – 10 Dec 2010, Floripa, Brazil (oral presentation).

Invited talks, lectures & working groups

- Assessing Global Catastrophic Risk Potential of Communicable Chronic Diseases Workshop. 28 Jan 2020, Centre for the Study of Existential Risk. University of Cambridge, Cambridge, UK.
- Meeting on Vector Borne Disease Studies of the Pilot Program for Climate Resilience (PPCR). 22 – 23 Jan 2020, Caribbean Public Health Agency, Trinidad & Tobago. Presentation: Nonlinear and delayed impacts of rainfall extremes on dengue risk in the Caribbean: a modelling study for Barbados.
- Epidemic Forecasting Reporting Guidelines (EPIFORGE) Initiative. Delphi Panel Face to Face Meeting, 7 Jan 2020. Johns Hopkins Center for Health Security, Baltimore, USA.
- Malaria No More expert presentation: Climate changes health: the impact of climate, land-use and control activities on malaria risk. 18 Dec 2019, Malaria No More, London, UK.
- Barcelona Institute for Global Health Scientific Retreat, 30 Oct 2019, CosmoCaixa, Barcelona, Spain. Presentation: Early-warning systems for climate sensitive diseases.
- Oxford-Berlin-LSHTM Dialogue: Healthy Planet – Healthy People, 24 Oct 2019, Museum für Naturkunde, Berlin, Germany. Presentation: Earth observations and forecasts to predict emerging infectious diseases.
- Impact of Climate Seasonality on Arbovirus Workshop. 23 – 25 Sep 2019. Imperial College London, London, UK. Presentation: Climate-informed dengue early warning systems.
- PAHO/WHO and CDC Meeting on Surveillance of Arbovirus Diseases, 31 Jul – 2 Aug 2019, Washington DC, USA. Presentation: Climate services for arboviral diseases in the Americas. Funded by: PAHO.
- World Health Organization (WHO) Meeting on using climate and weather information for predicting and preparing for cholera and vector-borne diseases, 25 – 26 Jun 2019, Geneva, Switzerland. Presentation: Modelling tools and capacity building in climate and public health. Funded by: WHO.
- IX Jornada de Enfermedades Emergentes, 29 May 2019, Barcelona Spain. Invited presentation: Early warning systems for climate-sensitive diseases.
- Dengue side event, 72nd World Health Assembly, 24 May 2019, Geneva, Switzerland. Invited presentation: Climate-driven early warning systems for dengue epidemics. Funded by: ISNTD.
- International Society for Neglected Tropical Diseases (ISNTD) Water 2018, Natural History Museum, London, UK. Invited panellist: Water management, vector-borne diseases & climate change. Presentation: Extreme hydrometeorological events and early warning systems for vector-borne diseases. Funded by: ISNTD.

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Invited talks, lectures & working groups

- International Meeting on Emerging Diseases and Surveillance (IMED), 9 – 12 Nov 2018, Vienna, Austria. Invited speaker: Emerging infectious diseases in a new climate. Funded by: International Society for Infectious Diseases.
- American Society of Tropical Medicine and Hygiene, ASTMH 67th Annual Meeting, 30 Oct 2018, New Orleans, USA. Invited speaker: Towards an early warning system for arboviral disease risk in Latin America and the Caribbean.
- Climactivo: III International Climate Change Forum, 1 – 2 Oct 2018, Tucuman, Argentina. Invited speaker: Climate-driven early warning systems for dengue in Latin America and the Caribbean. Funded by: Argentinian Ministry of Health, Tucuman Government.
- Synergistic interactions of environmental degradation, socio-economic development and infectious disease dynamics in the Amazon region working group, 2018 – 2020, PI: A Baeza & M Pascual. Funded by: Socio-Environmental Synthesis Center (SESYNC).
- A Planetary Health Approach to Emerging Infectious Diseases Symposium, 18th International Congress on Infectious Diseases, 3 March 2018, Buenos Aires, Argentina. Invited speaker: Modelling the impact of environmental change on infectious diseases. Funded by: International Society for Infectious Diseases / Lancet.
- THET Annual Conference 'From National to Universal: The UK Contribution to Global Health', 23 – 25 Oct 2017, Resource for London, UK. Invited panellist: round table session on health and climate change. Presentation: Climate services and early warning systems for infectious disease outbreaks.
- GEOMED 2017: International Conference on Spatial Statistics, Spatial Epidemiology and Geographical Aspects of Public Health, 7 – 9 Sep 2017, Porto, Portugal. Modelling climate-sensitive diseases part II session. Invited speaker: Probabilistic dengue predictions based on ensemble seasonal climate forecasts.
- CDC/NIH Climate Sensitive Diseases and National Security: State of the Science. Web Conference. 10 Aug 2017. Invited panellist.
- Fourth meeting of the working group on health in climate change (HIC): strengthening risk communication on health and climate, World Health Organisation (WHO), 1 – 2 June 2015, Bonn, Germany. Temporary Advisor. Presentation: Examples of current applications of climate services for the health sector. Funded by: WHO.
- Centre for Demographic Studies (CED), Universitat Autònoma de Barcelona, 9 Apr 2015, Barcelona, Spain. Invited seminar: Integrating climatic and demographic information into health impact models. Funded by: CED.
- Climate Services side-event at the International Symposium CLIMATE-ES 2015: Progress on climate change detection and projections over Spain since the findings of the IPCC AR5 Report, 11-13 Mar 2015, Tortosa, Spain. Invited panellist/speaker: Climate services for health. Funded by: Universitat Rovira I Virgili.
- White House Office of Science and Technology Policy (OSTP) workshop: Integrating Prediction and Forecasting Models for Decision-making: Dengue Epidemic Prediction, 15 Sep 2014, White House Conference Center, Washington DC, USA.
- World Meteorological Organization (WMO) expert meeting: Roadmap for Climate Services and Health, 30 Aug 2014, WMO Headquarters Geneva, Switzerland.
- World Health Organization (WHO) Conference on Health and Climate, 27-29 Aug 2014, WHO Headquarters Geneva, Switzerland. Invited attendee.
- European Climate Service Partnership kick-off meeting, 07 May 2014, Climate Service Center (CSC), Hamburg, Germany. Funded by: CSC.
- The role of climate in disease decision support systems, International Conference Climate Services 3, 4–6 Dec 2013, Montego Bay, Jamaica. Invited speaker: Quantifying spatio-temporal risk factors of dengue. Funded by: Climate Services Partnership.
- II Conference on Emerging Diseases: viral diseases transmitted by mosquitoes, 23-24 May 2013, Barcelona, Spain. Lecture: Impact of climate variability and change on mosquito-borne arboviruses (in Spanish). Funded by: Research Centre for Animal Health (CreSA).

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Invited talks, lectures & working groups

- Brazilian Climate and Health Observatory 5th Workshop: Malaria epidemiology and climatic change in the different biomes of Brazil, 20 – 21 Sep 2012, Rio de Janeiro, Brazil. Lecture: Challenges for modelling climate-sensitive diseases. Funded by Brazilian Climate and Health Observatory.

Meetings and networking

- One Planet, One Health, One Future, 25 Oct 2019, German Federal Foreign Office, Berlin, Germany.
- Inter-Sectoral Impact Model Intercomparison (ISIMIP) Health Workshop, 28-29 Nov 2018, Barcelona, Spain.
- Our Planet our Health scoping workshop, 10-11 May 2018, Wellcome Trust, London, UK.
- International Webinar of Experts on Climate Change and Health System Resiliency. WHO / Health Canada. 29 Mar 2018.
- Safe and efficient implementation of Dengvaxia – tackling remaining challenges, 6 Jun 2017, Wellcome Trust, London, UK.
- GFCS User Conference: A Dialogue for Climate Services Users and Providers: Towards Implementation of the Global Framework for Climate Services (GFCS) 26 – 27 Oct 2012, Centre International de Conférences Genève, Geneva, Switzerland.

Public engagement & outreach

- Interview 'Latin America battles dengue fever'. CGTN America, Feb 2020.
- Expert comment in 'Climate Change and Political Chaos: A Deadly Mix in Honduras Dengue Epidemic'. New York Times, Dec 2019.
- Expert commentary in featured Q&A: Why Are Cases of Dengue Soaring in Honduras? Latin American Advisor, Inter-American Dialogue, Dec 2019.
- Expert comment in 'Global heating driving spread of mosquito-borne dengue fever', The Guardian, Dec 2019.
- LSHTM Expert Opinion by Yang Liu and Rachel Lowe: The dengue forecasting challenge: a step closer to better disease outbreak control and prevention? Nov 2019.
- Royal Society Inside Science Blog: Public engagement in a new climate – let's dance. Nov 2019.
- LSHTM Centre on Climate Change & Planetary Health Blog: A Triple Epidemic in Rio de Janeiro: Pinpointing resources for management. Oct 2019.
- Guardian Letters. Protecting the planet for future generations. Dobson et al. Oct 2019.
- Expert comment in 'Dengue cases are surging around the world. Some blame a changing climate.' Washington Post. Oct 2019.
- Expert comment in 'How climate crisis is accelerating the global spread of deadly dengue fever', CNN Health, Sep 2019.
- Expert comment in 'Dengue fever is ravaging South East Asia because the 'extremely warm temperatures' this year provide the 'ideal breeding grounds for mosquitoes', expert says'. Sep 2019.
- Expert comment in 'As the climate shifts, Central America confronts a deadly dengue outbreak', Reuters, Aug 2019.
- Expert comment in 'A 'perfect storm': the steady rise of dengue fever worldwide'. The Telegraph, Aug 2019.
- Interview 'World in Progress: Climate change to help spread mosquito-borne viruses'. Deutsche Welle, May 2019.
- Expert comment in 'Living with the consequences of Zika', Fraser & Alves, The Lancet Child & Adolescent Health, Apr 2019.
- UK Space Agency project highlighted in 'British-funded dengue forecasting system in Vietnam aims to curb mosquito-borne virus'. The Telegraph, Mar 2019.

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Public engagement & outreach

- UK Space Agency project highlighted in 'New innovative tools to advance the dengue early warning system in Viet Nam'. UNDP press release, Mar 2019.
- British Council Blog: How Erasmus+ helped to kick-start my career. Feb 2019.
- LSHTM Expert Opinion Blog / External newsletter: Could more frequent droughts in the Caribbean lead to a greater risk of dengue and Zika outbreaks? Jan 2019.
- Expert comment in 'Air pollution, obesity and vaccine hesitancy climb WHO list of global health threats', The Telegraph, Jan 2019.
- Expert comment in 'West Nile virus spreads in Europe', The Lancet Infectious Diseases, Nov 2018.
- Expert comment in 'Urban sprawl behind growth in dengue fever', The Telegraph, Nov 2018.
- ISNTD Infectious Thoughts Interview on global environmental change and dengue, Nov 2018.
- 'A day in the life of a climate and health scientist', Semana de la Ciencia, Centre d'Estudis Dolmen, Spain. Women in Science cycle, Barcelona Science Week. Nov 2018.
- Expert comment in 'Heavy rainfall and soaring temperatures behind spike in mosquito-borne fever in southern Europe', The Telegraph, Sep 2018.
- TRT Roundtable guest 'Tropical Diseases: A growing threat caused by climate change?' Sep 2018.
- Horizon lecture, King's College Taunton, UK. Delivered lecture on 'Climate change, planetary health and infectious diseases' to Mathematics, Science and Geography GCSE and A level students. Sep 2018.
- Expert comment in 'Tropical disease outbreaks are growing threat in Europe as temperatures rise', The Guardian, Aug 2019.
- Research (Lowe et al., *PLOS Med* 2018) featured in 'Scientists develop early warning system to predict dengue outbreak', The Telegraph, Jul 2018.
- Research (Lowe et al., *PLOS Med* 2018) reported in 'The crystal ball: predicting the next outbreak', BMC Bug Bitten Blog, Jul 2018.
- Health Is Global Blog: Science Moves – the Importance of International Mobility for Research.
- Parliament event on the importance of international mobility, Houses of Parliament 5 Jun, London, UK.
- Presenter at Royal Society 'The Next Big Things' platform, Hay Festival, 24 May 2018, Hay-on-Wye, UK.
- Public engagement activity, London School of Hygiene & Tropical Medicine stand, New Scientist Live 2017, 28 Sep – 1 Oct, ExCel London, UK.
- LSHTM Expert Opinion Blog: Can climate forecasts also predict disease outbreaks? May 2017.
- TV interviews for RTVE weather and health report, Sep 2015 & NTN24 News, Latin America, Jun 2014.
- SBS radio interview (in Spanish) about climate change and health in Australia, Apr 2015.
- Participation in the White House 'Predict the Next Pandemic Initiative' reported in EFE Verde, Oct 2014.
- Predicting dengue fever in Brazil: an interview with Dr. Rachel Lowe, Thought Leaders Series, Jun 2014.
- Radio interviews for BBC World Service Health Check, BBC Radio Five Live, The Naked Scientists (University of Cambridge) and CBS Radio News, San Francisco (regarding dengue early warning system for Brazil), May 2014.
- Research (Lowe et al. *Lancet Infect. Dis.* 2014) reported by BBC news, BBC World Service, New York Times, New Scientist, El Mundo, Es Materia, SciDevNet, Brazilian Ministry of Health Blog, May 2014.
- Panellist in European Geosciences Union press conference: Geosciences and Health, 24 Apr 2012, Vienna, Austria.

Professional activities & external visibility

- Member of WHO AI for Health outbreak detection focus group, 2020 – present.
- World Meteorological Community Expert, 2020 – present.
- Member of Models of Infectious Disease Agent Study (MIDAS) Network, 2019 – present.

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Professional activities & external visibility

- Member of Dengue Advisory Group, International Society for Neglected Tropical Diseases, 2019 - present.
- Symposium organiser: Climate services for health: improving public health decision-making in a new climate. ASTMH 67th Annual Meeting, 30 Oct 2018, New Orleans, USA.
- Evaluator for postdoctoral program at the University of Costa Rica, Aug 2018.
- Grant proposal reviewer for Wellcome Trust, Aug 2018.
- Grant proposal reviewer for Newton UNESCO Prize, Jul 2018.
- Member of the Royal Society Rosalind Franklin Award Committee (Jan 2018 – Dec 2020).
- Technical Advisor: 2017 Lancet Countdown on health and climate change.
- External Assessor: PhD in dynamic modelling of zoonotic disease for environmental change. Imperial College London (Nov 2017 – Nov 2020).
- Scientific Advisor: Caribbean Institute for Meteorology and Hydrology Consultancy for the development of a health-climate spatio-temporal modelling framework for the Caribbean (Feb – Jul 2017).
- Associate Editor: Reports in Public Health (Cadernos de Saúde Pública), published by Oswaldo Cruz Foundation, 2017 – 2019.
- Organiser: Modelling climate sensitive disease risk part I, GEOMED, 7 – 9 Sep 2017, Porto, Portugal.
- Chair of session: Entomology and environmental drivers of arboviral infections. BDEBATE Zika virus and other mosquito-borne viruses. Science for preparedness and response in the Mediterranean region. 23 – 24 May 2017, CosmoCaixa Museum, Barcelona, Spain.
- Visiting Scholar Barcelona Institute for Global Health (ISGlobal), 2017 – present.
- Member of the European Science Foundation College of Expert Reviewers, 2016 – 2019.
- Grant proposal reviewer for Medical Research Council (MRC), UK, Sep 2015.
- Temporary advisor to the World Health Organisation Regional Office for Europe, Jun 2015.
- Associate Editor of the African Review of Physics, 2014 – 2016.
- External Organiser for International Centre for Theoretical Physics training activities: Modelling tools and capacity building in climate and public health. Apr 2013, Trieste, Italy; Jun 2015, Petropolis, Brazil.
- Convener of session: Translating Science into Action: Innovative Services for the Geo- and Environmental- Sciences in the Era of Big Data. American Geophysical Union Fall Meeting, 9–13 Dec 2013, San Francisco, USA.
- Organiser of session: Disease decision support systems, International Conference Climate Services 3, 4–6 Dec 2013, Montego Bay, Jamaica. Funded by: Climate Service Partnership.
- Panellist at Arboviruses and Climate Change session, CosmoCaixa, 24 May 2013, Barcelona, Spain (in Spanish).
- Coordinating group of the Climate Services Partnership, 2012 – 2015.
- Member of review panel and advisor for Inter-American Institute for Global Change Research (IAI) Training Institute Seed Grant (TISG) Program 2011-2012.
- Lead convener: Climate and infectious disease interactions. European Geosciences Union General Assembly, 24 Apr 2012, Vienna, Austria.
- Reviewer for Lancet Infectious Diseases, Lancet Global Health, PNAS, Nature Climate Change, Nature Communications, Nature Scientific Reports, Eurosurveillance, Environmental Health Perspectives, Emerging Infectious Diseases, Journal of the Royal Society Interface, PLOS Medicine, PLOS Neglected Tropical Diseases, and many other leading journals.

Languages: English (native), Spanish (advanced), Portuguese (intermediate), Italian (beginner), Catalan (beginner).