Name: Myles Robert Allen
Current position: Professor of Geosystem Science in the Environmental Change Institute, School of Geography and the Environment and Department of Physics, University of Oxford, Leader of the ECI Global Climate Research programme & Director of the Oxford Net Zero Initiative
Summary of research interests: Understanding how human and natural influences on climate contribute to observed climate change and extreme weather risk and using observed changes to constrain climate forecasts and their implications for adaptation and mitigation policy.
Address: Environmental Change Institute, OUCE, South Parks Road, Oxford OX1 3QY, UK
Email: myles.allen@ouce.ox.ac.uk
Nationality: British
Date of birth: 11 August 1965
Marital status: Married to Professor Irene M C Tracey, 3 children
Education:
D.Phil. in Atmospheric, Oceanic and Planetary Physics, University of Oxford, 1992
BA in Physics and Philosophy (1st Class), University of Oxford, 1987
Awards and Measures of Esteem:
2010 Appleton Medal and Prize from the Institute of Physics "*For his important contributions to the detection and attribution of human influence on climate and quantifying uncertainty in climate predictions.*"
Science Watch Highly Cited Authors in Climate Change Research, 1999-2009, Reuters Hot List 2021 (78), Fellow of the Institute of Physics
Employment:

2011 onwards	Professor of Geosystem Science, Environmental Change Institute, School of Geography and the Environment, University of Oxford, and Department of Physics, University of Oxford
2003–2011:	University Lecturer, Atmospheric, Oceanic and Planetary Physics, Department of Physics, University of Oxford, (appointed 2000; on parental leave 2006–2007)
1997–2003:	NERC Advanced Research Fellow & Head, Climate Dynamics Group, Space Science and Technology Department, Rutherford Appleton Laboratory, & Atmospheric, Oceanic and Planetary Physics, University of Oxford
1994–1995:	NOAA Global Change Fellow, Massachusetts Institute of Technology (Host: Richard S Lindzen)
1993–1997:	Atlas Research Fellow, Rutherford Appleton Laboratory & Dept of Physics, University of Oxford
1989–1992:	Doctoral student, Dept of Physics, University of Oxford (Supervisors: Dr D.L. T Anderson, Dr M K Davey & Dr L A Smith)
1989:	Consultant, Energy Unit, United Nations Environment Programme, Kenya
1987–1989:	Technical Manager, Bellerive Foundation, Nairobi, Kenya

Current management responsibilities:
- Director, Oxford Net Zero, a 4-year interdisciplinary research initiative to inform effective and ambitious climate action among those setting net zero targets in institutions and governments across the globe, comprising 5.5 research and 3.5 policy engagement and administrative positions
- Leader, ECI Climate Research programme: School of Geography and the Environment & Department of Physics, University of Oxford. Leading a research group on climate modelling and attribution, currently comprising 2 PDRAs, 2 PGRAs and 2 doctoral students.

Membership of national and international panels:
- Member of the Climate and Energy Advisory Council, World Business Council for Sustainable Development, 2021-
- Member of the Expert Advisory Group, Task Force for Scaling Voluntary Carbon Markets, 2021-
- Member of the Scientific Advisory Board, Science-based Targets Initiative, 2020-
- Coordinating Lead Author, Chapter 1, "Framing and Context", and member of Summary for Policymakers core writing team, IPCC Special Report on Global Warming of 1.5°C, 2016-2018
- Lead Author, Chapter 10, "Detection and Attribution of Climate Change: from Global to Regional", IPCC WG1 Fifth Assessment and Synthesis Report Core Writing Team, 2012-2014
- Member of the US National Academies Panel on Assessing Approaches to Updating the Social Cost

of Carbon, 2015-2017.
- Member of the Scientific Advisory Group to the UK National Flood Resilience Review, 2016
- Member of the US NOAA/Dept of Energy International Advisory Group on the Detection and Attribution of Anthropogenic Climate Change, 2001-present.
- Member of the Editorial Board, *Environmental Research Letters*, 2016-2019
- Review Editor, Chapter 10, "Global Climate Projections", IPCC Working Group 1 Fourth Assessment Report, 2007
- Lead Author and member of Summary for Policymakers core writing team, Chapter 10, "Detection of climate change and attribution of causes", IPCC Working Group 1 Third Assessment Report, 2001

Research Funding:

University of Oxford Strategic Research Fund:

2021-2025   The Oxford Net Zero initiative £2.3M

UK Natural Environmental Research Council (RC Oxford contribution shown, Oxford PI unless indicated):

2016-2019   Drivers Of Change In mid-Latitude weather Events (DOCILE) £572,000

2012-2017 Co-I Mgt Risks, Impacts and Uncertainties of droughts and water Scarcity (MaRIUS), £1,056,000

2012-2016   Attribution of Climate-related Events in Africa (ACE-Africa), £640,000

2009-2014   Risk Analysis of Rapid Climate Change (RAPID-RAPIT), £184,000

2009-2013   End-to-End Quantification of Uncertainties in Impact Projections, £205,000

2009-2012   Change in the Atlantic Atmosphere Ocean System, £490,000

2008-2012   The Role of the oceans in Coupled, Non-Flux-Adjusted Ensembles, £395,000

2003-2010   Climate*prediction*.net, £895,000 (multiple funding lines)

European Commission (Oxford partner resources shown):

2020-2023   NEGEM Horizon 2020 project 869192, £400,000

2019-2023   4C-Climate Horizon 2020 project 821003, £250,000

2019-2023   FORCeS Horizon 2020 project 821003, £200,000

2014-2016   EUCLEIA (European Climate-related Events, Interpretation and Attribution), £290,000

2007-2011   WATCH (Water and Global Change), £390,000

2007-2010   MILLENNIUM (Modelling drivers of climate change over the past millennium), £460,000.

Microsoft Research:

2007-2010   Distributed computing for research climate modelling: weather@home project, £960,000

The Nature Conservancy:

2016-2019 Co-I TNC-Oxford extreme weather, the biosphere and land-use in South America, £860,000

The Oxford Martin School:

2012-2016   The Oxford Martin Programme on Resource Stewardship, £1,450,000

2015-2016   The Oxford Martin Net Zero Carbon Investment Initiative, £105,000

Recent and current teaching:

Physics Undergraduate Final Honours School: Lecturing and Examining: Chaos and Stochastic Processes (Short Option, 2001-2008 & 2019-present); Climate Physics (FHS 3rd year, 2007-9); Physics of Climate Change (Short Option, 2010-present). Examining only: Symmetry and Relativity (FHS 3rd year, 2011); Flows, fluctuations and complexity (FHS 3rd year, 2012, 2013 & 2018). Environmental Change and Management MSc., Lecturing and Examining: Earth System Dynamics (Course leader)

Public & policy engagement and outreach:

Climate*prediction*.net has recruited over 400,000 volunteers to participate in climate modelling research since its inception in 2003. It was awarded the Prix Europa Exploration Award for Internet Project of the Year 2007, and was the subject of two BBC documentaries. Under the World Weather Attribution project, it contributes to the early development of near-real-time weather event attribution services. Examples of outreach activities include two Royal Society Summer Exhibition stands, numerous COP side-events, responding to media and providing a tutorial to a California District Court on the science of climate change.

Myles R. Allen, 20 key publications, 1999-2021

Scopus metrics in September 2021: *h*-index 66; 244 cited documents; 21566 citations

1. R. F. Stuart-Smith, G. H. Roe, S. Li, and M. R. Allen. Increased outburst flood hazard from Lake Palcacocha due to human-induced glacier retreat. *Nature Geoscience*, vol. 14, pp. 85–90, 2021. https://doi.org/10.1038/s41561-021-00686-4 (*First quantification of the contribution of past greenhouse gas emissions on increased outburst flood hazard from a lake that is the subject of ongoing litigation on potential fossil fuel producer liability: BA project supervisor and initiator of collaboration.*)

2. N. J. Leach, R. J. Millar, K. Haustein, S. Jenkins, E. Graham, and M. R. Allen, "Current level and rate of warming determine emissions budgets under ambitious mitigation," *Nature Geoscience*, vol. 11, no. 8, pp. 574–579, 2018. (*First demonstration of the critical importance of quantifying the current rate, in addition to the level, of human-induced warming in stocktakes of progress to an ambitious mitigation goal, and a key input to the 2018 IPCC Special Report on 1.5°C: MPhys project supervisor*)

3. R. J. Millar, J. S. Fuglestvedt, P. Friedlingstein, J. Rogelj, M. J. Grubb, H. D. Matthews, R. B. Skeie, P. M. Forster, D. J. Frame, and M. R. Allen, "Emission budgets and pathways consistent with limiting warming to 1.5°C," *Nature Geoscience*, vol. 10, no. 10, pp. 741–747, 2017. (*First quantification of the carbon budget for 1.5°C, demonstrating it to be substantially larger than indicated by the IPCC 5th Assessment Report, providing evidence that limiting warming to 1.5°C remains geophysically feasible: Senior author & group leader*)

4. M. R. Allen, J. S. Fuglestvedt, K. P. Shine, A. Reisinger, R. T. Pierrehumbert, and P. M. Forster, "New use of global warming potentials to compare cumulative and short-lived climate pollutants," *Nature Climate Change*, vol. 6, no. 8, pp. 773–776, 2016. (*Introduced a method of combining cumulative and short-lived climate pollutants in emission budgets, demonstrating a long-standing debate over climate metrics could be resolved using parameters already in use in policy*)

5. M. R. Allen, "Drivers of peak warming in a consumption-maximizing world," *Nature Climate Change*, vol. 6, no. 7, pp. 684–686, 2016. (*Demonstrated the critical importance of carbon dioxide removal or some equivalent backstop technology in determining climate outcomes*)

6. N. Schaller, A. L. Kay, R. Lamb, N. R. Massey, G. J. van Oldenborgh, F. E. L. Otto, S. N. Sparrow, R. Vautard, P. Yiou, I. Ashpole, A. Bowery, S. M. Crooks, K. Haustein, C. Huntingford, W. J. Ingram, R. G. Jones, T. Legg, J. Miller, J. Skeggs, D. Wallom, A. Weisheimer, S. Wilson, P. A. Stott & M. R. Allen, "Human influence on climate in the 2014 southern England winter floods and their impacts", *Nature Climate Change* **6**, 627-634, 2016. (*First end-to-end application of probabilistic event attribution, linking weather events to a quantified harm, in this case increased flood exposure: Senior author & group leader*)

7. D. J. Rowlands, D. J. Frame, D. Ackerley, T. Aina, B. B. B. Booth, C. Christensen, M. Collins, N. Faull, C. E. Forest, B. S. Grandey, E. Gryspeerdt, E. J. Highwood, W. J. Ingram, S. Knight, A. Lopez, N. Massey, F. McNamara, N. Meinshausen, C. Piani, S. M. Rosier, B. M. Sanderson, L. A. Smith, D. A. Stone, M. Thurston, K. Yamazaki, Y. Hiro Yamazaki, and M. R. Allen, "Broad range of 2050 warming from an observationally constrained large climate model ensemble," *Nature Geoscience*, vol. 5, no. 4, pp. 256–260, 2012. (*First observationally-constrained fully coupled perturbed-physics ensemble climate forecast: DPhil project supervisor*)

8. F. E. L. Otto, N. Massey, G. J. van Oldenborgh, R. G. Jones, and M. R. Allen, "Reconciling two approaches to attribution of the 2010 Russian heat wave," *Geophys. Res. Lett.*, vol. 39, L04702, 2012. (*First demonstration of the equivalence of the "storyline" and "statistical" approaches to event attribution: Senior author & group leader*)

9. P. Pall, T. Aina, D. A. Stone, P. A. Stott, T. Nozawa, A. G. J. Hilberts, D. Lohmann, and M. R. Allen, "Anthropogenic greenhouse gas contribution to flood risk in England and Wales in autumn 2000," *Nature*, vol. 470, no. 7334, pp. 382–385, 2011. (*First application of probabilistic event attribution using explicit large-ensemble simulation to address changing precipitation risk: DPhil project supervisor*)

10. F. H. Lambert and M. R. Allen, "Are changes in global precipitation constrained by the tropospheric energy budget?" *J. Climate*, vol. 22, no. 3, pp. 499–517, 2009. (*Demonstrated the robustness, and limits, of energetic constraints on precipitation forecasts: DPhil project supervisor*)

11. M. R. Allen, D. J. Frame, C. Huntingford, C. D. Jones, J. A. Lowe, M. Meinshausen, and N. Meinshausen, "Warming caused by cumulative carbon emissions towards the trillionth tonne," *Nature*, vol. 458, no. 7242, pp. 1163–1166, 2009. (*First demonstration of the importance of cumulative carbon emissions in determining CO_2-induced warming, introducing the concept of a carbon budget*)

12. M. Meinshausen, N. Meinshausen, W. Hare, S. C. B. Raper, K. Frieler, R. Knutti, D. J. Frame & M. R. Allen. Greenhouse gas emission targets for limiting global warming to 2°C, *Nature*, vol. 458, no. 7242, pp. 1158-1162, 2009. (*First demonstration of cumulative carbon budgets in multi-gas emission scenarios: Allen suggested study and co-designed research.*)

13. D. A. Stainforth, T. Aina, C. Christensen, M. Collins, N. Faull, D. J. Frame, J. A. Kettleborough, S. Knight, A. Martin, J. M. Murphy, C. Piani, D. Sexton, L. A. Smith, R. A. Spicer, A. J. Thorpe, and M. R. Allen. "Uncertainty in predictions of the climate response to rising levels of greenhouse gases," *Nature*, vol. 433(7024):403-406, 2005. (*First demonstration of the absence of any effective upper bound on equilibrium climate sensitivity in conventional general circulation models: Senior author & group leader*)

14. D. J. Frame, B. B. B. Booth, J. A. Kettleborough, D. A. Stainforth, J. M. Gregory, M. Collins, and M. R. Allen, "Constraining climate forecasts: The role of prior assumptions," *Geophys. Res. Lett.*, vol. 32, no. 9, pp. 1–5, 2005. (*Explained the statistical origins of the subjectivity of the upper bound on equilibrium climate sensitivity, highlighting the need for an alternative to the "stabilisation scenario" as the focus of climate policy: Senior author & group leader*)

15. P. A. Stott, D. A. Stone, and M. R. Allen, "Human contribution to the European heatwave of 2003," *Nature*, vol. 432, no. 7017, pp. 610–614, 2004. (*First demonstration of probabilistic event attribution to an actual harmful weather event: Allen contributed study design based on 2003 Commentary and implemented statistical methods*)

16. M. R. Allen and P. A. Stott, "Estimating signal amplitudes in optimal fingerprinting, part I: Theory," *Climate Dynamics*, vol. 21, no. 5–6, pp. 477–491, 2003. (*Introducing the Total Least Squares approach to climate change detection and attribution*)

17. M. R. Allen and W. J. Ingram, "Constraints on future changes in climate and the hydrologic cycle," *Nature*, vol. 419, no. 6903, pp. 224–232, 2002. (*First demonstration of the role of the tropospheric energy budget in controlling global precipitation, making the link to increasing prevalence of extreme high-rainfall events*)

18. M. R. Allen, P. A. Stott, J. F. B. Mitchell, R. Schnur, T. L. Delworth. "Quantifying the uncertainty in forecasts of anthropogenic climate change," *Nature*, 407(6804):617-620, 2000. (*First climate forecast with an objectively-determined range of uncertainty based on constraining coupled model simulations with climate observations*)

19. S. F. B. Tett, P. A. Stott, M. R. Allen, W. J. Ingram, and J. F. B. Mitchell, "Causes of twentieth-century temperature change near the Earth's surface," *Nature*, vol. 399, no. 6736, pp. 569–572, 1999. (*First global climate change detection and attribution study to quantify relative contributions of anthropogenic and natural factors to warming over different periods in the 20th century: Allen contributed study design and statistical methods*)

20. M. R. Allen and S. F. B. Tett, "Checking for model consistency in optimal fingerprinting," *Climate Dynamics*, vol. 15, no. 6, pp. 419–434, 1999. (*First re-casting of the optimal fingerprinting approach to climate change detection and attribution in terms of optimal estimation, introducing the statistical methods used in Tett et al, 1999*)