Curriculum Vitae

Christopher E. Holloway

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Current Position and Research Interests

Professor in Convection, Dept. of Meteorology, Univ. of Reading, 2023–present

My research interests involve the interaction between small convective-scale processes and larger scales. For instance, I study how the amount of convection and its degree of organization vary with environmental moisture in observations and high-resolution (~4-km grid spacing or smaller) numerical models. I also look at the effects of using parameterized convection versus explicit convection in numerical simulations of organized tropical convection, including phenomena such as tropical cyclones and the Madden-Julian Oscillation. Fundamental to these investigations is the fact that convection does not simply respond to the large-scale flow, but that it also feeds back on this flow in important ways (through diabatic heating, moistening/drying, and momentum fluxes) which are still not adequately understood or simulated in weather and climate models. A large part of the motivation of my research is to help improve the representation of convection in these models. I am also interested in how convective clouds interact with climate change in ways that either amplify or dampen global warming.

Education

Ph.D. Atmospheric & Oceanic Sciences, UCLA, 2008.
Dissertation: Characterizing Vertical Structure in the Tropical Atmosphere: Observations and Theoretical Considerations.
Advisor: J. David Neelin
M.Sc. Atmospheric Sciences, UCLA, 2004.
A.B. Earth & Planetary Sciences (magna cum laude), Harvard, 2001.

Professional Experience

Associate Professor in Convection, Dept. of Meteorology, University of Reading, August 2018–July 2023
Lecturer in Convection, Dept. of Meteorology, University of Reading, May 2015–July 2018
NERC Postdoctoral Research Fellow, NCAS-Climate, Dept. of Meteorology, University of Reading, May 2012–April 2015

Independent research on tropical convective organization. The Fellowship project addressed the processes behind convective self-aggregation in idealized high-resolution models and the extent to which these processes may be important in real-world convective aggregation and organization.

NCAS-Climate, Dept. of Meteorology, University of Reading, July 2008–April 2012.

Postdoctoral Researcher; Supervisor: Dr Steven Woolnough. Research as part of the Cascade project in NCAS-Climate, which aimed to better understand the organization of tropical convection at many scales using the UK Met Office Unified Model (UM) at resolutions as high as 1.5 km and domains spanning several thousand km across. Investigation of the effect of explicit convection versus parameterized convection on numerical simulations of large-scale tropical phenomena such as organized precipitation and the MJO.

UCLA Dept. of Atmos. And Ocean. Sci., 2002–2008

Research Assistant; Advisor: Prof. David Neelin. Work leading toward a doctoral thesis, investigating the relationships between temperature, water vapor, and deep convection in the tropics, with particular emphasis on vertical structures. The ability to represent temperature and moisture with simplified vertical structures was tested using observations (including AIRS satellite data, radiosondes, and reanalysis data) and model output. Motivations included improving the QTCM, an intermediate-complexity tropical model, and informing the theory and practice of convective parameterization in GCMs.

Additional research with Prof. Neelin's group investigating tropical drying trends in global warming model simulations and observations. Also, work investigating the sensitivity of the MJO signal to viscosity and surface flux representation in the QTCM. Work with Prof. Bjorn Steven's group comparing different kinds of observations in a region of climatological stratocumulus in the northeastern subtropical Pacific.

Harvard, 2000–01

Undergraduate thesis work; Thesis Advisor: Prof. Kerry Emanuel (M.I.T.). A comparison of two forms of input for a simple hurricane intensity model: same-day versus climatological potential intensity data.

M.I.T., 1999

Summer research; Advisors: Prof. Carl Wunsch and Ph.D. student Alex Ganachaud. Coding to aid in analysis of nutrient fluxes in oceans, as well as comparisons of several models and observations for dynamic heights along various ocean tracks.

Refereed Publications

Hill, P. G., **Holloway, C. E.**, Byrne, M. P., Lambert, F. H. and Webb, M. J., 2023: Climate models underestimate dynamic cloud feedbacks in the tropics. *Geophysical Research Letters*. doi: https://doi.org/10.1029/2023GL104573 (In Press).

Liao, X., **Holloway, C. E.**, Feng, X., Liu, C., Lyu, X., Xue, Y., Bao, R., Li, J. and Qiao, F., 2023: Observed Interannual Relationship between ITCZ Position and Tropical Cyclone Frequency. *J. Climate*, **36**, 5587–5603, https://doi.org/10.1175/JCLI-D-22-0865.1.

Racoma, B. A. B. , **Holloway, C. E.**, Schiemann, R. K. H., Feng, X. and Bagtasa, G., 2023: The Effect of the Cordillera Mountain Range on Tropical Cyclone Rainfall in the Northern Philippines. *Atmosphere*, **14** (4). p. 643. doi: https://doi.org/10.3390/atmos14040643

Ferrett, S. , Methven, J. , Woolnough, S. , Yang, G.-Y. , **Holloway, C. E.** and Wolf, G., 2023: Hybrid dynamical-statistical forecasts of the risk of rainfall in South East Asia dependent on equatorial waves. *Monthly Weather Review* (In Press).

Akhter, S., **Holloway, C. E.**, Hodges, K. and Vanniere, B., 2023: How well do high-resolution Global Climate Models (GCMs) simulate tropical cyclones in the Bay of Bengal? *Climate Dynamics*. doi: https://doi.org/10.1007/s00382-023-06745-3

Pope, K. N., **Holloway, C. E.**, Jones, T. R. and Stein, T. H. M., 2023: Radiation, clouds, and self-aggregation in RCEMIP simulations. *Journal of Advances in Modeling Earth Systems*, **15** (2). e2022MS003317. doi: https://doi.org/10.1029/2022MS003317

Johnston, M. C., **Holloway, C. E.** and Plant, R. S., 2023: Sensible heat fluxes control cloud trail strength. *Quarterly Journal of the Royal Meteorological Society*. **149**(753), 1165–1179. doi: https://doi.org/10.1002/qj.4438

Harris, B. L., Tailleux, R. , **Holloway, C. E.** and Vidale, P. L., 2022: A moist available potential energy budget for an axisymmetric tropical cyclone. *Journal of the Atmospheric Sciences*, **79** (10). pp. 2493-2513. doi: https://doi.org/10.1175/JAS-D-22-0040.1

Ayesiga, G., **Holloway, C. E.** , Williams, C. J. R., Yang, G.-Y. , Stratton, R. and Roberts, M., 2021: Linking Equatorial African precipitation to Kelvin wave processes in the CP4-Africa convection-permitting regional climate simulation. *Journal of the Atmospheric Sciences*. doi: https://doi.org/10.1175/JAS-D-21-0039.1

Chevuturi, A. , Klingaman, N. P. , Guo, L., **Holloway, C. E.** , Guimarães, B. S., Coelho, C. A. S., Kubota, P. Y., Young, M., Black, E., Baker, J. C. A. and Vidale, P. L., 2021: Subseasonal prediction performance for South American land–atmosphere coupling in extended austral summer. *Climate Resilience and Sustainability*. doi: https://doi.org/10.1002/cli2.28

Racoma, B. A. B., Klingaman, N. P. , **Holloway, C. E.** , Schiemann, R. K. H. and Bagtasa, G., 2021: Tropical cyclone characteristics associated with extreme precipitation in the northern Philippines. *International Journal of Climatology*. doi: https://doi.org/10.1002/joc.7416

Pope, K. N., **Holloway, C. E.** , Jones, T. R. and Stein, T. H. M., 2021: Cloud-radiation interactions and their contributions to convective self-aggregation. *Journal of Advances in Modeling Earth Systems*, **13** (9). e2021MS002535. doi: https://doi.org/10.1029/2021MS002535

Gu, J.-F., R. S. Plant, **C. E. Holloway**, and T. R. Jones, 2021: Composited structure of non-precipitating shallow cumulus clouds. *Quarterly Journal of the Royal Meteorological Society*, **147**: 2818–2833. doi: https://doi.org/10.1002/qj.4101.

Ferrett, S. , T. H. A. Frame, J. Methven, **C. E. Holloway**, S. Webster, T. H. M. Stein, and C. Cafaro, 2021: Evaluating convection-permitting ensemble forecasts of precipitation over Southeast Asia. *Weather and Forecasting,* **36**, 1199–1217. doi: https://doi.org/10.1175/WAF-D-20-0216.1.

Da Silva, N. A., Webber, B. G. M., Matthews, A. J., Feist, M. M., Stein, T. H. M., **Holloway, C. E.** and Abdullah, M. F. A. B. (2021) Validation of GPM IMERG extreme precipitation in the Maritime Continent by station and radar data. Earth and Space Science, **8** (7). doi: https://doi.org/10.1029/2021EA001738

Yang, G., S. Ferrett, S. Woolnough, J. Methven, and **C. Holloway**, 2021: Real-time identification of equatorial waves and evaluation of waves in global forecasts, *Weather and Forecasting*, **36**(1), pp. 171-193. https://doi.org/10.1175/WAF-D-20-0144.1.

Klingaman, N. P., M. Young, A. Chevuturi, B. Guimaraes, L. Guo, S. J. Woolnough, C. A. S. Coelho, P. Y. Kubota, and **C. E. Holloway**, 2021: Subseasonal prediction performance for austral summer South American rainfall, *Weather and Forecasting*, **36**(1), pp. 147-169. https://doi.org/10.1175/WAF-D-19-0203.1.

Ayesiga, G., **C. E. Holloway**, C. J. Williams, G.-Y. Yang, and S. Ferrett, 2021: The Observed Synoptic scale precipitation relationship between Western Equatorial Africa and Eastern Equatorial Africa. *Int. J. Climatol.,* **41**(S1), pp. 582-601. https://doi.org/10.1002/joc.6711.

Good, P., R. Chadwick, **C. E. Holloway**, J. Kennedy, J. A. Lowe, R. Roehrig, and S. S. Rushley, 2021: High sensitivity of tropical precipitation to local sea-surface temperature. *Nature*, **589**, 408–414, https://doi.org/10.1038/s41586-020-2887-3.

Gu, J.-F., R. S. Plant, **C. E. Holloway**, and M. R. Muetzelfeldt, 2020: Pressure drag for shallow cumulus clouds: From thermals to the cloud ensemble. *Geophysical Research Letters*, **47**, e2020GL090460. https://doi.org/10.1029/2020GL090460.

Masunaga, H., **C. E. Holloway**, H. Kanamori, S. Bony, and T. H. M. Stein, 2020: Transient aggregation of convection: Observed behavior and underlying processes, *Journal of Climate*, https://doi.org/10.1175/JCLI-D-19-0933.1.

Talib, J., S. J. Woolnough, N. P. Klingaman, and **C. E. Holloway**, 2020: The effect of atmosphere-ocean coupling on the sensitivity of the ITCZ to convective mixing. *Journal of Advances in Modeling Earth Systems*, **12**, e2020MS002322. https://doi.org/10.1029/2020MS002322.

Monerie, P.-A., A. Chevuturi, P. Cook, N. P. Klingaman, and **C. E. Holloway**, 2020: Role of atmospheric horizontal resolution in simulating tropical and subtropical South American precipitation in HadGEM3-GC31, *Geosci. Model Dev.*, **13**, 4749–4771, https://doi.org/10.5194/gmd-13-4749-2020.

Mohd Nor, M. F. F., **C. E. Holloway**, and P. M. Inness, 2020: The Role of Local Orography on the Development of a Severe Rainfall Event over Western Peninsular Malaysia: A Case Study. *Mon. Wea. Rev.*, **148**, 2191–2209, https://doi.org/10.1175/MWR-D-18-0413.1.

McIntyre, W. A., H. Weller, and **C. E. Holloway**, 2020: Numerical methods for entrainment and detrainment in the multi-fluid Euler equations for convection. *Q. J. Roy. Meteorol. Soc.*; **146**: 1106–1120. https://doi.org/10.1002/qj.3728.

Gu, J., R. S. Plant, **C. E. Holloway**, T. R. Jones, A. Stirling, P. A. Clark, S. J. Woolnough, and T. L. Webb, 2020: Evaluation of the Bulk Mass Flux Formulation Using Large-Eddy Simulations. *J. Atmos. Sci.*, **77**, 2115–2137, https://doi.org/10.1175/JAS-D-19-0224.1.

Ferrett, S., G. Yang, S. Woolnough, J. Methven, K. Hodges, and **C. Holloway**, 2019: Linking Extreme Precipitation in Southeast Asia to Equatorial Waves. *Q. J. Roy. Meteorol. Soc.*, doi:10.1002/qj.3699.

Johnston, M. C., **C. E. Holloway**, and R. S. Plant, 2018: Cloud Trails Past Bermuda: A Climatology. *Mon. Wea. Rev.*, **146**, 4039–4055, https://doi.org/10.1175/MWR-D-18-0141.1.

Christensen, H. M., A. Dawson, and **C. E. Holloway**, 2018: Forcing single column models using high-resolution model simulations. *J. Adv. Model. Earth Syst*., **10**(8): 1833–1857, doi: 10.1029/2017MS001189.

Talib, J. Woolnough, S. J., Klingaman, N. P., and **C. E. Holloway**, 2018: The role of the cloud radiative effect in the sensitivity of the Intertropical Convergence Zone to convective mixing. *J. Climate*, **31**(17), 6821-6838, https://doi.org/10.1175/JCLI-D-17-0794.1

Holloway, C. E., A. A. Wing, S. Bony, C. Muller, H. Masunaga, T. S. L'Ecuyer, D. D. Turner, and P. Zuidema, 2017: Observing convective aggregation. *Surveys in Geophysics*, doi:10.1007/s10712-017-9419-1.

Holloway, C. E., 2017: Convective aggregation in realistic convective-scale simulations. *J. Adv. Model. Earth Syst.*, **09**, doi:10.1002/2017MS000980.

Toh, Y. Y., A. G. Turner, S. J. Johnson, and **C. E. Holloway**, 2017: Maritime Continent seasonal climate biases in AMIP experiments of the CMIP5 multimodel ensemble. *Climate Dynamics*, doi:10.1007/s00382-017-3641-x.

Wing, A. A., K. Emanuel, **C. E. Holloway**, and C. Muller, 2017: Convective self-aggregation in numerical simulations: A review. *Surveys in Geophysics*, doi:10.1007/s10712-017-9408-4.

Stein, T. H. M., **C. E. Holloway**, I. Tobin, and S. Bony, 2017: Observed relationships between cloud vertical structure and convective aggregation over tropical ocean. *J. Climate*, **30**, 2187–2207.

Holloway, C. E., and S. J. Woolnough, 2016: The sensitivity of convective aggregation to diabatic processes in idealized radiative-convective equilibrium simulations. *J. Adv. Model. Earth Syst*., **8**, 166–195, doi:10.1002/2015MS000511.

Stein, T. H. M., D. J. Parker, R. J. Hogan, C. E. Birch, **C. E. Holloway**, G. M. S. Lister, J. H. Marsham, and S. J. Woolnough, 2015: The representation of the West African Monsoon vertical cloud structure in the Met Office Unified Model: An evaluation with CloudSat. *Q. J. Roy. Meteorol. Soc.,* **141**, 3312-3324. doi: 10.1002/qj.2614.

Holloway, C. E., S. J. Woolnough, and G. M. S. Lister, 2015: The effects of explicit versus parameterized convection on the MJO in a large-domain high-resolution tropical case study. Part II: Processes leading to differences in MJO development. *J. Atmos. Sci.*, **72**, 2719-2743.

Holloway, C. E., J. C. Petch, R. J. Beare, P. Bechtold, G. C. Craig, S. H. Derbyshire, L. J. Donner, P. R. Field, S. L. Gray, J. H. Marsham, D. J. Parker, R. S. Plant, N. M. Roberts, D. M. Schultz, A. J. Stirling, and S. J. Woolnough, 2014: Understanding and representing atmospheric convection across scales: Recommendations from the meeting held at Dartington Hall, Devon, UK, 28–30 January 2013. *Atmosph. Sci. Lett.*, doi: 10.1002/asl2.508

Tobin, I., S. Bony, **C. E. Holloway**, J. Y. Grandpeix, G. Sèze, D. Coppin, S. J. Woolnough, and R. Roca, 2013: Does convective aggregation need to be represented in cumulus parameterizations? *J. Adv. Model. Earth Syst.*, **5**, doi:10.1002/jame.20047.

Holloway, C. E., S. J. Woolnough, and G. M. S. Lister, 2013: The effects of explicit versus parameterized convection on the MJO in a large-domain high-resolution tropical case study. Part I: Characterization of large-scale organization and propagation. *J. Atmos. Sci.*, **70**, 1342–1369.

Holloway, C. E., S. J. Woolnough, and G. M. S. Lister, 2012: Precipitation distributions for explicit versus parameterized convection in a large-domain high-resolution tropical case study. *Q. J. Roy. Meteorol. Soc.,* **138**, 1692-1708.

Lintner, B. R., **C. E. Holloway**, and J. D. Neelin, 2011: Column water vapor statistics and their relationship to deep convection, vertical and horizontal circulation, and moisture structure at Nauru. *J. Climate*, **24**, 5454–5466.

Peters, O., A. Deluca, A. Corral, J. D. Neelin, and **C. E. Holloway**, 2010: Universality of rain event size distributions. *J. Stat. Mech.*, P1130, doi:10.1088/1742-5468/2010/11/P11030.

Pearson, K. J., R. J. Hogan, R. P. Allan, G. M. S. Lister, and **C. E. Holloway**, 2010: Evaluation of the model representation of the evolution of convective systems using satellite observations of OLR. *J. Geophys. Res.*, **115**, D20206, doi:10.1029/2010JD014265.

Holloway, C. E. and J. D. Neelin, 2010: Temporal relations of column water vapor and tropical precipitation. *J. Atmos. Sci.*, **67**, 1091–1105, doi: 10.1175/2009JAS3284.1.

Neelin, J. D., O. Peters, J. W.-B. Lin, K. Hales, and **C. E. Holloway**, 2009: Rethinking convective quasi-equilibrium: observational constraints for stochastic convective schemes in climate models. In *Stochastic Physics and Climate Modelling*, T. N. Palmer and P. D. Williams, eds. Cambridge University Press, Cambridge.

Holloway, C. E. and J. D. Neelin, 2009: Moisture vertical structure, column water vapor, and tropical deep convection. *J. Atmos. Sci.*, **66**, 1665–1683.

Neelin, J. D., O. Peters, J. W.-B. Lin, K. Hales, and **C. E. Holloway**, 2008: Rethinking convective quasi-equilibrium: observational constraints for stochastic convective schemes in climate models. *Phil. Trans. R. Soc. A*, **366**, 2581–2604. doi:10.1098/rsta.2008.0056.

Holloway, C. E. and J. D. Neelin, 2007: The convective cold top and quasi equilibrium. *J. Atmos. Sci.*, **64**, 1467–1487.

Stevens, B., A. Beljaars, S. Bordoni, **C. Holloway**, M. Koehler, S. Krueger, V. Savic-Jovcic and Y. Zhang, 2007: On the structure of the lower troposphere in the summertime stratocumulus regime of the northeast Pacific. *Mon. Wea. Rev.*, **135**, 985–1005.

Neelin, J. D., M. Munnich, H. Su, J. E. Meyerson, and **C. E. Holloway**, 2006: Tropical drying trends in global warming models and observations. *Proc. Nat. Acd. Sci.*, **103**, 6110–6115.

Emanuel, K., C. DesAutels, **C. Holloway** and R. Korty, 2004: Environmental control of tropical cyclone intensity. *J. Atmos. Sci*., **61**, 843–858.

Research Funding

NERC, (£896,178) University of Reading, 2023-2027
Co-I on “Morph”, developing scale-aware convection schemes in km-scale models.
NERC, (£749,049) University of Reading, 2023-2026
Co-I on “CLOUDYTIME”, studying convection-turbulence interactions.
Newton Fund SE Asia, (£177,936) University of Reading, 2022-2023
Co-I on extension grant evaluating forecasts of high-impact weather in SE Asia
Newton Fund SE Asia, (£99,603) University of Reading, 2021-2022
Reading PI on extension grant evaluating forecasts of high-impact weather in SE Asia
NERC, (£360,313) University of Reading, 2020-2024
Reading PI on “CIRCULATES”, studying circulation interactions with cloud feedbacks.
Newton Fund India, (£315,890) University of Reading, 2019-2021
Co-I (and later PI) on grant evaluating coupled forecasts tropical cyclones affecting India.
NERC JWCRP, (£948,862) University of Reading, 2019–2022
Co-I on second phase of grant seeking a step change in convective parameterization as part of the joint NERC-Met Office ParaCon project.
Newton Fund SE Asia, (£238,499) University of Reading, 2019-2021
Reading PI on grant evaluating forecasts of high-impact weather in SE Asia
Newton Fund Brazil, (£449,336) University of Reading, 2018-2020
Co-I on grant relating subseasonal variability to high-impact weather in Brazil
Newton Fund SE Asia, (£249,914) University of Reading (led by Uni. of Leeds), 2017-2019
Co-I on grant providing forecaster training for partners in SE Asia
Newton Fund SE Asia, (£298,058) University of Reading, 2017-2019
Co-I on grant relating tropical waves to high-impact weather in SE Asia
NERC JWCRP, (£753,289) University of Reading, 2016–2019
Co-I on grant seeking a step change in convective parameterization as part of the joint NERC-Met Office ParaCon project.
NERC Postdoctoral Fellowship, (£268,189) University of Reading, 2012–2015
3-year Fellowship award to study convective aggregation in observations, idealised models, and simulations of realistic case studies of organized convection.
CASE PhD Studentship, (£8,000) Met Office and University of Reading, 2012–2015
PhD CASE Studentship award (for one of my PhD students) on studying mechanisms for hurricane intensity using the Met Office Unified Model.
NASA Earth System Science Fellowship, ($48,000, ~£27,000) UCLA, 2006–2008
2-year Fellowship (including renewal) on “Profiles of Tropical Temperature and Humidity Variations in AIRS, In Situ, and Climate Model Data” to cover stipend and research costs for two years of my PhD.

Research Supervision

Co-supervisor of nine PDRAs, twelve PhD students (nine completed), twelve MSc students, and eight BSc students (all at the Department of Meteorology, University of Reading) on topics relating to tropical convection and/or tropical cyclones.

International Esteem

Fellowships and Awards

AMS Editor’s Award, for thorough and insightful reviews in the area of tropical convection, *Journal of the Atmospheric Sciences*, 2020

NERC Postdoctoral Fellowship, University of Reading, 2012–2015
Bjerknes Memorial Award, for novel research contributions, UCLA AOS, 2007
Bosart Award, for service and contribution to department life, UCLA AOS, 2007
NASA Earth System Science Graduate Student Fellowship, 2006–2008
Chancellor's Fellowship, UCLA, 2002–03
College Research Fellowship, Harvard, 2000
National Merit Scholarship, 1997–2000

Selected Presentations and Conference Talks

U. of Helsinki INAR invited virtual seminar, November 2021, Helsinki, Finland.
NCAR invited seminar, October 2017, Boulder, Colorado, USA.
LMD invited seminar, June 2017, Paris, France.
Max Planck Institute for Meteorology invited Seminar, September 2016, Hamburg, Germany.
AGU Fall Meeting invited talk, December 2014, San Francisco, California. Convective aggregation in idealised models and realistic equatorial cases. C. E. Holloway.
AGU Fall Meeting invited talk, December 2013, San Francisco, California. Cascade during YOTC: Simulating organized tropical convection using a cloud-system-resolving model over large domains. C. E. Holloway, S. Woolnough, A. Matthews, and G. Lister.
COECSS Meeting invited keynote talk, November 2013, Lorne, Australia. The Organization of Tropical Convection. C. E. Holloway.
Workshop on progressing toward global LES invited talk, June 2012, Ringberg, Germany. Cloud-system-resolving large-domain simulations of tropical convection and the MJO. C. E. Holloway, S. Woolnough, and G. Lister.
YOTC International Science Symposium invited talk, May 2011, China Meteorological Administration, Beijing, China. Cascade: High-resolution large-domain simulations of tropical convection. C. E. Holloway, S. Woolnough, and G. Lister.
Royal Met. Soc. Meeting on Tropical Convection invited talk, April 2011, Imperial College, London, United Kingdom. Cloud System Resolving Modelling simulations of the Indo-Pacific Warm Pool. C. E. Holloway, S. Woolnough, and G. Lister.
NCAS Early Career Research Forum invited talk, May 2010, York, United Kingdom. Cascade: Convection in high-resolution (4 km) simulations over large tropical domains. C. E. Holloway, K. J. Pearson, T. Stein, S. Woolnough, B. Love, A. Matthews, and G. Lister.
UK Met Office Hadley Centre invited Seminar, March 2010, Exeter, United Kingdom. The interaction between tropical convection and its environment. C. E. Holloway, J. D. Neelin, S. Woolnough, and G. Lister.
University of East Anglia Meteorology, Oceanography and Climate invited Seminar, January 2010. The interaction between moisture and convection in the tropics. C. E. Holloway, J. D. Neelin, S. Woolnough, and G. Lister.
AGU Fall Meeting invited talk, December 2008, San Francisco, California. Cascade: Investigating Multiscale Tropical Convective Organization Using High-Resolution Numerical Simulations Over Large Domains. C. E. Holloway, A Slingo, S. Woolnough, and G. Lister.

Contributions to Science Strategy

Co-Organizer, "Convection Parametrization: Progress and Challenges workshop", Met Office, Exeter, UK, 15 to 19 July 2019
Organizer, "Cascade Downstream" workshop on convection modelling, University of Reading, UK, 7–8 October 2014
Co-Organizer, Meeting on "Understanding and Representing Atmospheric Convection Across Scales", Dartington Hall, Devon, UK, 28–30 January 2013
Co-organized a UK strategy meeting on convection, along with Jon Petch from the Met Office and several other committee members. This has led to a series of recommendations for the next 5–10 years, which have been written up and submitted to

Atmospheric Science Letters for publication. In addition, I was involved in plans to enable the UK convection community to act on these recommendations, bridging efforts across universities, research centres, and operational centres. Related to this, I am also a member of several Process Evaluation Groups and Working Groups at the Met Office, including groups on the MJO, tropical cyclones, and tropical convection.

Teaching Experience

Fellow of the UK Higher Education Academy, 2017–present

University of Reading, Spring 2009–present

Main instructor for spring term of first-year BSc course "Weather and Climate Fundamentals", 2016–2018. Lecturer, "Tropical Weather Systems" MSc course, since 2021. Lecturer, "Extratropical Weather Systems" MSc course, 2018–2021 (and additionally mostly cotaught with "Dynamics of Weather Systems" BSc course, 2019-2021). Co-Instructor for Weather and Climate Discussion, half of Autumn 2016. Guest lecturer and lab demonstrator for several classes of third-year BSc course on the Global Circulation.

Hanoi, Vietnam, 25–29 July 2022

Lecturer, FORTIS training in tropical meteorology

ICTP, Trieste, Italy, 1–12 July 2019

Lecturer and Co-Organiser, Summer School on "Convective Organization and Climate Sensitivity"

Manila, Philippines, 6–10 May 2019

Lecturer, FORTIS training in tropical meteorology

ENS, Paris, France, 28 May – 1 June 2018

Lecturer, Spring School on "Cloud Dynamics and Modelling"

Visegrad, Hungary, 8–11 June 2009

Lecturer, Summer School on "Climate Variability & Climate Change: Estimating and Reducing Uncertainties"

UCLA AOS, Spring 2005

Teaching Assistant; "Climate and Climate Change," AOS 102

Professional services and activities

Associate Editor, *Journal of the Atmospheric Sciences*, 2017–present

Programme Director for Postgraduate Teaching in Meteorology, University of Reading, 2021–present

Coordinator for Department Student Exchange Programme with Oklahoma University, University of Reading, 2017–2021

Associate Editor, *Atmospheric Science Letters*, 2014–2020

Department External Seminar Organizer, University of Reading, Meteorology, Autumn 2009–Summer 2011

AMS member since 2004

AGU member since 2006

Royal Met. Soc. member since 2009