

Publications Under Consideration

- [1] J.-F. Gu, R. S. Plant, C. E. Holloway, P. A. Clark, and A. J. Stirling. Understanding the entrainment and detrainment processes in maritime shallow cumulus clouds using lagrangian trajectories: Buoyancy sorting or acceleration sorting? *Submitted to: J. Atmos. Sci.*, 2025.
- [2] T. H. Raupach, C. L. Daleu, R. S. Plant, S. C. Sherwood, and Y.-L. Hwong. Responses to humidity and temperature perturbations in high-resolution simulations of convection. *Submitted to: J. Adv. Model. Earth Syst.*, 2025.
- [3] Y. Su, S. L. Gray, and R. S. Plant. The benefits of km-scale simulations for extreme precipitation in the eastern valley of qinghai. *Submitted to: Adv. Atmos. Sci.*, 2025.

Books

- [1] R. S. Plant and J.-I. Yano, editors. *Parameterization of Atmospheric Convection. Volume 1: Theoretical Background and Formulation*. World Scientific, Imperial College Press, 2015. 515pp.
- [2] R. S. Plant and J.-I. Yano, editors. *Parameterization of Atmospheric Convection. Volume 2: Current Issues and New Theories*. World Scientific, Imperial College Press, 2015. 617pp.

Journal Articles

- [1] M. R. Muetzelfeldt, R. S. Plant, H. M. Christensen, Z. Zhang, T. Woollings, Z. Feng, and P. Li. [Environmental conditions affecting global mesoscale convective system occurrence](#). *J. Atmos. Sci.*, 82:391–407, 2025.
- [2] J.-I. Yano and R. S. Plant. [Emergence of self-organization of atmospheric moist convection, as seen through the energy cycle in wavelet space](#). *J. Adv. Model. Earth Syst.*, 17:e2024MS004517, 2025.
- [3] Z. Zhang, H. M. Christensen, Z. Zhang, M. R. Muetzelfeldt, T. Woollings, R. S. Plant, A. J. Stirling, M. A. Whitall, M. W. Moncrieff, C.-C. Chen, and Z. Feng. [Advancing organized convection representation in the Unified Model: Implementing and enhancing multiscale coherent structure parameterization](#). *J. Adv. Model. Earth Syst.*, 17:e2024MS004370, 2025.
- [4] L. P. Blunn, R. S. Plant, O. Coceal, S. I. Bohnenstengel, H. W. Lean, and J. F. Barlow. [The influence of resolved convective motions on scalar dispersion in hectometric scale numerical weather prediction models](#). *Q. J. R. Meteorol. Soc.*, 150:976–994, 2024.
- [5] G. A. Efsthathiou, R. S. Plant, and F. K. Chow. [Grey-zone simulations of shallow-to-deep convection transition using dynamic subgrid-scale turbulence models](#). *Q. J. R. Meteorol. Soc.*, 150:4306–4328, 2024.

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- [6] J.-F. Gu, R. S. Plant, and C. E. Holloway. [Connections between sub-cloud coherent structures and the life cycle of shallow cumulus clouds: Evidence from large eddy simulation](#). *J. Adv. Model. Earth Syst.*, 16:e2023MS003986, 2024.
 - [7] J.-F. Gu, R. S. Plant, C. E. Holloway, and P. A. Clark. [Halo region around shallow cumulus clouds in large eddy simulations](#). *Q. J. R. Meteorol. Soc.*, 150:1501–1517, 2024.
 - [8] S. L. Lavender, A. J. Stirling, M. Whittall, R. Stratton, C. L. Daleu, R. S. Plant, A. Lock, and J.-F. Gu. [The use of idealised experiments in testing a new convective parameterization: Performance of CoMorph-A](#). *Q. J. R. Meteorol. Soc.*, 150:1581–1600, 2024.
 - [9] C. L. Daleu, R. S. Plant, A. J. Stirling, and M. A. W. Whittall. [Evaluating the CoMorph parameterization using idealised simulations of the two-way coupling between convection and large-scale dynamics](#). *Q. J. R. Meteorol. Soc.*, 149:3087–3109, 2023.
 - [10] M. C. Johnston, C. E. Holloway, and R. S. Plant. [Sensible heat fluxes control cloud trail strength](#). *Q. J. R. Meteorol. Soc.*, 149:1165–1179, 2023.
 - [11] J. I. Yano and R. S. Plant. [Interaction of the convective energy cycle and large-scale dynamics](#). *J. Atmos. Sci.*, 80:2685–2699, 2023.
 - [12] L. P. Blunn, O. Coceal, N. Nazarian, J. F. Barlow, R. S. Plant, S. I. Bohnenstengel, and H. W. Lean. [Turbulence characteristics across a range of idealised urban canopy geometries](#). *Bound. Lay. Meteorol.*, 182:275–307, 2022.
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Book chapters

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Conferences and Reports

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- mus, J. Kauhanen, S. Kouhen, P. Kuntze, H. W. Lean, A. Mamgain, A. McCabe, M. Milan, J. Petch, M. Puh, C. Schraff, A. J. Stirling, K. Tempest, A. Tsiringakis, F. Weidle, and M. Wimmer. [Summary and recommendations from working group 1: Model uncertainty representations in convection-permitting / shorter lead-time / limited-area ensembles](#). In *ECMWF Workshop on Model Uncertainty, Reading, UK, 9-12 May 2022*, 2022.
- [2] M. Köhler, G. Szépszó, G. Carver, S. L. Gray, and R. S. Plant. [OpenIFS workshop held at the University of Reading](#). *ECMWF Newsletter*, 160:6–7, 2019.
- [3] M.-J. Bopape, F. Engelbrecht, B. Abiodun, A. Beraki, J. McGregor, T. Ndarana, L. Ntsangwane, R. S. Plant, D. Randall, H. Rautenbach, H. Sithole, M. Sovara, and J. Witi. [Weather and climate numerical models development programme in South Africa](#). In *Proceedings of the 34th Annual Conference of the South African Society for Atmospheric Sciences, 20–21 September, University of KwaZulu-Natal, Durban, South Africa*, pages 1–4, 2018.
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- [8] H. W. Lean, P. A. Clark, C. Halliwell, K. E. Hanley, R. J. Hogan, J. Nicol, R. S. Plant, and T. Stein. Statistical analysis of UK convection and its representation in high resolution NWP models. In *World Weather Open Science Conference, Montreal, Canada, August 16-21*, page 469, 2014. SCI PS217.01.
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uncertainty and error in numerical weather and climate prediction models, Reading, UK, 20-24 June 2011, pages vii–xi, 2011.

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- [14] R. S. Plant. [Cloud tracking in cloud resolving models](#). In *4th European Conference on Severe Storms, 10-14th September, ICTP, Miramere, Trieste, Italy*, page 03.13, 2007.
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- [23] R. S. Plant and B. W. Atkinson. [Summary of findings from phase 2](#). MoD Agreement FS2/2042/02. Report No. 5 (25pp), 2000.
- [24] R. S. Plant and B. W. Atkinson. [Resolution effects](#). MoD Agreement FS2/2042/02. Report No. 1 (61pp), 1999.

Conferences/Workshops/Seminars: Talks

- [1] Y. Bai, P. A. Clark, D. G. Vlaykov, G. A. Efstathiou, and R. S. Plant. [Implementation of dynamic filtering with grey-zone turbulent closures in a numerical weather prediction model: Evaluation in idealised cases](#), 2025. Talk at: Navigating the Turbulence Grey Zone in Numerical Weather Prediction: Modelling Challenges and Interdisciplinary Insights, University of Exeter, 23-25 June.
- [2] G. A. Efstathiou, R. Beare, D. Vlaykov, J. Kealy, J. Thuburn, R. S. Plant, P. A. Clark, A. Power, Y. Bai, A. Lock, P. Burns, and F. K. Chow. [Dynamic turbulence modelling in the ‘terra-incognita’ of turbulence](#), 2025. Talk at: Navigating the Turbulence Grey Zone in Numerical Weather Prediction: Modelling Challenges and Interdisciplinary Insights, University of Exeter, 23-25 June.
- [3] J.-F. Gu, R. S. Plant, and C. Holloway. Connections between sub-cloud coherent updrafts and the life cycle of maritime shallow cumulus clouds in large eddy simulation, 2025. Talk at: AOGS 22nd Annual Meeting, Singapore, 27 July – 1 August.
- [4] C. E. Holloway, J.-F. Gu, and R. S. Plant. Connections between sub-cloud coherent updrafts and the life cycle of maritime shallow cumulus clouds in large eddy simulation, 2025. Talk at: EGU General Assembly 2025, 27 April – 2 May, Vienna.
- [5] K. Mittal, R. S. Plant, S. L. Gray, D. B. Parsons, and D. L. Flack. Forecast bust characteristics in europe: Variability across nwp and ai models, 2025. Talk at: Ver-AI workshop on Verification of AI-Based Meteorological Forecasts, University of Reading, 23-24 June.
- [6] R. S. Plant. [Deep convection in models: Explicit modelling](#), 2025. Talk at: Summer School on Atmospheric Convection, 21–25 July, Nanjing University, China.
- [7] R. S. Plant. [Deep convection in models: Parameterized modelling](#), 2025. Talk at: Summer School on Atmospheric Convection, 21–25 July, Nanjing University, China.
- [8] R. S. Plant. [Some fundamentals of convection](#), 2025. Talk at: Summer School on Atmospheric Convection, 21–25 July, Nanjing University, China.
- [9] A. Power, R. S. Plant, P. A. Clark, and G. A. Efstathiou. [Dynamic diagnoses of turbulent mixing lengths in shallow convection](#), 2025. Talk at: Navigating the Turbulence Grey Zone in Numerical Weather Prediction: Modelling Challenges and Interdisciplinary Insights, University of Exeter, 23-25 June.

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- [10] D. Shipley, P. A. Clark, and R. S. Plant. [Examining edmf-type approaches in the grey zone using conditional filtering](#), 2025. Talk at: Navigating the Turbulence Grey Zone in Numerical Weather Prediction: Modelling Challenges and Interdisciplinary Insights, University of Exeter, 23-25 June.
- [11] D. G. Vlaykov, G. A. Efstathiou, R. J. Beare, P. A. Clark, R. S. Plant, Y. Bai, and P. Burns. [Sgs anisotropy for turbulent grey zone](#), 2025. Talk at: Navigating the Turbulence Grey Zone in Numerical Weather Prediction: Modelling Challenges and Interdisciplinary Insights, University of Exeter, 23-25 June.
- [12] H. M. Christensen, Z. Zhang, M. R. Muetzelfeldt, R. S. Plant, T. Woollings, Z. Feng, M. W. Moncrieff, A. J. Stirling, W. J. Tennant, M. A. Whitall, G. Miller, P. Ukkonen, P. Stier, J. Berner, T. Palmer, and L. Zanna. Stochastic parametrisation: from theory to practice via data, 2024. Invited talk at: XCS seminar series, October, University of Exeter.
- [13] J.-F. Gu, R. S. Plant, C. Holloway, and P. A. Clark. Moist halo region around shallow cumulus clouds in large eddy simulations, 2024. Talk at: AOGS 20th Annual Meeting, Pyeongchang, South Korea, 23–28 June.
- [14] J.-F. Gu, R. S. Plant, and C. E. Holloway. [Connections between sub-cloud coherent updrafts and the life cycle of maritime shallow cumulus clouds in large eddy simulation](#), 2024. Talk at: Sixth National Mesoscale Meteorology Forum, Sun Yat-sen University, Guangdong, China, 7-10 November.
- [15] J.-F. Gu, R. S. Plant, C. E. Holloway, and P. A. Clark. The moist halo region around shallow cumulus clouds in large eddy simulations, 2024. Talk at: AGU Fall Meeting, 9-13 December, Washington DC, USA.
- [16] J.-F. Gu, R. S. Plant, C. E. Holloway, and P. A. Clark. Moist halo region around shallow cumulus clouds in large eddy simulations, 2024. Talk at: 36th AMS conference on Hurricanes and Tropical Meteorology, Long Beach, California, 6-10 May.
- [17] Q. Luo, M. Bettle, and R. S. Plant. [Importance of wind sensor averaging times for predicting short-range dispersal](#), 2024. Talk at: Meteorological Observing Systems Mini Conference, 12 September, University of Reading.
- [18] M. R. Muetzelfeldt, R. S. Plant, H. Christensen, Z. Zhang, T. Woollings, Z. Feng, and P. Li. Environmental conditions affecting global mesoscale convective system occurrence, 2024. Invited talk at: AOGS 20th Annual Meeting, Pyeongchang, South Korea, 23–28 June.
- [19] R. S. Plant, M. R. Muetzelfeldt, Z. Zhang, H. M. Christensen, T. Woollings, C.-C. Chen, Z. Feng, P. Li, M. W. Moncrieff, A. J. Stirling, and M. A. Whitall. [Parameterization of mesoscale convective systems](#), 2024. Invited talk at: 2nd Annual UFS Physics Workshop, 9-12 July, 2024, Norman, Oklahoma.

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- [20] Z. Zhang, H. M. Christensen, M. R. Muetzelfeldt, T. Woollings, R. S. Plant, A. J. Stirling, M. A. Whittall, M. W. Moncrieff, C.-C. Chen, and Z. Feng. The Gordian knot in weather and climate modeling: Representing convective organization in the model grey zone, 2024. Talk at: PNNL seminar, January, Richland, Washington, USA.
 - [21] G. A. Efstathiou and R. S. Plant. A dynamic blending scheme for scale-dependent turbulent mixing at grey-zone resolutions, 2023. Talk at: 24th Symposium on Boundary Layers and Turbulence, AMS Annual Meeting, 8-12 January, Denver, USA.
 - [22] J.-F. Gu, R. S. Plant, C. Holloway, and M. Muetzelfeldt. Pressure drag for shallow cumulus clouds: From thermals to the cloud ensemble, 2023. Talk at: AOGS 20th Annual Meeting, Singapore, 30 July - 4 August.
 - [23] C. E. Holloway, M. C. Johnston, and R. S. Plant. [Sensible heat fluxes control cloud trail strength](#), 2023. Talk at: 3rd Workshop on Cloud Organisation and Precipitation Extremes, ICTP, Trieste, 4-8 September.
 - [24] M. R. Muetzelfeldt, R. S. Plant, and H. C. Christensen. Environmental precursors to mesoscale convective systems, 2023. Talk at: EGU General Assembly 2023, 23-28 April, Vienna.
 - [25] M. R. Muetzelfeldt, R. S. Plant, H. C. Christensen, Z. Zhang, and T. Woollings. Environmental conditions affecting MCS occurrence, 2023. Invited talk at: Met Office, 22 November, Exeter.
 - [26] M. R. Muetzelfeldt, R. S. Plant, Z. Zhang, T. Woollings, and H. C. Christensen. Environmental conditions affecting MCS occurrence and their importance for MCS parametrization, 2023. Talk at: NCAR seminar, 25 July, Boulder.
 - [27] M. R. Muetzelfeldt, Z. Zhang, R. S. Plant, T. Woollings, and H. C. Christensen. [Towards a probabilistic parametrisation of mesoscale convective systems](#), 2023. Talk at: IUGG General Assembly 2023, 11-20 July, Berlin.
 - [28] P. T. Mulovhedzi, R. S. Plant, J. McGregor, M.-J. Bopape, and T. Ndarana. Assessing the scale awareness of the Conformal Cubic Atmospheric Model convection scheme for a heavy rainfall event, 2023. Talk at: 37th Annual Conference of the South African Society for Atmospheric Sciences, 30 October – 3 November, University of the Western Cape, South Africa.
 - [29] R. S. Plant. [Convection and parameterization](#), 2023. Talk at: NCAS Climate Modelling Summer School, 10–22 September, Cambridge.
 - [30] R. S. Plant, H. Christensen, M. R. Muetzelfeldt, T. Woollings, and Z. Zhang. [Towards a stochastic parameterization of unresolved MCS impacts on large scales](#), 2023. Invited talk at: AOGS 20th Annual Meeting, Singapore, 30 July - 4 August.

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- [31] A. Power, R. S. Plant, P. A. Clark, G. A. Efstathiou, and T. R. Jones. Dynamically calculating mixing lengths in shallow cumulus convection, 2023. Royal Meteorological Society Student Conference, Reading, UK, 4–5 July.
 - [32] S. Sherwood, R. S. Plant, T. Raupach, C. L. Daleu, and Y.-L. Hwong. CRM and LES estimates of tangent linear convective responses, 2023. Talk at: AOGS 20th Annual Meeting, Singapore, 30 July - 4 August.
 - [33] C. L. Daleu, R. S. Plant, A. J. Stirling, M. Whittall, and S. Lavender. [Update on CAPE closure](#), 2022. Talk at: ParaCon Plenary Meeting, 19-20 December, online.
 - [34] J.-F. Gu, R. S. Plant, C. E. Holloway, and P. A. Clark. Halo size around shallow cumulus clouds in the large eddy simulations, 2022. Talk at: EGU General Assembly 2022, 23-27 May, Vienna, Austria.
 - [35] J.-F. Gu, R. S. Plant, C. E. Holloway, and P. A. Clark. Understanding the entrainment and detrainment processes in shallow cumulus clouds using Lagrangian trajectories, 2022. Talk at: 35th Conference on Hurricanes and Tropical Meteorology, 9-13, New Orleans, LA, USA.
 - [36] R. S. Plant. [Beyond \$I_{\text{org}}\$: Advertisement for a suite of more robust organization measures](#), 2022. Talk at: ParaCon Plenary Meeting, 20-21 June, Met Office, Exeter.
 - [37] R. S. Plant, H. Christensen, M. R. Muetzelfeldt, Z. Zhang, M. W. Moncrieff, Z. Feng, R. Leung, A. J. Stirling, K. Williams, W. J. Tennant, and C. Piccolo. [Introduction to MCS:PRIME](#), 2022. Talk at: ParaCon Plenary Meeting, 20-21 June, Met Office, Exeter.
 - [38] R. S. Plant and P. A. Clark. [Representing uncertainties due to modest numbers of coherent sub-grid structures](#), 2022. ECMWF Workshop on Model Uncertainty, Reading, UK, 9-12 May 2022.
 - [39] A. Power, R. S. Plant, P. A. Clark, and G. A. Efstathiou. [Modelling convective turbulence in shallow cumulus convection](#), 2022. Talk at: ParaCon Plenary Meeting, 19-20 December, online.
 - [40] L. P. Blunn, O. Coceal, R. S. Plant, J. F. Barlow, H. W. Lean, and S. Bohnenstengel. [High-resolution dispersion modelling in the convective boundary layer](#), 2021. Invited talk at: Urban Fluid Mechanics Special Interest Group Meeting: Heterogeneity, unsteadiness and uncertainty in urban environments, 29 March, online.
 - [41] C. L. Daleu and R. S. Plant. [Design for representing shear-induced convection organization in CoMorph](#), 2021. Talk at: ParaCon Plenary Meeting, 29 June – 1 July, online.
 - [42] C. L. Daleu, R. S. Plant, S. J. Woolnough, A. Stirling, and N. Harvey. [Memory properties in cloud-resolving simulations of the diurnal cycle of deep convection](#), 2021. Talk at: EGU General Assembly 2021, 19-30 April, online.

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- [43] C. L. Daleu, R. S. Plant, S. J. Woolnough, A. Stirling, and N. Harvey. [Memory properties in cloud-resolving simulations of the diurnal cycle of deep convection](#), 2021. Talk at: Conference on Improvement and Calibration of Clouds in Models, 12-16 April, Meteo-France, Toulouse, France.
- [44] J.-F. Gu, R. S. Plant, and C. E. Holloway. Can simplified cloud structures capture vertical fluxes?, 2021. Talk at: 34th Conference on Hurricanes and Tropical Meteorology Virtual Meeting, American Meteorological Society Virtual Meeting 10-14 May.
- [45] J.-F. Gu, R. S. Plant, C. E. Holloway, T. R. Jones, A. Stirling, P. A. Clark, and S. J. Woolnough. The key components of convection for vertical transport of heat and moisture: A core-cloak conceptual model, 2021. Talk at: 34th Conference on Hurricanes and Tropical Meteorology Virtual Meeting, American Meteorological Society Virtual Meeting 10-14 May.
- [46] J.-F. Gu, R. S. Plant, C. E. Holloway, and M. Muetzelfeldt. [Pressure drag for shallow cumulus clouds: from thermals to the cloud ensemble](#), 2021. Talk at: EGU General Assembly 2021, 19-30 April, online.
- [47] J.-F. Gu, R. S. Plant, C. E. Holloway, and M. Muetzelfeldt. [Pressure drag for shallow cumulus clouds: From thermals to the cloud ensemble](#), 2021. Talk at: Conference on Improvement and Calibration of Clouds in Models, 12-16 April, Meteo-France, Toulouse, France.
- [48] S. Hagos, J. Chen, K. Barber, K. Sakaguchi, Z. Feng, H. Xiao, and R. S. Plant. [A machine learning assisted stochastic cloud population model as a parameterization of cumulus convection](#), 2021. Talk at: Conference on Improvement and Calibration of Clouds in Models, 12-16 April, Meteo-France, Toulouse, France.
- [49] A. Hermoso, V. Homar, and R. S. Plant. [Improving heavy precipitation forecasting over the western mediterranean: Benefits of stochastic techniques for model error sampling](#), 2021. Talk at: EGU General Assembly 2021, 19-30 April, online.
- [50] C. E. Holloway, J.-F. Gu, R. S. Plant, and T. R. Jones. [Composited structure of shallow cumulus clouds](#), 2021. Talk at: EGU General Assembly 2021, 19-30 April, online.
- [51] Y.-L. Hwong, S. Song, S. Sherwood, A. Stirling, C. Rio, R. Roehrig, C. L. Daleu, R. S. Plant, D. Fuchs, P. Maher, and L. Touze-Peiffer. [Characterising convection schemes using their linearised responses to convective tendency perturbations](#), 2021. Talk at: Conference on Improvement and Calibration of Clouds in Models, 12-16 April, Meteo-France, Toulouse, France.
- [52] M. C. Johnston, C. E. Holloway, and R. S. Plant. [Role of wind speed in organizing shallow convection on small islands in idealized simulations](#), 2021. Talk at: 34th Conference on Hurricanes and Tropical Meteorology Virtual Meeting, American Meteorological Society Virtual Meeting 10-14 May.

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- [53] R. S. Plant. [Representing convection in numerical weather prediction models and its implications](#), 2021. Invited talk at: Royal Met Soc Meteorological Masterclass Series, 10 March.
 - [54] D. Shipley, P. A. Clark, R. S. Plant, and H. Weller. [Capturing linear instability in two-fluid convection](#), 2021. Talk at: ParaCon Plenary Meeting, 13-14 December, Leeds.
 - [55] L. P. Blunn, O. Coceal, R. S. Plant, J. F. Barlow, H. W. Lean, S. Bohnenstengel, and N. Nazarian. [Neighbourhood-scale urban dispersion modelling using a canopy approach](#), 2020. Talk at: 21st Joint Conference on the Applications of Air Pollution Meteorology, 12-16 January, Boston Convention and Exhibition Center, Boston, USA.
 - [56] C. L. Daleu, R. S. Plant, A. J. Stirling, M. Whittall, and S. Lavender. [Characterising convective schemes by their linearised responses](#), 2020. Talk at: ParaCon Plenary Meeting, 8-10 July, Exeter.
 - [57] L. P. Blunn, O. Coceal, R. S. Plant, J. F. Barlow, H. W. Lean, S. Bohnenstengel, and N. Nazarian. [Neighbourhood-scale urban dispersion modelling using a canopy approach](#), 2019. Talk at: 2019 NCAS Air Quality Symposium, 27-28 November, University of Leeds, Leeds, UK.
 - [58] C. L. Daleu, N. Harvey, R. S. Plant, and S. J. Woolonough. [Idealized modelling of the diurnal cycle of deep convection using the new met office cloud-resolving model \(MONC\)](#), 2019. Talk at: UM User Workshop 2019, 17–21 June, Met Office, Exeter.
 - [59] C. L. Daleu, N. Harvey, R. S. Plant, and S. J. Woolonough. [The simulation of the diurnal cycle of deep convection over land in a new Met Office cloud-resolving model](#), 2019. Talk at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.
 - [60] S. L. Gray and R. S. Plant. [Workshop summary and thanks](#), 2019. Talk at: 5th OpenIFS User Workshop, Reading, 17-21 June.
 - [61] J.-F. Gu, R. S. Plant, and C. E. Holloway. [Parameterizing the sub-grid vertical fluxes with composited distributions of variables within the cloud](#), 2019. Talk at: ParaCon Plenary Meeting, 15-16 May, Leeds.
 - [62] J.-F. Gu, R. S. Plant, C. E. Holloway, T. R. Jones, A. Stirling, P. A. Clark, and S. J. Woolnough. Evaluation of bulk mass flux formulation using large-eddy simulations, 2019. Talk at: Nanjing University Seminar, 25 October, Nanjing, China.
 - [63] J.-F. Gu, R. S. Plant, C. E. Holloway, T. R. Jones, A. Stirling, P. A. Clark, S. J. Woolnough, and T. Webb. [Key components of convection for vertical transport of heat and moisture: A core-cloak conceptual model](#), 2019. Talk at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.

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- [64] S. Hagos, Z. Feng, R. A. Houze Jr, R. S. Plant, and A. Protat. A machine learning assisted development of a model for the population dynamics of clouds, 2019. Talk at: EGU General Assembly, 7–12 April 2019, Vienna, Austria.
- [65] S. Hagos, Z. Feng, R. A. Houze Jr, R. S. Plant, and A. Protat. [A stochastic transition matrix approach to modeling of the population dynamics of clouds](#), 2019. Talk at: 2019 AMS Annual Meeting, 6-10 January, Phoenix, Arizona, USA.
- [66] M. C. Johnston, C. E. Holloway, and R. S. Plant. [Cloud trails: Are the clouds important?](#), 2019. Talk at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.
- [67] T. R. Jones, P. A. Clark, R. S. Plant, C. E. Holloway, and S. J. Woolnough. Radiative convective equilibrium across the gray zone, 2019. Talk at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.
- [68] M. R. Muetzelfeldt, R. S. Plant, P. A. Clark, and A. Stirling. [Using a cloud-resolving model to diagnose the effects of different wind shear profiles on deep convective cloud fields](#), 2019. Talk at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.
- [69] R. S. Plant, J.-F. Gu, T. R. Jones, C. E. Holloway, and the ParaCon team. [Convective parameterization development from cloud resolving simulations of convective equilibrium: what can we still learn?](#), 2019. Invited talk at: EGU General Assembly, 7–12 April 2019, Vienna, Austria.
- [70] R. S. Plant, A. Stirling, P. A. Clark, J. Thuburn, A. Ross, M. Herzog, H. Weller, and the ParaCon Team. [The ParaCon programme: New approaches for modelling convection](#), 2019. Invited talk at: Weather and Climate Modelling Special Interest Group Seminar, Centre for High Performance Computing Conference 2019, Johannesburg, South Africa, 1-5 December.
- [71] A. Stirling, P. A. Clark, R. S. Plant, D. J. Parker, M. Herzog, and J. Thuburn. Paracon’s parametrisation of convection at kilometre scales, 2019. Talk at: UCP2019 Understanding Clouds and Precipitation, Berlin, 25 February - 1 March.
- [72] M. A. W. Whittall, P. Bechtold, A. Shimikobe, E. Dunne, R. Roehrig, D. Paquin-Ricard, J.-W. Bao, L. Gerard, R. S. Plant, J. Thuburn, H. E. Weller, D. Shipley, and Y. Cohen. [The “nitty gritty” of convection scheme development](#), 2019. Talk at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.
- [73] L. P. Blunn, O. Coceal, R. S. Plant, J. F. Barlow, S. Bohnenstengel, and H. W. Lean. [High-resolution modelling of the boundary layer and implications for urban air quality forecasting](#), 2018. Talk at: RMetS/NCAS Atmospheric Science Conference: Weather, Climate and Air Quality, 3-4 July, University of York.

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- [74] M.-J. Bopape, F. Engelbrecht, B. Abiodun, A. Beraki, J. McGregor, T. Ndarana, L. Ntsangwane, R. S. Plant, D. Randall, H. Rautenbach, H. Sithole, M. Sovara, and J. Witi. Weather and climate numerical models development programme in South Africa, 2018. Talk at: 34th Annual Conference of the South African Society for Atmospheric Sciences, 20–21 September, University of KwaZulu-Natal, Durban, South Africa.
- [75] C. L. Daleu, N. Harvey, R. S. Plant, and S. J. Woolnough. [Diurnal cycle of deep convection using MONC](#), 2018. Talk at: ParaCon Plenary Meeting, December, Met Office, Exeter.
- [76] J.-F. Gu, R. S. Plant, and C. E. Holloway. [A composite study of cloud structures](#), 2018. Talk at: ParaCon Plenary Meeting, 3-4 December, Met Office, Exeter.
- [77] S. Hagos, Z. Feng, R. S. Plant, R. A. Houze Jr, and A. Protat. [A stochastic framework for modeling the population dynamics of convective clouds](#), 2018. Talk at: 2nd Global Atmospheric System Studies (GASS) Conference, 26 February – 2 March, Lorne, Victoria, Australia.
- [78] T. R. Jones, P. A. Clark, R. S. Plant, C. E. Holloway, and S. J. Woolnough. Radiative convective equilibrium across the gray zone, 2018. Talk at: AGU Fall Meeting, 10-14 December, Washington, USA.
- [79] M. Muetzelfeldt, R. S. Plant, P. A. Clark, and A. J. Stirling. [A climatology of tropical wind shear produced by clustering wind profiles from a climate model](#), 2018. Talk at: ParaCon Plenary Meeting, 3-4 December, Met Office, Exeter.
- [80] R. S. Plant. [Sources of heterogeneity for convection and some implications](#), 2018. Invited talk at: Boundary-layer moist-convection coupling workshop, 5-6 March, Leeds University.
- [81] C. L. Daleu, N. Harvey, R. S. Plant, and S. J. Woolnough. [The diurnal cycle in MONC](#), 2017. Talk at: ParaCon Plenary Meeting, December, Exeter.
- [82] G. A. Efstathiou, R. S. Plant, M. M. Bopape, and R. J. Beare. [Dynamic sub-grid modelling of an evolving CBL at greyzone resolutions](#), 2017. Talk at: Shedding light on the greyzone, ECMWF Workshop, 13-16 November, ECMWF, Reading.
- [83] D. L. A. Flack, P. A. Clark, S. L. Gray, R. S. Plant, C. E. Halliwell, H. W. Lean, and N. M. Roberts. Convective-scale perturbation growth across a spectrum of convective cases, 2017. Talk at: 17th AMS Conference on Mesoscale Processes, 23-27 July, San Diego.
- [84] S. Hagos, Z. Feng, R. S. Plant, R. A. Houze Jr, and H. Xiao. Development of stochastic models of convective cloud populations, 2017. Talk at: The Future of Cumulus Parametrization, 10-14 July 2017, TU Delft, Netherlands.
- [85] R. S. Plant. [Implementing stochastic parameterizations: Noise we want and noise we don't](#), 2017. Invited talk at: The Future of Cumulus Parametrization, 10-14 July 2017, TU Delft, Netherlands.

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- [86] R. S. Plant. [Stochastic aspects of convection-permitting models](#), 2017. Invited talk at: Scaling Cascades in Complex Systems 2017, 27-29 March, Freie Universitat, Berlin, Germany.
 - [87] R. S. Plant, C. Daleu, and S. J. Woolnough. [Parameterizing large-scale circulations based on the weak temperature gradient approximation](#), 2017. Talk at: GAFD Seminar, 13 March, Exeter University.
 - [88] R. S. Plant, C. Daleu, and S. J. Woolnough. [Parameterizing large-scale circulations based on the weak temperature gradient approximation](#), 2017. Talk at: Convection Seminar, 23 May, Leeds University.
 - [89] M.-J. Bopape, O. Coceal, and R. S. Plant. [A comparison of LES sub-grid turbulence models at different grid resolutions in a convective BL](#), 2016. Talk at: 22nd AMS Symposium on Boundary Layers and Turbulence, 20-24 June 2016, Salt Lake City, USA.
 - [90] M.-J. Bopape, F. A. Engelbecht, T. Ndarana, R. S. Plant, O. Coceal, and M. Thatcher. [Simulating the Earth system with filtered Navier Stokes equations](#), 2016. Invited talk at: 10th CHPC National Meeting, 5-9 December, East London ICC, South Africa.
 - [91] M.-J. Bopape, R. S. Plant, and O. Coceal. Simulating the convective boundary layer with a dynamic Smagorinsky model, 2016. Talk at: 32nd Annual Conference of the South African Society for Atmospheric Sciences, 31 October – 1 November, University of Cape Town, South Africa.
 - [92] M.-J. Bopape, R. S. Plant, and O. Coceal. Simulations of a convective boundary layer with a dynamic Smagorinsky scheme, 2016. Talk at: 31st annual meeting of the Working Group on Numerical Experimentation (WGNE), 26-29 April, CSIR, South Africa.
 - [93] C. Daleu, R. S. Plant, S. J. Woolnough, A. Sobel, S. Wang, S. Sessions, M. Herman, G. Bellon, F. Ferry, P. Peyrille, A. Cheng, P. Siebesma, B. Van Uft, and D. Kim. Intercomparison of methods of coupling between convection and large-scale circulation, 2016. Talk at: Understanding Clouds and Precipitation Conference, HD(CP)2, 15–19 February, Berlin.
 - [94] A. Deluca, R. S. Plant, C. E. Holloway, and H. Kantz. [Self-organised convection in a cloud-resolving model: realistic and idealistic simulations](#), 2016. Talk at: Centre for Dynamics Workshop, Technische Universitat, Dresden.
 - [95] D. L. A. Flack, R. S. Plant, S. L. Gray, H. W. Lean, and G. C. Craig. Model physics perturbations in different convective regimes, 2016. Talk at: Early-Career Researchers' FFIR Meeting, January 2016, Hull.
 - [96] D. L. A. Flack, R. S. Plant, S. L. Gray, H. W. Lean, and G. C. Craig. Model physics perturbations in different convective regimes, 2016. Talk at: FRANC Annual Science Meeting, 22 June 2016, Reading.

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- [97] D. L. A. Flack, R. S. Plant, S. L. Gray, H. W. Lean, and G. C. Craig. Model physics perturbations in different convective regimes, 2016. Talk at: Ludwig Maximilian University seminar, 16 June 2016, Munich, Germany.
 - [98] D. L. A. Flack, R. S. Plant, S. L. Gray, H. W. Lean, and G. C. Craig. Model physics perturbations in different convective regimes, 2016. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [99] R. S. Plant. [Regime transitions in a parameterized world: where are/should the decisions be taken?](#), 2016. Talk at: US DoE ASR Workshop on the Representation of Convection in Next-Generation Climate Models, 3-5 February, PNNL, Richland, Washington, USA.
 - [100] R. S. Plant, E. Carter, P. Clark, H. Guy, C. Halliwell, K. E. Hanley, R. J. Hogan, H. W. Lean, T. H. M. Stein, and M. Weeks. [Characteristics of precipitating convection in the UM at \$\Delta x \approx 200\text{m}-2\text{km}\$](#) , 2016. Talk at: RMetS NCAS Conference, 6-8 July 2016, Manchester.
 - [101] T. Stein, R. J. Hogan, K. E. Hanley, P. A. Clark, C. Halliwell, H. W. Lean, J. Nicol, and R. S. Plant. [The DYMECS project: A statistical approach for the evaluation of convective storms in high-resolution NWP models](#), 2016. Talk at: EGU General Assembly, 18–22 April 2016, Vienna, Austria.
 - [102] M.-J. Bopape, R. S. Plant, and O. Coceal. Resolution dependence of the temperature flux in the convective boundary layer, 2015. Talk at: NCAS Science Conference 2015, 16–17 July, York.
 - [103] M.-J. Bopape, R. S. Plant, and O. Coceal. Resolution dependence of the temperature flux in the convective boundary layer, 2015. Talk at: NCAS Early Career Research Forum 2015, 6 May, Reading.
 - [104] M.-J. Bopape, R. S. Plant, O. Coceal, G. Efstathiou, R. J. Beare, A. P. Lock, and H. W. Lean. Simulations of the boundary layer with a dynamic Smagorinsky model, 2015. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [105] C. Daleu, R. S. Plant, S. J. Woolnough, A. Sobel, S. Wang, S. Sessions, M. Herman, G. Bellon, F. Ferry, P. Peyrille, A. Cheng, P. Siebesma, B. Van Uft, and D. Kim. Intercomparison of methods of coupling between convection and large-scale circulation, 2015. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [106] C. Daleu, R. S. Plant, S. J. Woolnough, A. Sobel, S. Wang, S. Sessions, M. Herman, G. Bellon, F. Ferry, P. Peyrille, A. Cheng, P. Siebesma, B. Van Uft, and D. Kim. [Intercomparison of methods of coupling between convection and large-scale circulation](#), 2015. Talk at: New Mexico Institute of Mining and Technology, September.
 - [107] C. Daleu, R. S. Plant, S. J. Woolnough, A. Sobel, S. Wang, S. Sessions, M. Herman, G. Bellon, F. Ferry, P. Peyrille, A. Cheng, P. Siebesma, B. Van Uft, and D. Kim. Intercomparison of methods of coupling between convection and large-scale circulation, 2015. Talk at: NCAS Science Conference 2015, 16–17 July, York.

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- [108] S. Dey, R. S. Plant, N. Roberts, and S. Migliorini. A look at the spatial characteristics of convective storms in high resolution ensembles, 2015. Talk at: Departmental Seminar, Department of Meteorology, University of Reading.
- [109] S. Dey, R. S. Plant, N. Roberts, and S. Migliorini. [A new method for the characterization and verification of local spatial predictability for convective-scale ensembles](#), 2015. Talk at: 27th Conference On Weather Analysis And Forecasting / 23rd Conference On Numerical Weather Prediction, American Meteorological Society, 28 June – 3 July, Chicago, USA.
- [110] D. L. A. Flack, R. S. Plant, S. L. Gray, H. W. Lean, and G. C. Craig. [Characterising convective regimes over the uk](#), 2015. FRANC Annual Meeting, Met Office, Exeter, UK, 27 April 2015.
- [111] J. Nicol, R. J. Hogan, T. H. M. Stein, R. J. Hogan, R. S. Plant, P. A. Clark, C. Haliwell, K. E. Hanley, H. W. Lean, M. Clarke, A. Doo, and D. Ladd. [DYMECS: A statistical evaluation of convective storms in high-resolution Unified Model simulations](#), 2015. Talk at: Met Office seminar, 23 January, Exeter.
- [112] R. S. Plant. [Convection closure and energy cycle](#), 2015. Talk at: Workshop on Statistical Cumulus Dynamics, 15 June, National Meteorological Administration, Bucharest, Romania.
- [113] O. Coceal, M.-J. Bopape, and R. S. Plant. [Evaluation of a tensor eddy-diffusivity model for the terra incognita](#), 2014. Talk at: 21st AMS Symposium on Boundary Layers and Turbulence, 9-13 June 2014, Leeds.
- [114] O. Coceal, M.-J. Bopape, and R. S. Plant. Performance of a tensor eddy-diffusivity model for a neutral and convective boundary layer at grey-zone resolutions, 2014. Talk at: NCAS Science Conference 2014, 17–18 July, Bristol.
- [115] C. L. Daleu, S. J. Woolnough, R. S. Plant, A. H. Sobel, D. J. Raymond, S. Sessions, S. Wang, and G. Bellon. Intercomparison of methods of coupling between convection and large-scale circulation, 2014. Talk at: AGU Fall Meeting, 15-19 December, San Fransisco, USA.
- [116] S. Dey, R. S. Plant, S. Migliorini, and N. Roberts. A look at the spatial location and predictability of convective storms over the UK, 2014. Talk at: Royal Meteorological Society, SE Centre Meeting, 3 December, Reading.
- [117] S. R. A. Dey, R. S. Plant, N. M. Roberts, and S. Migliorini. A look at the spatial characteristics of convective storms in MOGREPS-UK, 2014. Talk at: Met Office seminar, 14 November, Exeter, UK.
- [118] G. Efstathiou, R. J. Beare, M.-J. Bopape, O. Coceal, and R. S. Plant. Modelling grey zone boundary layers: The GreyBLs project, 2014. Talk at: WGNE/GASS Workshop: The Grey Zone Project, Max Planck Institute for Meteorology, 1-3 December, Hamburg, Germany.

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- [119] D. L. A. Flack, R. S. Plant, S. L. Gray, H. W. Lean, and G. C. Craig. The appropriate use of a convective adjustment timescale to distinguish between regimes of predictability, 2014. Royal Meteorological Society Student Conference, Manchester, UK, July 2014.
- [120] H. W. Lean, P. A. Clark, C. Halliwell, K. E. Hanley, R. J. Hogan, J. Nicol, R. S. Plant, and T. Stein. [Statistical analysis of UK convection and its representation in high resolution NWP models](#), 2014. World Weather Open Science Conference 2014, Montreal, Canada, 16-21 August.
- [121] H. W. Lean, K. E. Hanley, C. Halliwell, T. H. M. Stein, R. J. Hogan, J. Nicol, R. S. Plant, and P. Clark. [Use of DYMECS observations to validate the representation of convection over the UK in high resolution versions of the Unified Model](#), 2014. Talk at: 26th Conference on Weather Analysis and Forecasting / 22nd Conference on Numerical Weather Prediction, 2-6 February, Atlanta, Georgia, USA.
- [122] O. Martinez-Alvarado, L. Baker, S. L. Gray, J. Methven, and R. S. Plant. [Distinguishing the cold conveyor belt and sting jet air streams in an intense extratropical cyclone](#), 2014. World Weather Open Science Conference 2014, Montreal, Canada, 16-21 August.
- [123] R. S. Plant. [Boundary layer parameterization](#), 2014. Talk at: Summer School on Physics and Dynamics of Numerical Weather Prediction, 28 – 31 July, Nanjing University, China.
- [124] R. S. Plant. [Convection parameterization: Part II](#), 2014. Talk at: Summer School on Physics and Dynamics of Numerical Weather Prediction, 28 – 31 July, Nanjing University, China.
- [125] R. S. Plant. [Convection parameterization: Part I](#), 2014. Talk at: Summer School on Physics and Dynamics of Numerical Weather Prediction, 28 – 31 July, Nanjing University, China.
- [126] R. S. Plant. [Convection "resolving" models: How well is the convection actually resolved?](#), 2014. Talk at: Summer School on Physics and Dynamics of Numerical Weather Prediction, 28 – 31 July, Nanjing University, China.
- [127] R. S. Plant. [Microphysics parameterization](#), 2014. Talk at: Summer School on Physics and Dynamics of Numerical Weather Prediction, 28 – 31 July, Nanjing University, China.
- [128] R. S. Plant. [Overview and cloud cover parameterization](#), 2014. Talk at: Summer School on Physics and Dynamics of Numerical Weather Prediction, 28 – 31 July, Nanjing University, China.
- [129] T. H. M. Stein, R. J. Hogan, P. A. Clark, C. E. Halliwell, K. E. Hanley, H. W. Lean, J. C. Nicol, and R. S. Plant. The DYMECS project: A statistical approach for the evaluation of convective storms in high-resolution models, 2014. Talk at: WGNE/GASS Workshop: The Grey Zone Project, Max Planck Institute for Meteorology, 1-3 December, Hamburg, Germany.

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- [130] T. H. M. Stein, R. J. Hogan, J. Nicol, R. S. Plant, P. A. Clark, K. E. Hanley, C. Halliwell, and H. W. Lean. [The DYMECS project: A statistical approach for the evaluation of convective storms in high-resolution models](#), 2014. Talk at: Cascade Downstream Workshop on Convection Modelling, 7-8 October, Reading.
 - [131] S. Dey, R. S. Plant, S. Migliorini, and N. Roberts. [High resolution ensemble analysis: linking correlations and spread to physical processes](#), 2013. Talk at: 13th EMS Annual Meeting and 11th European Conference on Applications of Meteorology, 9-13 September, Reading.
 - [132] K. E. Hanley, R. S. Plant, H. W. Lean, C. Halliwell, T. Stein, and R. Hogan. Mixing length controls on high resolution simulations of convective storms, 2013. Talk at: 13th EMS Annual Meeting and 11th European Conference on Applications of Meteorology, 9-13 September, Reading.
 - [133] K. E. Hanley, R. S. Plant, H. W. Lean, C. Halliwell, T. Stein, and R. J. Hogan. [Mixing length controls on high resolution simulations of convective storms](#), 2013. Talk at: European Geosciences Union General Assembly, 7-12 April, Vienna, Austria.
 - [134] K. E. Hanley, R. S. Plant, T. H. Stein, R. J. Hogan, H. Lean, and C. Halliwell. [DYMECS: Dynamical and microphysical evolution of convective storms](#), 2013. Talk at: JWCRP Workshop on Understanding and Representing Atmospheric Convection Across Scales, 28-30 January, Dartington, UK.
 - [135] R. J. Hogan, T. Stein, J. Nicol, R. S. Plant, K. Hanley, H. Lean, C. Halliwell, and E. Carter. [Radar evaluation of the structure of thunderstorms in high resolution forecasts](#), 2013. Talk at: RMetS National Meeting, 20th March, London, UK.
 - [136] R. J. Keane, R. S. Plant, and W. J. Tennant. [The Plant-Craig stochastic convection scheme in MOGREPS](#), 2013. Talk at: Joint SRNWP Workshop on Model Physics and Ensemble Prediction Systems, 18-20 June, AEMET, Madrid, Spain.
 - [137] O. Martinez-Alvarado, L. Baker, S. L. Gray, J. Methven, and R. S. Plant. Airstreams in regions of strong winds in extratropical cyclone Friedhelm: Model results and observational evidence, 2013. Talk at: RACEWIN Workshop on European Storms, 2-4 September, Hadley Centre, Exeter.
 - [138] O. Martinez-Alvarado, L. Baker, S. L. Gray, J. Methven, and R. S. Plant. [Progress on the analysis of IOP-8, 11 December 2011](#), 2013. Talk at: DIAMET Science Meeting, 7-8 March, Manchester.
 - [139] O. Martinez-Alvarado, H. Joos, J. Chagnon, M. Bottcher, S. L. Gray, R. S. Plant, J. Methven, and H. Wernli. [Progress on the analysis of the warm conveyor belt in the T-NAWDEX-III case 23-25 November 2009](#), 2013. Talk at: DIAMET Science Meeting, 7-8 March, Manchester.

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- [140] O. Martinez-Alvarado, H. Joos, J. M. Chagnon, M. Bottcher, S. L. Gray, R. S. Plant, and H. Wernli. Diabatic processes and branch splitting of a warm conveyor belt in MetUM and COSMO model simulations, 2013. Talk at: 13th EMS Annual Meeting and 11th European Conference on Applications of Meteorology, 9-13 September, Reading.
 - [141] O. Martinez-Alvarado and R. S. Plant. [Liquid detrainment in convection embedded in a cold front](#), 2013. Talk at: DIAMET Science Meeting, 7-8 March, Manchester.
 - [142] O. Martinez-Alvarado and R. S. Plant. [Progress on the analysis 30 September 2011 DIAMET case](#), 2013. Talk at: DIAMET Science Meeting, 7-8 March, Manchester.
 - [143] O. Martinez-Alvarado and R. S. Plant. Resolved versus parameterised convection in numerical simulations of extratropical cyclones, 2013. Talk at: 13th EMS Annual Meeting and 11th European Conference on Applications of Meteorology, 9-13 September, Reading.
 - [144] O. Martinez-Alvarado, R. S. Plant, L. Baker, J. Chagnon, S. L. Gray, J. Methven, H. Joos, M. Bottcher, and H. Wernli. [Understanding the mesoscale structure of extratropical cyclones: Three case studies during the DIAMET project](#), 2013. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [145] D. McNamara, R. S. Plant, and S. E. Belcher. A global climatology of boundary layer ventilation, 2013. Talk at: European Geosciences Union General Assembly, 7-12 April, Vienna, Austria.
 - [146] R. S. Plant. [The ingredients of a typical mass flux scheme](#), 2013. Talk at: COST ES0905 Final Training School, 29 September – 9 October, Brac, Croatia.
 - [147] R. S. Plant. [Parameterization in the grey zone: what should it recognize?](#), 2013. Talk at: JWCRP Workshop on Understanding and Representing Atmospheric Convection Across Scales, 28-30 January, Dartington, UK.
 - [148] R. S. Plant, E. Carter, P. A. Clark, C. Halliwell, K. E. Hanley, R. J. Hogan, D. E. Kirshbaum, H. W. Lean, J. Nicol, T. Stein, and R. A. Warren. [Convective-scale numerical modelling. how accurate is "realistic-looking"?](#), 2013. Talk at: Space and Atmospheric Physics Seminar Series, 18th June, Imperial College.
 - [149] T. Stein, R. J. Hogan, E. Carter, C. Halliwell, K. E. Hanley, H. Lean, J. Nicol, and R. S. Plant. [The three-dimensional microphysical and dynamical structure of convective storms](#), 2013. Talk at: 7th European Conference on Severe Storms, 3-7 June, Helsinki, Finland.
 - [150] T. H. M. Stein, R. J. Hogan, P. Clark, C. Halliwell, K. E. Hanley, H. W. Lean, J. Nicol, and R. S. Plant. [The three-dimensional microphysical and dynamical structure of convective storms](#), 2013. Talk at: 13th EMS Annual Meeting and 11th European Conference on Applications of Meteorology, 9-13 September, Reading.

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- [151] T. H. M. Stein, R. J. Hogan, J. Nicol, R. S. Plant, P. A. Clark, K. E. Hanley, C. Halliwell, and H. W. Lean. [Evaluation of three-dimensional cloud structures in DYMECS](#), 2013. Talk at: Workshop on Convection in Met Office models at high resolution, 13 June, Reading.
 - [152] R. A. Warren, D. J. Kirshbaum, R. S. Plant, and H. W. Lean. [A quasi-stationary convective system associated with sea breeze convergence](#), 2013. Talk at: 15th AMS Conference on Mesoscale Processes, 6-9 August, Portland, Oregon, USA.
 - [153] M. A. Whittall and R. S. Plant. Using stochastic parameterisations to study the sensitivity of the atmosphere to variability at scales poorly resolved in GCMs, 2013. Talk at: Met Office seminar, Exeter, UK.
 - [154] L. Baker, O. Martinez-Alvarado, S. L. Gray, J. Methven, N. Roberts, and R. S. Plant. [Analysis of cyclone Friedhelm, 8 December 2011 \(DIAMET IOP-8\)](#), 2012. Talk at: DIAMET Science Meeting, 6 November, Manchester.
 - [155] K. N. Bower, T. W. Choularton, J. Crosier, G. Lloyd, J. R. Dorsey, M. W. Gallagher, P. Connolly, C. Dearden, G. Vaughan, and the DIAMET Team. The microphysics of cold fronts measured during DIAMET, 2012. Talk at: European Geosciences Union General Assembly, 22-27 April, Vienna, Austria.
 - [156] C. L. Daleu, R. S. Plant, and S. J. Woolnough. [Modelling the interactions between tropical convection and large-scale dynamics](#), 2012. Talk at: 1st Pan-GASS Meeting: Advances in the Modelling of Atmospheric Physical Processes, 10-14 September, Boulder, Colorado, USA.
 - [157] R. J. Hogan, R. S. Plant, T. Stein, K. Hanley, J. Nicol, H. Lean, and C. Halliwell. [DYMECS: Dynamical and microphysical evolution of convective storms](#), 2012. Talk at: COPE Science Meeting, 25th October, Reading, UK.
 - [158] O. Martinez-Alvarado, J. Chagnon, S. L. Gray, R. S. Plant, J. Methven, H. Joos, M. Bötcher, and H. Wernli. [Diabatic processes and the structure of the warm conveyor belt](#), 2012. Talk at: 2nd European Windstorms Workshop, 3–5 September 2012, Leeds, UK.
 - [159] O. Martinez-Alvarado and R. S. Plant. [Diagnosis of convective parameterisation schemes in extratropical cyclones](#), 2012. Talk at: Workshop on Concepts for Convective Parameterisations in Large-Scale Models, 20-22 March, CIMA Foundation, Savona, Italy.
 - [160] O. Martinez-Alvarado and R. S. Plant. [Liquid detrainment in convection embedded in a cold front](#), 2012. Talk at: COST Action WG1+2 Meeting on Entrainment and Detrainment, 22-23 February, KNMI, Utrecht, Netherlands.
 - [161] O. Martinez-Alvarado, R. S. Plant, J. Chagnon, S. L. Gray, J. Methven, H. Joos, M. Bötcher, and H. Wernli. [Diabatic processes and the structure of extratropical cyclones](#), 2012. Talk at: Geophysical and Nonlinear Fluid Dynamics Seminar, AOPP, 23 October, Oxford.

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- [162] R. S. Plant. [Spectral and bulk mass-flux convective parameterizations](#), 2012. Talk at: Workshop on Concepts for Convective Parameterisations in Large-Scale Models, 20-22 March, CIMA Foundation, Savona, Italy.
 - [163] T. H. M. Stein, K. E. Hanley, R. Hogan, J. Nicol, R. S. Plant, E. Carter, C. Halliwell, H. W. Lean, A. Macallan, M. Clarke, A. Doo, and D. Ladd. [DYMECS: The evolution of thunderstorms in the Met Office Unified Model](#), 2012. Talk at: NCAS Weather Rainfall Forum, 27 July, Manchester.
 - [164] T. H. M. Stein, K. E. Hanley, R. Hogan, R. S. Plant, E. Carter, H. W. Lean, J. Nicol, C. Halliwell, and A. Macallan. [Tracking the three-dimensional evolution of convective storms in radar observations and high-resolution models](#), 2012. Talk at: 26th Conference on Severe Local Storms, 5–8 November, Nashville, USA.
 - [165] G. Vaughan and the DIAMET Team. [The DIAMET campaign](#), 2012. Invited talk at: European Geosciences Union General Assembly, 22-27 April, Vienna, Austria.
 - [166] R. A. Warren, R. S. Plant, H. Lean, and D. Kirshbaum. [Numerical simulations of a COPE-type case](#), 2012. Talk at: COPE Science Meeting, 25th October, Reading, UK.
 - [167] R. A. Warren, R. S. Plant, H. Lean, and D. Kirshbaum. [Quasi-stationary convective storms in the UK: A case study](#), 2012. Talk at: RMetS Conference, 9-12 July, Leeds, UK.
 - [168] R. A. Warren, R. S. Plant, H. Lean, and D. Kirshbaum. [A quasi-stationary convective system over the UK southwest peninsula](#), 2012. Talk at: 4th CNR-ISAC Summer School. Severe Convective Weather: Theory and Applications, 17-21 September, Lecce, Italy.
 - [169] O. Peters and R. S. Plant. The precipitation phase transition and climate modeling, 2011. Talk at: Workshop on Concepts for Convective Parameterizations in Large-Scale Models IV: Convective organisation, 23-25 March, Cambridge, UK.
 - [170] R. S. Plant. [A modelling framework for statistical cumulus dynamics](#), 2011. Talk at: Workshop on Hamiltonian Approaches and Statistical Mechanics in Convection Parameterisation, 2-5 May, Ludwig Maximilian University, Munich, Germany.
 - [171] R. S. Plant. [Novel parameterisations in the boundary layer](#), 2011. Talk at: NCAS Workshop on the Boundary Layer, 1 July, Exeter, UK.
 - [172] R. S. Plant. [Stochastic parameterization: uncertainties from convection](#), 2011. ECMWF Workshop on Representing model uncertainty and error in numerical weather and climate prediction models, Reading, UK, 20-24 June 2011.
 - [173] S. E. Belcher, I. A. Boutle, R. J. Beare, A. R. Brown, and R. S. Plant. [Synoptic controls on moist boundary layer structure](#), 2010. Talk at: 19th Symposium on Boundary Layers and Turbulence, 2-6th August, Keystone, Colorado, USA.

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- [174] A. Illingworth, J. Nicol, K. Bartholomew, R. Plant, G. Leoncini, S. Gray, D. Livings, R. Moore, S. Cole, and A. Robson. [Enhancing storm and flood forecasting using radar, data assimilation and ensemble numerical weather prediction models](#), 2010. Talk at: Flood Risk from Extreme Events, Royal Meteorological Society National Meeting, 20th October 2010, Imperial College, London UK.
 - [175] R. J. Keane, R. S. Plant, N. E. Bowler, and W. J. Tennant. [Development of a stochastic convection scheme](#), 2010. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [176] R. J. Keane, R. S. Plant, N. E. Bowler, and W. J. Tennant. [Development of a stochastic convection scheme](#), 2010. Talk at: April, Ludwig-Maximilians-Universitat, Munich.
 - [177] R. S. Plant. [Boundary layer controls on extratropical cyclone development](#), 2010. Talk at: Met, Ocean and Climate Seminar Series, 28th May, School of Environmental Sciences, University of East Anglia.
 - [178] R. S. Plant. [Issues with convection. What is a useful framework beyond bulk models of large N, non-interacting, scale-separated, equilibrium systems?](#), 2010. Talk at: Workshop on Stochastic Methods in Climate Modelling, 23-27 August, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK.
 - [179] R. S. Plant. [Self-organized criticality in tropical convection?](#), 2010. Talk at: Climate Thermodynamics workshop, 21-22nd April, University of Reading, UK.
 - [180] R. S. Plant and M. A. Whittall. [Stochastic parameterization: is sophistication useful?](#), 2010. Talk at: European Geosciences Union General Assembly, 2-7 May, Vienna, Austria.
 - [181] I. A. Boutle, S. E. Belcher, R. S. Plant, R. J. Beare, and A. R. Brown. [Boundary layer dynamics in extra-tropical cyclones](#), 2009. Talk at: Applied Mathematics Seminar, 8 June, University of Exeter.
 - [182] I. A. Boutle, R. S. Plant, S. E. Belcher, R. J. Beare, and A. R. Brown. [Moisture transport in baroclinic waves](#), 2009. Talk at: European Geosciences Union General Assembly, 19-24 April, Vienna, Austria.
 - [183] R. J. Keane and R. S. Plant. [3D experiments with a stochastic convective parameterisation scheme](#), 2009. Talk at: 9th European Conference on Applications of Meteorology, 28 September-2 October, Toulouse, France.
 - [184] R. J. Keane and R. S. Plant. [3D experiments with a stochastic convective parameterisation scheme](#), 2009. Talk at: 4th SRNWP Workshop on Short-range Ensemble Prediction Systems, 23-25 June, Met Office, Exeter, UK.
 - [185] G. Leoncini, R. S. Plant, and S. L. Gray. [Convective scale NWP](#), 2009. Talk at: NERC FREE Workshop on Ensembles, 23-24 September 2009, Reading, UK.

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- [186] G. Leoncini, R. S. Plant, S. L. Gray, and P. Clark. [Error growth at the convective scale](#), 2009. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [187] G. Leoncini, R. S. Plant, S. L. Gray, and P. A. Clark. [Contrasting convective-scale perturbation growth in two cases over the UK](#), 2009. Talk at: 9th European Conference on Applications of Meteorology, 28 September-2 October, Toulouse, France.
 - [188] G. Leoncini, R. S. Plant, S. L. Gray, and P. A. Clark. [Error growth at the convective scale](#), 2009. Talk at: 4th SRNWP Workshop on Short-range Ensemble Prediction Systems, 23-25 June, Met Office, Exeter, UK.
 - [189] T. I. Ngwana, M.-E. Demory, P.-L. Vidale, R. S. Plant, and M. P. Mbedzi. Impact of land cover changes on the South African climate, 2009. International Conference on Planetary Boundary Layer and Climate Change, Cape Town, South Africa, 26-28 October.
 - [190] R. S. Plant. [Convective cloud lifecycles](#), 2009. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [191] R. S. Plant. [Deep convective parameterization: Some issues \(and some solutions?\)](#), 2009. Talk at: Centre for Atmospheric Science Seminar, 23rd February, Department of Chemistry, University of Cambridge.
 - [192] R. S. Plant. [What \(if any\) constraints are desirable on near grid-scale noise?](#), 2009. Talk at: Mathematical Challenges in Climate Science workshop, 9-13th March, Lorentz Centre, Leiden, Netherlands.
 - [193] V. A. Sinclair, S. L. Gray, I. A. Boutle, R. S. Plant, and S. E. Belcher. [Boundary layer ventilation by weather systems](#), 2009. Talk at: Symposium on Air Pollution, 9th July, Reading, UK.
 - [194] S. E. Belcher, I. A. Boutle, R. S. Plant, and R. J. Beare. [The role of boundary layer processes in mid-latitude cyclones](#), 2008. Talk at: 18th Symposium on Boundary Layers and Turbulence, 9-13th June, Stockholm, Sweden.
 - [195] R. S. Plant. [Theory of moist convection in statistical equilibrium, by analogy with Maxwell-Boltzmann statistics](#), 2008. Talk at: Workshop on Concepts for Convective Parameterisations in Large-Scale Models, 12-14 February, MPI Hamburg, Germany.
 - [196] R. S. Plant and L. Davies. [Limitations of equilibrium. Or: What if \$\tau_{LS} \not\gg \tau_{adj}\$?](#), 2008. Talk at: Workshop on Concepts for Convective Parameterisations in Large-Scale Models, 12-14 February, MPI Hamburg, Germany.
 - [197] S. E. Belcher, R. J. Beare, I. A. Boutle, B. J. Hoskins, and R. S. Plant. [Role of boundary layer processes in mid-latitude cyclones](#), 2007. Talk at: 15th Conference on Air-Sea Interaction, 20-24th August, Portland, Oregon, USA.

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- [198] I. A. Boutle, R. S. Plant, S. E. Belcher, R. J. Beare, and A. R. Brown. [Friction in mid-latitude cyclones](#), 2007. Talk at: RMetS Student Assembly, 1-3rd September, Edinburgh, UK.
 - [199] L. Davies, R. S. Plant, and S. E. Derbsyhire. [Investigating the equilibrium assumption between convection and the forcing](#), 2007. Talk at: RMetS Conference, 3-6th September, Edinburgh, UK.
 - [200] L. Davies, R. S. Plant, and S. E. Derbsyhire. [What's quasi-equilibrium all about?](#), 2007. Talk at: Atmosphere-Ocean Convection in Climate Dynamics, Alpine Summer School Course XV, 18-27th June, Valsavarenche, Italy.
 - [201] A. Illingworth, S. Dance, R. Plant, S. Gray, S. Rennie, J. Nicol, G. Leoncini, K. Bartholomew, R. Moore, S. Cole, S. Ballard, and P. Clark. [Overview of FREE project entitled: Exploitation of new data sources, data assimilation and ensemble techniques for storm and flood forecasting](#), 2007. Talk at: First FREE Science Meeting, 14-15 November 2007, Salford, UK.
 - [202] G. Leoncini, R. Plant, and S. Gray. [Cloud ensemble simulations: Plans and preliminary results](#), 2007. Talk at: First FREE Science Meeting, 14-15 November 2007, Salford, UK.
 - [203] R. S. Plant. [Cloud tracking in cloud-resolving models](#), 2007. Talk at: RMetS Conference, 3-6th September, Edinburgh, UK.
 - [204] S. E. Belcher, D. S. Adamson, B. J Hoskins, and R. S. Plant. [The role of boundary layer friction in mid latitude weather systems](#), 2006. Talk at: DAMTP, Cambridge, UK.
 - [205] R. S. Plant. [Lagrangian diagnostics](#), 2006. Talk at: UWERN Mesoscale Modelling Workshop, Reading, UK.
 - [206] R. S. Plant, G. C. Craig, and C. Keil. [A stochastic parameterization for deep convection](#), 2006. Talk at: European Geosciences Union General Assembly, 2-7 April, Vienna, Austria.
 - [207] S. E. Belcher, D. S. Adamson, B. J Hoskins, and R. S. Plant. [Friction in mid-latitude cyclones: More than Ekman pumping](#), 2005. Talk at: Met Office seminar, Exeter, UK.
 - [208] G. C. Craig, B. G. Cohen, and R. S. Plant. [Statistical mechanics and stochastic convective parameterisation](#), 2005. ECMWF Workshop on Representation of Sub-grid Processes using Stochastic-Dynamic Models, Reading, UK, 6-8 June 2005.
 - [209] R. S. Plant and G. C. Craig. [Stochastic representation of convection](#), 2005. Talk at: Royal Meteorological Society Dynamical Problems Group. Statistical/stochastic approaches to atmospheric physics, 9th June, Reading, UK. (Also presented as seminar at DLR-Institut fuer Physik der Atmosphaere, Germany).
 - [210] R. S. Plant, G. C. Craig, and C. Keil. [Towards an ensemble system with a stochastic convection scheme](#), 2005. Talk at: RMetS Conference, 11-16th September, Exeter, UK.

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- [211] G. C. Craig, R. S. Plant, and B. G. Cohen. Stochastic cumulus parameterisation(?), 2004. Talk at: NCAS/Met Office Workshop on Convection, 6-8th January, Farnham Castle, UK.
 - [212] R. S. Plant and G. J. Keith. [Occurence of Kelvin-Helmholtz billows in sea breezes](#), 2004. Talk at: UWERN Conference, 13-15th December, Salford, UK.
 - [213] G. C. Craig, B. G. Cohen, and R. S. Plant. Towards a stochastic convection scheme, 2003. Talk at: ECMWF seminar, Reading, UK.
 - [214] R. S. Plant. [Mesoscale applications for microscale model?](#), 2003. Talk at: 2nd Microscale Model Meeting, Leeds, UK.
 - [215] R. S. Plant. [PV generation in the boundary layer](#), 2003. Talk at: Departmental seminar, Department of Meteorology, University of Reading.
 - [216] R. S. Plant. [Stochastic aspects of convection](#), 2003. Talk at: CSIP Planning Meeting, 14-15th October, Reading, UK.
 - [217] R. S. Plant and S. E. Belcher. [Towards understanding the role of the boundary layer in cyclones: Beyond Ekman spindown](#), 2003. Talk at: EGS-AGU-EUG Joint Assembly, 7-11th April, Nice, France.
 - [218] R. S. Plant. Frictional damping of cyclones, 2002. Talk at: JCMM seminar, University of Reading.
 - [219] R. S. Plant and S. E. Belcher. [Identifying the origins of PV anomalies](#), 2002. Talk at: UWERN Conference, 9-11th September, Colchester, UK.
 - [220] R. S. Plant, G. C. Craig, and S. L. Gray. [A threefold classification of extratropical cyclogenesis](#), 2002. European Geographical Society XXVII General Assembly, 21-26th April, Nice, France.
 - [221] R. S. Plant and M. C. Birse. [The \$\pi^0\gamma\gamma^*\$ form factor](#), 1997. Talk at: Particle Physics and the Early Universe Conference, 7-11th April, Cambridge, UK.

Conferences/Workshops: Posters

- [1] C. E. Holloway, J.-F. Gu, and R. S. Plant. Connections between sub-cloud coherent updrafts and the life cycle of maritime shallow cumulus clouds in large eddy simulation, 2025. Poster at: CFMIP-CloudSense Meeting, University of Exeter, 7-10 July.
- [2] R. S. Plant and G. A. Efstathiou. [A dynamic extension of the pragmatic blending scheme for scale-dependent sub-grid mixing](#), 2025. Talk at: Navigating the Turbulence Grey Zone in Numerical Weather Prediction: Modelling Challenges and Interdisciplinary Insights, University of Exeter, 23-25 June.

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- [3] Y. Bai, P. A. Clark, R. S. Plant, G. A. Efstathiou, R. Beare, and D. Vlaykov. [The Hi-Fi project: A new turbulence scheme for large-eddy simulation of grey zone parametrization](#), 2024. Poster at: Oxford Workshop on Model Uncertainty, Oxford, 23-26 September.
 - [4] J.-F. Gu, R. S. Plant, C. E. Holloway, P. A. Clark, and A. Stirling. Entrainment and detrainment processes in the large eddy simulation of maritime shallow cumulus clouds: Buoyancy sorting or acceleration sorting?, 2024. Poster at: AGU Fall Meeting, 9-13 December, Washington DC, USA.
 - [5] K. Mittal, R. S. Plant, S. L. Gray, D. Parsons, and D. L. A. Flack. [A comparison of forecast bust characteristics for different numerical weather prediction models over the european region](#), 2024. Poster at: Oxford Workshop on Model Uncertainty, Oxford, 23-26 September.
 - [6] K. Mittal, R. S. Plant, S. L. Gray, D. Parsons, and D. L. A. Flack. [Discovering mechanisms behind forecast busts](#), 2024. Poster at: Fluid Dynamics of Sustainability and the Environment Summer School, Ecole Polytechnique, Paris, 21-31 May.
 - [7] K. Mittal, R. S. Plant, S. L. Gray, D. Parsons, and D. L. A. Flack. [Discovering mechanisms behind forecast busts](#), 2024. Poster at: Royal Meteorological Society Student Conference, Met Office, Exeter, 1-3 July.
 - [8] Z. Zhang, H. C. Christensen, M. R. Muetzelfeldt, T. Woollings, R. S. Plant, A. J. Stirling, M. A. W. Whittall, M. Moncrieff, and C.-C. Chen. Improving and assessing organized convection parameterization in the unified model, 2024. Poster at: EGU General Assembly 2024, 14-19 April, Vienna.
 - [9] Z. Zhang, H. C. Christensen, M. R. Muetzelfeldt, T. Woollings, R. S. Plant, A. J. Stirling, M. A. W. Whittall, M. Moncrieff, and C.-C. Chen. Improving organized convection parameterization in the unified model, 2024. Poster at: Oxford Workshop on Model Uncertainty, Oxford, 23-26 September.
 - [10] Z. Zhang, H. M. Christensen, R. S. Plant, W. J. Tennant, M. R. Muetzelfeldt, M. Whittall, T. Woollings, and A. Stirling. Revealing missing temperature tendencies in simulated mesoscale convective systems using data assimilation increments, 2024. Poster at: AGU Fall Meeting, 9-13 December, Washington DC, USA.
 - [11] M. R. Muetzelfeldt, R. S. Plant, Z. Zhang, T. Woollings, and H. C. Christensen. [MCS:PRIME. environmental precursors to Mesoscale Convective Systems](#), 2023. Poster at: 20th AMS Conference on Mesoscale Processes, 17-21 July, Madison, WI.
 - [12] A. Power, R. S. Plant, P. A. Clark, G. A. Efstathiou, and T. R. Jones. Mixing length scales in a shallow cumulus boundary layer simulation, 2023. Poster at: 24th Symposium on Boundary Layers and Turbulence, AMS Annual Meeting, 8-12 January, Denver, USA.

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- [13] Z. Zhang, M. R. Muetzelfeldt, H. C. Christensen, T. Woollings, R. S. Plant, A. J. Stirling, M. A. W. Whitall, and M. Moncrieff. [Implementation of organized convection parameterization in the Met Office Unified Model](#), 2023. Poster at: 20th AMS Conference on Mesoscale Processes, 17-21 July, Madison, WI.
- [14] P. A. Clark, R. S. Plant, D. L. A. Flack, C. Halliwell, S. L. Gray, N. M. Roberts, and H. W. Lean. [Evaluation of a physically-based stochastic boundary-layer perturbation scheme using a super-ensemble](#), 2022. Poster at: ECMWF Workshop on Model Uncertainty, Reading, UK, 9-12 May 2022.
- [15] C. L. Daleu, R. S. Plant, A. J. Stirling, and M. A. W. Whitall. [Evaluating the comorph parameterization using idealised simulations of the two-way coupling between convection and large-scale dynamics](#), 2022. Poster at: 6th WGNE workshop on systematic errors in weather and climate models, ECMWF, Reading, 31 October - 4 November.
- [16] J.-F. Gu, R. S. Plant, C. E. Holloway, and P. A. Clark. [Moist halo region around shallow cumulus clouds in large eddy simulations](#), 2022. Poster at: 6th WGNE workshop on systematic errors in weather and climate models, ECMWF, Reading, 31 October - 4 November.
- [17] J.-F. Gu, R. S. Plant, C. E. Holloway, and M. R. Muetzelfeldt. Pressure drag for shallow cumulus clouds: From thermals to the cloud ensemble, 2022. Poster at: 35th Conference on Hurricanes and Tropical Meteorology, 9-13, New Orleans, LA, USA.
- [18] J.-F. Gu, R. S. Plant, C. E. Holloway, and M. R. Muetzelfeldt. [Pressure drag for shallow cumulus clouds – from thermals to the cloud ensemble](#), 2022. Poster at: 6th WGNE workshop on systematic errors in weather and climate models, ECMWF, Reading, 31 October - 4 November.
- [19] R. S. Plant, C. L. Daleu, M. A. W. Whitall, A. J. Stirling, and S. Lavender. [Tests of the closure for the comorph cumulus parameterization](#), 2022. Poster at: 6th WGNE workshop on systematic errors in weather and climate models, ECMWF, Reading, 31 October - 4 November.
- [20] S. Hagos, J. Chen, K. Barber, K. Sakaguchi, Z. Feng, H. Xiao, and R. S. Plant. [A machine learning assisted cloud population model as a parameterization of cumulus convection](#), 2020. Poster at: AGU Fall Meeting, 1-17 December, Online Event.
- [21] S. Hagos, Z. Feng, R. S. Plant, and A. Protat. [A machine learning assisted development of a model for the populations of convective and stratiform clouds](#), 2020. Poster at: MOAP Machine Learning for Nowcasting Workshop 9-11 September, Met Office, Exeter.
- [22] J.-F. Gu, R. S. Plant, C. E. Holloway, and T. R. Jones. A composite study of cloud structure and its implication for the parameterization of vertical fluxes, 2019. Poster at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.

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- [23] J.-F. Gu, R. S. Plant, C. E. Holloway, T. R. Jones, A. Stirling, P. A. Clark, and S. J. Woolnough. [A core-cloak representation of convection](#), 2019. Poster at: UCP2019 Understanding Clouds and Precipitation, Berlin, 25 February - 1 March.
- [24] S. Hagos, Z. Feng, R. S. Plant, and A. Protat. A machine learning assisted development of a model for the population dynamics of clouds, 2019. Poster at: 2019 Joint ARM User Facility and ASR PI Meeting, 10-13 June, Rockville, Maryland, USA.
- [25] N. Harvey, C. L. Daleu, S. J. Woolnough, and R. S. Plant. [Understanding the impact of surface heterogeneity on the diurnal cycle of deep convection](#), 2019. Poster at: Convection Parametrization: Progress and Challenges 2019, 15–19 July, Met Office, Exeter.
- [26] C. E. Holloway, J.-F. Gu, W. A. Mcintyre, T. Webb, R. S. Plant, P. A. Clark, H. Weller, S. J. Woolnough, A. Stirling, H. W. Lean, C. C. Chui, C. L. Daleu, C. Halliwell, K. E. Hanley, N. Harvey, M. Johnston, T. R. Jones, M. R. Muetzelfeldt, A. Osprey, and D. Shipley. [ParaCon at Reading: New approaches for modelling convection](#), 2019. Poster at: UCP2019 Understanding Clouds and Precipitation, Berlin, 25 February - 1 March.
- [27] M. Johnston, C. E. Holloway, and R. S. Plant. [Large-eddy resolution simulation of organised convection on a small island](#), 2019. Poster at: EGU General Assembly, 7–12 April 2019, Vienna, Austria.
- [28] M. R. Muetzelfeldt, R. S. Plant, P. A. Clark, S. J. Woolnough, and A. Stirling. Using a cloud-resolving model to diagnose the effects of different wind shear profiles on deep convective cloud fields, 2019. Poster at: UCP2019 Understanding Clouds and Precipitation, Berlin, 25 February - 1 March.
- [29] R. S. Plant and G. Efstathiou. [A dynamic extension of the pragmatic blending scheme for sub-grid mixing across the scales](#), 2019. Poster at: EGU General Assembly, 7–12 April 2019, Vienna, Austria.
- [30] S. Song, Y.-L. Hwong, S. C. Sherwood, A. Stirling, C. Rio, R. Roehrig, C. L. Daleu, and R. S. Plant. [Characterising convective schemes by their linearised responses](#), 2019. Poster at: AGU Fall Meeting, 9-13 December, San Fransisco, USA.
- [31] L. P. Blunn, D. Galea, O. Coceal, R. S. Plant, J. F. Barlow, S. Bohnenstengel, and H. W. Lean. [Modelling passive scalar dispersion within and above an urban canopy](#), 2018. Talk at: 3rd Annual UK Fluids Conference, 4-6 September, University of Manchester.
- [32] C. C. Chui, P. A. Clark, and R. S. Plant. A stochastic and prognostic convective parameterisation scheme for the “grey-zone”, 2018. Poster at: EGU General Assembly, 8–13 April 2018, Vienna, Austria.
- [33] S. Hagos, Z. Feng, R. S. Plant, R. A. Houze Jr, and A. Protat. [A stochastic framework for modeling the population dynamics of convective clouds](#), 2018. Poster at: 2018 ARM/ASR PI Meeting, 19-23 March, Vienna, Virginia, USA.

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- [34] M. Johnston, C. E. Holloway, and R. S. Plant. Environments that support organised shallow island convection, 2018. Poster at: EMS Annual Meeting, 3-7 September, Corvinus University of Budapest, Hungary.
- [35] M. Muetzelfeldt, R. S. Plant, P. A. Clark, S. J. Woolnough, and A. Stirling. Clustering wind profiles to identify shear conditions in climate models, 2018. Poster at: Met Office Academic Partnership Meeting, 15-16 February 2018, Exeter.
- [36] M. Muetzelfeldt, R. S. Plant, P. A. Clark, S. J. Woolnough, and A. Stirling. Effects of wind shear on cloud field organization, 2018. Poster at: EGU General Assembly, 8–13 April 2018, Vienna, Austria.
- [37] W. N. S. Rupasinghe, T. R. Jones, and R. S. Plant. Do the properties of convective clouds converge at high resolution?, 2018. Poster at: RMetS Students & Early Career Scientist Conference, Evolution of Science: Past, Present and Future, 5-6 July, University of York.
- [38] L. P. Blunn, O. Coceal, R. S. Plant, J. F. Barlow, S. Bohnenstengel, and H. W. Lean. [Modelling the impact of meteorological conditions affecting urban air quality](#), 2017. Poster at: RMetS Student Conference, 11-12 July, Met Office, Exeter, UK. Also presented at: NCAS Staff Conference, 6-7 February 2018, Manchester, UK.
- [39] C. C. Chui, P. A. Clark, and R. S. Plant. [A convection parametrisation scheme for the grey-zone](#), 2017. Poster at: Met Office Academic Partnership Meeting, 22-23 February 2017, Exeter.
- [40] C. C. Chui, P. A. Clark, and R. S. Plant. A convective parametrisation scheme with a prognostic vertical plume growth for the grey zone, 2017. Poster at: The Future of Cumulus Parametrization, 10-14 July 2017, TU Delft, Netherlands. Also presented at: Shedding light on the greyzone, ECMWF Workshop, 13-16 November, ECMWF, Reading.
- [41] C. L. Daleu, S. J. Woolnough, and R. S. Plant. Using the weak temperature gradient approximation to develop and evaluate convective parametrization schemes, 2017. Poster at: 5th WGNE workshop on systematic errors in weather and climate models, Montreal, Canada, 19-23 June, 2017.
- [42] G. Efstathiou and R. S. Plant. Dynamic sub-grid modelling of shallow cumulus convection, 2017. Poster at: The Future of Cumulus Parametrization, 10-14 July 2017, TU Delft, Netherlands.
- [43] D. L. A. Flack, S. L. Gray, R. S. Plant, H. W. Lean, and G. C. Craig. [Convective-scale practical predictability within different convective regimes](#), 2017. Poster at: 17th AMS Conference on Mesoscale Processes, 23-27 July, San Diego.
- [44] M. Johnston, C. E. Holloway, and R. S. Plant. [Satellite observations of Bermuda’s island-induced clouds](#), 2017. Poster at: The Future of Cumulus Parametrization, 10-14 July 2017, TU Delft, Netherlands.

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- [45] J. Kamieniecki, M. H. P. Ambaum, R. S. Plant, and S. J. Woolnough. [Thermodynamic work done in a WTG-coupled two column model diagnosed using energy cycles](#), 2017. Poster at: EGU General Assembly, 23–28 April 2017, Vienna, Austria.
 - [46] R. J. Keane, R. S. Plant, and W. J. Tennant. [Evaluation of the Plant-Craig stochastic convection parameterisation in MOGREPS](#), 2017. 5th WGNE workshop on systematic errors in weather and climate models, Montreal, Canada, 19-23 June, 2017.
 - [47] M. Muetzelfeldt, R. S. Plant, P. A. Clark, and A. Stirling. [Effects of shear on cloud field organization](#), 2017. Poster at: Met Office Academic Partnership Meeting, 22-23 February 2017, Exeter.
 - [48] M. R. Muetzelfeldt, R. S. Plant, P. A. Clark, S. J. Woolnough, and A. Stirling. [Effects of vertical shear on cloud field organization and variability](#), 2017. Poster at: The Future of Cumulus Parametrization, 10-14 July 2017, TU Delft, Netherlands.
 - [49] T. H. M. Stein, R. J. Hogan, P. A. Clark, C. Halliwell, K. E. Hanley, H. W. Lean, N. Marsden, J. Nicol, R. S. Plant, and R. Scovell. [The DYMECS project: Evaluating convective storms in NWP models](#), 2017. Poster at: CFMIP Meeting on Clouds, Precipitation, Circulation, and Climate Sensitivity, 25-28 September, University of Tokyo, Japan.
 - [50] M.-J. Bopape, O. Coceal, and R. S. Plant. [A comparison of LES sub-grid turbulence models at different grid resolutions in a convective BL](#), 2016. Poster at: RMetS NCAS Conference, 6-8 July 2016, Manchester.
 - [51] A. Deluca Silberberg, R. S. Plant, C. E. Holloway, and H. Kantz. Understanding the transition to strong convection in realistic and idealised cloud-resolving simulations of different aggregation scenarios, 2016. Poster at: Understanding Clouds and Precipitation Conference, HD(CP)2, 15–19 February, Berlin.
 - [52] D. Flack, G. C. Craig, S. L. Gray, H. W. Lean, and R. S. Plant. Perturbation growth structure in different convective regimes, 2016. Poster at: RMetS NCAS Conference, 6-8 July 2016, Manchester.
 - [53] D. Flack, R. S. Plant, S. L. Gray, H. W. Lean, and G. C. Craig. Model physics perturbation growth within different convective regimes, 2016. Poster at: EGU General Assembly, 18–22 April 2016, Vienna, Austria.
 - [54] D. Flack, R. S. Plant, S. L. Gray, H. W. Lean, C. Keil, and G. C. Craig. Characterisation of convective regimes over the British Isles, 2016. Poster at: EGU General Assembly, 18–22 April 2016, Vienna, Austria.
 - [55] D. L. A. Flack, R. S. Plant, S. L. Gray, H. W. Lean, C. Keil, and G. C. Craig. Characterisation of convective regimes over the British Isles, 2016. Poster at: Met Office Academic Partnership Meeting, March 2016, Exeter.

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- [56] R. S. Plant, S. R. A. Dey, N. M. Roberts, and S. Migliorini. [Assessing spatial precipitation uncertainties in a convective-scale ensemble](#), 2016. Poster at: ECMWF/WWRP Workshop on Model Uncertainty, Reading, UK, 11-15 April 2016. Also presented at: RMetS NCAS Conference, 6-8 July 2016, Manchester.
 - [57] N. M. Roberts, S. R. A. Dey, G. Leoncini, and R. S. Plant. [The spatial behaviour and use of a convection-permitting ensemble](#), 2016. ECMWF/WWRP Workshop on Model Uncertainty, Reading, UK, 11-15 April 2016.
 - [58] J.-I. Yano and R. S. Plant. Generalized convective quasi-equilibrium closure, 2016. Poster at: EGU General Assembly, 18–22 April 2016, Vienna, Austria.
 - [59] C. L. Daleu, R. S. Plant, S. J. Woolnough, A. Sobel, S. Wang, S. Sessions, M. Herman, G. Bellon, F. Ferry, P. Peyrille, A. Cheng, P. Siebesma, B. Van Uft, and D. Kim. Intercomparison of methods of coupling between convection and large-scale circulation, 2015. Talk at: Monsoons and ITCZ: The annual cycle in the Holocene and the future, Conference and Workshop, 15–19 September, Columbia University, New York, USA.
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