

National Climate Dynamics workshop 2025: 7th – 9th July 2025

Time	Session	Presenter	Title
Monday 7th July 2025			
13:00			
13:15	Registration & badge collection from 13:00 @ Met Office main reception, Exeter		
13:30			
13:45	Welcome (Chris Kent & Rowan Sutton)		
14:00	Pacific (Chris Kent)	Manoj Joshi	Sensitivity of equatorial Pacific warming gradients to structural parameters in climate models
14:15		Weiteng Qiu	Tropical Pacific Trends and Their Impact on Global Climate
14:30		Rhidian Thomas	Robust impact of tropical Pacific SST trends on global and regional circulation in boreal winter
14:45		Juying Xu	Observed Seasonality of the South Pacific Meridional Mode: The Role of Oceanic Meridional Advective Feedback
15:00		Rory Loosley	Evaluating Pacific Decadal Oscillation and Precipitation Teleconnections in HadGEM3-GC3.1 Historical Simulations
15:15		Steven Hardiman	New mechanism for delayed ENSO impact on the East Asian Summer Monsoon
15:30	Break (2nd floor balcony)		
15:45			
16:00	Pacific / Ocean (Rhidian Thomas)	Tiantian Yu	Weakened influence of ENSO on the East Asian summer monsoon since the early 2000s
16:15		Antje Weisheimer	The representation of surface temperature trends in C3S seasonal forecast systems
16:30		Daniel Skinner	Millennial-scale shift in the South Pacific Convergence Zone driven by a weakened tropical Pacific sea surface temperature gradient
16:45		Thomas Hutton	Modelling the Impact of AMOC Variability on Carbon Uptake and Transport in the North Atlantic Ocean
17:00		Gaurav Madan	The external drivers of Atlantic Meridional Overturning Circulation (AMOC) variability in LESFMIP
17:15		Arnaud Czaja	The scatter of the global oceanic stratification
17:30			
17:45			
18:00			
18:15	Poster session and refreshments (ground floor)		
18:30			
18:45			
19:00			

Tuesday 8th July 2025

09:00		Yvonne Anderson	Can climate models represent ocean-atmosphere feedbacks on the winter North Atlantic Oscillation?
09:15	Ocean / Predictions (Gaurav Madan)	Bablu Sinha	Dynamics of multidecadal changes in the Atlantic Meridional Overturning Circulation
09:30		Chris Kent	Skilful global seasonal predictions from a machine learning weather model trained on reanalysis data
09:45		Stephen Thomson	Improving Predictions of High CO2 Climates Using Machine Learning
10:00		Jingxin Li	Improving Seasonal Prediction of Winter Precipitation over Southern China in BCC_CSM1.1m based on India–Burma trough circulation index
10:15		Matthew Wright	Investigating the sensitivity of 20th century seasonal hindcasts to tropospheric aerosol forcing
10:30	Break (2nd floor balcony)		
10:45			
11:00	Atlantic (Daniel Skinner)	Tim Woollings	Dynamics and impacts of poleward shifting jet streams
11:15		Simon Lee	More positive and less variable North Atlantic Oscillation at high CO2 forcing
11:30		Henrik Auestad	Latent heating feedback to the midlatitude circulation
11:45		Abel Shibu	Latent heating in a warmer world - a storm centric approach
12:00		Nick Dunstone	Predictable circulation driver of Eurasian winter temperatures
12:15		Jeremy Grist	The impact of a subpolar North Atlantic freshwater anomaly on Eurasian winter climate
12:30			
12:45	Lunch (provided, 2nd floor balcony) & Group photo		
13:00			
13:15			
13:30	Atlantic / Atmosphere (Xiaocen Shen)	Matthew Priestley	An Emergent Constraint for European Storminess
13:45		Muhammad Adnan Abid	Role of Indian Ocean in modulating Synoptic transients feedback to the early winter circulation anomalies over North Atlantic European region
14:00		Arundhati Kalyan	The robustness of the AMV teleconnection to the tropical Pacific: a multi-model Large Ensemble study
14:15		Peter Haynes	A simple dynamical model linking radiative-convective instability, convective aggregation and large-scale dynamics
14:30		Charles Powell	Idealised modelling of moisture transport by convective overshooting in the tropical tropopause layer
14:45		Sebastian Schemm	Toward Eliminating the Decades-Old “Too Zonal and Too Equatorward” Storm-Track Bias in Climate Models
15:00	Break (2nd floor balcony)		
15:15			
15:30	Atmosphere / Sea Ice (Melissa Seabrook)	Harriet Gilmour	Mesoscale convective systems over South America: Representation in km-scale climate simulations and future change
15:45		Ben Maybee	Upscale effects of explicit convection in the kscales hierarchy
16:00		James Screen	Muted Arctic sea-ice loss in the past 20 years explained by internal climate variability
16:15		Yangjiayi Gao	The Synergistic Effect of Arctic Atmosphere and Sea Ice on the Sub-seasonal Prediction of Strong and Long-lasting Ural Blocking
16:30		Xiaocen Shen	Quantifying the State-dependent Causal Effect of Barents–Kara Sea Ice Loss on the Stratospheric Polar Vortex in a Large Ensemble Simulation
16:45		Chun Yin Anthony Chan	Investigating Extreme Sea Ice Loss Events in pi-control, historical and SSP scenarios in CMIP6
17:00	End of day		

Wednesday 9th July 2025

09:00		Simon Josey	Record Low Winter 2023 Antarctic Sea-Ice Increased Ocean Heat Loss, Dense Water Formation and Storms
09:15		Max Harvey	Drivers of Antarctic High Temperature Extremes Revealed using Self Organised Mapping
09:30	Extremes (Simon Lee)	Charlie Sutters	Assessing the Risk of Unprecedented Antarctic Heat
09:45		Anna Whitford	Importance of large-scale dynamical drivers for sub-daily rainfall extremes in Europe
10:00		Ben Hutchins	Unprecedented winter extremes for the UK energy sector
10:15		Peiqiang Xu	Impact of Asian summer monsoon on the 2021 Pacific Northwest heatwave: Can it? Did it?
10:30	Break (2nd floor balcony)		
10:45			
11:00	Blocking / Stratosphere (Muhammad Adnan Abid)	William Seviour	Forecast-based attribution of role of stratospheric variability in surface weather extremes and their impacts
11:15		Edward Hanna	Influence of high-latitude blocking and the northern stratospheric polar vortex on cold-air outbreaks under Arctic Amplification of global warming
11:30		Stephanie Hay	Investigating the inability of climate models to reproduce observed increases in summer Greenland Blocking
11:45		Linh Luu	Do Greenland blocking patterns significantly vary between different summer months?
12:00	Closing remarks and early career awards (Adam Scaife & Doug Smith)		
12:15	End of workshop		

Poster presentations

Name	Title
Harry Grosvenor	Ocean Heat in Warm Climates: MPWP Simulations and Future Comparison
David Burdon	Title: Contrasting North Atlantic extratropical cyclone properties under different eddy-driven jet states
Aaquib Javed	Six Centuries of Greenland Ice Sheet Surface Mass Balance: Historical Reconstruction and Emerging Dynamical Insights
David Fereday	Atmospheric angular momentum and spring European rainfall
Thomas Harrison	Dynamics of near-surface winds over Antarctica's coastal polynyas: large-scale and local drivers
Arijeet Dutta	Investigating Model Variability in Representing Downstream Teleconnections Linking Atlantic multi-decadal variability and the South Asian Monsoon
Hao Wang	Explaining Hemispheric Divergent Trends in Winter Chill Days amid the Warming Climate
Zhuo Li	The evolving likelihood of unprecedented warm months
William Dow	Antarctic Peninsula temperature extremes in austral summer and the variability in their atmospheric dynamical states.
Amanda Maycock	North Atlantic seasonal climate variability significantly modulates extreme winter Euro-Atlantic extratropical cyclone hazards
Georgie Mercer	Reducing Uncertainty in European Climate Projections through ProcessBased Model Evaluation
Ryan Williams	What Drives Antarctic Extreme Weather Events?
Niamh O'Callaghan	Drivers of multidecadal AMOC changes
Hao Yu	Incomplete Arctic sea-ice Recovery under CO2 Removal and its Effects on the Winter Atmospheric Circulation
Amber Walsh	AMOC variability dependent on momentum and buoyancy forcing
Ned Williams	The Tropical Atlantic and the Signal-to-Noise Paradox
Gillian Kay	Rapidly increasing chance of record UK summer temperatures
Dhruba Jyoti Goswami	Future changes of ENSO precipitation and temperature teleconnection over tropics and subtropics
Regan Mudhar	Revealing the impact of sudden stratospheric warmings on energy demand
Charles Turrell	Exploring the relationship between the Eddy Feedback Parameter and the variability of large-scale atmospheric modes
Robert Marsh	Shifts from surface density compensation to projected warming, freshening and stronger stratification in the subpolar North Atlantic
Thomas Bracegirdle	Antarctic meridional wind extremes: characteristics, model performance and response to ozone forcing
Ian Simpson	A new database of Antarctic extreme weather events over key ice shelves during 1995-2023
Andrew Nicoll	Impact of AMO phase on decadal predictability of the North Atlantic climate identified by data-driven dynamical models
Doug Smith	Can we reduce uncertainty in projections of the polar vortex?
Melissa Seabrook	Multidecadal Atmospheric Circulation Trends and their Drivers
Andrew Bushell	Evaluation and characterisation of middle atmosphere performance in the Global Coupled 5 LFRic configuration of the Momentum partnership model
Adam Scaife	Symmetry and Asymmetry in Initialised Climate Predictions
Alison Ming	Analytic model for the QBO - ozone feedback
Rhiannon Biddiscombe	Dry Entropy as a Measure of Baroclinicity