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EARLY CAREER AND STUDENT CONFERENCE

1ST – 3RD JULY 2024
MET OFFICE, EXETER
#RMETSEARLYCAREERS

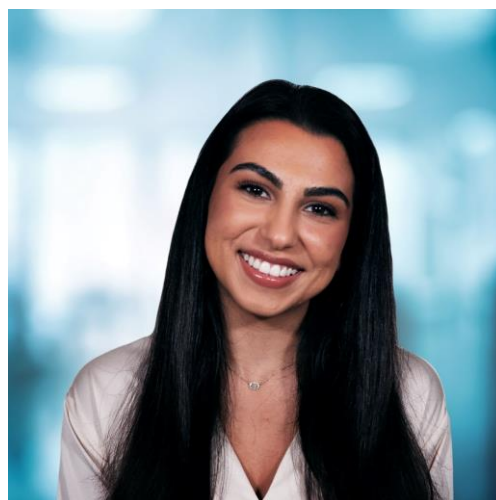**WITH THANKS TO OUR EVENT PARTNERS**

Greetings all,

Welcome to the RMetS Early Career and Student (ECS) Conference 2024 hosted at the Met Office HQ, Exeter! Like all years, we have an incredible line-up of presentations given by our amazing network of early career scientists (you!), as well as several guest speakers. We hope you're looking forward to meeting others in the field and enjoying the science and work that is shared at the conference.

At the start of the conference on Monday afternoon, we will have climate and atmospheric dynamics expert and former conference committee member Dr Dan Skinner giving the Malcolm Walker Award presentation: "How do MJO Teleconnections Vary in Time?". On Tuesday morning, we'll begin with a session on science miscommunication and trolling, which many of you witness, and sometimes have to combat (!) online on a daily basis. This session will be followed by two talks in the afternoon - the LF Richardson Award Lecture given by climate scientist Dr Indrani Roy from UCL, and a keynote from Olga Buskin, Head of People, Culture and Sustainability at OpenWeather.

The ECS Conference is a place for meteorologists and climate scientists at similar stages of their career to get to know one another, and build connections both professionally and socially. During coffee breaks there will be an opportunity to get a tour of the Met Office (these are first come first served so fill out the form ASAP if you're keen!). While there is lots of time booked in for you to have chats over refreshments, there will be plenty of other opportunities to meet other delegates. We'll begin the conference with an icebreaker 'bingo' at registration to get your brains buzzing as to who's who - anyone who attended last year will be sure to re-embrace the chaos. After Day 1, everyone will head via coach (luxurious) into the centre of Exeter for an evening dinner and quiz at the Rougemont Hotel (even more luxurious). During the poster session on Day 2, there will be the in-person launch of the Early Careers of Colour Network, followed by a relaxed networking event on 'the Street' at the Met Office. And throughout the conference, you'll be voting for the winner(s) of the annual RMetS student weather photo competition (prepare your drumrolls…it'll be tense as ever).

As a final word, we'd like to thank you, on behalf of RMetS and the entire conference organising committee, for putting your time, work and funds towards attending (and even presenting) at this year's ECS Conference. We're all excited to get to know you and the amazing work that you do, and hope you have an incredible and memorable time here!

Your co-chairs,
Ashar and Kanzis

CONTENTS

The programme and abstracts are contained in a separate booklet.

Please note that due to the length of this pack and abstracts booklet, delegates **will not** receive printed copies upon arrival. You may print the booklets out for your own use if you wish.

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1. Registration & Arrival

Address: **Met Office**
Fitzroy Road
Exeter
Devon
EX1 3PB

Conference registration will take place between **1200 – 1300 hrs** on the upstairs landing of the conference rooms. Please arrive in good time to check in to the Met Office reception first to clear security and then you will be shown where to go.

The Conference will begin at **1300hrs** with the welcome and keynote session including the RMetS Malcom Walker Award winning lecture**.**

Oral presentations can be submitted in advance or they can be uploaded on the day. **Please bring these to the committee on a USB stick.** Use of external USB sticks / computers/ other media is not permitted on Met Office machines, therefore presentations will be pre-loaded before the session onto a central laptop in which you will be speaking.

Posters: Please set these up on your arrival on the poster boards provided.

All delegates are asked to wear their badges whilst on the Met Office site. If you are scheduled to arrive outside of the registration time, please email victoria.dickinson@rmets.org

2. The Venue and Maps

The conference will take place at the Met Office, located in the picturesque outskirts of Exeter – see address above. Presentations will take place in a large conference room in a part of the building that does not require full security clearance. Lunchtime catering and the Tuesday evening's ice breaker event will also take place on site.
The Conference Dinner on Monday will take place at the Rougemont Hotel in central Exeter.
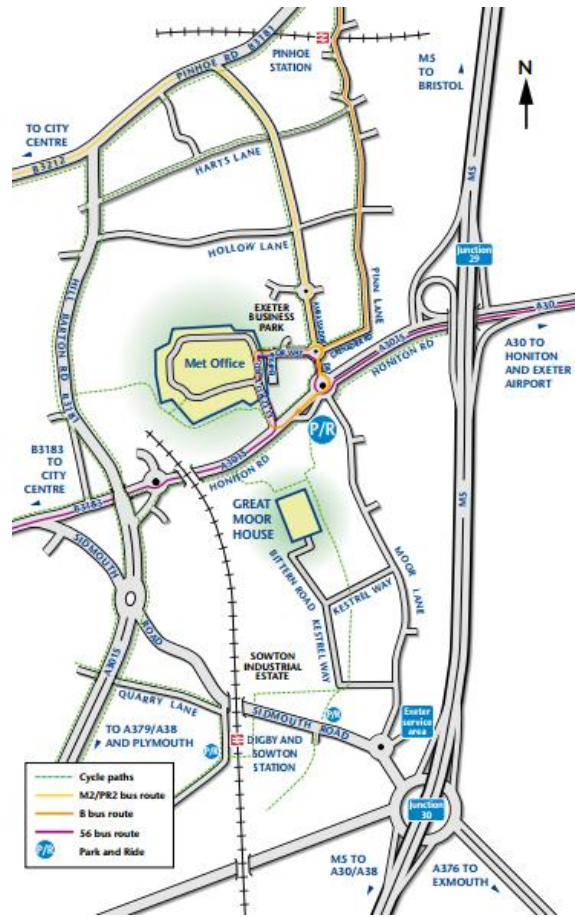
Map of Exeter and Venue

There are many different ways of getting to the venue. Please refer below for detailed instructions
https://www.metoffice.gov.uk/about-us/contact/how-to-find-our-offices#Exeter

…and the Met Office website for more details:
https://www.metoffice.gov.uk/about-us/contact/information-for-visitors

Parking at the Met Office

There is a visitors' car park available on site. Please email Abi to request a space at conferences@rmets.org

3. Photographic ID

The Met Office have a strict security policy which requires you to bring up-to-date photo ID so that we know 'you are who you say you are'. **A passport** is the preferred form of ID. Student cards, work ID, or citizenship cards are not accepted.

It's nothing personal, they ask this of all visitors. If you do not bring your ID it could result in you being refused entry so please don't forget this part!

4. Social Events

4.1 Conference Dinner – Monday 1st July

The Conference dinner takes place on the first evening of the conference and will be held at the Rougemont Hotel, Queen St, Exeter, EX4 3SP, with arrival drinks starting at 19.00hrs. A cash bar will be available throughout the night. Coaches will leave the Met Office to take delegates into town at 18.30pm. Return coaches to the Met Office will be available at the end of the evening.

4.2   Networking Evening Event – Tuesday 2nd July

The networking event will take on Tuesday 2nd July at 18.15pm in The Street at the Met Office. It is a great opportunity to get to know your fellow delegates in an informal environment. An informal light buffet will be served. Should you have any specific dietary requirements, please do make sure you have let the team know in advance.

4.3   Dietary Requirements

Every effort has been made to ensure that any dietary requirements specified during initial registration are met. All venue's where catering is being supplied, have been given a list of the requirements. As part of the RMetS policy, where possible, all catering at the conference will either be predominantly vegetarian or vegan. **Please inform the serving staff of your name and dietary requirement when needed.**

4.4   Tours of the Met Office

The Met Office has kindly agreed to run small tours around the building during the refreshment breaks of the conference. These will be offered on a first come, first served basis and we are opening a waiting list for delegates to express an interest in attending. If you haven't done so already, please add your name to the waiting list if you would like to put your name down for consideration.

https://www.surveymonkey.com/r/PWHGKHX#msdynttrid=tAyUBiNH8rAFHmcUqx3j_xGpdgTLDqWN-ckE46S-ALE

5. Keynote Speakers Information

5.1 Malcolm Walker Award Presentation 2023

How do MJO Teleconnections Vary in Time?
Daniel Skinner (he/him), Senior Research Associate, Climate Research Unit, University of East Anglia

The Madden—Julian Oscillation (MJO) is the leading mode of intraseasonal variability in the tropics, and is a driver of global weather through its extratropical teleconnection patterns. These teleconnections are a source of predictability on time scales of 1-3 weeks.
MJO teleconnections are known to vary on interannual time scales, for example as a result of the El Niño—Southern Oscillation (ENSO), however it is not known whether they vary on longer time scales. This work uses reanalysis data and models to assess whether MJO teleconnections vary on decadal time scales, and if so what is driving those changes.

Daniel is a post-doctoral researcher currently working in the Climatic Research Unit at the University of East Anglia (UEA). Currently, Daniel's research focusses on the decadal variability of South Pacific hydroclimate. He has recently completed his PhD (also at UEA) which focussed on the Madden—Julian Oscillation and its teleconnection patterns, and in particular how they vary over long time scales. Alongside his research, Daniel has also worked with the Royal Meteorological Society as a Science Engagement Fellow for Youth and Early Careers, and more recently as the Early Career and Student Special Issue Editor of Weather.

The Malcolm Walker Award for New Environmental Researchers is bestowed annually to recognise and encourage new environmental researchers from a wide range of disciplines who have brought new insights into an aspect of the environmental sciences, which includes elements of meteorology and/or oceanography. The application should demonstrate that the candidate has an understanding of the historical context of their research and is able to communicate their work to a diverse audience.

Self-nominations are encouraged and must be submitted using the Application Form online by the end of October 2024. The application must be supported by the research supervisor(s) responsible for overseeing the work of the candidate which is to be considered for the award.

5.2 L F Richardson Award Winner 2023

Indian Summer Monsoon and East African October to December Rainy Season- Major Drivers and Improved Predictability

Dr Indrani Roy (she/her), Honorary Associate Professor, Earth Science Department, University College London

The first part will focus on the Indian Summer Monsoon (ISM), where teleconnection between the El Niño-Southern Oscillation (ENSO) and ISM rainfall is analysed in CMIP5 simulations in both historical and future scenarios. It will show despite differences between models and observations, anomalies in precipitation for the Central-North-Eastern region of India for different flavours of ENSO, either Modoki, Canonical or Canonical Modoki, are captured well in most models that even match with observations. Anomalies are very significant and reverse during the El Niño phase to that from La Niña and the Walker circulation plays a major part.

The second part will discuss the East African October-November-December(OND) rainy season. Two large-scale climate drivers, the Indian Ocean Dipole(IOD) and ENSO are studied in this regard. It is found when IOD and ENSO are both negative in July-August-September(JAS) there is a significant deficit in OND rainfall and early rainy season onset happens, while an excess rain with late onset occurs when both drivers are positive. The Walker circulation plays a key role via altering descending/ascending branches. Based on this analysis, it is possible to deliver an estimation of cumulative rain and onset dates in terms of median, range and distribution, one season in advance, at point locations or average over regions. Results have implications for future planning in optimizing energy and agricultural outputs and livelihood of millions of East Africans will be impacted.
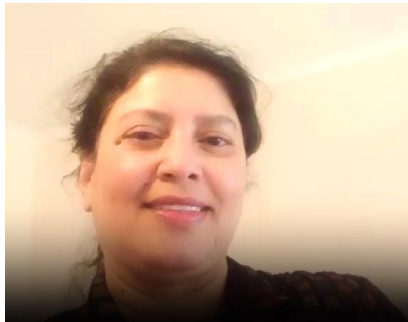
Indrani is a Climate Scientist and undertook Ph.D. at Imperial College, London, within the Space and Atmospheric Research Group. Since receiving Ph.D. she has worked in various research institutions including Imperial College and University of Exeter among others. She also previously worked for the India Meteorological Department, a Government of India organisation, as a permanent employee. Indrani is a panel member of the Natural Environmental Research Council (NERC), UK and a reviewer of over 35 international journals including Nature Geoscience and Nature Communications. She is also a reviewer of many grant funding bodies viz. National Science Foundation (NSF) US, Royal Society, NERC, Romanian National Research Council and French National Research Agency among others. She has 44 first or single-authored peer-reviewed publications on the Web of Science and many of her research are multidisciplinary in nature and address pressing issues of current-day science and society.

Lewis Fry Richardson was an English mathematician and meteorologist, who pioneered modern mathematical techniques of weather forecasting. The L F Richardson Award (formerly the L F Richardson Prize) is given annually for a meritorious paper which was published in a Society journal during the preceding four years, and was contributed by a member of the Society who in their early career in meteorology (which we define as no more than 15 years into their career, excluding career breaks) at the time of submission. For more information, visit
https://www.rmets.org/awards-advancing-science

5.3 Tuesday 2nd July: Opportunities and Challenges of Science Communication Panel Session

Prof Liz Bentley (she/her), Chief Executive, Royal Meteorological Society


As Chief Executive of the Society, I work with the Council of Trustees to give vision, direction and leadership to its programmes of work. I am responsible for delivering the Society's Strategic Plan and in-year targets, and importantly provide leadership to the Society's executive team. The Chief Executive also plays an important role alongside the President and Senior Officers in engaging with the Society's wide group of stakeholders and in helping to establish and grow strong working partnerships.

I was born in Yorkshire and I'm sure my upbringing on top of the Pennines, where the weather can be a little more extreme, is one the main reasons why I became so fascinated by the weather. A career in meteorology was inevitable even before I had left school. After studying a PhD in mathematics at the University of Manchester, I applied for a job with the Met Office. First as a research scientist and then training to be a weather forecaster at the Met Office College in Reading. After forecasting at RAF Brize Norton I headed off to Shoeburyness to become Senior Met Officer at the Army range based on Foulness Island. The job including weather forecasting as well as acoustic prediction, something I had specialised in during my PhD.

I then went to work at the Met Office College, first as a forecasting instructor becoming Chief Instructor in 1999. I project managed the move of the Met Office College from Reading down to Devon. In 2002 I jumped at the opportunity to manage the BBC Weather Centre at TV Centre in London, managing a team of over 30 Broadcast Meteorologists and the contract between the BBC and the Met Office. In 2006 I started work at the Ministry of Defence looking after their environmental research programme - covering everything from the seabed out into space.

I joined the Royal Meteorological Society as Head of Communications in 2008 and in 2010 I took on a new role as Head of theWeather Club – which is the public outreach arm of the Royal Meteorological Society. In 2013 I became Chief Executive at the Society and in July 2014 was granted the title 'Professor' from the University of Reading.

Kanzis Mattu (she/her), PhD Researcher, University of Strathclyde
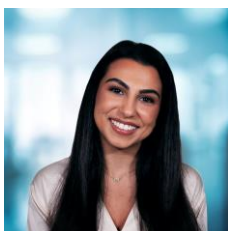
Kanzis is a second year PhD student at the University of Strathclyde. Originally from Glasgow, she spent much of her childhood growing up in Florida where she discovered her love of extreme weather - eventually leading to her pursuing a degree in geography (University of Glasgow) and a master's in applied meteorology (University of Reading). After working as a Research Assistant at NCAS and Publishing Assistant at Frontiers, Kanzis returned to academia to undertake a PhD focused on extreme weather and impact-based forecasting. Outside of

her studies Kanzis enjoys upcycling and crocheting clothes and also serves as the Wellbeing & Inclusivity Officer for her university cheerleading club.

Charlie Powell, Weather Presenter, ITV West Country

Charlie first caught the weather bug in his early teens when he was watching thunderstorms from his bedroom window. Yes, a self-confessed weather geek from an early age sent him on his path to studying geography and meteorology at the University of Birmingham, before joining the Met Office in 2008.

Most of his time there was spent as a forecaster, with small stints as a press officer and digital marketer, but he ended up fully immersed briefing weather broadcasters and presenting a few videos.
In June 2018 an opportunity arose to cross the bridge from being behind the camera to standing in front of it, and he's loved being part of the West Country weather team ever since.

Away from work his two young boys keep him busy, and with any free time left over he's usually exploring the south west on foot and taking a few photographs, and doing a spot of baking. He can also serenade a (very) small audience on the piano or guitar, if you twist his arm.

Kit Marie Rackley (she/they), Climate Ambassadors and Schools Climate Hub Regional Coordinator (East of England), Tyndall Centre for Climate Change Research, University of East Anglia

Kit Marie Rackley (she/they) is the East of England's regional coordinator for the Climate Ambassadors scheme, supporting schools with climate education, based at the Tyndall Centre for Climate Change Research. She has 13 years of teaching experience and partnerships with organisations like Met Office, the Geographical Association and National Geographic Kids. Their research focuses on climate justice and decolonising education. Kit Marie holds a BSc in Environmental Sciences and a PGCE in Secondary Geography from UEA.

5.4 How OpenWeather Inspire Talents to Create Innovative and Sustainable Projects

Olga Buskin (she/her), Head of People, Culture and Sustainability, OpenWeather
Dannil Mintc, Science Community Lead, OpenWeather

We will talk about:
- OpenWeather company overview - who we are and what we do
- Open Source Projects, Educational Initiatives and Sustainability
- Introduction to Weather Data from the Educational Side
- Current Relevance of Weather Data and the Future of the Weather Industry
- Challenge Overview

Olga Buskin is the Head of People, Culture, and Sustainability at OpenWeather, based in London. With over five years in her current role, she excels in driving business transformation and climate resilience initiatives. Olga holds a PhD in Engineering and is working towards her CIPD Level 5 certification. Additionally, she recently earned a certification in Business and Climate Change: Towards Net Zero Emissions from the Cambridge Institute for Sustainability Leadership. Her extensive experience includes roles as a University Lecturer and various administrative and managerial positions.

Daniil Mintc is the Community Manager and Science Lead at OpenWeather, based in London. Recently graduated from Warwick Business School, Daniil has brought innovative approaches and fresh ideas to the team. In a short time, he has enhanced OpenWeather's educational and open-source initiatives by providing universal support for students and researchers worldwide and building a community of climate enthusiasts under OpenWeather's umbrella. Additionally, he is leading joint research projects with the most recognized UK universities in various academic initiatives. Passionate about making climate data more impactful, Daniil aims to expand data accessibility and promote positive change.

OpenWeather is a global supplier of analytical products and complex technological solutions based on an ML-powered hyperlocal high-resolution meteo forecasting model. More than 6,000,000 customers from logistics, agriculture, insurance, energy, retail, and many other sectors, are working with the company's weather products.

Being a technological company with high competencies and rich experience in modern meteorology and software development, OpenWeather is responsible for contributing to sustainable products and services with weather data, investing a lot in educational projects and initiatives, and emphasising technology's green, ethical side.

6. Presentations

6.1 Oral Presentations

The oral presentations are listed in the programme PDF.

All presentations will take place in conference rooms 1 & 2.

Each presentation should last for 12 minutes plus 3 minutes for questions (15 minutes in total). Please do ensure that you stay within the allotted time. Oral presentations will be collected if not already submitted during registration (please bring them on a USB stick only). Use of external laptops are not permitted at the Met Office and will not be allowed.

Please check the 'Information for Presenters guide' sent to speakers for more details.

The lecture theatre is equipped with a computer and data projector, audio can be used on the computer. You are advised to check any presentations before your talk.

Presentations should be in PowerPoint format if possible, although PDF files are also accepted. If your presentation includes animations please make sure that the files are included with your PowerPoint file.

The Conference room has both fixed microphones and a lapel microphone (designed to attach to clothing). There is also a clicker for transitions between slides, although no laser pointer is provided.

Any specific queries about computer equipment should sent in advance via email Victoria.dickinson@rmets.org

Presenters are asked to meet their Session Chairperson (Conference committee member) at the front of the room 10 minutes before the start of their Session to ensure their presentations are ready to run.

- **All presentations must be pre-loaded to ensure they run**
- **Please ensure mobile phones are switched on silent mode whilst you are in the conference rooms.**
- **It is important your presentation stays within the allotted time and the Chair of your Session will remind you when time is coming to an end.**

6.2 Poster Presentations

Posters can be put up from 12.00pm, during registration on Monday 1st July on the Poster Board with your number on. The Poster Boards are located in The Street on the ground floor.

Posters should be displayed throughout the conference. Poster boards are 2m high and 1m wide. Posters should be A0 Portrait in size. Velcro will be available on the Registration Desk.

There will be 2 poster sessions, Poster Session 1 on Tuesday 2nd July 16.45-18.15pm and Poster Session 2 on Wednesday 3rd July 11.55-13.15pm. Each session provides delegates a chance to talk to the presenters and ask questions related to their work. Posters should be removed from the boards at the end of day 3. Any remaining posters will be taken down and left in a pile for you to collect before leaving the conference.

Photo Competition

Photos submitted for the photo competition will be shown on screen in the lecture theatre during the breaks and lunchtime. The competition will be judged by the conference delegates and all the attendees will be asked to vote for their favourite photos.

Presentations for the photo competition will be made at the end of the conference.

Presentation Prizes

Liz Bentley (CEO, RMetS) and members of the Student Organising Committee will review both oral and poster presentations, and 5 presenters will be invited to have an article published in *Weathe*r journal, based on the standard of their talks.

Two oral presenters will also be given the opportunity to present their work to the RMetS Scottish Centre in early 2025.

Wiley have sponsored 2 poster prizes **(2 x vouchers from Wiley)** to be judged by the Chief Executive of the Royal Meteorological Society and members of the Student Conference Organising Committee during the Poster Sessions.

6.3 Posters Boards

Odd numbered postered will present on Tuesday 2nd July at 16.45pm BST.
All Even number posters will present on Wednesday 3rd July at 11.55am BST.

Poster Number	Presentations
1	**Exploring the Importance of Representing Chemistry When Modelling the Atmospheric Transport and Dispersion of Volcanic SO2 using NAME** Lucy King (she/they), Earth Observation Foundation Scientist, The Met Office
2	**Large-Ensemble Simulations of Volcanic Impacts on Climate Throughout the Last 9000 years** Magali Verkerk (she/her), PhD Student, University of Exeter
3	**Simulating Martian CO2 Ice with the Unified Model** Alex McGinty (he/him), Master's Student, University of Exeter
4	**Accurate Modelling of CMIP6 ESM Carbon Cycles** Alex Romero Prieto (he/him), PhD Student, University of Leeds
5	**A Scale-Aware Method for Parametrizing Dispersion by Unresolved Motions in the Atmopshere** Vibha Selvaratnam, PhD Student/Atmospheric Dispersion Scientist, The Met Office
6	**Novel Approaches to Observationally Constrain Aerosol Effects in Climate Models** Léa Prévost (she/her), PhD Student, University of Leeds
7	**Evaluating Ensemble Forecasts of Atmospheric Dispersion Events** Ben Joyce, Atmospheric Dispersion Scientist Placement, The Met Office
8	**Multidecadal Atmospheric Circulation Trends and their Drivers** Melissa Seabrook, Scientist, The Met Office
9	**Tipping Mechanisms in a conceptual model of the Atlantic Meridional Overturning Circulation** Ruth Chapman (she/her), PhD Student, The Met Office
10	**Interactions Between Arctic Cyclones and Sea Ice in Summer** Xueqing Ling, PhD Student, University of Reading
11	**Equatorial Waves in Global Kilometre-Scale Model Simulations** Elliot McKinnon-Gray, PhD Student, University of Reading
12	**Serial Clustering of Cyclonic Windstorms over Europe on Intra-Seasonal Timescales** Sophie Feltz (she/her), PhD Student, University of Birmingham
13	**Investigating the Eddy Feedback Processes Between Zonal Wind and Wave Sources Using an Idealised Model** Charles Turrell (he/him), Postgraduate Researcher, University of Exeter
14	**A Source of Clear-Air Turbulence? Tracking gravity wave formation in inertially unstable regions.** Timothy Banyard (any/all), Postdoctoral Research Associate, University of Manchester
15	**Minimal Moisture Models in Convective Penetration of a Stably Stratified Layer** Charles Powell (he/him), PhD Student, University of Cambridge

16	**Effect of Seasonal Drivers on the Life Cycle of Boreal Summer Intra-seasonal Oscillation (BSISO)** Indrakshi Mukherjee, PhD Student, University of Reading
17	**An Idealised Model of Martian Polar Vortex Dynamics** Stephen Hughes (he/him), PhD Student, University of Exeter
18	**Developing and Evaluating Cyclone Tracking Algorithms to Detect and Track Polar Lows** Alice Miller (she/her), Deployable Project Scientist, The Met Office
19	**Investigation of Graupel Hydrometeor Spatial and Temporal Size Distribution in Deep Convective Cloud** Ezri Alkilani-Brown (she/they), PhD student, University of Leeds/ The Met Office
20	**Results from a Climatology of Large-Scale Atmospheric Gravity Waves** Peter Berthelemy (he/him), PhD Student, University of Bath
21	**Study of Extreme Precipitation Events Characteristics in West Java Indonesia** Yan Firdaus Permadhi, PhD Student / Climatologist, University of Exeter
22	**A Multi - Hazard Risk Assessment for Remote Transport Infrastructure Exposed to Precipitation Induced Hazards Under Future Climate Projections** Rachel Doley (she/her), PhD Student, University of Birmingham
23	**Quantify the Drivers of Humid Heat Extremes over Africa** Jack Law (he/they), PhD student, University of Leeds
24	**Seeing Extreme Winds: Video innovation for precise extreme wind assessment** Sai Kulkarni (she/her), Doctoral Researcher (first year), Loughborough University
25	**An Early Warning System for Humid Heat Extremes over the Maritime Continent** Anistia M. Hidayat (she/her), PhD student, University of Leeds
26	**Weather Patterns and Antecedent Conditions Driving Extreme Floods in UK Benchmark Catchments** Emma Ford (she/her), Doctoral Researcher, University of Oxford
27	**The Diurnal Cycle of Gravity Waves in GNSS-RO data** Emily Lear (she/her), PhD student, University of Bath
28	**Investigating Observations from Ground-Based Far-INfrarEd Spectrometer** Sophie Mosselmans (she/her), PhD Student, Imperial College London
29	**Assimilating NASA Deep Blue VIIRS AOD Observations into the UK Met Office NWP Global Model** Patrycja Siwek (she/her), Earth Observation Foundation Scientist, The Met Office
30	**Monitoring the UK climate in the National Climate Information Centre at The Met Office** Emily Carlisle (she/her), Scientist - UK Climate Monitoring, The Met Office
31	**Quantifying the Underestimation of Rainfall by Rain Gauge Networks: Significance, implications & recommendations** Ruth Dunn (she/her), Doctoral Student, Newcastle University
32	**Quality Control of the Gridded Radar Precipitation Dataset** Xiaobin Qiu (he/him), PhD student, Newcastle University

33	**Towards a Blended Satellite-Station Sunshine Duration Dataset for the UK** Josh Blannin (he/him), Foundation Climate Observation Scientist, The Met Office
34	**Atmospheric Response to Mesoscale Ocean Eddies in Southeast Asia** Ashar Aslam (he/they), PhD Student, University of Leeds
35	**Simulating Regional Marine Cloud Brightening (MCB) in the UKESM1 Climate Model** Alex Mason (he/him), PhD student, University of Exeter
36	**The Inian Ocean : Understanding the biases in the Met Office Global Coupled Climate Model (GC5).** Aparna Anitha (she/her), PhD Student, University of East Anglia
37	**Developing a Coupled Model to Explore Antarctic Ice Sheet - Climate feedbacks in the past and future** Laura Byrne(she/her), PhD student, University of Exeter
38	**Assessment of the Met Office's Coupled and Ocean-Only Systems in Predicting Arctic Sea Ice and Ocean Conditions** Jessica Diamond (she/her), Deployable Project Scientist, The Met Office
39	**Developing the Met Office's Regional Arctic Atmospheric Modelling Capabilities** Eloise Matthews (she/her), Deployable Project Scientist, The Met Office
40	**Exploring Mechanisms for Model-Dependency of the Stratospheric Response to Arctic Warming** Regan Mudhar (they/them), PhD Student, University of Exeter
41	**Adaptively Implicit Time stepping for Atmospheric Transport** Amber Te Winkel (she/her), PhD student, University of Reading
42	**Can Air-Sea Coupling Solve the Signal-to-Noise Paradox in Climate Predictions?** Yvonne Anderson (she/her), PhD student, University of Leeds
43	**Implementation of Regional Idealized Tests in the Met Office Next Generation Atmosphere Model** Declan Healy, Industrial Placement, The Met Office
44	**WRF Model Utilized for Tropical Cyclone Prediction (Case Study: Tropical Cyclone Anggrek)** Fazrul R. Sadarang (he/him), Master's Student, University of Birmingham
45	**Informing the Unification of a Single Cloud Scheme in Met Office's Unified Model** Frankie Cottrell (she/her), Foundation Scientist - Clouds and Radiation, The Met Office
46	**Identifying Forecast Busts Events in Recent Years Over European Region** Kaustubh Mittal, PhD Student, University of Reading
47	**Developing Mountain Ancillary Fields for Next Generation Modelling Scheme** Callum Dinnett (he/him), Foundation Scientist - Atmospheric Processes and Parametrizations (Orographic Processes), The Met Office
48	**A Cloud-Based Platform for Scientific Post-Processing Workflows** Thomas Harry Mansfield, Foundation Scientific Software Engineer, The Met Office
49	**Detecting Arctic Polar Lows Using Deep Learning** Jack Hill (he/him), Deployable Project Scientist, The Met Office
50	**Causal Approach to Cloud Development Along Trajectories**

	Geoff Pugsley (he/him), PhD reseacher, Imperial College London
51	**Enhancing Radar-Based Precipitation Nowcasting through Deep Learning: A case study with Rainymotion** Daniel O'Brien (any/all), Student, Maynooth University
52	**Improving Vertical Detail in Simulated Temperature and Humidity Data Using Machine Learning** Joana Rodrigues (she/her), AI Aided Hybrid Modelling Scientist, Met Office
53	**Identifying Precipitation Types over China Using a Machine Learning Algorithm** Yi Wang (she/her), PhD student, University of Exeter
54	**Can we Accelerate Fluid Dynamics Solvers in Atmospheric Models using Machine Learning?** Benjamin Buchenau (he/him), Student, University of Edinburgh
55	**Hydra-LSTM: A semi-shared machine learning architecture prediction across catchments** Karan Ruparell (he/him), PhD Candidate, University of Reading
56	**Identification of Cumulonimbus Clouds from Radar Imagery using a Convolutional Neural Network** James Mitton (he/him), Foundation Scientist - Aviation Applications, The Met Office
57	**Reducing Errors In The UK Sea Level Forecast Using Gradient Boosted Random Forests** Theo Xirouchaki (they/them), AI Aided Hybrid Modelling Foundation Scientist, The Met Office
58	**Toward the Use of Ensemble Sensitivity Analysis for Monitoring Precursors to Extreme WeatherEevents** Daniel Etheridge (he/him), Deployable Project Scientist, The Met Office
59	**Machine Learning Subgrid Variability to Perturb Parameterisations** Helena Reid (she/her), Modelling Scientist, The Met Office
60	**Global Stilling: The importance of high-resolution wind speed data.** Kathryn Vest (she/her), PhD Student, Lancaster University
61	**A New Model for Rail Surface Temperature Prediction** Noémi Gönczöl (she/her), Foundation Scientist, The Met Office
62	**Exploring Mathematical Formulations for a Next-Generation Compatible Finite Element Dynamical Core** Daniel Witt (he/him), PhD Student, University of Exeter
63	**Dansgaard-Oeschger Events: Challenges of Predicting Abrupt Shifts in Multiscale Systems** Bryony Hobden (she/her), PhD Student, University of Exeter
64	**Climate Action Co-Benefits and Trade-Offs: How a decision-support tool can be used to assist in understanding the evidence on climate action co-benefits and trade-offs and its application to UK climate policy** Daisy Harley-Nyang (she/her), Deployable Project Scientist, The Met Office
65	**Astroclimes: A synthetic transmission spectra code for measuring atmospheric CO2** Marcelo Aron Fetzner Keniger (he/him), PhD Student, University of Warwick

7. Feedback

Conference Survey

At the Society your feedback is taken seriously when planning future events. Each delegate will be sent an email following the Conference with a link. Please could you take the time and complete your feedback and help to make next year's event even better.

8. Early Careers of Colour Network Launch

Weather and climate are becoming ever more diverse fields in which to work, and we believe that role models and support networks can make a huge difference to who feels welcome and included. This network is an online community in which early careers of colour can connect, discuss, and offer support to each other. You can register to join here: rmets.org/early-careers-colour-network, but we would also love to see you at this event at the end of Day 2, when we can get to know each other and chat in person for the first (and certainly not the last) time!

9. Internet Access

Wifi is available at the Met Office. Please ask at the registration desk for more information.

10. Green Conference Guidelines

The Royal Meteorological Society is the UK's Professional and Learned Society for weather and climate.

The following guidelines summarise the Society's commitment to conducting conferences in a manner that stresses responsible use of natural resources and minimisation of greenhouse gas emissions and other waste and pollutants.

Conference Organisation and Planning
1. Participants and presenters are advised in advance that the meeting will strive to minimise environmental impacts and greenhouse gas emissions.
2. For all goods procured for the meeting, preference is given to the most environmentally-appropriate, locally-produced alternatives that are available at a reasonable price. We are willing to pay more for environmental responsibility.
3. Printed material are kept to a minimum, and all printed paper (i.e. conference proceedings, registration papers, photocopying etc.) aims to have certified recycled content, with a high proportion of post-consumer content. Chlorine-bleached paper is avoided.
4. Conference CDs are not offered; rather materials such as abstracts and proceedings are provided online.

5. Steps are taken to minimise environmental impact of transportation to the conference and during the conference. This includes choosing a locale accessible by public transportation, walking and biking.
6. Attendees and organisers are encouraged to walk, bicycle, carpool or use public transit to attend meetings and events whenever possible. Venues are evaluated in part based on their environmental policies and practices. You will be asked whilst at the event to complete an online form which indicates your mode of transport. This will help RMetS to understand the overall impact of our events and can consider actions to make our events net zero in the future.
7. Sponsors and donors are actively sought who reflect positive environmental values and practices.

Registration
1. Measures are taken to reduce paper waste at check-in (e.g., short registration forms, computerised systems).
2. Registration package and nametags are provided in a reusable or reused holder.

Programme
1. Educational efforts are undertaken as part of the programme to make participants aware of their environmental impacts during the conference.
2. Attendees are reminded of waste reduction and other environmental opportunities during the conference.

Conference Site Systems
1. Recycling and composting systems are in place with convenient and well-marked receptacles.
2. Distribution of handouts and session notes is limited.
3. Exhibitors are encouraged to reduce environmental impact through use of reusable materials and by limiting handouts and giveaways. It is suggested that instead they collect business cards or names of those interested in receiving more information or product samples.
4. Receptacles are provided at convenient locations for the return of nametag holders at the end of the meeting.
5. Lights and other electrical equipment are turned off when not in use.

To view the RMetS event team Net Zero Pledge, please visit -
https://www.rmets.org/rmets-events-net-zero-pledge

11. Social Media

Up to date information about the conference is provided on the Society's website
https://www.rmets.org/studentconf2024

You can follow the Society on Twitter '@RMetS' and be sure to use the Student Conference 2024 hashtag #RMetSEarlyCareers

12. Luggage storage

Delegates may store suitcases at the conference. Please leave them at the back of the conference room neatly

Thanks

The Organising Committee and RMetS staff would like to thank you for attending the RMetS Early Career and Student Conference 2024. We hope that you enjoy the experience and look forward to seeing many of you again next year!

The 2024 Organising Committee

Ashar Aslam (Joint Chair)
Kanzis Mattu (Joint Chair)
Viv Atureta
Nathan Creaser
Eve Grant
Aleena Moolakkunnel Jaison
Toby Jones
Regan Mudhar
Aparna Anitha Reghunathan
Daniel Williams

Would you like to be a member of the 2025 Organising Committee? Please email victoria.dickinson@rmets.org to find out more details and to register your interest. Alternatively, there is a sign-up sheet on the registration desk at the conference.