STUDENT AND EARLY CAREERS CONFERENCE

4TH – 5TH JULY 2022
UNIVERSITY OF MANCHESTER
#RMETSSTUDENTS

WILEY

Dear all,

We are delighted to welcome you to the Royal Meteorological Society Student and Early Career Scientist Conference 2022 in Manchester and online. It is great that we're able to meet in-person for the first time in 3 years, but we're also looking forward to interacting with all the online attendees as well. Although the focus of the conference is on sharing the great science being done by students and early career scientists, we hope this event will also provide an opportunity for you to meet future colleagues, connect with some of our keynote speakers and develop friendships with other young scientists that will last for many years.

This year's conference is organised under the excellent theme of "Connect, Communicate, Collaborate". To reflect this, the conference committee has prepared some great surprises to enable networking in creative ways, as well as some very interesting keynote sessions. The Science Communication Panel will be joined by guests such as YouTuber Simon Clark and BBC News Researcher Esme Stallard, among others. The second keynote session will focus on scientific collaborations, and we have invited people from a number of different projects such as the SWIFT-project and the Met Office-Microsoft collaboration. In this regard, we would like to thank the committee members, who have worked very hard to put together a great program.

Revolution, Oxford Road will be our location for the Ice Breaker on Sunday evening, and we'll be able to take some time to relax and socialise. On Monday evening we'll head to the Brickhouse Social for pizza and networking. In addition, throughout the conference we will have photos on display for the Photo Competition, so make sure you take a look and vote for your favourite!

Lastly, don't forget to share your experience with us on social media using #RMetSStudents and tag: Twitter:

@RMetS @RMetSoc @rmets_

We hope you have a great experience at the conference, and we look forward to seeing your presentations and posters.

Your co-chairs,
Tim and Lisa

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.

1. Registration & Arrival

Address: **University of Manchester**
Renold Building
32a Altrincham St
Manchester
M1 7JR

Conference registration will take place between **0830 – 0900 hrs** at the entrance of the Renold Building. Please arrive in good time to register.

The conference will begin at **0900hrs** with the welcome and introduction by Prof Liz Bentley, CEO, Royal Meteorological Society.

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 permitted however we encourage you to work from one central machine to help keep the sessions to time.

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

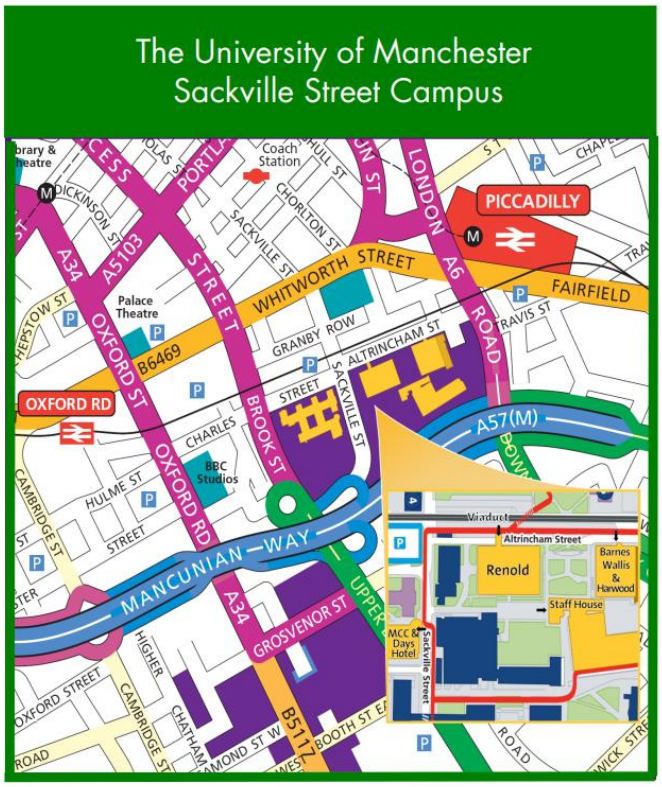
All delegates are asked to wear their badges whilst on site. If you are scheduled to arrive outside of the registration time, please email victoria.dickinson@rmets.org

2. The Venue and Maps

The conference will take place in the Renold Building at the University of Manchester – see address above. Presentations will take place in lecture theatre C2 and all refreshments and poster sessions, will be in the C15 conference area. Sunday's Ice Breaker will take place at Revolution Manchester, 90-94 Oxford Road, M1 5WH. The Networking Conference Dinner on Monday will take place at the Brickhouse Social Club, 11-13 Wakefield Street, M1 5NP - more about this in section 5.2. Food will be provided at these events.

The entrance to the Reynold Building

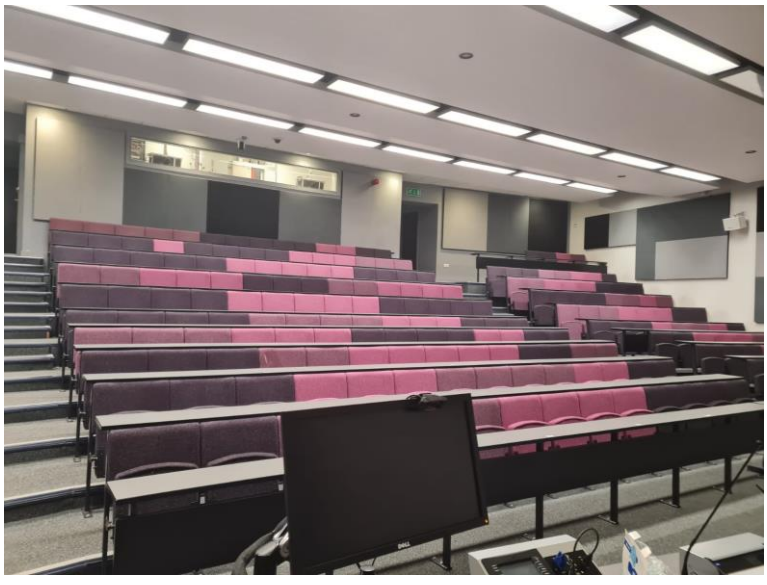
Map of Manchester and Venue



Parking at the University

Parking is available outside the building, but spaces are very limited. Visitor car parking can be found approximately 200m away in the Charles Street Multi-Storey Car Park (Car Park A), on Charles Street.

3. C2 Lecture Theatre Layout



4. Social Events

4.1 Ice Breaker

The ice breaker event will take place pre-conference on Sunday 3rd July at Revolution Manchester, 90-94 Oxford Road, Manchester, M1 5WH in 'the Loft'. It is a great opportunity to get to know your fellow delegates before the conference and for networking ahead of the event. 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.

4.2 Conference Dinner

The Conference Networking Dinner takes place after day 1 of the conference on Monday 4th July at The Brick Street Social, 11-13 New Wakefield Street, M1 5NP. The event will take place in the roof terrace called 'The Greenhouse'. The evening will start with a welcome drinks starting at 1830hrs. A cash bar will be available throughout the night.

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. 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.**

5 Discord

Throughout the conference, we will be using the online platform Discord to engage with our virtual attendees. All question and answers can be asked using the platform. All virtual poster presenters will be available online throughout their sessions, so they can speak directly with delegates.

Invitation for Discord - https://discord.gg/PY6ZxXjfjG

Please make sure you download the **Discord App** where possible **prior** to attending the conference. Posters will be available to read in advance of the conference.

How to Join

- Please follow the link to join and then follow on screen instructions
- Add your name (pronouns can be included at your own discretion)
- Verify email address and create password. This will allow you to login and out.

Once on the server there are 10 different channels each with breakout rooms for delegates to discuss different topics.

- The general channel has a general chat, a social chat, a scientific chat, an LGBTQ chat, and a photo competition chat. These different sections can be used throughout the conference to discuss different subjects and to encourage networking..
- Session 1 – 6 consist of rooms in which delegates can ask questions to the speakers and continue conversation when the talk is over.
- The Posters channel will give every poster presenter their own channel in order to engage and interact with virtual attendees. Each channel will have the poster at the top of the thread which delegates can refer to.
- The Keynote communication channel will have an open panel discussion. This will be 1 chat open for anyone to ask questions to the speakers and continue to discuss topics after the discussion has ended.
- The Keynote 'International Collaborations' will have 3 channels open for delegates to discuss and ask questions for each speaker.

Delegates can open a private channel to other members of the discord server by selecting the members name and typing their message in the message box. Direct messaging a member will take you to a different section. You will need to return to the RMetS channel to continue using the different threads available.

You cannot send voice messages. If you wish to physically speak with someone, you should either voice call or video chat them. This option is unavailable in the server channels and only available in the direct messaging feature.

There will be a moderator in each enabling delegates to ask questions in person.

We encourage all delegates to have a device that can run Discord to use throughout the conference. Please be aware, that you will not be able to use a Met Office Laptop to access Discord. Should you need to borrow a device on your arrival, please speak with the team at registration.

6 Keynote Speakers Information

Monday 4th July: Communications
Followed by a discussion panel session

Simon Clark, Science Communicator, Tired Bear Films

Simon Clark is a videomaker and science communicator from Bath. He finished his PhD in theoretical atmospheric physics at the University of Exeter, researching dynamical stratosphere-troposphere coupling over the Arctic. Prior to this he studied physics at St Peter's College, University of Oxford.

Since graduation he has become a full-time science communicator, focusing on making YouTube videos about topics in Earth sciences, but also livestreams on Twitch. His first book, Firmament, is an introduction to and history of atmospheric science. Alongside science he is passionate about music, tabletop gaming, and general geekery.

Dr Rosie Oakes, Senior International Applied Scientist, UK Met Office

Dr. Rosie Oakes is a Senior Scientist in the International Climate Services team at the Met Office. Rosie has a background in earth, ocean, and climate sciences. Her job at the Met Office involves working with people from around the world to create clear, accessible climate information based on trustworthy science which can be used to help inform decisions. Rosie's current projects are based in South Asia, Southeast Asia, and the Pacific. Regardless of the location, Rosie enjoys learning from people about the challenges they face and working out what climate information they need to help them prepare for the future.

Rosie is passionate about communicating climate science to a wide range of audiences. Her experience spans blogs to broadcasting and many things in-between. Rosie believes everyone is capable of doing science communication and endeavours to find friends and colleagues the right opportunities to test this theory out.

Prof. David M. Schultz, Professor of Synoptic Meteorology, and Director, Centre for Crisis Studies and Mitigation, University of Manchester

David Schultz is Director, Centre for Crisis Studies and Mitigation, an interdisciplinary network of researchers studying natural hazards and their societal impacts. His research interests include the physical processes that produce hazardous weather such as tornadoes, snowstorms, and windstorms. He has published over 185 peer-reviewed articles and is the Chief Editor of Monthly Weather Review, now celebrating its 150th year. He won the 2020 Outstanding Achievement in Biometeorology Award for his research on the effect of weather on pain in people living with chronic pain, in the Cloudy With a Chance of Pain project. He is a Senior Fellow

of the UK Higher Education Academy and has won multiple teaching awards. He has taught thousands of students through his online course “Our Earth: Its Climate, History and Processes” on Coursera. He authored Eloquent Science: A Practical Guide to Becoming a Better Writer, Speaker, and Atmospheric Scientist, now translated into Chinese.

Esme Stallard, Climate Journalist and Researcher, BBC News

Esme is a climate researcher and journalist who worked for four years as a climate change consultant supporting cities and countries globally in developing their climate policy e.g. Los Angeles, Afghanistan, Istanbul, Derbyshire etc. This included modelling emissions pathways and energy consumption, and developing policy responses. During this time she found one of the biggest challenges was effective communication of climate science to the public and policymakers so made the switch to journalism. In her current role she writes climate and environmental explainers, investigates climate change misinformation, and supports teams across BBC News with their understanding of climate data.

Tuesday 5th July: Collaborations and Partnerships

**** Partnerships for the Planet***

Clare Barclay, CEO, Microsoft UK

Details to be added shortly.

Prof Penny Endersby, CEO, Met Office

Penny Endersby became the Chief Executive of the Met Office in 2018, the first woman to hold the position. She is a physicist and engineer by training, with a distinguished career as a government scientist and leader, mostly in the Ministry of Defence. Penny grew up in London and studied Natural Sciences at Cambridge University with the help of scholarships from WISE and British Gas. She joined the MOD as an armour researcher, conducting explosive trials and becoming the national expert on smart and electrically

powered armour systems for fighting vehicles. At Dstl she led first the Physics Department and then Cyber and Information Systems Division before becoming the Chief Technical Officer. She was instrumental in building up Dstl's capabilities in cyber and data science research, and increasing their pipeline of innovative research and intellectual property.

Penny is a visiting professor in the Electronics and Computer Science Faculty at Southampton University. She has been a trustee of the Institute of Physics and Wiltshire Wildlife Trust, a director of Ploughshare Innovations Ltd and was elected FREng in 2021. She has a strong interest in diversity and inclusion in which she has played a leading role at Dstl and Southampton as well as driving improvements at the Met Office.

In personal life Penny is married to a teacher, they have two musical grown-up children. Both of them love to hike the beautiful moors and coasts of South Devon. Penny is a keen naturalist and musician, and an active member of Exeter Cathedral, including as a singer and adviser to Chapter on ecological issues.

Collaborations within the GCRF African SWIFT Project

The GCRF African SWIFT project aimed to deliver a step change in African weather forecasting capability from hourly to seasonal timescales, and build research capability to continue forecasting improvements in Africa for the foreseeable future. The team comprised 25 UK and 45 African atmospheric scientists, social scientists and operational forecasters. The GCRF African SWIFT team worked with forecast users across sectors from aviation to agriculture, energy, water and emergency response to understand how to tailor the provision and delivery of weather forecasts and to ensure improved response to high-impact events (e.g. onset of rains, heat-waves, dry spells, strong winds); rapid emergency response to extreme events, such as urban flooding and prolonged droughts; and increased resilience, through integration of weather prediction into strategies for response to climate change. The collaborations in SWIFT left legacies for most institutions and research scientists. For instance, nowcasting satellite facilities were installed across partner African universities and operational centres to improve forecasting over the region. The 2019 summer school held at KNUST, Kumasi was a platform for active networking between scientists and the YESS community. Among others, is the Royal Society and Newton International Fellowship awarded to a SWIFT African research scientist to continue studies in land- atmosphere interactions over West Africa at UKCEH.

***Marian Amoakowaah Osei, Postdoctoral Research Scientist, Centre for Ecology and Hydrology, Wallingford, Oxfordshire**

Marian is a postdoctoral research scientist at the Centre of Ecology and Hydrology, Wallingford under the Royal Society Newton International Fellowship. She has a BSc, MPhil and PhD in Meteorology and Climate Science at KNUST, Ghana. She specialises in hydrometeorology, satellite remote sensing, atmospheric convection and land-atmosphere interactions. She worked under the GCRF African SWIFT project for four years, using satellite remote sensing to study high impact weather storms over West Africa. She is currently interested in advancing the use of atmospheric sounders such as AIRS and IASI into operational

weather forecasting in Ghana. The use of these sounders and other satellite products are key in her postdoc research on the “Amplification of West Africa Climate Extremes by Land-Atmosphere Interactions”. At her leisure, she loves to entertain herself with reading and movies.

Dr Linda Hirons, Research Scientist, NCAS and University of Reading and

Linda Hirons is a Research Scientist at the National Centre for Atmospheric Science (NCAS) at the University of Reading, UK. She has a background in Tropical Meteorology with a particular interest in the drivers of weather and climate variability and change over Africa. Her previous work has focused on understanding the sources of sub-seasonal (2-4 week ahead) predictability over Africa. This has led more recently to working with communities of forecasters, researchers and decision-makers in Africa to co-produce reliable and actionable forecast products on these timescales. She is passionate about seeing developments in scientific understanding lead to improvements in the forecasting and communication of high-impact weather events over Africa. Previously she completed her MMath at the University of East Anglia (2008) and her PhD in tropical meteorology on the representation of the Madden-Julian Oscillation (MJO) in state-of-the-art forecast models at the University of Reading (2012).

***Dr Caroline Wainwright, Grantham Institute Research Fellowship, Imperial College, London**

Caroline is based at the Grantham Institute at Imperial College, London, and her research is on topics around exploring climate change related risk for populations whose livelihoods are strongly dependent on seasonal rainfall, predominantly focused on Africa. She completed her PhD at the University of Reading, during which she developed a methodology for quantifying the seasonal cycle and analysed future projections of changing precipitation seasonality over Africa. Since then, she has worked on a range of projects, including research on rainfall seasonality (including recent trends and model representation) over East Africa, sub-seasonal to seasonal forecasting over East and West Africa, and changing climatic suitability for cocoa growth across Africa and South America (in collaboration with Mars-Wrigley confectionery). Previously, she completed her BSc in Mathematics with Geography at the University of Exeter and an MSc in Atmosphere, Ocean and Climate at Reading.

****Flood Forecasting Centre, Environment Agency***
Chris Lattimore, Hydrometeorologist, Flood Forecasting Centre, Met Office

The Flood Forecasting Centre (FFC) is a partnership between the Met Office and Environment Agency, established in 2009 following the Pitt Review into the 2007 summer floods. Working collaboratively is fundamental to the FFC’s business model. This collaboration brings together experts in meteorology and hydrology (hydrometeorologists) from the Met Office and Environment Agency to assess the weather and flood intelligence. This is done to provide the emergency response community and Government with a national overview of the flood risk across England and Wales.

This is vital for preparation and response to flooding from a national scale, down to local authorities, minimising the disruption caused by flooding. Since the FFC's existence, there have been many notable events including Storm Christoph in 2021, a storm named due to the risk of flooding. This demonstrated the importance of working in partnership to help inform and prepare the country for disruptive flood events.

Chris is a hydrometeorologist at the Flood Forecasting Centre (FFC), joining the team in 2015. Employed by the Met Office, Chris has been a meteorologist for over ten years, working in Aberdeen in aviation meteorology, before joining the FFC and training in hydrometeorology. He has worked during notable flood events, including South Yorkshire floods in 2019 and Storm Christoph in 2021. In development work, Chris has been able to work in collaboration with Met Office and Environment Agency teams to improve products and forecasting capabilities.

Chris studied BSc Environmental Science at Lancaster University, before completing an MSc in Applied Meteorology at the University of Reading. Chris has always been interested in the weather and it was at Lancaster where he enjoyed studying hydrology. Hearing about the creation of the FFC, it was here Chris set out on the goal of becoming a hydrometeorologist, going through the Met Office route.

7.1 Oral Presentations

The oral presentations are listed in the programme PDF.

All presentations will take place in C2 lecture theatre.

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).

The Lecture Theatre PC is running **Windows 10 and Microsoft Office 2016 with PowerPoint**. Presentations should be in a 16:9 ratio. 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.**

Virtual Presentations

If you are presenting a virtual oral presentation, please join the zoom call 30 minutes before your session starts to test your microphone and video connection. The AV team will be on hand to go through any concerns you might have.

As a virtual presenter, you will share your slides directly from your computer to enable total control over your slides.

7.2 Poster Presentations

Posters can be put up from 08.30am, during registration on Monday 4th July on the Poster Board with your number on. The Poster Boards are located in C15, which is the same area as registration.

Posters should be displayed throughout the conference. Poster boards are 1m high and 1m wide on legs of 1m high giving an overall height of 2m. 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 Monday 4th July 16.30-17.30pm and Poster Session 2 on Tuesday 5th July 1150-1250pm. 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 by the end of the refreshment break on the second day (Tuesday 5th July 15.50pm).

Virtual Posters

Please make sure you are online and using Discord to answer any questions delegate might have about your poster presentations. All PDF and PNG documents have been uploaded in advance of the event. A physical smaller copy of your poster has been printed off and placed on a poster board on your behalf.

Photo Competition

Photos submitted for the photo competition will be printed and displayed during the breaks and poster sessions for viewing. 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 oral 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 at the start of 2023.

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.

The Student Conference Organising Committee will also choose five other excellent presentations and the speakers will receive complimentary tickets to the Voice of Young Science (VoYS) workshop in Autumn 2022.

7.3 Posters Boards

All Even number posters will present on Monday 4th July at 16.30pm BST.
Odd numbered postered will present on Tuesday 5th July at 11.50am BST.

An additional poster session for virtual presenters will also be held first thing on day 1 of the conference.

Poster Number	Presentation Title
1	**Analysis of the Impacts of Aircraft Observations on Global NWP** Matthew Fry, Foundation Scientist - Observation Network Design, Met Office
2	**Analysis of Netatmo Data Quality within the London Local Area Model Domain** Matthew Fry, Foundation Scientist - Observation Network Design, Met Office
3	***Australian Precipitation Extremes Over the Last Millenia: How do Ephemeral Lake Records Compare Against Climate Models?*** Sophie Grunau, PhD Student, University of Wollongong
4	***Satellite Observations and Modelling of Hydrogen Cyanide Emissions during Indonesia 2015 Peat Fire Season*** Antonio Giovanni Bruno, PhD Student, University of Leicester, NCEO
5	**Understanding the Stratospheric Response to Arctic Amplification** Regan Mudhar, PhD Student, University of Exeter
6	**Quantifying the Impact of Heat and Climate Change on the London Underground Infrastructure** Sarah Greenham, PhD Student, University of Birmingham
7	**Marine Cloud Brightening Geoengineering** William Smith, PhD Student, University of Cambridge
8	**Quantifying the Influence of Climate Change on UK Winter Extreme Rainfall** Daniel Cotterill, Climate Scientist/PhD Student, Met Office and University of Bristol
9	**Atmospheric forcing of the Northeast Water Polynya** Miriam Bennett, PhD Student, University of East Anglia
10	**Marine Biomass Regeneration at Scale - A Natural Carbon Capture Technique** Elisavet Baltas, PhD Student, Centre for Climate Repair at Cambridge, Department of Engineering, University of Cambridge
11	**Atmospheric Dynamics of Daily 100-year Precipitation Events over Central Europe and the Difference to More Moderate Extreme Events** Florian Ruff, PhD Student, Freie Universität Berlin, Germany
12	**Investigation of the Production of Trifluoroacetic Acid from Two Halocarbons, HFC-134a and HFO-1234yf, and Its Fates Using a Global Three-Dimensional Chemical Transport Model** Rayne Holland, Postgraduate Research Student, University of Bristol
13	***Climatology and Simulations of Precipitation Bands Associated with Extratropical Cyclones over the British Isles*** Tianhang Zhang, PhD Student, University of Manchester

14	***Analysis of the Temporal Distribution of PM2.5 Concentrations Before and After Lockdown in London, U.K.*** Balendra V.S. Chauhan, PhD Scholar, University of Brighton
15	**Analysis of Different Types of Precipitation over China using Machine Learning Algorithms** Yi Wang, PhD Student, University of Exeter
16	**A Numerical Model of Frazil Ice in Meltwater Plumes** Amelia Adcroft, Masters Student, University of Oxford
17	**Extratropical Cyclone Characteristics and the Signal-to-Noise Paradox** Eswyn Chen, Postgraduate Researcher/PhD Student, University of Leeds
18	**Measuring Mesoscale Gradients at High Latitudes during HALO-(AC)3 to Force and Evaluate LES-Simulations** Fiona Paulus, PhD Student, Institute for Geophysics and Meteorology, University of Cologne
19	**Utilising Remote Engagement to Collaborate and Co-Produce Climate Services with Partners Across the World** Dr Stacey New, Climate Services Scientist, Met Office
20	**Atmospheric Gravity Waves in Aeolus Wind Lidar Observations** Timothy Banyard, PhD Student, University of Bath
21	***The Potential of Urban Trees to Remove Air Pollutants, Carbon and Heat: A Large-Scale Analysis based on Google Street View*** Yanzhi Lu, PhD Student, University of Birmingham
22	***A New Framework for Understanding Multi-Peril Dependency: The Correlation between Wind and Rain Aggregate Losses due to European Windstorms*** Toby Jones, PhD Student, University of Exeter
23	**Should Global Climate Model Forecasts be Used to Calculate Localised Extreme Climate Risk Indices?** Mala Virdee, PhD Student, University of Cambridge
24	**Atmospheric Gravity Wave Observations over the Andes and Antarctic Peninsula** Phoebe Noble, PhD Student, University of Bath
25	**The Relationship between Atmospheric Heat Transport and Monsoonal Precipitation Variability** MD Rabiul Awal, PhD Student, Department of Meteorology, University of Reading
26	**Influence of Dynamical Factors on Seasonal Forecast of Winter Windstorms over Europe** Lisa Degenhardt, PhD Student, University of Birmingham
27	**Using Machine Learning to Predict Road Surface Conditions** Alice Lake, Foundation Scientist, Met Office
28	**Atmospheric Variability in the Northern Hemisphere Winter in a Warm Past and a Future Climate** Arthur Oldeman, PhD Candidate, Institute for Marine and Atmospheric Research, Utrecht University, the Netherlands
29	***An Approach for Targeting the Resolution of Weather and Climate Models to Where they will be Most Effective*** Alex Brown, Foundation Scientist, Met Office

30	**Understanding the Mechanism of MSA Formation in the Atmosphere** Lorrie S.D. Jacob, PhD Student, University of Cambridge
31	**Moisture with Gusto: Towards Moist Shallow Water Test Cases using the Gusto Dynamical Core Toolkit** Nell Hartney, PhD Student, University of Exeter
32	**An Investigation of Shipping Sulphur Emissions following Changes to UN Regulations using the FAAM Airborne Laboratory Research Aircraft** Stephanie Batten, Student, NCAS
33	**Multi-Model Attribution of Extremes in Fire Weather Intensity and Duration using CMIP6 Ensembles** Zhongwei Liu, PhD Researcher, University of Coventry
34	**The Influence of Mid-Level Dry Air Intrusions on Maritime Continent Rainfall** Ashar Aslam, PhD Student, University of Leeds
35	**Tropical Cyclone Activity in Southeast Asia** Haider Ali, Research Associate, Newcastle University
36	**Black Summer: A Retrospective Analysis of Bushfire Incidence in New South Wales, Australia** Amy Duffy, Operational Meteorologist Technician, Met Office
37	***Hydrological* Coherence of Flood-Prone Agricultural Soils** Lucía M Cappelletti, PhD Student, CONICET – Universidad de Buenos Aires and CNRS – IRD – CONICET – UBA, Instituto Franco-Argentino
38	**Deep Learning Techniques for Trapped Lee Wave Detection and Characterisation in NWP Model Output** Jonathan Coney, University of Leeds

8. Feedback

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.

9. Social Media

Up to date information about the conference is provided on the Society's website https://www.rmets.org/studentconf2022

You can follow the Society on Twitter '@RMetS' and be sure to use the Student Conference 2022 hashtag '#RMetSStudents

10. Internet Access

Wifi is available at the university for all delegates at UoM_Guest. Once connected, open your web browser and follow the onscreen instructions. You can register with your Google, Facebook or Twitter account, or you can register via a text (SMS) message sent to your phone.

11. 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.

12. Luggage storage

Delegates may store suitcases at the back of the lecture theatre in room C2. A coat rail will be available in the main conference area.

13. Taxis, Trains and Buses

By rail

Most cross-country services to Manchester arrive at Manchester Piccadilly. Trains from all across the country frequently arrive and depart from this station.

The Renold Building is a 10-minute walk away from Manchester Piccadilly Station:

1. Walk north-west towards Ducie St/B6181
2. Turn right towards Ducie St/B6181

3. Turn left onto Ducie St/B6181
4. Turn left onto London Rd/A6
5. Turn right onto Altrincham St

By bus
Numbers 101, 192, 37, 42B, 43, 83 & 86 all travel to Piccadilly Gardens which is a 10-minute walk from the Renold Building. All services run frequently.

Alternatively, here are some useful numbers:

Manchester Taxis Service: 0161 270 8701
Street Cars Manchester: 0161 228 7878

Thanks

The Organising Committee and RMetS staff would like to thank you for attending the RMetS Student and Early Career Scientist Conference 2022. We hope that you enjoy the experience and look forward to seeing many of you again next year!

The 2022 Organising Committee

Tim Banyard (Joint Chair)
Lisa Degenhardt (Joint Chair)
Michael Baidu
Zhongwei Liu
Francesca Morris
Phoebe Noble
Megan Pearce
Ned Williams

Would you like to be a member of the 2023 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.