# Program Overview

| | Monday 3 July | Tuesday 4 July | Wednesday 5 July | Thursday 6 July | Friday 7 July |
|---|---|---|---|---|---|
| 08:00–08:30 | Registration | | | | |
| 08:30–09:00 | | | | | |
| 09:00–09:30 | Opening Session | Modeling: M1 Ensembles | Breakout Preparation | Predictability & Processes: P3 Stratosphere | Predictability & Processes: P5 Precipitation & Tropical Waves |
| 09:30–10:00 | | | | | |
| 10:00–10:30 | | | | | |
| 10:30–11:00 | Morning Coffee | | | | |
| 11:00–11:30 | Predictability & Processes: P1 MJO & Teleconnections | R2O: R2 Skill & Verification | Breakout 1 | Predictability & Processes: P4 Other Processes | R2O: R4 Climate Services |
| 11:30–12:00 | | | | | |
| 12:00–12:30 | | | Breakout 2 | | |
| 12:30–13:00 | | | | | |
| 13:00–13:30 | (13:00: Group photo) | | Lunch Break | | (Running Out of Time relay) |
| 13:30–14:00 | | | | | |
| 14:00–14:30 | Poster Session 1 (Block A) | Poster Session 2 (Block A) | Poster Session 3 (Block B) | Poster Session 4 (Block B) | Modeling: M3 Downscaling, Machine Learning & Model Biases |
| 14:30–15:00 | | | | | |
| 15:00–15:30 | | | | | |
| 15:30–16:00 | Afternoon Coffee | | | | |
| 16:00–16:30 | R2O: R1 Extremes | Predictability & Processes: P2 Land & Aerosols | R2O: R3 Post-Processing | Modeling: M2 Ensembles & Processes | Breakout Reports & Closing Discussion |
| 16:30–17:00 | | | | | |
| 17:00–17:30 | | | | | |
| 17:30–18:00 | Ice Breaker | | ECR Event | | |
| 18:00–18:30 | | | | | |
| 18:30–19:00 | | Conference Dinner | | | |
| 19:00–19:30 | | | | | |
| 19:30–20:00 | | | | | |
| 20:00–20:30 | | | | | |
| 20:30–21:00 | | | | | |

# Monday - 3 July 2023

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| **08:00–09:00** | **Registration** | | |
| **09:00–10:30** | **Opening Session**<br>Session Chair: Frederic Vitart (ECMWF) | | |
| 09:00–09:15 | | | Welcome from the University of Reading, WCRP and S2S Project |
| 09:15–09:30 | | Chris Davis (WWRP, NCAR) | WWRP: Welcome and Future Vision |
| 09:30–10:00 | | Brian Hoskins (University of Reading) | Basic ideas on possible S2S predictive power |
| 10:10–10:30 | | Gilbert Brunet (Bureau of Meteorology) | Subseasonal to Seasonal Prediction: a thirty-year journey |
| **10:30–11:00** | **Morning Coffee** | | |
| **11:00–13:00** | **Predictability & Processes: P1 MJO & Teleconnections**<br>Session Chair: Andrew Charlton-Perez (University of Reading) | | |
| 11:00–11:15 | 188 | Cristiana Stan<br>(George Mason University) | Advances in the prediction of MJO-Teleconnections in the S2S forecast systems |
| 11:15–11:30 | 191 | Hyemi Kim<br>(Stony Brook University) | The Maritime Continent barrier effect on MJO predictability: perfect-model ensemble forecasts with the CESM2 aqua-planet |
| 11:30–11:45 | 209 | Kunio Yoneyama<br>(JAMSTEC) | Some indications of key components for the MJO and relevant phenomena over the Maritime Continent from the recent field observations |
| 11:45–12:00 | 198 | Donaldi Permana<br>(Center for Research and Development – Indonesia Agency for Meteorology Climatology and Geophysics (BMKG)) | The impact of the BSISO on boreal summer rainfall anomalies in Indonesia |
| 12:00–12:15 | 260 | June-Yi Lee<br>(Research Center for Climate Sciences, Pusan National University) | Boreal Summer Intraseasonal Oscillation: Propagation, Interannual Variability, and Impacts on Extremes |
| 12:15–12:30 | 086 | Robert W. Lee<br>(University of Reading) | ENSO modulation of MJO teleconnections to the North Atlantic & Europe |
| 12:30–12:45 | 211 | Christian M. Grams<br>(Institute of Meteorology and Climate Research (IMK-TRO), Karlsruhe Institute of Technology (KIT)) | Predictability and windows of sub-seasonal forecast opportunity for North Atlantic-European weather regimes |
| 12:45–13:00 | ~~237~~ | ~~David Martin Straus~~<br>~~(George Mason University)~~<br>*This talk has been moved to the P4 Session at 12:00* | ~~Uncertainty in Diabatic Heating within MJO phases 3-4 and Consequences for Mid-Latitude Predictability: Large Ensemble Studies with the ECMWF Model~~ |
| **13:00–14:00** | **Lunch Break** | | |
| **14:00–15:30** | **Poster Session 1 (Block A)** | | |
| **15:30–16:00** | **Afternoon Coffee** | | |
| **16:00–17:30** | **R2O: R1 Extremes**<br>Session Chair: Hai Lin (Environment and Climate Change Canada) | | |
| 16:00–16:15 | 192 | Christopher J. White<br>(Department of Civil and Environmental Engineering, University of Strathclyde) | Subseasonal-to-seasonal prediction case studies: extreme events and applications |
| 16:15–16:30 | 060 | James Carruthers<br>(Newcastle University) | Using sub-seasonal forecasting to predict temporally compounding extreme events |

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| 16:30–16:45 | 149 | Chia-Ying Lee<br>(Lamont-Doherty Earth Observatory, Columbia University) | Subseasonal tropical cyclone precipitation prediction in GEOS-S2S and the WMO S2S models |
| 16:45–17:00 | 152 | Hélène Vermes<br>(Laboratoire de l'Atmosphère et des Cyclones (LACy), CNRS, Université de La Réunion, Météo-France) | Using monthly forecast of extreme events in the southwest Indian Ocean for disaster risk management: co-creation of a decision support tool for tropical cyclone risk anticipation |
| 17:00–17:15 | 035 | Melanie Alayne Schroers<br>(School of Meteorology, University of Oklahoma) | Prediction and Impacts of 14-day Extreme Precipitation Periods within the CONUS |
| 17:15–17:30 | 100 | Pauline Rivoire<br>(Institute of Earth Surface Dynamics, University of Lausanne) | Assessment of S2S ensemble extreme precipitation forecasts over Europe |
| **17:30–19:00** | **Ice Breaker** | | |

# Tuesday – 4 July 2023

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|---|---|---|---|
| **09:00–10:30** | **Modeling: M1 Ensembles**<br>Session Chair: Andrea Molod (NASA Global Modeling and Assimilation Office) | | |
| 09:00–09:15 | 072 | Yuhei Takaya<br>(Meteorological Research Institute, Japan Meteorological Agency) | Summary of S2S Ensemble Sub-project |
| 09:15–09:30 | 246 | Judith Berner<br>(National Center for Atmospheric Research, U.S.A.) | Impact of Stochastic Parameterization on S2S Forecasts with CESM |
| 09:30–09:45 | 050 | Tongwen Wu<br>(Earth System Modeling and Prediction Center, China Meteorological Administration) | CMA-CPSv3: A sub-seasonal to annual climate prediction system in China Meteorological Administration |
| 09:45–10:00 | 095 | Masashi Sumitomo<br>(Japan Meteorological Agency) | New JMA forecast data for S2S Project based on a coupled model |
| 10:00–10:15 | 029 | Rae-Seol Park<br>(Korea Institute of Atmospheric Prediction Systems) | Korean Integrated Model: expansion of prediction target to extended range forecasts |
| 10:15–10:30 | 069 | William James Crawford<br>(U. S. Naval Research Laboratory, Monterey) | The Navy Earth System Prediction Capability Version 2 Ensemble Forecast System |
| **10:30–11:00** | **Morning Coffee** | | |
| **11:00–13:00** | **R2O: R2 Skill & Verification**<br>Session Chair: Arun Kumar (National Centers for Environmental Prediction) | | |
| 11:00–11:15 | 089 | Caio Coelho<br>(CPTEC/INPE) | The S2S sub-project on Research to Operations (R2O): forecast and verification products development |
| 11:15–11:30 | 255 | D R Pattanaik<br>(India Meteorological Department) | Extended Range Forecast of Monsoon over India at Met-subdivision and Districts levels : Prospect of its applications in Agriculture |
| 11:30–11:45 | 126 | Felipe M. de Andrade<br>(National Institute for Space Research) | Skill assessment and sources of predictability for sub-seasonal rainfall forecasts in Africa |
| 11:45–12:00 | 044 | Marisol Osman<br>(Institute of Meteorology and Climate Research (IMK-TRO), Karlsruhe Institute of Technology (KIT)) | Multi-model Assessment of the Sub-seasonal Predictive Skill for the Year-round Atlantic-European Weather Regimes |
| 12:00–12:15 | 096 | S. Abhik<br>(School of Earth, Atmosphere, and Environment, Monash University, Australia) | The Indo-Pacific Maritime Continent Barrier Effect on MJO Prediction in Subseasonal-to-Seasonal Prediction Models |
| 12:15–12:30 | ~~196~~ | ~~Philip Pegion~~<br>~~(NOAA)~~ | ~~Coupled Model Diagnostic Tools for UFS Subseasonal to Seasonal Model Development~~ |
| 12:30–12:45 | 009 | Claire Spillman<br>(Bureau of Meteorology) | Predicting ocean extremes at subseasonal to seasonal timescales for operational decision support |
| 12:45–13:00 | 245 | Abigail Jaye<br>(National Center for Atmospheric Research, U.S.A.) | State-dependent Forecast Skill in S2S Forecasts |
| **13:00–14:00** | **Lunch Break, including group photo outside the Palmer Building front entrance at 13:00** | | |
| **14:00–15:30** | **Poster Session 2 (Block A)** | | |
| **15:30–16:00** | **Afternoon Coffee** | | |
| **16:00–17:30** | **Predictability & Processes: P2 Land & Aerosols**<br>Session Chair: Magdalena Balmaseda (ECMWF) | | |
| 16:00–16:15 | 258 | Yongkang Xue<br>(University of California, Los Angeles (UCLA)) | Progress Towards for better Understanding of the Sources of Global S2S Precipitation Prediction using Land Temperatures Anomaly over high mountains: A brief overview from the GEWEX/LS4P Initiative |

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| 16:15–16:30 | 259 | Julia Green<br>(University of Arizona) | An Emergent Constraint to Improve the Representation of Biosphere-Atmosphere Feedbacks in Earth System Models |
| 16:30–16:45 | 110 | Bethan L. Harris<br>(UK Centre for Ecology & Hydrology/National Centre for Earth Observation) | Global observations highlight regions where vegetation can enhance S2S predictability |
| 16:45–17:00 | 107 | Constantin Ardilouze<br>(CNRM, Université de Toulouse, Météo France, CNRS) | Predicting the leaf area index in a dynamical S2S forecast system |
| 17:00–17:15 | 157 | Ariane Frassoni<br>(INPE) | The Second Phase of the WGNE Aerosol Project: Evaluating the impact of aerosols on the Subseasonal Prediction |
| 17:15–17:30 | 007 | Joshua Talib<br>(UK Centre for Ecology and Hydrology) | Surface drivers of sub-seasonal predictability across Africa |
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| **18:30–21:00** | **Conference Dinner** | | |

# Wednesday - 5 July 2023

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|---|---|---|---|
| **09:00–10:30** | **Breakout Preparation**<br>Session Chair: Robert Lee (University of Reading) | | |
| 09:00–09:15 | 242 | Dorothy Koch<br>(NOAA OAR Weather Program Office)<br>Presented by Mark Olsen<br>(NOAA OAR Weather Program Office) | NOAA's S2S Program Plan and Project Highlights |
| 09:15–09:30 | 081 | Richard Mladek<br>(ECMWF) | The technical development of the S2S database |
| 09:30–09:45 | 049 | Xing Hu<br>(China Meteorological Administration) | Progress of CMA S2S Data Archive Centre |
| 09:45–10:00 | 017 | Paul Dirmeyer<br>(George Mason University) | The Land Sub-project of S2S |
| 10:00–10:15 | 261 | Laura Ferranti<br>(ECMWF)<br>Presented by Matthieu Chevallier<br>(ECMWF) | WMO infrastructure for operational subseasonal forecasting |
| 10:15–10:30 | | | Breakout instructions |
| **10:30–11:00** | **Morning Coffee** | | |
| **11:00–12:00** | **Breakout 1**<br>Breakout Group Chairs:<br>1. Christian Grams<br>2. Matt Newman<br>3. Christopher Roberts<br>4. Jason Furtado<br>5. Randy Koster<br>6. Felipe M. de Andrade<br>7. Dominik Büeler<br>8. Linda Hirons | | |
| **12:00–13:00** | **Breakout 2**<br>Breakout Group Chairs:<br>1. Christian Grams<br>2. Matt Newman<br>3. Christopher Roberts<br>4. Jason Furtado<br>5. Randy Koster<br>6. Felipe M. de Andrade<br>7. Dominik Büeler<br>8. Linda Hirons | | |
| **13:00–14:00** | **Lunch Break** | | |
| **14:00–15:30** | **Poster Session 3 (Block B)** | | |
| **15:30–16:00** | **Afternoon Coffee** | | |
| **16:00–17:30** | **R2O: R3 Post-Processing**<br>Session Chair: Caio Coelho (CPTEC/INPE) | | |
| 16:00–16:15 | 236 | Andrew W. Robertson<br>(IRI, Columbia University) | A multimodel real-time system for global probabilistic subseasonal forecasts of precipitation and temperature |

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| 16:15–16:30 | 251 | Marie Drouard<br>(Institute of Geosciences (IGEO, CSIC-UCM), Madrid) | Sub-seasonal to seasonal prediction of summer heatwaves in the Iberian Peninsula using machine learning algorithms |
| 16:30–16:45 | 046 | Nina Horat<br>(Karlsruhe Institute of Technology (KIT)) | Deep learning for post-processing global probabilistic forecasts on sub-seasonal time-scales |
| 16:45–17:00 | 116 | Lucia Micaela Castro<br>(Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, Departamento de Ciencias de la Atmósfera y los Océanos – Servicio Meteorologico Nacional) | Skill assessment of weekly temperature anomalies in the SubX Project for the extended austral summer in South America |
| 17:00–17:15 | 225 | Steven Woolnough<br>(National Centre for Atmopsheric Science, University of Reading) | The potential for using weather patterns to advance sub-seasonal forecasting in Southeast Asia |
| 17:15–17:30 | 172 | Camille Marie-Jeanne Laurence Le Coz<br>(Laboratoire de Météorologie Dynamique-IPSL, Ecole Polytechnique, Institut Polytechnique de Paris, ENS, PSL Research University, Sorbonne Université, CNRS) | Multi-model sub-seasonal forecasts of 2m-temperature over Europe using Wasserstein barycentre |
| **17:30–19:00** | **Early Career Researcher Event** | | |

# Thursday – 6 July 2023

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| **09:00–10:30** | **Predictability & Processes: P3 Stratosphere**<br>Session Chair: Cristiana Stan (George Mason University) | | |
| 09:00–09:15 | 031 | Chaim Garfinkel<br>(Hebrew University) | The Stratospheric Network for the Assessment of Predictability (SNAP): the role of stratosphere-troposphere coupling for S2S skill |
| 09:15–09:30 | 233 | Jason Furtado<br>(School of Meteorology, University of Oklahoma) | Representation and Predictability of Stratospheric Wave Reflection Events in Subseasonal Forecast Models |
| 09:30–09:45 | 012 | Bowen Liu<br>(Nanjing University of Information Science and Technology) | Precursory Signals in the Stratospheric Meridional Mass Circulation for Mid-Latitude Cold Air Outbreak Events of High and Low Sub-Seasonal Predictability |
| 09:45–10:00 | 066 | Rachel Wai-Ying Wu<br>(ETH Zurich) | Bimodality in the Predictability of Sudden Stratospheric Warming Events: A Case Study of the 2009 and 2018 Events |
| 10:00–10:15 | 146 | Andrew James Charlton-Perez<br>(University of Reading) | A Minimal Model to Diagnose the Contribution of the Stratosphere to Tropospheric Forecast Skill |
| 10:15–10:30 | 067 | Jonas Spaeth<br>(University of Munich (LMU)) | Anomalies in tropospheric extended-range forecast uncertainty arising from stratosphere-troposphere coupling |
| **10:30–11:00** | **Morning Coffee** | | |
| **11:00–13:00** | **Predictability & Processes: P4 Other Processes**<br>Session Chair: Hyemi Kim (Ewha Womans University) | | |
| 11:00–11:15 | 006 | Hai Lin<br>(Environment and Climate Change Canada) | Subseasonal variability of the warm Arctic – cold North American pattern |
| 11:15–11:30 | 230 | John Methven<br>(University of Reading) | Relating the properties of quasi-stationary Rossby waves to the jet that they live on |
| 11:30–11:45 | 123 | Iago Perez Fernández<br>(Universidad de la República) | Predictability of Long-lived of Rossby Wave Packets during Southern Hemisphere Summer |
| 11:45–12:00 | 022 | Shreya Keshri<br>(Earth and Climate Science, Indian Institute of Science Education and Research Pune) | A survey of Mixed Rossby-Gravity waves and quantification of their association with extratropical disturbances |
| 12:00–12:15 | 237 | David Martin Straus<br>(George Mason University)<br>*This talk has been moved from the P1 Session* | Uncertainty in Diabatic Heating within MJO phases 3-4 and Consequences for Mid-Latitude Predictability: Large Ensemble Studies with the ECMWF Model |
| 12:15–12:30 | 164 | Boris Dewitte<br>(CEAZA/CECI) | Forecast opportunity at subseasonal-to-seasonal timescales in the South Eastern Pacific |
| 12:30–12:45 | 130 | Jing Yang<br>(Key Laboratory of Environmental Change and Natural Disaster/Faculty of Geographical Science, Beijing Normal University) | Intraseasonal Melting of Northern Barents Sea Ice Forced by Circumpolar Clockwise-Propagating Atmospheric Waves during Early Summer |
| 12:45–13:00 | 256 | Elizabeth Barnes<br>(Colorado State University) | Interpretable Machine Learning for S2D Prediction and Discovery: data-driven approaches to the method of analogs |
| **13:00–14:00** | **Lunch Break** | | |
| **14:00–15:30** | **Poster Session 4 (Block B)** | | |
| **15:30–16:00** | **Afternoon Coffee** | | |
| **16:00–17:30** | **Modeling: M2 Ensembles & Processes**<br>Session Chair: Yuhei Takaya (Meteorological Research Institute, Japan Meteorological Agency) | | |

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| 16:00–16:15 | 084 | Magdalena Alonso Balmaseda<br>(ECMWF) | Towards consistent representation of the boundary forcing temporal variability in S2S reforecasts and real-time forecasts |
| 16:15–16:30 | 001 | Frederic Vitart<br>(ECMWF) | Sub-seasonal prediction at ECMWF |
| 16:30–16:45 | 085 | Andrea Molod<br>(NASA Global Modeling and Assimilation Office) | Prediction and Predictability Studies with NASA's GEOS-S2S Modeling and Assimilation System |
| 16:45–17:00 | 137 | Qing Bao<br>(Chinese Academy of Sciences (CAS), Institute of Atmospheric Physics (IAP))<br>*Presented by Yangke Liu*<br>*(Chinese Academy of Sciences (CAS), Institute of Atmospheric Physics (IAP))* | Impacts of humidity initialization on MJO prediction: a study in an operational Sub-seasonal to seasonal system |
| 17:00–17:15 | 019 | Susmitha Joseph<br>(Indian Institute of Tropical Meteorology, Pune ) | Development of a Multi-physics Multi-ensemble system for efficient subseasonal prediction |
| 17:15–17:30 | 177 | Matthew Newman<br>(NOAA/Physical Sciences Laboratory) | A Linear Inverse Model for Improved Model Guidance of CPC's Week 3-4 Operational Temperature Outlooks |

# Friday – 7 July 2023

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| **09:00–10:30** | **Predictability & Processes: P5 Precipitation & Tropical Waves**<br>Session Chair: Susmitha Joesph (Indian Institute of Tropical Meteorology) | | |
| 09:00–09:15 | 062 | Arun Kumar<br>(Climate Prediction Center, NOAA) | Attribution of North American Subseasonal Precipitation Prediction Skill |
| 09:15–09:30 | 148 | Xiangbo Feng<br>(National Centre for Atmospheric Science, University of Reading) | Equatorial waves: precursors to tropical cyclone occurrence and intensification |
| 09:30–09:45 | 131 | Vincent Owanda Otieno<br>(Technical University of Kenya) | Characterization of Intra-Seasonal Variability during Extreme Dry Seasons over the Greater Horn of Africa (GHA): Implications for Climate Adaptation and Mitigation |
| 09:45–10:00 | 193 | Juliana Dias<br>(NOAA Physical Sciences Laboratory) | Are equatorial waves a practical source of deterministic sub-seasonal predictive skill? |
| 10:00–10:15 | 214 | Philippe Peyrille<br>(CNRM, Meteo-France) | Multiple tropical waves occurrence drive extreme precipitation events in the central Sahel |
| 10:15–10:30 | 160 | Kieran Mark Rainwater Hunt<br>(University of Reading) | Nonlinear intensification of monsoon low pressure systems by the BSISO |
| **10:30–11:00** | **Morning Coffee** | | |
| **11:00–13:00** | **R2O: R4 Climate Services**<br>Session Chair: Andrew Robertson (IRI, Columbia University) | | |
| 11:00–11:15 | 097 | Joanne Robbins<br>(Met Office) | Exploring the challenges and opportunities of S2S forecast application development through the Subseasonal-to-Seasonal (S2S) Real Time Pilot (RTP) Initiative |
| 11:15–11:30 | 257 | Mike DeFlorio<br>(Center for Western Weather and Water Extremes, Scripps Institution of Oceanography, University of California San Diego) | The transition from California's extreme drought to major flooding: Evaluating CW3E's S2S forecasts of the onslaught of landfalling atmospheric rivers and associated extreme precipitation in December 2022 – January 2023 |
| 11:30–11:45 | 057 | Linda Hirons<br>(NCAS, University of Reading) | Using a co-production approach to support effective application of S2S forecasts in Africa |
| 11:45–12:00 | 174 | Masilin Gudoshava<br>(IGAD Climate Predictions and Applications Centre) | Application of real time S2S forecasts over Eastern Africa in the co-production of climate services |
| 12:00–12:15 | 071 | Randal Koster<br>(Global Modeling and Assimilation Office, NASA/Goddard Space Flight Center) | The Subseasonal Forecasting of Hydrological Variables: Improvement Strategies Inferred from a Water Balance Model Analysis |
| 12:15–12:30 | 166 | Wee Leng Tan<br>(Centre for Climate Research Singapore)<br>*Presented by Chen Schwartz*<br>*(Centre for Climate Research Singapore)* | Application of S2S for Disaster Management: Development of products for Southeast Asia |
| 12:30–12:45 | 208 | Emily Black<br>(University of Reading and the National Centre for Atmospheric Science) | Application of sub-seasonal forecasts for farmer decision support in eastern and southern Africa |
| 12:45–13:00 | 181 | Erik W. Kolstad<br>(NORCE, Bjerknes Centre for Climate Research) | Use of S2S forecasts in the Climate Futures centre for applied research |
| **13:00–14:00** | **Lunch Break, including Running Out of Time walking relay participation opportunity** | | |
| **14:00–15:30** | **Modeling: M3 Downscaling, Machine Learning & Model Biases**<br>Session Chair: Anca Brookshaw (ECMWF) | | |
| 14:00–14:15 | 217 | Hoteit Ibrahim<br>(King Abdullah University of Science and Technology) | On the development of a S2S forecasting system for the Arabian Peninsula using convective-permitting ensemble dynamical downscaling |

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| 14:15–14:30 | 243 | Ty Dickinson<br>(School of Meteorology, University of Oklahoma) | Forecasting Subseasonal Extreme Precipitation in the Contiguous United States Using a Convolutional Neural Network |
| 14:30–14:45 | 104 | Dominik Büeler<br>(ETH Zürich) | Northern Hemisphere extratropical cyclone biases in ECMWF sub-seasonal forecasts |
| 14:45–15:00 | 178 | Kirsten Mayer<br>(National Center for Atmospheric Research, U.S.A.) | Identifying State-Dependent Subseasonal Predictability Bias with Explainable Neural Networks |
| 15:00–15:15 | 090 | Matthew Widlansky<br>(Cooperative Institute for Marine and Atmospheric Research, School of Ocean and Earth Science and Technology, University of Hawai'i at Mānoa) | Assessing opportunities for improved coastal data assimilation in ocean model analyses and forecasting systems |
| 15:15–15:30 | 120 | Steffen Tietsche<br>(ECMWF) | Underestimation of Arctic warming trends in sub-seasonal forecasts |
| **15:30–16:00** | **Afternoon Coffee** | | |
| **16:00–17:30** | **Breakout Reports & Closing Discussion**<br>Session Chair: Steve Woolnough (National Centre for Atmospheric Science, University of Reading) | | |

# Posters Group A – Monday & Tuesday
# Session 1: Monday, 14:00-15:30 | Session 2: Tuesday, 14:00-15:30

| Poster # | Author (Affiliation) | Title | Presenting Session |
|---|---|---|---|
| A1 | Marcela Ulate (U.S. Naval Research Laboratory, UCAR) | Impact of Stochastic Kinetic Energy Backscatter Scheme on the Navy Earth System Prediction Capability prediction of the Madden Julian Oscillation during 2017 | 1 |
| A2 | Yangke Liu (CAS-IAP) | Madden–Julian Oscillation prediction skill of CAS-IAP model | 2 |
| A3 | Baoqiang Xiang (GFDL/NOAA, UCAR) | Subseasonal prediction of diverse MJO and BSISO events in GFDL SPEAR model | 1 |
| A4 | Jing Yang (Beijing Normal University) | Boreal summer extratropical intraseasonal waves over the Eurasian continent and real-time monitoring metrics | 2 |
| A5 | Laís Fernandes (Portland State University) | ENSO-MJO effects on the lifecycle of North Pacific Atmospheric Rivers | 1 |
| A6 | Young-Kwon Lim (University of Maryland, Baltimore County, and NASA Goddard Space Flight Center, Global Modeling and Assimilation Office) | Prediction skill of the eastward propagating Madden-Julian Oscillation and associated dynamics in NASA's GEOS-S2S forecast system | 2 |
| A7 | Jung-Eun Esther Kim (Ewha Womans University) | S2S predictability of Western North Pacific Subtropical High due to the decadal change in ENSO | 1 |
| A8 | Laura Baker (NCAS, University of Reading) | Understanding the intermittency of the wintertime North Atlantic Oscillation and East Atlantic Pattern seasonal forecast skill in the Copernicus C3S multi-model ensemble | 2 |
| A9 | Masuo Nakano (Japan Agency for Marine-Earth Science and Technology) | Impact of the Boreal Summer Intraseasonal Oscillation on Typhoon Tracks in the Western North Pacific and the Prediction Skill of the ECMWF Model | 1 |
| A10 | Elena Saggioro (University of Reading) | Probabilistic causal network modelling of Southern Hemisphere jet stream long-range predictability in spring-to-summer | 2 |
| A11 | Tao Zhu (Key Laboratory of Environmental Change and Natural Disaster/Faculty of Geographical Science, Beijing Normal University) | Two Types of Mid-High-Latitude Low-Frequency Intraseasonal Oscillations near the Ural Mountains during Boreal Summer | 1 |
| A12 | Constantin Ardilouze (CNRM, Université de Toulouse, Météo France, CNRS) | Flow dependence of wintertime subseasonal prediction skill over Europe | 2 |
| A13 | Jeffrey B. Basara (School of Meteorology; School of Civil Engineering and Environmental Science; University of Oklahoma)<br>*Presented by Taylor Grace (OU) and Daniel Mesheske (OU)* | Analysis of the 2022 Flash Drought Across the South-Central United States | 1 |
| A14 | Marybeth Arcodia (Colorado State University) | Assessing Decadal Variability of Subseasonal Predictability using Explainable Machine Learning | 2 |
| A15 | Danni Du (University of Colorado, Boulder) | Potential increase in MJO predictability under global warming | 1 |
| A16 | Chaim Garfinkel (Hebrew University) | The winter North Pacific teleconnection in response to ENSO and the MJO in operational subseasonal forecasting models is too weak | 2 |
| A17 | Christopher David Roberts (European Centre for Medium-Range Weather Forecasts) | Euro-Atlantic weather regimes and their modulation by tropospheric and stratospheric teleconnection pathways in ECMWF reforecasts | 1 |
| A18 | Sasha Glanville (National Center for Atmospheric Research) | Subseasonal predictability from atmospheric, land, and ocean initial states | 2 |
| A19 | Angela Benedetti (ECMWF)<br>*Presented by Frederic Vitart (ECMWF)* | The impact of biomass burning emissions on seasonal prediction: a study using the ECMWF's coupled Ensemble Prediction System | 1 |
| A20 | Daniel Mesheske (Department of Civil Engineering and Environmental Science – University of Oklahoma) | Interseasonal terrestrial-atmospheric drivers of flash drought over Europe | 2 |
| A21 | Jing Yang (Beijing Normal University) | Subseasonal Warming of Surface Soil Enhances Precipitation Over the Eastern Tibetan Plateau in Early Summer | 1 |
| A22 | Yuhei Takaya (MRI, JMA) | A submonthly scale causal relation between snow cover and surface air temperature on the autumnal Eurasian continent | 2 |
| A23 | Shan Sun (NOAA Global Systems Laboratory) | Quantifying direct aerosol effect on subseasonal prediction: climatology versus interactive aerosols in the UFS model | 1 |
| A24 | Jonny Day (European Centre for Medium Range Weather Forecasts) | Diagnostics for land-surface initial conditions and coupling | 2 |

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| A25 | Monika Feldmann (Institute of Geography and Oeschger Centre for Climate Change Research, University of Bern) | Investigating the predictability of severe convective outbreaks in central Europe | 1 |
| A26 | Raju Mandal (Indian Institute of Tropical Meteorology Pune)<br>*Presented by A. K. Sahai (IITM) and Susmitha Joseph (IITM)* | Diagnostics and real-time extended range prediction of cold waves over India | 2 |
| A27 | Benjamin Davis (University of Oklahoma) | Predictability of Wet Bulb Globe Temperature Heat Waves in the United States Plains | 1 |
| A28 | Taylor Grace (School of Meteorology, University of Oklahoma) | A Comparison of Boreal Winter and Summer Heat Wave Characteristics in the US Southern Great Plains | 2 |
| A29 | Jorge L. Garcia Franco (Columbia University)<br>*Presented by Chia-Ying Lee (Columbia University)* | On the source of model biases for subseasonal tropical cyclone precipitation prediction | 1 |
| A30 | Emmanuel Rouges (University of Reading) | Heatwaves over Europe: Improving the forecast on the sub-seasonal range | 2 |
| A31 | Daniele Mastrangelo (Institute of Atmospheric Sciences and Climate, CNR-ISAC) | Subseasonal prediction of the 21-25 November 2016 heavy rainfall event over northwestern Italy | 1 |
| A32 | Annika Oertel (Institute of Meteorology and Climate Research (IMK-TRO), Karlsruhe Institute of Technology (KIT)) | Everything hits at once: how remote rainfall matters for the sub-seasonal prediction of the 2021 North American heat wave | 2 |
| A33 | S. Abhik (School of Earth, Atmosphere, and Environment, Monash University, Australia) | Multiweek prediction and attribution of the Black Saturday heatwave event over southeast Australia | 1 |
| A34 | Erwan Cornillault (CRNM) | Extreme rainfall events over the French tropical overseas territories : characteristics and atmospheric forcing provided by equatorial waves | 2 |
| A35 | Dame Guey (Laboratory of Electronics, Computing, Telecommunications and Renewable Energies – University Gaston Berger) | Study of cyclogenesis in the eastern tropical Atlantic East Atlantic with the LMDz model | 1 |
| A36 | Qiaoping Li (CMA Earth System Modeling and Prediction Centre, China Meteorological Administration) | Forecasting and evaluation of summer extreme precipitation and high temperature events in China based on S2S models | 2 |
| A37 | Richard I. Cullather (Global Modeling and Assimilation Office, NASA Goddard Space Flight Center) | Inferred Sea Level Prediction in the NASA GMAO Seasonal Forecasting System | 1 |
| A38 | Ryu Jihun (GIST) | Correlation between predictability in Sub-seasonal to Seasonal (S2S) timescales and performance of mean state | 2 |
| A39 | Marisol Osman (KIT) | Factors influencing sub-seasonal forecast skill of Greenland Blockings | 1 |
| A40 | Devin McAfee (University of Oklahoma School of Meteorology) | Evaluation of S2S Prediction Project Database Performance in Forecasting U.S. Extreme Precipitation Events | 2 |
| A41 | Paromita Chakraborty (National Centre for Medium Range Weather Forecasting (NCMRWF)) | Assessing skill of ensemble sub-seasonal to seasonal forecasting over South-east Asia | 1 |
| A42 | Wayne Yuan-Huai Tsai (Department of Atmospheric Sciences, National Taiwan University)<br>*Presented by Hsiao-Chung Tsai (Tamkang University)* | Intraseasonal oscillations and the subseasonal peak rainfall event in the eastern Philippines during 2017/18 winter and S2S prediction evaluation | 2 |
| A43 | Hsiao-Chung Tsai (Department of Water Resources and Environmental Engineering, Tamkang University) | Monitoring Global Tropical Cyclone Activities on Subseasonal Timescale using the CWB TC Tracking System | 1 |
| A44 | Cristiana Stan (George Mason University) | The Forecast Skill of the Northern Hemisphere Middle Latitudes Seasonal Oscillation and its impact on the surface air temperature | 2 |
| A45 | Ranjeet Singh Bais Bais (PhD, IIT Kharagpur) | Reliability indices for S2S model for societal application | 1 |
| A46 | Paul-Arthur Monerie (University of Reading) | Prediction of the seasonal variability of global summer monsoon precipitation | 2 |
| A47 | Ignazio Giuntoli (CNR-ISAC) | A weather regimes approach for identifying increased predictability in the subseasonal prediction of European winters | 1 |
| A48 | Silvia Terzago (National Research Council of Italy, Institute of Atmospheric Sciences and Climate (CNR-ISAC)) | Seasonal forecasting of Alpine snow depth | 2 |
| A49 | Maureen Abla Ahiataku (Ghana Meteorological Agency) | Impact of Users' Feedback on Weather Forecast Evaluation in Ghana, West Africa | 1 |
| A50 | Supari Supari (Indonesia Agency for Meteorology, Climatology and Geophysics (BMKG)) | The Performance of ECMWF S2S Model on Predicting the Wet Period at the end of 2022 in Java Island, Indonesia | 2 |
| A51 | Zhao Li (NASA-GSFC-GMAO) | Summer Heatwave Forecast skills in GEOS5-S2S version 2 | 1 |
| A52 | Xiangwen Liu (Center for Earth System Modeling and Prediction of China Meteorological Administration) | Progress of MJO Prediction at CMA during phase I to phase II of Sub-seasonal to Seasonal Prediction Project | 2 |

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| | *Presented by Weihua Jie (CMA)* | | |
| A53 | Maria Gehne (CU Boulder CIRES) | Diagnostics of Tropical Variability in the Unified Forecast System | 1 |
| A54 | Li Ren (NASA/GSFC, SSAI) | Evaluation of GEOS -S2S Version 3 Forecast System | 2 |
| S1 | Hyung-Jin Kim (Head, Climate Prediction Department, APEC Climate Center) | A Decade of S2S ICO's Services and Collaborations for the Subseasonal to Seasonal Prediction Project | |

# Posters Group B – Wednesday & Thursday
# Session 3: Wednesday, 14:00-15:30 | Session 4: Thursday, 14:00-15:30

| Poster # | Author (Affiliation) | Title | Presenting Session |
|---|---|---|---|
| B1 | Eunjeong Lee (Korea Institute of Atmospheric Prediction Systems (KIAPS)) | Impacts of an Atmosphere-Ocean Coupling in the Korean Integrated Model (KIM) | 3 |
| B2 | Min Chu (CMA Earth System Modeling and Prediction Centre (CEMC)) | Seasonal prediction of regional Arctic sea ice using the high-resolution climate prediction system CMA-CPSv3 | 4 |
| B3 | Aude Carreric (BSC-CNS) | Impacts of increased horizontal resolution on the seasonal predictability of Tropical Pacific variability | 3 |
| B4 | Ian Simpson (University of Lincoln) | Probabilistic seasonal forecasts using complex systems modelling, comparisons with dynamical models and linking North Atlantic atmospheric circulation and jet stream variability to UK and northwest Europe surface weather conditions | 4 |
| B5 | Benjamin Green (CU/CIRES and NOAA/Global Systems Laboratory) | Sensitivities of Subseasonal Coupled Earth System Model Simulations to Changes in Parameterizations of Convection, Cloud Microphysics, and Planetary Boundary Layer | 3 |
| B6 | Prajwal P. Jadhav (Indian Institute of Science Education and Research Pune) | Subseasonal forecasting of temperature and precipitation over India using a machine learning approach | 4 |
| B7 | Yalan Fan (Beijing Normal University) | Gain of one-month lead predicting spring rainfall over China: A comparison between FGOALS-f2 ensemble prediction system and its driving stretched-grid downscaling prediction system | 3 |
| B8 | Bruno dos Santos Guimarães (Center for Weather Forecast and Climate Studies, National Institute for Space Research) | An inter-comparison performance assessment of a Brazilian global sub-seasonal prediction model against four Sub-seasonal to Seasonal (S2S) prediction project models | 4 |
| B9 | Christopher Castro (The University of Arizona) | Mesoscale Convective Systems in the Arabian Peninsula: Subseasonal to Seasonal Forecast and Tracking Capability through High Resolution Regional Climate Modeling | 3 |
| B10 | Dioumacor Faye (Ecole Supérieure Polytechnique de l'Université Cheikh Anta Diop de Dakar) | Sub-seasonal to seasonal forecast in Senegal: Machine Learning approach | 4 |
| B11 | Sylvie Malardel (Laboratoire de l'Atmosphère et des Cyclones (LACy)) | Monthly forecast exploratory experiment with a convection permitting model for the south-west Indian Ocean basin | 3 |
| B12 | Bowen Liu (Nanjing University of Information Science and Technology) | Impact of the Initial Stratospheric Polar Vortex State on East Asian Spring Rainfall Prediction in Seasonal Forecast Models | 4 |
| B13 | Xiuyuan Ding (University of California, Los Angeles) | Causality between Extreme Stratospheric Wave Activity and Cold Extremes over North America | 3 |
| B14 | Zachary Lawrence (CIRES / NOAA PSL)<br>*Presented by Chaim I. Garfinkel (Hebrew University of Jerusalem)* | Stratosphere & Stratosphere-Troposphere Coupling Biases in Subseasonal-to-Seasonal Forecast Models: An International SNAP Community Effort | 4 |
| B15 | Dvir Chwat (Fredy and Nadine Herrmann Institute of Earth Sciences, Hebrew University, Jerusalem)<br>*Presented by Chaim I. Garfinkel (Hebrew University of Jerusalem)* | Which Sudden Stratospheric Warming Events Are Most Predictable? | 3 |
| B16 | Chaim I. Garfinkel (Fredy and Nadine Herrmann Institute of Earth Sciences, Hebrew University of Jerusalem)<br>*Presented by Chen Schwartz (Hebrew University of Jerusalem)* | Stationary wave biases and their effect on upward troposphere– stratosphere coupling in sub-seasonal prediction models | 4 |
| B17 | Robert W. Lee (University of Reading) | Initial Conditions for Stratospheric Error Growth | 3 |
| B18 | Philip Rupp (LMU Munich) | Predicting the coupled AO extremes and strong polar vortex conditions during early 2020 | 4 |
| B19 | Hilla Afargan-Gerstman (ETH Zürich) | Stratospheric influenece on North Atlantic storm track predictability in subseasonal-to-seasonal reforecasts | 3 |
| B20 | Alexey Karpechko (FMI)<br>*Presented by Frederic Vitart (ECMWF)* | The tropical influence on sub-seasonal predictability of wintertime stratosphere and stratosphere-troposphere coupling | 4 |
| B21 | Xiaocen Shen (Department of Meteorology, University of Reading) | The Dominant Intraseasonal Coupling Mode between the Stratosphere and Troposphere: the Stratosphere-Troposphere Oscillation | 3 |
| B22 | Akshay Deoras (NCAS & Department of Meteorology, University of Reading) | The predictability and representation of Indian monsoon low-pressure systems in Subseasonal- | 4 |

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| | | to-Seasonal prediction models | |
| B23 | Tanvir Ahmed (Shahjalal University of Science and Technology, Sylhet, Bangladesh) | Processes associated with extremely heavy precipitation in the Meghalaya Plateau region: A case modelling study. | 3 |
| B24 | Joshua Dorrington (Karlsruhe Institute of Technology) | Domino: A framework for improving extreme event predictability using flow precursors | 4 |
| B25 | Oliver T. Millin (School of Meteorology, University of Oklahoma) | The Impact of Rossby Wave Breaking on the Subseasonal Forecast of the February 2021 Great Plains Cold Air Outbreak | 3 |
| B26 | Timothy Higgins (University of Colorado – Boulder) | Assessing the Potential Predictability of North Pacific Winter IVT and Precipitation Extremes in ECMWF Subseasonal Forecasts | 4 |
| B27 | Felipe M. de Andrade (National Institute for Space Research) | Evaluating the representation of South America precipitation variability patterns in sub-seasonal predictions of S2S project models | 3 |
| B28 | Luong Thang (King Abdullah University of Science and Technology) | Predictability of Sub-seasonal Rainfall in the Arabian Peninsula | 4 |
| B29 | David Martin Straus (George Mason University) | The Predictability of the South Asian Summer Monsoon Intra-Seasonal Variability (Active-Break Cycle) from re-forecasts of the ECMWF ensemble prediction system at three resolutions. | 3 |
| B30 | Erik W. Kolstad (NORCE, Bjerknes Centre for Climate Research) | Drivers of S2S Forecast Errors of the East African Short Rains | 4 |
| B31 | Weihua Jie (CMA Earth System Modeling and Prediction Center (CEMC)) | How to Choose Credible Ensemble Members for the Sub-seasonal to Seasonal Prediction of Precipitation? | 3 |
| B32 | Dominik Büeler (ETH Zurich) | Extended-range warnings for heatwaves in Switzerland (HEATaware) | 4 |
| B33 | Amulya Chevuturi (UKCEH) | Improving global hydrological simulations through bias-correction and multi-model blending | 3 |
| B34 | Nurdeka Hidayanto (Indonesian Agency for Meteorological, Climatological and Geophysics)<br>*Presented by Donaldi Permana (BMKG)* | Improving Sub-seasonal to Seasonal Model Performance in The Tropics Using a Machine Learning Approach | 4 |
| B35 | Annie Y.-Y. Chang (ETH Zurich) | Sub-seasonal drought forecasting in the European Alps with EFAS data in a machine-learning-aided hybrid approach | 3 |
| B36 | Hui-Ling Chang (Central Weather Bureau) | Analog Post-processing of Week 2-3 Probabilistic Precipitation Forecasts over Taiwan | 4 |
| B37 | Sem Vijverberg (Vrije Universiteit, Institute for Environmental Studies) | Introducing the AI4S2S project; open-source python packages to make data-driven pipelines for S2S forecasting more efficient, transparent, and scalable | 3 |
| B38 | Philippe Peyrille (CNRM, Meteo-France) | Added value of analysing tropical waves and precipitable water for subseasonal forecast in West Africa : the MISVA platform | 4 |
| B39 | Diego A. Campos Díaz (Direccion Meteorologica de Chile) | On the next generation (NextGen) seasonal precipitation forecast in Chile | 3 |
| B40 | Pascal Oettli (Center for Environmental Remote Sensing (CEReS), Chiba University) | The value of machine learning to improve seasonal forecasting in mid-latitudes: The example of surface air temperature in central Japan | 4 |
| B41 | Zhou Yang (Nanjing University of Information Science and Technology) | How Can Quasi-Periodic Signals Privilege S2S Operational Forecast? From a Perspective of Deep Learning | 3 |
| B42 | Joshua Talib (UKCEH) | Co-producing sub-seasonal warnings of meningitis outbreaks | 3 |
| B43 | Kamoru Abiodun Lawal (African Centre of Meteorological Applications for Development (ACMAD)) | Progress and Challenges of Demand-Led Co-Produced Sub-Seasonal-to-Seasonal (S2S) Climate Forecasts in Nigeria | 3 |
| B44 | Fabian Mockert (Institute of Meteorology and Climate Research (IMK-TRO), Department Troposphere Research, Karlsruhe Institute of Technology (KIT)) | Weather regimes: A window of sub-seasonal forecast opportunity for periods of low renewable electricity generation in Germany? | 4 |
| B45 | Valentina Pavan (Arpae-Simc) | Sub-seasonal ensemble irrigation forecasts in Emilia-Romagna | 3 |
| B46 | Pauline Rivoire (Institute of Earth Surface Dynamics, University of Lausanne) | Forecasting hydrometeorological drivers of forest damage over Europe | 4 |
| B47 | Victor Indasi (ACMAD) | The Need for sustained provision S2S forecast products: African Perspective. | 3 |
| B48 | Mary Nyambur Kilavi (Kenya Meteorological Department) | Reflections on the development and use of S2S products in Kenya | 4 |
| B49 | Yuxian Pan (Beijing Normal University) | Skillful seasonal prediction of summer wildfires over Central Asia | 3 |
| B50 | Christoph Spirig (Federal Office of Meteorology and Climatology, MeteoSwiss)<br>*Presented by Adel Imamovic (MeteoSwiss)* | Towards an early warning system for droughts in Switzerland | 4 |
| B51 | Patricia Nying'uro (Kenya Meteorological Department) | Use of S2S forecast products in Kenya; Application for NHMSs forecast producers & for the Energy Sector. | 3 |
| B52 | Mark Rhodes-Smith (UK Centre for Ecology and Hydrology) | UK Hydrological Outlook: Operational river flow forecasting using spatially-distributed seasonal rainfall forecasts | 4 |

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| B53 | Victoria L. Boult (University of Reading) | S2S Forecasts for Biodiversity Conservation | 3 |
| B54 | Sylvie Malardel (Laboratoire de l'Atmosphère et des Cyclones (LACy)) | PISSARO: a collaborative and user-oriented project on the monthly forecasting of extreme events in the southwest Indian Ocean | 4 |
| B55 | Neil Hart (University of Oxford) | When on-ground decision making shapes S2S prediction research pathways | 3 |
| S1 | Hyung-Jin Kim (Head, Climate Prediction Department, APEC Climate Center) | A Decade of S2S ICO's Services and Collaborations for the Subseasonal to Seasonal Prediction Project | |