Program

Monday 25 July 2022 (Regency Grand Ballroom)

	Chairs: Sandrine Bony, Daniel Klocke, Shaocheng Xie
09:30 – 09:45	**Welcome** – Sandrine Bony and Daniel Klocke, CO-Chairs GASS
09:45 – 10:15	**Mesoscale Organisation of Shallow Cumulus Convection: an Qverview.** – Pier Siebesma, Delft University of Technology *(invited speaker)*
10:15 – 10:30	**The ubiquity of shallow circulations in the trades** – Geet George, Presented by Bjorn Stevens, Max Planck Institute for Meteorology
10:30 – 11:00	**Break**
	Chairs: Thibaut Dauhut & Thijs Heus
11:00 – 11:15	**Disentangling Diurnal and Lagrangian Influences on the Evolution of Trade Wind Mesoscale Morphologies** – Isabel McCoy, University of Miami & UCAR
11:15 – 11:30	**The Organization and Vertical Structure of Shallow Convection in Marine Cold-Air Outbreaks, based on Cold-Air Outbreaks in the Marine Boundary Layer Experiment (COMBLE): Developing the Framework for an Intercomparison Modeling Study** – Timothy Juliano, NCAR
11:30 – 11:45	**Open-Cell Convection in Marine Cold-Air Outbreaks with Snow** – Steven Krueger, University of Utah
11:45 – 12:00	**Unified Boundary Layer and Convection Parameterizations in Global Models** – Joao Teixeira, JPL/Caltech and UCLA, presented by Mikael witte – Naval Postgraduate School
12:00 – 12:15	**Convective Organization and 3D Structure of Tropical Upper Tropospheric cloud systems from synergistic satellite observations and Machine Learning** – Claudia Stubenrauch, Laboratoire de Météorologie Dynamique IPSL CNRS
12:15 – 12:30	**Cold pool, CAPE, and organization of squall lines: An analytic analysis** – Minghua Zhang, Stony Brook University
12:30 – 14:00	**Lunch**
	Chairs: Blaž Gasparini & Ann Fridlind
14:00 – 14:30	**To freeze or not to freeze – a consequential choice for cloud condensate** – Felix Pithan, Alfred Wegener Institute *(invited speaker)*
14:30 – 14:45	**Parameterizing Unified Microphysics Across Scales (PUMAS): open science advancing simulation of cloud microphysics for weather and climate** – Andrew Gettelman, National Center for Atmospheric Research
14:45 – 15:00	**Two Perspectives of Ice Microphysical Impact on Cloud-Radiative Heating** – Sylvia Sullivan, Department of Chemical and Environmental Engineering, University of Arizona
15:00 – 15:15	**Two missing physical processes in the climate models for the radiative coupling between cloud and surface in the polar regions** – Xianglei Huang, University of Michigan
15:15 – 15:30	**Tropical precipitation extremes in global storm-resolving simulations –** Jiawei Bao, Max Planck Institute for Meteorology
15:30 – 16:00	**Break**
	Chairs: Xue Zheng & Chandan Sarangi

16:00 – 16:15	**The GEWEX Aerosol Precipitation (GAP) initiative – an introduction** – Philip Stier, University of Oxford
16:15 – 16:30	**Long-Term Single-Column Model Intercomparison of Diurnal Cycle of Precipitation Over Midlatitude and Tropical Land** – Shaocheng Xie, Lawrence Livermore National Laboratory
16:30 – 16:45	**An aerosol-aware Lagrangian case study ensemble for LES and SCM based on the Cold-Air Outbreaks in the Marine Boundary Layer Experiment (COMBLE)** – Ann Fridlind, NASA GISS
16:45 – 17:00	**Clouds blowing (in) the wind** – Louise Nuijens, Delft University of Technology
17:00 – 17:15	**Introduction Breakout Groups** – Sandrine Bony and Daniel Klocke
17:15 – 18:15	**Breakout Groups:** EUREC4A-MIP : Model Representation of Shallow Mesoscale Organized Convection, Lead: Pier Siebesma, Room: Regency Grand Ball Room Main + IV/V/VI **Nudged climate model runs**, Lead: Felix Pithan, Room: Windjammer I+II GEWEX Upper Tropospheric Clouds and Convection Process Evaluation Study (UTCC PROES), Lead: Claudia Stubenrauch, Room: Windjammer III+IV Impact of Initialized Land Temperature and Snowpack on Sub-Seasonal to Seasonal Prediction (LS4P), Lead: Yongkang Xue, Room: Cypres I+II+III

Tuesday 26 July 2022 (Regency Grand Ballroom)

	Chairs: Florent Brient & Hideaki Kawai
09:00 – 09:30	**Model spread in tropical low cloud feedback tied to overturning circulation response to warming –** Kathleen Schiro, University of Virginia *(invited speaker)*
09:30 – 09:45	**Process-based Evaluation of Trade-Cumulus Feedback –** Sandrine Bony, LMD/IPSL, CNRS, Sorbonne University
09:45 – 10:00	**Positive low cloud feedback primarily caused by increasing longwave radiation from the sea surface in a climate model MIROC6 –** Tomoo Ogura, National Institute for Environmental Studies
10:00 – 10:15	**Subtropical low cloud feedback mechanisms in the Met Office HadGEM3-GC3.1-LL Climate Model –** Mark Webb, Met Office Hadley Centre
10:15 – 10:30	**Report from Breakout Groups**
10:30 – 11:00	**Break**
11:00 – 12:30	**Breakout Groups:** Diurnal Cycle of Precipitation (DCP) project, Lead: Shaocheng Xie, Room: Regency Grand Ball Room Main + IV/V/VI Sensitivity of (sub)tropical convection and large-scale circulation to parameterized shallow convective momentum transport, Lead: Louise Nuijens, Room: Windjammer I+II Evaluating simulated convective clouds during Arctic cold-air outbreaks: A model intercomparison study based on COMBLE , Lead: Tim Juliano, Room: Cypres I+II+III **Global cloud resolving models**, Lead: Daniel Klocke, Room: Windjammer III+IV
12:30 – 14:00	**Lunch**
	Chairs: Piyush Garg & Brian Mapes

14:00 – 14:30	**A room with a view (climate modeling in the space of observations) –** Bjorn Stevens, Max Planck Institute for Meteorology *(invited speaker)*
14:30 – 14:45	**Sensitivity of Mesoscale Convective System Tracking Algorithms to Detection Thresholds and Data Resolution: A Comparison Useful for High Resolution Model Analysis –** Ross Dixon, University of Nebraska – Lincoln
14:45 – 15:00	**Convergence of Aqua-planet Experiments with Explicit Convection at resolution from 157 km up to 1.2km. How far are we from ITCZ convergence? –** Angel Peinado Bravo, Max Planck Institute for Meteorology
15:00 – 15:15	**EarthWorks –** William Skamarock, National Center for Atmospheric Research
15:15 – 15:30	**Toward the 220 m mesh global simulation with NICAM –** Masaki Satoh, Atmosphere and Ocean Research Institute, The University of Tokyo
15:30 – 16:00	**Break**
	Chairs: Carla Gulizia & Yongkang Xue
16:00 – 16:30	**Locally generated convections over land and their driving mechanisms: Inferences from observations –** Yunyan Zhang, Lawrence Livermore National Laboratory *(invited speaker)*
16:30 – 16:45	**Coupling Satellite Observations and Models to Atmospheric Processes: How Tropical Convection Influences the Saharan Dust Layer –** Tristan L'Ecuyer, University of Wisconsin-Madison
16:45 – 17:00	**Cloud organization, cold pools and water isotopes in large eddy simulations of EUREC4A –** Peter Blossey, University of Washington
17:00 – 18:00	Poster Session Click here for an overview of all posters per theme
18:45 –	**Banquet** (Regency Grand Ballroom)

Wednesday 27 July 2022 (Regency Grand Ballroom)	
	Chairs: Tobias Becker & Brian Medeiros
09:00 – 09:30	**Understanding the physical processes governing the iris effect: Precipitation efficiency, upper-tropospheric stability, and possible roles of shallow convection** – Hirohiko Masunaga – ISEE, Nagoya University *(invited speaker)*
09:30 – 09:45	**Mesoscale Convective System Cloud Shield Expansion Rates and Connection to Convective Latent Heating –** Gregory Elsaesser, Columbia University & NASA GISS
09:45 – 10:00	**Increased large-scale convective aggregation in CMIP5 projections: implications for tropical precipitation extremes –** Martin Singh, Monash University
10:00 – 10:15	**Squall lines orientation and its impact on extreme precipitations –** Sophie Abramian, Laboratoire de Météorologie Dynamique
10:15 – 10:30	**How does microphysical phase relate to cloud morphology transitions within cold-air outbreaks over the northwest Atlantic?** – Paquita Zuidema, Rosenstiel School
10:30 – 11:00	**Break**
	Chairs: Pu Lin & Daniel McCoy
11:00 – 11:15	**Storm-resolving simulations with IFS-NEMO/FESOM in the NextGEMS project –** Tobias Becker, European Centre for Medium-Range Weather Forecasts (ECMWF)
11:15 – 11:30	**Aerosol-convection interactions in global storm resolving simulations –** Philip Stier, University of Oxford
11:30 – 11:45	**Understanding the importance of extra-tropical cyclones for the North Atlantic free-tropospheric aerosol budget –** August Mikkelsen, Department of Atmospheric Science, University of Wyoming

11:45 – 12:00	**Tropical Oceanic Cold Pools in a High-Resolution DYAMOND-ICON Simulation –** Piyush Garg, Argonne National Laboratory
12:00 – 12:15	**Report from Breakout Groups**
12:15 – 14:00	**Lunch**
14:00 – 15:30	Poster Session Click here for an overview of all posters per theme

Thursday 28 July 2022 (Regency Grand Ballroom)

	Chairs: Junhong Lee + Michael Ek
09:00 – 09:30	**Overview of the Land surface Interactions with the Atmosphere over the Iberian Semi-arid Environment (LIAISE) Project Field Campaign –** Aaron Boone, CNRM Meteo-France/CNRS *(invited speaker)*
09:30 – 09:45	**Spring Land Temperature in Tibetan Plateau Enhances Global-Scale Summer Precipitation Prediction – The GEWEX/LS4P Phase I Experiment –** Yongkang Xue, University of California, Los Angeles
09:45 – 10:00	**On the remote effects of spring Tibetan Plateau land surface temperature on African summer monsoon development –** Ismaila Diallo, Pennsylvania State University, Department of Meteorology and Atmospheric Science
10:00 – 10:15	**Boundary Layer Wind Balances and their In uence on Equatorial Sea-Surface Temperatures –** Marius Winkler, Max-Planck-Institut für Meteorologie
10:15 – 10:30	**Understanding ENSO teleconnections and processes in the La Plata basin using river discharge as precipitation proxies with Regional Earth System model RegIPSL –** Carla Gulizia, Centro de Investigaciones del Mar y la Atmosfera (CIMA/CONICET-UBA), University of Buenos Aires
10:30 – 11:00	**Break**
11:00 – 12:30	**Breakout Groups** Mesoscale organisation of deep convection: opportunities for community activities, Lead: Martin Singh, Room: Regency Grand Ball Room Main + IV/V/VI **Air-Sea fluxes**, Lead: tbd, Room: Windjammer III+IV **The GEWEX Aerosol Precipitation (GAP) initiative,** Lead: Philip Stier, Room: Cypres I+II+III
12:30 – 14:00	**Lunch**
	Chair: Volker Wulfmeyer
14:00 – 14:30	**How close is close enough? The role of bulk surface fluxes in regulating tropical clouds and circulations –** Charlotte DeMott, Colorado State University *(invited speaker)*
14:30 – 14:45	**Local and remote land-atmospheric interaction in determining warm season rainfall and its predictability over US Great Plains –** Rong Fu, UCLA
14:45 – 15:00	**Land-atmosphere feedbacks, heatwave predictability, and changing seasonal moisture availability –** Kirsten Findell, GFDL/NOAA
15:00 – 15:15	**Enhancing UFS Land Model Development Using Hierarchical Testing –** Michael Barlage, NOAA/NWS/EMC
15:15 – 15:30	**Impact of an interactive vegetation scheme on seasonal forecast –** Gildas Dayon, Meteo-France
15:30 – 16:00	**Break**
	Chairs: Nicolas Rochetin + Martin Singh

16:00 – 16:15	**What controls convective downdraft characteristics and why should we care? –** Steven Sherwood, Climate Change Research Centre
16:15 – 16:30	**A theory for deep convection initiation based on cloud base area and environmental saturation deficit –** Hugh Morrison, National Center for Atmospheric Research
16:30 – 16:45	**Regime-specific Cloud Vertical Overlap Characteristics from Radar and Lidar Observations at the ARM sites –** Kelly Balmes, Cooperative Institute for Research in Environmental Sciences/NOAA Global Monitoring Laboratory
16:45 – 17:00	**An Intercomparison of Tropical Cirrus in the DYAMOND Simulations –**Samantha Turbeville, University of Washington
17:00 – 18:00	Poster Session Click here for an overview of all posters per theme

Friday 29 July 2022 (Regency Grand Ballroom)	
	Chairs: Theresa Lang & Peter Blossey
09:00 – 09:30	**Global storm and ocean-eddy resolving earth system models –** Tomoki Miyakawa, The University of Tokyo *(invited speaker)*
09:30 – 09:45	**Progress with the Simple Cloud-Resolving E3SM Atmosphere Model –** Peter Caldwell, LLNL
09:45 – 10:00	**Improving climate models using nudge-to-fine corrective machine learning –** Christopher Bretherton, Allen Institute for Artificial Intelligence
10:00 – 10:15	**Climate changes in a global-storm resolving model –** Timothy Merlis, Princeton University
10:15 – 10:30	**Report from Breakout Groups**
10:30 – 11:00	**Break**
	Chairs: Shaocheng Xie, Daniel Klocke, Sandrine Bony
11:00 – 11:15	**YOPPsiteMIP: The YOPP site model inter-comparison project –** Gunilla Svensson, Stockholm University
11:15 – 11:30	**Global Precipitation Experiment (GPEX): Concept and Status –** Jin Huang, NOAA Climate Program Office
11:30 – 11:45	**Demonstrating the impact of modelling coupled irrigation over regional and global domains –** Adrian Lock, Met Office
11:45 – 12:30	**Final Discussion**