

CFMIP - Cloud Feedback Model Intercomparison Project Meeting on Cloud Processes and Cloud Feedbacks

June 8 - June 11, 2015

Asilomar Conference Grounds - Dodge Chapel - Pacific Grove, CA

| Start | End | Speaker | Topic | MONDAY, JUNE 8, 2015 |
|--------------|--------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 8:30 | 8:35 | Klein, Stephen A. | Meeting Logistics | |
| 8:35 | 9:00 | Webb, Mark | Summary of CFMIP Activities | |
| 9:00 | 10:00 | SESSION 1A: OBSERVATIONAL EVALUATION OF SIMULATED CLOUDS | | |
| 9:00 | 9:15 | Williams, Keith | Comprehensive cloud evaluation in GCMs using a range of observational data | |
| 9:15 | 9:30 | Oreopoulos, Lazaros (Jin, Daeho) | Development of comprehensive metrics for regime-based evaluation of cloud distributions in CMIP5 models | |
| 9:30 | 9:45 | Suzuki, Kentaroh | Use of satellite observations for process-oriented evaluation of cloud microphysics in climate models | |
| 9:45 | 10:00 | Matsui, Toshi | Quasi-Equilibrium States in Tropical Convection and Precipitation Microphysics: Satellite Observations and Application for Model Evaluation | |
| 10:00 | 10:30 | BREAK | | |
| 10:30 | 11:15 | SESSION 1A: OBSERVATIONAL EVALUATION OF SIMULATED CLOUDS (CONT.) | | |
| 10:30 | 10:45 | Lebsack, Matthew D. | An improved climate data record of the cloud liquid water path from microwave radiometry | |
| 10:45 | 11:00 | Norris, Joel | Constraining the subtropical MBL cloud feedback with a comprehensive set of interannual cloud-meteorology relationships | |
| 11:00 | 11:15 | Li, Lijuan | The Role of Non-convective Condensation Processes in Shortwave Flux Feedback during ENSO in the CMIP5 Models | |
| 11:15 | 11:50 | Discussion of morning talks | | |
| 11:50 | 13:00 | LUNCH | | |
| 13:00 | 14:00 | Poster Session 1: Global observations | | |
| | | Berry, Betsy | Using A-Train observations to evaluate ice water path and ice cloud radiative effects in the Community Atmosphere Model | |
| | | Eitzen, Zachary | The CERES Flux-by-Cloud Type Product and Simulator | |
| | | Ferraro, Angus | Physical mechanisms of tropical climate feedbacks revealed by temperature and moisture trends | |
| | | Huang, Xianglei | A Global Climatology of Outgoing Longwave Spectral Cloud Radiative Effect and Associated Effective Cloud Properties | |
| | | Kay, Jennifer | Evaluation of cloud phase in the Community Atmosphere Model version 5 using spaceborne lidar observations | |
| | | Manaster, Andres | Evaluation of Interannual Variability of Cloud Liquid Water Path in Climate Models Using A Multidecadal Record of Passive Microwave Observations | |
| | | Marchand, Roger | How good is the MISR-Simulator? | |
| | | Matsui, Toshi | Constraint and Potential of Satellite Simulators for Climate Models | |
| | | Oreopoulos, Lazaros (Jin, Daeho) | Simplified ISCCP cloud regimes for evaluating cloudiness in CMIP5 models | |
| | | Potter, Gerald | Making Multiple Reanalyses Available for Transpose AMIP | |
| | | Winker, Dave | The potential for new lidar observations for cloud studies | |
| | | Xie, Shaocheng | Clouds and Precipitation Simulated by the US DOE Accelerated Climate Model for Energy (ACME) and Its Sensitivity to Convection Schemes | |

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| 14:00 | 15:00 | SESSION 2: OBSERVED CLOUD TRENDS | | |
| 14:00 | 14:15 | Marvel, Kate | Detection and Attribution Techniques for Cloud Trends | |
| 14:15 | 14:30 | Tselioudis, George | Midlatitude zonal cloud shifts and the role of the baroclinic jet and the Hadley circulation | |
| 14:30 | 14:45 | Bellomo, Katinka | <i>Evidence for Weakening of Tropical Atmospheric Circulation from Cloud Datasets</i> | |
| 14:45 | 15:00 | Brient, Florent | <i>Constraints on climate projections from temporal variations of tropical low clouds</i> | |
| 15:00 | 15:30 | BREAK | | |
| 15:30 | 16:30 | SESSION 3: EMERGENT CONSTRAINTS | | |
| 15:30 | 15:45 | Hall, Alex | Emergent Constraints for Cloud Feedbacks and Climate Sensitivity | |
| 15:45 | 16:00 | Su, Hui | Using Seasonal Cloud Variation to Constrain Long-Term Cloud Feedback and Climate Sensitivity | |
| 16:00 | 16:15 | Qu, Xin | On the sensitivities of marine low cloud cover to the tropical inversion strength and sea surface temperature | |
| 16:15 | 16:30 | Terai, Christopher | Using satellite retrievals to constrain the low-cloud optical depth feedback in climate models | |
| 16:30 | 17:00 | Discussion of afternoon papers and posters | | |
| 17:00 | 18:00 | SOCIAL: Ice Breaker | | |
| 18:00 | 19:30 | DINNER (NO HOST / ON YOUR OWN) | | |
| 19:30 | 21:00 | SOCIAL: Bonfire Musical with "The Climate Changers" | | |
| | | Asilomar - Dodge Chapel | | |
| | | Asilomar - Bonfire Pit | | |

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|-------|-------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 8:30 | 9:45 | SESSION 4: EXTRATROPICAL CLOUD PROCESSES | | |
| 8:30 | 8:45 | Bodas-Salcedo, Alejandro | The Southern Ocean radiation budget: the role of cloud phase and vertical structure | |
| 8:45 | 9:00 | McCoy, Daniel | The high-latitude cloud liquid water increase in GCMs and the importance of the mixed-phase cloud feedback under global warming | |
| 9:00 | 9:15 | Kay, Jennifer | The influence of "fixing" the Southern Ocean shortwave radiation model bias on global energy budgets and circulation patterns | |
| 9:15 | 9:30 | Tan, Ivy | The importance of cloud thermodynamic phase partitioning for equilibrium climate sensitivity estimates | |
| 9:30 | 9:45 | Cesana, Gregory V | A multi-model analysis of the cloud phase transition in 16 GCMs using satellite observations (CALIPSO/GPCP) and reanalysis data (ECMWF/MERRA) | |
| 9:45 | 10:15 | BREAK | | |
| 10:15 | 11:15 | SESSION 4: EXTRATROPICAL CLOUD PROCESSES (CONT) | | |
| 10:15 | 10:30 | Grise, Kevin | Re-examining the relationship between climate sensitivity and the Southern Hemisphere radiation budget in CMIP models | |
| 10:30 | 10:45 | Fletcher, Jennifer | Clouds in cold air outbreaks and implications for southern ocean cloud biases | |
| 10:45 | 11:00 | Taylor, Patrick | Covariance between Arctic low clouds and sea ice in observations and climate models | |
| 11:00 | 11:15 | Kawai, Hideaki | Changes in Marine Fog in a Future Climate | |
| 11:15 | 11:50 | Discussion of morning talks | | |
| 11:50 | 13:00 | LUNCH | | |
| 13:00 | 14:00 | Poster Session 2: Small-scale and local cloud processes | | |
| | | Bhattacharya, Ritthik | Cloud response to Eddy Diffusivity Mass Flux (EDMF) based Boundary Layer Parameterization | |
| | | Gronemeier, Tobias | The Effects of Shadows of Shallow Convective Clouds on the Atmospheric Boundary Layer including Feedback on the Cloud Field | |
| | | Jeevanjee, Nadir | Effective Buoyancy at the surface and aloft | |
| | | Kalmus, Peter M | Characterizing the subtropical marine stratocumulus-to-cumulus transition with MAGIC | |
| | | Koshiro, Tsuyoshi | Interannual Variability in Summertime Low Stratiform Cloudiness over the North Pacific in Terms of Cloud Types | |
| | | Li, Zhujun | The response of simulated Arctic low clouds to sea ice cover variation | |
| | | Tatsuya, Seiki | Vertical grid spacing necessary for simulating tropical cirrus clouds | |
| | | Witte, Mikael | The Role of Turbulence in Precipitation Formation: Insights from LES and Observations | |
| | | Zhang, Yunyan | Clouds change with land surface-boundary layer coupling | |
| | | Zhang, Yuying | Application of ARM Cloud Radar Simulator to GCMs: Plan, Issues, and Preliminary Results | |
| | | Zheng, Xue | On a spurious cloud oscillation in CAM5 CAPT simulations with CLUBB scheme | |

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| 14:00 | 15:00 | SESSION 5: SUBTROPICAL CLOUD PROCESSES | | |
| 14:00 | 14:15 | Teixeira, Joao | A Simple Model of the Northeast Pacific Stratocumulus to Cumulus Transition Based on the Climatological Surface Energy Budget | |
| 14:15 | 14:30 | Matheou, Georgios | Spatially developing large-eddy simulation of the stratocumulus to cumulus cloud transition | |
| 14:30 | 14:45 | Suselj, Kay | A new unified stochastic parameterization for boundary layer, shallow convection and transition to deep convection | |
| 14:45 | 15:00 | Medeiros, Brian | Trade-wind boundary layer structure and cloud properties in observations and climate models | |
| 15:00 | 15:30 | BREAK | | |
| 15:30 | 16:15 | SESSION 5: SUBTROPICAL CLOUD PROCESSES (CONT.) | | |
| 15:30 | 15:45 | Chuang, Patrick | Aircraft observational constraints on stratocumulus entrainment | |
| 15:45 | 16:00 | Ackerman, Andrew | Process-based evaluation of large-eddy and SCM simulations using in situ observations and satellite retrievals: Implications for GCM cloud parameterizations | |
| 16:00 | 16:15 | Fridlind, Ann | Observational constraint of drizzle properties and processes in LES simulations with size-resolved microphysics and SCM simulations with two-moment microphysics: Use of Doppler cloud-radar moments and | |
| 16:15 | 17:00 | SESSION 6: CLOUD FEEDBACKS IN HIGH-RESOLUTION MODELS | | |
| 16:15 | 16:30 | Bretherton, Christopher | Insights into low-latitude cloud feedbacks from high-resolution models | |
| 16:30 | 16:45 | Dal Gesso, Sara | A Single-Column Model intercomparison on the stratocumulus representation in present-day and future climate | |
| 16:45 | 17:00 | Blossey, Peter | Exploring Cloud Feedbacks in Shallow Cumulus Clouds | |
| 17:00 | 17:30 | Discussion of Afternoon Papers and Posters | | |

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| Start | End | Speaker | Topic | WEDNESDAY, JUNE 10, 2015 |
|-------|-------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 8:30 | 9:30 | SESSION 6: CLOUD FEEDBACKS IN HIGH-RESOLUTION MODELS (CONT.) | | |
| 8:30 | 8:45 | Tan, Zhihong | Large-eddy simulations of subtropical cloud-topped boundary layers under idealized climate change | |
| 8:45 | 9:00 | Jones, Christopher | Mean-state acceleration for cloud-resolving and superparameterized simulations | |
| 9:00 | 9:15 | Krueger, Steven | Sensitivity of cloud-resolving RCE simulations to SST, horizontal grid size, and turbulence closure | |
| 9:15 | 9:30 | Noda, Akira T. | High cloud size dependency of the applicability of the fixed anvil temperature hypothesis using global nonhydrostatic simulations | |
| 9:30 | 10:00 | BREAK | | |
| 10:00 | 11:15 | SESSION 7: GCMS: FORCINGS AND GLOBAL CLOUD FEEDBACK | | |
| 10:00 | 10:15 | Soden, Brian | An Assessment of Direct Radiative Forcing, Radiative Adjustments and Radiative Feedbacks in CMIP5 Models | |
| 10:15 | 10:30 | Andrews, Timothy (Talk given by Mark Webb) | The inconstancy of climate feedbacks and their dependence on SST patterns | |
| 10:30 | 10:45 | Zhao, Ming | Uncertainty in model climate sensitivity traced to representations of cumulus precipitation microphysics | |
| 10:45 | 11:00 | Vial, Jessica | How can convection affect low-level clouds | |
| 11:00 | 11:15 | Webb, Mark | The impact of parametrized convection on cloud feedback | |
| 11:15 | 11:50 | Discussion of morning talks | | |
| 11:50 | 13:00 | LUNCH | | |

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| 13:00 | 14:00 | Poster Session 3: Cloud feedbacks and circulation changes in GCMs | | |
| | | DeAngelis, Anthony | Spread in GCM hydrological cycle intensification linked to parameterizations of solar absorption by water vapor | |
| | | Feldman, Daniel | Simulating Hyperspectral Satellite Instrument Measurements in Pursuit of an Observational Constraint for Low-Cloud Feedbacks | |
| | | Fuchs, David | On the application of the fluctuation dissipation theorem to predict cloud responses from observations | |
| | | Huang, Yi | Cloud masking effect on radiative forcing | |
| | | Kamae, Youichi | Robustness in positive cloud amount feedback over the tropical land areas | |
| | | Long, Shangmin | Model uncertainty in rainfall projection: Ocean warming pattern effect on atmospheric circulation | |
| | | Ogura, Tomoo | Sensitivity of tropospheric adjustment to instantaneous radiative forcing | |
| | | Salzmann, Marc | Role of multidecadal Pacific variability for the 1950-1999 Indian summer monsoon drying | |
| | | Vial, Jessica | Low cloud responses to increased atmospheric CO2 concentration in the IPSL-CM5A mode | |
| | | Yuan, Tianle | The role of cloud and dust feedbacks in generating Tropical North Atlantic multidecadal variability | |
| | | Yue, Qing | Observation-based Longwave Cloud Radiative Kernels from the A-Train | |
| 14:00 | 14:45 | SESSION 7: GCMs: FORCINGS AND GLOBAL CLOUD FEEDBACK (CONT.) | | |
| 14:00 | 14:15 | Harrop, Bryce | The role of cloud radiative heating in determining the location of the ITCZ in aqua-planet simulations. | |
| 14:15 | 14:30 | Zelinka, Mark | Don't Count on It: Reasons to Doubt a Strong Negative Cloud Feedback | |
| 14:30 | 14:45 | Caldwell, Peter | Quantifying the Source of Inter-Model Spread in Equilibrium Climate Sensitivity | |
| 14:45 | 15:15 | BREAK | | |
| 15:15 | 16:45 | SESSION 7: GCMs: FORCINGS AND GLOBAL CLOUD FEEDBACK (CONT.) | | |
| 15:15 | 15:30 | Jiang, Jonathan H. | Post-CMIP5 Model Improvements in Clouds and Water Vapor | |
| 15:30 | 15:45 | Geoffroy, Olivier | Tropical fingerprints of low and high sensitivities in CMIP5 models. | |
| 15:45 | 16:00 | Wagman, Benjamin M. | Examining cloud feedback-based emergent constraints in a single model ensemble | |
| 16:00 | 16:15 | Zhou, Chen | Relationship between inter-annual and long-term cloud feedback | |
| 16:15 | 16:30 | Kashinath, Karthik | Changes in tropical climate due to bifurcations of radiativeconvective equilibria | |
| 16:30 | 16:45 | Ma, Tony | Will surface winds weaken in response to global warming? | |
| 16:45 | 17:15 | Discussion of afternoon papers and posters | | |
| 18:15 | 19:30 | SOCIAL: HAPPY HOUR (NO HOST / ON YOUR OWN) | | |
| | | BLUEFIN CAFÉ & BILLIARDS - 685 CANARY ROW, MONTEREY | | |

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|--------------|--------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------|
| 8:30 | 9:30 | SESSION 8: REGIONAL CLOUD, CIRCULATION AND PRECIPITATION CHANGES | | |
| 8:30 | 8:45 | Skinner, Chris | A process-based understanding of regional climate responses to CO2 forcing | |
| 8:45 | 9:00 | Chadwick, Robin | Large rainfall changes expected over tropical land in the coming century | |
| 9:00 | 9:15 | Allen, Robert | A 21st Century Northward Tropical Precipitation Shift Caused by Future Anthropogenic Aerosol Reductions | |
| 9:15 | 9:30 | Burgman, Robert | Assessing the role of low cloud feedback in the recent Global Warming Hiatus: A Modeling Study. | |
| 9:30 | 9:45 | Discussion of Morning Science Talks | | |
| 9:45 | 10:15 | BREAK | | |
| 10:15 | 12:00 | SESSION 9: CFMIP FUTURE PLANS AND RELATED ACTIVITIES | | |
| 10:15 | 10:30 | Medeiros, Brian | CGILS Phase 2 preliminary results: Response to 4xCO2 in single-column models | |
| 10:30 | 10:45 | Watanabe, Mashiro | The WCRP Grand Challenge on Clouds, Circulation and Climate Sensitivity | |
| 10:45 | 11:00 | Fridlind, Ann | The Aerosols, Clouds, Precipitation and Climate Initiative (ACPC) | |
| 11:00 | 11:15 | Pincus, Robert | The Radiative Forcing Model Intercomparison Project (RFMIP): Plans and possible collaborations with CFMIP | |
| 11:15 | 11:30 | Bodas-Salcedo, Alejandro | Future Plans for COSP | |
| 11:30 | 11:45 | Webb, Mark | Future CFMIP Experiments in CMIP6 and elsewhere | |
| 11:45 | 12:00 | Discussion of CFMIP Future Plans and Related Activities | | |
| 12:00 | | ADJOURN | | |