

**CESM Atmosphere Model Working Group Meeting**  
**19 – 21 February 2019**  
**Mesa Lab, Main Seminar Room**  
**National Center for Atmospheric Research – Boulder, Colorado**

>>>> **Webcast: [www.fin.ucar.edu/it/mms/ml-live.htm](http://www.fin.ucar.edu/it/mms/ml-live.htm)** <<<<<

**TUESDAY, 19 February:**

**The Path to and Status of Released Models**

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|------|---|------------------|
| 1:00 | Overview of CAM/CESM2 developments  | Julio Bacmeister |
| 1:20 | CESM2 sensitivity   | Cecile Hannay    |
| 1:40 | Tuning NorESM at 1 and 2 degree resolution  | Oeyvind Seland   |
| 2:00 | Tuning the convection parametrization for climate integrations, and CESM2 variability and climate sensitivity in slab-aquaplanet mode | Thomas Toniazzo  |

**Spectral Element development and evaluation**

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|------|--|-----------------|
| 2:20 | Improvements in tropical precipitation with CAM-SE-CSLAM   | Peter Lauritzen |
| 2:40 | Parameterized convection, grid-scale clouds and resolution sensitivity in CAM-SE-CSLAM                       | Adam Herrington |
| 3:00 | <i>Break</i>   |                 |
| 3:30 | Evaluating the performance of the variable-resolution CESM for modeling regional climate over Southeast Asia | Yi Li           |
| 3:50 | Calculation of global kinetic energy spectra on irregular grids  | Dave Williamson |
| 4:10 | Dynamical core development opportunities   | Peter Lauritzen |

**Convection/Mesoscale diagnoses**

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|------|--|---------------|
| 4:20 | Improved diurnal cycle of precipitation in the E3SM Atmosphere Model version 1 (EAMv1) with a modified convective triggering mechanism | Shaocheng Xie |
| 4:40 | Tropical cyclones in high-resolution CAM5: Exploring the effects of nudging in the Western North Pacific                               | Xiaoning Wu   |
| 5:00 | Discussion: Dynamical core development needs; Status of CESM2 and its sensitivity  |               |
| 5:30 | <i>Adjourn</i>   |               |

**WEDNESDAY, 20 February:**

8:00 *Coffee*

**Infrastructure developments / Simpler Models**

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|------|--|------------------------|
| 8:30 | The effect of numerics on trace gas transport: A proposed intercomparison test of atmospheric general circulation models | Aman Gupta             |
| 8:50 | Overview of the CESM Simpler Model framework   | Christiane Jablonowski |
| 9:10 | Recent developments in SCAM  | Andrew Gettelman       |
| 9:30 | E3SM's global cloud-resolving model atmosphere driver  | Aaron Donahue          |
| 9:50 | <i>Break</i>   |                        |

**Physics developments**

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|-------|---|---------------|
| 10:20 | Progress in the development of the quasi-3-D multiscale modeling framework as a physics option in CAM | Joon-Hee Jung |
| 10:40 | Reduced precision microphysics parameterizations in CAM   | John Dennis   |
| 11:00 | Momentum fluxes in CLUBB  | Vince Larson  |
| 11:20 | Discussion: Physics and infrastructure / simpler model development needs                              |               |
| 11:50 | <i>Lunch (on your own)</i>  |               |

## ***Joint Session of Atmosphere Model, Chemistry Climate and Whole Atmosphere Working Groups***

1:00	Introduction to WACCM6	Andrew Gettelman
1:20	Climate impacts of secondary organic aerosols (SOA)	Simone Tilmes
1:40	QBO in 110L WACCM: The importance of vertical resolution	Rolando Garcia
2:00	An improved aerosol wet processes parameterization coupled with an explicit convective cloud scheme in CAM6	Yunpeng Shan
2:20	Efficient in-cloud removal of aerosols by deep convection	Pengfei Yu
2:40	Spectrum: An underutilized dimension in model validations and diagnostics	Xianglei Huang
3:00	<i>Break</i>	
3:30	Evaluating and improving parameterization of ice fall velocity in convective clouds: Using the NCAR CAM-SCM with TWP-ICE data	Lin Lin
3:50	Implementing marine organic aerosol and ice nucleation in CESM2: Description, evaluation, and impacts on clouds	Xi Zhao
4:10	Competing roles of the fast and slow response in the total coupled West African precipitation response to anthropogenic aerosol forcing	Paul Kushner / Haruki Hirasawa
4:30	Discussion: Promising parameterizations? Critical biases to get to the bottom of?	
5:15	Adjourn	
5:30	<i>Reception (Damon Room)</i>	

## **THURSDAY, 21 February:**

### **Cloud diagnoses**

8:00	<i>Coffee</i>	
8:30	Cloud phase distributions over the Southern Ocean in austral summer based on airborne <i>in situ</i> observations and CAM simulations	Minghuai Dao
8:50	On the potential role of Arctic cirrus clouds in producing anomalous mid-latitude weather and climate	Dave Mitchell
9:10	CloudSat obs to evaluate CESM	Jen Kay

### **Novel/initialized/nudged evaluation**

9:30	Betacast-ing: Tools for initialized case studies in CESM and E3SM	Colin Zarzycki
9:50	<i>Break</i>	
10:20	CAM5/6 tendency comparison	Rich Neale
10:40	The annual cycle of the equatorial Pacific cold tongue bias in CESM hindcasts	Hsi-Yen Ma

### **Outlook**

11:00	SIMA update	Andrew Gettelman
11:10	Wrap-up Discussion, Possible topics:	
	<ul style="list-style-type: none"><li>• SIMA</li><li>• Usability: Has CESM2 become too complex or computationally too expensive?</li><li>• Continued discussion of physics and dynamics development needs (including CAM vertical resolution)</li><li>• Readiness of CESM for sub-seasonal/seasonal forecasting projects</li></ul>	
12:00	<i>Adjourn</i>	