13th AeroCom workshop

September 29 – October 2, 2014
Sheraton, Steamboat Springs, CO

hosts: Gannet Hallar / Ian McCubbin / John Ogren
co-organizers: Michael Schulz / Stefan Kinne / Mian Chin

presentations

- oral presentations … are allotted 20 min
  o this should allow for 10 minutes of discussions

- poster presentations … can be introduced by 2 (powerpoint) slides
  o posters will hang during the entire meeting

Sunday, September 28, 2014

16:00 – 18:30   optional visit of the Storm Peak Aerosol Lab
                contact I. McCubbin
                … at the Sheraton Pool Deck (under a tent)

18:30 - …      AeroCom registration

19:00 - …      DRI welcome reception        dinner (heavy appetizers will be served)
Monday, September 29, 2014

8:00 – 9:00 AeroCom registration

9:00 – 10:30 SESSION 1 welcome / AeroSAT workshop summary
   I. McCubbin welcome and logistics
   M. Schulz AeroCom achievements and goals of this workshop
   T. Holzer-Popp and R. Kahn AeroSAT meeting highlights

10:30 – 11:00 coffee-break (and hang-up posters)

11:00 – 12.40 SESSION 2 remote sensing from space
   A. Sayer Recent progress in the NASA ‘Deep Blue’ aerosol retrieval algorithms
   R. Levy Creating a consistent dark-target AOD record from MODIS and VIIRS
   A. Lyapustin A New High-Resolution Aerosol Dataset from Algorithm MAIAC
   O. Torres Assessment of OMI decadal record on aerosol absorption

12:40 – 14:00 lunch
   (all–poster authors: make sure that S. Kinne has your 2 slide ppt summary)

14:00 – 15.00 SESSION 3 applying remote sensing from space
   D. Winker Retrievals and validation of above-cloud aerosol properties
   N. Schutgens On the use of remote sensing observations for AEROCOM

15:00 – 16:00 poster introduction
   max 2 slides / 2 minutes poster introduction in alphabetic order

16:30 – 17:00 extended coffee-break (to scan all posters)

17:00 – 18:30 SESSION 4 ground-based observations
   A. Smirnov Version 3 AERONET processing – data product assessment
   G. Schuster Understanding the absorption Angstrom exponent of AERONET data
   J. Ogren Climatology and variability of aerosol properties from In-situ monitoring
Tuesday, September 30, 2014

AeroCom

8:30 – 10:10  SESSION 5  aerosol type (1) – biomass burning aerosol
  R. Kahn  MISR Aerosol Type Strengths and Limitations
  M. Petrenko  AeroCom Biomass Burning Emissions Experiment: method and status
  C. Ichoku  Top-Down Biomass-Burning Aerosol Emissions: the FEERv1 data-set
  B. Johnson  Simulation of biomass burning aerosols in HadGEM3

10:10 – 10:40  coffee-break

10:40 – 12.00  SESSION 6  aerosol type (2) – dust
  D. Kim  A multi-model analysis versus remote-sensing data of North African dust
  C. Perez  New methods to predict regional variations of the mineral and chemical composition of dust aerosols
  Y. Balkanski  Intercomparison of total and soluble iron deposition in AeroCom models

12:00 – 13:00  lunch

13:00 – 13.30  G. Frost  Emissions for global modeling - trends and uncertainties
13:30 – 14.30  D. Fahey  Reflections on aerosols and climate … and the future

14:30 – 17:00  poster viewing time / relax
  ‘observation’ poster authors should be at their posters

17:00 –  excursion to lake (-house) and conference dinner
  A Shuttle will pick-up at 5:00 pm at Sheraton Hotel and Resort and return you to the hotel after dinner.
Wednesday, October 1, 2014

8:30 – 10:00  SESSION 7  aerosol and clouds - 1
G. Thomas  A posteriori discrimination of aerosol and cloud from satellite retrievals
G. Ban-Weiss  Evaluating clouds, aerosols, and their interactions in three global models
X. Liu  AeroCom inter-comparison of aerosol indirect effects in ice-clouds

10:00 – 10:30  coffee-break

10:30 – 12:00  SESSION 8  aerosol and clouds - 2
S. Ghan  Multi-model analysis of aerosol effects on clouds in climate models
A. Gettelman  Putting clouds and their uncertainties back in aerosol-cloud-Interactions
G. Feingold  Lessons from higher resolution LES modeling

12:00 – 13:30  lunch

13:30 – 16:30  poster time / relax
‘modeling’ poster authors should be at their posters

16:30 – 18:30  SESSION 9  AeroCom Phase III / HTAP2 Experiment
N. Kristiansen  Measured and modelled aerosol lifetimes from Fukushima tracers
T. Takemura  Relative contributions of regional emissions to aerosol radiative forcing
M. Chin  Aerosol source attributions and source-receptor relationships across NH
O. Kalashnikova  Constraining aerosol surface loadings by combining multiangular and polarimetric remote sensing with chemical transport modeling

chair: S. Ghan

chair: S. Kinne
Thursday, October 2, 2014

**SESSION 10**
8:30 – 10:00  
**aerosol type (3) – size, optical properties, nitrate and altitude**  
P. Yu  
*Aerosol Composition, Size Distribution and Optical Properties Simulated by a Sectional Aerosol*  
H. Bian  
*AeroCom III nitrate experiment: Integrated assessment of multi-model simulations and data from ground stations, aircrafts, and satellite*  
R. Ferrare  
*Comparisons of Airborne HSRL and Modeled Aerosol Profiles*

**coffee-break**

**SESSION 11**
10:30 – 12.00  
aerosol direct radiative forcing and observations  
J. Redemann  
*A-Train aerosol observations – preliminary comparisons with AeroCom models and pathways to observationally based all-sky estimates for the direct radiative forcing*  
Z. Zhang  
*Shortwave direct radiative effects of 'above cloud' aerosols over oceans derived from 6 years of CALIOP and MODIS observations*  
R. Wang  
*Reducing uncertainty in black-carbon climate forcing using a new inventory and high-resolution model*

**wrap-up and outlook**

**SESSION 12**
12:00 – 13:30  
12:30 – 13:30  
**lunch**

**SESSION 13**
13:30 – 14.45  
*towards the next IPCC assessment; Overview on initiatives*  
P. Stier  
*Radiative forcing working group AeroCom*  
M. Schulz  
*AerChemMIP – AeroCom&CCMI draft plan for CMIP6*  
D. Feldman  
*Diagnostics from the Radiative Forcing Model Intercomparison Project*  
R. Pincus  
*RF-MIP overview (outcome of the Hamburg Sep 3-5 meeting)*

**short coffee break**

**SESSION 14**
15:00 – 16:00  
*AeroCom / AirChemMIP / RF-MIP cooperation work groups*  
on aerosol diagnostics and experiment design

**optional outing to the Steamboat Hot Springs**

*contact I. McCubbin*
AeroCom observation posters

author attendance on Tuesday afternoon

Arola, Antti
Assessment of cloud related fine mode AOD enhancements based on AERONET SDA product

Dunne, Eimar
Comparison of AeroCom models with marine observations

Fairlie, Duncan
Persistence of ash in the tropical stratosphere following the eruption of Mt. Kelud, 2014

Fillmore, David
Regional Aerosol Optical Depth Trends and Interannual Variability with MATCH, CCCM and MODIS

Huttunen, Jani
Aerosol direct radiative effect efficiency, aerosol optical properties and surface albedo - comparison between simulations of models and results derived with measurements

Jethva, Hiren
Retrieval, Inter-comparison, and Validation of Above-cloud Aerosol Optical Depth from A-train Sensors

Kinne, Stefan
The MPI-M Aerosol Climatology (MAC)

Knobelspiesse, Kirk
Progress in airborne polarimeter intercomparison for the NASA Aerosols-Clouds-Ecosystems (ACE) mission

Kristiansen, Nina
Measured and modelled aerosol lifetimes from Fukushima tracers

Munchak, Leigh
Global and regional validation of the Collection 6 MODIS dark target aerosol products, and comparison to Collection 5

Petrenko, Maksym
Joint Accuracy Assessment of Aerosol Retrievals from Multiple Satellite Sensors and GEOS-5 model

Povey, Adam
ORAC (the optimal retrieval of aerosol and cloud)

Randles, Cynthia
The MERRAero Aerosol Reanalysis: Evaluation and Climate Study Applications

Robert, Charles
The stratospheric aspects the Aerosol_CCI project

Schwarz, Joshua
AeroCom suite performance on BC vertical profiles in source regions
Shinozuka, Yohei
Aircraft- and ground-based assessment of relationships between CCN concentration and aerosol optical depth

Sundström, Anu-Maija
Decadal changes in CERES short wave clear-sky TOA fluxes; what can we say about aerosol contribution?

Ventress, Lucy (via A.Povey)
Validation of retrieved volcanic ash properties from the Infrared Atmospheric Sounding Interferometer (IASI)

Xue, Yong
A Consistent Aerosol Optical Depth (AOD) Dataset over China

AeroCom modeling posters  

author attendance on Wednesday afternoon

Dhomse, Sandip
Aerosol microphysics simulations of the Mt. Pinatubo eruption with the UKCA composition-climate model

Jiang, Yiquan
Wild fire climate effects simulated by NCAR Community Earth System Model

Kirkevag, Alf
Preliminary estimates of Aerosol Effective Radiative Forcing in CAM5-Oslo

Kristjansson, Jon Egill
Climate Engineering and the Hydrological Cycle

Kuehn, Thomas
Aerosol climate impact and its regional modulations in the 2000ies.

Mann, Graham
Pinatubo Emulation in Multiple Models (POEMs): planned co-ordinated experiments for the SPARC “Stratospheric Sulphur and it’s Role in the Climate initiative” (SSiRC)

Michou, Martine
Development and basic evaluation of a prognostic aerosol scheme in the CNRM Climate Model

Mielonen, Tero
The inclusion of brown carbon aerosols in the ECHAM6-HAM aerosol-climate model

Pitkanen, Mikko
Estimate of the radiative effect of brown carbon using AERONET products AeroCom

Rumbolt, Steve
Ammonium Nitrate in UKESM1
Shi, Xiangjung
"Estimating anthropogenic aerosol indirect effects of cirrus clouds using CAM5.1 with different ice nucleation parameterizations"

van Weele, Michiel
"Clear-sky and all-sky direct forcing estimates based on TMS and a doubling-adding radiative transfer model using observed clouds"

Xi, Xin
"Top-down estimates of SO2 degassing volcano emissions using in situ SO2 measurements and the WRF-STILT model, a case study at the Turrialba Volcano"

Yu, Fangqun
"Seasonal variations of new particle formation at Storm Peak Laboratory: Key parameters controlling atmospheric nucleation and global implications"

Zhang, Hua
"Improvements of cloud microphysics in the aerosol-climate model BCC_AGCM 2.0.1_CUACE/Aero: evaluation against observations, and updated aerosol indirect effects"

Zhang, Jiachen
"Investigating the Vertical Distribution and Source Attribution of Black Carbon over the Pacific Ocean"