

3rd GEOS-Chem USERS' MEETING
Harvard University, April 11-13, 2007
Maxwell-Dworkin building, room G115

FINAL AGENDA

April 9, 2007

Please send comments on agenda to Daniel Jacob, meeting chair: <mailto:djacob@fas.harvard.edu>

Wednesday, April 11

8:00 Continental Breakfast

Model Overview (Daniel Jacob, chair)

8:30 Welcome (Daniel Jacob, Harvard)

8:35 Welcome, Harvard University Committee on the Environment (Dan Schrag, Harvard)

8:40 GEOS-Chem model: present state, future directions (Daniel Jacob, Harvard)

9:00 GEOS-Chem code: new developments (Bob Yantosca, Harvard)

9:20 GEOS-5 meteorological data, tracer transport (Max Suarez and Steven Pawson, NASA/GMAO)

9:40 GEOS-Chem adjoint construction and long-term maintainability (Adrian Sandu, Virginia Tech)

9:55 Break

Global Tropospheric Chemistry (Dylan Jones, chair)

10:15 Status of global ozone and CO simulations (Jennifer Logan, Harvard)

10:30 Year-to-year variations in global OH radicals over the last 20-year period (Isabelle Bey, EPFL)

10:45 Cross evaluation of OMI, TES, and GEOS-Chem tropospheric ozone (Xiong Liu, CFA)

11:00 Simulation of TES ozone (Ray Nassar, Harvard)

11:15 Assimilation of TES observations (Mark Parrington, U. Toronto)

11:30 Variability of upper tropospheric ozone and CO (Chenxia Cai, JPL)

11:45 Impact of seasonal variations in long-range transport on tropospheric ozone (Jane Liu, U. Toronto)

12:00 Dynamic tropopause and spatial reduction mechanism (Philippe LeSager and Yevgenii Rastigeyev, Harvard)

12:15 Adapting GEOS-Chem to Mars photochemistry (Huiqun Wang, CFA)

12:30 Lunch (Law School cafeteria, other options)

Aerosols I (Qinbin Li, chair)

1:30 Global simulation of SO₂ concentrations with updated emission inventory (Gan Luo, SUNY Albany)

1:45 Coupling of sulfate aerosol with gas-phase precursors (Daven Henze, Caltech)

2:00 Updates to fossil-fuel emissions and long-range transport of sulfur to Canada (Aaron van Donkelaar, Dalhousie)

2:15 Sensitivity of sulfate direct climate forcing to particle phase transitions (Jun Wang, Harvard)

2:30 Long-range transport of black carbon to northern highlatitudes (Qinbin Li, JPL)

2:45 Organic carbon aerosol: insight from recent field campaigns (Colette Heald, UC Berkeley)

3:00 Global budget of glyoxal and methylglyoxal, and implication for SOA (May Fu, Harvard)

3:15 The effect of climate on secondary organic aerosols (Havala Pye, Caltech)

3:30 Break

Aerosols II (Randall Martin, chair)

3:45 Dust modeling and preliminary analysis of INTEX-B data (Duncan Fairlie, NASA LaRC)

4:00 Modeling of soluble iron formation, transport and deposition to the Pacific (Fabien Solmon, UC Santa Cruz)

4:15 Deriving PM_{2.5} speciation information using MISR data coupled with GEOS-Chem (Yang Liu, Harvard SPH)

4:30 Deriving AODs from MODIS radiances (Easan Drury, Harvard)

4:45 New particle formation in the global atmosphere (Fangqun Yu, SUNY Albany)

5:00 Implementation of sulfate and sea-salt aerosol microphysics into GEOS-Chem (Win Trivitayanurak, CMU)

5:15 Comparisons of Ozone and Aerosols in US and East Asia between 2001 and 2002 (Joshua Fu, U. Tennessee)

6:00-9:00 Reception and Poster Session(Maxwell-Dworkin building, ground floor)

Posters:

Evaluating the global health impact of intercontinental transport of fine aerosols (Junfeng Liu, Princeton)

A regional aerosol modeling perspective on global models (Scott Spak, U. Wisconsin)

A model study of ozone over Europe during the August 2003 heat wave (Guergana Guerova, U. Wollongong)

Long range transport of ammonia from sugarcane cropping (Guergana Guerova, U. Wollongong)

Air pollution radiative forcing from emission sectors: prototype for a new IPCC bar chart (Nadine Unger, NASA/GISS)

Future trends in ozone exceedances over the Northeast United States (Loretta Mickley, Harvard)

Air quality degradation in future climate due to decreased cyclone frequency (Eric Leibensperger, Harvard)

Evaluation of GMI Combo model simulations with TES ozone data: indirect TES validation (Jennifer Logan, Harvard)

Evaluating model contributions to tropospheric ozone with aircraft data in factor-projected space (Changsub Shim, JPL)

CMAQ modeling of China's regional air quality (Dan Chen, Tsinghua U.)

Evaluation of Tropospheric Aerosol Microphysics Simulations Using Observations (Win Trivitayanurak, CMU)

Sea-salt aerosols: impact on air pollution of the Attica Peninsula Greece (E. Athanasopoulou, Nat'l Obs Athens)

Influence of the city of Athens in the evolution of the sea-breeze front (A. Dandou, Nat'l Obs Athens)

Influence of different PBL schemes on ozone predictions over the GAA (E. Bossioli, Nat'l Obs Athens)

Comparison of the GMI Combo CTM with observations from the Aura period (Duncan, Yoshida, Rodriguez, GSFC)

Source-receptor relationship of trans-Pacific transport of East Asian sulfate (Junfeng Liu, Princeton)

Processes driving ozone in the tropics and in the South Atlantic (Bastien Sauvage, Dalhousie)

Thursday, April 12

8:00 Continental breakfast

8:30 Organization and charge of working groups (Daniel Jacob, Harvard) – Tentative list:

Emissions (Prasad Kasibhatla and Jennifer Logan, leads)

Chemistry (Isabelle Bey and Yuhang Wang, leads)

Aerosols (Rokjin Park and Fangqun Yu, leads)

Regional air quality (Daewon Byun and Yuxuan Wang, leads)

Software engineering (Bob Yantosca and Kevin Bowman, leads)

Inverse modeling and data assimilation (Dylan Jones and Qinbin Li, leads)

Mercury and biogeochemistry (Lyatt Jaegle and Parv Suntharalingam, leads)

Biomass burning (Jennifer Logan, chair)

- 9:00 Climate change, fires, and carbon aerosol over N. America (Dominick Spracklen and Loretta Mickley, Harvard)
- 9:15 Simulation of Australian bushfire season 2002/2003 (Guergana Guerova, U. Wollongong)
- 9:30 Evaluation of aerosol and CO vertical distributions from wild fires (Sylvia Generoso, EPFL)
- 9:45 Dealing with injection height for biomass burning emissions (Fok-Yan Leung, Harvard)
- 10:00 Fire-driven interannual variability in CO, and SH seasonality of CO (Prasad Kasibhatla, Duke)
- 10:15 Global transport and radiative forcing of biomass burning aerosols (Yang Chen, JPL)
- 10:30 Assimilation of TES data for biomass burning influence on tropospheric ozone (Dylan Jones, U. Toronto)
- 10:45 Break

VOC emissions and carbon fluxes (Prasad Kasibhatla, chair)

- 11:00 Biogenic emissions from tropical ecosystems (Michael Barkley, U. Edinburgh)
- 11:15 Biogenic emissions and VOC oxidation (Gabriele Curci, L'Aquila)
- 11:30 OMI HCHO measurements to test isoprene emissions and land cover (Dylan Millet, Harvard)
- 11:45 Evolution of methane concentrations over the last 20 years (Jerome Drevet, EPFL)
- 12:00 Analysis of AIRS CO₂ and ozone retrievals (Xun Jiang, JPL)
- 12:15 Improving estimates of CO₂ fluxes through a joint CO-CO₂ adjoint inversion (Monika Kopacz, Harvard)
- 12:30 Factors governing the seasonal variability of atmospheric carbonyl sulfide (Parvatha Suntharalingam, Harvard)
- 12:45 Acetylene-CO relationship and U.S. sources of ethane (Yaping Xiao, U. New Hampshire)
- 1:00 Lunch – working groups meet (Law School cafeteria, other options)

NO_x emissions and chemistry (Isabelle Bey, chair)

- 2:30 Constraining the magnitude and diurnal variation of NO_x sources from space (Folkert Boersma, Harvard)
- 2:45 Surface nitrogen dioxide concentrations inferred from OMI (Lok Lamsal, Dalhousie)
- 3:00 Development of the bottom-up soil NO_x inventory (Neil Moore, Dalhousie)
- 3:15 Constraints on lightning NO_x emissions inferred from satellite observations (Randall Martin, Dalhousie)
- 3:30 Lightning NO_x source emissions in GEOS-Chem (Lee Murray, Harvard)
- 3:45 Year-to-year variations in ozone and in satellite-derived NO_x emissions (Simos Koumoutsaris, EPFL)
- 4:00 U.S. influence on tropospheric ozone and the effects of recent emission reductions (Rynda Hudman, Harvard)
- 4:15 Break

Mercury (Lyatt Jaegle, chair)

- 4:30 A biogeochemical model for mercury in GEOS-Chem (Noelle Selin, Harvard)
- 4:45 Transpacific transport of mercury (Sarah Strode, U. Washington)
- 5:00 Discerning mercury-halogen chemistry (Chris Holmes, Harvard)
- 5:15 Incorporating a land surface model of terrestrial mercury storage (Nicole Downey, Harvard)
- 5:30 Ocean-atmosphere model linkages (Elsie Sunderland, EPA)
- 5:45 Adjourn – evening on your own

Friday, April 13

8:00 Continental Breakfast

Regional air quality (Rokjin Park, chair)

8:30 Nested grid application of GC over Europe (A. Protonotariou, Nat'l Obs. Athens)

8:45 Coupling GC with a regional air pollution model for Greece (M. Tombrou, Nat'l Obs. Athens)

9:00 Simulation of air pollutants over China (Hong Liao, Chinese Acad. Of Sciences)

9:15 Sources of NO_x and tropospheric O₃ chemistry over Beijing (Yuxuan Wang, Harvard)

9:30 Sensitivity of surface O₃ to soil NO_x emissions (Lyatt Jaegle, U. Washington)

9:45 Effects of 2000-2050 global change on ozone air quality in the United States (Shiliang Wu, Harvard)

10:00 Coupling of global-regional models for impact of climate change on air quality (Daewon Byun, U. Houston)

10:15 Break

Intercontinental transport (Daewon Byun, chair)

10:30 Testable sensitivities of CTM simulations to meteorological fields (Yuhang Wang, Georgia Tech)

10:45 HTAP multi-model assessment of ozone source-receptor relationships (Arlene Fiore, NOAA/GFDL)

11:00 Intercontinental transport of air pollution (Rokjin Park, Seoul National University)

11:15 Long-range transport of NO_y and ozone from Asia (Thomas Walker, Dalhousie)

11:30 Analysis of MILAGRO/INTEX-B data (Changshub Shim, JPL)

11:45 Transpacific transport of ozone pollution during INTEX-B (Lin Zhang, Harvard)

12:00 Lunch – working groups meet

1:30 Working group reports and discussion

3:00 Adjourn

3:15-5 Model clinic and Q&A led by Bob Yantosca, Philippe LeSager