

2007 ESRL GLOBAL MONITORING ANNUAL CONFERENCE

Boulder, Colorado
May 2 and May 3, 2007

David Skaggs Research Center, Room GC402
325 Broadway, Boulder, CO 80305

AGENDA

(Presenter's name only is given; see abstract for complete author listing.)

Wednesday, May 2, 2007

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0830-0840	Welcome and Introduction – <i>D.J. Hofmann (ESRL/GMD)</i>	
Session 1	Highlights 1 – J.H. Butler	
0840-0900	Some Recent Scientific Results from the AGAGE Network – <i>R.G. Prinn (MIT, Boston, MA)</i>	1
0900-0920	What Can the Mauna Loa CO ₂ Record Tell Us? – <i>P.P. Tans (ESRL/GMD)</i>2
0920-0940	The Atmospheric Perspective of Carbon Dioxide Exchange Across North America: CarbonTracker – <i>W. Peters (CIRES/GMD)</i>3.
0940-1000	Quantifying Canada's Methane Budget Using Atmospheric Methane Measurements and Modeling – <i>D. Worthy (Environment Canada, Toronto, Ontario, Canada)</i>	4
1000-1020	Do We Understand Recent Trends in Atmospheric CH ₄ ? – <i>E.J. Dlugokencky (ESRL/GMD)</i>	5
1020-1040	Break	
Session 2	Highlights 2 – J.W. Elkins	
1040-1100	Trace Gas Measurements from the Unmanned Aerial System (UAS) Altair – <i>D.F. Hurst (CIRES/GMD)</i>	6
1100-1120	Long-Term Records of Dust Transport over the North Atlantic Ocean Based on Measurements Made at Island Stations – <i>J.M. Prospero (University of Miami, Miami, FL)</i>	7
1120-1140	A Web-Based Interactive Atmospheric Data Visualization Tool: Near Real-Time Access to Data from the NOAA ESRL Carbon Cycle Observing Network – <i>K.A. Masarie (ESRL/GMD)</i>	8
1140-1200	A Consistent Picture of Inter-Annual Variations in Tropospheric OH during 1998-2006 as Inferred from Observations of Methyl Chloroform, Methane, and Other Trace Gases – <i>S.A. Montzka (ESRL/GMD)</i>	9
1200-1300	Lunch	
Session 3	Carbon Cycle: Towers, Fluxes, Methane and Non-Methane Hydrocarbons – P.P. Tans	
1300-1320	Recent Results from the NOAA/ESRL Tall Tower Network – <i>A.E. Andrews (ESRL/GMD)</i>	10
1320-1340	The Footprint of CO ₂ Fluxes from a Joint Ocean Atmosphere Inversion on Atmospheric CO ₂ and ¹³ C/ ¹² C Ratios in CO ₂ – <i>S.E. Mikaloff-Fletcher (Princeton University, Princeton, NJ)</i>	11
1340-1400	Increasing Wetland Emissions of Methane from a Warmer Arctic: Do We See it Yet? – <i>L.M. Bruhwiler (ESRL/GMD)</i>	12
1400-1420	First Results of Non-Methane Hydrocarbon Monitoring in Flask Samples from the NOAA Cooperative Air Sampling Network – <i>D. Helmig (INSTAAR, University of Colorado, Boulder)</i>	13
1420-1440	Break	
Session 4	Ozone and Mystery Aerosol in the Stratosphere – J. J. Michalsky	
1440-1500	Ozonesonde Minimum Record Nearly Falls at South Pole Station during the 2006 Ozone Hole – <i>B.J. Johnson (ESRL/GMD)</i>	14
1500-1520	North Pacific Marine Tropospheric Ozone at the West Coast of North America: Review of Long-Term Springtime Trends – <i>D.D. Parrish (ESRL/CSD)</i>	15
1520-1540	Seasonal and Episodic Variations in Tropospheric Ozone over North America – <i>S.J. Oltmans (ESRL/GMD)</i>	16
1540-1600	Mauna Loa Mystery Cloud-II (2006) and a Comparison of the GMD Historical and Current Atmospheric Transmission and Aerosol Optical Depth Measurements – <i>E.G. Dutton (ESRL/GMD)</i>	17
1600-1800	Poster Session (Room GB-124 and G-Level Atrium)	

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Thursday, May 3, 2007

Session 5 *International Monitoring Programs 1 – R.C. Schnell*

0830-0850	Climate Altering Trace Gases at Mt. Cimone, Northern Apennines, Italy – <i>M. Maione (University of Urbino, Urbino, Italy)</i>	18
0850-0910	GEOSummit Baseline Measurement Results and Long-Term Plans – <i>R. Banta (DRI, Reno, NV)</i>	19
0910-0930	Cooperative China-U.S. Greenhouse Gases and Related Tracers Measurements Program – <i>L.X. Zhou (Chinese Academy of Meteorological Sciences, Beijing, PRC)</i>	20
0930-0950	Climate Altering Trace Gases at the ABC-Pyramid Laboratory, Himalayan-Karakorum Range, Nepal – <i>P. Cristofanelli (National Research Council, Bologna, Italy)</i>	21
0950-1010	Evaluating the Influence of Terrestrial Emissions on Offshore Air Composition Using Radon-222 Observations at Cape Grim, Tasmania – <i>W. Zahorowski (ANSTO, Australia)</i>	22

1010-1030 **Break**

Session 6 *International Monitoring Programs 2 – J.A. Ogren*

1030-1050	The WMO-GAW World Calibration Centre for Surface Ozone, Carbon Monoxide and Methane: Activities during the Last 10 Years with a Focus on Carbon Monoxide – <i>C. Zellweger</i> (<i>Swiss Meteorological Agency, Dubendorf, Switzerland</i>).....	23
1050-1110	Aerosol Optical Variability as Measured at Cape Point (34°S, 18°E), South Africa – <i>C. Labuschagne (South African Weather Service, Stellenbosch, South Africa)</i>	24
1110-1130	Monitoring of UV-B Radiation and Ozone Column in the Republic of Panama – <i>A. Pino (University of Panama, El Cangrejo, Republic of Panama)</i>	25
1130-1150	Lulin Atmospheric Background Station (LABS) in Taiwan – <i>N.H. Lin (National Central University, Chung-Li, Taiwan)</i>	26
1150-1210	Overview of the SOWER Campaigns 2006 and 2007: Dehydration and Transport in the Tropical Tropopause Layer and Lower Stratosphere During the Boreal Winter – <i>H. Vömel (CIRES/GMD)</i>	27

1210.1310 **Lunch**

Session 7 *New Directions 1 – E.G. Dutton*

1310-1330	Increased Atmospheric Growth Rates of the CFC Substitutes, the HCFCs, and Their Implications on International Protocols – <i>J.W. Elkins (ESRL/GMD)</i>	28
1330-1350	The Annual Climatology of the CO ₂ Profiles over North America Derived from the NOAA/ESRL Aircraft Network – <i>C. Sweeney (CIRES/GMD)</i>	29
1350-1410	Changes in Concentration and Isotopic Composition of CO ₂ in Air in Pasadena, CA, Between 1972 and 2003 – <i>S. Newman (California Institute of Technology, Pasadena, CA)</i>	30
1410-1430	Estimated Monthly Global Emissions of Anthropogenic CO ₂ and Their Impact on Calculated Atmospheric CO ₂ – <i>T.J. Blasing (Oak Ridge National Laboratory, Oak Ridge, TN)</i>	31
1430-1450	The Spatial Sampling Approach for Orbiting Carbon Observatory Measurements: Strategies of Validation of OCO Measurements Against Surface Networks – <i>D. Crisp (Caltech, Pasadena, CA)</i>	32

1450-1510 **Break**

Session 8 *New Directions 2 – S. J. Oltmans*

1510-1530	Intercomparison of ESRL/GMD In Situ Aircraft and Matched CO ₂ Retrievals from the Atmospheric Infrared Sounder (AIRS) – <i>E. Maddy (QSS Group, Lanham, MD)</i>	33
1530-1550	Anions, Cations and Carbonaceous Aerosols at MLO – <i>B.J. Huebert (University of Hawaii, Honolulu, HI)</i>	34
1550-1610	A Free Tropospheric Observatory on the West Coast of the United States: The Mt. Bachelor, Oregon, Observatory – <i>D. Jaffe (University of Washington, Bethell, WA)</i>	35
1610-1630	Fine Spatial Resolution Global CO ₂ Flux Estimates from Remote Sensing Derived Environmental Data Within a Geostatistical Inverse Model – <i>A.M. Michalak (University of Michigan, Ann Arbor, MI)</i>	36
1630-1650	Radiative Forcing of the First Aerosol Indirect Effect – <i>A. McComiskey (CIRES/GMD)</i>	37

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POSTER SESSION AGENDA

Room GB-124

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Wednesday, May 2: 1600-1800

Solar Radiation

- P-1 The NOAA Annual Greenhouse Gas Index (AGGI) - Update 2006 – *D.J. Hofmann (ESRL/GMD)*
- P-2 Factors Affecting UV Radiation at Barrow, Alaska – *G. Bernhard (Biospherical Instruments, San Diego, CA)*
- P-3 Long-Term Stability of Rev Q. UV Multifilter Rotating Shadowband Radiometers, Part 4: Lamp Calibrations Versus the Langley Method – *G.T. Janson (Colorado State University, Fort Collins, CO)*
- P-4 The Information Available on Short-Term and Long-Term Tropospheric Ozone Variability from Zenith Sky UV Measurements – *I. Petropavlovskikh (CIRES/GMD)*
- P-5 A Proposed Working Standard for the Measurement of Diffuse Horizontal Shortwave Irradiance – *J.J. Michalsky (ESRL/GMD)*
- P-6 An Aerosol Optical Depth Climatology for the SURFRAD Network – *J.A. Augustine (ESRL/GMD)*
- P-7 A Network of Spectral Radiometers for the Study of Polar Aerosols – *R.S. Stone (CIRES/GMD)*

Aerosols

- P-8 Aerosol Optical Depth from Passive and Active Measurements during the 2005 Aerosol Lidar Validation Experiment at the ARM Site in Oklahoma – *P. Kiedron (CIRES/GMD)*
- P-9 Ultra-Fine and Fine Aerosol Number Concentrations at Zugspitze Station, Germany – *L. Ries (UBA, Federal Environment Agency)*
- P-10 Aerosol Optical Properties at a Polluted Continental Site – *E. Andrews (CIRES/GMD)*
- P-11 The NOAA/ESRL Airborne Aerosol Observatory: an Overview of the First Year of Operations – *P.J. Sheridan (ESRL/GMD)*

Halocarbons and Hydrocarbons

- P-12 In Situ Measurements of Methyl Chloride at the NOAA Baseline Observatories – *G.S. Dutton (CIRES/GMD)*
- P-13 Convection of Long and Very Short Lived Trace Gases into the UT/LS and TTL – *F.L. Moore (CIRES/GMD)*
- P-14 On Reconciling Competing Atmospheric Concentration Estimates from an In Situ ECD GC – *J.D. Nance (CIRES/GMD)*
- P-15 Exploring the Use of Compressed Gas Mixtures as Water Vapor Transfer Standards – *B. Hall (ESRL/GMD)*

Ozone, Water Vapor and Radon

- P-16 High Resolution Simulation, and Aura-MLS and Lidar Observations of an Unprecedented Polar Ozone Filament Event over Mauna Loa Observatory, Hawaii – *O.P. Tripathi (Table Mountain Facility, JPL, CA)*
- P-17 Requirements for New Measurements of the Absorption Cross-Section of Ozone for Accurate Determination of Ozone Concentration – *J. Viillon (Bureau International des Poids et Mesures, France)*
- P-18 Using Radon-222 to Test a Chemical Transport Model and Calculate Greenhouse Gas Fluxes – *A.I. Hirsch (CIRES/GMD)*
- P-19 NASA/AURA/Microwave Limb Sounder Water Vapor Validation by MLO Raman Lidar – *J.E. Barnes (ESRL/GMD)*
- P-20 Continental Outflow Events at Mauna Loa Observatory; a Review 1997-2006 – *W. Zadorowski (ANSTO, Australia)*
- P-21 Characterization of Mixing and Venting Processes in the Cloud-Topped Boundary Layer Using Airborne Radon Measurements – *W. Zadorowski (ANSTO, Australia)*
- P-22 Hourly Observations of the Near-Surface Radon Gradient at Lucas Heights, Sydney – *W. Zadorowski (ANSTO, Australia)*

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POSTER SESSION AGENDA (continued)

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Wednesday, May 2: 1600-1800

Carbon Cycle

- P-23 Observations of Trace Gas Correlation in the Free Troposphere Derived from the Atmospheric Infrared Sounder (AIRS)
– *C. Barnet (NESDIS, MD)*
- P-24 Status of NIST Methane SRMs and Primary Standards – *J. Rhoderick (NIST, MD)*
- P-25 CO₂ Concentration, Flux and Net Ecosystem Carbon Exchange over a Corn Surface on the North China Plain
– *B. Lingen (Chinese Academy of Meteorological Sciences, Beijing, China)*
- P-26 Monitoring Trace Gases by Shipboard Sampling – *M. Heller (CIRES/GMD)*
- P-27 Update on the GMD/WMO CO Reference Scale – *P. Novelli (ESRL/GMD)*
- P-28 Long-Term Primary Study on the Characteristics of Trace Gases in a Clean Area of North China
– *B. Jianhui (Chinese Academy of Science, Beijing, China)*
- P-29 Regional Transport Analysis for Carbon Cycle Inversions Using RUC-LPDM System
– *M. Uliasz (Colorado State University, Fort Collins, CO)*