

2008 NOAA ESRL GLOBAL MONITORING ANNUAL CONFERENCE

David Skaggs Research Center, Room GC-402
325 Broadway, Boulder, Colorado 80305
May 14 and May 15, 2008

Wednesday, May 14th, 2008 AGENDA

(Only presenter's name is given; see abstract for complete author listing.)

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<ul style="list-style-type: none"> • Session 1 	<p>Setting the Stage – R.C. Schnell (ESRL)</p> <p>0830-0840 Welcome and Introduction – J.H. Butler (ESRL)..... -</p> <p>0840-0900 Climate Feedbacks and Information for Policymakers – A.E. MacDonald (ESRL)..... -</p> <p>0900-0920 A New Look at Anthropogenic Atmospheric Carbon Dioxide – D.J. Hofmann (University of Colorado/CIRES) 1</p> <p>0920-0940 How High Could CO₂ Go? – P.P. Tans (ESRL)..... 2</p> <p>0940-1000 Continued Permafrost Warming in Northern Alaska, 2007 Update – G.D. Clow (U.S. Geological Survey)..... 3</p> <p>1000-1030 System S – O. Verscheure (IBM) 4</p>
<ul style="list-style-type: none"> • 1030-1050 	<p>Break</p>
<ul style="list-style-type: none"> • Session 2 	<p>Carbon Cycle 1 – G. Petron (University of Colorado/CIRES)</p> <p>1050-1110 A Lagrangian Particle Dispersion Model Approach for Evaluating CarbonTracker – A. Andrews (ESRL) 5</p> <p>1110-1130 Total Column Carbon Observing Network: Variability in Total Column CO₂ and CO – G. Keppel-Aleks (California Institute of Technology)..... 6</p> <p>1130-1150 Bridging Carbon Cycling and Air Quality Studies Using Atmospheric ¹⁴CO₂ – J.B. Miller (University of Colorado/CIRES)..... 7</p> <p>1150-1210 Quantifying Regional GHG Emissions from Atmospheric Measurements: HFC-134a at Trinidad Head – R.F. Weiss (Scripps Institution of Oceanography) 8</p>
<ul style="list-style-type: none"> • 1210-1300 	<p>Lunch</p>
<ul style="list-style-type: none"> • Session 3 	<p>Carbon Cycle 2 – A. Karion (University of Colorado/CIRES)</p> <p>1300-1320 Thirty Years of Global Atmospheric Methane and Ethane Monitoring: What Can Ethane Teach Us About Methane? – I.J. Simpson (UC-Irvine) 9</p> <p>1320-1340 Causes of the Anomalous Atmospheric CH₄ Growth Rate During 2007 – L. Bruhwiler (ESRL) 10</p> <p>1340-1400 Looking Down the Tail Pipe of North America: A Case Study for the Use of Offshore Towers to Constrain the North American Carbon Budget – C. Sweeney (University of Colorado/CIRES)..... 11</p> <p>1400-1420 Assessing Terrestrial Ecosystem Responses to Climate Change from Analysis of the Shape and Amplitude of the Seasonal Cycle of Atmospheric CO₂ – C. Nevison (National Center for Atmospheric Research) 12</p> <p>1420-1440 Progress of the Greenhouse Gases Monitoring Programme by the China Meteorological Administration (CMA) and Cooperative Projects – L.X. Zhou (Chinese Academy of Meteorological Sciences) 13</p>
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<ul style="list-style-type: none"> • Session 4 	<p>David J. Hofmann Recognition Session – J.H. Butler (ESRL)</p> <p>1500-1520 David Hofmann’s Pioneering Observations of Stratospheric Volcanic Aerosols – A. Robock (Rutgers)..... 14</p> <p>1520-1540 Stratospheric Aerosol from Pole to Pole: Balloonborne <i>In Situ</i> Observations – T. Deshler (University of Wyoming) 15</p> <p>1540-1600 Increases in Stratospheric Aerosols – J.E. Barnes (ESRL)..... 16</p> <p>1600-1620 Stratospheric Ozone Changes from Five Decades of Ground-Based Observations – S.J. Oltmans (ESRL)..... 17</p> <p>1620-1640 Recent Accelerated Growth Observed for HCFCs in the Atmosphere – S.A. Montzka (ESRL) 18</p> <p>1640-1700 Integrating NOAA’s Climate Forcing Observations – The NOAA Annual Greenhouse Gas Index – J.H. Butler (ESRL) 19</p>
<ul style="list-style-type: none"> • 1800-2100 	<p>David J. Hofmann Retirement Dinner (Carelli’s Restaurant, 645 30th Street, Boulder, 6:00 PM - 9:00PM)</p>

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1320-1340	Selected Results from Trace Gas Inter-Comparisons between AGAGE <i>In Situ</i> and NOAA Flask Data – P.B. Krummel (Commonwealth Scientific and Industrial Research Organization (CSIRO))	31
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1500-1520	Primary Study on the Characteristics of Trace Gases in a Clean Area of North China – B. Jianhui (Chinese Academy of Sciences)	35
1520-1540	Ozone Chemistry and Transport Along a 2000 meter Altitude Gradient in the Colorado Front Range from Twelve Surface Sites and Balloon Sonde Observations – D. Helmig (University of Colorado/INSTAAR)...	36
1540-1600	The Short-Term and Long-Term Stratospheric and Tropospheric Ozone Variability Available from Zenith Sky Measurements – I. Petropavlovskikh (University of Colorado/CIRES).....	37
• 1615-1845	<i>Poster Session (Room GC-402) - Refreshments will be served (Snacks and Wine)</i>	

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POSTER SESSION AGENDA

Room GC-402

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Thursday, May 15th: 1615-1845

• Carbon Dioxide and Methane

- P-1 CO₂ Source/Sink Information from OCO Column CO₂ Data – *D.F. Baker (Woods Hole Oceanographic Institution)*
- P-2 Temporal and Spatial Patterns in Regional and Continental-Scale CO₂ Mixing Ratio Measurements – *N.L. Miles (Pennsylvania State University)*
- P-3 Decreasing Anthropogenic Methane Emissions in Europe and Siberia Inferred from Continuous Carbon Dioxide and Methane Observations at Alert, Canada and Barrow, USA – *D. Worthy (Environment Canada)*
- P-4 Progress on Recent Carbon Cycle Studies in Oklahoma and California – *M.L. Fischer (Lawrence Berkeley National Laboratory)*
- P-5 CO₂ and CH₄ Measurements from the CARIBIC Aircraft Observatory – *T.J. Schuck (Max Planck Institute for Chemistry)*
- P-6 How Well Can We Measure Baseline CO₂ at Cape Kamukahi? – *S.C. Ryan (ESRL)*
- P-7 Where do Those Numbers Come from, Again? Fossil-Carbon Emissions Estimates on Various Space and Time Scales – *T.J. Blasing (Oak Ridge National Laboratory)*
- P-8 The Orbiting Carbon Observatory Development Status – *D. Crisp (JPL/Caltech)*
- P-9 Beyond Kyoto: Why Climate Policy Needs to Adopt the 20-Year Impact of Methane – *E. Lombardi (Eco-Cycle)*
- P-10 Estimating Measurement Uncertainties for Programmable Flask Package (PFP) Air Samples: A Mountaintop Intercomparison with the Cooperative Global Network Manual Sampler – *D. Neff (University of Colorado/CIRES)*
- P-11 Results of Carbon Dioxide Measurements in the Atmospheric Boundary Layer in Obninsk, Russia – *T.J. Conway (ESRL)*
- P-12 Introduction to Trace Gases Measurement in Mongolia – *O. Dugerjav (Institute of Meteorology and Hydrology)*
- P-13 Increase in the Global Burden of CH₄ During 2007 – *E.J. Dlugokencky (ESRL)*
- P-14 Applications of Lagrangian Particle Transport Modeling in the Top-Down Regional CO₂ Studies – *M. Uliasz (Colorado State University)*
- P-15 Regional-Scale Carbon Dioxide Fluxes During the 2007 Growing Season Derived from Simultaneous Radon-222 and Carbon Dioxide Measurements in Oklahoma – *A.I. Hirsch (University of Colorado/CIRES)*
- P-16 North American CO₂ Fluxes from a New Synthesis of Inverse Models – *A.R. Jacobson (ESRL)*
- P-17 Spatial Structure in North American Regional CO₂ Fluxes Evaluated with a Simple Land Surface Model – *T.W. Hilton (Pennsylvania State University)*
- P-18 Measurement and Monitoring of Surface Radiative Forcing from Individual Greenhouse Gases – *W.F.J. Evans (North West Research Associates)*

• Carbon Monoxide, Carbonyl Sulfide and ¹⁴C

- P-19 Plant Uptake of Atmospheric Carbonyl Sulfide (COS) Over Tropical Latin America – *E. Campbell (Stanford University)*
- P-20 Analyzing Gross Primary Production and Respiration of Terrestrial Ecosystems Using a Global Carbon Cycle Model that Includes Carbonyl Sulfide – *E. Campbell (Stanford University)*
- P-21 Observational Evidence for a Long-Term Trend in Carbon Monoxide – *P.C. Novelli (ESRL)*
- P-22 Latitudinal Gradients of Atmospheric Δ¹⁴C: A New Window onto Dynamical Controls of the Southern Ocean – *S.M. Fletcher (Princeton University)*
- P-23 ¹⁴CO₂ as a Diagnostic for Vertical Transport in Atmospheric Transport Models – *J. Turnbull (Laboratoire des Sciences du Climat et de l'Environnement)*

• Ozone

- P-24 Observations of Ground-Level Ozone in Lithuania: Monitoring Network and Results – *R. Girgzdiene (Institute of Physics)*
- P-25 Daily Ozonesonde Launches at Barrow, Alaska: April 1-20, 2008 – *B.J. Johnson (ESRL)*
- P-26 Ozone Observations Over Mt. Kenya and Nairobi GAW (Global Atmosphere Watch) Stations – *J. Nguyo (Kenya Meteorological Department)*

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POSTER SESSION AGENDA (continued)

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• Halocarbons and SF₆

- P-27 Initial Results from the International Halocarbon in Air Comparison Experiment (IHALACE) – *B. Hall (ESRL)*
- P-28 Measurement of Internal Stray Light within Dobson Ozone Spectrophotometers – *R.D. Evans (ESRL)*
- P-29 Reconciling Estimates of SF₆ Emissions Using NOAA Observations – *M.J. Heller (University of Colorado/CIRES)*

• Aerosols and Radiation

- P-30 Forecast of UV Index by Means of an Empirical Model in the Republic of Panama – *A. Pino (University of Panama)*
- P-31 U.S. Trends in Aerosol Optical Depth and Solar Radiation over the Past 10 Years – *J.A. Augustine (ESRL)*
- P-32 Establishing Climatological Validation of Aerosol Impact at Barrow: 'Ground Truth' vs. Satellite Measurements – *G.P. Anderson (Air Force Research Laboratory)*
- P-33 Temporal Variability of Aerosol Optical Properties, Ozone and CO Vertical Profiles over Rural Oklahoma – *E. Andrews (University of Colorado/CIRES)*
- P-34 The NOAA ESRL Airborne Aerosol Observatory: The First Two Years of Operation – *P.J. Sheridan (ESRL)*
- P-35 Comparison of RSS Spectral Measurements and LBLRTM/CHARTS Model Calculations for Clear Skies – *J.S. Delamere (ESRL)*
- P-36 NEUBrew – The NOAA EPA Brewer Spectrophotometer UV Monitoring Network – *P. Disterhoft (University of Colorado/CIRES)*

• Observatories, Cooperative Measurements and Global Databases

- P-37 MPLNET Measurements of Polar Stratospheric Clouds at the South Pole in 2007 – *J.R. Campbell (Science Systems and Applications Inc.)*
- P-38 Cloud Properties Observed by an All-Sky Camera System at the South Pole Station – *M. Shiobara (National Institute of Polar Research)*
- P-39 Researcher and Educator Long Term Collaboration with NOAA Earth System Research Laboratory Regarding Atmospheric Ozone Changes at the South Pole through the NSF PolarTREC Program – *E. Bergholz (United Nations International School)*
- P-40 Comparison of UV Climates at Summit, Greenland; Barrow, Alaska; and South Pole Station, Antarctica – *G. Bernhard (Biospherical Instruments Inc.)*
- P-41 Results of Snowfall/Blowing Snow Observations in Barrow – *D. Yang (University of Alaska Fairbanks)*
- P-42 Annual Cycles of Atmospheric Trace Gases in the Tropical Marine Boundary Layer: First Measurements from the Cape Verde Observatory – *K.A. Read (University of York)*
- P-43 GEOSummit Baseline Measurements: Results and Interpretations of Year-Round Measurements – *R. Banta (Desert Research Institute)*
- P-44 Circum Arctic Monitoring of the Environment from Research Aircraft – *R.S. Stone (University of Colorado/CIRES)*
- P-45 A New Global Database of Trace Gases and Aerosols at High Vertical Resolution – *G.E. Bodeker (National Institute of Water and Atmospheric Research)*
- P-46 The Global Atmosphere Watch World Data Centre for Aerosols: Progress in Integrating Regional Surface Observations of *In Situ* Aerosol Physical and Chemical Properties into a Global Network – *J. Wilson (European Commission DG Joint Research Centre)*
- P-47 Inter-Comparisons of Satellite, Dobson Spectrophotometer and Ozone Sonde Ozone Data Observations Over Nairobi, Kenya – *C.C. Okuku (Kenya Meteorological Department)*
- P-48 The Nonhydrostatic Icosahedral Model – *A.E. MacDonald (ESRL)*