Wednesday, May 13th, 2009 AGENDA
(Only presenter's name is given; please refer to abstract for complete author listing)

- **07:00**  Conference Registration Opens – lunch order fee collected at registration table.

- **08:00-08:30**  Morning Breakfast – Coffee, tea, fruit, bagels & donuts served

- **Session 1**  Setting the Stage – Chaired by Russ Schnell
  08:30-08:45  Welcome and Introduction – J.H. Butler (ESRL).............................. -
  08:45-09:15  Keynote Address – Prospects for a Low Carbon Energy Future – M.B. McElroy (Harvard University)..............1
  09:15-09:3  An update on Climate Services – C. J. Koblinsky (NOAA, CPO).........................2
  09:30-09:45  Objective Verification of Greenhouse Gas Emissions and Removals – P. Tans (ESRL).........................3
  09:45-10:00  Atmospheric Emissions of Sulfur Hexafluoride: A Challenge for the Future – J.W. Elkins (ESRL).................4
  10:00-10:15  NOAA’s SOS - The Ideal way to Display Global Data – B. Russell (ESRL)........................5

- **10:15-10:30**  Morning Break

- **Session 2**  Halocarbons & Other Traces Species – Chaired by James Elkins
  10:30-10:45  PFC Emissions from Global and Australian Aluminum Production Using AGAGE Data – P. Fraser (CSIRO).....6
  10:45-11:00  Towards an Understanding of Inter-Annual Variations in Tropospheric OH since 1998 from Observations of Reduced Trace Gases – S. Montzka (ESRL)........................................7
  11:00-11:15  Regional Estimates of CH₄ and N₂O Emissions from Central California – M.L. Fischer (Lawrence Berkeley)....8
  11:15-11:30  Tetrafluoromethane in the Global Atmosphere – J. Mühle (Scripps Institute of Oceanography)................9
  11:30-11:45  Observations of Non-CO₂ Greenhouse Gases Over North America from the NOAA ESRL Carbon Cycle Group Aircraft Project – C. Sweeney (University of Colorado/CIRES).....................10
  11:45-12:00  Tribute to Derek Cumnoll.........................................................11

- **12:00-13:15**  Catered Lunch Service – Outreach Classroom GB-124 (pre-payment of $10.00 required)

- **Session 3**  Carbon Cycle Gases, Session 1 – Chaired by Pieter Tans
  13:15-13:30  Space-Based Measurements for Long-Term Global Monitoring of Atmospheric CO₂ – D. Crisp (NASA/JPL).....12
  13:45-14:00  Global Distribution of CO₂ in Mid-Troposphere from the Atmospheric Infrared Sounder (AIRS) Measurements Reveal Cross Equator Exchange – Y.L. Yung (California Institute of Technology).........14
  14:00-14:15  Validation of Six Years of Mid-Tropospheric CO₂ Data from the Atmospheric Infrared Sounder AIRS – E.T. Olsen (NASA/JPL)......................................................15
  14:15-14:30  High Resolution CO₂ Transport Modeling System WRF-VRPM and its Application in Interpretation of CO₂ Measurements – R. Ahmadov (Max-Planck-Institute)........................................16
  14:30-14:45  When is the Permafrost Carbon Tipping Point? – K. Schaefer (University of Colorado/NSIDC).................17

- **14:45-15:00**  Afternoon Break

- **Session 4**  Carbon Cycle Gases, Session 2 – Chaired by Andy Jacobson
  15:15-15:30  Development of the FIM (Flow-following finite volume Icosahedral Model) Global Model Toward an Earth System Model Including Inline Treatment of Aerosols and Trace Gases – S.G. Benjamin (ESRL)......19
  15:30-15:45  The Temporal and Spatial Distribution of Carbon Dioxide Emissions from Fossil-Fuel Use in North America – T.J. Blasing (Oak Ridge National Lab)...........................................20
  15:45-16:00  Vertical Profiles of CO₂, CH₄ and other Trace Gases above the Brazilian Amazon – J.B. Miller (CIRES).........21
  16:00-16:15  Is Atmospheric Methane on the Rise Again? – E.J. Dlugokencky (ESRL).................................................22
  16:15-16:30  AGAGE and CSIRO Measurements of Recent Global Methane Growth – M. Rigby(MIT)............................23

- **16:45-18:30**  Poster Session (DSRC Cafeteria) with appetizers & refreshments
Thursday, May 14th, 2009 AGENDA
(Only presenter’s name is given; please refer to abstract for complete author listing)

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- **08:00-08:30**
  Morning Breakfast – Coffee, tea, fruit, bagels & donuts served

- **Session 5**
  **Observatories and Global Measurements** – Chaired by Brian Vasel
  - 08:30-08:45 U.S. Climate Reference Network: Current Status and Future Directions – S. LeDuc (NOAA NCDC) .................. 24
  - 08:45-09:00 Primary Study on the Characteristics of Trace Gases in a Clean Area of North China – B. Jianhui (CAS, China) ....... 25
  - 09:00-09:15 Overview of Chemical and Physical Measurements at Lulin Atmospheric Background Station (LABS, 2,862m MSL) in Taiwan, East Asia Since 2006 – N.H. Lin (National Central University, Taiwan) .................................................. 26
  - 09:15-09:30 Year-Round Measurements and Interpretations at Greenland Environmental Observatory at Summit (GEOsummit) – R. Banta (Desert Research Institute) ................................................................. 27
  - 09:30-09:45 Measurements of Ambient Mercury and Related Species at the Mauna Loa Observatory 2002-2008 – L. Alvarez-Aviles (EPA) .................................................................................................................. 28
  - 09:45-10:00 Interpreting Total Gaseous Mercury Observations with Lagrangian and Eulerian Atmospheric Models: A Canadian Perspective – J. Chuan-Han Lin (U. Waterloo – Ontario) ........................................................................ 29
  - 10:00-10:15 Measurements of the Stable Isotopologues of Water Vapor at Mauna Loa for Monitoring the Atmospheric Water Cycle – D. Noone (University of Colorado/CIRES) ......................................................... 30

- **10:15-10:30**
  Morning Break

- **Session 6**
  **Ozone (and Global Measurements continued)** – Chaired by Bryan Johnson
  - 10:30-10:45 Air Quality Implications of Ozone in Air Entering the West Coast of North America – D.D. Parrish (ESRL) ........... 31
  - 10:45-11:00 Reactive, Anthropogenic Trace Gases at the German GAW Site Hohenpeissenberg: Trends and Variability on Various Time Scales – C. Plass-Duelmer (German Meteorological Service) .......................................................... 32
  - 11:00-11:15 Uptake of Ozone-Depleting Halogenated Gases to the Snow-Covered Surface at Niwot Ridge, Colorado – D. Helmig (U. Colorado/INSTAAR) ..................................................................................... 33
  - 11:15-11:30 Springtime Tropospheric Ozone in the Arctic from Surface and Ozonesonde Observations – S.J. Oltmans (ESRL) ......................................................................................................................... 34
  - 11:30-11:45 Increasing Mid-Tropospheric Ozone Above Western North America During Springtime – O. Cooper (University of Colorado/CIRES) ................................................................................ 35
  - 11:45-12:00 Updated Outcomes for Greenhouse Gases from China GAW Stations and Near Future Implementation – L. Zhou (CAMS, China) ......................................................................................... 36

- **12:00-13:00**
  Catered Lunch Service – Outreach Classroom GB-124 (pre-payment of $10.00 required)

- **Session 7**
  **Solar Radiation and Aerosols** – Chaired by Patrick Sheridan
  - 13:45-14:00 Relating OC/EC Data from Two National Monitoring Networks – W. White (U. California-Davis) ......................... 40
  - 14:00-14:15 The Ratio of Total Aerosol Carbon to Sulfate in the Free Troposphere at MLO – B.J. Huebert (U. Hawaii) .............. 41
  - 14:15-14:30 Solar Radiation Data from Citizen Surface Stations Worldwide – R.B. Chadwick (ESRL) ............................................. 42
  - 14:30-14:45 Surface Radiation at Globally Remote Sites: From Dimming and Brightening to Warming – E.G. Dutton (ESRL) .......................................................... 43

- **14:45-15:00**
  Afternoon Break
### Thursday, May 14th, 2009 AGENDA
(Only presenter’s name is given; please refer to abstract for complete author listing)

- **Session 8**  
  **Upper Troposphere and Stratosphere (and a new direction)** – Chaired by Sam Oltmans

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00-15:15</td>
<td>A New Look at Antarctic Ozone Hole Recovery</td>
<td>D.J. Hofmann (University of Colorado/CIRES)</td>
</tr>
<tr>
<td>15:30-15:45</td>
<td>The GCOS Reference Upper Air Network (GRUAN)</td>
<td>H. Vöemel (Deutscher Wetterdienst)</td>
</tr>
<tr>
<td>15:45-16:00</td>
<td>Evidence for Recent Stratospheric Circulation Changes from Multiple Measurement Sources</td>
<td>E. Ray (University of Colorado/CIRES)</td>
</tr>
<tr>
<td>16:00-16:15</td>
<td>UV Products from NOAA-EPA Brewer (NEUBrewer) Network</td>
<td>P. Kiedron (University of Colorado/CIRES)</td>
</tr>
<tr>
<td>16:15-16:30</td>
<td>Applications of COSMIC Radio Occultation for Climate Modeling</td>
<td>S.P. Ho (UCAR)</td>
</tr>
<tr>
<td>16:30-16:45</td>
<td>Behavior of Some TC-4 Atmospheric Parameters Measured by Balloonsondes and NASA Aircraft</td>
<td>A. Pino (U. Panama)</td>
</tr>
<tr>
<td>16:45-17:00</td>
<td>Rapid Photochemical Production of Ozone at High Concentrations in a Rural Site During Winter</td>
<td>R.C. Schnell (ESRL)</td>
</tr>
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Closing: Dr. James H. Butler (ESRL)

Abstract book solicitation, editing, preparation and printing: Misti Hinson, James Salzman, Kirk Thoning, Brian Vasel, Dan Endres, Tom Mefford, Miyuki Kaffrooth, and Bill Cushman.
**2009 NOAA/ESRL GLOBAL MONITORING ANNUAL CONFERENCE**
David Skaggs Research Center, Cafeteria
325 Broadway, Boulder, Colorado 80305 USA

**POSTER SESSION AGENDA**
(Only presenter's name is given; please refer to abstract for complete author listing)

**Wednesday, May 13th, 2009: 1645-1830**

- **Carbon Cycle**
  - P-1 The Cape Verde Atmospheric Observatory (CVAO) Observatório Atmosferico De Cabo Verde: Humberto Duarte Fonseca – K.A. Read (University of York, UK)
  - P-2 Long-Term Decline in Global Ethane Levels, 1984-2008 – I. Simpson (University of California, Irvine)
  - P-3 Validation of In Situ Measurements for Analysis of CO₂, CH₄, and H₂O in Aircraft – C. Sweeney (University of Colorado/CIFRES)
  - P-4 Vertical Profiles of CO₂, CH₄, and CO₂ above Poker Flat, Alaska, Molokai, Hawaii, and Rarotonga, Cook Islands – P. Novelli (ESRL)
  - P-5 Carbon Tracker – CH₄ – L. Bruhwiler (ESRL)
  - P-6 Quantifying CH₄ Emissions with Airborne Differential Absorption LIDAR Data – S.V. Stearns (ITT, Space Division)
  - P-7 Column CO₂ Estimates at ARM-SGP – M.L. Fischer (Lawrence Berkeley National Lab)
  - P-8 Comparison of LM3V and Carbon Tracker Data: Initial Results – N. Golaz (Princeton Environmental Institute)
  - P-9 Identification of Greenhouse Gas Source Signatures in the San Francisco Bay Area Using In Situ Aircraft Measurements – A. Karion (University of Colorado/CIFRES)
  - P-10 Reconciling Modeled Ocean Carbon Fluxes with Atmospheric¹³C Observations – C. Alden (University of Colorado/INSTAAR)
  - P-11 Quantification of Fossil Fuel CO₂ Emissions from East Asia Using Atmospheric Observations of¹⁴CO₂ – J. Turnbull (ESRL)
  - P-12 Carbon Tracker: Sensitivity to Potential Systematic Bias in CO₂ Observations – K. Masarie (ESRL)
  - P-13 Data Quality and Continuity for the ESRL/GMD Tall Tower Network – A. Andrews (ESRL)
  - P-14 Interpreting Dense CO₂ Measurements: Ensemble Filters vs. Variational Data Assimilation – D. Baker (Colorado State University/CIRA)
  - P-15 High Latitude Carbon Exchange Estimated From Co-Variation of CO₂ and Potential Temperature – G. Keppel-Aleks (California Institute of Technology)
  - P-16 Observing Regional CO₂ Plumes with an Airborne Differential LASER Absorption System – T.S. Zaccheo (Atmospheric and Environmental Research, Inc.)
  - P-17 On-Road Study of Colorado Front Range Greenhouse Gases Distribution and Sources – G. Petron (University of Colorado/CIFRES)

- **Ozone**
  - P-18 Continuous Tower-Based Tropospheric Ozone Measurements – L.C. Patrick (University of Colorado/CIFRES)
  - P-19 Statistical Analysis and Estimation of the External Effects on the Total Ozone Field Over Russia in 1973-2007 – E.A. Titova (Main Geophysical Observatory)
  - P-20 Long-Term Ozone Trends in Umkehr Measurements at Japanese Stations – K. Miyagawa (Japan Meteorological Agency)
  - P-21 Boundary Layer Ozone Depletion Events Measured by Ozone sondes at Barrow, AK in 2009 – B. Johnson (ESRL)
  - P-22 Boulder and the Global Climate Observing System (GCOS) Reference Upper Air Network (GRUAN) – D. Hurst (University of Colorado/CIFRES)

- **Halocarbons and Other Trace Species**
  - P-23 Long-Term Monitoring and Trends of Halocarbons – G.S. Dutton (University of Colorado/CIFRES)
  - P-24 A Comparison of Seasonal Cycles in Nitrous Oxide Among Different Monitoring Networks – C.D. Nevison (University of Colorado/INSTAAR)
  - P-25 New Estimates of Global Sulfur Hexafluoride Emissions Using AGAGE and NOAA Measurements – M. Rigby (Center for Global Change Sciences, MIT)
  - P-26 Isotopic Constraints on the Global Budget of Atmospheric Nitrous Oxide: Analysis of Recent Data – Y.L. Yung (California Institute of Technology)
  - P-27 Improvements to the NOAA/GMD Cryogenic Frost Point Hygrometer (FPH), New Digital Control – E. Hall (University of Colorado/CIFRES)
  - P-28 On the Definition of a European Baseline for Climate Altering Halogenated Gases – F. Furlani (University of Urbino, Institute of Physics)
POSTER SESSION AGENDA (continued)
(Only presenter's name is given; please refer to abstract for complete author listing)

Wednesday, May 13th, 2009: 1645-1830

- Halocarbons and Other Trace Species (continued)
- Aerosols and Radiation

- Observatories, Cooperative Measurements and Global Databases