

Global Monitoring Division

Review Agenda

April 3-5, 2013

Boulder, CO 80305



Contents:

- Agenda, 16 Different Sections, Each Section may be Accessed Separately through the Section Hyperlink.

NOAA ESRL GLOBAL MONITORING DIVISION REVIEW

3-5 April 2013

David Skaggs Research Center, Room GC-402
325 Broadway, Boulder, Colorado 80305

Morning AGENDA *Wednesday, April 3rd, 2013*

- **06:45 - 07:45** *Millennium Hotel, informal breakfast buffet, Thyme on the Creek, Reviewers and Steve Fine*
- **07:45** Transportation, front door of hotel, NOAA van will leave promptly at 7:45
DSRC check-in, Proceed to Room GC-402 (Multi-Purpose Room)
- **Session 1** ***Welcome and Overview (08:30-09:30)***
 - 08:30 – 08:40 Welcome & Introductions
Dr. Alexander MacDonald, Director, NOAA Earth System Research Laboratory
 - 08:40 – 08:45 Logistic Details, Updates
Dr. Russ Schnell, Deputy Director, GMD
 - 08:45 – 09:05 Overview of NOAA/OAR Research (OV-1)
Dr. Steve Fine, OAR Deputy Assistant Administrator
 - 09:05 – 09:30 GMD Overview (OV-2)
Dr. James Butler, Director, GMD
- **Session 2** ***Theme 1: Climate Forcing (09:30-10:10)***
 - 09:30 – 09:50 Overview – Climate Forcing (CF-1)
Dr. John Miller, Carbon Cycle Group
 - 09:50 – 10:10 Development of the Global Greenhouse Gas Reference Network (CF-2)
Dr. Pieter Tans, Chief, Carbon Cycle Group
- **10:10 - 10:30 Morning Break**
- **Session 3** ***Theme 1: Climate Forcing (10:30-12:15)***
 - 10:30 – 10:45 The Carbon Cycle and Anthropogenic Carbon Emissions (CF-3)
Dr. John Miller, Carbon Cycle Group
 - 10:45 – 11:00 Vertical Profiles (CF-4)
Dr. Colm Sweeney, Carbon Cycle Group
 - 11:00 – 11:15 CarbonTracker (CF-5)
Dr. Andy Jacobson, Carbon Cycle Group
 - 11:15 – 11:30 Methane (CF-6)
Dr. Ed Dlugokencky, Carbon Cycle Group
 - 11:30 – 11:45 Detection and Monitoring of Changing Methane Emissions in the Arctic (CF-7)
Dr. Lori Bruhwiler, Carbon Cycle Group
 - 11:45 – 12:00 Greenhouse Gas Measurement Program Future Directions (CF-8)
Dr. Arlyn Andrews, Carbon Cycle Group
 - 12:00 – 12:15 Summary – Climate Forcing Gases and the Annual Greenhouse Gas Index (CF-9)
Dr. Steve Montzka, Halocarbons and Trace Species

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Afternoon AGENDA *Wednesday, April 3rd, 2013*

- **Session 4** ***Lunch and Poster Viewing (12:15-14:15)***
 - 12:15 – 13:15 Lunch: Room GB-124 with Review Committee, Steve Fine, Sandy MacDonald, Rick Rosen, Jim Butler, Russ Schenell, Mike Uhart, Pieter Tans
 - 13:15 – 14:15 Poster Session 1: Atrium, Climate Forcing

- **Session 5** ***Theme 1: Climate Forcing (14:15-15:15)***
 - 14:15 – 14:30 Long-Term Monitoring of Water Vapor in the Upper Troposphere and Lower Stratosphere (CF-10)
Dr. Dale Hurst, Ozone and Water Vapor
 - 14:30 – 14:45 Aerosol Direct Climate Forcing (CF-11)
Dr. John Ogren, Group Chief, Aerosols
 - 14:45 – 15:00 Radiation Contributions to Climate Forcing, Ozone, and Air Quality (CF-12)
Dr. Joe Michalsky, Group Chief, Radiation
 - 15:00 – 15:15 Summary – Climate Forcing (CF-13)
Dr. James Butler, Director, GMD

- **15:15 - 15:30** ***Afternoon Break***

- **Session 6** ***GMD Tour and Reviewer Work Session (15:30-17:45)***
 - 15:30 – 16:45 Tour of Global Monitoring Division Boulder Operations for reviewers
 - 16:45 – 17:45 Reviewer closed session in room GB-124
 - 17:45 Adjourn, sign out, and shuttle for hotel

- **18:30 - 20:30** ***Dinner at Carelli's Ristorante Italiano,***
645 30th Street, Boulder, – Anne Thompson, Bev Law, Ken Jucks, Oystein Hov,
Carl Brenninkmeijer, Mike McElroy, Steve Fine, Sandy MacDonald, Rick Rosen, Jim Butler,
Russ Schnell, Mike Uhart

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Morning AGENDA ***Thursday, April 4th, 2013***

- **07:00 - 08:00** *Millennium Hotel, informal breakfast buffet, Thyme on the Creek*
- **08:00** *Transportation, front door of hotel, NOAA vans
DSRC check-in, Proceed to Room GB-124 (Outreach Classroom)*
- **Session 7** ***Stakeholder Telephone Calls, Room GB-124 (08:30 - 09:40)***
(Closed session with reviewers and phone assistants)
 - Climate Forcing, 3 calls (~30 min)
 - 8:30 – 8:40 - Dr. Steven Wofsy, Professor of Atmospheric and Environmental Science, Harvard University; (Also Ozone)
 - 8:40 – 8:50 - Dr. Deon Terblanche, Director, Atmospheric Research and Environment, Global Atmospheric Watch Programme (Also Ozone)
 - 8:50 – 9:00 - Chris Sloop, Chief Technical Officer, Earth Networks (for Bob Marshall)
 - Ozone, 3 calls (~30 min)
 - 9:00 – 9:10 - Dr. Mack McFarland, Global Environmental Manager, Dupont Chemicals and Fluoroproducts
 - 9:10 – 9:20 - Dr. Ron Prinn, Professor, MIT (Also Climate Forcing)
 - 9:20 – 9:30 - Dr. Paul Newman, Senior Scientist, NASA/Goddard Space Flight Center
 - Air Quality, 1 call (~10 min)
 - 9:30 – 9:40 - Brock LeBaron, Deputy Director, Division of Air Quality, State of Utah
- **Session 8** ***Observatories and Common Elements, Room GC-402 (09:40-10:30)***
 - 09:40 – 09:55 Global Monitoring Division Observing Facilities and Operations (OC-1)
Dr. Russ Schnell, Deputy Director, GMD
 - 09:55 – 10:10 Calibration and Standards Activities (OC-2)
Dr. Brad Hall, Halocarbons and Trace Species
 - 10:10 – 10:30 Data management and quality control (OC-3)
Ken Masarie, Carbon Cycle Group
- **10:30 - 10:45** ***Morning Break***
- **Session 9** ***Theme 2: Ozone and Ozone Depleting Gases (10:45-12:00)***
 - 10:45 – 11:00 Overview – Ozone and Ozone Depleting Gases (OD-1)
Dr. James Elkins, Group Chief, Halocarbons and Trace Species
 - 11:00 – 11:15 Measurements and Analysis of Stratospheric Ozone (OD-2)
Dr. Irina Petropavlovskikh, Group Chief, Ozone and Water Vapor
 - 11:15 – 11:30 South Pole Ozone (OD-3)
Dr. Bryan Johnson, Ozone and Water Vapor
 - 11:30 – 11:45 Stratospheric Transport (OD-4)
Dr. Fred Moore, Halocarbons and Trace Species
 - 11:45 – 12:00 Ozone Depleting Gas Index and Summary (OD-5)
Dr. Steve Montzka, Halocarbons and Trace Species

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Afternoon AGENDA *Thursday, April 4th, 2013*

- **Session 10** ***Lunch and Poster Viewing (12:00-13:45)***
 - 12:00 – 12:50 Lunch: Room GB-124 with review committee and GMD Scientists
 - 12:50 – 13:45 Poster Session 2: Atrium, Ozone and Air Quality

- **Session 11** ***Theme 3: Air Quality (AQ) and Regional Studies (13:45-14:45)***
 - 13:45 – 14:00 Overview of GMD AQ and Regional Studies (AR-1)
 Dr. Russ Schnell, Deputy Director, GMD
 - 14:00 – 14:15 Tropospheric Ozone (AR-2)
 Sam Oltmans, Ozone Group
 - 14:15 – 14:30 Aerosol Optical Depth Measurements and Related Research (AR-3)
 John Augustine, Radiation Group
 - 14:30 – 14:45 Methane and Volatile Organic Compounds Emissions from Oil and Gas Operations (AR-4)
 Dr. Gabrielle Petron, Carbon Cycle Group

- **Session 12** ***Conclusion and GMD Review Summary (14:45-15:00)***
 - 14:45 – 15:00 Review summary (RS-1)
 Dr. James Butler, Director, GMD

- **15:00 - 15:15** ***Afternoon Break – End of Public Review Sessions***

- **Session 13** ***Reviewer Closed Session (15:15-17:45)***
 - 15:15 – 16:00 Reviewer closed session with GMD and OAR Management, Room GC-402
 - 16:00 – 17:45 Reviewer closed session, Room GB-124
 - 17:45 Adjourn and shuttle for hotel

- **18:30 - 20:30** ***Dinner***
 - Reviewer's executive dinner – please see Boulder restaurant map for selections.

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Morning AGENDA Friday, April 5th, 2013

- **07:00 - 08:00** *Millennium Hotel, informal breakfast buffet, Thyme on the Creek*
- **08:00** *Transportation, front door of hotel, NOAA vans
DSRC check-in, Proceed to Room GB-124 (Outreach Classroom)*
- **Session 14** *Reviewer Comments*
 - 08:30 – 11:00 Review team formulates recommendations and begins writing, GB-124
 - 11:00 – 12:00 Review team provides preliminary feedback to OAR and GMD Management, GC-402
- **12:00** *Adjourn*

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Poster Session #1 AGENDA Wednesday, April 3rd, 2013

- ***13:15 – 14:15 Poster Session 1: Atrium***

Climate Forcing

1. Long-Term Measurements of Direct Aerosol Climate Forcing (*Betsy Andrews*)
2. A Characterization of Arctic Aerosols and their Forcing of the Surface Radiation Budget (*Robert Stone*)
3. Trace Gas Standards in Natural Air (*Duane Kitzis*)
4. Shorter-lived Trace Gases: Opportunities for Mitigating Ozone Depletion and Climate Change (*Steve Montzka*)
5. CarbonTracker Flux Estimates Using Measurements from the Global Greenhouse Gas Reference Network (*Mike Trudeau*)
6. NOAA GMD Global Greenhouse Gas Reference Network: A Global Cooperative Air Sampling Network Used to Constrain Greenhouse Gas Budgets (*Molly Crotwell*)
7. A Lagrangian Framework for North American Regional Scale Flux Estimation and Observing System Design (*Arlyn Andrews*)
8. The CARVE Tower and the Barrow Observatory: A Ground-Based Trace Gas Observing System for Detection of Arctic and Boreal Change (*Colm Sweeney*)
9. Laboratory and Mountain-Top Inter-Comparisons of NOAA/ESRL Trace Gas Sampling Systems (*Don Neff*)

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Poster Session #2 AGENDA *Thursday, April 4th, 2013*

- **12:50 – 13:45 Poster Session 2: Atrium**

Ozone Depletion

1. GMD'S Part in Monitoring the Earth's Ozone Layer (*Bryan Johnson*)
2. GMD's Role in Calibrating the World Dobson network (*Bob Evans*)
3. ¹⁴C-based Emission Estimates for Halocarbons and other Greenhouse Gases across the U.S. (*Steve Montzka*)
4. Validation of satellite ozone-depleting substance measurements from airborne platforms (*David Nance*)
5. Three Decades of Continuous Monitoring of Long-lived Halocarbons (*Geoff Dutton*)

Air Quality and Regional Studies

1. Trends in Stratospheric Aerosol: Anthropogenic or Volcanic (*Ryan Neely*)
2. Aerosol and Albedo Ground Truth and Analysis for DISCOVER-AQ (Phase II - Central Valley California) (*Kathy Lantz*)
3. Wintertime 2013 Ozone Production in the Uintah Basin (*Chelsea Stephens*)
4. Regional Volatile Organic Carbon Signatures (*Ben Miller*)