

ESRL ATMOSPHERIC CHEMISTRY REVIEW

29-31 January, 2008 ~ David Skaggs Research Center ~ Boulder, CO

Day 1 – Tuesday, January 29th (GC-402)

7:30 – 8:15 *Breakfast Meeting - Reviewers and Craig McLean (GB-124)*

7:45 – 8:15 *Coffee/Continental Breakfast (GC-402)*

8:15 Welcome **Richard Spinrad**
Reviewers/Introductions; Charge to the Reviewers

8:30 Welcome and ESRL Organization Overview **Alexander MacDonald**
*ESRL history and 2005 reorganization; Personnel, Resources, Facilities;
Vision and Overview of Role of Atmospheric Chemistry in ESRL*

9:05 Atmospheric Chemistry Research at ESRL **A.R. Ravishankara/James Butler**
*Major scientific areas, 6 topics; relation to societal needs, NOAA mission & program goals;
Key partnerships: Internal/External (ESRL, LO's, Joint Institutes, etc); Approaches (lab, field
monitoring + intensives, theoretical/analysis); Products and customers; Review agenda*

9:50 Break

10:00 Stratospheric Ozone **Susan Solomon/David Hofmann**

*Introduction – Susan Solomon
Trends in Ozone-Depleting Substances and ODGI - Steve Montzka
Global and Antarctic Ozone Observations – David Hofmann
Climate Benefits of the Montreal Protocol – David Fahey / John Daniel
Evaluating Potential ODS Substitutes – Jim Burkholder
Chemical/Dynamical Linkages, and a Look Ahead – Susan Solomon*

12:00 QA/Discussion

12:30 Lunch/Reviewer Closed Session (GB-124)

1:30 Carbon Dioxide, Methane, & Climate Forcing **Pieter Tans/James Butler**

*Overview - Jim Butler
Global Monitoring: Trends/Distributions of CO₂ and CH₄ - Ed Dlugokencky
What We're Learning from Tall Towers and Vertical Profiles – Arlyn Andrews
CarbonTracker – Andy Jacobson
Future Plans and Directions – Pieter Tans*

3:15 QA/Discussion

3:45 Break

4:00 GMD Lab Tour

5:00 Reviewer Closed Session

6:30 Dinner in Boulder - Reviewers and NOAA Leads (Location: Boulder Tea House)

Day 2 – Wednesday, January 30th (GC-402)

7:30 – 8:00 *Coffee/Continental Breakfast (GC-402)*

8:00 Regional Air Quality

Fred Fehsenfeld/James Meagher

Overview – Fred Fehsenfeld

Evaluating Emission Inventories using Top-down Approaches – Tom Ryerson

Nighttime Tropospheric Chemistry – Steve Brown

Secondary Organic Aerosols in Polluted Atmospheres – Joost de Gouw

Ozone Transport and Mixing Processes – Mike Hardesty

Wrap Up and Future Plans – Jim Meagher

9:45 *Break*

10:00 QA/Discussion

10:30 Non-CO2 Climate Gases

David Fahey/James Elkins

Overview – David Fahey

N₂O, CFCs, HCFC's, and other Gases – James Elkins

Airborne and Emissions Studies – Dale Hurst

Assessing and Understanding Tropospheric Ozone Changes – Samuel Oltmans

Water Vapor in the Upper Troposphere and Lower Stratosphere – Karen Rosenlof

Wrap Up and Future Plans – James Elkins

12:00 QA/Discussion

12:30 Lunch/Reviewer Closed Session (GB-124)

1:30 **CSD Lab Tour** (*Meet for tour in GC-402*)

2:30 *Break*

2:45 Aerosols and Climate

John Ogren/Daniel Murphy

Overview - John Ogren

Aerosol Direct Radiative Forcing - John Ogren

Aerosol Chemistry - Dan Murphy

Aerosol-Cloud Interactions - Graham Feingold

Influence of Clouds on Aerosol Properties - Betsy Andrews

Soot Emissions from Ships - Dan Lack

Wrap Up - Dan Murphy

4:30 QA/Discussion

5:00 *Break, Reviewers Closed Work Session*

6:30 Dinner - Reviewers only (*Location TBA*)

Day 3 - Thursday, January 31st (GC-402)

7:45 – 8:15 *Coffee/Continental Breakfast (GC-402)*

8:15 Chemical Transformation & Long-Range Transport **David Parrish/Russell Schnell**

Overview – David Parrish

Long Range Transport of Gases and Aerosols: The Baseline Observatory Perspective - Russ Schnell

Interannual Variability in Atmospheric Hydroxyl as Inferred from Measurements of

CH₃CCl₃, CH₄, and Other Trace Gases -Steve Montzka

Gas Phase and Aerosol Processing during Long-Range Transport - Joost de Gouw

Laboratory Studies of Critical Chemical Processes - Ranajit Talukdar

Wrap Up and Future Plans – David Parrish

9:30 QA/Discussion

10:00 *Break*

10:15 End-to-End Service: Science, Assessments, and Service to Society **Susan Solomon**

10:55 Discussion/Questions

11:05 Wrap-up **James Butler/A.R. Ravishankara**

11:35 Wrap-up **Alexander MacDonald/Richard Spinrad**

11:45 Closed Roundtable Discussion with Reviewers, OAR, and ESRL Management

12:30 Lunch with ESRL Scientists (*GB-124*)

1:30 Reviewer Closed Work Session (*GB-124*)

2:45 Report-out to OAR and ESRL Management (*GC-402*)

3:30 Adjourn