

Climate Working Group (CWG) CRM Program Review
March 24-26, 2008
Hyatt Regency, Princeton, NJ
Room: Austin/Savannah (Lobby Level)

DAY 1 - Monday, March 24

Welcome

7:30 Breakfast

7:45 **Executive Session Meeting:** Climate Working Group and CRM Review Team -Tony Busalacchi

8:30-10:30 Introduction and Overview

Moderator: Tony Busalacchi

8:30 Welcome, Objectives, and Meeting Logistics --- *Chet Koblinsky/ Brian Jackson*

8:45 Welcome and Review Overview --- *Dave Randall*

9:00 Overview of CRM Program --- *Chet Koblinsky/ V. Ramaswamy*

- NOAA's overall research and modeling strategy
- Institutional responsibilities at each lab or facility
- Q&A at the end of Overview

10:15 Break

Panel 1: Understanding Climate Processes

10:30 – 12:30 **Panel 1a: Climate Processes and Atmospheric Modeling**

Moderators: Joyce Penner and Bill Collins

Chair: A. R. Ravishankara

Panel: Ram, Feingold, Donner, Dunlea [Other experts: Horowitz, Fiore, Chip Levy, Ogren, Ginoux, Yi Ming, Ming Zhao, Golaz]

Rapporteur: Brian Magi

A. Atmospheric Composition and Climate

Non-CO2 long-lived gases, stratospheric and tropospheric ozone, and upper trop/Lower strat water vapor [*Speaker: Ravishankara*] **20 min**

B. Aerosol (direct & indirect) Process Studies: [*Speaker: Feingold*] **15 min**

C. Atmospheric Processes in Climate Models - Aerosols, Convection, and Clouds [*Speaker: Donner*] **20 min**

D. Climate and Air Quality [*Speaker: Ravishankara*] **15 min**

Discussion with Panel - 50 min

12:30 Lunch

- Report out from ESRL Lab Review – [*Speakers: Ravishankara and Butler*]

1:45 – 3:30 **Panel 1b: Ocean Processes and Carbon Cycle**

Moderators: Scott Denning and Natalie Mahowald

Chair: Mete Uz

Panel: Hallberg, Gnanadesikan, Dick Feely, Ed Harrison [Other experts: Sonya Legg, Steve Griffies, Alistair Adcroft, G. Vallis, Sarmiento, Toggweiler]

Rapporteur: Marian Westley

- A. Ocean processes and modeling [*Speaker: Hallberg*] **20 min**
- B. Ocean and Carbon Cycle [*Speaker: Gnanadesikan*] **20 min**
- C. Role of Global Carbon Cycle Program [*Speaker: Mete Uz*] **20 min**

Discussion with Panel: 45 min

3:30 Break

3:45 – 6:00 **Panel 2: Reanalysis and Data Assimilation and Carbon Tracking**

Moderators: Michelle Rienecker and Bill Large

Chair: Chet Ropelewski

Panel: Tony Rosati, Hualu Pan, Arun Kumar, Gil Compo, Butler [Other experts: Huug van den Dool, Jeff Whitaker, Held, S. Zhang]

Rapporteur: Bill Stern

- A. Reanalysis and reforecasting [*Speaker: Pan*] **20 min**
- B. Reanalysis of the 20th Century [*Speaker: Compo*] **20 min**
- C. Data Assimilation development - ocean model and future plans (including OSSE) [*Speaker: Rosati*] **20 min**
- D. Carbon Tracker: its goals and observational needs [*Speaker: Butler*] **20 min**

Discussion with Panel: 55 min

6:30 CWG and Review Team Dinner – closed session

DAY 2 – Tuesday, March 25

7:30 Breakfast

Panel 3: Earth System Modeling, Predictions, and Projections

8:00 – 10:15 **Panel 3a: Modeling Overview**

Moderators: Ricky Rood and Bill Large

Chair: Rick Rosen

Panel: V. Ramaswamy, Brian Gross, Ronald Stouffer, Louis Uccellini, Lord, Pacala [Other experts: Held, Dixon]

Rapporteur: Will Cooke

- A. GFDL strategy and challenges: [*Speakers: Ramaswamy, Pacala*] **25 min**
 - IPCC AR4 experience and future plans for climate projections based on new emissions scenarios [*Speaker: Stouffer*] **15 min**
- B. NCEP strategy and challenges;
 - Vision for making CFS a public model [*Speaker: Uccellini*] **20 min**
- C. NOAA climate computing resources [*Speakers: Gross, Lord*] **20 min**

Discussion with Panel: 40 min

10:15 Break

10:30 – 12:30 **Panel 3b: Model Development in CRM context**

Moderators: Dave Randall and Ricky Rood

Chair: V. Ramaswamy

Panel: Wittenberg, Dunne, Held, Lord [Other experts: Donner, Hallberg, Elena Shevliakova, Chip Levy, Andrew, Toggweiler]

Rapporteur: Lori Sentman

- A. High resolution Model [*Speaker: Held*] **20 min**
- B. Coupled Climate Modeling (including land-surface) [*Speaker: Wittenberg*] **20 min**
- C. Earth System Modeling (land and ocean ecosystems) [*Speaker: Dunne*] **15 min**
- D. NCEP Modeling [*Speaker: Lord*] **20 min**

Discussion with Panel: 45 min

12:30 Lunch

- Dynamical core advances in NOAA, and information on HPC strategic developments for running climate simulations [*Speaker: S. J. Lin, Gross*] **30 min**
- Rapporteur: Whit Anderson

1:30 – 3:10 **Panel 3c: Operational Predictions and Applications**

Moderators: Eric Wood and Michelle Rienecker

Chair: Wayne Higgins

Panel: Fiona Horsfall, Chet Ropelewski, Jin Huang [Other experts: Rosati, Hua lu Pan, Pedro Restrepo]

Rapporteur: Neil Christerson

- A. Operational Climate Monitoring and Prediction Products and Services, and the Climate Test Bed [*Speaker: Higgins*] **25 min**
- B. Role of Climate Prediction Program: Improvements to NCEP climate and hydrology forecasts; land-surface processes and their role [*Speaker: Jin Huang*] **20 min**
- C. Role of the IRI and Applied Research Centers [*Speaker: Chet Ropelewski*] **15 min**

Discussion with Panel: 40 min

3:10 Break

3:30 – 6:00 **Panel 4: Integration Between and Across Programs and Synthesis of Research leading to Information, and Products and Services**

Moderators: Jonathan Overpeck and David Randall

Chair: V. Ramaswamy

Panel: Susan Solomon, Tom Karl, A. R. Ravishankara, Chip Levy, Ron Stouffer, Isaac Held Ko Barrett, Keith Dixon

Rapporteur: Sandy Lucas

3.30 – 4.45 **NOAA's Contributions, Role, and Visibility in Major Assessments**

- A. IPCC and WMO [*Speaker: Solomon*] **30 min**
- B. CCSP [*Speaker: Karl*] **15 min**

Discussion with Panel: 30 min

4:45 – 6:00: **Discussion on Program Integration**

Chair: Chet Koblinsky

Panel: Tom Karl, Ramaswamy, Ravishankara, and Wayne Higgins

Rapporteur: Hetal Jain

Speaker: Chet Koblinsky **15 min presentation**

- C. Integration within NOAA including the utilization of *in situ* and satellite observations
- D. Integration with Universities and external (interagency and international) partners

Discussion with Panel: 60 min

6:15 Executive Session

7:00 Dinner Presentation: “Highlights of CO2 Science: Status, challenges and implications in the context of climate change” [Speaker: J. Sarmiento] **30 min**

DAY 3 – Wednesday, March 26

7:30 Breakfast

8:00 – 10:00 **Panel 5: Decadal Variability and Predictability**

Moderator: Masahide Kimoto and Tony Busalacchi

*Chair: **Jim Todd***

Panel: Tom Delworth, Gabe Vecchi, Held [Other experts: Marty Hoerling, Stouffer, Dixon]

Rapporteur: Ken Takahashi

A. Decadal climate variability and predictability, and abrupt change research [Speaker: Delworth] **30 min**

B. Role of Climate Variability Program grants in decadal variability and abrupt change research [Speaker: Todd] **20 min**

C. Circulation changes and extremes (including droughts etc.) [Speaker: Held, Vecchi] **20 min**

Discussion with Panel: 50 min

10:30 Executive Session