

**U.S. Climate Change Science Program Planning Workshop Agenda
Marriott Wardman Park Hotel, Washington, D.C.**

December 3, 2002

**9:30–10:45 Plenary Session: Climate Science in Support of Policy and Resource
Management Decision Making – Salon 2**

9:30 – 9:40 Introduction to Workshop
**Dr. James R. Mahoney, Assistant Secretary of Commerce for Oceans
and Atmosphere, and Director, U.S. Climate Change Science Program**

9:40 – 9:55 Welcome Address
Dr. Samuel W. Bodman, Deputy Secretary of Commerce

9:55 – 10:10 Invited Keynote Address
**Dr. John H. Marburger III, Assistant to the President for Science and
Technology, and Director, Office of Science and Technology Policy**

10:10 – 10:30 Invited Keynote Address
**Professor G.O.P. Obasi, Secretary-General, World Meteorological
Organization**

10:30 – 10:45 Invited Keynote Address
The Honorable Sean O’Keefe (via satellite link), NASA Administrator

10:45 – 11:15 BREAK

11:15 - 12:30 Plenary Session: Program Overview – Salon 2

11:15 – 11:40 Purpose and Structure of the U.S. Climate Change Science Program
**Dr. James R. Mahoney, Director, U.S. Climate Change Science
Program**

11:40 – 12:10 Overview of the Climate Change Science Program
**Dr. Richard Moss, Director, U.S. Global Change Research Program
Office**

12:10 – 12:30 Overview of the Climate Change Technology Program
**The Honorable David K. Garman, Assistant Secretary, Energy
Efficiency and Renewable Energy, Department of Energy**

12:30 – 2:00 LUNCH

2:00 - 4:00 Breakout Group 1: Climate Change Science Program Elements

1. *Emerging Climate Science Issues – Salon 2*

Moderator: Robert Corell (Harvard, AMS)
Overview: Alexander MacDonald (NOAA)
Rapporteurs: Margaret McCalla (NOAA), Claire Parkinson (NASA)
Panelists: Brian Flannery (Exxon Mobil), V. Ramanathan (Univ. of California),
Michael Schlesinger (Univ. of Illinois), Warren Washington (NCAR)

2. *Observations and Monitoring Systems – Cotillion South*

Moderator: Gregory Withee (NOAA)
Overview: Chester Koblinsky (NASA/CCSP)
Rapporteurs: Forrest Hall (NASA), Thomas Spence (NSF)
Panelists: Thomas Delworth (NOAA), Edward Harrison (NOAA), John
Townshend (Univ. of Maryland), Bruce Wielicki (NASA)

3. *Atmospheric Composition – Coolidge*

Moderator: Phillip DeCola (NASA)
Overview: Daniel Albritton (NOAA)
Rapporteurs: James Gleason (NASA), Terry Keating (EPA)
Panelists: William Brune (Pennsylvania State University), Elizabeth Holland,
(NCAR), Daniel Jacob (Harvard), Mack McFarland (DuPont), Stephen
Schwartz (Brookhaven National Laboratory)

4. *Carbon Cycle - Delaware A&B*

Moderator: Rik Wanninkhof (NOAA)
Overview: Diane Wickland (NASA)
Rapporteurs: Jessica Orrego (CCSP), Eric Sundquist (USGS)
Panelists: Christopher Field (Carnegie Institute), Suzie Greenhalgh (World
Resources Institute), Steven Japar (Ford Motor), Alan Lucier (Nat'l.
Council for Air and Stream Improvement)

5. *Climate Modeling – Harding*

Moderator: Margaret Leinen (NSF)
Overview: Ants Leetmaa (NOAA)
Rapporteurs: Theresa Paluszkiwicz (NSF), Michele Rienecker (NASA)
Panelists: Daniel Cayan (Univ. of California), Robert Friedman (Heinz Center),
James Hansen (NASA), Linda Mearns (NCAR)

6. *Climate - Land Use/Land Cover Interactions – Virginia A&B*

Moderator: Thomas Loveland (USGS)
Overview: Chris Justice (Univ. of Maryland)
Rapporteurs: Keya Chatterjee (NASA), Catriona Rogers (EPA)
Panelists: Ruth DeFries (Univ. of Maryland), Connie Holmes (Nat'l. Mining
Assoc.), Marc Steininger (Conservation International), Jayant Sathaye
(Lawrence Berkeley Nat'l. Lab.)

4:00 – 4:30 p.m. BREAK

4:30 - 5:45 Plenary Session: Keynote Address and Report on Group 1 Breakout Discussions– Salon 2

- 4:30-4:50 Keynote Address:
The Honorable Spencer Abraham, Secretary of Energy
- 4:50 – 5:45 Report on Group 1 Breakout Discussions (summary presentations by moderators)

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8:30-10:30 Breakout Group 2: Climate Change Science Program Elements

7. *Climate Variability and Change* – Salon 3

- Moderator: Edward Sarachik (Univ. of Washington)
Overview: Jay Fein (NSF)
Rapporteurs: Ming Ji (NOAA), Sirpa Hakkinen (NASA)
Panelists: Antonio Busalacchi (Univ. of Maryland), David Robinson (NJ State Climatologist), Terry Surles (CA Energy Commission), David Wojick (Climate Change Debate)

8. *Water Cycle* – Virginia A&B

- Moderator: Roni Avissar (Duke Univ.)
Overview: Richard Lawford (NOAA)
Rapporteurs: Susanna Eden (CCSP), Jared Entin (NASA)
Panelists: David Matthews (Bur. of Reclamation), Maurice Roos (CA Dept. of Water Res.), Douglas McChesney (Washington State Department of Ecology), Ana Barros (Harvard Univ.)

9. *Human Contributions and Responses to Climate Change* – Salon 2

- Moderator: Ko Barrett (USAID)
Overview: Caitlin Simpson (NOAA)
Rapporteurs: Janet Gamble (EPA), Mary Gant (NIH)
Panelists: Thomas Dietz (George Mason Univ.), Paul Epstein (Harvard Univ.), Susanne Moser (Union of Concerned Scientists), Walter Shaub (U.S. Chamber of Commerce)

10. *Climate Quality Data Management Systems* - Harding

- Moderator: Martha Maiden (NASA)
Overview: Margarita Conkright (NOAA/CCSP)
Rapporteurs: Howard Diamond (NOAA), Wanda Ferrell (DOE)
Panelists: Roberta Balstad Miller (Columbia Univ.), Tom Boden (Oak Ridge Nat'l. Lab.), H. Lee Dantzler (NOAA), Richard Rosen (Atmospheric and Environmental Research, Inc.)

11. Scenario Development to Support National Scope Decisions - Coolidge

Moderator: Robert O'Connor (NSF)
Overview: James Edmonds (Pacific Northwest Nat'l. Lab.)
Rapporteurs: Robert Worrest (Columbia Univ.), Stephanie Harrington (CCSP)
Panelists: Russell Jones (American Petroleum Institute), Frank Nutter (Reinsurance Assoc.), Edward Parson (Harvard Univ.), William Pizer (Resources for the Future)

12. International Collaboration – Cotillion South

Moderator: Harlan Watson (DOS)
Overview: Louis Brown (NSF)
Rapporteurs: Martha Garcia (USGS), Stanley Wilson (NOAA)
Panelists: David Carson (World Meteorological Organization), Donald Goldberg (Center for International Environmental Law), Alan Miller (World Bank), Hal Mooney (Stanford Univ.), Will Steffen (International Geosphere-Biosphere Programme), Hassan Virji (START), Anver Ghazi (European Commission)

10:30 – 11:00 BREAK

11:00-12:45 Plenary session: Keynote Addresses and Breakout Reports – Salon 2

11:00 – 11:20 Invited Keynote Address

Dr. R.K. Pachauri, Chairman, Intergovernmental Panel on Climate Change

11:20 – 11:35 Invited Keynote Address

Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Ret.), Under Secretary of Commerce for Oceans and Atmosphere

11:35 – 11:50 Invited Keynote Address

Dr. Rita R. Colwell, Director, National Science Foundation

11:50 - 12:45 Report on Group 2 Breakout Discussions (summary presentations by moderators)

12:45 – 2:00 p.m. LUNCH

2:00-4:00 Breakout Group 3: Climate Change Science Program Elements

13. Climate Variability and Change – Virginia A&B

Moderator: Ari Patrinos (DOE)
Overview: Randy Dole (NOAA)
Rapporteurs: Waleed Abdalati (NASA), David Legler (U.S. CLIVAR)

Panelists: Charles Hakkarinen (Electric Power Research Institute, retired), Michael Oppenheimer (Princeton Univ.), Max Suarez (NASA), Jim Angel (Illinois State Water Survey & Univ. of Illinois; American Assoc. of State Climatologists)

14. *Climate – Ecosystem Interactions – Salon 3*

Moderator: Margaret Davidson (NOAA)
Overview: Steven Shafer (USDA)
Rapporteurs: Leonard Pietrafesa (North Carolina State Univ.), Phillip Taylor (NSF)
Panelists: Patricia Glick (National Wildlife Federation), Ronald Neilson (USFS), Richard Norby (Oak Ridge Nat'l. Lab.), Larry Williams (Electric Power Research Institute)

15. *Resolution of Disparities in Tropospheric Temperature Records - Harding*

Moderator: Richard Hallgren (AMS)
Overview: Thomas Karl (NOAA)
Rapporteurs: Gene Fisher (CCSP), David Goodrich (NOAA)
Panelists: John Christy (Univ. of Alabama in Huntsville), Benjamin Santer (Lawrence Livermore Nat'l. Lab.), Fred Singer (Science and Environmental Policy Project), Kevin Trenberth (NCAR), Frank Wentz (Remote Sensing Systems)

16. *Stabilizing Greenhouse Gases in the Earth's Atmosphere: Opportunities for Technology and Innovations – Coolidge*

Moderator: Robert Socolow (Princeton Univ.)
Overview: Robert Marlay (DOE)
Rapporteurs: Michael Curtis (DOE), Lisa Hanle (DOE)
Panelists: Ken Caldeira (Lawrence Livermore Nat'l. Lab.), Brian Flannery (Exxon Mobil), Linda Horton (Oak Ridge Nat'l. Lab.), Charles Kennel (Univ. of California)

17. *Resource Management Decision Support – Maryland B*

Moderator: Michael Slimak (EPA)
Overview: Susan Avery (Univ. of Colorado/CCSP)
Rapporteurs: Ronald Birk (NASA), Roger Pulwarty (Univ. of Colorado)
Panelists: William Easterling (Pennsylvania State Univ.), Kristie Ebi (Electric Power Research Institute), Barbara Morehouse (Univ. of Arizona), William O'Keefe (Marshall Institute), Abby Young (International Council for Local Environmental Initiatives)

18. *Grand Challenges in Observations, Modeling, and Information Systems – Salon 2*

Moderator: Richard Williams (USGS)
Overview: Jack Kaye (NASA)
Rapporteurs: James Andrews (ONR), Margarita Conkright (NOAA/CCSP)
Panelists: Tim Barnett (Univ. of California), Peter Cornillon (Univ. of Rhode Island), Robert Malone (Los Alamos Nat'l. Lab.), Bernard Minster (Univ. of California), James O'Brien (Florida State Univ.), Steven Running (Univ. of Montana)

4:00 – 4:30 p.m. BREAK

4:30-5:45 Plenary Session: Keynote Address and Report on Group 3 Breakout Discussions – Salon 2

- 4:30 – 4:50 Keynote Address:
Governor Christine Todd-Whitman, Administrator, EPA
- 4:50 – 5:45 Report on Group 3 Breakout Discussions (summary presentations by moderators)

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8:30-10:30 Breakout Group 4: Cross-cutting Issues

19. Climate Variability – Atmospheric Composition – Water Cycle – Virginia A

- Moderator: Berrien Moore (Univ. of New Hampshire)
Overview: Gerald Stokes (Joint Global Change Research Institute)
Rapporteurs: John Bates (NOAA), Vikram Mehta (Center for Research on the Changing Earth System)
Panelists: Ellis Cowling (North Carolina State Univ.), James Kinter (Center for Ocean-Land-Atmosphere Studies), Peter Lamb (Univ. of Oklahoma), Eileen Shea (Univ. of Hawaii)

20. Carbon Cycle – Ecosystems – Land Use/Land Cover – Cotillion

- Moderator: William Hohenstein (USDA)
Overview: William Emanuel (Univ. of Virginia)
Rapporteurs: Jeff Amthor (DOE), Allen Solomon (EPA)
Panelists: Richard Houghton (Woods Hole Research Center), Daniel Lashof (Natural Resources Defense Council), Steve Wofsy (Harvard Univ.), Cynthia Rosensweig (NASA)

21. Interactions between Data, Observations, and Modeling – Salon 2

- Moderator: Ghassem Asrar (NASA)
Overview: Kevin Trenberth (NCAR)
Rapporteurs: Lisa Dilling (NCAR), Sushel Unninayar (NASA)
Panelists: Paul Houser (NASA), Sydney Levitus (NOAA), Benjamin Preston (Pew Center), Edward Sarachik (Univ. of Washington), José Achache (European Space Agency), Neville Smith (Australian Bureau of Meteorology)

22. Scenario Development and Risk-Based Decision Support – Delaware A&B

- Moderator: John Houghton (DOE)
Overview: Henry Jacoby (MIT)
Rapporteurs: Claudia Nierenberg (NOAA), Joel Scheraga (EPA)

Panelists: Eric Barron (Pennsylvania State Univ.), Paul Craig (Sierra Club), Philip Mote (Univ. of Washington), Richard Rosenzweig (Natsource LLC), Robert Corell (Harvard Univ.; AMS)

23. *Applied Climate Modeling - Coolidge*

Moderator: Richard Anthes (NCAR)
Rapporteurs: Cliff Jacobs (NSF), Tsengdar Lee (NASA)
Panelists: Tetsuya Sato (Japan- Earth Simulator), Philip Duffy (Lawrence Livermore Nat'l. Lab.), David Griggs (Hadley Center), Julia Slingo (Univ. of Reading), Ronald Stouffer (NOAA), J. Shukla (Center for Ocean, Land and Atmosphere Studies)

24. *Reporting and Outreach Plans – Virginia C*

Moderator: Robert Ryan (NBC4)
Overview: Kathryn Parker (EPA)
Rapporteurs: Gene Fisher (CCSP), Nicholas Sundt (CCSP)
Panelists: Janine Bloomfield (Environmental Defense), William Hooke (AMS), Betsy Kulle (Maryland Dept. Natural Resources), Patrick Michaels (Univ. of Virginia), Michael Spranger (Univ. of Florida)

10:30 – 11:00 BREAK

11:00-12:45 Plenary session: Keynote Addresses and Group 4 Breakout Reports - Salon 2

11:00 -11:15 Invited Keynote Address
Dr. Bruce Alberts, President, National Academy of Sciences

11:15 – 11:30 Invited Keynote Address
The Honorable Robert Card, Under Secretary for Energy, Science and Environment, Department of Energy

11:30 -11:50 Invited Keynote Address
T.B.D.

11:50 – 12:45 Report on Group 4 Breakout Discussions

12:45 – 2:00 p.m. LUNCH

2:00–4:00 Closing Plenary Session: Feedback, Summary, and Future Plans – Salon 2

2:00 – 3:00 **Panel Discussion: Feedback on the draft Strategic Plan and the Workshop**

Richard Anthes (UCAR), Dan Albritton (NOAA), Ellis Cowling (North Carolina State University), Charles Kennel (Univ. of California), Berrien Moore (University of New Hampshire), William O'Keefe (Marshall Institute)

3:00 – 3:30 Summary of Key Workshop Finding

Dr. Ghassem Asrar, Associate Administrator for Earth Science, NASA

Dr. Margaret Leinen, Assistant Director, Directorate of Geosciences, NSF

Dr. Richard Moss, Director, U.S. Global Change Research Program Office

3:30 – 4:00 Path Forward: Integrating Workshop Feedback and Preparing a Revised Research Plan

Dr. James R. Mahoney, Director U.S. Climate Change Science Program