



NASA APPLIED SCIENCES PROGRAM

AIR QUALITY TEAM MEETING: PROJECT STATUS & PROGRAM PLANNING

June 18-20, 2007

The Bolger Center • Potomac, Maryland

Attire: Business Casual

Background

The NASA Air Quality Program supports activities to apply Earth science research results to air quality management, policy, and decision making. The Air Quality Program seeks to enhance the sustained use of Earth science observations and model products within the air quality community. The program focuses its activities according to four themes: Air Quality Planning, Forecasting, Emissions Inventories, and Compliance.

Since the previous AQ Team Meeting in 2005, the Program has added multiple projects, studies, and initiatives. In addition, the US has developed multiple interagency collaborations in using Earth observations to support air quality, and multiple international air quality activities have developed. The projects have increased the range of satellites and sensors considered for use in Air Quality applications, and many are pioneering collaborations with new partners.

Air Quality Team Meeting Purpose

This AQ Team Meeting provides a forum to learn about all aspects of the program, identify collaborative opportunities, and support the program leadership in assessing potential directions.

The purposes of the meeting are to:

- Present the Air Quality Program's projects and activities
- Provide networking opportunities for Air Quality project teams
- Review interagency air quality collaborations and major international activities
- Discuss programmatic strengths, weaknesses, gaps, and opportunities
- Provide ideas and input on future directions of the Air Quality Program

The Program has set aside specific time on Day 3 for the project teams to review or discuss project management issues, such as project reporting requirements, issues, outreach opportunities, etc.

NASA 2007 Air Quality Team Meeting Website:

http://weather.msfc.nasa.gov/conference/aqconference_home.html

Day 1 Agenda – June 18, 2007 (Room: Stained Glass Hall)

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| Registration Opens | 10:30 |
| Working Lunch | 12:00 – 1:00 |
| Meeting Overview, Lawrence Friedl/NASA and Doreen Neil/NASA Purpose & Expectations Meeting Agenda, Structure, and Logistics | 1:00 – 1:20 |
| Introductions | 1:20 – 1:30 |
| NASA Air Quality Applications: State of the Program, Lawrence Friedl/NASA | 1:30 – 2:00 |
| Air Quality Forecasting Projects, Moderator: Jill Engel-Cox/Battelle Three-Dimensional Air Quality System, <i>PI: Ray Hoff/UMBC</i> Enhancements to the BlueSkyRAINS Emissions Assessment and Air Quality Prediction System, <i>PI: Dana Sullivan/Sonoma Technology Inc.</i> Assimilating <i>Aura</i> -derived Trace Gas Retrievals into an Operational Multipollutant Ensemble Air Quality Forecast, <i>PI: John McHenry/Barons Adv. Met. Systems</i> | 2:00 – 3:00 |
| Break | 3:00 – 3:15 |
| Air Quality Forecasting Projects – continued A Comprehensive Regional Air Quality Decision Support System in the Pacific Northwest, <i>Co-I: Joe Vaughan/WSU</i> Global Forecasting System (GFS) Project: National chemistry forecasting and assimilation capabilities, <i>J. Al-Saadi/NASA</i> <i>Discussion</i> | 3:15 – 4:15 |
| Interagency & International Activities, Moderator: Jack Fishman/NASA GEO Ministerial Summit/USGEO Task Group – Air Quality Assessment & Forecasting, <i>Terry Keating/EPA</i> USGEO Air Quality Near Term Opportunity, <i>Rich Scheffe/EPA & Steve Fine/NOAA</i> USGEO Air Quality Web Services Pathfinder, <i>Frank Lindsay/NASA & Steve Young/EPA</i> Regional Planning Organizations, <i>Rich Poirot/VT Dept. of Environmental Conservation</i> <i>Discussion</i> | 4:15 – 5:30 |
| Award Ceremony and Meeting Discussions (Cash Bar) | 5:30 – 7:00 |

Day 2 Agenda – June 19, 2007 (Room: Stained Glass Hall)

Assemble 8:00 – 8:30

Air Quality Planning Projects, Moderator: Jim Szykman/EPA 8:30 – 10:10

DataFed: Earth Science Data and Tools to Particulate Air Quality Management, *PI: Stefan Falke/WUSTL & Northop Grumman*

Use of Satellite Data to Improve the Physical Atmosphere in SIP Decision Making Models, *PI: Dick McNider/UAH & Arastoo Biazar/UAH*

Retrieval of 3-D Clouds from EOS Data for Air Quality Applications, *PI: Keith Hutchison/Univ. Texas*

High Resolution Modeling of Land-Atmosphere Ammonia Exchange in Models-3/CMAQ, *Christa Peters-Lidard/NASA & Yihua Wu/NASA*

Benchmark Report: Globally Assimilated Lateral Boundary Conditions and CMAQ Ozone Estimates, *J. Al-Saadi/NASA*

Discussion

Break 10:10 – 10:30

NASA Earth Science: Atmospheric Composition & Modeling Research 10:30 – 12:00
Moderator: Bruce Doddridge/NASA

Atmospheric Composition Program, *Jim Crawford/NASA*

Additional R&A Program Manager Perspectives, *Maring, Kurylo, Halthore/NASA*

NASA Modeling Activity Relevant to Air Quality, *Mian Chin/NASA*

PI Perspective on OMI Tropospheric Products for Air Quality, *Pieter Levelt/KNMI*

Questions & Panel Discussion

Working Lunch 12:00 – 1:00

Air Quality Program–Studies & Reports, Moderator: Dale Quattrochi/NASA 1:00 – 1:50

Land Use and Land Cover Characterization within Air Quality Management Decision Support Systems, *Maudood Khan/NSSTC & Dale Quattrochi/NASA*

TEXAQS2006 and Rapid Science Synthesis Workshop, *J. Al-Saadi/NASA*

DEVELOP & US-Canada Aerosol Climatology, *Amber Richards & Kim Keith/NASA*

May 2007 Air Quality and Public Health Workshop Report, *John Haynes/NASA*

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| Air Quality Emissions Inventories Projects, Moderator: Charles Ichoku/NASA | 1:50 – 2:40 |
| Enhancing Biomass Emissions Estimates within the National Emissions Inventory, <i>Amber Soja/National Institute of Aerospace</i> | |
| Fires, Changing Climate, and Consequences for U.S. Air Quality, <i>David Diner/NASA (NASA Support to EPA STAR Project)</i> | |
| Invited Talk on Air Quality & Emissions Inventories, <i>Tom Pace/EPA</i> | |
| <i>Discussion</i> | |
| Break | 2:40 – 3:00 |
| Invited Talk and Discussion: | |
| Europe & Air Quality – GMES PROMOTE, Eleni Paliouras/DLR | 3:00 – 3:20 |
| Air Quality Program – Outreach Initiatives, Jill Engel-Cox/Battelle | 3:20 – 3:50 |
| SERVIR: Air Quality and Central America | |
| Smog Stories: NASA/EPA Outreach during 2007 Pollution Season | |
| Air & Waste Management Association Conferences | |
| Air Quality Training Curriculum | |
| <i>Discussion</i> | |
| Long-Range Transport of Air Pollutants | |
| Moderator: Sundar Christopher/UAH | 3:50– 4:25 |
| Status and Plans for LRTAP/HTAP, <i>Terry Keating/EPA</i> | |
| NASA Support to LRTAP/HTAP, <i>Lorraine Remer/NASA</i> | |
| <i>Discussion</i> | |
| Air Quality Program – Status & Directions | |
| Moderators: Friedl & Neil | 4:25 – 5:30 |
| Program Schedule | |
| Discussion: | |
| Strengths and Weaknesses of Current Air Quality Program | |
| Gaps and Opportunities | |
| Adjourn for day | 5:30 |

Day 3 Agenda – June 20, 2007 (Room: Stained Glass Hall)

- Assemble** 8:00 – 8:30
- EPA Advanced Monitoring Initiative, Moderator: Ed Washburn/EPA** 8:30 – 9:45
Overview of EPA AMI and Air Quality Projects, *Ed Washburn/EPA*
- NASA-supported AMI Projects:
Application of Integrated Ozone Observing System to Houston-Galveston-Gulf Shore Region and Eastern Great Lakes Region, *EPA: Jim Szykman & John Lyon, NASA: Jack Fishman*
- Improving Air Accountability Assessments: 3D Air Quality and the Clean Air Interstate Rule, *EPA: Fred Dimmick & Rich Scheffe, NASA: Brad Pierce & Duncan Fairlie*
- Use of Satellite Data to Evaluate PM_{2.5} Formation and Transport in San Joaquin Valley, *EPA: Rebecca Rosen & Jim Szykman, NASA: Russell De Young & J. Al-Saadi*
- Modeling Fused Spatial Data for Improved Public Information on Air Quality, *EPA: David Holland & Jim Szykman, NASA: J. Al-Saadi*
- Ground Level Ozone Pollution Based on Satellite Observations and Surface Monitoring in Support of US-Mexico Border 2012 Program, *NASA: Robert Chatfield*
- Air Quality Compliance Projects, Moderator: Margaret Pippin/NASA** 9:45 – 10:20
Rapid Prototype of NO₂ Comparisons, *Margaret Pippin/NASA*
- Invited Talk on Air Quality Compliance & Accountability, *Rich Scheffe/EPA*
- Discussion*
- Break** 10:20 – 10:40
- NASA Flight Program: Current & Upcoming Missions** 10:40 – 11:10
Mission Overview, *Ted Hammer/NASA*
- Special Focus: *Glory* and *OCO*
 - National Academy of Sciences Decadal Survey
- Questions and Discussion*
- NASA Visualization** 11:10 – 11:30
NASA Scientific Visualization Studio, *Horace Mitchell/NASA*
- Questions and Discussion*
- Interagency & International Perspectives** 11:30 – 12:00
Moderator: Kelly Chance/Harvard-Smithsonian Center
- Europe: GEOMon, GEMS, and European Environmental Agency, *Eleni Paliouras/DLR*
- North American Perspectives (US-Canada, US-Mexico), *Sue Stendebach/EPA*
- Discussion*

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| Working Lunch | 12:00 – 1:00 |
| Interagency & International Perspectives – continued | 1:00 – 2:45 |
| Moderator: Kelly Chance/Harvard-Smithsonian Center | |
| Europe, Atmospheric Monitoring, and Future Missions, <i>Pieter Levelt/KNMI</i> | |
| U.S. Dept. of Agriculture, <i>Charlie Walthall & Ray Knighton/USDA</i> | |
| CEOS Virtual Constellation & IGACO, <i>Jack Fishman/NASA</i> | |
| U.S. National Oceanic & Atmospheric Administration, National Weather Service, <i>Paula Davidson/NOAA</i> | |
| National Environmental Satellite, Data, & Information Service, <i>Shobha Kondragunta/NOAA</i> | |
| U.S. National Park Service, <i>Julie Thomas/NPS</i> | |
| ESIP Air Quality Cluster, <i>Stefan Falke/Northrop Grumman & Rudy Husar/WUSTL</i> | |
| United Nations Space Applications Programme, <i>Werner Balogh/UN (in absentia)</i> | |
| Break | 2:45 – 3:00 |
| Air Quality Program – Opportunities & Planning, Friedl & Neil | 3:00 – 4:10 |
| Project Solicitations | |
| Discussion: | |
| Air Quality Program 2008-2012: Goals and Objectives | |
| Ideas for New Initiatives & Project Opportunities | |
| Crosscutting Needs Across Projects, US Agencies, or International Activities | |
| Key Studies & Workshops | |
| Communications & Outreach (Scientific community, AQ professionals, Public) | |
| Resources and Interagency Activities | |
| Brief Break | 4:10 – 4:15 |
| <i>* Project PIs or Representatives Required – Others Invited *</i> | |
| Air Quality Program – Project Management, Friedl & Neil | 4:15 – 5:15 |
| Discussion: | |
| Review of Program Schedule, Events, and Timeline Discussions | |
| Review of Reporting Requirements & Benchmark Reports Discussion | |
| Project Collaborations | |
| Project Fact Sheets, Descriptions, and Success Stories | |
| Other Programmatic Issues | |
| Air Quality Team Meeting Wrap-up | 5:15 – 5:20 |
| Adjourn | 5:20 |