

2013 Western Air Quality Modeling Workshop – Technical Methods and Applications July 8, 2013

Millennium Harvest House Hotel
1345 28th Street
Boulder, CO 80302

Purpose: Share technical methods and applications of emissions and modeling studies in the Western U.S. Participants will discuss in detail the topics specified and identify technical improvements and additional studies needed.

Organizer Contacts: Gail Tonnesen, EPA R8 tonnesen.gail@epa.gov | Kirk Baker, EPA OAQPS baker.kirk@epa.gov | Tom Moore, WRAP tmoore@westgov.org

Monday July 8th is focused on study reports, source management modeling, and an exchange of information between regulating agency representatives. These sessions are for invited participants.

Tuesday through Thursday July 9-11 will be in plenary format, one meeting for everyone.

Monday, July 8th

Morning – BLM national and state offices' meeting on WestJumpAQMS

9:30 [WestJumpAQMS Project Report](#) (R. Morris, ENVIRON)

11:30 Adjourn

Afternoon - Modeling for Source Management and Controls

1:00 PM Introductions - welcome

1:30 Modeling for Source Management and Controls

- [Next Phase of the IWAQM process: near-source and long range transport](#) (K. Baker, EPA OAQPS)
- [Evaluation of LRT Models to Estimate Single Source Impacts on Secondary Pollutants as Part of the IWAQM Phase 3 Process](#) (B. Anderson, USFS)
- [Demonstration use of a Photochemical Grid Model to Assess AQ/AQRV Single-Source Impacts](#) (K. Baker, EPA OAQPS)
- [Applying CAMx to simulate nitrogen deposition and ozone impacts from a western Colorado EGU](#) (M. Barna, NPS)
- [Nitrogen Deposition Observation Study at Grand Tetons National Park](#) (B. Schichtel, NPS)
- Cumulative Visibility Procedures for PGM NEPA Applications – Tim Allen (FWS) **No presentation will be posted at the request of the presenter.**
- [Proof-of-concept for single source PGM for AQRV Analyses for PSD](#) – Bret Anderson (USFS)

4:30 Adjourn

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Tuesday, July 9th

8:00 Welcome, Introductions, Agenda Review (T. Moore, K. Baker, G. Tonnesen)

8:15 Western States Air Quality: Regional emissions and modeling

- [Overview of Western Ozone and PM Design Values](#) (K. Baker, EPA OAQPS)
- [Current and future Federal regulatory modeling \(e.g., PM and ozone NAAQS\) in the Western U.S.](#) (J. Kelly, EPA OAQPS)
- [2011 National Emissions Inventory status](#) (M. Strum, others, EPA OAQPS) *phone
 - [Update on fires](#) (V. Rao, EPA OAQPS) *phone

Break

9:30 Western States Air Quality: Summer season

- [Denver 2008 Summer Ozone modeling](#) (D. McNally, Alpine Geophysics, for State of Colorado)
- [Observational and model constraints on emissions from the LA Basin during CalNex-2010](#) (S. McKeen, NOAA/ESRL/CSD-CIRES)
- [Evaluation of California meteorological and photochemical modeling using routine and CalNex field study observations](#) (J. Kelly, EPA OAQPS)
- [Evaluation of NOx emission inventories in California using multi-satellite data sets, in-situ airborne measurements, and regional model simulations during the CalNex 2010](#) (Si-Wan Kim, NOAA)

Noon Lunch on your own

1:30 PM Emissions and Air Quality Modeling related to Fires

- [Status and recent development of the FINN model](#) (C. Wiedinmyer, NCAR)
- [Modeling ozone exceptional events: California 2008 & Colorado/Wyoming 2012](#) (G. Pfister, NCAR)
- [Ozone production from wildfires](#) (N. Wigder, U. of Washington)

Break

3:15 Emissions and Air Quality Modeling related to Fires, continued

- [Fire impacts modeling results from DEASCO₃](#) (R. Morris, ENVIRON)
- [Attributing fire to elevated ozone and exceptional events using DEASCO₃ tools](#) (M. Mavko, Air Sciences)
- **Group discussion**

5:00 WRAP-up and adjourn for the day

Wednesday, July 10th

8:00 Spring and Summer Season Ozone

- [Ozone stratospheric intrusion team update](#) (G. Tonnesen, EPA Region 8)
- [Satellite based support for stratospheric intrusion special event analysis](#) (B. Pierce, NOAA) **by phone*
- Asian and stratospheric influences on Western U.S. ozone variability and trends (M. Lin - Princeton) **No presentation will be posted at the request of the presenter.**

Break

9:45 Contribution Assessments: non-U.S. in origin

- [Comparing approaches to characterizing global contribution to ozone in the United States](#) (P. Dolwick, EPA OAQPS)
- [WestJumpAQMS modeling results analysis: Comparison of western U.S. ozone using Mozart and GEOS-Chem](#) (R. Morris, ENVIRON)

10:45 Contribution Assessments: State to State Transport

- [National Transport Rule Assessments](#): K. Baker (EPA/OAQPS)
- [WestJumpAQMS modeling results analysis](#) (R. Morris, ENVIRON): Photochemical modeling and transport - State to State, background and intercontinental transport contribution analysis
- **Group discussion**: Challenges for estimating State to State ozone and PM contribution for regulatory transport SIP demonstrations

Noon Lunch on your own

1:00 PM Cold Pool Modeling and Winter PM2.5

- [North Slope Air Quality Assessment: First Results](#) (D. Huff, Alaska DEC)
- [Fairbanks Winter PM2.5 Attainment Modeling](#) (D. Huff, Alaska DEC)
- [Wasatch Front winter PM.5 modeling](#) (K. Harper, Utah DAQ)
- [The Persistent Cold-Air Pool Study \(PCAPS\)](#) (E. Crosman, University of Utah)

Break

3:30 Cold Pool Modeling and Winter PM2.5, continued

- [The Yakima Air Wintertime Nitrate Study: Early Results](#) (T. VanReken, WSU)
- [WRF-CMAQ Modeling Framework Performance during Clear & Cloudy Wintertime Stagnation Periods](#) (T. VanReken, WSU)
- [Preliminary winter time modeling of elevated PM2.5 and ozone in the intermountain west](#) (G. Tonnesen, US EPA Region 8)
- **Group discussion**

5:00 WRAP-up and adjourn for the day

Thursday, July 11th

8:00 Quick Modeling Updates

- [NASA Air Quality Applied Science Team \(AQAST\) summary report](#) (A. Fiore, Columbia) *phone
- Western State and Local Air Agencies' Lightning Round - updates on current and near-term topics (5 mins. / 2 slide max.)
 - [Denver Regional Air Quality Council](#) (J. Dilley)
 - [Colorado APCD](#) (K. Briggs)
 - [Idaho DEQ](#) (R. Hardy) *phone
 - [Nevada DEP](#) (F. Forsgren)
 - [New Mexico AQB](#) (G. Kim and M. Jones)
 - [Utah DAQ](#) (P. Barickman)
 - [Washington DoE](#) (R. Dhammapala)
 - [Wyoming DEQ](#) (D. Potter)

Break

10:00 Emissions Related to the Oil & Gas sector

- [Oil & gas emission inventory tool](#) (J. Snyder, EPA OAQPS) *phone
- [3-State \(CO/WY/UT\) Air Quality Study VOC Analysis](#) (Z. Adelman, UNC)
- [Oil & natural gas operations in Colorado & Utah: regional characteristics & potential atmospheric impacts](#) (G. Petron, NOAA)

Noon Lunch on your own

1:00 PM Emissions Related to the Oil & Gas sector

- [Utah BLM ARMS Results](#) (C. Taylor, AECOM)
- [University of Colorado NSF Sustainability Research Network study of oil and gas emissions](#) (J. Milford, CU)
- [Uintah Basin Winter Ozone Study 2012](#) (R Schnell, NOAA)
- [Using methane as an emissions tracer and for model evaluation](#) (G. Tonnesen, EPA Region 8)

Break

3:00 Winter Ozone Modeling Assessments

- [Uintah Basin winter modeling](#) (L. Avey, State of Utah)
- [Preliminary results from Winter 2012 and 2013 WRF modeling for the Uintah Basin Winter Ozone Studies](#) (R. Ahmadov, NOAA and CU CIRES)
- [Modeling background ozone concentrations in the UGRB during Feb, 2008](#) (J. Reed, AECOM)

4:00 **Group discussion:** Working towards improved oil & gas sector emission inventories for modeling

- What are the next steps, high-priority improvements, et cetera?
- [Western Modeling Workshop – EPA-WRAP-up](#) – Gail, Kirk, and Tom

5:00 Adjourn