South Coast
Air Quality Management District
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SCIENTIFIC, TECHNICAL & MODELING PEER REVIEW GROUP MEETING MINUTES

Friday, August 19, 2021
3:00 pm

1. Welcome and Introduction

Sarah Rees, Deputy Executive Officer, welcomed advisory group members and members of the public. The meeting was conducted virtually via zoom.

2. CMAQ Modeling Performance Evaluation

Sang-Mi Lee presented the performance (MPE) of CMAQ predictions against measurements taken during 2018.

Pablo Saide asked about nighttime boundary layer (PBL) underprediction and whether it could be related to the urban canopy heat flux. He wondered whether the underprediction of PM2.5 during summer was due to the exclusion of wildfires.

Sang-Mi Lee responded that it is difficult to compare quantitatively the PBL height measured by ceilometer with the height determined by temperature profiles. Ceilometers require accurate measurements of rapid changes in moisture. Staff may look into excluding wildfire days from the MPE.
Ralph Morris noted that it is useful to compare individual PM species, as opposed to total PM, and this would help guide summer MPE.

Sang-Mi Lee says we can show those plots at the next meeting if there is enough interest, but this presentation was focused on O3.

3. Meteorological Factors and Trends Contributing to Air Quality in South Coast Air Basin

Cesunica (Sunni) Ivey and Armistead (Ted) Russell presented the impact of meteorological factors on high ozone episodes in the South Coast Air Basin.

Kelley Barsanti requested a more thorough explanation of the meteorological and emissions impact.

Sunni Ivey explained that emissions were held constant at 1990 levels and the model was run with corresponding meteorology for each year, while subtracting the 1990 baseline. Ted Russell clarified that the 30 highest ozone days per year (i.e., 30 days x 30 years = 900 total days) were

used for the 4th highest ozone plots. This is because designing a statistical model based only on 30 days would be challenging.

Kelley Barsanti asked about VOC reductions in reduced emissions case.

Sunni Ivey explained that emissions scaling factors for VOCs were based on energy policy.

Ralph Morris asked about the status of the final report. He also noted that the design site is moving westward.

Sunni Ivey explained that all modeling was done at Crestline and the final report is forthcoming.

Ramine Cromartie inquired regarding the choice of Crestline for modeling.

Sunni Ivey responded that Crestline has historically been the most frequent design site. Sang-Mi Lee noted that Crestline has returned as the design site for the 2022 AQMP.

Ramine Cromartie requested an explanation regarding the RCP 4.5 base versus the reduced emissions scenario.

Sang-Mi Lee clarified that RCP 4.5 meteorology is based on greenhouse gas concentration projections. The RCP4.5 meteorology is completely independent of the modeling emissions.

Chadwick Collins inquired regarding an odd dip observed in 2014. He wondered whether the baseline accounted for wildfires of if wildfires are based on prediction.

Sunni Ivey responded that the 2014 dip was driven by observations and was within normal variability. The projections use emissions from the CARB emissions almanac, which does not account for anomalous wildfires.

4. Meteorological Impact on Ozone Air Quality using CMAQ modeling system

Sang-Mi Lee presented CMAQ-WRF modelling results regarding the impact of meteorological factors on high ozone episodes in the South Coast Air Basin.

Lakshmi Jayaram noted that, despite significant fluctuations in ozone in response to meteorology, only a single year (2018) of meteorology is used for SIP modeling. How does the expected 8-9 ppb of ozone fluctuation due to meteorology factor into attainment demonstration?

Sang-Mi Lee responded that 2018 was a typical year for meteorology. There are other uncertainties, including biogenic VOCs, trans-Pacific pollution, and background ozone that need to be factored in if trying to account for interannual variability.

Lakshmi Jayaram requested an estimate of the magnitude of the other uncertainties.

Sang-Mi Lee responded that this could be considered as a topic of discussion for future meetings.

Members Present (6)
Greg Osterman, Jet Propulsion Laboratory/NASA
Jeremy Avise, California Air Resources Board (CARB)
Kelley C Barsanti, University of California, Riverside
Pablo Saide Peralta, University of California, Los Angeles
Ralph Morris, ENVIRON International Corporation

Public Attendees and Interested Parties (35)
Abas Goodarzi, US Hybrid
Adrian Martinez, Earthjustice
Ali Ghasemi, Ventura County Air Pollution Control District (VCAPCD)
Ariel Fideldy, California Air Resource Board (CARB)
Armistead (Ted) Russell (ar70)
Austin Hicks (he/him), California Air Resource Board (CARB)
Ben Cacatian
Bertrand Gasot, Mojave Desert AQMD
Bill LaMarr California Air Resource Board (CARB)
Chadwick Collins, Kellen Company
Chenxia Cai, California Air Resources Board (CARB)
Dan McGivney, Southern California Gas (SoCalGas)
Duane Baker, San Bernardino County Transportation Authority (SBCTA)
Fernando Gaytan (he/him), Earthjustice
Jason Henderson, California Council for Environmental and Economic Balance (CCEEB)
Jin Lu, California Air Resource Board (CARB)
John Henkelman, Ventura County Air Pollution Control District (VCAPCD)
John Ungvarsky, Environmental Protection Agency (EPA)
Julia Lester, Ramboll
Ken Davidson, Environmental Protection Agency (EPA)
Kim Fuentes, South Bay Cities
Kris Flaig, City of Los Angeles
Lakshmi Jayaram, Ramboll
Leonardo Ramirez, California Air Resource Board (CARB)
Lisa Wunder, Port of Los Angeles
Mark Abramowitz, Community Environmental Services, Inc. (CES)
Peter Evangelakis, REMI
Peter Okurowski, Association of American Railroads (AAR)
Ramine Cromartie, Western States Petroleum Association (WSPA)
Resa Barillas, California Environmental Voters
Rynda Kay, Environmental Protection Agency (EPA Region IX)
Sal totonexus7@gmail.com
Scott King, California Air Resource Board (CARB)
Scott Weaver, Ramboll
Sunni Ivey, University of California, Berkeley
Tyler Harris, Ventura County Air Pollution Control District (VC APCD

South Coast AQMD Staff Present (22)
Anthony Tang, Information Technology Supervisor
Barbara Baird, Chief Deputy Counsel
Brian Vlasich, Air Quality Specialist
Carol Gomez, Planning and Rules Manager
Cui Ge, Air Quality Specialist
Daphne Hsu, Principal Deputy District Counsel
Eric Praske, Air Quality Specialist
Ian MacMillan, Planning Rules Manager
Kalam Cheung, Program Supervisor
Kathryn Roberts, Deputy District Counsel
Marc Carreras Sospedra, Air Quality Specialist
Nydia Ibarra, Public Affairs Specialist
Paul Stroik, Air Quality Specialist
Paul Wright, Sr. Information Technology Specialist
Ricky Lai, Air Quality Specialist
Rui Zhang, Air Quality Specialist
Sang-Mi Lee, Program Supervisor
Scott Epstein, Program Supervisor
Shah Dabirian, Program Supervisor
Wei Li, Air Quality Specialist
Xinqiu Zhang, Senior Staff Specialist
Zorik Pirveysian, Planning and Rules Manager