CALL FOR ABSTRACTS

The Air and Waste Management Association, in conjunction with the Atmospheric Modeling and Meteorology Committee (APM) of the Technical Council, is planning its 9th Specialty Conference on issues related to the Guideline on Air Quality Models (Appendix W to 40 CFR Part 51). Members of the air quality modeling field are invited to share their latest research, experience, and thoughts on the state of the Guideline in advance of the U.S. EPA’s 13th Conference on Air Quality Models (expected to be held in 2023). The information discussed will provide an important basis for proposed changes to the Guideline and will be one of the first in-person opportunities to engage directly with EPA modeling staff since 2019.

The conference will open with a session devoted to invited presentations by EPA’s Office Air Quality Planning and Standards (OAQPS) Air Quality Modeling Group. After this initial session, presentations for solicited topics will be grouped as appropriate for sessions addressing the invited topics below.

Abstracts of proposed papers for this conference are being solicited by the Committee and should be submitted via e-mail to Cindy Fontanesi at aqmodels@awma.org by June 3, 2022. Abstracts should be no more than 600 words and include all authors with affiliation, city and state as well as all contact information for the primary corresponding author. Selected papers will be platform-presented at the conference (there will not be a poster session). The presentation topics being solicited for this conference are provided below.

AERMOD

1. Recent model revisions, formulation, and enhancements
2. Model development considerations related to system white papers including:
   a. Continued efforts to address AERMOD’s handling of low wind conditions (LOWWIND) including minimum wind speed and turbulence values, as well as penetrated plume handling issues
   b. Modeling oxides of nitrogen with emphasis on improving performance of existing Tier 3 methods (OLM, PVMRM), experiences with new methods (e.g., GRSM, TTRM), and compliance with 1-hour NAAQS
   c. Efforts to improve model predictions in building downwash situations, including evaluations using several alpha options installed in AERMOD version 21112
   d. Incorporation of R-LINE into AERMOD – applications, testing, and potential enhancements
   e. Replacement of OCD with AERMOD for overwater modeling applications, including evaluation databases
f. Treatment of plume rise for situations with source-related fugitive heat and moisture not currently accounted for in AERMOD

g. Gaseous and particle deposition and depletion algorithms

3. Comparisons of AERMOD modeled results to measured data for compliance scenarios

Modeling of Secondary Pollutant Formation, PM$_{2.5}$ and Ozone

1. Application of advanced chemistry models for compliance demonstrations
2. Techniques available for single-source ozone and secondary PM$_{2.5}$ applications
3. Evaluations of ozone and PM$_{2.5}$ models used for single-source modeling applications
4. Use of Model Emissions Rates for Precursors (MERPs)
5. Applicability of recent policy and guidance revisions to single-source ozone and secondary PM$_{2.5}$ applications

Long Range Transport Modeling

1. Permitting experience without an EPA-preferred Long Range Transport Model
2. Studies of the use of Lagrangian models such as CALPUFF and SCICHEM
3. Comparisons of Lagrangian and Gaussian modeling results to measured data
4. Examples of “Complex Winds” using Lagrangian models
5. Use of CALPUFF or alternative models for regional haze modeling demonstrations

Meteorological Data Issues

1. Testing and evaluation of the updated AERMET model (21DRF) and Mesoscale Model Interface program (4.0)
2. Use of Mesoscale prognostic meteorological data for dispersion modeling
3. Use and limitations of turbulence data in low wind speed conditions
4. “Representative” issues for meteorological data input to dispersion modeling

Wind Tunnel and Computational Fluid Dynamics Modeling Approaches

1. Wind tunnel research activities
2. Modeling building downwash in AERMOD – effects above GEP height, Equivalent Building Dimensions, and BPIP enhancements using CFD as a pre-processor
3. Applicability of wind tunnel and/or CFD modeling in lieu of or to supplement dispersion modeling

Modeling for Other Regulatory Requirements and Issues

1. Updates to BOEM’s air dispersion modeling guidelines in the Gulf of Mexico OCS Region
2. Class I modeling: Federal Land Manager guidance, FLAG 2010 experiences & future plans
3. Use of photochemical grid models for Regional Haze Rule applications
4. Modeling for NEPA compliance
5. Offsite consequence analysis Modeling for 40 CFR 68, Risk Management Rule compliance
Important Dates

June 3, 2022: Abstracts Submission Deadline
June 24, 2022: Abstract Acceptance Notifications to Authors
June 2022: Draft Agenda and Preliminary Program Available
July 29, 2022: Draft Extended Abstract or Full Manuscript Deadline
August 19, 2022: Review Comments to Authors
Sept. 5, 2022: Final Extended Abstract or Full Manuscript and Author Permission Form Deadline (mandatory prerequisite for presentation at the conference and necessary for incorporation into the online proceedings)

Please contact Cindy Fontanesi (A&WMA Conference & Events Planner) at aqmodels@AWMA.ORG, or one of the conference committee members with any questions.

Conference Committee:

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