

EPA 12th Conference on Air Quality Modeling

October 2-3, 2019



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ASSOCIATION

A&WMA

**Atmospheric Modeling and Meteorology
(APM) Committee:**

Michael Hammer, CCM, Chair

Sergio Guerra, Vice-Chair

Abhishek Bhat, MS, Ph.D., Secretary

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INTRODUCTION

Atmospheric Modeling and Meteorology (APM) Committee



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1. Technical committee for air quality modeling and meteorology issues at A&WMA
2. Approximately 150 committee members
3. Committee objectives:
 - Technical support for annual meeting
 - Support specialty conferences and workshops
 - Contribute to technical programs,
 - Constructive technical comments and review on regulatory issues related to modeling to agencies.

Ad Hoc Review Committee



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NAME	Company	Position
Michael Hammer, CCM	Lakes	APM Chair
Sergio Guerra	GHD	APM Vice Chair
Abhishek Bhat	Ramboll	APM Secretary
Tony Schroeder, CCM	Trinity	Review Chair
Pete Catizone, CCM	Woodard Curran	
Mark Garrison	ERM	
Gale Hoffnagle, CCM	TRC	
David Long	AEP	
Bob Paine, CCM	AECOM	
Ron Petersen, CCM	Petersen Research	
George Schewe, CCM	Trinity	
Justin Walters	Southern Company	

All APM Members solicited for comments

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COMMENTS



1. The committee appreciates EPA's outreach efforts undertaken in recent years
 - AERMOD Modeling System Development and Update Plan
 - AERMOD White Papers
 - Model Clearinghouse (MCH) LEAN Implementation

2. We suggest the resumption of periodic conference calls with the modeling community to discuss ongoing research and model development
 - Emails when announcements are added to SCRAM are also helpful to efficiently disseminate updates from EPA

Downwash Algorithms



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1. APM has helped promote development of the PRIME2 building downwash algorithm that is now an Alpha option in AERMOD (AWMADWNW)
2. We look forward to collaborating with EPA on testing and validation of this option
3. Ongoing improvements are being developed and evaluated
4. More information provided in the panel on Building Downwash



1. The 2017 Appendix W made AERMOD the preferred model for refined modeling for mobile source applications
 - Replacing CALINE3, CAL3QHCR, and CAL3QHC
2. A 3-year transition period was allowed before AERMOD is mandatory for refined modeling in transportation conformity determinations
 - This transition period ends on January 17, 2020
 - This will happen in 3 months



1. AERMOD 19191 includes RLINE as a BETA option
2. Work is still ongoing to improve the performance of AERMOD in mobile source modeling applications
3. EPA could consider an extension to the transition period on the exclusive use of AERMOD for transportation conformity until RLINE is approved as a regulatory default option in AERMOD
 - A recent FHWA-funded study demonstrated better performance from CALINE3 over AERMOD for a straight-line highway

Guidance for Performance Evaluations



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1. Historically, guidance on procedures for near-field model performance evaluations has been sparse
 - The AERMOD Development Plan (August 2019) provides some guidance in Section 7.3 regarding EPA's expectation for internal and external model performance evaluations
2. This guidance along with the information provided at this Conference is appreciated
3. There are areas where additional information would be useful for stakeholders participating in such evaluations
 - Distribution of receptors at monitoring locations

Buoyant Lines in AERMOD



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1. Implementation of BUOYLINE in AERMOD needs to be finalized to avoid delays in the regulatory process
2. Added in 15181, there continue to be issues with its use necessitating alternative approaches.
 - All 5 MCH decisions since 2017 have involved buoyant lines: hybrid BLP / AERMOD use (4) or alternative techniques for using BUOYLINE in AERMOD (1)



1. The release of the AERMOD Development Plan is beneficial to understand EPA's efforts on model improvement
2. However, a more long-range outline for the future of regulatory modeling may be warranted
 - The planning for AERMOD began in 1991
 - EPA should consider development of long-range plans to replace AERMOD with a model that can combine short-range and long-range capabilities

Looking Forward



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1. Is ORD working on implementation of the next generation of models?
2. Releasing internal plans to the public could be helpful in receiving modeling community support for these efforts
3. We look forward to our continued participation alongside EPA in promoting state-of-science advancements to air quality modeling



On behalf of all the APM members, we are grateful for the opportunity to work with EPA and present at this conference