



8th Conference on Air Quality Modeling – A&WMA AB-3 Comments on CALPUFF Implementation Issues

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CALPUFF Implementation

- Reaffirm support for CALPUFF
 - agreement beneficial
- Specific concerns and recommendations
 - may serve as template for future models
- General recommendation for more active EPA oversight



General Concerns

- Availability of model developments and associated documentation
 - considerable lag time
- Consistency, availability, and quality of mesoscale data sets
- Lack of methodology for evaluation of wind fields
- Inconsistent guidance from local and federal agencies



Official Regulatory Version

Concerns

- Official version has known errors
- Beta version with fixes not official

Recommendation

- EPA ensure timely maintenance of the CALPUFF code
- EPA provide adequate funding for a “point of contact” where questions can be answered reasonably quickly and accurately



Users Guide

Concerns

- Users guide out of date and incomplete
- Request for up-to-date and complete Users Guide made at 7th Modeling Conference (June 2000)

Recommendation

- EPA ensure up-to-date and complete Users Guide corresponding to official version of CALPUFF is available



Meteorological Data

Concerns

- Inconsistent acceptability
 - No obs vs Obs
 - MM5 (and which MM5), RUC, ETA
 - 36 km vs 12 km vs 4 km
- Availability
- Adequacy
- Proposed increase to 5 yrs

Recommendations

- EPA oversight for consistency and adequacy
- EPA should collect and distribute at cost



Complex Winds

Concerns

- Anticipated increased use
- Not as thoroughly evaluated

Recommendations

- EPA should catalogue and make available
 - possible solicit input from the modeling community
- Reactivate Model Clearinghouse



AERMOD-like Dispersion

Concerns

- 8/10/2001 Irwin recommends “AERMOD-like” dispersion
 - MDISP = 2 (to select similarity sigmas)
 - MPARTL = 1 (turns on partial plume penetration effects into elevated inversions)
 - MPDF = 1 (turns on convective pbl dispersion)
- Inconsistent acceptability
- Not as thoroughly evaluated

Recommendations

- Clear guidance
- EPA should catalogue and make available
 - solicit input from the modeling community
- Reactivate Model Clearinghouse



Visibility Analysis

Concerns

- Most critical use in PSD permitting
- EPA defers to FLMs
- Most contentious issues
 - aqueous phase chemistry
 - ammonia (lacking guidance, data, etc.)
 - overprediction of nitrates in winter
- User frustrations

Recommendations

- EPA take over guidance for CALPUFF, including visibility
- Upgrade aqueous phase chemistry
- Regulatory guidance on ammonia, etc.
- EPA should catalogue and make available
 - solicit input from the modeling community



Summary

- EPA clearly and definitively take over regulatory guidance for CALPUFF
- EPA should ensure support and timely “model maintenance,” esp. in light of future non-traditional model approval
- EPA actively collect and make available met data, case studies, etc.
- EPA reactivate and actively maintain the Model Clearinghouse



List of High Priority Items

- Official version free from known errors
 - with associated Users Guides
- Visibility
- Mesoscale met data sets
- Methodology to evaluate CALMET wind fields
- Complex wind fields
- AERMOD-like dispersion