

Multiple Air Toxics Exposure Study V (MATES V): Comments on Draft Report

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MATES V Technical Advisory Group (TAG) Meeting
June 17, 2021

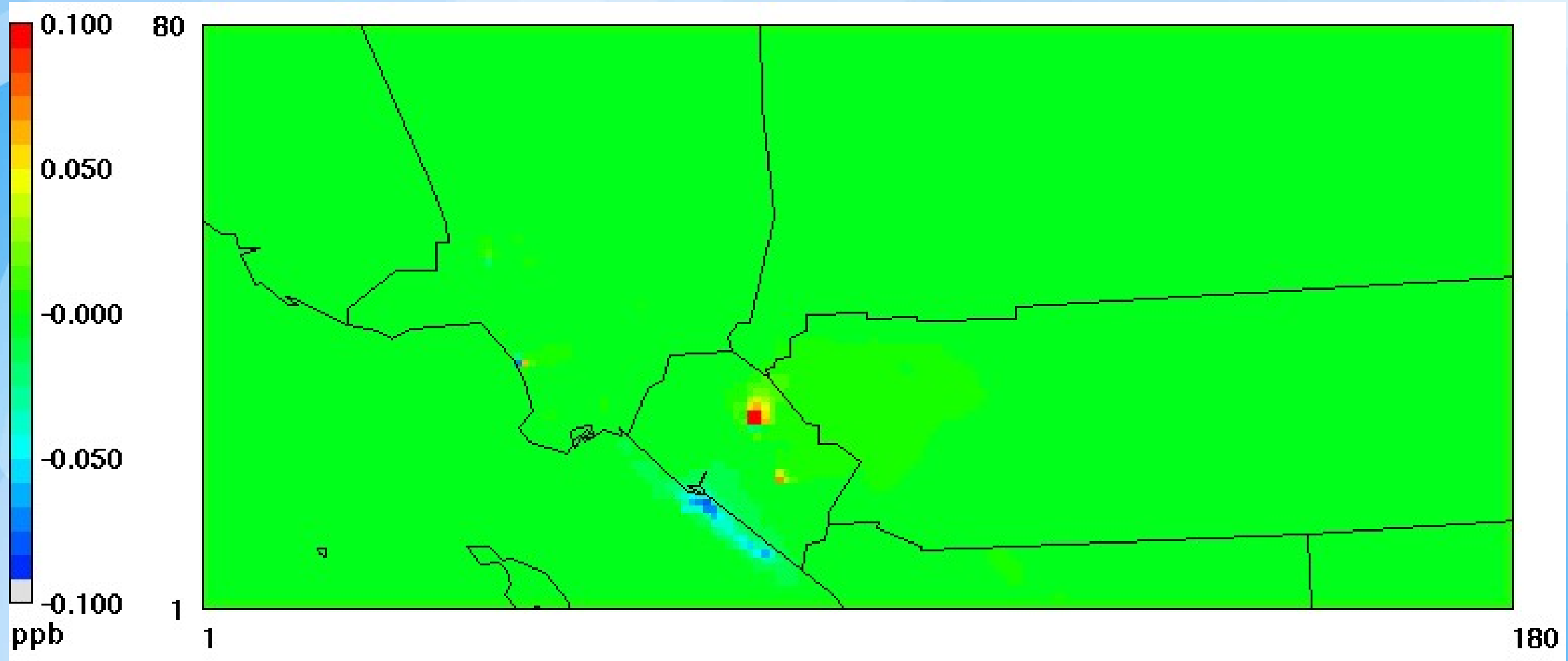
Timeline

- April 16 – TAG meeting
- April-June 2- Draft Report posted
- June 7 – comment deadline
- June 17 – TAG meeting
- August 6 – Board meeting

Staff-Initiated Changes in MATES V Report

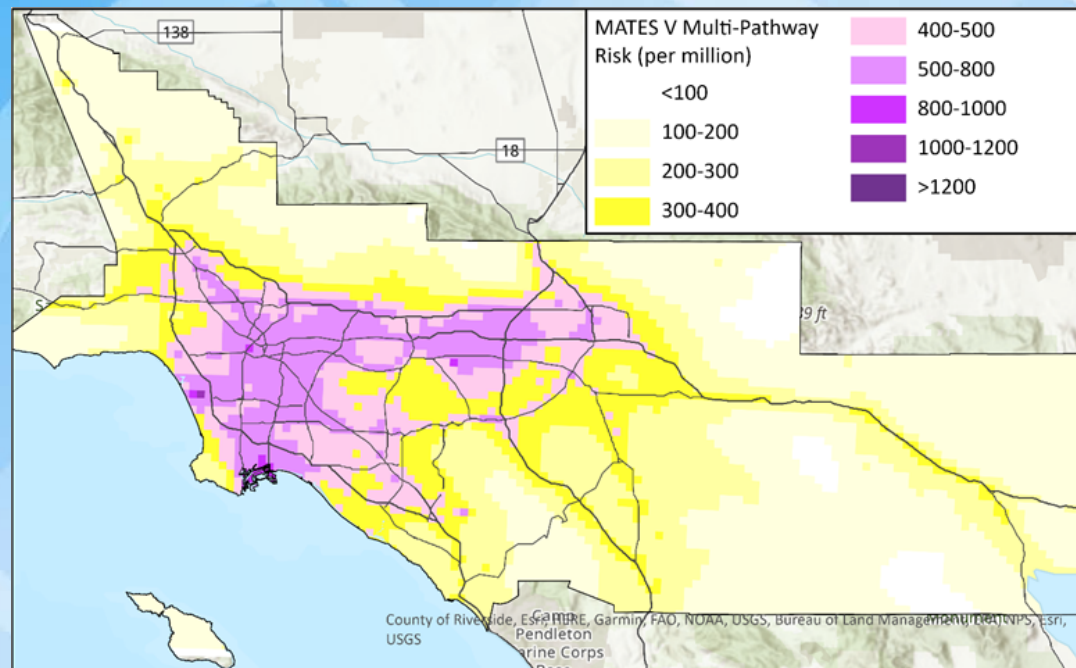
- Updated Modeling Run
 - Updated exhaust emissions from recreational boats, which resulted in removal of VOC "spots" in inland Orange County areas
 - Updated spatial allocation of aircraft emissions from Los Angeles International Airport
- MATES IV EC to Diesel conversion factors re-calculated
 - Previously inadvertently calculated without requiring zero intercept of the modeled EC/Diesel data
 - Re-calculating with zero-intercept to make the method consistent with MATES V calculation
- Cobalt risk calculations added
 - Inadvertently left out previously due to minor coding issue
- Invalidated data for 1 day at West Long Beach due to construction adjacent to monitors
- Added MATES III PAH data

Model Changes after Updates - Benzene



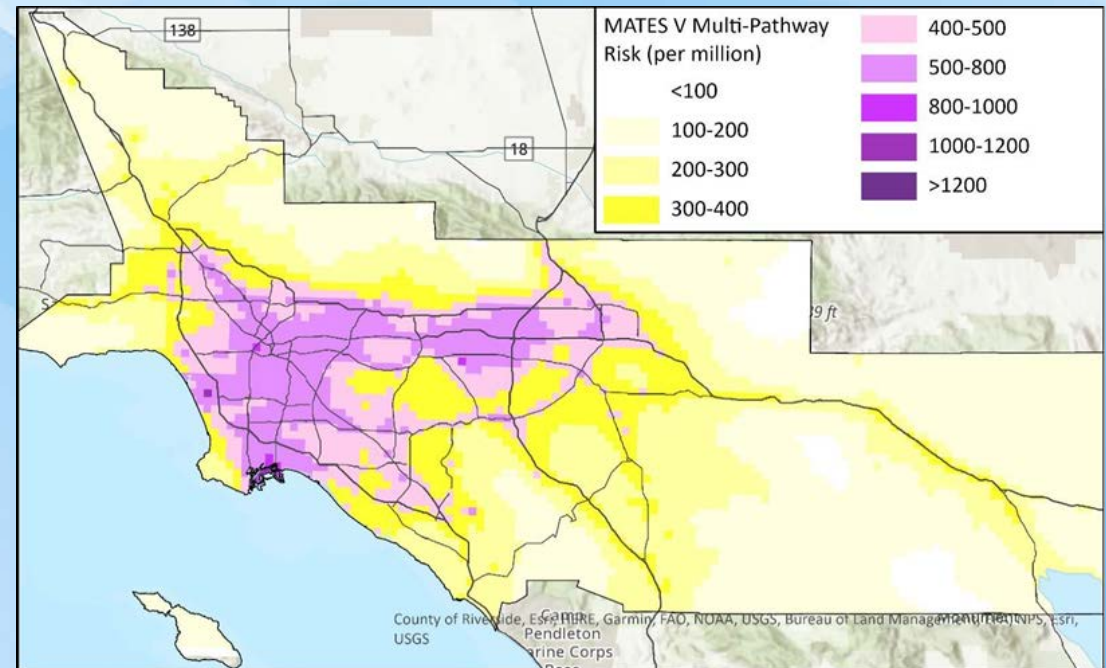
Model Results Before and After Updates

Before Updates



- **454 in a million Basin average cancer risk (population-weighted, multi-pathway)**
- **LAX grid cell: 1142 in a million**

After Updates



- **455 in a million Basin average cancer risk (population-weighted, multi-pathway)**
- **LAX grid cell: 1012 in a million**

Comments Received

- Received 6 comment letters
- Comments will be addressed in revised draft (Draft Final Report)
- Some comments focused on future work (e.g. future MATES, future AB 617 work)
- All comment letters will be included in Appendix
- Staff drafting Response to Comments

Topic 1: DPM estimation

| Comment | Response |
|--|---|
| Over-estimating off-road contributions to DPM | MATES used peer-reviewed official SIP emissions inventory. An update on the next SIP/AQMP is ongoing |
| Uncertainties in estimating cancer risk from DPM; estimating EC to DPM relationship; distinguish DPM from diesel exhaust | Staff will add discussion and acknowledge uncertainties in the estimation. MATES V used CAMx predicted EC to DPM ratio. Staff will check terminology. |
| BC to EC comparison | See Appendix XIII |
| Future DPM emissions | AB 617 source attribution analysis |

Topic 2: Interpretation of chronic non-cancer HI, HQ, risk

| Comment | Response |
|--|------------------------|
| Add more interpretation of Hazard Index (HI) | Staff will incorporate |
| Clarify language on interpretation of HI versus Hazard Quotient (HQ) | Staff will incorporate |

Topic 3: Provide more context for estimated risks

| Comment | Response |
|--|------------------------------|
| Add information about PM mortality | Discuss with TAG |
| Suggest future analyses to incorporate information about PM mortality, other public health data, biomonitoring | Can consider for future work |
| Emphasize risk reductions since MATES IV | Staff will incorporate |
| Add language to ES to contextualize risk | Staff will incorporate |

Topic 4: Methods for sampling, laboratory analysis, handling data below MDL

| Comment | Response |
|---|--|
| For future studies, can consider better methods to measure acrolein, but large effort required. | Need to weigh the relative benefits of these methods with the cost/complexity to implement. |
| QA issues, provide information on data completeness | Staff will incorporate |
| Justify not using nonparametric with a single MDL approach for handling data below MDL | That approach would unnecessarily discard information in the data when the data has multiple MDLs, while the approach used is still valid for single MDLs. |
| Suggestion to do sensitivity test using jackknife method in addition to bootstrapping | Helsel textbook used bootstrapping. Jackknife could be added but would take additional coding and computational time. |

Topic 5: Near source impacts, nexus to AB 617

| Comment | Response |
|---|--|
| Acknowledge that sampling and modeling do not capture near-source impacts | Staff will clarify; other programs focus on these issues (e.g., AB 617, Rule 1180, AB 2588) |
| Community scale monitoring | Addressed through advanced monitoring portion of MATES V with the focus on refineries and communities near refineries, but also through other programs (e.g., AB 617, special air monitoring projects) |
| Use data to inform AB 617 community planning efforts | Results will be shared with communities; results will also help inform technical work as part of the community prioritization process |

Topic 6: Additional analyses, other comments

| Comment | Response |
|---|--|
| Look at benzene data and refinery contributions | All BTEX compounds measured in MATES V. Quantifying contribution of refineries from BTEX is difficult in the Basin due to diversity of sources. Advanced Monitoring portion of MATES V will focus on refinery emissions. |
| Stationary source impacts, especially in areas with clustered sources | Already accounted for in the modeling analysis |
| Alternative terminology for “EJ communities”? | Discuss with TAG |
| Clarify role of federal and state agencies in air toxics standards | Staff will incorporate |

Next Steps

- Staff will draft Response to Comments and make changes to Draft Final Report
- August 6 – presentation at Board meeting
- FY2021-2022, complete implementation of MATES V Advanced Monitoring projects and draft report

Contact information

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