

# AQRP Monthly Technical Report

<b>PROJECT TITLE</b>	Improving Estimates of Wind-Blown Dust from Natural and Agricultural Sources	<b>PROJECT #</b>	20-011
<b>PROJECT PARTICIPANTS</b>	Chris Emery, Tejas Shah, Uarporn Nopmongcol, Greg Yarwood (Ramboll)	<b>DATE SUBMITTED</b>	12/3/2020
<b>REPORTING PERIOD</b>	<b>From:</b> November 1, 2020 <b>To:</b> November 30, 2020	<b>REPORT #</b>	5

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. I understand that the FSR and Invoice are due to the AQRP by the 15<sup>th</sup> of the month following the reporting period shown above.

We acknowledge receiving the updated quarterly report table and information sent via e-mail on October 6, 2020.

---

## Detailed Accomplishments by Task for reporting period

### Task 1: Review Current CAMx WBDUST Estimates

This task was completed in September 2020.

### Task 2: Review Alternative Methods and Datasets

Completed documenting alternative WBD formulations and contrasting to the current WBDUST method. Submitted the Task 2.1 Technical Memorandum to AQRP and the TCEQ liaison on November 25.

### Task 3: Update the WBDUST Model and Evaluate Impacts in CAMx MP

No activities during the reporting period.

### Task 4: Project Reporting and Presentation

Developed October MTR and FSR and submitted to AQRP on November 3 and 16, respectively.

## Preliminary Analysis

We performed a qualitative assessment of WBDUST updates, which were based on selected formulations from the CMAQ WBD approach, by conducting single-day process-level testing for a few documented high-wind dust episodes that occurred during 2014 in the southwest and south-central US. Meteorological inputs were taken from the 2014 Western Air Quality Study modeling database. Whereas the original WBDUST model generated hardly any emissions, the formulation improvements resulted in reasonable emission rates and patterns (see the Task 2.1 Technical Memorandum for details). Under Task 3, Ramboll will refine these updates and conduct more in-depth testing with CAMx by evaluating PM concentrations against IMPROVE PM measurements throughout the south-central US.

**Data Collected**

None collected during the reporting period.

**Identify Any Problems or Issues Encountered and Proposed Solutions or Adjustments**

None during the reporting period.

**Goals and Anticipated Issues for the Succeeding Reporting Period**

Begin Task 2.2 review of alternative landcover and agricultural datasets that can be used in the WBDUST model to define locally specific time/space-varying emissive land patterns. Continue formalized model testing of WBDUST updates using the CAMx model. No anticipated issues for the succeeding reporting period.

**Detailed Analysis of the Progress of the Task Order to Date**

This project initiated on July 28 with the execution of the AQRP Task Order. All tasks remain on budget and on schedule for completion according to our work plan.

**Do you have any publications related to this project currently under development? If so, please provide a working title, and the journals you plan to submit to.**

Yes       No

**Do you have any publications related to this project currently under review by a journal? If so, what is the working title and the journal name? Have you sent a copy of the article to your AQRP Project Manager and your TCEQ Liaison?**

Yes       No

**Do you have any bibliographic publications (ie: publications that cite the project) related to this project that have been published? If so, please list the reference information. List all items for the lifetime of the project.**

Yes       No

**Do you have any presentations related to this project currently under development? If so, please provide working title, and the conference you plan to present it (this does not include presentations for the AQRP Workshop).**

Yes       No

**Do you have any presentations related to this project that have been published? If so, please list reference information. List all items for the lifetime of the project.**

Yes       No

**Have any personnel changes occurred that were not listed in the original proposal? If so, please include a detailed description of the personnel change(s) below.**

Yes       No

**Are any delays expected in the progress of the research? If so, please include a detailed description of the potential delay below.**

Yes       No

**Describe any possible concerns/issues (technical or non-technical) that AQRP should be made aware of.**

None.

**Are you anticipating using all the available funds allocated to this project by the end date? If not, why and approximately what is the amount to be returned?**

Yes       No

---

Submitted to AQRP by  
Chris Emery, Ramboll