

# AQRP Monthly Technical Report

<b>PROJECT TITLE</b>	A Next Generation Modelling System for Estimating Texas Biogenic VOC Emissions	<b>PROJECT #</b>	16-011
<b>PROJECT PARTICIPANTS</b>	Ramboll Environ Alex Guenther	<b>DATE SUBMITTED</b>	04/10/2017
<b>REPORTING PERIOD</b>	<b>From:</b> March 1, 2017 <b>To:</b> March 31, 2017	<b>REPORT #</b>	6

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.

---

## Detailed Accomplishments by Task

### *Task 1: Development and Application of a Transparent Approach for Estimating BVOC Emission Factor Distributions*

Dr. Guenther completed review and testing of the draft BVOC emission factor (EF) database system and provided guidance to Ramboll Environ for additional tasks. The additional tasks were:

- (1) Build FORTRAN preprocessors to create two new land cover input files for the EF processor - grid\_growth\_form.csv and grid\_ecotype.csv
- (2) Restructure the EF processor code to calculate EF for all 20 emission categories and generate one output file with all the EFs in columns
- (3) Add calculation for the Light Dependent Fraction (LDF) for all 20 emission categories

### *Task 2: Emission Factor Development*

Dr. Guenther continued compilation and integration of emissions data from studies in the literature into the emission measurement database.

### *Task 3: Development of MEGAN3*

Dr. Guenther and Ramboll Environ collaborated on the MEGAN3 programming and overall structure. Ramboll Environ worked closely with Dr. Guenther to implement required updates to the initial draft of MEGAN3 source code and added new code as needed. Ramboll Environ provided the updated package of MEGAN3 sources code to Dr. Guenther for his review. Dr. Guenther recommended final modifications to complete the code.

### *Task 4: MEGAN Evaluation and Sensitivity Study*

Task 4 has not yet been initiated.

### *Task 5: Project Management and Reporting*

This task is ongoing. Dr. Guenther continued compiling information for the final report.

**Preliminary Analysis**

None.

**Data Collected**

None.

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

None.

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

Complete development of BVOC database and MEGAN3 code and begin MEGAN3 sensitivity testing under Task 4.

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

None.

**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 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

---

Submitted to AQRP by      Sue Kemball-Cook

Principal Investigator      Sue Kemball-Cook