

AQRP Monthly Technical Report

PROJECT TITLE	Texas Urban Vegetation BVOC Emission Source Inventory	PROJECT #	20-007
PROJECT PARTICIPANTS	Ramboll Alex Guenther Wildland Solutions Chris Geron	DATE SUBMITTED	2/11/2021
REPORTING PERIOD	From: January 1, 2021 To: January 31, 2021	REPORT #	7

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. No activity was conducted by Wildland Solutions in January, so this report doesn't indicate any work performed by them. I understand that the FSR and Invoice are due to the AQRP by the 15th of the month following the reporting period shown above.

Detailed Accomplishments by Task for reporting period

Task 1: High Resolution (8-day, 10-m) LAI and Vegetation Cover Fraction for Urban Texas

No work was performed on Task 1 during January 2021.

Task 2. BVOC Emitting Tree Distributions for Three Major Texas Urban Areas

No work was performed on Task 2 during January 2021.

Task 3. MEGAN and BEIS input data, processors and results

Acquired and assessed an improved landcover dataset (ESA Copernicus Global Landcover) and transformed vegetation cover data to the grid used by the MEGAN biogenic emission model. Compared new and existing vegetation cover data to analyze implications for BVOC emissions. Integrated fine resolution urban tree inventory (developed for this project) into the new global dataset and compared with 30 meter (NLCD), 100 meter (CGL) and 1000 meter (MEGAN). Developed and applied ecotype scheme to incorporate urban tree speciation into MEGAN and integrated resulting ecotype distributions into MEGAN global database.

Task 4: Project Reporting and Presentation

Dr. Alex Guenther wrote description of Task 1 and Task 2 approaches with sufficient detail to be reproduced by TCEQ and other MEGAN/BEIS users. Developed December MTR, FSR and third quarterly progress report and submitted to AQRP.

Preliminary Analysis

None.

Data Collected

None.

Identify Any Problems or Issues Encountered and Proposed Solutions or Adjustments

None.

Goals and Anticipated Issues for the Succeeding Reporting Period

Continue developing the relative abundance of high BVOC-emitting trees and other vegetation cover types for three Texas urban areas: San Antonio, Austin and Houston. Begin working on integrating urban vegetation cover data in an appropriate format for input to the MEGAN and BEIS biogenic emission models.

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 (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 Tejas Shah

Principal Investigator Tejas Shah