

AQRP Monthly Technical Report

PROJECT TITLE	Characterization of Corpus Christi and San Antonio Air Quality During the 2020 Ozone Season	PROJECT #	20-003
PROJECT PARTICIPANTS	Robert Griffin, Rice James Flynn and Yuxuan Wang, UH Rebecca Sheesley and Sascha Usenko, Baylor	DATE SUBMITTED	10 December 2020
REPORTING PERIOD	From: 1 November 2020 To: 30 November 2020	REPORT #	4

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 15th of the month following the reporting period shown above.

Detailed Accomplishments by Task for reporting period

Work performed in this month was related to Task #1, campaign preparation. This includes returning the “MAQL2” to Waco from the field to allow its preparation for the planned spring 2021 campaign. This includes reconfiguring the floor plan to accommodate all instrumentation (while taking input from multiple investigators into account), updating plans for air conditioning, inlets, and power, and working with tower vendors to develop a plan for improved stationary measurements. Purchasing supplies for these efforts have begun. With regard to specific instrumentation, the cooler unit for the proton-transfer-reaction mass spectrometer needs to be replaced, so a new one has been purchased. For the aerosol mass spectrometer, evaluation of the ‘servo’ which blocks the sample beam to allow particle sizing and a baseline measurement is underway after tests indicated that it likely needs to be replaced, and a new computer is expected to arrive in December. Other gas-phase instruments have begun to be placed into racks for deployment into the MAQL2 early in 2021. Shock mounting for these racks was constructed. Training of staff and graduate students on all of these instruments continues. In addition, the team secured recreational vehicle spaces for the MAQL near Corpus Christi and San Antonio, and housing for team scientists was reserved in both cities, for the duration of the campaign.

Additional work was performed for Task #3, data analysis, which includes three-dimensional modeling. This includes implementing use of larger-scale GEOS-Chem outputs as boundary conditions to drive the WRF-GC model and preparing emission files for the fine-resolution WRF-GC runs to be performed as part of this project.

Preliminary Analysis

None yet

Data Collected

None yet

Identify Any Problems or Issues Encountered and Proposed Solutions or Adjustments

As referenced in the first three monthly reports, delays in finalizing task orders and issues associated with the COVID pandemic have necessitated shifting the field work from fall 2020 to spring 2021. With approval from the AQRP, we have adjusted and added to the scientific questions to be addressed using our field data analysis and modeling.

Goals and Anticipated Issues for the Succeeding Reporting Period

Model: Continue generation of appropriate input files for three-dimensional modeling efforts, continued training of researchers on use of the three-dimensional model

Field: Continue preparation of mobile air quality laboratory, continue assessment of equipment maintenance needs, and continue training of researchers on equipment usage.

Detailed Analysis of the Progress of the Task Order to Date

Given the late start and the approved change in project field work, we believe that our progress on the project has been appropriate.

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

See response above regarding problems encountered. This is more a shift in timing as it will not impact our ability to complete the project by the scheduled end date.

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

None not addressed previously.

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 Robert J. Griffin