

AQRP Monthly Technical Report

PROJECT TITLE	Modeling analysis of TRACER-AQ and over-water measurements to improve prediction of on-land and offshore ozone	PROJECT #	22-008
PROJECT PARTICIPANTS	Yuxuan Wang, James Flynn, Paul Walter, Xueying Liu	DATE SUBMITTED	07/10/2023
REPORTING PERIOD	From: 06/01/2023 To: 06/30/2023	REPORT #	8

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

Task 5. Sources of offshore high ozone.

The project team carried out sensitivity experiments in two photochemical models, CAMx and WRF-GC. We first investigated the background concentrations of air pollutants by turning off local anthropogenic emissions, a standard modeling approach to estimate regional background ozone. Soft emission perturbation experiments were also carried out, in which anthropogenic emissions over the land and the water are decreased separately by 10% to preserve the ozone chemical regimes. Results and analysis of those simulations were described in Task 5 Technical Report, which was submitted on July 5th.

Data Collected

None.

Identify Any Problems or Issues Encountered and Proposed Solutions or Adjustments

None.

Goals and Anticipated Issues for the Succeeding Reporting Period

Draft the project report, finish other planned simulations, and compile project data in the succeeding report period.

Detailed Analysis of the Progress of the Task Order to Date

N/A.

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

Li et al., Understanding offshore high-ozone events during TRACER-AQ 2021 in Houston: Insights from WRF-CAMx photochemical modeling. Submitted to *Atmospheric Chemistry and Physics*.

Liu et al., Evaluating WRF-GC v2.0 predictions of boundary layer and vertical ozone profiles during the 2021 TRACER-AQ campaign in Houston, Texas. Submitted to *Geoscientific Model Development (GMD)*

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.

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
Yuxuan Wang