

AQRP Monthly Technical Report

PROJECT TITLE	Evaluating Updates to CAMx and NOx Emission Inventories using TEMPO Measurements over Texas	PROJECT #	24-004
PROJECT PARTICIPANTS	Ramboll George Washington University Saint Louis University	DATE SUBMITTED	February 12, 2025
REPORTING PERIOD	From: October 1, 2024 To: January 31, 2025	REPORT #	2

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 1: Texas 4 km CAMx baseline simulation for NO₂ and Ozone

Completed preprocessing of all WRF inputs and ran WRF model simulation spanning mid-August through September 2023 for TCEQ's 36, 12 and 4 km domains. Started developing natural emissions and aircraft cruise emissions. Acquired TCEQ 2019 CAMx modeling platform including emissions and run scripts.

Task 2: Create TEMPO NO₂ Diurnal Profiles and Compare to Diurnal NOx Emission Maps

Task 2 has not yet been initiated.

Task 3: Comparison of NO₂ Columns between CAMx and TEMPO

Task 3 has not yet been initiated.

Task 4: CAMx Updates and Testing

Task 4 has not yet been initiated.

Task 5: Estimating NOx Emissions by Sector and by Time of Day using CAMx Source Apportionment and TEMPO Retrievals

Task 5 has not yet been initiated.

Task 6: Project Management and Reporting

Submitted Monthly Technical Report for September 2024.

Preliminary Analysis

None.

Data Collected

None.

Identify Any Problems or Issues Encountered and Proposed Solutions or Adjustments

Subaward delivered later than anticipated, preventing distribution of subcontracts to project collaborators. We will adjust task schedules if needed after subcontracts have been delivered.

Goals and Anticipated Issues for the Succeeding Reporting Period

Continue developing CAMx modeling platform for the entire modeling period in Aug-Sep 2023, including completion of all emissions processing. Configure 3-D CAMx simulation with NO₂ source apportionment. Begin processing TEMPO NO₂ columns as part of Task 2.

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.

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 Jeremiah Johnson