

AQRP Monthly Technical Report

PROJECT TITLE	Emission source region contribution to a high surface ozone episode during DISCOVER-AQ	PROJECT #	14-004
PROJECT PARTICIPANTS	Christopher P. Loughner and Melanie Follette-Cook	DATE SUBMITTED	10/8/2014
REPORTING PERIOD	From: September 1, 2014 To: September 30, 2014	REPORT #	3

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

- 1) CB06 CAMx anthropogenic emissions input files were obtained from TCEQ and converted to CB05 CMAQ input files.
- 2) WRF model simulation has been completed.
- 3) MCIP has been run to create CMAQ meteorological input files.
- 4) Model output from the MOZART CTM was obtained and used to create CMAQ chemical initial and boundary conditions.
- 5) The MIMS spatial allocator was run to create an oceanfile, which is used in CMAQ to calculate sea salt emissions.
- 6) The MIMS spatial allocator was run to create BEIS input files.
- 7) BEIS was run to create CMAQ biogenic emissions input files.
- 8) Meteorological observations were obtained from NCAR and the EPA and processed for preparation to compare WRF model output with meteorological observations with IDL.
- 9) Air quality observations were obtained from the EPA.
- 10) CMAQ version 5.0.2 has been compiled.

Preliminary Analysis

Preliminary analyses are not available for this reporting period.

Data Collected

Data from the DISCOVER-AQ Houston field deployment is publicly available online. Publicly available meteorological datasets (from NCAR and the EPA) and air quality datasets (from the EPA) have been obtained.

Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

The FINNv1 fire emissions have been obtained from NCAR to create 2D fire emissions. We asked NCAR to re-process these emissions for our time period of interest to output an additional variable, which we will use to calculate plume rise within CMAQ. NCAR agreed to do this for us.

Goals and Anticipated Issues for the Succeeding Reporting Period

- 1) Complete the RIP meteorological back-trajectory analysis.
- 2) Complete a base CMAQ simulation.

Detailed Analysis of the Progress of the Task Order to Date

The AGRP task order was executed nearly one month after the anticipated start date established in the Work Plan. Therefore, we anticipate the completion of the first task (identifying air pollution emissions regions using a back trajectory analysis) will be delayed no longer than 1 month. We don't anticipate delays in the completion of any of our other tasks related to this project.

Submitted to AGRP by: Chris Loughner

Principal Investigator: Chris Loughner