

AQRP Monthly Technical Report

PROJECT TITLE	Characterization of Boundary-Layer Meteorology During DISCOVER-AQ Using Radar Wind Profiler and Balloon Sounding Measurements	PROJECT #	14-006
PROJECT PARTICIPANTS	Sonoma Technology, Inc., and Gary Morris (St. Edwards University)	DATE SUBMITTED	1/8/2015
REPORTING PERIOD	From: December 1, 2014 To: December 31, 2014	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. 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

Task 1: Characterize the Atmospheric Boundary Layer

- Reviewed upper-air and surface meteorological data, surface ozone data, and satellite and radar imagery from flight days and days with high ozone levels during the DISCOVER-AQ program.
- Continued to review radar wind profiler (RWP) data from flight days and days with high ozone levels during the DISCOVER-AQ program to aid in characterization of boundary layer meteorological conditions.
- Calculated study-average mixing heights at RWPs for comparison to mixing heights on high ozone days.
- Documented findings for draft report.

Task 2: Determine Representativeness of Meteorological Conditions

- Began comparison of meteorological conditions on high ozone days during DISCOVER-AQ to high ozone days during the Tex-AQS II study period.

Task 3: Derive and Deliver Continuous Mixing Heights

- Began quality controlling and deriving mixing heights from University of Houston Coastal Center RWP.

Preliminary Analysis

Not applicable.

Data Collected this Period

RWP data from University of Houston Coastal Center.

Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

Not applicable.

Goals and Anticipated Issues for the Succeeding Reporting Period

During the month of January 2015, we will complete deriving continuous mixing heights from the Univ. of Houston Coastal Center RWP. We will continue to use this data to help complete analysis for Task 1 and begin analysis for Task 2. We will also calculate 10-yr average mixing profiles for September for use in Task 2. We will also continue to document our findings as part of the draft final report.

Detailed Analysis of the Progress of the Task Order to Date

We have nearly completed analysis work for Tasks 1 and 3 of this project and are proceeding with Task 2. We are documenting these analyses and findings in a final draft report. No major technical or data quality issues have arisen regarding the air quality and meteorological data that have been collected thus far, aside from five ozonesonde launches that experienced data loss. The budget for this Task Order remains on track.

Submitted to AQRP by: Daniel M. Alrick

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