

Monthly Technical Report

(Due to AQRP Project Manager on the 8th day of the month following the last day of the reporting period.)

PROJECT TITLE	Soil Moisture Characterization for Biogenic Emissions Modeling in Texas	PROJECT #	14-008
PROJECT PARTICIPANTS (Enter all institutions with Task Orders for this Project)	The University of Texas at Austin	DATE SUBMITTED	3/6/15
REPORTING PERIOD	From: 2/1/2015 To: 2/28/2015	REPORT #	9

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 *(Include all Task actions conducted during the reporting month.)*

During February 2015, the team focused on running MEGAN to predict isoprene emissions for March-October during years 2006 (drought), 2007 (average-to-wet), and 2011 (record drought in Texas). Runs were performed for a basecase scenario (impact of soil moisture not considered) as well as scenarios that utilized the NLDAS-2 soil moisture databases (described in previous monthly reports): Noah, NoahMP, Mosaic, and VIC. The analysis region of focus is eastern Texas. Preliminary results are provided in the attachment to this MTR entitled "14-008_isoprene_section_working_draft_ver4.docx".

Preliminary Analysis *(Include graphs and tables as necessary.)*

A summary of predicted isoprene concentrations from MEGAN simulations for eastern Texas regions for years 2006, 2007, and 2011 as provided in the attachment.

Data Collected *(Include raw and refine data.)*

No additional data were collected for this project during February 2015.

Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

None this period.

Goals and Anticipated Issues for the Succeeding Reporting Period

Analysis of results from the MEGAN simulations will continue. Because of the importance of wilting point values to predicted isoprene emissions, additional investigation of the NLDAS-2 wilting point databases within the 4km grid domain are anticipated. In addition, the team will begin to generate draft analysis sections for the draft final report due May 20, 2015 with the following planned sections:

- 1.) Overview of in-situ soil moisture measurements within (1) 12km domain and (2) eastern Texas climate regions
- 2.) Comparison of in-situ soil moisture measurements (eastern TX climate regions and East/West 12km domain) with NLDAS-2 predictions
- 3.) Intercomparison of NLDAS-2 soil moisture (eastern TX climate regions and East/EastCentral/WestCentral/West 12km domain) predictions focused on interannual, seasonal, and drought variations
- 4.) Isoprene predictions on 4km grid domain using NLDAS-2 datasets

Detailed Analysis of the Progress of the Task Order to Date *(Discuss the Task Order schedule, progress being made toward goals of the Work Plan, explanation for any delays in completing tasks and/or project goals. Provide justification for any milestones completed more than one (1) month later than projected.)*

Ongoing.

Submitted to AQRP by:

Principal Investigator: Elena McDonald-Buller

(Printed or Typed)