

## AQRP Monthly Technical Report

<b>PROJECT TITLE</b>	Incorporating Space-borne Observations to Improve Biogenic Emission Estimates in Texas	<b>PROJECT #</b>	14-017
<b>PROJECT PARTICIPANTS</b>	Arastoo Pour-Biazar; Richard McNider; Daniel Cohan, Rui Zhang	<b>DATE SUBMITTED</b>	1/10/2015
<b>REPORTING PERIOD</b>	<b>From:</b> December 1, 2014 <b>To:</b> December 31, 2014	<b>REPORT #</b>	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 15<sup>th</sup> of the month following the reporting period shown above.

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### Detailed Accomplishments by Task

We continued to work on the stand-alone implementation of the UC-Berkeley and Dalhousie University Soil NO<sub>x</sub> parameterization (BDSNP) in MEGAN. While the results show better agreement with CMAQ NO emissions, there are still some discrepancies that need further investigation. RICE University team is processing input data for the 2006 MEGAN runs. (Task 3)

Preparations are made for performing WRF simulations with cloud assimilation for 2013. (Task4).

### Preliminary Analysis

Based on the preliminary analysis performed earlier, a functional form of correction factor was devised to better represent the contribution of diffused light (versus direct light) to PAR. New PAR retrievals show better error statistics with respect to surface observations. We revised our previous PAR estimates (based on the new adjustments) and re-evaluated the impact of satellite-based PAR on biogenic emissions.

The preliminary results were presented at the AMS 2015 Annual meeting.

### Data Collected

Satellite-based PAR for 2013 and 2006 were revised.

### Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

There are some discrepancies between the results from the stand-alone BDSNP and the version used in CMAQ. This requires further investigation into its cause and has caused some delay in meeting the timeline indicated in SOW.

### Goals and Anticipated Issues for the Succeeding Reporting Period

Performing WRF simulations and addressing the issue with the stand-alone BDSNP.

**Detailed Analysis of the Progress of the Task Order to Date**

The preliminary results were presented at the AMS 2015 Annual meeting. Activities with respect to task 4 are underway.

Arastoo Pour Biazar

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Submitted to AQRP by:

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