

## AQRP Monthly Technical Report

<b>PROJECT TITLE</b>	<b>Use of Satellite Data to Improve Specifications of Land Surface Parameters</b>	<b>PROJECT #</b>	<b>17-039</b>
<b>PROJECT PARTICIPANTS</b>	Richard McNider, Arastoo Pour –Biazar, Kevin Doty, Yuling Wu	<b>DATE SUBMITTED</b>	4/5/2017
<b>REPORTING PERIOD</b>	<b>From:</b> February 1, 2017 <b>To:</b> February 28, 2017	<b>REPORT #</b>	4

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

**(1) Task 1 - Focus on Small Scale Performance Around Houston and Dallas and Other Metrics Such as Wind Performance**

As part of another project we began to question whether light wind statistics are being correctly evaluated in the Environ model evaluation system that both UAH and TCEQ employ. As preparation for the small scale evaluation we are examining what are the appropriate cut-offs in wind speed and the model

**(2) Task 2 - Use of Skin Temperature Tendencies Sources of Skin Temperature Data:**

Work has continue on new processing code for skin temperature data is being installed and satellite data is being collected for the 2012 period. Chris Hains of NOAA has provided their processing code. New cloud screening techniques are being explored that include anomalous tendency checks as a method to detect clouds.

**(3) Task 3 - Heat Capacity Assimilation** – The strategy for skin temperature recovery requires early evening temperatures. We are exploring ways to ensure evening skin temperatures are not contaminated by clouds. This includes using the last visible imagery for clouds and then not using temperatures within a few grid spaces of the clouds later in the evening.

### Preliminary Analysis

#### Data Collected

We are continuing data collection for new 2012 run including processing of skin temperature data.

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

In light of some recent simulations we are revisiting some of the basic model set ups used in the 2013 cases. This will be reported in the March Monthly report.

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

We are preparing to redo 2013 period and plan to carry out 2013 simulations in March.

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

Because of some issues which required some analytical redirection as discussed above we are a bit behind on making some simulations but believe we can catch up in coming months.

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Submitted to AQRP by: Richard McNider

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