

# Comparing Ingenio Santa Rosa Precipitation data to TRMM and HydroEstimator data for El Nino and Normal years in Panama

*Tiffany Keeton, Atmospheric Science*

## Overview

The motivation for this project was comparing different precipitation datasets, TRMM and HydroEstimator, to Ingenio Santa Rosa's precipitation. This research is important because there are certain months at Santa Rosa that does not have precipitation data. When this occurs the engineers need to know what satellite should be looked at to get an estimate of how much rain should have been recorded. This was completed for two years, May 2009-May 2010 and May 2008-April 2009.

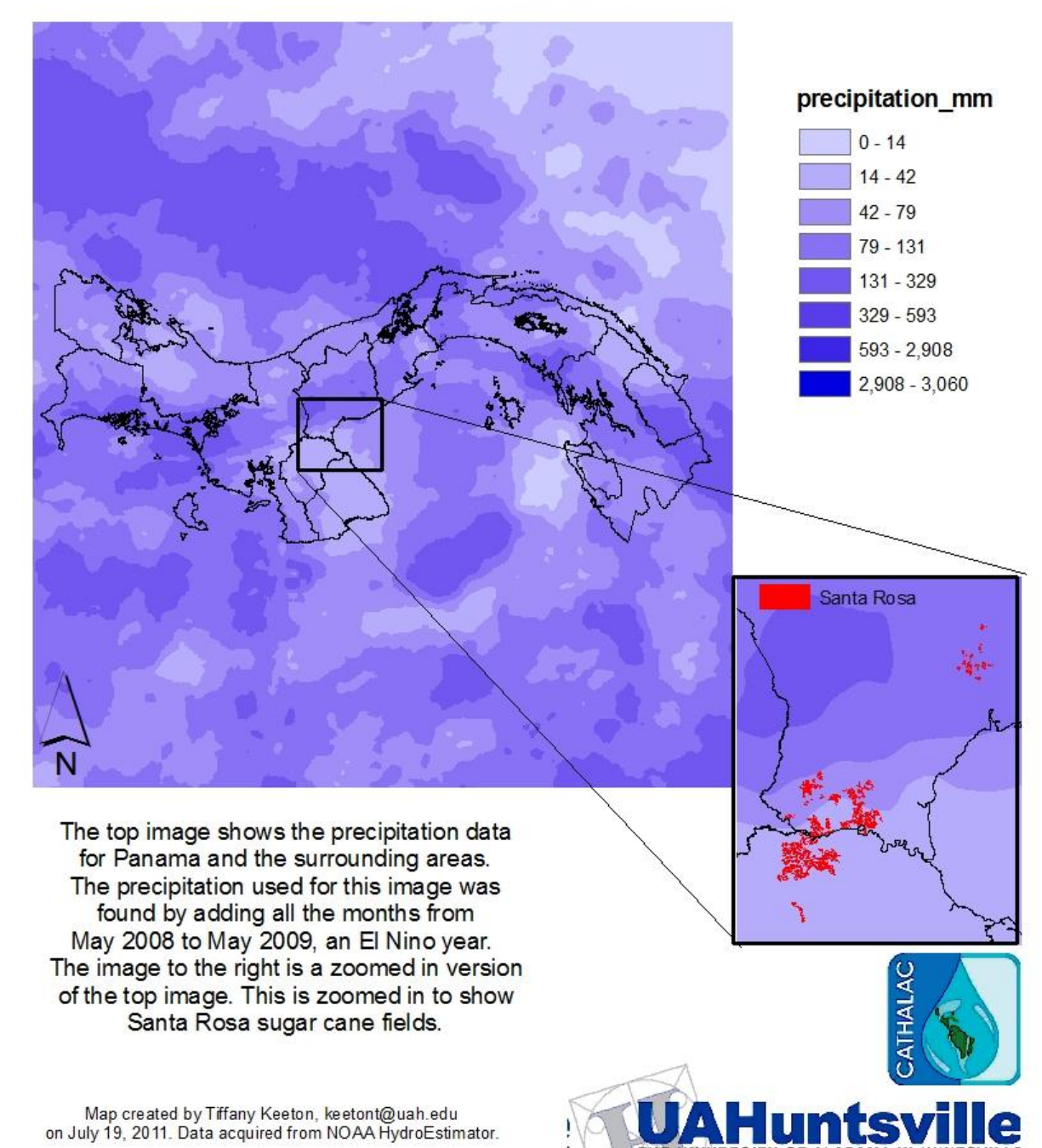
## Impact

This work is important to the engineers at Ingenio Santa Rosa because having accurate and consistent rainfall data is necessary for optimum sugar cane production. The plantation provides employment opportunities for the community. If the plantation fails to produce as much sugar cane needed then the community will falter. The engineers know how to use ArcGIS and find data so they can know that TRMM and HydroEstimator will give an estimate for the dates Santa Rosa is missing with rainfall.

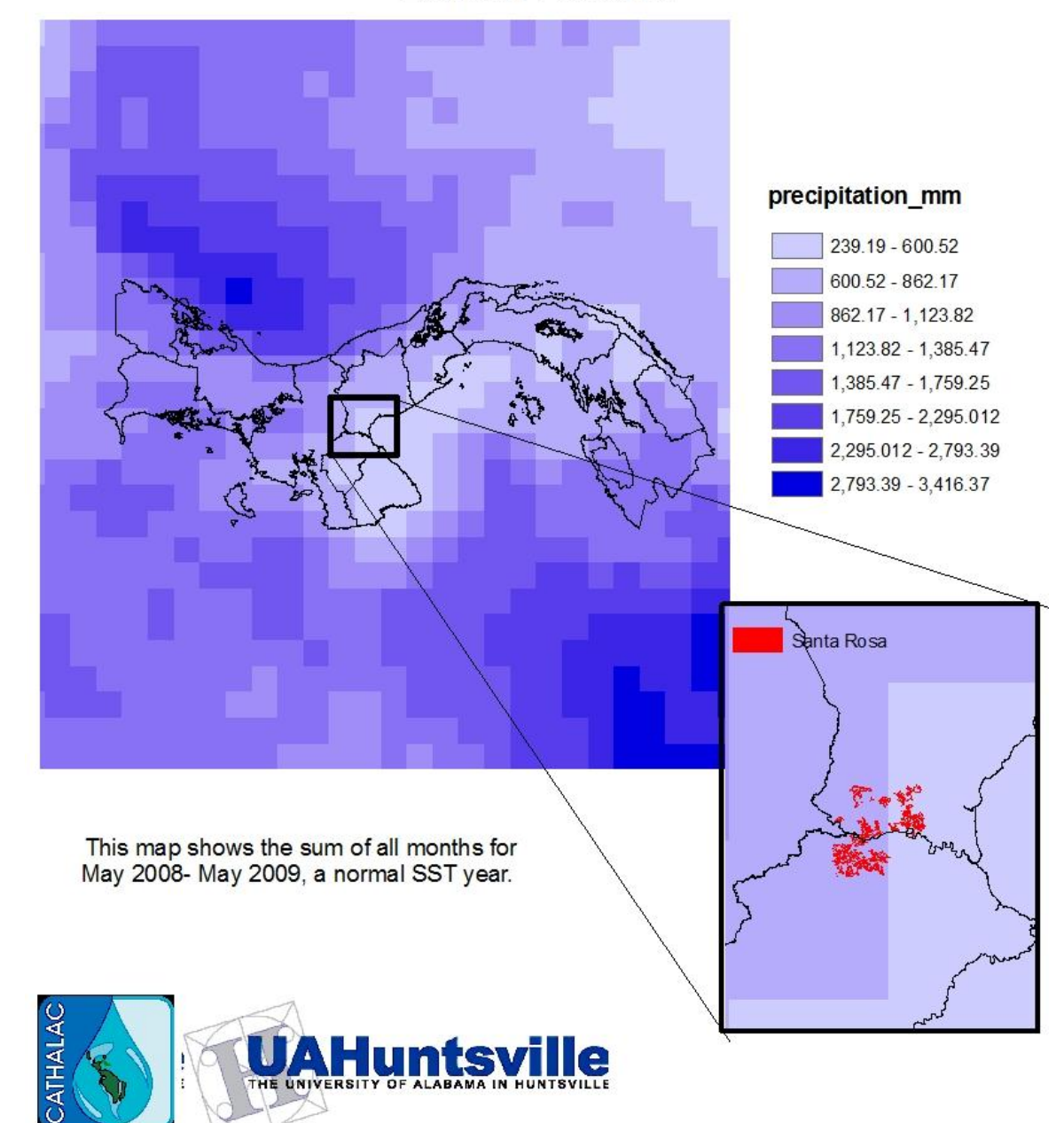
## Key Findings

This project concluded that while TRMM and HydroEstimator datasets are decent for months that Santa Rosa has no data for certain months satellite data should not be the only gage of rainfall. Typically there was a difference of 150mm or less. The TRMM is 25km and HydroEstimator is 3km resolution.

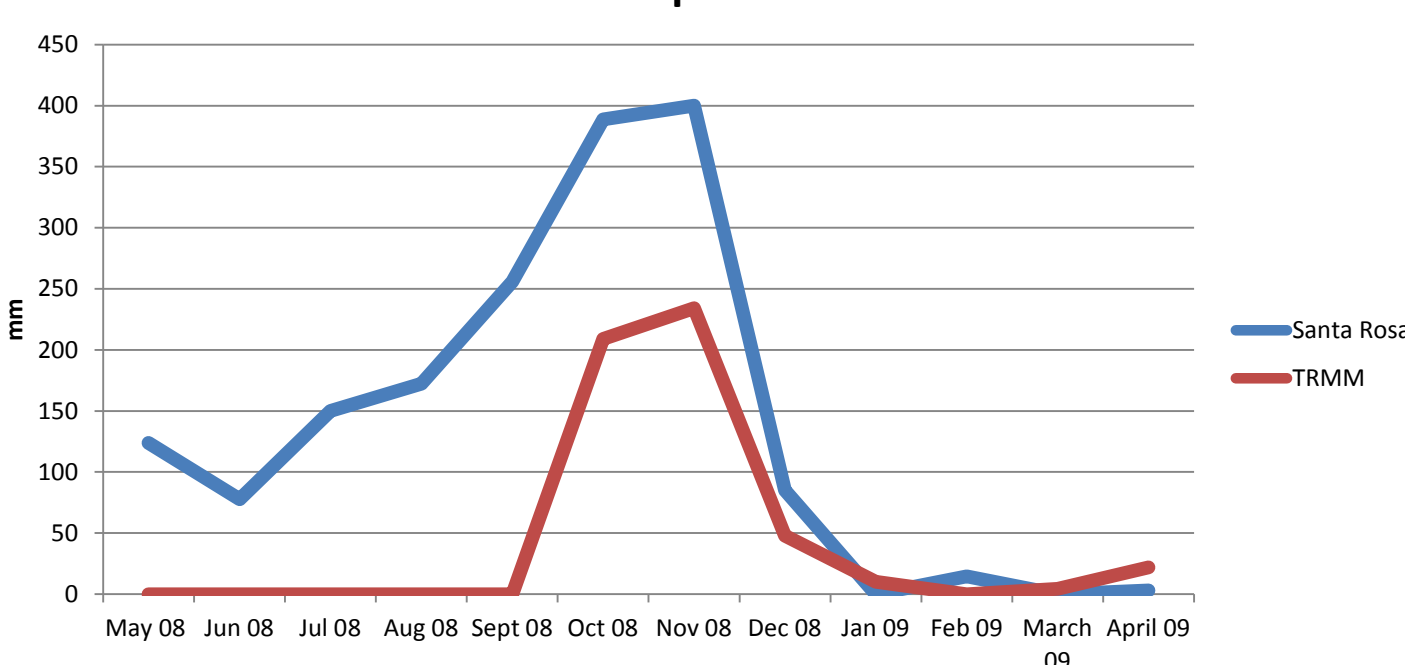
Sum of May 2008 - May 2009 Precipitation Data in Panama



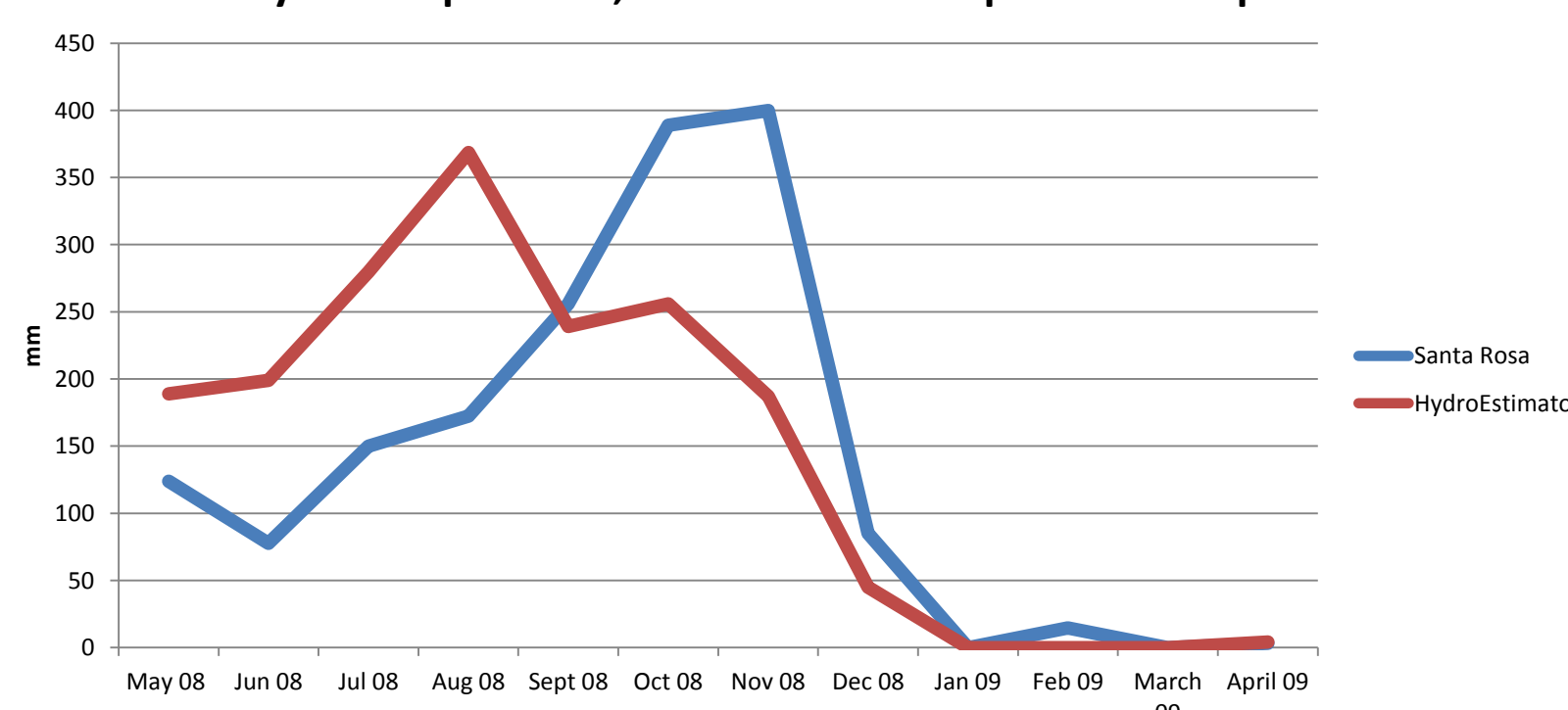
Sum of May 2008 - May 2009 TRMM Precipitation Data in Panama



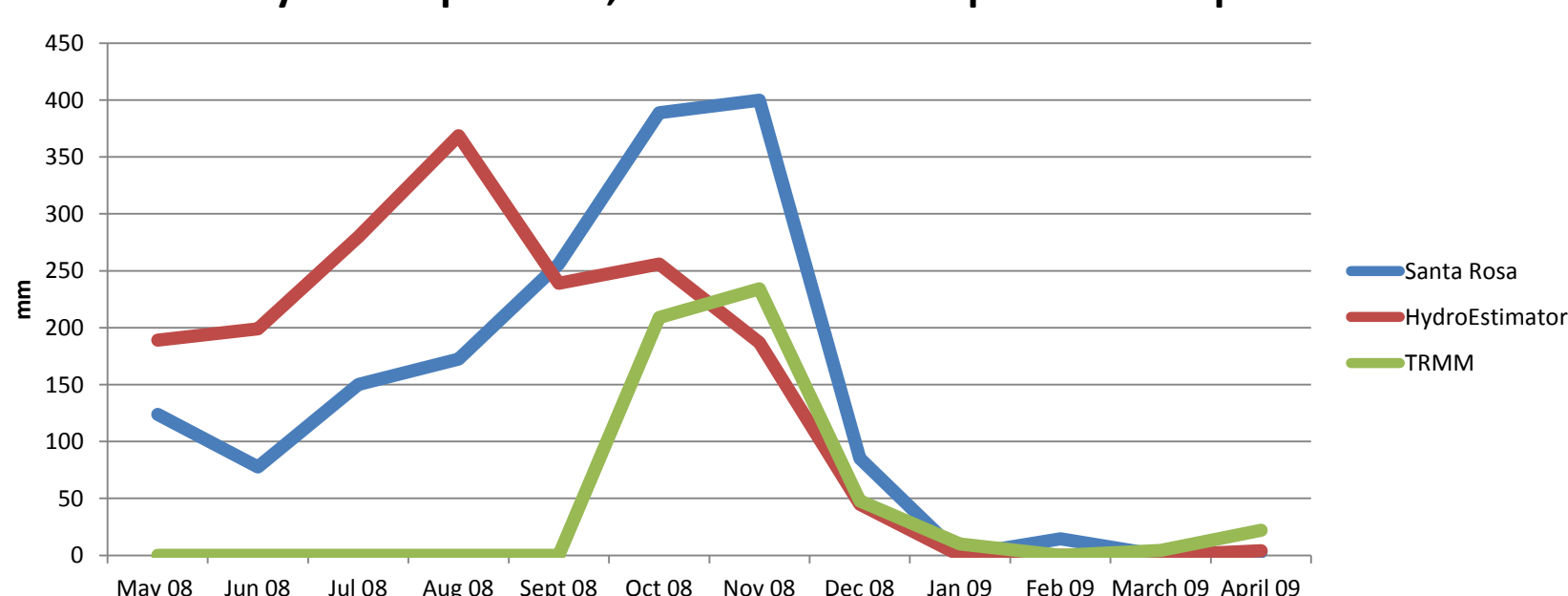
May 2008-April 2009, Normal Year Precipitation Comparison



May 2008-April 2009, Normal Year Precipitation Comparison



May 2008-April 2009, Normal Year Precipitation Comparison



## Explanation

This research pertains to AAS because the data used in this project was from sensors on a satellite. AAS members need to know how accurate satellite datasets are.

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