Changing Precipitation and Land Cover Increasing Sedimentation in the Panama Canal Watershed

Tiffany Keeton-Atmospheric Science-UAHuntsville, Cory Manberg-Calhoun College, & Josh Myrick-Earth System Science-UAHuntsville

Research Overview
This project studied the potential impacts of changing precipitation and land cover on sedimentation in the Panama Canal Watershed for February and October in 2020 and 2050.

Key Results
In the future, rainy days will be fewer, however, storms will bring more intensive rain. This will increase the amount of sedimentation and erosion in riverbeds. The sedimentation that empties into the canal is directly related to the land cover of the watershed. The top picture below shows erosion on a 500 year old trail and the bottom picture shows sedimentation in a river. The top map below shows projected land cover with urban development increasing. The bottom map shows significant deforestation for 8 years. The top map to the right shows land cover types in 2008. The left picture to the right shows water before it rains and the right map shows projected runoff for October 2020.

Impact and Explanation
This research is important for people that depend on the Panama Canal and the watershed. Cities are growing quickly in the watershed which is increasing sedimentation flow into the Panama Canal and decreasing infiltration into the watershed. This research used satellite data from the ground. Technology in satellites are the future in studying changes in land cover.

Acknowledgements
Eric Anderson- CATHALAC
Dr. Tom Sever- UAHuntsville