Abstract
University of Georgia (UGA), Costa Rica, located in the Monteverde region, has a goal of promoting environmental education and research. In the summer of 2018, we conducted a study to reestablish a permanent plot over one hectare of land in a rainforest adjacent to the UGA campus. Trees were tagged and DBH, species, and tree condition were recorded. The permanent plot study’s goals were to understand the growth rates of trees and how the forest changed over a fourteen year period. Most of this research was conducted within a seven week period.

Introduction
There is little previous information about the mountainous rainforests on the western (Pacific) side of Costa Rica. The forest in the plot was cleared mainly for coffee plantations and pasture about 60 years ago, making this land secondary forest. Although the study started in 1997, it was discontinued by previous landowners, but was revived by UGA. The study provides new information about the growth and composition of the forest. Data was collected over a 20-year span, during which many significant climate events occurred. The data shows how the forest responded to these events and how secondary forests develop in Costa Rica. This ongoing study will produce results with applications for understanding rainforest ecology, effects of climate and weather events, carbon sequestration, and ecosystem dynamics.

San Luis Permanent Plot 2018
Students: Jessica Levy, Courtney Giardina, Sianin Spaur
Lehigh Advisor: Don Morris
UGA Advisor: James Moy-Turner

Methods
For the establishment of the San Luis Permanent Plot, we followed the TEAM Protocol and the protocol written by the Network of Permanent Plots for the Monitoring of Forest Ecosystems. The boundaries are based upon the permanent plot originally set in 1997 by the former landowners. The plot is 1 hectare of land divided into 25 subplots of 20 meters by 20 meters. Each plot is named based upon its eastern and southern coordinates relative to the 00,00 point. The 00,80 subplot is not included in the overall plot because it was mainly populated by banana plants which are of anthropogenic origin. To make up for this, a new subplot, 00, (-20), was established.

Results
This is an ongoing study, so there are only preliminary results. Early results show average tree growth from 2 mm to 100 mm over a 14 year period. Subplots varied in many ways including tree growth, downed trees, and underbrush growth. Growth was also different depending upon the tree species. For example, many Cecropia obtusifolia were observed to have more growth than Pseudomedia gabruta. Some subplots were highly disturbed, exhibiting more brush than trees due to the effects of weather events, including landslides and treefalls. Some subplots were also affected by the creation of a trail built in 2002.

Further Work
Analysis of the data has yet to be completed. The permanent plot requires continuous study to track the growth and change of the forest. Once analysis is completed, the results can be used in a variety of ways, including environmental policy and research. As climate change continues to affect tropical ecosystems, forests like these will undergo change that can be catalogued using similar studies.

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